



NSSC
National Startup Support Center



BambuUP
Connect to Innovate

VIETNAM OPEN INNOVATION ECOSYSTEM REPORT 2022

THE INNONATION



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FOREWORD

In May 2022, the Prime Minister of Vietnam signed Decision No. 569/QĐ-TTg promulgating the Development Strategy for Science, Technology and Innovation by 2030, marking a major mission in the industrialization - modernization process of our country. While developed countries spend up to 3% of GDP to invest in innovation activities, Vietnam - among the developing countries - is currently spending only 1% of GDP on innovation. We need to quickly seize the opportunity to effectively exploit the potential of Vietnamese intelligence as well as thoroughly apply technological achievements to the process of developing a powerful and far-reaching Vietnam.

The wave of innovation has been spreading from the central to local levels and across components of an ecosystem. The speed of innovation is an absolute competitive advantage in today's 4.0 digital economy, and at the same time is an inevitable trend to catch up to overcome a volatile 2023 of the economy in the immediate future.

Innovation can be effectively applied in a variety of industry groups, with different business models and levels of governance, thereby creating the common strength of enterprises/organizations across all economic sectors. However, innovation has now entered a new era, where the connectivity in the ecosystem plays the role of the center of Open Innovation in order to accelerate and optimize the innovation process at a more reasonable cost. Nowadays, ideas for product improvement and enterprise capacity development can come from all companies and organizations of diverse sizes and fields instead of just from units with large research capabilities like before.

Facing the task of co-creating Vietnam's Open Innovation Ecosystem to thrive in the New Normal, the 2022 Vietnam Open Innovation Ecosystem Report will be a valuable source of overview data for the Government and appropriate authorities in the process of making policies to effectively support the Vietnamese Open Innovation ecosystem in the future. The report is also a useful tool for Enterprises in the development of appropriate business strategies with the application of Open Innovation. At the same time, the Report contributes to the opening up of investment resources, helping to develop Vietnam's innovation startup ecosystem.

With the goal of disseminate this Report widely to readers in Vietnam and many countries around the world, the report is released in two formats, online and in print. This year, the Report is specially released in three languages: Vietnamese, English and Korean.

The official report will be distributed across 20 countries and is expected to reach more than 2.5 million government agencies, organizations and individuals.

Our team, together with our partners, patrons, and sponsors, hope that the Report will be an information fulcrum for all ecosystem actors, portraying the dynamic Open Innovation scene in Vietnam teeming with potential and resilience in the New Normal. When we join hands, Vietnam will become an InnoNation!

ACKNOWLEDGEMENT

The Vietnam Open Innovation Ecosystem Report 2022 is conducted by BambuUP Innovation Connectivity Platform under the auspices of the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC) and the National Startup Support Centre of Vietnam (NSSC).

We would like to express our sincere gratitude to the Board of Advisors, patrons, sponsors, startups, corporations/enterprises and media entities for your attention and advocacy for the Vietnam Open Innovation Ecosystem Report 2022 (Report). After more than 3 months, the Report has officially been completed with elaborateness and consideration. So far, the Report has depicted the Vietnamese startup and innovation ecosystem with more than 1500+ registered startups. The Report was also officially announced at the National Innovation and Startup Festival TECHFEST 2022 in Binh Duong.

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The 2022 Report is a joint activity to implement Decision No. 569/QĐ-TTg on Science, Technology and Innovation Strategy to 2030. It is completed with the efforts of many people, especially with the great contribution from the Board of Advisors, which is gathered from a group of successful entrepreneurs, founders of outstanding startups, leading prestigious experts on innovation and operating in diverse economic fields. In addition, the Report also includes the cooperation of many large corporations and enterprises with outstanding open innovation activities.

We expect the Report to make great contribution towards constructing a national innovation system with intimate links with the region and the world; developing a system of national - sectoral - regional innovation centers, startup support centers, integrating and forming clusters associated with high-tech zones, residential areas, financial centers, venture capital funds, universities, research institutes; deploying open innovation platforms and networks, in order to attract all investment resources domestically and internationally...

Mr. Pham Hong Quat - Director of the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC) expressed.

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I hope that the Report will be disseminated to all organizations, individuals and especially the subjects of the open innovation ecosystem. The consensus and determination of the entire conducting team, the Board of Advisors and all parties involved have succeeded in building a very meaningful Report in the journey to make way for the Vietnamese innovation ecosystem to become the leading emerging ecosystem in the region and in the world.

Mr. Pham Dung Nam - Director of the National Startup Support Center (NSSC) shared.

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It is your support and assistance that have contributed to the success of the 2022 Report. The Vietnam Open Innovation Ecosystem Report is the annual report made with contributions and participation from many different partners, experts, companies, corporations and sources of information, along with the BambuUP team's surveying, searching, analyzing and validating efforts. Even so, the limited time and resources might cause some limitations, leading to the inability of the Report to avoid errors. We look forward to receiving the companionship, contribution and constructive comments from our readers to perfect this meaningful database for the open innovation startup ecosystem in Vietnam.

Don't hesitate to send your suggestions to info@bambuup.com
The Editorial Board of the Report would like to sincerely thank you!

Đại diện



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General Director of National Agency
for Technology Entrepreneurship
and Commercialization (NATEC)



Mr. Pham Dung Nam
Director of Project 844
Director of National Startup
Support Centre of Vietnam (NSSC)



Mrs. Nguyen Huong Quynh
CEO BambuUP



NSSC
National Startup Support Center

BambuUP
Connect to Innovate



AN INTRODUCTION OF NATEC

On 8th of June 2011, the Prime Minister issued Decision No. 890/QĐ-TTg on the establishment of the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC), with the function of advising and assisting The Minister of Science and Technology in the state management of developing the technology market, science and technology enterprises, and innovative Startup.

From the early days of establishment, the leaders of the NATEC have always paid close attention to building and developing the team, recruiting experienced staff from agencies inside and outside the Ministry to work at the Agency. Moreover, NATEC has always cared about training young cadres to improve their capacity in professional duties, as well as in political and ideological ones. In addition to building organizational apparatus, the construction of legal documents related to state management assigned to the Agency has always been proactively implemented; The Agency has presided over and participated in the development of many legal documents, including: Law on Science and Technology, Law on Technology Transfer, Law on Supporting Small and Medium Enterprises, 7 Government Decrees, 2 Decisions of the Prime Minister and 9 Circulars of the Ministry of Science and Technology; the Agency have participated in developing and advising legal documents in the field of technology market development, science and technology enterprise development and innovative Startup development. Many legal documents and guidelines have been advised, promulgated and directed by the Agency to disseminate and implement nationwide. The development of those legal documents has partly contributed to the perfection of the legal system on the development of the technology market, of science and technology enterprises, and of an innovative Startup ecosystem.

The implementation and guidance for newly promulgated policies in localities, institutes and schools are regularly carried out. In recent years, NATEC has coordinated with the local Departments of Science and Technology to organize seminars and conferences to disseminate, propagate and explain to businesses and managers about policies concerning the market, science and technology enterprises, and innovative Startup. The Agency also supports the Departments of Science and Technology in teaching enterprises how to evaluate and confirm the results of the task to establish S&T enterprises without using the state budget; NATEC guided and supported the Departments of Science and Technology to deliver research results to enterprises to establish S&T enterprises. In the process of performing the duties, NATEC has directly worked with many organizations, individuals and businesses to find out the difficulties and obstacles in the process of registering for the certificate of S&T enterprises as well as getting to enjoy state incentives for S&T enterprises. On that basis, the leaders of NATEC, together with the leaders of the Department of Science and Technology, worked directly with agencies of Tax/Natural Resources & Environment in some localities to thoroughly solve the obstacles in the implementation of incentives for S&T enterprises. In order to support the promotion of the research movement and commercialization of research results at the Institutes, NATEC has been actively working with many Institutes and Universities to find out the current status of research activities in these organizations. The Agency has coordinated with a number of universities and colleges to organize exhibitions to introduce creative products of students and lecturers.



The leaders of the Ministry of Science and Technology assigned NATEC to organize the National Innovation and Startup Festival (TECHFEST). After 6 years of organizing TECHFEST, the event has attracted a lot of attention from the domestic and international Startup community, with hundreds of thousands of people attending Techfest; over 1000 investors, investment funds, domestic and international speakers participated in the event's activities. The exhibition of innovative Startup products, introducing Startup support services is also held annually with a total of more than 900 Startup participants. In addition, the investment connection activity, one of the important contents that took place continuously throughout the event, attracted the attention of many investors and Startup with hundreds of investment connections being made, in which the total amount of investment is about 30 million USD. The TECHFEST event has increasingly affirmed its position in the domestic and foreign Startup community, and has been highly appreciated by leaders of the Party and the State, of ministries, branches and localities, and the Startup community.

While researching and developing scientific projects and duties, NATEC has also been presiding over the implementation of many research projects in the period of 2011 - 2021, in which many topics have been accepted as the scientific basis for the Agency to develop legal documents to serve the development of the market, of science and technology enterprises, and to develop an innovative Startup ecosystem.

The international cooperation activities of NATEC have witnessed some positive developments since its establishment in 2011. In addition to the exchange of delegations to learn from the experiences of countries around the world in the field of developing science and technology market and enterprises and innovative Startup, the Agency has proactively engaged in cooperation agreements with many international organizations in the United States, Singapore, South Korea, the United Kingdom, etc., and actively carry out in-depth activities associated with professional duties to attract international resources, form and develop the connection network of Vietnam and the world in the field of commercialization of research results, of entrepreneurship and innovation.

As a result, after 10 years of operation, the development of technology markets, of S&T enterprises, and of innovative Startup has been disseminated in many localities across the country, especially the movement of innovative Startup in universities and colleges have developed very vibrantly. With its efforts and achievements, NATEC has been recognized by the Ministry of Science and Technology and the Government: Certificate of Merit from the Minister of Science and Technology in the years: 2016, 2017, 2018, 2020; Emulation flag of the Ministry of Science and Technology in 2015 and 2019 and Emulation flag of the Government in 2015. From the activities and achievements that have been achieved, NATEC has affirmed its role in developing the technology market, science and technology enterprises and innovative Startup.

NATEC has proactively and actively cooperated with Institutes, Universities to understand their current research situations. The Agency has also collaborated with such entities to organize exhibitions to showcase innovative ideas and solutions of students and lecturers.

NSSC – National Startup Support Center, is a public science and technology organization under the Department of Market Development and Science and Technology Enterprises (Ministry of Science and Technology, holding the role of supporting Startup and promoting the development of an innovative Startup ecosystem under the direction of the Prime Minister.

The Center was established on March 4, 2019 with the introduction of Decision No. 416/QĐ-BKHCN of the Ministry of Science and Technology. With this event, the national innovative Startup ecosystem has provided a bridge for Vietnam's Startup, Startup enablers and venture capital networks in the region and the world to connect.

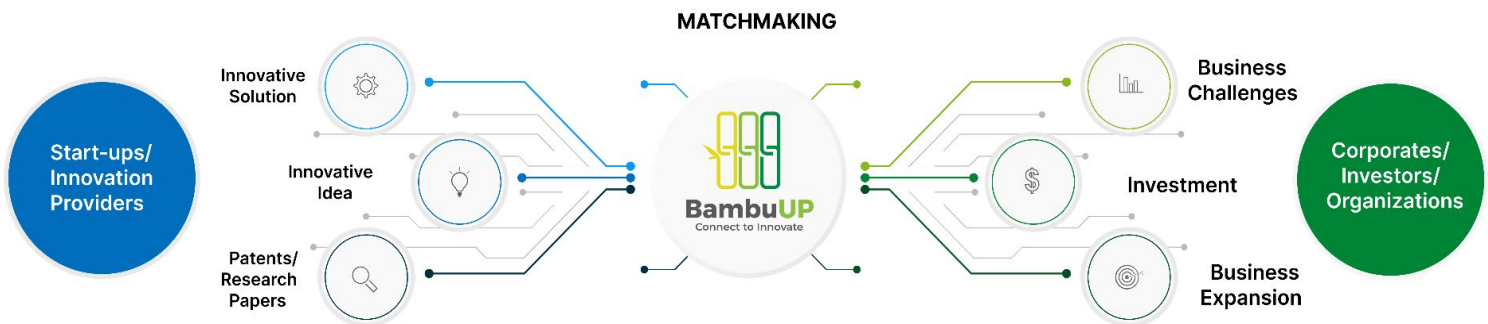
NSSC develops its focus around proposing solutions to support innovative Startup, promoting the development of the Startup ecosystem through cooperation and association to mobilize and exploit domestic and foreign resources on digital platforms, virtual reality (VR), and augmented reality (AR). It also seeks and supports technology transfer and capacity building of innovative Startup organizations, individuals and businesses as well as connecting activities of organizations supporting innovation Startup in the country with the international community. Besides those focuses, it also engages in organizing conferences, seminars, seminars, and providing services and consulting to promote the development of innovative Startup ecosystems in ministries, branches and localities. A few other focuses of the center involve its assigned tasks under the Project "Supporting The National Innovation Startup Ecosystem Until 2025", and propaganda and promotion activities about global technology trends. Additionally, it exploits the results of performing science and technology tasks related to innovative Startup.

NSSC is currently focusing on building and developing the Vietnam Innovative Entrepreneurship Network (VIEN) with members who are representatives of supporting organizations, programs, projects, and experts related to creative Startup to connect resources, encourage and support the formation and development of innovative Startup projects/enterprises.

The main activities of NSSC can be mentioned: Coordinating activities to ensure the quality of members and activities of VIEN, Arranging and connecting resources to support members to create the best support conditions for innovative Startup, Promoting activities and events aimed at forming a creative Startup culture, with a view to creating favorable conditions for the formation and development of new innovative Startup, researching and developing orientations, mechanisms, policies and plans to support innovative Startup for central and local governments, and organizing networking activities between entrepreneurs and investors, researchers, technology experts, policy makers and organizations supporting creative Startup.

ABOUT US

A **One-stop Innovation platform** that facilitates meaningful connections among Innovation Providers & Innovation Seekers, nurturing a complete growth co-creation ecosystem.



MAKE INNOVATION ACCESSIBLE TO EVERYONE - EVERYWHERE
WITH OUR WIDESPREAD NETWORK OF CONNECTIONS



35+

PARTNERS

50+

INVESTMENT FUNDS

1500+

STARTUPS

150+

EXPERTS

100+

SUCCESSFUL CONNECTIONS





BambuUP
Connect to Innovate

YOU ARE A STARTUP LOOKING FOR EXPANSION?

- EXPAND MARKETS, INCREASE REVENUE?
- **CONNECT WITH A RELIABLE NETWORK**
- SEARCH FOR CAPITAL INVESTMENT OPPORTUNITIES
- **PROMOTE YOUR PRODUCTS TO THE RIGHT TARGETS**



YOU ARE A BUSINESS & ORGANIZATION REQUIRING INNOVATION ACCELERATION



- CONSULTANCY AND TRAINING ON INNOVATION
- **SEARCHING FOR SUITABLE DOMESTIC AND INTERNATIONAL INNOVATION SOLUTIONS**
- **SEARCHING FOR OUTSTANDING INVESTMENT & DEVELOPMENT OPPORTUNITIES**
- **NETWORKING TO TAKE OVER THE MARKET**

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ON THE WAY TO SUCCESSFUL INNOVATION**

- Email: info@bambuup.com
- Contact: 034 725 8325 (Ms. Thảo)

JOIN VINUNI TO MAKE THE CHANGE!

VinUniversity is a private, not-for-profit university established by Vingroup – the largest private conglomerate in Vietnam. VinUni aspires to become a university of excellence with a mission to develop talents for the future.

VINUNIVERSITY STUDENTS' INNOVATION STORY

During the COVID-19 pandemic, individual PCR testing was carried out widely. Priced at 5 USD - 35 USD/test, this was an extremely expensive solution. Using big data to scan wastewater in densely populated areas could help detect COVID-19 pathogens faster and more cheaply.



Nguyen Hoang Trung Dung and Tran Huong Lan - two second-year VinUni students - were connected with leading professors of epidemiology at VinUniversity and the University of Illinois at



Urbana-Champaign (USA) to participate in the wastewater epidemiological monitoring project in Viet Nam. Initial success saw the team bring the cost down to only 125 USD for 1 test used on a population of 2,000 people. Furthermore, the two students participated in the construction of an automatic wastewater sampling device which cost less than 750 USD, compared to buying the machine from the US for 13,000 USD. In the future, this technology will also help doctors better understand antibiotic use and receive early detection of other infectious diseases.

The two students are very excited to be able to design and construct a device that can be used in real life. They believe that VinUniversity is a place that always encourages creativity, innovation and research that serves the community.

EDUCATION "RECIPES" AT VINUNI

Current attributes:
A.A.C.C

NGUYEN A
vinuni@vinuni.edu.vn
0933-0678

High school: Hung Yen School for the Gifted

GPA 10: 8.9 GPA 11: 8.9 English: IELTS 7.5

ABOUT MYSELF

A goal-oriented person and an aspiring businesswoman specializing in public relations, marketing, and entrepreneurship. Besides, combine my great interests in historical documents, prehistory and contemporary education, I co-founded Social Science Camp which won 1st prize (10,000,000 VND) funding from Redstone Organization.

Ability

Aspiration

Creativity

Commitment

EXPERIENCES & ACTIVITIES

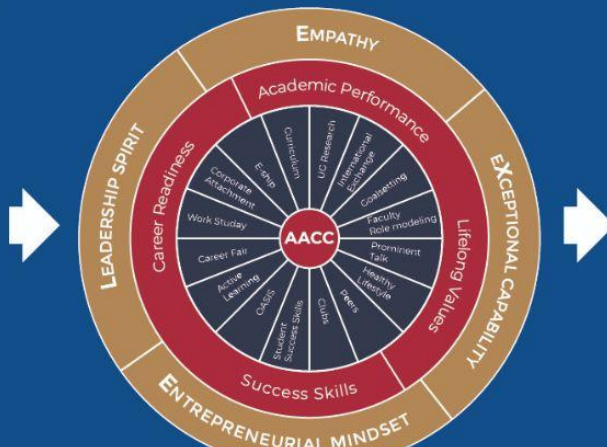
VICE PRESIDENT, Reporter Club (VAC), 09/2018 - Present

CO-FOUNDER, Social Science Camp (SSC), 12/2015 - Present

MARKETING INTERN, VinProp Education, 05/2019 - 07/2019

MENTEE AND AMBASSADOR, Math and Science Summer Program (MSSP), 07/2018-07/2019

REWARDS & SCHOLARSHIPS



Graduate attributes:
E.X.C.E.L

NGUYEN A
vinuni@vinuni.edu.vn
0933-0678

Degree: Bachelor of Business Administration

Major: Accounting & Finance GPA: 3.5/4.0

ABOUT MYSELF

A future entrepreneur with great interest in applying AI for innovation and aims to gain experience for a new app-enabled medical device solution to improve public health for poor people.

Empathy

Exceptional Ability

Creativity

Entrepreneurial Mindset

Leadership Spirit

EXPERIENCES & ACTIVITIES

EMST & YOUNG LEAD

Business Advisory Services Intern, Advisory Department

- Handled reports and prepared presentations, as well as provided valuable advice, internal support
- Managed and presented client's meeting, reports, financial statements, participated in on-site client visits
- Conducted reports on demand and supply related to the on-going projects

VINUNIVERSITY

Project Management Intern - Global Project

- Work with developing a doctor app, cloud-based AI application aiming to assist doctors in diagnosis
- Supported team leader in making representation at 4th efforts, to maximize impact to the product and future developments
- Acquired through writing of multiple applications based on data mining and machine learning
- Understand disease workflow, work closely with experts (doctors, specialists) and have our product can best fit into their workflow.

YONIS UNIVERSITY

International Exchange Semester

- Entrepreneurial training and incubation
- Business in Asia

REWARDS & SCHOLARSHIPS

Full Scholarship from VinUniversity for a year

VinUni Research Grant

REAL LEARNING – REAL PRACTICE – FAST FAILURE – TO SUCCEED IN THE FUTURE

Founded in 2016 Lotte Ventures is a Corporate Venture Capital firm that is based in South Korea. The firm provides accelerating programs to early-stage startups and supports rapid growth through fund investment for mature startups (up to Series B).

Lotte Ventures has invested in more than 250 startups all over the world through 16 funds.

Lotte Ventures is proud to be the co-organizer of publishing and distributing **the Korean version of the “Vietnam Open Innovation Ecosystem Report 2022” in Korea.**

Lotte Ventures Vietnam is the first Foreign Venture Capital established under Vietnam Laws (Decree 38, SME and Startup Investment Act , effective 2018) and also one of 20 subsidiaries of Lotte group in Vietnam. Lotte Group has invested nearly 5 Billion USD in Vietnam and considered Vietnam to be Lotte's third largest market after Korea and Japan.

Based on Lotte Group's reputation which was built over the decades; Lotte Ventures Vietnam is confident to become a crucial bridge between the Vietnamese and Korean Startup's ecosystems.



What are we doing in Vietnam?

- With advantages in the region such as global investment experience and the support of 20 subsidiaries of Lotte Group in Vietnam, Lotte Ventures Vietnam look for and invest in potential startups and great founders, helping them grow rapidly and sustainably.
- We organize the Ventures Trip for outstanding Vietnamese startups to visit Korea and helping them connect with hundreds of VCs for fundraising (1-2 trips per year).
- We build a Startup Hub in Vietnam for both Korean Startups and VCs who want to expand their business to Vietnam.

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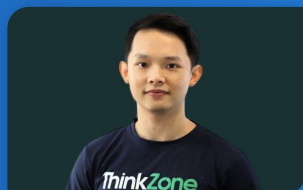
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Founder
StocX



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Opla CRM



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Director of the National Startup
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Country Manager
Paretix



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Founder & CEO
WeAngels Ventures



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Strategy Consulting Specialist,
Lecturer of Management & Human
Resource, Foreign Trade University

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General Director
SONGHAN Incubator



Mr. Nguyen Duc Que
Field Sale Engineer
Intel Việt Nam



Mr. Tran Quy
Director of Vietnam Institute
of Digital Economy
Development



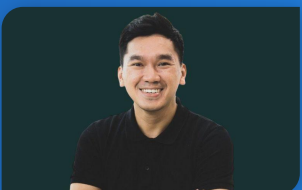
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Commercial Director
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Mr. Tai Huynh
Founder & CEO/CTO
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Ernst & Young Vietnam



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NielsenIQ Vietnam



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Human Resource Development Center
(Vietnam National University, Hanoi)



Mr. Nguyen Lam Thanh
Vice Chairman of Vietnam Digital
Media Association
CEO Tiktok Vietnam



Mr. Thanh Nguyen
Deputy General Director
Vinbus



Mr. Doan Duc Thuan
Consultant & Training
Specialist in Strategy,
Marketing and Innovation



Mr. Ngo Duc Thuan
Chairman of IP Group



Mr. Tinh Nguyen
Co-Founder LadiPage
Founder of Vietnam MarTech



Mr. Nguyen Hai Trieu
Founder & CEO
PrimeData



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CEO
Talentnet



Mr. Tran Ngoc Trung
Head of Marketing PVCFC
CEO Agritech



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Innovation Startup Support Center,
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Medtech & Healthcare Solutions
Village (Techfest)



Mr. Do Nguyen Hung
Collaborative Specialist in
Developing Training & Startup
Support of NSSC, Edtech Village
(Techfest)



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Mr. Truong Duc Luong
General Director of Vietnam
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Security Technology Village
(Techfest)



Ms. Doan Kieu My
Founder of YellowBlocks
Frontier Technology
Village (Techfest)

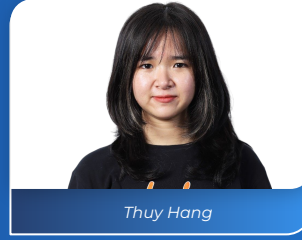


Ms. Duong Tuong Nhi
CEO Happy Lifestyle
Innovative Design Thinking
Village (Techfest)



Mr. Hoang Duc Thao
General Director of Busadco,
Invention & Innovation Business
Village (Techfest)

THE IMPLEMENTATION TEAM



Part 1

2022

BUSINESS OVERVIEW
BIG PICTURE
& INNOVATION AND
INNOVATION TRENDS



1

2022 BUSINESS OVERVIEW

BUSINESS PRIORITIES IN 2022

After more than two years plagued by the pandemic, with the incessantly unstable economic and political aspects of the major economies, the concept of 'the New Normal' has been more clearly defined as 'the VUCA Normal'. Under such circumstances, what will be the top concerns of business leaders? And how can they boost their business transformation in 2022 and prepare for the future?

After consulting and analyzing many well-known and trusted sources of research information and reports, we have compiled the top Four Business Priorities that enterprises all around the world have shifted, are shifting and need to shift their focus onto in 2022 and the years to come to promote the sustainable development of their businesses as well as the global economy.

Top Four Business Priorities

CLIMATE CHANGE & CARBON EMISSION REDUCTION

Climate change is current one of the greatest threats against humanity and requires urgent action. Prioritizing climate goals not only helps avoid and mitigate risks, but also allow businesses to seize opportunities and become the frontrunner in the transition to a Net-zero World. Large companies are preparing themselves to be able to reduce 30% of their CO₂ emissions by 2030 and to completely eradicate them by 2050. The potential value of Green businesses is estimated at \$4,000-5,000 Billion by 2030 in Asia alone.

TALENT RECRUITMENT & RETENTION STRATEGIES

Developing Employee Retention Strategies to attract and retain talent is now an important mission to maintain competitiveness and survive the pandemic. Businesses are defining Employee Experience more clearly as the prerequisite foundation for Customer Experience, which determines the success of the business.



ENHANCING AND REINFORCING THE EFFECTIVENESS OF THE VALUE CHAIN

Due to the COVID-19 crisis, fundamental changes in consumer behavior, in supply chains and in market access routes are throwing companies off balance. Responding to the pandemic has highlighted the need for leaders to accelerate the adoption of flexible working practices and transform the value chain to help navigate uncertainty.



DIGITAL TRANSFORMATION AND INCREASING THE PARTICIPATION OF TECHNOLOGY

The need for digitization and digital transformation of companies is more pressing than ever. Awareness of the need for investment to increase participation of technology in product development, in production and operation processes, etc. is spreading to and shaping all fields and all types of companies. Speed and consistency in action will determine the winner of the 4.0 race.

CONSUMER TRENDS IN SOUTHEAST ASIA

4 KEY CONSUMER GROUPS DRIVING CHANGES IN SPENDING

EXISTING CONSTRAINED:

People who have experienced a significant reduction in income due to COVID-19. They had already been conditioning their spending before and have further restrained it since the epidemic.

NEWLY CONSTRAINED:

People whose income has been reduced by the pandemic and are trying to control spending at a reasonable level.

CAUTIOUS INSULATED:

People whose income are barely reduced due to the pandemic but have become more cautious in spending.

UNRESTRICTED INSULATED :

People whose income are not affected or have improved and are not concerned about spending control.



2020



Existing Constrained and Newly Constrained
Cautious Insulated and Unrestricted Insulated

2021

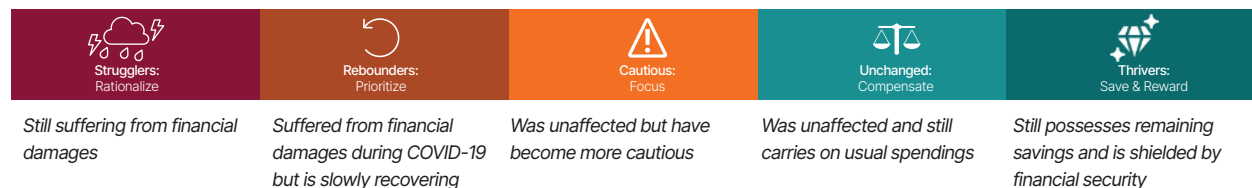


Existing Constrained
Newly Constrained
Cautious Insulated
Unrestricted Insulated

Source: NielsenIQ

EMBRACE CHANGES TO PREPARE FOR FUTURE SCENARIOS:

FORECASTING 2022 SCENARIOS



2022: CURRENT SITUATION

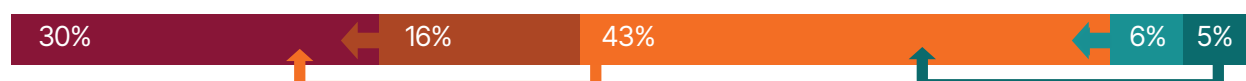


2023 + SCENARIO #1: Endemic: Likely



This is a more likely scenario. Be prepared, agile, and ready to engage and capture the "endemic consumer and shopper" group.

2023 + SCENARIO #2: Renewed pandemic measures/ severe variants



Note: Scenario #1 and Scenario #2 are not actual figures/forecasts but forecasts based on changing financial situations that may occur under different conditions.

Source: NielsenIQ



WHAT WE ARE SEEING...

As Southeast Asia enters the "endemic" era, consumers are restructuring and rebalancing their priorities.

1

THE SEARCH FOR BEST VALUE

High inflationary pressures and recovering economic environments faced by SEA nations mounted higher price sensitivity among SEA consumers.

Value, price, and promotion are top priorities for the endemic consumers who are cautious of their spending as they gear up for the long term, economic effects of the pandemic.

92%

Of global consumers are becoming more conscious of their spending amid uncertainty about what lies ahead

2

THE RISE OF OMNI-CHANNEL

The efficiency of e-Commerce seen during the pandemic has led to its continual integration into SEA consumers' daily life even after the pandemic.

In search of cheaper prices and promotions, E-commerce cemented itself as a part of common consumers' lifestyle even as activities return to offline, highlighting the importance of an omni-channel approach in modern day business.

19,5%

Of market share value by shopping channel comes from Online channel in 2021 in SEA region

3

RENEWED FOCUS ON HEALTH

Pandemic also brought new priorities and influenced consumption habits and consideration processes.

As consumers become more conscious of their health and wellbeing, endemic era consumers pay more attention on a product's health implications and content information such as labels, packaging, and etc.

7/10

Of SEA consumers say they read nutrition information, ingredients, and health claims before buying a new food product.

4

EVOLVING NEEDS & PRIORITIES

New social trends that emerged from the pandemic must also be considered by businesses to make their products more relevant.

New trends such as "natural" or "natural beauty" in response to the public's concern on health & wellbeing are topics/issues which a firm must familiarize themselves with and implement on their product offerings.

68%

Of SEA consumers read natural claims on labels before purchasing health and beauty products, with 39% regularly reading them and 29% reading them all the time.

Source: NielsenIQ



In an endemic era with increasingly changing and enhanced customer needs, businesses need to constantly update themselves in accordance with new consumer trends to maintain and develop their business position. In order to turn changes in current consumption trends into positive changes in business results, businesses need to build a customer-centric culture, clearly define their targeted customers, put themselves in the customers' shoes and take care of the problems they're having.

MS. DANG THUY HA - Director, NielsenIQ Vietnam

TOP 2022 TECHNOLOGY TRENDS

Silicon Age

Technology Trends

Investment in 2022

Description



Applied AI

165
BILLION USD

With capabilities of AI, companies of all sizes can use data to obtain insights that allow them to automate business operations and make better decisions. According to McKinsey's 2021 global survey on AI, up to 56% of organizations have applied AI, up from 50% in 2020. Besides, the survey has also shown that applying AI provides organizations and businesses with financial benefits.



Advanced Connectivity

166
BILLION USD

The latest connectivity technologies and protocols (such as 5G/6G mobile networks) provide better data transmission, wider bandwidth, wider geographic coverage, less latency, and lower power consumption. This innovation will enhance the consumer experience and increase productivity in industries such as Mobility, Healthcare and Manufacturing.



Cloud and edge computing

136
BILLION USD

The cloud platform, built from "super-speed" data centers, provides and enables massive compute and storage capacity, and is connected by a fast, high-capacity network that enables a wide range of services to vastly expand and diversify. Continuous integration will allow users to extend the speed and quality of the cloud to other systems which accelerates innovation, enhances productivity, and generates business value.



Web3

110
BILLION USD

Web3 includes platforms and applications that enable change towards a decentralized internet future with open standards and protocols while protecting digital property, providing users with increased ownership of their data and promote new business models.



Trust architectures and digital identity

34
BILLION USD

This technology enables organizations to manage the risks that come from technology and data, which help them accelerate innovation and protect assets. In addition, building trust in data and governance of technology can enhance organizational performance and improve relationships with customers and partners.



Immersive reality
technologies

30
BILLION USD

Immersive reality technology uses spatial computing to simulate the world in a different way and allow people to interact in that virtual world. Different levels of immersion are provided by technologies such as augmented reality (AR), virtual reality (VR), and mixed reality (MR).



Industrializing
machine learning

5
BILLION USD

Industrialization of machine learning (ML) involves creating an interoperable engineering tool to automate machine learning and scale its use so that organizations can utilize its full potential. Machine learning tools can help companies transition from pilot projects to viable business products, resolve modeling errors in production, and overcome capacity and productivity limitations. Experience has shown that organizations that has succeeded in industrializing machine learning can shorten production time frames by 90% (from concept to product) and reduce development resources by up to 40%.



Quantum technologies

3
BILLION USD

Quantum technology makes it possible to perform complex calculations much faster than classical computers, helps to change connections and make them more secure, and also allows for significant improvements in sensor sensitivity.



Next-generation software
development

2
BILLION USD

These technologies are transforming the capabilities of engineers at every stage of the software development lifecycle (SDLC)—from planning and testing to deployment and maintenance—and enabling more and more non-technical employees can create applications.

Engineering Tomorrow

Technology
Trends

Investment
in 2021

Description



Future of clean energy

257
BILLION USD

Clean energy is an increasingly valued solution, which includes energy from renewable sources such as solar energy, wind energy, sustainable fuels such as Hydrogen, battery systems with long life span, and smart grid. It is estimated that annual investment in energy production and supply could double by 2035, reaching approximately \$1.5 trillion.



Future of mobility

236
BILLION USD

Mobility Technology aims to improve the efficiency and sustainability of the transport of people/goods by land and by air. Changes include moving towards automated technology, enhanced connectivity, electrochemical technology and smart mobility solutions. On the other hand, air mobility technologies are still in the testing and development stage (e.g. drone delivery, air taxi).



Future of Sustainable consumption

109
BILLION USD

Sustainable consumption focuses on the use of goods and services produced with minimal environmental impact through sustainable materials and technologies. At the macro level, sustainable consumption plays a very important role to reduce the environmental impact, including climate change.



Future of Bioengineering

72
BILLION USD

Bioengineering is interdisciplinary and impacts many different sectors, including agriculture and food, industry, health care, environment, chemicals, etc. This trend has been gradually becoming one of the technology trends leading the social transition and development towards reducing carbon emissions and tackling important challenges in human lives such as maintaining health, providing food and energy, and protecting the environment.



Future of space technologies

12
BILLION USD

The most significant development in space technologies over the past 5 to 10 years has been the reduction in costs, rendering new capabilities and applications more accessible. The reduction in component costs is strongly driven by the reduction in Size, Weight, Power and Cost (SWaP-C) of satellites and launch vehicles. Nowadays, as the use of space technologies and space analysis becomes very important, the analysis shows that the space market can exceed 1 trillion USD.

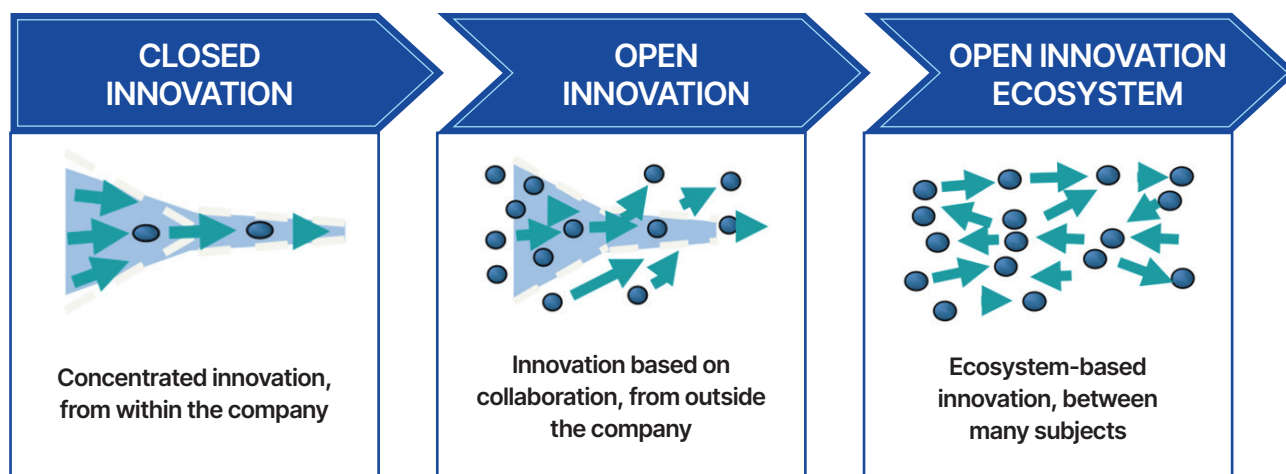
Source: McKinsey

2

INNOVATION AND OPEN INNOVATION TRENDS

The development of Innovation and Open Innovation

Thanks to advances in technology, information and communication, the innovation process is evolving significantly faster. Today, ideas can come from companies and organizations of diverse sizes and fields instead of just from units with large research capabilities like before. In addition, companies/ organizations/ individuals are also becoming increasingly flexible as they are ready to connect and share ideas with any company that can develop them. According to EU Open Innovation Strategy and Policy Group, the development of innovation can be divided into 3 main stages: Closed Innovation, Open Innovation and Open Innovation Ecosystem (illustration). Innovation has now entered a new era, where the connectivity in the ecosystem plays a role as the heart of Open Innovation.



Source: EU Open Innovation Strategy and Policy Group. 2013

Open Innovation is an organization's implementation of one or a combination of the following three mechanisms to generate innovative outcomes and value for the organization:

1. Receiving external knowledge, ideas and technology to combine with internal resources.
2. Commercializing internal sources of knowledge, ideas, and technologies for other parties.
3. Combine with external partners (cooperation, investment, etc.) to **co-create** and **co-develop** innovative innovations together.

Open Innovation Ecosystem is understood as an ecosystem consisting of many subjects (enterprises, state management agencies, investors, research institutes, universities, customers...) and they all actively carry out Open Innovation activities. Accordingly, these subjects do not only rely on their own internal knowledge and resources to achieve innovation outcomes (products, services, business models, processes, etc.) but they also actively seek out and use multiple external sources to accelerate innovation and work towards shared value creation.

In business, Open Innovation is an innovative way to increase benefits. There are many opportunities created by Open Innovation that businesses can take advantage of such as helping to reduce costs, speeding up time of launching, increasing differentiation and creating new revenue streams for the company, etc. In recent years, Open Innovation has quickly become a driving force for growth and business performance. According to the IBM Institute for Business Value survey in 2021, organizations implementing Open Innovation had a 59% higher revenue growth rate than organizations that did not. However, only Open Innovation is not enough, organizations that implement Open Innovation and prioritized strong interaction with the ecosystem at the same time have 58% higher revenue growth rate than organizations that solely pursue Open Innovation.

84%

Of global Senior Managers say that Open Innovation is important to their future growth strategy.

61%

Of Senior Managers believe that Open Innovation helps organizations succeed in delivering tangible benefits rather than closed innovation.

63%

Of Senior Managers are actively encouraging new ideas from outside their organization.

Source: IBM Institute for Business Value 2021

Types of Open Innovation

3 COMMON TYPES OF OPEN INNOVATION



OPEN SOCIAL INNOVATION



OPEN INNOVATION IN PUBLIC SECTOR



OPEN CORPORATE INNOVATION

PROBLEM OWNERS	State management agencies Organizations (non-governmental, non-profit, social impact, etc.)	State management agencies	Corporations and Enterprises of all types
PROBLEM SOLVERS	• Citizens • Startup and technology companies • Research institutes and universities • Public and private sector organizations with suitable solutions	• Startup and technology companies • Research institutes and universities • Public and private sector organizations with suitable solutions	• Internal resources • External resources (Startup, technology companies, research institutes, universities, etc.)
GOALS	• Solving social issues • Addressing the goals of environmental protection and sustainable development • Increasing competitive advantage for provinces/cities and localities • Raising the happiness index of local citizens	• Solving public sector issues • Boosting the innovativeness of public services • Especially contributing to the creation of public value	• Diversifying sources of innovation ideas for businesses • Solving business problems • Increasing the competitive advantage of the business • Exploring the Blue Ocean (products, markets) for businesses

TYPES OF OPEN INNOVATION

OPEN SOCIAL INNOVATION

Goal

- Solving social issues
- Addressing the goals of environmental protection and sustainable development
- Increasing competitive advantage for provinces/cities and localities
- Raising the happiness index of local citizens

Problem Solvers

- Citizens
- Startup and technology companies
- Research institutes and universities
- Public and private sector organizations with suitable solutions

Social Open Innovation Process

4 Stages of Open Social Innovation and related activities

MOBILIZING

Call for action and dissemination

BUNDLING

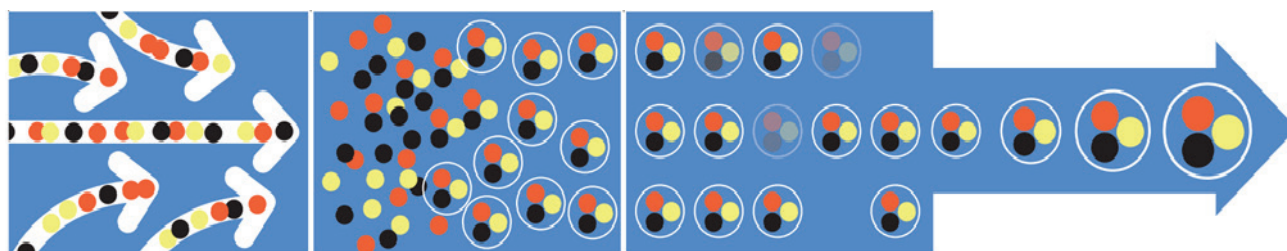
Setting up a platform for creating, developing and gathering ideas

CURATING

Selecting potential solutions and organizing support

SCALING

Providing resources to support scaling



Source: Stanford Social Innovation Review



Notable example:

We Versus Virus (#WirVsVirus) is an experiment carried out in March 2020 during the first lockdown in Germany by 7 civil society organizations and supported by the government. In this project, #WirVsVirus identified urgent challenges related to Covid-19 that need to be solved such as ways to rapidly digitalize healthcare or helping people of all ages response to social distancing, etc., thereby issuing an open call for ideas.

Within 48 hours of the call, thousands of people across all demographics, fields and levels participated and developed more than 1,500 ideas and solutions to the problem.

However, #WirVsVirus understood that these ideas required much more support to be able to be realized and scaled. That's why #WirVsVirus decided to combine a hackathon with a 6-month support program for innovation ideas so that solutions can continue to be developed, tested, and scaled.

2

OPEN INNOVATION IN PUBLIC SECTOR

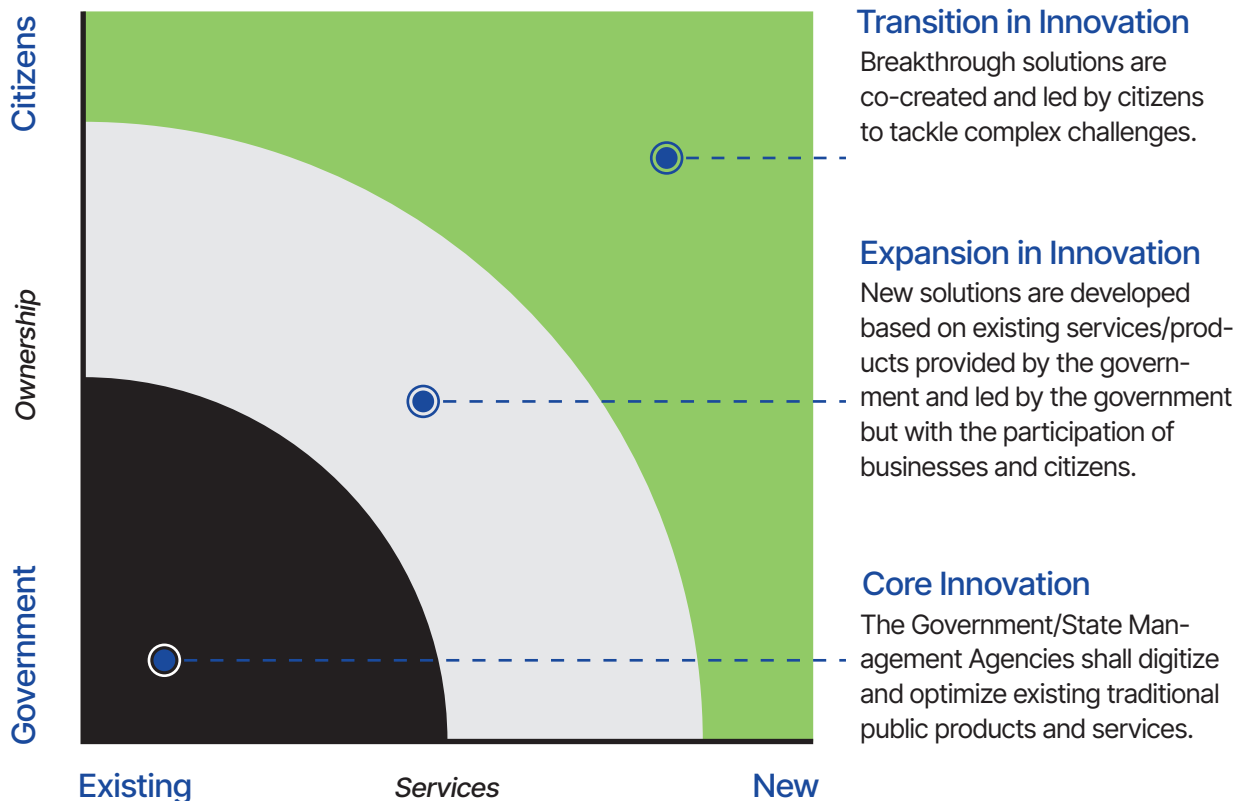
Goals

- Solving public sector issues
- Boosting the innovativeness of public services
- Especially contributing to the creation of public value

Problem Solvers

- Startup and technology companies
- Research institutes and universities
- Public and private sector organizations with suitable solutions

The Transition of Open Innovation in Public Sector



Source: Deloitte - Transforming the Public Sector



Notable example:

Many organizations have started to implement Open Innovation in the public sector and have achieved interesting results, one of which is **Transport for London (TfL)**, the government regulator responsible for most of the transport network in the Great British capital.

Transport for London (TfL) wanted to aim to a greener, safer, smarter and more inclusive future, thereby helping to improve the quality of life of citizens. To tackle this, TfL opened access to core city data like schedules, routes, fares, etc. and at the same time created an API (Application Programming Interface) - an open data connection intermediary that allows anyone to connect to and use it for free.

This resulted in more than 700 applications made from open data connectivity and many major collaborations with partners providing innovative technology solutions such as Bosch, Mercedes-Benz, Immense and Samdesk, etc. The program's success also led to the creation of an innovation hub in 2017, one of the first hubs for the public transit agency.

3

OPEN CORPORATE INNOVATION

Goals

- Diversifying sources of innovation ideas for businesses
- Solving business problems
- Increasing the competitive advantage of the business
- Exploring the Blue Ocean (products, markets) for businesses

Participants

External resources (Startup, technology companies, research institutes, universities, etc.)

Notable Example:

In early 2018, Swedish furniture and home accessories retailer IKEA launched **Co-Create IKEA**, which is a digital platform that encourages customers and followers to develop new products. The **Co-Create IKEA** platform focuses on four key points:

- Collecting product ideas suggested by customers.
- Implementing IKEA Bootcamps program, collaborating with Startup to find breakthrough solutions.
- Collaborating with university students on product solutions.
- Connecting with innovation labs around the world.



Excellent ideas will receive rewards from IKEA, in addition to investment and access to available resources such as laboratories and expert support. This enables IKEA to continuously improve its products with shorter lead times and more breakthroughs. Besides, designers will also be strongly motivated by the world's largest furniture retailer.

To help its customers catch up with a rapidly changing world, McKinsey must continually innovate and expand its capabilities, from cloud computing to artificial intelligence to sustainability, etc.

Nowadays, **McKinsey's open ecosystem includes more than 500 external organizations and over 20 acquired companies.** This allows McKinsey to seamlessly work with disruptive technology solution providers, leading platforms, and experts around the world to deliver end-to-end services to customer organizations.



The deeper involvement of corporations and businesses in Open Innovation activities has become a popular trend in the world. Corporations and businesses are the ones who produce the problem, and the solution can come from within the business, but it can also be provided more quickly, and be even more breakthrough and promising from other actors in the Open Innovation ecosystem, typically from Startup. Corporations and businesses all realize that they must change to catch up with new technology trends, but if they develop solutions by themselves, businesses may face many problems such as: (1) lack of competitiveness to develop new technologies based on new knowledge bases, new human resources and experts, and even new market positioning, (2) the current corporate culture may not be welcoming and ready for new technology development and (3) "tyranny" from the current market when existing customers are loyal to old product lines and can put pressure on businesses.

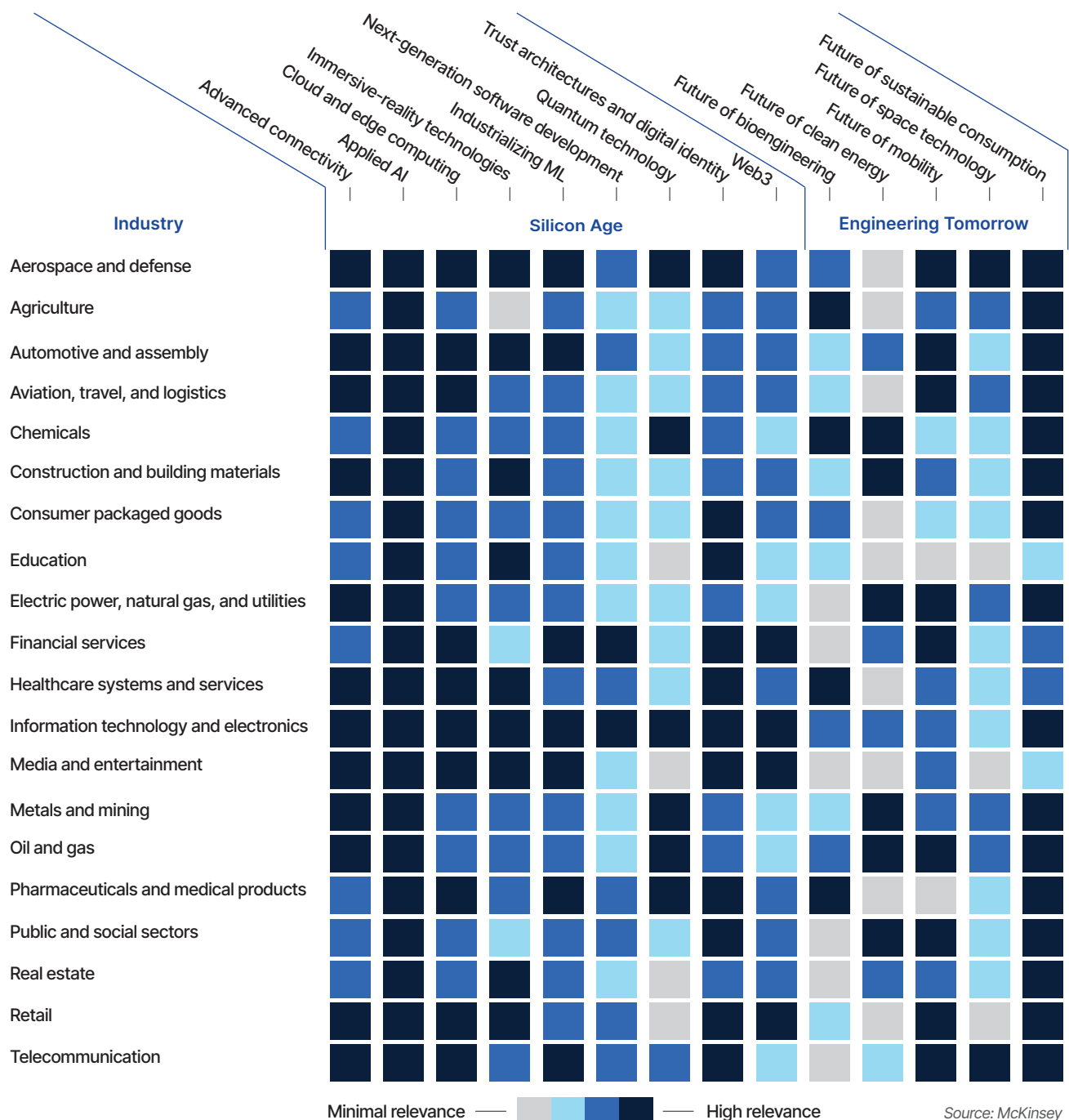
MS. TRAN LAN HUONG - Lecturer, PhD in Management Science,
National Economics University

THE ROLE OF TECHNOLOGY IN INNOVATION AND OPEN INNOVATION

Technology plays a very important role in Innovation and Open Innovation, since innovation and technology are gradually becoming intertwined nowadays. Breakthroughs in technology have not only changed the competitive landscape, but also created stronger impacts on society than ever. They help reshape markets, promote cooperation, increase productivity, efficiency and economic growth, reduce negative impact on the environment, improve people's living standards, etc.

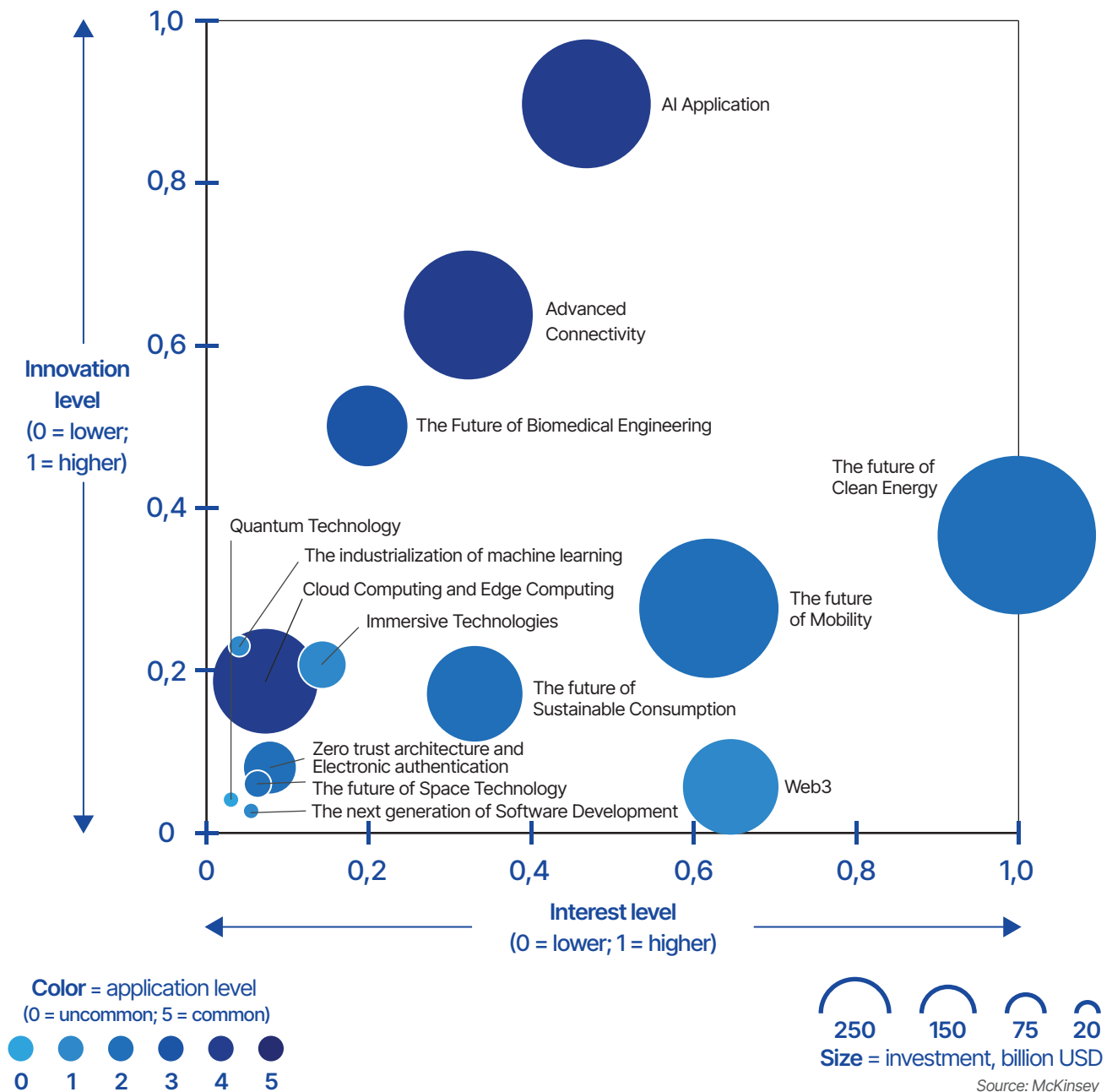
Given the broad impact of technology trends, most industries exhibit the influence of at least five technology trends. The upcoming decades are promised to be a time when technology advances faster than ever, from science to engineering on a worldwide scale. Besides, combinatorial innovation is expected to produce outstanding results when combining different technologies to create more advanced technology. A typical example of hybrid innovation is Metaverse, which was created by the combination of many organizations with different technologies and is being considered a huge untapped resource to be explored.

Relevance of technology trends to industry



Level of Innovation, Interest, Investment and Application for each Technology Trend

Out of all 14 technology trends, AI Application was the technology with the highest level of Innovation, while Clean Energy technology attracted the greatest Interest and Investment.



In terms of Innovation level, the groups of trend include: AI Applications, Advanced Connectivity, and Future of Biomedical Engineering received the highest rating. These technologies are also mature and proven to be effective. The second group consists of technology trends towards sustainable development, including: Future of Clean Energy, Future of Mobility and Future of Sustainable Consumption. In particular, Clean Energy technology and Mobility technology are receiving a lot of attention and investment. In addition, other new technology trends that are in the development stage have also created significant applications and benefits for businesses.

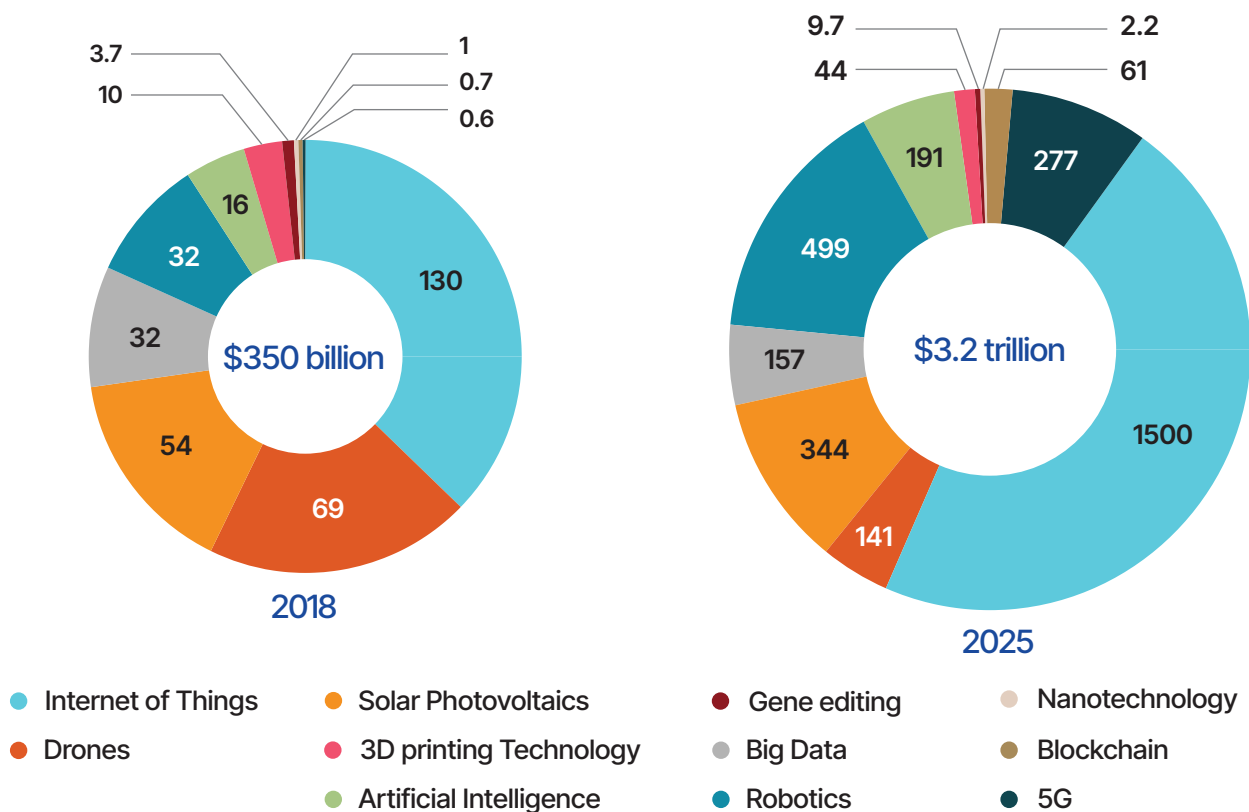


Technology has always been the core of the digitalization/innovation of corporations. Nevertheless, corporations do not always get to equip themselves with sufficient resources and in-house expertise to invest in technology. Therefore, the ability to leverage outside resources or adapt to "co-creation of technology" trends of Open Innovation process is imperative.

MR. TAI HUYNH - CEO of Kyanon Digital

According to UNCTAD (United Nations Trade and Development Forum) in the latest report on Technology and Innovation 2021, 11 pioneering technologies include: Artificial Intelligence (AI), Internet of Things (IoT), Big Data, Blockchain Technology, 5G, 3D printing Technology, Robotics, Drone Technology, Gene Editing Technology, Nanotechnology, Solar Photovoltaics.

The market value of pioneering technologies was estimated at \$350 billion in 2018 and is projected to grow to more than \$3.2 trillion by 2025. Out of the 11 pioneering technologies, Internet of Things technology has the largest revenue, reaching \$130 billion in 2018, and by 2025 it can grow to \$1.5 trillion – almost half of the total value of pioneering technologies in 2025. This is due to the fact that Internet of Things (IoT) technology is applied on many devices; in 2017 the total number of connected devices (IoT devices) in use reached 8.4 billion, higher than the total number of people in the world.

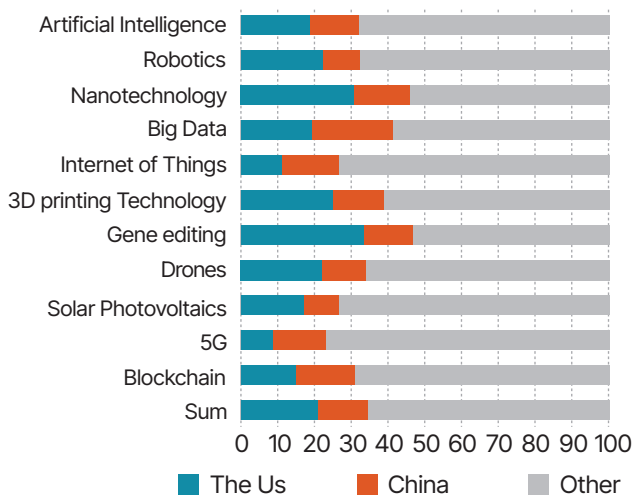


Estimated market size of pioneering technologies

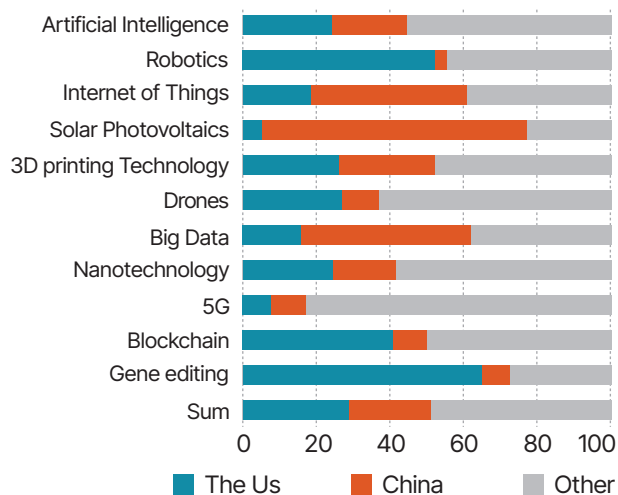
Source: UNCTAD - Technology and Innovation Report 2021

The development of pioneering technologies has generated a large number of scientific publications and patents across the technology field. Among them, the United States and China are the two leading countries, together holding 30 to 70 percent of patents in each field. The technologies that have gained the most patents in the US are Robotics, Gene Editing Technology and Blockchain Technology, while China is more inclined towards Internet of Things (IoT), Big Data and Solar Energy.

National scientific publication rate by pioneering technology



Percentage of national patents by pioneering technology



Source: UNCTAD - Technology and Innovation Report 2021

TECHNOLOGY MAP

The concept of technology map

A technology map (T-map) is a map that presents, lists, and reports on the market analysis strategy and the research & development (R&D) orientation for new product chains in one Enterprise or many departments of a corporation, locality, or nation.

The conduct of a T-map is based on methodology and search tools that involve analyzing domestic and international technology market trends through a database of patents that have been and are being published in each country's Industrial Property Official Gazette and/or on free or paid global Websites or in other science and technology media.

Furthermore, the T-map also shows the roadmap of research, innovation, production, and business activities of enterprises, associations, regional special economic zones, industrial parks, etc. It then provides business leaders and state management agencies with good orientation and in-depth plans to develop new technologies and products, improve technology from existing machines and equipment, and expand the market professionally and effectively.

The role and meaning of the technology map

In fact, organizations and businesses operating in any industry (especially in key and breakthrough technology fields such as: Food Technology & Biotechnology, Robotic Technology – Mechatronics, Information & Telecommunications Technology, New Materials, Etc.) need to build a T-map in the fields that they want to pursue and grasp the ever-changing trends in science and technology of the world.

The following questions are related to the role, meaning and importance of T-map as part of the strategy of developing new products, improving technology, etc., from market analysis, R&D, and innovation activities of each business:

- 1 Where will the world's tendencies/trends develop or go in this field/industry from now to the next 10-20 years? Where do Vietnamese enterprises stand in the world's T-map?
- 2 Which firms/companies are in the top 10, 20, 50 of that technology in the world?
- 3 What market segments are the competitors' patent/technology chains covering? What is the scope of application and the life cycle of the products/services formed from the set of patents and technologies?
- 4 What patents (expired or about to expire or not protected in Vietnam) do we plan to exploit in the world's patent database? And how to do it so that it can be applied effectively (saving time and effort) for your business or organization?
- 5 For enterprises that want to build a roadmap for the development of products/services through the strategy of developing a new patent chain or effectively utilizing and exploiting precursor and reference inventions, how should they plan?
- 6 How to link and integrate T-map into regulations and policies on management of intellectual property moving it closer and closer to market research strategy and business plan of each enterprise logically and systematically?

Source: IP Group

The approach of Technology Map

TECHNOLOGY MAP

Analysis by
field of
science &
technology

Analysis of
patent
protection
trends in the
field of
production
and business

Analysis of
financial factors
and cash flows
formed in the
future from
intellectual
property
(inventions,
initiatives, etc.)
and intangible
assets

Analysis of
application
trends and
investment
trends

Analysis by
applicant and
main inventor

Analysis of
applicability in
practice

Examples of Technology Map

Assignee:

Shandong Sunway Garden Technonology

Xiangzhou County Institute of Science and Technology

Guangxi Nanning Beibu GULF Modern Agriculture

Giangxi Rentaiiron Biological Technology

Jiangsu Academy of Agricultural Sciences

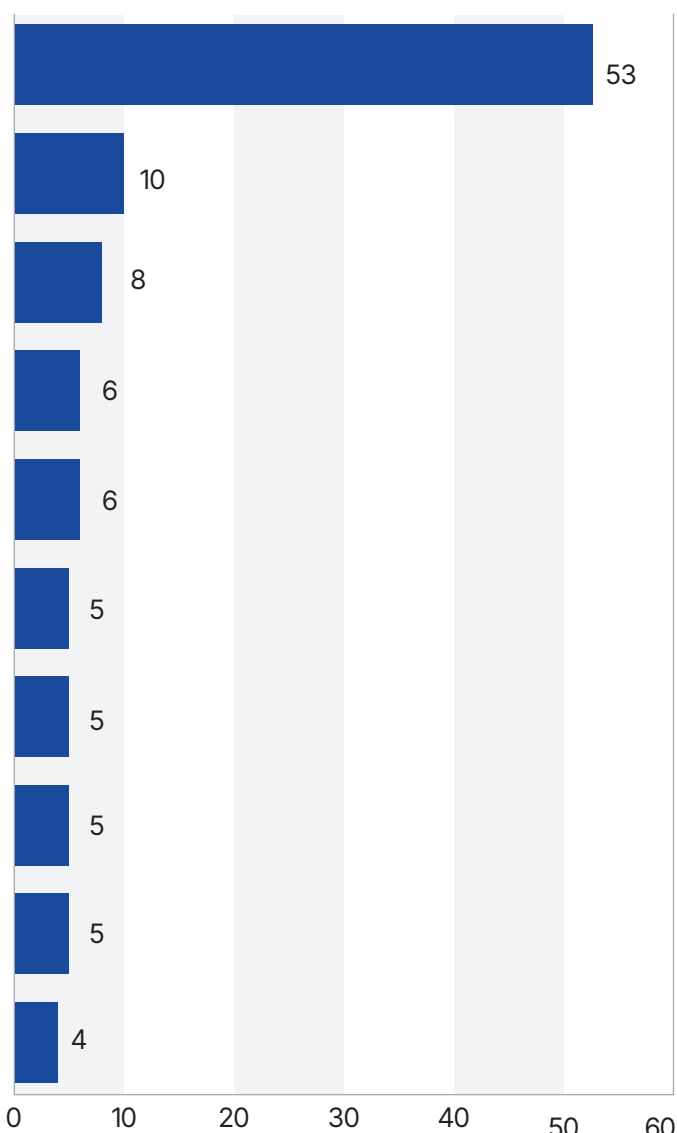
Beijing Gao S. Investment

Guangxi Chiseng Agricultural Science & Technology

Guizhou Kailin

Shandong Agricultural University

China Agricultural University

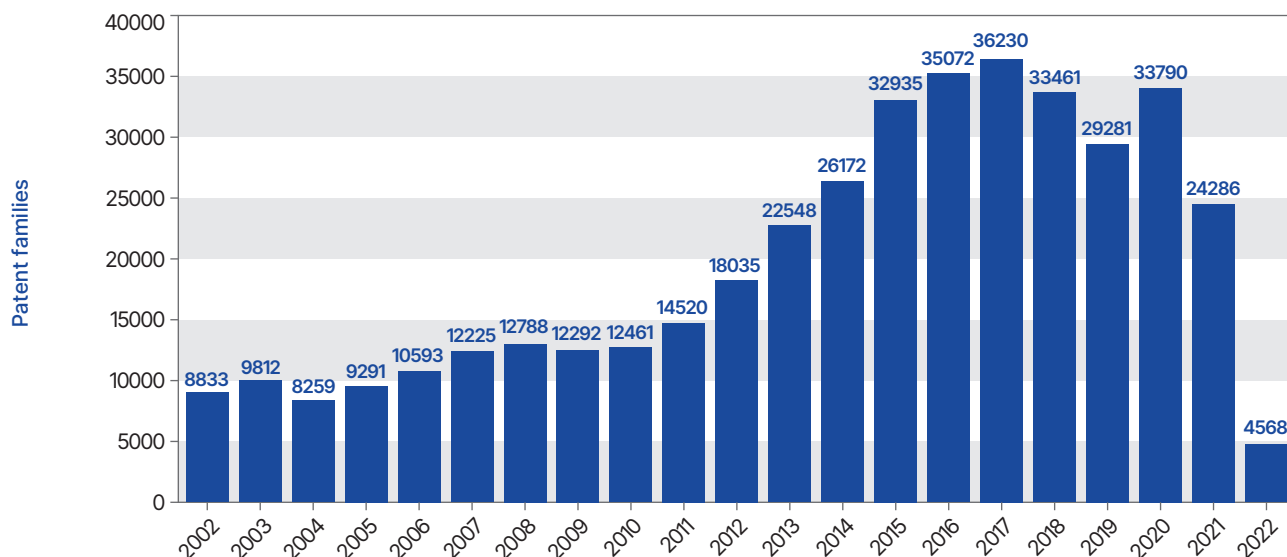


Top 10 patent owners in the field of Sustainable Agriculture

(Source: Analytical chart from ORBIT)

The chart depicts that most of the main applicants are from China, where patents have been heavily invested in the last 20 years. Shandong Sunway Landscape Technology Co., Ltd. is the leading player with 53 patents. The company is a subsidiary of Shandong Sunway Chemical Group. Other subsidiaries include Shandong Sunway Petrochemical Engineering Company and Shandong Sunway Technology Company.

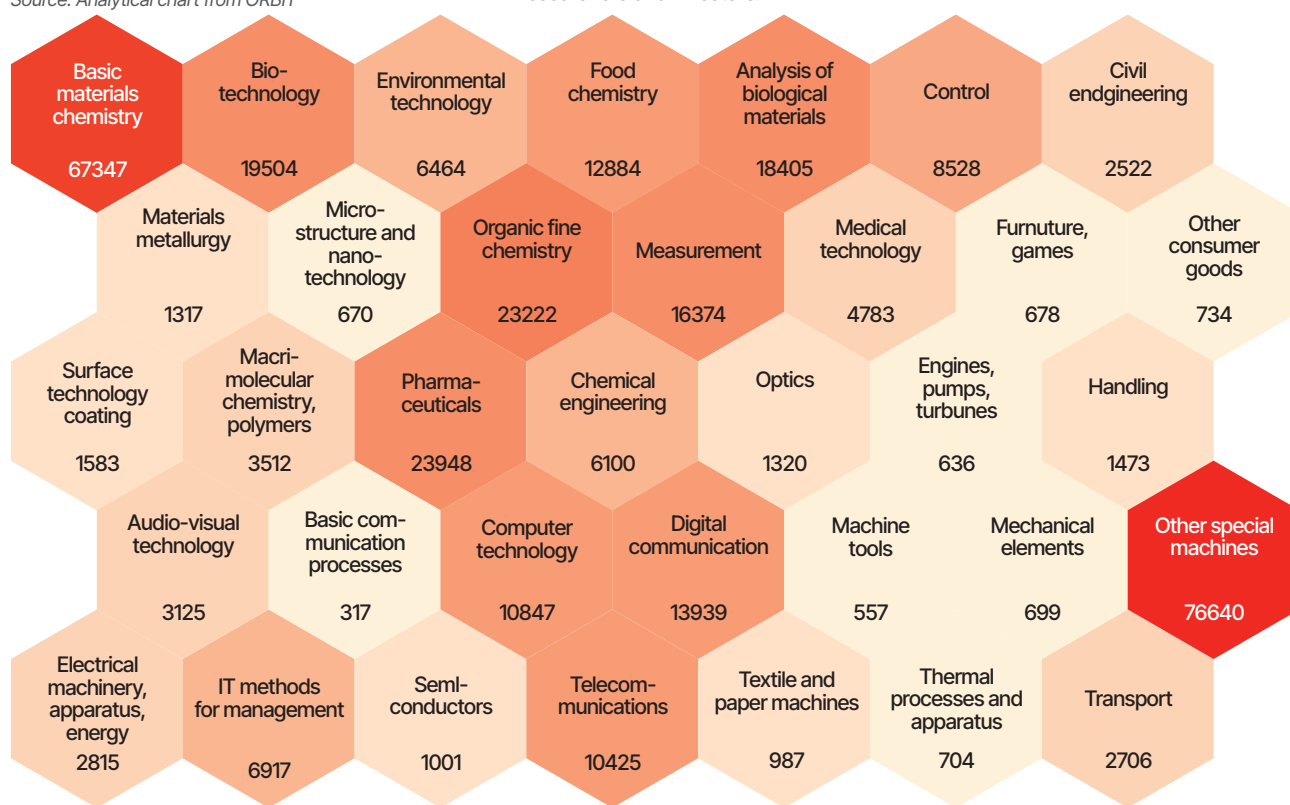
Source: IP Group



Investment trends in the field of Produce - Food processing and preservation technology

Source: Analytical chart from ORBIT

The chart above shows that the number of patent applications filed in the fields of Produce - Food processing and preservation technology has the tendency to increase over the years. This proves that these fields are still attracting the attention of researchers and investors.



Graph analysis of inventions in the field of high-tech agriculture

Source: Analytical chart from ORBIT

The graph above helps businesses to recognize which fields are trending, holding the most patents and having important opportunities and positions, thereby, determines the appropriate R&D direction.



Source: IP Group



Among current outstanding technology trends, we propose the technology of gaseous and liquefied hydrogen production. In the context of energy shortage and environmental pollution, hydrogen production technology has been and will become a trend pursued by many countries around the world. This will be the technology of the future as it is not only used in plants producing Urea, NPK etc., which mainly depend on about-to-be-exhausted gas fields, but also helps saving fuel, increasing engine capacity, reducing emissions from vehicles powered by internal combustion engines, and is used in hydrogen fuel cells production. In addition, this technology is ready to become an alternative to fossil fuels and even renewable energy (solar power, wind power, etc. which are inherently toxic waste after damage).

MR. NGO DUC THUAN - Chairman of the Board of Directors of IP GROUP CORPORATION.

Part 2

THE GLOBAL STARTUP ECOSYSTEM AND HIGHLIGHTED AREAS

1

Overview of the World's Startup Ecosystem

THE OVERVIEW OF THE GLOBAL STARTUP ECOSYSTEM

The overview of the Global Startup Ecosystem in 2022

2021

USD 669 billion

In 2021, the total venture capital fund in the world was \$669 billion, which is **double** the total that of 2020 (Crunchbase)

USD 250.1 billion

As of the second quarter of 2022, the total investment for Startup in the world reached \$250.1 billion, a **decrease of 43% compared to the same period in 2021** (Crunchbase)

Number of unicorns

600

The total number of unicorns around the world reached 600 companies in 2021, seeing **a record 3.5-time increase** over 2020 (Crunchbase)

210

The total number of unicorns around the world reached 210 companies as of Q2 2022, **a 12% year-on-year decline** (Crunchbase)

Fintech

As of Q1 2022, 20% of total investment has gone to companies in the Fintech sector (CB Insights)

Comment

2021 can be considered a booming year for the global Startup economy both in terms of investment for Startup and the number of new unicorns, with growth rates of 200% and 350% respectively for two indices compared to 2020. Although the economy showed signs of slowing down in 2022, when investments, as well as the number of Startup unicorns, were on a decrease compared to the same period of the previous year, but still at a significant level for the potential and stability of Startup to partly meet expectation for the rest of the year.

Most valuable unicorn Startups in the world (USD billion)

		VALUE OF 2020	VALUE OF 2021
BYTEDANCE (Artificial Intelligence - AI)		140	140 (-)
SPACEX (Spaceflight)		74	127 (+53)
SHEIN (E-commerce)		15	100 (+85)
STRIPE (Financial Technology - Fintech)		95	95 (-)
CANVA (Internet Software & Services)		6	40 (+34)
CHECKOUT.COM (Financial Technology - Fintech)		15	40 (+25)
INSTACART (Supply chain)		39	39 (-)
DATABRICKS (Data management)		28	38 (+10)
REVOLUT (Financial Technology - Fintech)		5.5	33 (+27.5)
EPIC GAMES (Gaming)		28.7	31.5 (+2.8)

Source: CB Insights

SOME HIGHLIGHTS

43 UNICORNS IN THE COURSE OF 45 WEEKS IN INDIA

Since the start of India's 75th Anniversary of Independence on March 12, 2021, the country has added 43 more Startup unicorns in just 45 weeks. Not stopping there, Commerce Minister Piyush Goyal also set out a plan to create 75 new unicorns in the next 75 weeks. To achieve this resounding success, the Indian government had launched many programs to support Startup, such as eliminating the problem of "Angel Tax" and simplifying the tax procedure; and it had simplified more than 26,500 procedures.

Source: pib.gov.in



A FOUR-MONTH-LONG STARTUP EXHIBITION IN INDONESIA

The Government of Indonesia organized Joint Exhibition & Junction of Startup Landscape in Indonesia (JEJALA ID), lasting 4 months from October 2021 to January 2022 to connect domestic Startup with venture capitalists from America, Europe and other Asian countries.

Source: CISION



Nguồn: JEJALA ID

INNOVATION ALLIANCE BASED ON UNIVERSITIES AND RESEARCH INSTITUTES IN GERMANY

From 2021, 3 major universities and 1 hospital in Berlin: Freie Universität Berlin, Humboldt University, Technical University of Berlin and Charité - Medical University of Berlin have jointly established a Startup hub named 'Science & Startup'. Its most prominent project is K.I.E.Z, a program to support Startup in the field of Artificial Intelligence.

Source: Berlin: Startup Report 2022

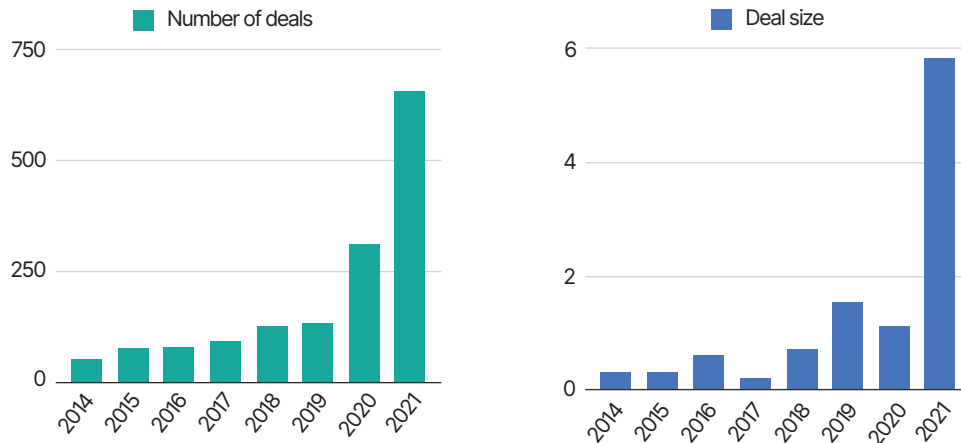


SOME HIGHLIGHTS

THE VALUE OF INVESTMENT IN AFRICA IN 2022 EXCEEDING THAT OF THE PREVIOUS SEVEN YEARS COMBINED

According to The African Private Equity & Venture Capital Association (AVCA), 604 African Startup raised nearly \$5.2 billion in 2022, more than seven years prior combined. Five out of Africa's seven tech unicorns are also born in 2022

Source: The Economist



Amount of investment in Africa

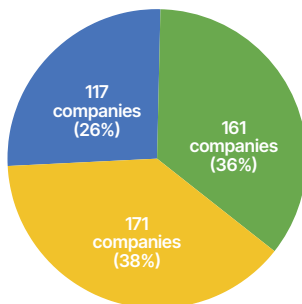
Source: The Economist

THE WINTER FOR STARTUPS

From around 2020 to the present, Startup and technology companies around the world have been experiencing a crisis with many large layoffs, due to the impact of the COVID pandemic, the technology crisis and the slowdown of the IPO market.

According to Dealogic, the Nasdaq is down nearly 30% since the start of the year. The number of IPOs globally in the first quarter of 2022 also decreased by 50% year-on-year. This situation forces venture capital funds to now scale back operations if they cannot recover their investments in the public market.

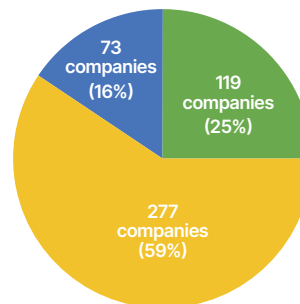
Source: Nhip Cau Dau Tu Magazine



31/03/2022

- Gain
- No change
- Loss

449 companies



30/06/2022

- Gain
- No change
- Loss

469 companies

Number of companies with gain and loss of the Vision fund

Source: Techcrunch

Ranking of the countries with the best Startup ecosystem in 2022

Country	Ranking in 2021	Ranking in 2022
The US	1	1 (-)
The UK	2	2 (-)
Israel	3	3 (-)
Canada	4	4 (-)
Sweden	6	5 (+1)

Country	Ranking in 2021	Ranking in 2022
Germany	5	6 (-1)
Singapore	10	7 (+3)
Australia	9	8 (+1)
France	12	9 (+3)
China	7	10 (-3)

Source: Startup Blink, 2022

Ranking of the best Startup ecosystems in 2022

Ecosystem	Ranking in 2021	Ranking in 2022
San Francisco Bay	1	1 (-)
New York	2	2 (-)
London	5	3 (+2)
Los Angeles area	4	4 (-)
Boston area	6	5 (+1)
Beijing	3	6 (-3)
Shanghai	7	7 (-)
Bangalore	10	8 (+2)
Tel Aviv area	8	9 (-1)
Paris	11	10 (+1)

Countries with the best Startup ecosystems in Asia - Pacific 2022

Country	Ranking in 2021	Ranking in 2022
Singapore	3	1 (+2)
Australia	2	2 (-)
China	1	3 (-2)
India	5	4 (+1)
Japan	6	5 (+1)
Korea	4	6 (-2)
Taiwan	7	7 (-)
New Zealand	8	8 (-)
Indonesia	10	9 (+1)
Malaysia	9	10 (-1)

Source: Startup Blink, 2022

In general, North America and Europe continue to dominate the world Startup market with 4/5 countries and all leading Startup cities coming from one of these two regions. Meanwhile, the Asia-Pacific region is experiencing a generally positive level of development, although there are still worrying signs such as China's decline in its role as an Innovation hub.

An interesting point is that the two leading regions, North America and Europe, have quite different development trends. On the one hand, North America completely dominates the list of the 100 best Startup ecosystems, accounting for 40% of the cities on this list and accounting for more than half of the investment in Startup around the world, although this is the region with the fewest countries (only the US and Canada).

Europe, on the other hand, leads the way in terms of numbers if you look at it more broadly, with around 426 European cities in the top 1000 by 2022 (compared to just 386 in 2021). According to the Economist, while the US has produced the top four technology companies, with a combined value of \$1 trillion in just three decades, including Google, Amazon, Tesla and Facebook, not a single company technology in Europe is valued at \$100 billion.

Asia again shows that the growth of Startup cities has reached a mature stage when most of the cities in the top 100 leading ecosystems have increased in rankings. However, the country that has been a pioneer in Innovation in the region for many years - China - faced many challenges in 2021, leading to less positive results on the country's Startup Blink rankings in particular, and the Asia-Pacific region in general. Even so, China still accounts for more than half of the investment in this region.



According to Startup Blink's ranking on Startup ecosystem, Vietnam makes impressive leaps every year, with an increase of 5 places on the world map. This is very influential thanks to the efforts of the government and ministries. The most remarkable thing is that if we look at the whole Southeast Asia region, Vietnam is a country with a very fast growth rate and is on the rise. Although Thailand is still 1 rank ahead of us, it took a step back in 2022, the Philippines lost 5 points, Malaysia dropped by 2 places,... As can be seen, that is a good sign for the Startup Ecosystem. and Vietnamese Innovation. The government also organized active activities to promote the Startup economy through awareness raising activities and supporting policies for individuals and start-up organizations, especially in the investment sector.

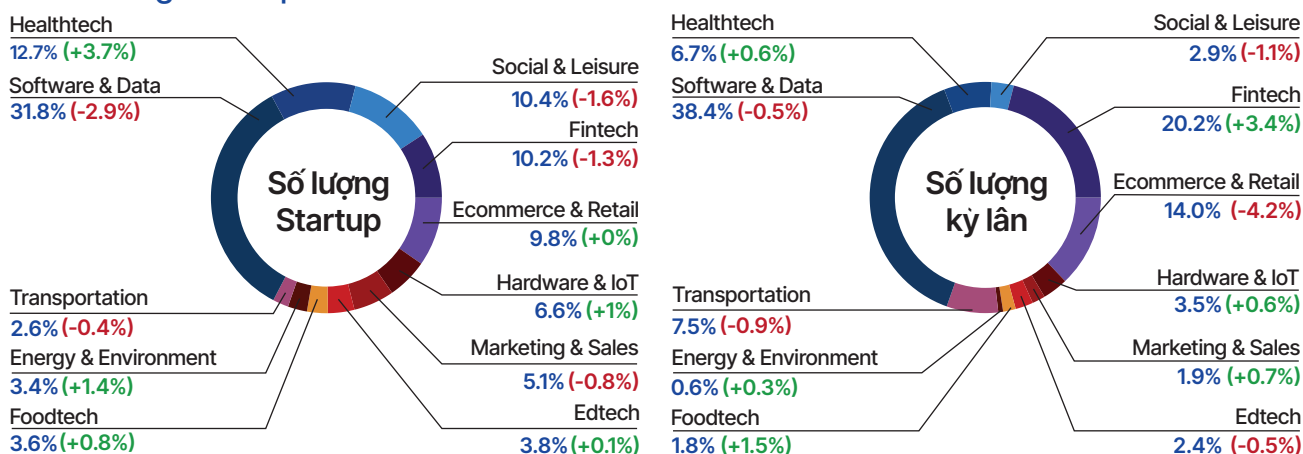
MR. DAM QUANG THANG - Chairman of the National Innovation Advisory Council VCCI; General Director of Agricare Vietnam

Startup industries with the highest investment growth in 2021



Source: CB Insights

Key Startup Industries by Number of Startup and Number of Unicorns (2022) with changes compared to 2021



Source: Startup Blink, 2022

Similar to 2021, Software and Data remain dominating Startup industries, both in terms of the number of Startup and the number of unicorns, accounting for 31.8% and 38.4% of the total, respectively. The number of active unicorns in this sector also increase significantly, from 255 unicorns in 2021 to 415 in 2022. The Digital Health is also a very active sector during the year, with the number of Startup skyrocketing to the second highest, 73 companies, almost double that of 2021. This trend can be explained that COVID-19 had inspired many businesses to focus on this essential field. Meanwhile, the Social & Leisure industry still proves to have low growth potential as despite accounting for 10.4% of the total number of Startup, only 31 of them have become Tech Unicorns.

Another very prominent Startup industry in 2022 is Fintech, with the number of Unicorns skyrocketing in this industry, nearly doubling from 110 unicorns in 2021 to 219 in 2022. Fintech is also the industry to achieve the highest investment growth of the year, up 270%.

Field	% of unicorns / % of Startup
Transportation	2.88
Fintech	1.98
Ecommerce & Retail	1.43
Software & Data	1.21
Edtech	0.63
Healthtech	0.53
Hardware & IoT	0.53
Foodtech	0.5
Social & Leisure	0.37
Marketing & Sales	0.28
Energy & Environment	0.18

Another interesting perspective we can observe is the ratio of the percentage of unicorns to the percentage of Startup in a field. If the ratio is > 1, the sector has more unicorns than the market average. If the ratio is < 1, the sector has a lower number of unicorns than the market average. According to that analysis, we can see 4 sectors with high ratios: Transportation, Financial Technology, Ecommerce & Retail and Software & Data respectively.

2

OUTSTANDING STARTUP ECOSYSTEMS

THE STARTUP ECOSYSTEM IN KOREA

Prominent figures of Korea's Startup Ecosystem in 2022

12

As of April 2022, Korea has a total of 12 Startup unicorns, up from just 3 in 2017. (CB Insights)

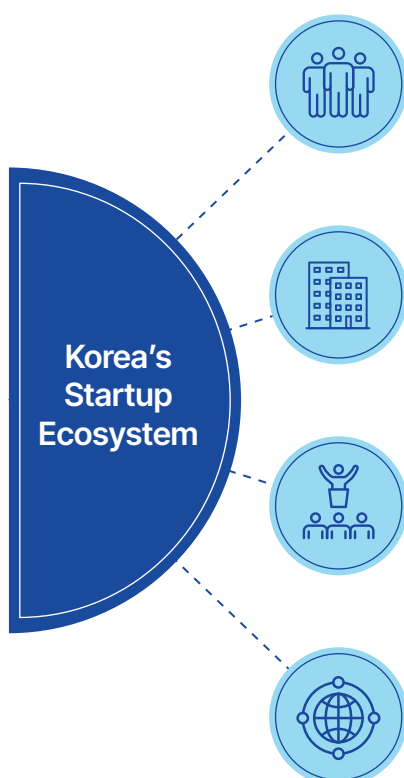
6.4 Billions

In 2021, the total venture capital fund in Korea reached \$6.4 billion, an increase of 80% compared to 2020. (Yonhap News Agency)

6.000

The total number of Startup in Korea has reached 6,000 - as of 2021. (Tracxn)

Drivers for Success of Korea's Startup Ecosystem



"Tech-savvy" population: Korea ranks first in the proportion of young population (aged 25-34) with a university degree among OECD countries. Not only that, Seoul, the Innovation Center in Korea, is also home to 54 universities and Seoul Software Academy (SeSac), a technology training center that aims to train 40,000 talents until 2025. (Startup Genome)

An economy revolving around large corporations: In Korea, there are large family corporations called "Chaebol". In recent years, Chaebols have also actively invested in innovative solutions, such as LG Chem working with packaging Startup Innerbottle to recycle plastic bottles.

Growing government support: The Korean government has continuously increased investments in the nation's start-ups. Such funds include a notable state investment worth up to \$ 1.34 billion in 2021 to support Startup, an increase of \$58 million compared to 2021. (according to The Ministry of SMEs and Startup of Korea).

Diverse Startup ecosystems in Korea from the world's leading technology corporations: The Startup ecosystem in Korea is active and attracts a lot of attention from investors, Startup accelerator industries and incubators from around the world. Google built the first Google Campus in Asia in Seoul. Facebook also has an Innovation Lab in Pangyo to develop tech talent in Korea.



The Korean government has upgraded a series of Startup support packages in 2022

In 2022, the Korean Ministry of SMEs and Startup invested an additional 1 trillion won in the Korean Fund of Funds, bringing the total value of this Startup support fund to 2 trillion won (1.6 billion USD). Moreover, the Ministry also established a separate 2.3-trillion-won-worth fund for Mergers & Acquisitions (M&A), and a temporary support fund of 100 billion won.

K-STARTUP
GRAND
CHALLENGE
2022

The Korean government actively organizes programs to attract Startup in Korea

In addition to the domestic Startup promotion programs, the Korean government also creates positive conditions for **foreign Startup to operate in Korea** such as the K-Startup Grand Challenge program to be held annually with bonus packages for the best ideas as well as the conditions for establishing a business in Korea.

Featured Unicorns of Korea



Market Kurly is a food delivery platform that allows users to order on the website and receive it the next day

Valuation:

3,300,000,000 USD



Viva Republica the Startup in Seoul behind the financial services super app Toss

Valuation:

5,480,000,000 USD



Socar an eco-friendly car sharing platform that allows users to travel with others

Valuation:

1,070,000,000 USD

New generation businesses in Korea are especially developed in building technology platforms, the most prominent of which are undoubtedly the three unicorns mentioned above - Market Kurly - a food delivery platform, Viva Republica - a financial services platform and Socar - a car sharing platform. In addition, Startup in Korea are also gradually looking for opportunities outside of the country; pioneering this trend are entertainment companies. Online comic platform (Webcomic) Naver cooperates with US publishers such as DC Comics, while Kakao Entertainment acquires US comic reading app Tapas in 2021 for \$510 million. In the opposite direction, foreign businesses are also interested in the Korean Startup market. Softbank Group has invested \$1.7 billion in the travel & entertainment app Yanolja in 2021.

Prominent Startup trends in Korea in 2022

SMART MANUFACTURING

Smart Manufacturing is considered one of the key sectors in Korea, and is the center of its national economy. The manufacturing sector accounts for 30% of GDP and 90% of Korea's exports. Not only that, more than 80% of research & development (R&D) activities in the country focus on manufacturing. In June 2019, the Korean government launched the "Manufacturing Renaissance Vision" program, with a plan to build 30,000 smart factories in 2022 along with 30 smart industrial parks and 2,000 smart factories with integrated artificial intelligence by 2030.

GREEN TECHNOLOGY

The Korean government has announced many plans in the future to support the development of green technology, in order to solve the problem of global warming. Korean Startup focus on various diverse solutions such as reducing carbon emissions, improving energy efficiency, and transforming technologies for carbon-intensive industries. Earlier this year, the Ministry of SMEs and Startup and the Ministry of Environment announced a joint project called "Green New Deal 100 Promising Companies". This support package is worth up to 90.1 billion won (\$73 million), established with a view to supporting businesses operating in the greentech field.

BIOTECHNOLOGY

In 2021, the Ministry of SMEs and Startup established the K-Bio Research Institute. It is an ecosystem of various local health organizations that assist biotech Startup in conducting experiments, research and clinical trials. The K-Bio Research Institute also reinforces the role of the Creative Economy Innovation Center in supporting and promoting Startup in the region. Construction of the complex is slated to be completed in 2024 at a cost of 335 billion won (\$271 million). This will contribute to the growth of the biotech industry in Korea.

THE STARTUP ECOSYSTEM IN ISRAEL

Prominent figures of Israel's Startup Ecosystem in 2022

5.44% GDP

Spending on R&D - highest among OECD countries (average 2.4%) and worldwide (average 2.63%).

97 unicorns

As of August 2022, Israel is also the country with the highest number of Startup per capita in the world.

\$25.4 billion

Venture capital raised by **high-tech Startup** in 2021 - double the amount raised in 2020 (\$10.8 billion) and an all-time record.

The Most Prominent Ecosystem in Israel
Tel Aviv*

Figures for the Tel Aviv - Jerusalem area

\$120 billion

Total ecosystem value - almost four times the global average (\$28.6 billion)

30 new unicorns

In Tel Aviv (2021) - make up the majority of Israel's 2021 new unicorns (about 42 new unicorns).

Source: Israel Innovation Authority, World Bank, techaviv.com, Startup Genome

With a close-knit Startup community, abundant R&D resources, high-quality human resources and strong support from the Government, Israel, "The Startup nation", has been continuously reaching new records, clearly shown by the numbers. In this country, the high-tech industry has entered a mature stage, becoming the center of Israel's economy and is becoming the main driver of Innovation

54%

Israel's total export value is high-tech products, up 11% compared to 2020, reaching a value of approximately \$67 billion.

10.4%

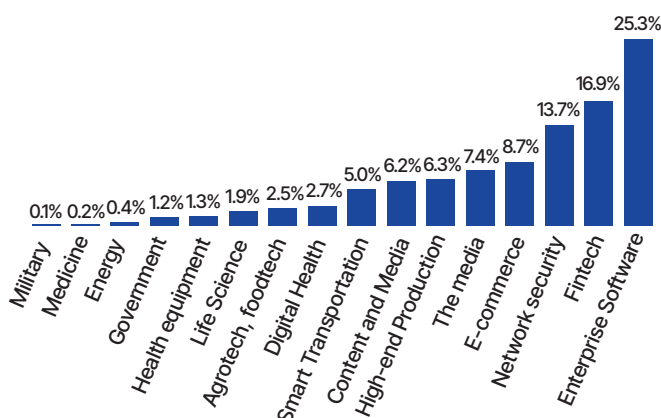
Employed people in Israel are in the high-tech industry (2021) - the highest percentage in the world.

237 billion shekels*

High-tech industry output value in 2021, up 10% from 2020 (*shekels is the currency of Israel)

Israel's prominent sectors and Startups

Distribution of investments in private high-tech companies by business sector (2021)



Startup in Enterprise Software, Fintech, Cybersecurity currently attract the majority of investors

Estimate: **\$ 15,000,000,000**

Field: Fintech

Establishment: 2016



Rapyd

Estimate: **\$ 9,500,000,000**

Field: Enterprise Software

Establishment: 2011



Estimate: **\$ 9,000,000,000**

Field: Cyber Security

Establishment: 2018



Estimate: **\$ 8,500,000,000**

Field: Cyber Security

Establishment: 2015



Estimate: **\$ 8,300,000,000**

Field: FinTech

Establishment: 2010



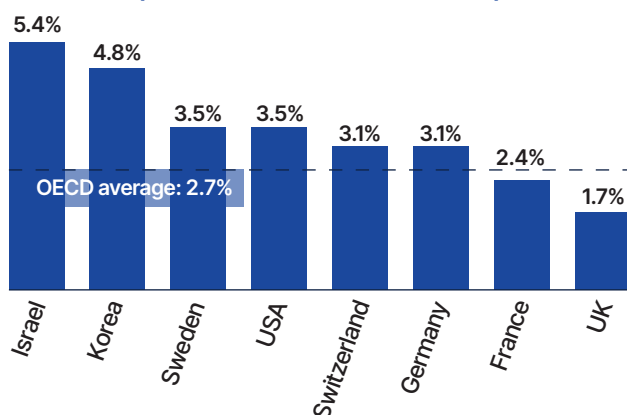
Source: Israel Innovation Authority Report 2022, techaviv.com

Current situation

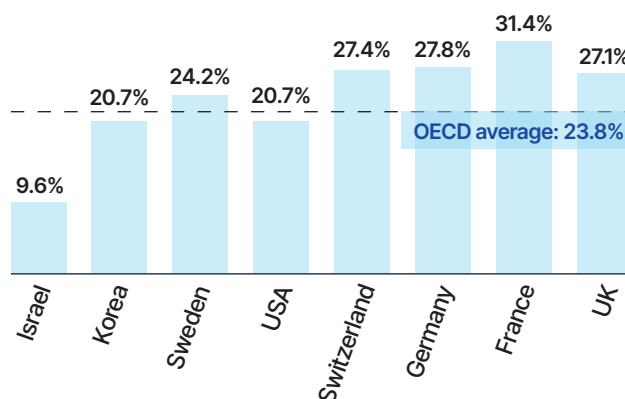
Israel's high-tech industry is flourishing, but at the same time it still faces many challenges, notably the difference among investment sources for R&D. Israel currently leads the way in R&D investment (% of GDP) worldwide, but much of it still comes from private investment. Public investment in R&D of Israel accounted for only 9.6% of total R&D investment (2019) - much lower than that of other members of the OECD.

The current situation will cause the unbalancing of the state's technological development level and the advancement and robustness of the market. Such a situation poses difficulties to management sectors and legal departments and imposes negative effects on Israel's leading position. (One of the ongoing risks is that technology companies gradually move to other areas to develop their business).

Investment in R&D (% of GDP) in 2020
(or most recent data collected)



Ratio of public R&D investment to total
national R&D investment (2019)



Solutions

The Israeli government has launched the "reality-changing innovative initiatives" - with the aim of promoting cooperation between the public and private sectors to create breakthroughs in certain areas. Participants in these plans include Government Agencies, Technology Companies, Policy Makers, Technology Test Areas and Application Support Agencies. These plans allow technology companies to take advantage of their existing strengths to create new ideas, test them under government supports and apply them to the domestic market before going global.

Currently, the "reality-changing innovative initiatives" has started with the Autonomous Vehicles and Resident Housing sectors.

Israel's
Innovation
Plans will last
2-4 years
including
missions



Planning

Searching and identifying needs; designing solutions



Gathering knowledge

Gathering technology knowledge from Israel and foreign countries



Gathering partners

Cooperation between Government agencies, state management, Economic Forum



Making connections

Linking companies with new partners in Israel and from abroad



Legal regulations

Directing in removing legal barriers



Financial investment

Gathering funding from related government agencies



Marketing

Planning and implementing integrated marketing activities



Monitoring and Control

With clear, specific reference points

Addressing the
needs/challenges of
the community or
industries that bring
economic and technological
advantages to Israel.

Source: Israel Innovation Authority Report 2022

THE STARTUP ECOSYSTEM IN CHINA

Prominent figures of China's Startup Ecosystem in 2022

¥2.79 trillion

Spending on R&D increased by 14.2% compared to 2021 and accounted for 2.44% of China's GDP (+0.03% compared to 2020).

312 unicorns

As of the first half of 2022, the number of unicorn Startup had increased by 11 in 2022 YTD.

24.7 billion USD

Venture capital raised by Start-up as of April 2022 - down 44% compared to the same period in 2021.

Source: Gathered from Global Unicorn Index 2022 Half-Year Report, National Bureau of Statistics of China, Preqin

Value of the most Notable Startup Ecosystems in China (Period: 2019H2-2021)

Beijing

795 billion USD

Shanghai

250 billion USD

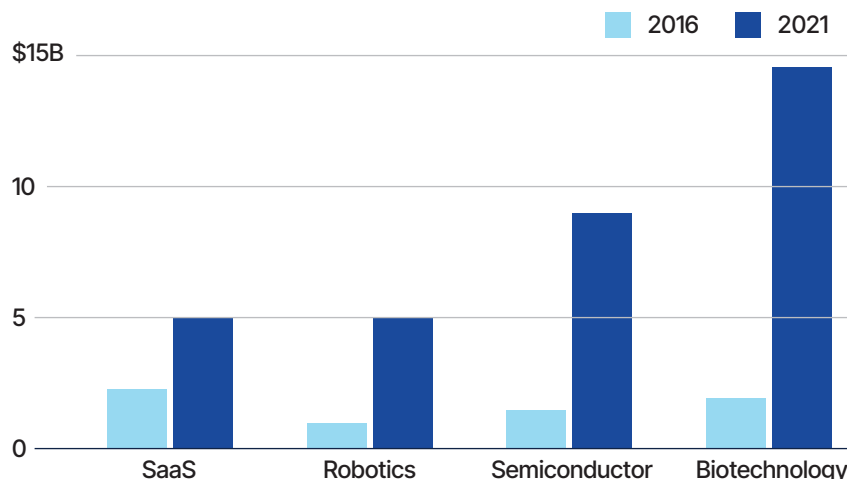
Shenzhen

97 billion USD

China is perceived as a direct competitor of Silicon Valley regarding Innovation. With the advantage of high-quality human resources, a large domestic market and the speed of commercialization of new technologies, China has always been an attractive market for large companies, especially high-tech companies.

Recognizing the importance of Innovation, China has created favorable conditions as well as promoted R&D activities in this country. In recent years, China has stepped up investment in the Semiconductors sector - China's 2021 semiconductor investment was \$8.8 billion compared to \$1.3 billion for the US - to become more independent when developing in the direction of high technology instead of depending on supply from the US as before.

Beijing's investment in key technology industries



China's outstanding unicorns in 2022 according to CB Insights ranking

ByteDance

ByteDance

#1 unicorn in the world in 2022

Valuation: **140 billion USD**

Field: **IT and Internet**

Establishment: **2012**

小红书

Xiaohongshu

#15 unicorn in the world in 2022

Valuation: **20 billion USD**

Field: **E-commerce and Retail**

Establishment: **2013**



猿辅导

Yuanfudao

#18 unicorn in the world in 2022

Valuation: **15.5 billion USD**

Field: **EdTech**

Establishment: **2012**

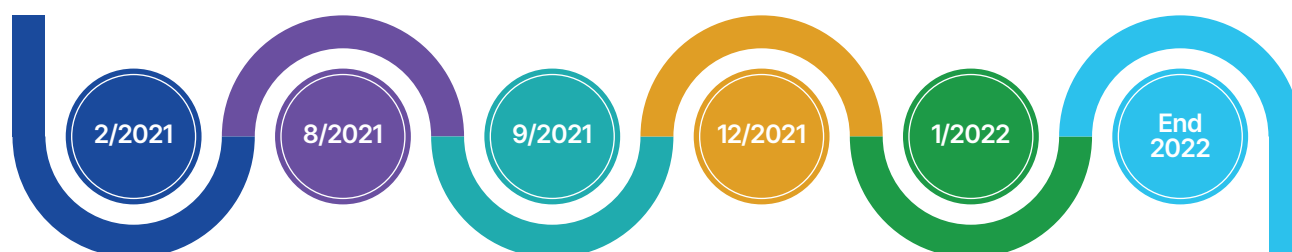
Source: Data gathered from Startup Blink, CB Insights, Startup Genome

In recent years, China has seen the rapid growth of technology companies such as Alibaba, Tencent, Didi and Meituan. The rapid development of technology in a not-so-strict legal environment has caused many problems such as monopoly and unfair competition in the country of billions of people. With the aim of building “a platform economy”, China has introduced a series of policies to strengthen supervision and tighten regulation imposed on technology companies in the country.

The Ministry of Industry and Information Technology (MIIT) named and shamed **43 applications that illegally collect user information** including WeChat, SoHu Video and iQiyi.

The Cyberspace Administration of China (CAC) **fined and banned the installation of 106 applications** (including Douban) for violating the regulations on information on cyberspace.

To tackle data misuse and disorderly competition, the People's Bank of China (PBOC) plans to establish **an ethics governance system** for financial institutions and technology companies involved in financial service **the end of 2022**



The State Administration for Market Regulation (SAMR) published **new anti-monopoly guidelines** that aim to curb monopolistic behaviors by giant internet platforms and increase scrutiny of e-commerce marketplaces.

The Ministry of Industry and Information Technology (MIIT) called on tech giants to **stop blocking rivals' hyperlinks**.

The Cyber Administration of China (CAC) released the revised **Administrative Provisions on Mobile Internet Application Information Services**, which underlined China's committed approach to regulating the privacy and security posture of mobile apps.

The aggressive policies of the Chinese Government have had a great impact not only on the country's information technology industry but also on foreign investors and markets around the world.

Country/ Region	Q1/2022	YOY(%)	Q1/2021	YOY(%)	Q1/2020
Global	184.1	-11.7	208.6	154.3	82.0
The US	81.7	-22.9	106.1	160.7	40.7
China	24.7	-43.5	43.7	159.8	16.8
India	12.5	58.9	7.9	112.7	3.7
The UK	9.4	-17.3	11.4	192.3	3.9
France	5.9	90.6	3.1	40.9	2.2
Other	49.8	36.7	36.4	148.2	14.7

Unit: billion USD

Source: Prequin

China is currently leading the wave of the world's venture capital slump in 2022. Of the technology industries affected by the Chinese government's policies, **the Consumer Technology industry** is affected the hardest.

The Chinese Government's subsequent moves

19/01/2022

Nine Chinese ministries jointly released the **Opinions on Promoting Standardized, Healthy, and Sustainable Development of Platform Economy** to reaffirm the Chinese government's determination to manage monopolies, unfair competition, abuses of data and illegal practices of technology companies.

After the effects of tightening policies and regulations, the Chinese Government has taken a "loosening" action with the high-tech industry in this billion-people nation.

However, technology companies are warned not to expect a U-turn, but to change to adapt to new government regulations to succeed in the billion-dollar market.

Source: China Briefing, Bloomberg, Prequin

H



The role of creator and "midwife" is the irreplaceable role of the Government in an innovation Startup ecosystem. If the Korean government focuses on forming a system of policies and programs and funds to support innovation Startup, the Israeli government promotes the formation of the venture capital market through the Government Investment Fund model, the Chinese government focuses on carrying out comprehensive reforms, investing heavily in science and technology, forming science parks and innovation centers to ensure the creation of a healthy and synchronous start-up environment for sustainable development. The government, in addition to the role of leading and supporting the development of the innovation ecosystem, also needs to pioneer and actively innovate itself, accompanying the dynamism of the whole ecosystem.

In addition, increasing investment in R&D, training high-quality human resources and developing specialized fields are also prerequisites to ensure the sustainable development of the innovative Startup ecosystem. created in the new era.

MR. TU MINH HIEU - Deputy Head of Innovation Startup Department, National Agency for Technology Entrepreneurship and Commercialization Development. (NATEC)

H

THE STARTUP ECOSYSTEM OF THE GREATER BAY AREA - HONG KONG

An extremely important part of the Startup Ecosystem in China is the Guangdong–Hong Kong–Macau Greater Bay Area (GBA) which consists of 62 Unicorns with a total value of 1,774.5 billion yuan, according to the "Global Unicorn Index 2022 Half-Year Report" announced by Hurun Research Institute (China). Unicorns from GBA include: 33 businesses based in Shenzhen, 19 businesses based in Guangzhou, 7 businesses based in Hong Kong, 2 businesses based in Zhuhai, and 1 business based in Dongguan. Outstandingly, Guangzhou is the city with the fastest growing number of unicorns in China in the past six months, and is also one of the three cities with the highest number of new unicorns in the world.

6 Unicorns in the world top 100 from GBA according to Hurun's ranking

 SHEIN Valuation: 55.4 billions USD Rank: 5 Field: E-Commerce Established: 2012	 WeBank Valuation: 30.5 billions USD Rank: 8 Field: FinTech Established: 2014	 DJI Valuation: 16.67 billions USD Rank: 22 Field: Robot Established: 2006	 Huolala Valuation: 12.04 billions USD Rank: 32 Field: Logistics Established: 2013	 pony.ai Valuation: 7.9 billions USD Rank: 65 Field: Artificial Intelligent Established: 2016	 Ping An Valuation: 7.4 billions USD Rank: 75 Field: Big data Established: 1988
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Source: Hurun Report

Nansha District - The key area in GBA's Innovation development strategy

Occupying a strategic position in the GBA region, Nansha District (Guangzhou City, Guangdong Province, China) is jointly established by the Guangdong Provincial Government and the Hong Kong Special Administrative Region and named "The Guangdong-Hong Kong In-depth Cooperation Zone". With the goal of connecting Hong Kong and Macau and the introduction of the "Nansha Plan" on June 14, 2022, the process of comprehensive integration of Guangdong, Hong Kong and Macau in Nansha has quickly gone into orbit. In the future, Nansha will be a major strategic platform in the GBA, accompanying Hong Kong and Macau to the mainland as well as to the world. The presence and active support of Hong Kong or Macau businesses in Nansha is also a testament to the trend of moving to exploit the large market in mainland China.



Nansha District, in Guangzhou City, Guangdong Province has always been supported by the policies of the Regional Government. Whether in the field of land or sea transport, Nam Sa has become an important intersection in the transportation of goods from the inland to the outside. Incentive policies and support measures for unicorn businesses in the district are proposed based on 9 aspects, including: Business Establishment, Business Contribution, Talent Support, R&D Innovation, Creating Product Testing And Application Spaces, Financial Services, Service Provider Support, Industrial Ecosystem And Government Services.

Support for unicorn businesses in Nansha District

Contribution rewards for the entire growth cycle	Cumulative rewards of up to 50 million yuan will be given to unicorn businesses in growth points such as establishment, maintaining or improving energy level, etc.
Operational management support	Unicorn businesses and Operations Executives can receive an economic contribution award (up to 100% of the business' economic contribution to the county in the previous year)
Talent support	The high-level talent of unicorn businesses can be rewarded up to 100 million yuan for the "Team + Project" reward. Every year, the county provides no less than 300 Guangzhou green cards and 600 apartments for high quality human resources.
R&D support and innovation	The investment subsidy for cumulative R&D will be granted at the rate of 20% of the enterprise's R&D investment for up to 3 years (no more than 100 million yuan). In addition, the government also helps unicorn businesses, famous domestic and foreign universities, research institutes and large technology companies to cooperate in building large R&D units and other high-level innovation platforms.
Product testing and application support	The county spends up to 1 billion yuan a year to support unicorn businesses in building product application and testing areas, and gives priority to the promotion of unicorn businesses' products and services.
Financial service support	M&A service for unicorn businesses receives support with up to 20 million yuan. Corporate loans will also be discounted at 50% of the listed interest rate on the loan market (LPR).
Industrial logistics support	When renting office space, factories, warehouses and other service providers, unicorn businesses get 100% rental support. Unicorn businesses are also supported when building headquarters through new industrial land policies (M0), commercial project cooperation and urban reclamation.
Industrial ecosystem support	The county offers a referral bonus of up to 5 million yuan for each successful referral of a unicorn business that sets up headquarters in the county area, and supports the establishment of a unicorn business communication platform, as well as supporting them with 100% of event venue rental costs.
Government service support	A three-in-one service team and cooperation platform is established, including: Government, businesses and professional service organizations. Research and discussions are conducted according to the different needs of the different projects of each unicorn business and targeted support within a reasonable range is provided.

Sunwah's Hong Kong - Macau - Nansha Youth Innovation Centre

In addition to the government support, businesses are also active in promoting Startup economy in the area. Typically, Sunwah Group (Hong Kong), with the history of 65-year development in Mainland China in general and the GBA in particular, has received strong support from Guangdong Provincial government and Guangzhou City government, as well as active cooperation from Nansha District government, to officially establish Sunwah Hong Kong-Macau Global Youth Innovation Centre in 2021 with its headquarters located in Nansha District. This center consists of six floors with a total area of 6,000 square meters, which is given the right to use for free and managed to Sunwah Group by Nansha District government with the task of promoting incubation projects for local Startup. Up to now, nearly 30 Startup and large business associations from Hong Kong and Macau have set up offices at the centre, which include many Startup with remarkable achievements in the market such as: Woo Woo, Ying Cai, Baijing, etc. This center consists of six floors with a total area of 6,000 square meters, which is given the right to use for free and managed to Sunwah Group by Nansha District government with the task of promoting incubation projects for local Startup. Up to now, nearly 30 Startup and large business associations from Hong Kong and Macau have set up offices at the centre, which include many Startup with remarkable achievements in the market such as: Woo Woo, Ying Cai, Baijing, etc.

Since its establishment, the Centre has also connected and accompanied the Sunwah Innovation Center in Vietnam to organize activities to assist Vietnamese Startup to explore business development opportunities in the GBA market, as well as promote young Vietnamese Startup to approach investors in the area.



The headquarter of Sunwah Hong Kong-Macau Global Youth Innovation Centre in Nansha District, Guangzhou City

Part 3

INNOVATION LANDSCAPE IN VIETNAM

1

OVERVIEW OF VIETNAM'S OPEN INNOVATION ECOSYSTEM

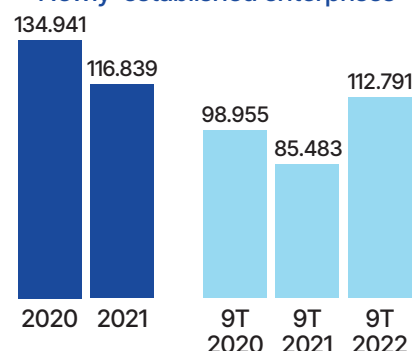
OVERVIEW OF VIETNAM'S OPEN INNOVATION ECOSYSTEM

New enterprises

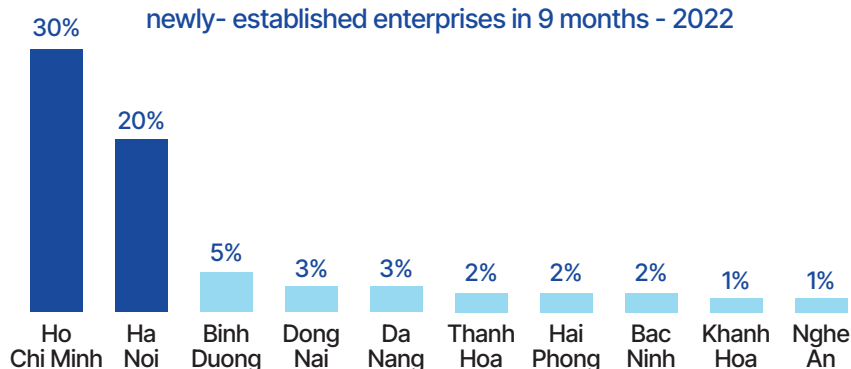
The number of newly-established enterprises in the first 9 months of 2022 reached 112,791, much higher than that in the same period of previous years. Specifically, this was an increase of 31.95% compared to 2021 and an increase of 13.98% compared to 2020. Total registered capital saw a slight recovery after falling in 9 months of 2021.

Ho Chi Minh and Hanoi remain two major cities for business development as 50% of newly established businesses in 2022 located in such areas.

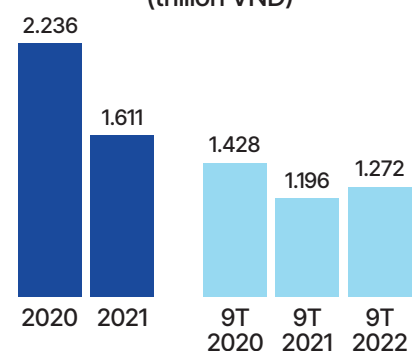
Newly-established enterprises



Top 10 Provinces/Cities with the highest number of newly-established enterprises in 9 months - 2022



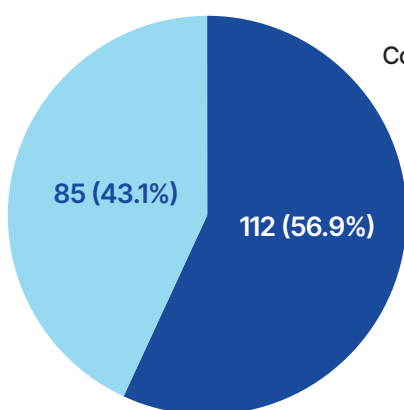
Total registered capital (trillion VND)



Source: National Business Registration Portal (Ministry of Planning and Investment)

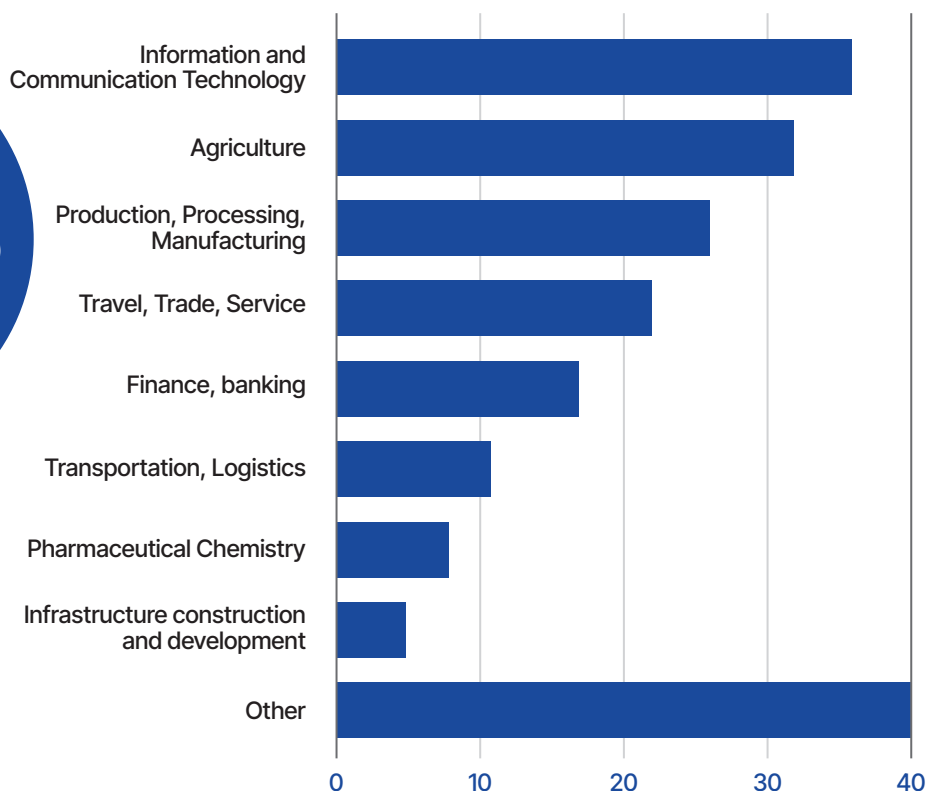
Innovation Support Organisations in Vietnam

Sorted by Ownership



- Public Innovation Support Organization
- Private Innovation Support Organization

Sorted by Industry



Source: Vietnam Institute of Science Technology and Innovation surveyed in the years 2021 and 2022

OVERVIEW OF THE OPEN INNOVATION ECOSYSTEM OF VIETNAM

Vietnam's Startup ecosystem in 2022 has made great progress, reflected in positive numbers

54/100

Ranking in Global Startup Ecosystem

48/132

Ranking in the Global Innovation Index

494 millions USD

Total venture capital investment
(first 9 months of 2022)

94

Number of deals
(first 9 months of 2022)

~3800

Startup in operation
(Estimated)

3

Unicorns: VNG, VNLife, MoMo

116

Patent granted
(including inventions + utility solutions in
the first 8 months of 2022)

- Patents increased by 127% compared to 8 months of 2021, and new patents accounted for 24% of total applications
- Applications reached 489, an increase of 131% over the same period
- Hanoi leads the country in the number of patents and patent applications, followed by Ho Chi Minh City

84

Incubators

- 43 incubators established by Universities, Institutes, Colleges
- 41 privately-owned incubators mostly in Hanoi & HCMC

35

Accelerators

Most of accelerators are located in Hanoi & HCMC - Key cities for innovation

Angel investors

The number of Angel Investors in Vietnam is small but increasing gradually. Currently, there are three largest and most active organizations including:

- Vietnam Silicon Valley Accelerator, with support from the Ministry of Science and Technology
- CLAS Expara Vietnam Accelerator (CEVA), a fund initiated by Microsoft Vietnam for Start-up and pre-seeds
- Vietnam Startup Acceleration Fund (VIISA), an early-stage investment fund and an accelerator with two main investors, FPT and Dragon Capital Group

208

Venture capital funds

Vietnam has about 208 venture capital funds operating and investing in Startup in Vietnam, of which there are nearly 40 domestic investment funds.

Source: NSSC - National Startup Support Centre of Vietnam 2022, Asian Development Bank, StartupBlink ecosystem report

PROMINENT STARTUP

UNICORN

Technology Startup with valuation of over US\$1 billion



SOONICORN

Technology Startup that are in the state of approaching "Unicorn"

Forbes Vietnam announced a number of Startup that are at the soonicorn state and some Startup with unique business models that have prospects and competitive advantages to flourish in the future.



The third largest e-commerce platform in Vietnam by monthly visits. The Series E funding round in 2021 has brought TIKI's valuation closer to a value of US\$1 billion, and with the IPO plan in the US in 2025 (the deal may take place earlier) TIKI will soon become the next "unicorn" of Vietnam.



With the strategy of focusing on serving small and medium-sized sellers instead of e-commerce platforms, Giao Hang Tiet Kiem (GHTK) has enjoyed much higher profit margins compared to major competitors in the same industry. GHTK is preparing for an IPO on Vietnam Stock Exchange in 2022 with a valuation of up to US\$1 billion (Tech in Asia and DealStreetAsia).



Fintech Startup takes advantage of AI, machine learning, and big data to assess consumer credit and improve access to finance for sub-bankers who is still eligible to get a loan. Masan Group announced to invest US\$65 million to own 25% of Trusting Social Vietnam in April 2022, so Fintech is valued at US\$260 million.



It currently owns Krystal, the digital asset management platform and KyberSwap, one of the largest decentralized exchanges platform with the total trading volume of over US\$7.3 billion.



The Startup develops a cloud-based POS solution for SMEs. In 2019, KiotViet raised US\$6 million from Jungle Ventures and Traveloka. In 2021, the number of customers tripled that in 2019 or 150,000 users, helping KiotViet successfully raise US\$45 million led by the KKR Fund.



Amanotes topped the world charts for the genre of music game, and maintained the leading position in downloads with more than 2.6 billion downloads on Google Play and App Store (iOS) while having about 120,000,000 monthly active users (MAU). With a business model that generates cash flow, since its establishment, Amanotes has not undergone any funding round but has grown and developed on its own.



Giao Hang Nhanh (GHN) belongs to the S-commerce ecosystem with 6 different services on the same platform. In 2018, this business received investment package from Olympus Capital Asia and by the end of 2019, Temasek had invested more than 100 million USD in Scommerce.



2

HIGHLIGHTS IN THE INNOVATION ECOSYSTEM IN VIETNAM

HIGHLIGHTS IN THE INNOVATION ECOSYSTEM IN VIETNAM

Global Innovation Index (GII)

In the latest ranking of GII of 2022 published by the World Intellectual Property Organization - WIPO, Vietnam ranks 48/132 countries and economies, down 4 places compared to 2021, and stands at the second place in the group of 36 low-middle-income economies, losing the top position of low-middle-income countries to India.

The GII is used for measuring, evaluating and ranking national innovation results, calculated by the average value of two sub-indices. The innovation input sub-index assesses factors of the economy that enable and facilitate innovation activities, which is grouped into 5 pillars: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. The Innovation Output sub-index recognizes the actual results of innovative activities in the economy and is divided into two pillars: (6) Knowledge and technology outputs and (7) Creative outputs. The GII is an important tool in the state management of science, technology and innovation as well as for building and completing mechanisms and policies to promote socio-economic development based on science, technology and innovation.

In terms of innovation efficiency - shown by the relationship between income level (GDP per capita) and innovation performance (GII index) in 2022, it means that: Vietnam has an innovation performance above expectations compared to that of GDP growth rate of the country. At the same time, Vietnam is one of the few countries that holds the record of innovation index outperforming the level of development for 12 consecutive years. It is assessed by WIPO as having the fastest speed of catching up with innovation in the group of low-middle-income economies, second only to India. Vietnam is consistently scoring above the average for the lower-middle-income group in all GII pillars and even occasionally exceeding the average for the middle income group of Southeast Asia, East Asia and Oceania on all pillars, especially Creative outputs. However, there are still limitations in the Human capital and research index.

In 2022, Vietnam dropped 4 places compared to 2021 due to a significant fall in performance of two indexes: (4) Market sophistication decreased by 21 places, and (6) Knowledge and Technology outputs fell by 11 places. Besides, the GII results also show that Vietnam shall pay more attention to the development of factors including (2) Human capital and research and (3) Infrastructure, whose rankings are 80 and 71 out of 132 countries, respectively.

All of the above emphasizes the importance of maintaining innovation in doing business and development level of the market to ensure **sustainable development of the Innovation Ecosystem**. To maintain the attractiveness, dynamism and innovativeness of Vietnam Ecosystem, it is imperative that all actors in the Ecosystem collaborate closely to maximize their potential and enhance the effectiveness of cooperation in even the smallest stage, from school, business environment, policy to society.

Venture capital firms are actively investing into Vietnamese Technology Startup

In the past decade, Vietnam, recognized as a rising star in Southeast Asia, has made outstanding achievements in innovation and has been highly appreciated by prestigious international organizations for its innovation ability. Vietnam's innovation ecosystem entered the golden age from late 2019 - early 2020 when it received special attention from investors, and domestic and foreign venture capital funds. The clearest evidence is shown in the total number of investment deals in 2021, which reached 165 - up 57% compared to 2020, and was a record of venture capital investment in Vietnam (US\$1.4 billion in total) - three times higher than that of the previous year.

The average value of early-stage deals is around US\$1.15 million, while that of medium & late stage reaches US\$9.5 million. Such foreign investment capital poured into Vietnamese technology Startup opens up opportunities as well as challenges, pushing Startup's performance to meet business expectations from investors. Therefore, it is necessary to have appropriate and sufficient support throughout the Startup's journey of raising capital and following growth stage. It should be understood that successfully raising capital is just the beginning while the ability to maintain operational efficiency after receiving such investment is the key to increase international reputation and trust of Vietnam's Innovation Startup Ecosystem.

Source: World Intellectual Property Organization (WIPO) (2022); Vista.gov.vn; lpvietnam.gov.vn

The Government is gradually completing and consolidating the Policy system, offering support programs to promote the Vietnam Innovation Ecosystem.

The Vietnamese government attaches great importance to the development of science and technology Startup and enterprises, considering them as one of the pillars for sustainable economic growth and enhancing competitiveness in the context of globalization and the Fourth Industrial Revolution. Over the years, the Government has issued guidance and implemented many laws, regulations and programs to support Startup, including Project 844 with the aim to create a favorable environment for Startup in Vietnam. In addition, in 2022, the Government issued a policy to focus on improving business environment, enhancing national competitiveness and the development strategy of science, technology and innovation.

Summary of Policy Highlights 2022	Goal
Decision 569/QĐ-TTg of the Prime Minister promulgating the strategy for science, technology development and innovative transformation until 2030	- Investment in science and technology reaching 1.2% - 1.5% of GDP - The Global Innovation Index (GII) constantly improving, among the top 40 countries in the world - Human resources for scientific research and technology development (full-time conversion) reaching 10 people per 10,000 people - Having 25 - 30 science and technology organizations ranked regionally and globally, by 2025 - By 2030, the number of enterprises meeting the criteria of science and technology enterprises and the number of innovative Startup doubling that of 2020; the rate of enterprises with innovative activities reaching 40% of the total number of enterprises - The number of international publications increasing by an average of 10% per year
Resolution 02/2022/NQ-CP of the Government on the main tasks and solutions to improve the business environment and enhance national competitiveness in 2022	By 2025, strive to rank competitiveness as follows - Competitiveness 4.0 (of WEF) belonging to the Top 50 Countries - Sustainable Development (of the UN) in the Top 40 Countries - Innovation Capacity (of WIPO) in the Top 40 Countries - E-Government (of the UN) belonging to the Top 60 countries - Property rights (of the Property Rights Union) belonging to the Top 60 Countries - Logistics efficiency (of the World Bank) increasing at least 4 levels - Tourism competitiveness (of WEF) in the Top 50 countries - Cybersecurity (of ITU) increasing by at least 3 ranks



Vietnam has put into practice supporting mechanisms, policies, and activities to support the development of Startup and innovation activities. Such support ranges from the legal frameworks, such as the Law on Technology Transfer, the Law on Support for Small and Medium-sized enterprises, and the Law on Investment, to national programs and projects, such as Project 844, Project 1665, etc. With a holistic approach on an ecosystem scale and promoting openness towards linkages and cooperation, Open Innovation is one of the main driving forces for the development of the country in the national science, technology, and innovation strategy to 2030, specified in Decision No. 569/QĐ-TTg of the Prime Minister in 2022. As the focal point for state management of the national innovation Startup ecosystem, the Ministry of Science and Technology has launched and promoted cooperation and linkages in the public sector, private sector, and domestic and foreign partners. Such connections intend to form, examine and implement Open Innovation initiatives, and gather and publish challenges of businesses, industries, sectors, and the country. That is the appropriate direction to promote the innovation capacity of Vietnam's business system. At the same time, it creates a driving force to stimulate market development for innovative Startup, encouraging active participation in global value chains.

MR. TU MINH HIEU - Deputy Head of the Innovation Startup Department, National Agency for Technology Entrepreneurship and Commercialization Development. (NATEC)



Source: World Intellectual Property Organization (WIPO) (2022); Vista.gov.vn; lpvietnam.gov.vn

3

PROMINENT INNOVATION STARTUP SUPPORTING POLICIES AND ACTIVITIES

STARTUP SUPPORTING POLICIES AND ACTIVITIES OF THE GOVERNMENT OF VIETNAM

Policies to support Startup and innovation

- **Decision No. 844/QĐ-TTg** issued May 18, 2016 of the Prime Minister approving "Assistance Policies On National Innovative Startup Ecosystem To 2025"
- **Circular 01/2018/TT-BKHCN** issued April 12, 2018 of the Minister of Science and Technology regulating the management of "Assistance Policies On National Innovative Startup Ecosystem To 2025".
- **Circular No. 45/2019/TT-BTC** issued July 19, 2019 of the Minister of Finance regulating the financial management of "Assistance Policies On National Innovative Startup Ecosystem To 2025".
- **Decision No. 188/QĐ-TTg** issued February 9, 2021 of the Prime Minister amending and supplementing the "Assistance Policies On National Innovative Startup Ecosystem To 2025".
- **Decision No. 1269/QĐ-TTg** issued October 2, 2019 of the Prime Minister on the establishment of the National Innovation Center.
- **Decree No. 94/2020/NĐ-CP** issued August 24, 2020 stipulating preferential mechanisms and policies for the National Innovation Center.
- **Decision 939/QĐ-TTg** issued June 30, 2017 of the Prime Minister approving "Assistance Policies On Female Entrepreneurship".
- **Decision 1665/QĐ-TTg** issued October 30, 2017 of the Prime Minister approving "Assistance Policies On Student Entrepreneurship To 2025".
- **Decision 569/QĐ-TTg** issued May 11, 2022 of the Prime Minister promulgating the strategy for development of science, technology and innovation until 2030.
- **Decision 3084/QĐ-BKHCN** of the Ministry of Science and Technology promulgating the Regulation on organization and operation of the National Innovation Startup Portal.
- **Decree 13/2019/NĐ-CP** of the Government on science and technology enterprises.
- **Decree 95/2014/NĐ-CP** of the Government on regulations on investment and financial mechanism for scientific and technological activities.
- **Decision 976/QĐ-BKHCN** of the Ministry of Science and Technology on the investigation of innovation in enterprises in 2022.
- **Circular 07/2020/TT-BKHCN** of the Ministry of Science and Technology guiding the establishment of small and medium-sized business incubators, technical facilities to support small and medium-sized enterprises, co-working space supporting small and medium-sized enterprise in innovation.

Technology transfer, development of digital economy & national digital transformation policies

- **Law 07/2017/QH14** issued June 19, 2017 - Technology Transfer.
- **Decree No. 76/2018/NĐ-CP** issued May 15, 2018 - Detailing and guiding the implementation of a number of articles of the Law on Technology Transfer.
- **Decision 645/QĐ-TTg** issued May 15, 2020 of the Prime Minister approving the National Electronic Commerce Development Master Plan During 2021 - 2025
- **Resolution 52-NQ/TW** issued September 27, 2019 of the Politburo on a number of Policies And Regulations On Active Participation In The Fourth Industrial Revolution.
- **Decree No. 126/2021/NĐ-CP** of the Government on Amendments to certain articles of Decrees on administrative penalties in industrial property; standards, measurement and quality of goods; science and technology activities, technology transfers; atomic energy;

- **TCircular No. 06/2021/TT-BKHCN** of Ministry of Science and Technology on Guiding management of national technological innovation program until 2030;
- **Circular No. 02/2018/TT-BKHCN** of Ministry of Science and Technology on Reporting on the implementation of the agreement on transfer of technologies restricted from transferring; required documents included in the application for issuance, extension and amendment to technology transfer license;

Small and Medium Enterprises supporting policies

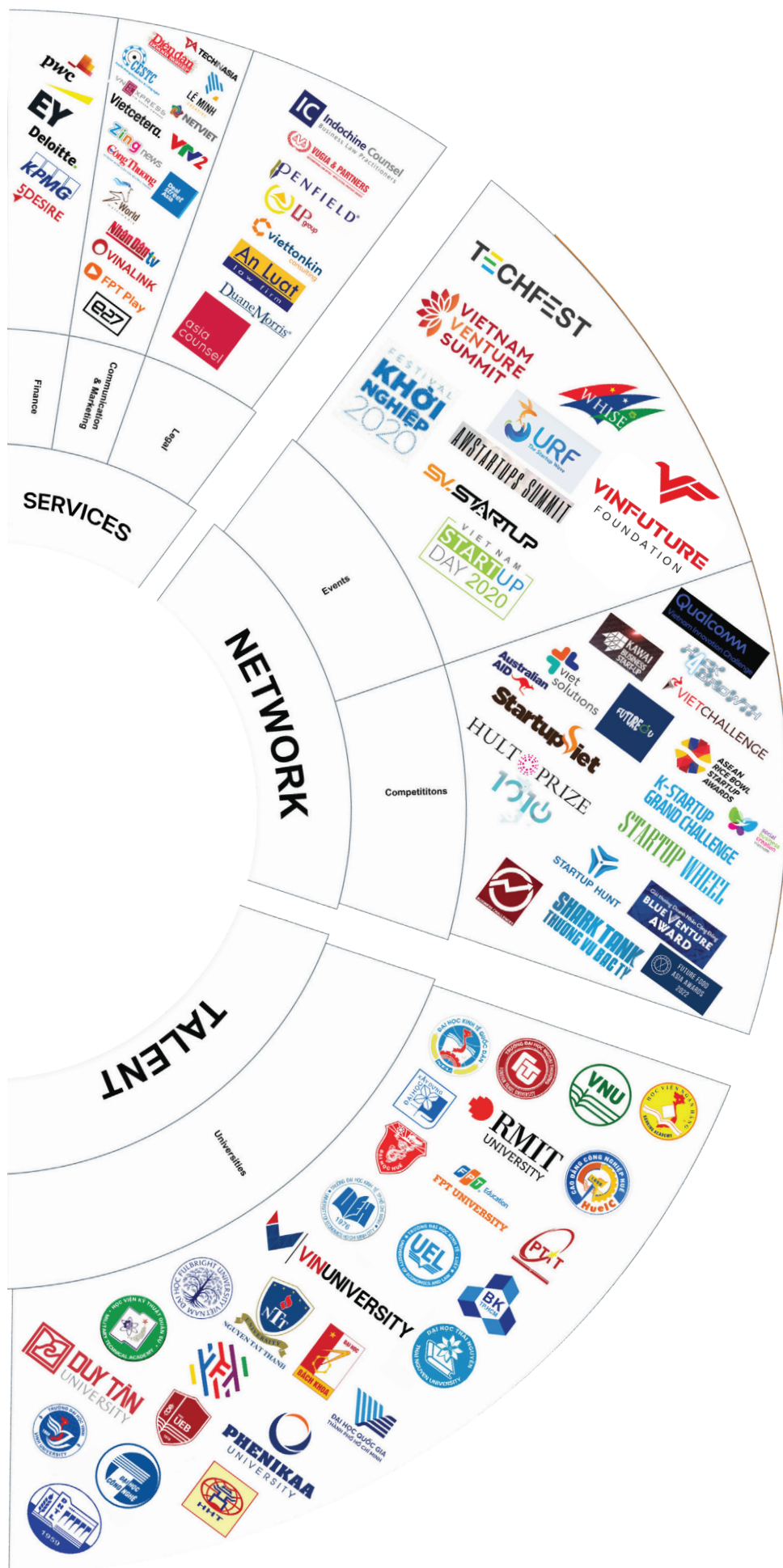
- **Law 04/2017/QH14** issued June 12, 2017 - Provision Of Assistance For Small And Medium-Sized Enterprises
- **Decree No. 38/2018/ND-CP** issued March 11, 2018 - Decree detailing Investments In Small And Medium-Sized Startup Companies
- **Decree No. 39/2019/ND-CP** issued May 10, 2019 - Decree on Organization And Operation Of The Small And Medium Enterprise Development Fund.
- **Decision No. 1696/QĐ-BTP** issued July 25, 2019 - Administrative procedures in legal field providing support for SMEs under the management function of the Ministry of Justice.
- **Law No. 61/2020/QH14** issued June 17, 2020 – Law on Investment.
- **Resolution 02/2022/NQ-CP** issued January 10, 2022 of the Government on the main tasks and solutions to improve the business environment and enhance national competitiveness in 2022
- **Circular 05/2022/TT-BKHCN** issued May 31, 2022 of the Ministry of Science and Technology guiding the use of the enterprise's science and technology development fund

Source: NSSC - National Startup Support Center of Vietnam 2022

BambuUP
Connect to Innovate



KEY STAKEHOLDERS IN THE VIETNAM INNOVATION STARTUP ECOSYSTEM - 2022



THE GOVERNMENT SUPPORTING UNITS OF VIETNAM



NATEC

The National Agency for Technology Development, Entrepreneurship and Commercialization Development (NATECD) is a national platform under the Vietnamese Ministry of Science and Technology that provides training, mentoring and financial support.



NSSC

The entity that is responsible for organizing and implementing the "National Innovative Entrepreneurship Day" (TECHFEST) and other tasks under "Assistance Policies On National Innovative Startup Ecosystem To 2025", aiming at connecting domestic and foreign networks, supporting the development of the national innovation Startup ecosystem.



NATIF

The National Technology Innovation Fund (NATIF) is a government agency and financial institution under the Ministry of Science and Technology of Vietnam that provides grants and concessional loans for R&D, innovation and technology transfer.



NIC - Vietnam National Innovation Center

The National Innovation Center is a unit under the Ministry of Planning and Investment established by the Prime Minister, with the function of supporting Vietnam's Startup and innovation ecosystem, contributing to innovate the growth model based on science and technology.



BSSC - Business Startup Support Center

This non-profit entity operates with the goal of providing practical assistance to Vietnamese Youth in doing business. Every year, BSSC selects and funds about VND 30 billion for potential business projects from the capital of the People's Committee of Ho Chi Minh City.



SYS - Supporting Center for Youth's Startup

Vietnam Supporting Center for Youth's Startup is a unit directly under the Central Vietnam Youth Federation with the goal of supporting young Vietnamese people who have ideas for starting a business.

Detailed list in Vietnam Open Innovation Ecosystem

Visit: <https://bambuup.com/Innovation-ecosystem>

Or scan QR Code:



ROLES OF LOCAL SUPPORT CENTERS

It is worth mentioning the efforts of the Innovation Support Organization in provinces and local areas in promoting and supporting local innovation development, making a significant contribution to the image of typical innovative province/local areas. Currently, provincial and local innovation support organizations account for 35% of the total 197 innovation support organizations operating in Vietnam. These organizations have practical activities and programs that create a basic foundation and accompany local businesses in innovating as well as starting a business. They have generated the following 8 core values

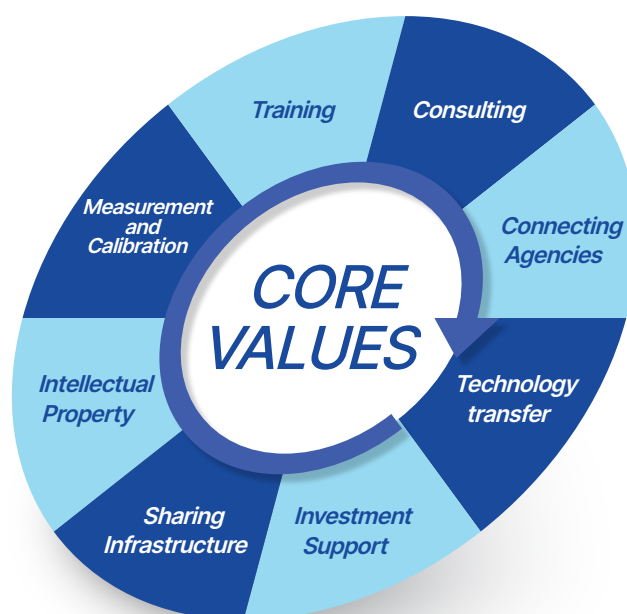
Sort by Management Level

Ministry, Department	28
Provinces	69
Corporates	73
Associations	27

CORE VALUES OF THE LOCAL INNOVATION SUPPORT ORGANIZATIONS

- The focal point for **linking activities at regional, national and international levels**
- The focal point for deploying innovation support services, technical and technological services for businesses in need
- **Managing data** on innovation capacity and local innovation ecosystem, linking with national data system on innovation
- **Training, coaching, improving the capacity of enterprises to deploy** innovation activities, supporting innovative Startup activities for all components in the ecosystem
- Organizing **incubation programs, promoting innovation in production and business** and initiatives to connect the Startup ecosystem of the provinces, regions and the whole country
- Organizing **consulting activities, communication events** on innovation, Startup, development and technology transfer in the provinces, in association with the National Innovation Startup Network
- **Assisting with infrastructure and shared facilities** for technology development, innovation and Startup activities for local organizations and individuals.
- **Assisting technological innovation, application of scientific and technological advances** to improve productivity and product quality, build brands, protect intellectual property rights, and develop key products and products having local advantages, serving the National Target Program on building a new countryside, the One Commune One Product (OCOP) Program, etc.
- **Developing and establishing necessary background services** to support local organizations and individuals to build and propose effective innovative solutions and potential Startup projects, and develop technology products eligible for the commercial market.
- Providing **consulting packages, information on research and testing equipment in the entire system of public and private laboratories**, effectively using existing laboratory equipment through a connecting and sharing common information model, a combination of the private and public sectors.

Source: Academy of Science, Technology and Innovation, under the Ministry of Science and Technology



OVERVIEW OF OPEN INNOVATION IN A FEW TYPICAL PROVINCES



HANOI THE CAPITAL

Recently, the Hanoi People's Committee has issued **Decision No. 2775/QĐ-UBND** approving the Scheme for intensifying innovation, application and transfer of technology, dissemination, and training of knowledge about science and technology.

On September 15, 2022, the Hanoi's authority approved the project **"Forming a network of spaces to support the capital's youth in entrepreneurship, innovation and digital transformation"**. By the end of 2025, the network is expected to support the development of about **1,500 Startup projects**. Among them, **300 innovative Startup** will have **their products commercialized**; at least **100 projects will have successfully raised capital** from venture capital funds, and conducted mergers and acquisitions with a total estimated value of about **VND 300 billion**.

Furthermore, Hanoi is aiming at making the capital city **the center of science, technology and innovation of South-east Asia in a number of fields** with Program No. 07-CTr/TU. The program promulgates a variety of policies aimed at key goals in developing the right infrastructure for Startup' innovation and perfecting the region's innovation ecosystem.

Source: mof.gov.vn



HO CHI MINH CITY

The People's Committee of Ho Chi Minh City issued the **"Assistance Policies On National Innovative Startup Ecosystem In The Period Of 2021 - 2025"**, which is expected to be the driving force to GRDP and build a high-level innovation ecosystem in the region.

Domestically, Ho Chi Minh City aims to **become a smart city** by 2030 with fundamental and comprehensive innovations in the operation of the digital government, digital businesses, and prosperity and civilization of a digital society. Currently, Ho Chi Minh City aims at **advancing innovation capacity for 600 businesses in the area**. It has been developing **200 innovative Startup projects**, and supporting **20 businesses to access venture capital**. Among them, the most prominent one is the **H-OIP Startup Ecosystem project** - established in 2022 and focus on incubating and providing support for Startup the following years. Local authorities have been trying to create favorable conditions for the development of businesses, such as organizing "Ho Chi Minh City Innovation and Digital Transformation Week" in 2022 taken place on October 8 with discussion sessions involving experts and a space for innovative ideas to expose to opportunities for stronger development. Besides, Ho Chi Minh City is leading the country with approximately **108 S&T enterprises**. The system recorded **39/63 successful deals** with the capital raised to more than **837 million USD** - accounting for more than 50% of the total capital of the country.

Source: hochiminhcity.gov.vn



DA NANG

As one of the three innovation development centers of Vietnam, Da Nang is actively building research and database platforms to create not only a dynamic innovation environment in the city but also a source of support for the whole country.

Outstanding activities/programs

Exhibition of science, technology and innovation through virtual reality

Da Nang Innovation Startup Support Center was assigned the task of "Applying virtual reality exhibition solutions in the development of the S&T market of Da Nang city", with the goal of enhancing the application of virtual exhibition technology to assist institutions, businesses, especially science and technology enterprises, and Startup to introduce products and technologies in a virtual environment.

Source: dost.danang.gov.vn

Da Nang City Innovation Startup Portal

Currently, there are 170 enterprises of Da Nang city participating on the platform with 390 technologies and equipment offered for sale. The portal is currently a place for Startup to find information, make connection, cooperate with each other, etc. to develop the ecosystem in this coastal city.

Source: startupdannang.vn

MEKONG RIVER DELTA REGION

The “Mekong Innovation Initiative - MII” was launched last April in Can Tho by the Ministry of Planning and Investment in collaboration with the United States Agency for International Development (USAID) to strengthen innovation and human resource development for the digital economy and Industry Revolution 4.0 in the Mekong Delta area.

MIl activities include:

- Developing digital human resources for Mekong: 100 trained e-commerce experts; 300 employees given advanced training or re-training in AI, Machine Learning, Big Data, and E-commerce; 200 females and disadvantaged groups are trained in digital skills
- 1,000 innovative small and medium enterprises and Startup being provided with free cloud computing and data center services
- 500 free overseas business information lookup service packages to serve import-export activities and commercial cooperation
- 500 free websites built for people and businesses to promote and introduce Mekong products on digital platforms
- 5,000 scholarships for information technology training for students and employees
- 3,000 farmers and small traders receiving free training and digital transformation and sales support on social networks and online channels
- 500 innovative enterprises and Startup build and develop an enterprise digital space through the application of VR/AR technology to promote, connect and trade
- 200 businesses getting free promotions on a system of more than 2,500 billboards at airports, commercial centers, and office buildings



CAN THO

Can Tho is the central urban area, the nucleus of the Mekong Delta region, where investment is being focused on developing the socio-economic infrastructure system into a new growth force of the country. Can Tho conducted an Innovation Tour to display scientific-technical products and the Steam robotics experience for the youth and workers, hoping to enhance understanding for the local passion about innovation. To develop a Startup and innovation ecosystem, organizing Startup mentoring training programs to improve the capacity and required skills to becoming a innovation Startup consultant to serve the long-term goal is an utterly important for Can Tho city.



BEN TRE

This is where Mekong Innovation Hub - a pioneer in implementing Incubation & Supporting Activities for Startup of Ben Tre province and the Mekong Delta region is headquartered. It focuses on developing science and technology to transform Ben Tre into a "Startup Local Area"; with the goal of develop 5,000 new enterprises.

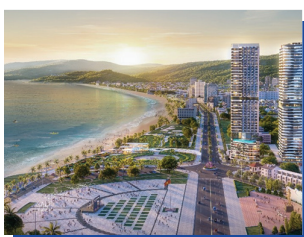
NEWS

PROMINENT CITIES



HUE - STARTUP FORMER CAPITAL

The Department of Science and Technology and Vicoland House Construction and Development Joint Stock Company (VICOLAND) signed a **cooperation agreement on conducting "Co do khai nghiep" (Startup ancient capital) project in 2021-2025 period** on October 9th. According to this cooperation agreement, the two sides will coordinate to organize Startup events such as Startup Day, Techfest, annual innovation Startup competition in Thua Thien Hue province and other related seminars and programs. Heading to 2030, Thua Thien - Hue will transform into a modern, developed, prosperous city and become one of the national innovation Startup centers in the Central - Central Highlands region.



QUY NHON - BINH DINH - AI City

The construction plan of the Artificial Intelligence Center in Quy Nhon City, invested by FPT Quy Nhon Joint Venture with the investment package of over VND4,000 billion, was approved with some goals including:

- Synchronizing technical and social infrastructures with the primary property of an artificial intelligence city;
- Contributing to attract investment in the field of innovative research and development in the 4.0 era, towards the 5.0 industrial era;
- Contributing to promote the development of smart cities in the area.

RECOMMENDATIONS FROM EXPERTS



MS. NGUYEN HUONG QUYNH

CEO of BambuUP Innovation Connection Platform

Vietnam's innovation Startup ecosystem needs to be oriented to move to an Open Innovation & Innovation Ecosystem so that there can be a real development of QUALITY and ensure SUSTAINABILITY.

1 Strengthening linkages between entities in the ecosystem to build a professional support model for Startup

According to a report by VCCI, there are less than 10% of successful Startup nationwide. Among them, more than 60% and 42% of businesses failed due to obstacles in finding customers and production problems (creating products that the market doesn't need) respectively. Startup support entities should collaborate to complement each other's strengths and establish a closely linked network that provide in-depth support for Startup - not only with idea generation, research results, incubation, and raising funds but also with practical and specific guidance on policies and steps to develop customers and markets.

2 The need for broader participation of State management agencies, Corporations and Enterprises as the leading parties for Open Innovation Ecosystem

The development of Open Innovation & Innovation Ecosystem requires the pioneering of State management agencies in proactively and openly presenting their challenges to the Startup and innovation community. Such action of the State creates a role model so that corporations and businesses feel more confident when giving opportunities to Startup and innovation companies in Vietnam. Without the greater participation of State management agencies and corporations and enterprises as the leading parties, the Open Innovation Ecosystem will not be able to take off.

3 Equipping innovation knowledge and required skills for all entities in the Open Innovation & Innovation Ecosystem

According to the latest BambuUP's survey on the readiness of Open Innovation Ecosystem in Vietnam, our Open Innovation Ecosystem is still in its infancy. As a result, in the next 1-2 years, it is critical to equip knowledge and skills related to innovation for all actors from State management agencies, supporting organizations to corporations & enterprises and Startup. At the same time, a strategic orientation in terms of policy and the development of provincial innovation ecosystem infrastructure is also importance, pushing practical Open Innovation activities rather than just promoting and supporting Startup.



MR. PHAM TUAN HIEP - Incubator Director of BK Holdings

The successful model of Hanoi University of Science and Technology - HUST includes BK Holdings, BK Innovation, and BK Fund will be expanded into 26 universities in technical fields and other universities and institutes in Vietnam. Such a model will spread and enhance collaboration between technology corporations in Vietnam, give opportunities for Startup ideas in universities, and support innovation clusters in provinces.

The model of connecting Universities of Technology and Innovation has contributed to the success of the industrialization process and technological development in China and Korea. Such a model is the core of many innovation hubs in the world, such as United States of America (Silicon Valley), Israel (Telavip Innovation Zone), Taiwan (Cao Hung Innovation Zone), and China (Dong Quan Thon).

RECOMMENDATIONS FROM EXPERTS



MR. TRAN VU TUAN PHAN - Director of Science and Technology Service Center, Academy of Science, Technology and Innovation, under the Ministry of Science and Technology

The formation of innovation support organizations is the core of the local innovation ecosystem. To develop the innovation ecosystem in local scale, it is first necessary to consider the general local or regional context; assess, analyze and address the needs and challenges of the local ecosystem and the national ecosystem as a whole.

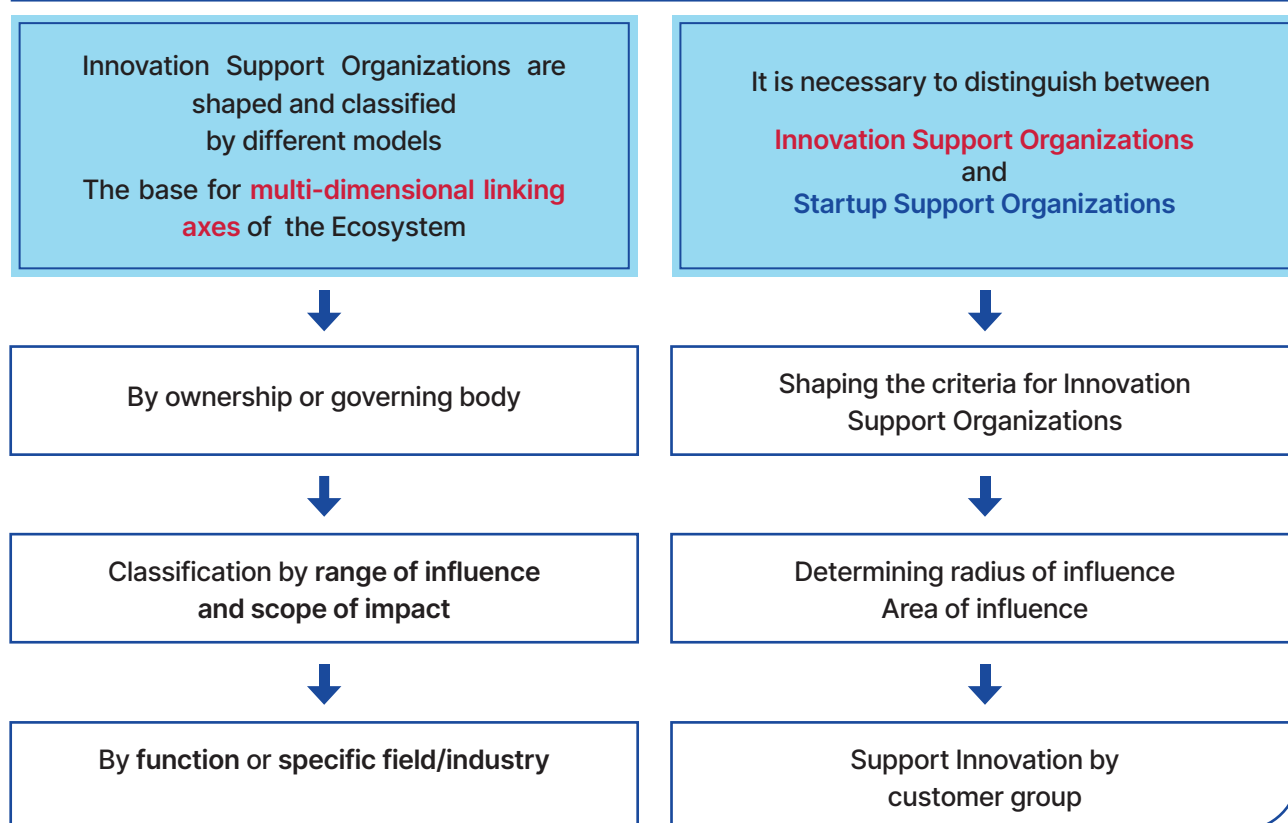
To achieve such goals, local authority need to clearly define the characteristics of the innovation ecosystem in their areas. Strengthening linkages and directing, guiding and organizing unified action aim towards a common goal - an economic model based on innovation and new investment methods to

- Exploiting resources **based on intellectual property** rather than on natural resources;
- **Cooperate and share resources** rather than compete;
- **Promote effective and focused international cooperation** rather than spreading and fragmenting;
- Aim towards enhancing **quality and efficiency** of innovative Startup over quantity and chasing after trends

Local authority need to clearly distinguish (1) Innovation activities, promoting the application of science and technology and improving productivity from (2) Startup activities so that appropriate policies for each type of activity and organization supporting innovation can be made.

Next, it is necessary to identify the focal points aiming at synthesizing and providing relevant information about ecosystem actors, activities to support the development of innovative businesses, and training, association, cooperation activities. At the same time, it is also an organisation to connect and synthesize information to promote the ecosystem. This organisation needs to have a sufficient legal position to communicate and exchange information with other entities and units in the ecosystem as well as make connections with innovation organizations nationwide.

Some concepts of Local Innovation Support Organizations



4

TECHNOLOGY INVESTMENT ACTIVITIES IN VIETNAM IN THE FIRST 9 MONTHS OF 2022

VC INVESTMENT IN VIETNAM SLIGHTLY DROPPED AMID A MORE UNCERTAIN OUTLOOK

In the first 9 months of 2022, tech investment in Vietnam saw a slight drop compared to the record year 2021 but maintained at pre-Covid levels. The total amount of capital invested fell by 17.9% while the deal number slightly dropped by 13%. The third quarter saw a sharp decline, posing challenges to the startup ecosystem in Q4 given the looming global downturn.

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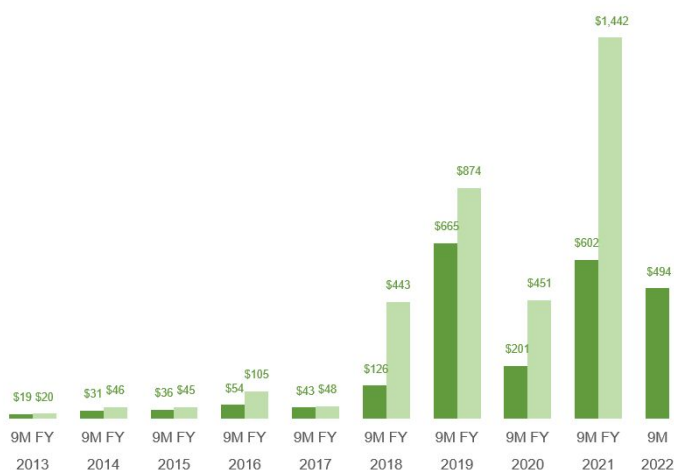
The global economy is on the brink of recession, and Vietnam's economy is no exception. As a result, Startup needs to prepare for the upcoming period. Investors will also become cautious when evaluating a company. They will look closely at the company's revenue and unit economics indicators that indicate the possibility of sustainable growth. Despite facing the ups and downs of the world economy, Vietnam's technology investment landscape in the first nine months of 2022 still shows persistence. Compared to the same period in 2021, the total investment value and the number of investment deals slightly decreased by 17.9% and 13%, respectively. The capital inflow to the later-stage companies remained at the same level as in 2021, in which the Series B round perceived a record level in investment value and number of deals. Retail is the industry receiving the most investment capital thank to the strong development of E-commerce models. Financial Services emerged in second place with some outstanding models such as Personal Financial Management, Insurance, or Flexible Payroll.

Overall, the digital economy is at a fast-growing stage in the region. In the challenging funding climate, Startup should slow down but grow more sustainably. As the competitive pressure of raising capital eases, companies can focus on building great products instead of expending resources to grow exponentially. Therefore, Startup capable of overcoming the challenging period ahead will secure a strong position in the market.

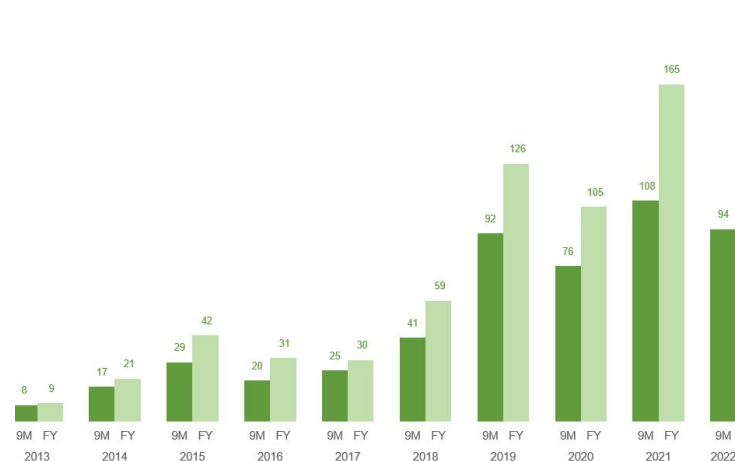
MS. LE HOANG UYEN VY - General Partner, Do Ventures



Capital invested (US\$M)



of Deals

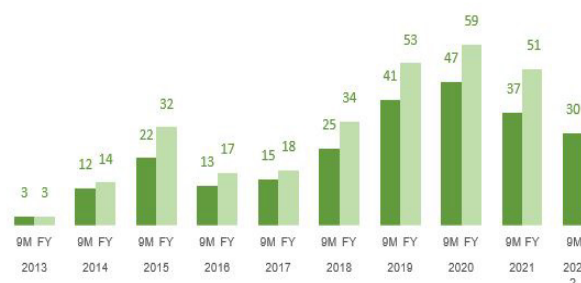


Source – Do Ventures & Cento Ventures research

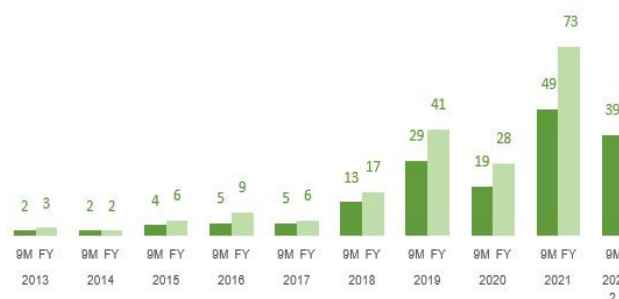
LATER-STAGE DEAL NUMBERS REMAINED CONSTANT

- The first 9 months of 2022 witnessed a record in the number of deals in \$10-\$50M check sizes, which was nearly on par with the entire year 2021. It thus indicates that companies that raised Pre-A and Series A last year have grown to the next stage.
- Deal number in the \$3M-\$10M and >\$50M ranges remains at the same levels.
- Despite a 20% decrease compared to the same period last year, the \$500K – \$3M range saw the largest number of deals among all check sizes.
- The number of Pre-Seed deals (<\$500K) was reduced by 19%.

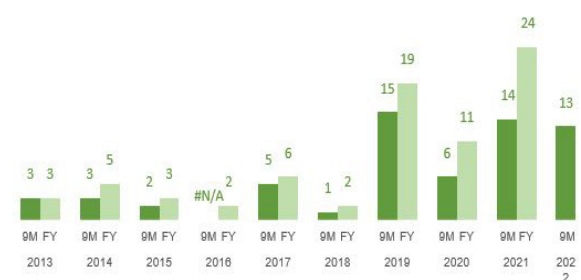
0-\$500K



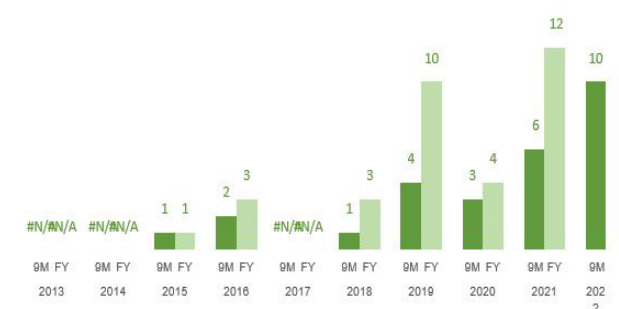
\$500K-\$3M



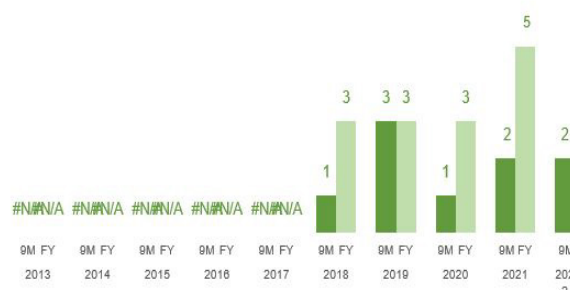
\$3M-\$10M



\$10M-\$50M



>\$50M



Source – Do Ventures & Cento Ventures research

SERIES B DEAL VALUE HIT RECORD HIGH

- Deal value in the \$10M-\$50M range almost doubled its amount of the same period last year, reaching a historical high of the 9-month period.
- Mega deals (>\$50M) tumbled 55% as a result of a global market downturn that caused investors to decrease their financing commitments over concerns about high valuations.
- The deal value of check sizes under \$10M was mildly affected.

0-\$500K



\$500K-\$3M



\$3M-\$10M



\$10M-\$50M



>\$50M



Source – Do Ventures & Cento Ventures research

RETAIL AND FINANCIAL SERVICES SECTORS DOMINATED THE SCENE

Retail continued its leading position as the sector with the largest funding, followed by Financial Services. As Payments players have become established, Financial Services companies are coming into the limelight with rising models such as Wealth Management, Insurance, and Earned Wage Access. Healthcare funding came third, reaching the same level as in FY2021; Education funding was the fourth most financed sector.

Capital Invested by sectors, \$M

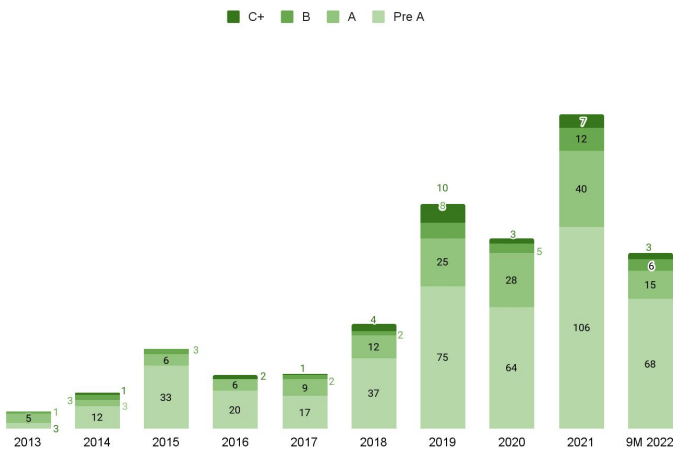
	2013	2014	2015	2016	2017	2018	2019	2020	2021	9M 2022	Total
Payments	12	10	1	29	10	100	300	101	450	-	1,014
Retail	1	15	1	18	15	105	195	83	469	188	1,091
Employment	-	0	0	0	0	1	3	36	4	3	47
Real estate and infrastructure	1	-	0	-	7	6	16	26	29	8	93
Financial Services	-	0	1	2	0	3	40	25	61	162	293
Business Automation	-	-	0	-	0	1	60	18	55	8	141
Local services	0	0	4	2	0	4	5	10	4	1	30
Travel and hospitality	-	1	0	4	1	5	23	9	4	0	46
Education	0	3	6	1	5	53	32	8	55	24	187
Entertainment / Gaming	-	-	-	-	-	0	9	6	175	8	198
Logistics	-	-	0	1	-	5	58	4	8	9	85
Healthcare	-	-	0	-	0	0	12	3	37	36	88
Entertainment / Non-Gaming	-	-	0	-	-	-	1	2	10	2	15
Advertising and Marketing Technology	6	7	30	1	6	3	15	2	-	1	72
Comms & communities	-	0	-	-	-	0	-	1	7	1	9
Multi-vertical	-	-	-	-	-	-	29	-	42	-	71
Others	-	-	0	-	-	-	-	-	33	43	76

Source – Do Ventures & Cento Ventures research

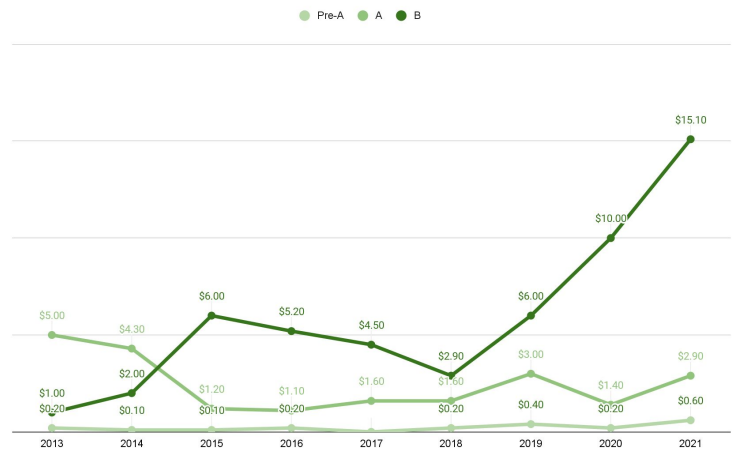
LATER-STAGE DEAL SIZE CONTINUED TO SHOOT UP

Average deal size continued to surge across funding stages, with Series B funding averaging out at a new record high.

Deals done by series, #



Average deal size by series, \$M



Source – Do Ventures & Cento Ventures research

Acknowledgement

We thank our respectable partners for their contributions to the preparation of this report.



* Fund names appear in alphabetical order

Investment trends in 2022 have witnessed a big change in investment selection criteria, angel investors and venture capital funds have become more cautious in choosing projects to pour capital into. The dismal winter of investment is not only due to the global economic downturn, the real cause comes from the low rate of Startups that are able to successfully execute projects and scale up quickly. The economic downturn makes other investment channels difficult or even falls into a bubble situation, therefore investors are more cautious in investing in Startup projects, they are interested in technology-applied models that are capable of rapid growth and sustainable development based on factors of high science and technology participation, and teams with true potential and execution ability to seek profit.

This can be seen as an opportunity to receive capital and not necessarily a challenge for technology startups. Therefore, in order to be reached out by investors, Startups must first prove themselves as elite factors, a place where there are all the "good ingredients to serve a delicious meal" through building intrinsic values to be different and unique in an increasingly competitive market.

- **Technology Maturity.** Startups must set a goal to develop technology and smart solutions to help solve the pain of not the local, but the global or regional market. Technology-applied solutions that promote innovation, creativity, bring new values and are capable of growing quickly are the points that investors care about first in a Startup.
- **Management capacity of Startup Team**
 - The thinking of the leading team and the executive leader must be flexible in all situations, able to change quickly and adapt to the changes and developments of the market.
 - A dynamic and proactively observation of developments on a regional and global scale, with competitors in perspective, to self-innovate and improve intrinsic values (products, new technologies, applicability, development...)
 - A flexible business model that can quickly adapt to new market trends while ensuring breakthroughs and exponential growthThe building of a strong team, with well-equipped with language skills to reach out to the world
It is such flexibility & agility that is the deciding factor for Startups to become leaders.
- **Viewing the continuous maintenance of R&D and innovation activities in the enterprise as the central strategy.**



After all, Startups are the drivers of their company, so strengthening the internal core competencies is the key for them to show and prove their potential to investors in the context of present and future. Maintaining creativity, flexibility and continuous R&D in the business according to the development trend of technology and market changes, which includes maintaining the lead ahead of competitors including new rivals, is extremely difficult, but this is the key criterion for investment funds to be willing to accompany the projects.

The current investment trend in the next year may be projects on metaverse, other scientific and technological solutions with patent registration, especially inventions registered in the US and European countries, and other scientific and social solutions such as smart city, clean and sustainable energy.

MS. LE MY NGA - Founder & CEO of WeAngels Ventures

Part 4

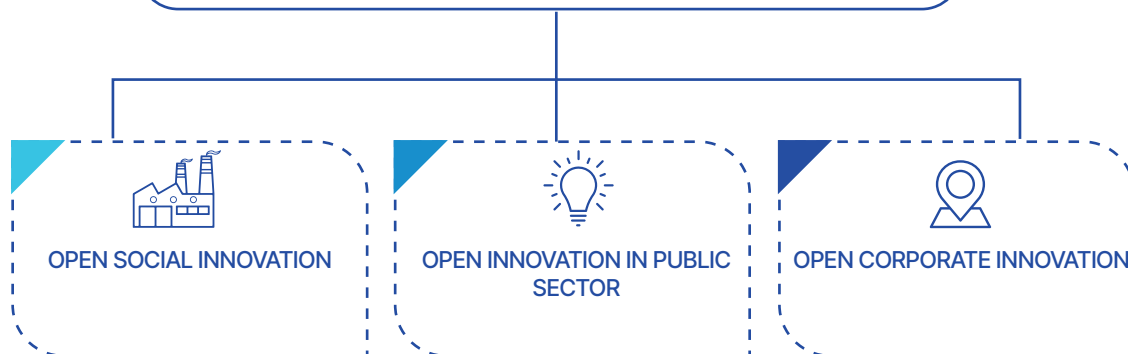
THE TYPICAL STORY OF OPEN INNOVATION AND CHALLENGE

1

THE TYPICAL STORY OF OPEN INNOVATION

TYPES OF OPEN INNOVATION

3 COMMON TYPES OF OPEN INNOVATION



PROBLEM-POSING SUBJECTS	State management agencies Organizations (non-governmental, non-profit, social impact, etc.)	State management agencies.	Corporations and Enterprises of all types.
PARTICIPANTS	- Citizens - Startup and technology companies - Research institutes and universities - Public and private sector organizations with suitable solutions.	- Startup and technology companies - Research institutes and universities - Public and private sector organizations with suitable solutions.	- Internal resources - External resources (Startup, technology companies, research institutes, universities, etc.)
GOALS	- Solving social issues - Addressing the goals of environmental protection and sustainable development - Increasing competitive advantage for provinces/cities and localities - Raising the happiness index of local citizens.	- Solving public sector issues; - Boosting the innovativeness of public services; - Especially contributing to the creation of public value.	- Diversifying sources of innovation ideas for businesses - Solving business problems - Increasing the competitive advantage of the business - Exploring the Blue Ocean (products, markets) for businesses.

THE TYPICAL STORY OF OPEN INNOVATION IN PUBLIC SECTOR

Enhancing people's ability to access and perform online public services at level 3 and 4 (*) through the public service portal of Thua Thien Hue province

(*) Online public services at level 3 and 4 are the regulations and requirements that public services must ensure to meet according to Clause 2, Article 11 of Circular 32/2017/TT-BTTTT

Project name: Initiative to enhance people's ability to access and perform online public services at level 3 and 4 through the provincial public service portal

Context for launch:

Recently, Thua Thien Hue province has made efforts to implement many solutions to attract people and businesses to participate in using online public services (PS), but the rate of using online PS is still low, people and businesses have not interested in using PS online.

Project objectives:

Strengthening access to online public services towards level 3 and 4 of the people, focusing on women and disadvantaged groups such as the visually impaired.

Problem owners

- Project management agency: People's Committee of Thua Thien Hue province.

Participants

- Unit adopting and implementing the project: Center for Public Administration of Thua Thien Hue Province.
- Thua Thien Hue Provincial Public Administration Service Center
- Information Technology Center of Thua Thien Hue Province (HueCIT)
- Fulbright University
- Public Administration, IT and UX/UI experts.

Problem to be solved

- Why is the percentage of people in Thua Thien Hue province using online public services still very low while the government is paying much attention to investing in online public services?
- What opportunities and challenges does Thua Thien Hue face in implementing online public services?
- How can people in Thua Thien Hue province, especially disadvantaged groups, access public services online more conveniently?



The campaigners in the United Nations system often say 'nothing about us, without us', especially in the context of working with disadvantaged and minority groups. This phrase shows the importance of the idea against a majority group discussing and resolving issues on behalf of another group that they do not really understand. Through accompanying Thua Thien Hue Province, we realize that this is a very important principle not only to ensure inclusiveness, but also to be an inspiration to be more creative. Inviting and accompanying minority and disadvantaged groups in the process of designing and building solutions result in a more humane society when we create equal access for all target groups and leave no one behind.

MR. NGUYEN TUAN LUONG - Co-Head of UNDP Viet Nam Accelerator Lab

THE TYPICAL STORY OF OPEN INNOVATION IN PUBLIC SECTOR

Approach

Applying the social innovation approach systematically and throughout the project. At a basic level, this is an innovation process in the public sector because UNDP is trying to impact a state public agency with a view to helping them better serve the people, especially disadvantaged groups. The incubation program consists of 4 main phases, including problem identification, test design, implementation and measurement, and evaluation and conclusion.

Applying many research tools, technologies, multidisciplinary experts, and coordinating with local authorities and managers to test alternative models to solve the backlog of online PS on the basis of social science and practice.

Researching and analyzing secondary data which are legal documents of Vietnam, data from the General Statistics Office, PAPI Index, Vietnam Digital Transformation Index, and reports of local authorities in order to explore the legal regulations related to the supply of public administrative services to understand the readiness of e-services for administrative procedures at the provincial, district and commune levels.

Method of observing and testing Accelerator Lab:

directly observing the process of people performing administrative procedures on the Public Service Portal and forms of implementation of an administrative procedure at the Single-Window Document Receipt and Response Division in the selected study areas.



Consultation meetings with experts at national, provincial, departmental, and sectoral levels provide assessments, considerations and solutions to improve the quality of public services as well as with provincial leaders to suggest appropriate guidelines and policies to improve the accessibility and usability of online public services.

Ethnography: Based on international digital transformation experiences such as the Innovation Network of Accelerator Lab under the United Nations Development Program (UNDP), and the United Kingdom. Conducting participatory observations and interviews directly with users in the user journey. The team of civil servants is responsible for providing public administrative services to understand the needs, aspirations and difficulties of stakeholders in providing online public services to the people. Interviewed with questionnaire by officials, the people who have provided and used online public services in the study areas help to find out what are the barriers, unnecessary points, and bottlenecks in the service delivery process through the Provincial PS Portal.

Project results

A new process has been developed and issued for 4 selected groups of administrative procedures

New PS Portal interface has been built with many new advantages

PAPI 2021 - Provincial Governance and Public Administration Performance Index: Thua Thien Hue achieved the highest index score (48,059 points)

THE TYPICAL STORY OF OPEN SOCIAL INNOVATION

Night Lab - Night City Lab for Da Nang City

The Innovation Lab is an innovation model being implemented by the United Nations Development Program (UNDP) on a global scale in an effort to combine the concept of sustainable development and social innovation suitable for challenges of the 21st century. Through the partnership program, city governments are proposed a new approach of comprehensive and systemic development by creatively designing new services proven by practical evidence, accelerating the process of testing and disseminating urban development solutions. The advantage of the new approach is to promote the mobilization of collective wisdom, map out effective solutions, and conduct practical tests to make appropriate policy proposals and recommendations to best meet the needs for development.

Project name: Building a model of City Lab - joining night-time economic development with tourism (Night Lab - Night city laboratory) for Da Nang city

Context for launch:

In 2019, Da Nang City and UNDP signed a Cooperation Agreement on Researching, Piloting and Building a City Lab model. Accordingly, when the city has an idea for a program or policy, City Lab will turn it into experimental activities, and produce evaluations and results. This is the input, which is the basis for the city's decisions regarding large-scale deployment. Based on the city's urgent need for night-time economic development, the first project City Lab implemented was the Project "Research and experiment to build a City Lab model - joining night-time economic development with tourism (Night lab - Night city laboratory) for Da Nang city".

Project objectives:

- Building and operating nightlab model - Night laboratory
- Proposing innovative solutions to promote the development of the night economy associated with tourism;
- Select and practically test 01 suitable solution to promote the development of night economy and tourism;
- Prepare 01 report on evaluation of the pilot program in which some recommendations are proposed to promote the development of night economy and tourism as well as the plan and roadmap for the formation of City Lab in Da Nang.

Problem owner

- People's Committee of Da Nang City

Participants

- Department of Culture and Sports
- Investment Promotion and Support Committee.
- UNDP - United Nations Development Program in Vietnam

Results of the Night Lab project - Night city laboratory for Da Nang city

-  Studying pilot city models in the world, making proposals to solve the problem of Da Nang's night economy.
-  Pilot events have been successfully organized, attracting a lot of participants. Activities that are more effective and interesting have been determined.
-  After the research, a report summarizing it and recommendations have been submitted to the Da Nang government

Prominent test event: Light up Da Nang

Light up Da Nang is a series of interactive street art programs at night for tourists and young people with a host of Hiphop dance competitions, Kpop Cover contests, DJ Shows, Flashmob dances, food stalls and Augmented Reality (AR) technology to realize the image of Da Nang lifting up the night light with the beauty of nature, culture and local people. The way each program is organized, however, is different from another, to measure the difference in effectiveness between them. Thus, the most appropriate and effective method can be chosen.

THE TYPICAL STORY OF OPEN SOCIAL INNOVATION

THE COLLABORATION STORY OF SUNHOUSE AND ANHOME NON-STOP IMPROVING, ALL FOR THE CLIENTS

One of Vietnam's trillion-dollar businesses, accompanying the kitchens of millions of Vietnamese families and the international market.



The Startup coming out of Shark Tank with a solution that makes it easy to convert traditional products into smart products with a cost of only 5 USD with a Smart Home solution that can be easily controlled by a phone.



CONTEXT OF LAUNCH AND PROBLEM TO SOLVE

Previously, innovation only contributed about 20-30% to the development and growth of businesses due to the income level of customers. When the income of customers is not large, the demand for innovation will not be high, or not prioritized

"Going back to about a decade ago, it might take us a year to change our phones, 10 years to change cars. With clothes it could be shorter, about a few months. up to a year."

But what about at today? With GDP per capita income increased, Vietnam is determined to strive for the goal that by 2030, we will rise to become a country with a high middle-income on the world rankings.

Along with that, the explosion of the internet and the openness of information has shortened the time for demand to arise.

What is the proof? Users start changing phones once or more a year, and change wardrobe every 6 months to a few days. This is a clear pressure to force companies to innovate, embrace and implement this inevitable trend to escape the trap of lagging behind.

Innovation includes many different processes, from the product to the production and then bringing the product to the customer. The ultimate goal is to be able to bring optimal value to customers. More specifically, the innovation process is still expanding and transforming in the direction of OPENNESS. It is the opening of resources, transfer of knowledge, increase of the creative capacity of the subject and development of a more sustainable ecosystem.

CORPORATE APPROACH: OPEN TO RESOURCES

On its journey of growth, SUNHOUSE has always been firmly aware of the unceasing task of innovation. "First distance, second speed", SUNHOUSE chooses open innovation through cooperation with Startup, to quickly respond to market needs at the fastest speed, to come closest to customers consumption.

The story of innovation opened with Startup at SUNHOUSE is implemented with two important goal.

FIRST

SUNHOUSE wishes to bring convenience, the best utilities and features at an affordable price to customers.

SECOND

SUNHOUSE wants to support its own ecosystem, and that of Startup.

INNOVATION CULTURE

At SUNHOUSE, each department has its own innovation achievements and focuses most on the Research & Development (R&D) department, in order to focus on creating new products and improving old products. Innovation activities are integrated and make important contributions to business activities. SUNHOUSE also has its own bonus fund, short-term activities with hot rewards, and long-term activities also with their own bonuses.

At SUNHOUSE, innovation activities are divided into two parts

FIRST

Responsibility to innovate to cut the Cost of products by 10-15% per year, to retain profit margin in the situation of price escalation, applicable to all products circulating in the market.

SECOND

Responsibility to innovate to create new products and achievements: From designs, features or any new elements to serve the needs and create convenience for customers.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

DRIVING FORCE OF INNOVATION

Every business has its own strengths, and when we can connect the strengths of many parties, we can go further, in the longer term. It is difficult for any company or corporation to dominate, pioneer or lead in all fields, so we need to cooperate with each other.

Internally, SUNHOUSE always creates ideal conditions to nurture and develop a lot of ideas, but that number might not be comparable to the rich resource of ideas coming from the external Startup ecosystem. SUNHOUSE wants to accompany Startup, which not only helps develop a sustainable Vietnamese innovation Startup ecosystem, but also benefits us.

Whether those ideas come to fruition or not is another long story. ***TIn 10, 20, up to 100 ideas from Startup, somewhere, there will be outstanding solutions with high applicability for us to realize the ideas into products and bring them to consumers.*** If the idea is not yet highly applicable, businesses can completely archive it until another suitable time for the market. Likewise, SUNHOUSE has been, is and will be enriching its archive of ideas, for a long journey of innovation in the future.

ACTIVITIES THE TWO PARTIES HAVE ORGANIZED

Immediately after being undertaken to invest on the Shark Tank Vietnam show, AnHome and SUNHOUSE embarked on perfecting the list of products that they can cooperate on in innovation, and research applications.

One of the most important products that the two sides have worked on is the R.O. water purifier.

In the past, a smart water purifier device could cost up to 20 or 30 million dong, so the goal of the two sides is to introduce one into this product segment with the price of only 8 to 10 million, better matching the incomes of more consumers.

Innovation is the survival of the enterprise, so all activities need KPIs to measure efficiency: For example, how many new products should be produced in a year, how much of product cost can be reduced, etc.

MANY BENEFITS BUT NO LESS DRAWBACKS

Typical in the cooperation between SUNHOUSE and AnHome is a lesson about unifying the working process between the two units as well as how to approach the problem.

The two sides have been cooperating in a number of projects, such as smart water filtration products or smart home electrical appliances. From the investor's side, SUNHOUSE has a market, a manufacturing plant, customers familiar with the brand, and resources. Meanwhile, AnHome has the idea, design team and in-depth knowledge to realize and optimize the product.

On the Startup side, the biggest difficulty is the pressure to prove themselves by numbers within a certain time. However, what Startup appreciate is the uniqueness of the product. Figuring out exactly whether a product is performing well to generate revenue takes time. ***This is the gap that the two sides need to carefully explore to reach a consensus.***

In the early stages, there were times when it was difficult for AnHome and SUNHOUSE to work together due to the difference in the process. While a Startup always wants to go fast and take shortcuts, a large corporation will take more steps than that, because there are many specialized departments: from marketing to factory production, connecting industry units, etc.

Struggling is inevitable, but that is the motivation for the Startup to be gradually ready to reach out. AnHome can design or program all the complex backend system, but success must also come from adapting it to market needs, making customers willing to pay to use it.

STARTUP HAS 'LOST ITS SOUL' ACCOMPANYING THE GIANT?

Currently, AnHome is working with SUNHOUSE's factory, contributing value to the products of the SUNHOUSE brand. AnHome also has a big dream, and wants to be known when it creates great value in the future.

Mr. Nguyen Xuan Phu - Chairman of the Board of Directors of SUNHOUSE Group once shared that ***a product must contribute to the lives of many people to be a product of great value.*** Therefore, if there is a lack of close interaction from the industry, and from deep understanding of the market to competitors, it is easy for Startup to give up midway due to unstable resources.

The combination of AnHome and SUNHOUSE, or of Enterprise and Startup, are two pieces of the puzzle that have just been printed in a panorama of open innovation. SUNHOUSE now also has for itself an ecosystem of Smart Home product categories, and this is certainly the ocean where AnHome has many opportunities to "splash around" freely.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

HOA BINH CONSTRUCTION GROUP-HBC & HOA BINH INNOVATION CENTER-HBIC WITH THE GOAL TO BECOME AN INNOVATION GATE BETWEEN THE WORLD AND VIETNAM



MR. LE VIET HAI
COB of HBC

Hoa Binh Construction Group - HBC is the leading general contractor in Vietnam. HBC has marked its role as General Contractor through major works in the field of civil construction, industrial works and construction projects and infrastructure.

According to Mr. Le Viet Hai (Chairman of the Board of Directors of Hoa Binh Construction Group), his and his team's ambition is to turn Hoa Binh into a prestigious, powerful and world-class construction corporation, contributing to improving the pride and value of Vietnamese brand in the global context.

BACKGROUND OF THE BIRTH OF HOA BINH INNOVATION CENTER - HBIC

Hoa Binh Construction Group always keeps in mind that innovative thinking needs to be promoted and applied in every stage. Therefore, Hoa Binh Construction Group must establish a consistent, long-term strategy to invest and realize this orientation. Facing increasingly fierce competition not only with domestic enterprises but also with international construction contractors, decreasing advantage of cheap labor and increasing need for interdisciplinary technology application in and out of country, Hoa Binh Construction Group decided to find a solution to optimize R&D resources and seek innovation resources for its production and business activities. Therefore, Hoa Binh Innovation Center - HBIC was born as one of the key driving forces in this strategy.

Hoa Binh Innovation Center - HBIC was built with the orientation to become a Science and Technology Innovation Startup Ecosystem, attracting investors, high-tech enterprises, and international scientists to come working with the goals:



Building a center to incubate Startup businesses, research and develop projects, innovate and be the leading high-tech transfer place in the country, rising in Southeast Asia.

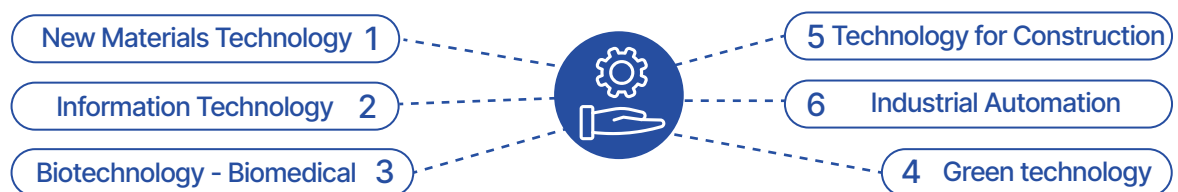


Building HBIC to become a convergence of the community of scientists, experts, domestic and foreign researchers, and investors in many fields, together with graduates to cooperate, and promote scientific breakthroughs with financial support from hedge funds, technology companies and government ministries.



Building a center that helps the community solve real business problems, and accesses breakthrough solutions in the world through active connection and extensive international cooperation with many countries with developed technological background and technology.

The 6 areas that Hoa Binh Innovation Center focuses on developing include:



With a total investment of 900 billion VND, the project will be built on a land area of more than 2.45 hectares in the Scientific Space Zone of the Ho Chi Minh City High-Tech Park (SHTP). The project is planned to build 03 blocks with a total usable area of more than 60 thousand square meters, promising to become an innovation symbol of the city in particular and Vietnam in general.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

HOA BINH'S APPROACH: ALWAYS READY TO OPEN THE DOOR FOR AND GATHER INNOVATION RESOURCES



For Hoa Binh Construction Group, in order for the innovation strategy to bring real value to the business, the development of an innovation culture within the enterprise, together with the advancement of the innovation ecosystem outside the enterprise play an important role.

The company's innovation comes first from a practical need: to solve the problems we encounter in the course of doing business – from there, the specialist department researches new technical solutions to improve our business from Startup, individual-researchers, and other businesses. For HBC, HBIC is the open innovation gateway of the corporation and external innovation resources.

INNOVATION ACTIVITIES PARTICIPATION

With a vision to become a pioneer in the open innovation ecosystem, and a typical innovation from corporate innovation, HBIC on the one hand promotes the construction of infrastructure in the hi-tech zone, and on the other hand actively participates in the activities of innovation ecosystem such as Startup Wheel, Vietbuild Exhibition, Startup Kite, and events in Ho Chi Minh City University of Technology, Ho Chi Minh City University of Technical Education, etc. With 35 years of experience in operation with many initiatives, improvements and research results. Hoa Binh Construction Group is consolidating to register intellectual property - creating a spotlight to bring innovation into the company culture.

ADVANTAGES AND DISADVANTAGES

In terms of macro aspect, innovation and entrepreneurship have the attention and advocacy from the government and the state. In recent years, the innovation ecosystem has been quite developed, and the innovation activities of ministries, branches and universities have formed an exciting innovation movement in the community, especially young people. This is a great advantage for the HBIC ecosystem. In addition, HBIC has great support from HBC in terms of resources, most importantly, the determination of HBC's leaders. This is a great advantage for HBIC to confidently act as an innovation symbol of the region. However, when innovative solutions are born, they often follow the subjective application of researchers and entrepreneurs. Therefore, the application to solve real business problems always needs significant editing and improvement. Organizing internal resources and processes, cooperation mechanisms with Startup, and refining the Startup's existing solutions for business work is a new category for businesses.

THE FUTURE IS WIDE OPEN

Up to now, HBIC Hoa Binh Innovation Center has received an investment license and will soon start construction of infrastructure in the Hi-Tech Park of Ho Chi Minh City. In the short term, HBIC builds connections with the innovation ecosystem (Startup, schools/institutes), corporations, and ancillary industrial enterprises. In the long term, HBIC promotes interaction between members of the ecosystem, advises on the development of Startup, invests and connects investors, and provides solutions for businesses.

HBIC is the first Innovation Center designed and operated by a private corporation in Vietnam. HBIC's model is an open innovation center model, pioneering in serving the segment of medium and large enterprises in Vietnam that are in need of innovation, research and development, and application of technology solutions. The strategic model of the Open Innovation Center helps HBIC become a connection point for innovation resources in Vietnam and other countries in the region, based on which HBIC develops and provides services and meet requirements to support R&D and innovation for the Vietnamese business community, the community of researchers, inventors, and Startup with high technology content.



Mr. Nguyen Duc Dung
Deputy CEO of HBIC

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

OWEN MEN FASHION BRAND: SEEK INNOVATION SOLUTION WHEN FACED WITH CHALLENGES

OWEN

Owen Fashion is a Vietnamese domestic brand belonging to Phu Thai Group. Owen specializes in today's popular men's fashion. Owen brand started to set a strong footprint in the fashion industry of Vietnam in 2008.

CONTEXT OF LAUNCH AND PROBLEM TO SOLVE

Having spent more than half a decade of development and accompanying consumers, Owen has gained a strong foothold in the market. However, it has been facing pressure from international brands entering Vietnam such as Zara, H&M, and Uniqlo, and domestic competitors emerging with products, designs and models similar to Owen. To differentiate in a sustainable brand development strategy Owen has taken bold steps in applying technology to marketing activities to bring better interactions and experiences for consumers.

Besides, entering the 4.0 period, the spending behavior of customers is increasingly changing. Besides becoming more careful in shopping and choosing brands, consumers are becoming more self-loving, leading healthy lifestyle and wanting to contribute more to society.

This is one of the factors that at the 10th anniversary of Owen - in 2017, Owen's management began to think that Owen must have different activities, and have to do things that no one else has done, bringing more value to consumers and the community.

Owen's innovation engine stems from developing, growing strategically, following a competitive advantage Owen aims to: be different, think differently, to deliver more value. It can be said that innovation here is aimed at competitive advantages, building a brand story and creating a growth engine for Owen.

H

Seek innovation solution when faced with challenges, rather than innovate as a modern 'fashion', a trend without knowing exactly what innovation is for.

MR. DOAN DUC THUAN

Deputy General Director of Strategy and Marketing of Kowil Fashion Company (the company's brand that owns Owen)

H

INNOVATION MODE OF OWEN MEN FASHION BRAND

With Owen, there are many different innovation modes.

- **Product innovation:** Owen always pioneers new materials, new designs, new features for its physical products.
- **Innovation in terms of communication, brand, and society:** Owen is the first brand in Vietnam to do brand marketing in a non-fashion way and encourage young people to follow their values. Campaigns that have an impact on young people are set up, and activities like conquer, experience, go to the Himalayas, things that no other brand in Vietnam has done are carried out.
- **Business model innovation:** Owen has made changes in business model to absorb technology and adapt to today's young generation - the 4.0 generation.

"It can be said that Owen's modes of innovation ranges from products to communications, brands to business models, and possibly internally, to more optimized processes, to inter-departmental coordination."

INNOVATION ACTIVITIES IN OWEN

Exploiting ideas from employees

Owen has not built its own department to perform the Innovation function. Instead, the enterprise develops an open Innovation bonus policy, implemented by multiple department heads and deployed across different departments.

Thereby, it motivates employees to be more open in presenting innovative ideas, product improvement, communication, etc.

Using services provided by Startup to solve business problems

Often large enterprises choose the method of mergers and acquisitions with Startup after implementing the solution because of the consolidation of departments. However, Owen opts for using and acquiring solutions provided by Startup in the market, related to data processing, or digital transformation, etc.

FIRST

Support from the leadership team, ie the person who leads the company in the executive board, the board of directors.

SECOND

People in the company/organization must have a mindset and method on innovation, a spirit of not being afraid of trials and errors, and learn from experience and improve over time.

THIRD

There needs to be teamwork, coordination and cooperation to solve customer problems. These are reflected in changes in products, services, channel quality, etc.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

COLLABORATION OF GUARDIAN AND PALEXY : AIMING TO MAXIMIZE THE POTENTIAL OF EACH RETAIL STORE



Guardian is Asia's leading health and beauty retail chain. In Vietnam, Guardian is the largest retail chain in health and beauty (Health and beauty store), including online and offline store system.



Palexy is a unit that helps digitize physical retail stores and optimize operational efficiency. With its AI SaaS platform, Palexy turns existing retail data digital, including CCTV footage, POS data, employee schedules, promotional calendar data, and more to help develop the potential of those stores.

CASE-STUDY #1: Makeup products conversion rate up by 4% after 2 months

CHALLENGE

Since 2011, Guardian has opened more than 100 stores with spacious space, beautifully decorated and modern facilities to provide customers with a comfortable, dynamic and convenient shopping experience. With the goal of always improving and innovating to increase the best customer experience, Guardian wants to optimize all touchpoints for the best customer shopping experience.

Unlike online channels, finding touchpoints in offline stores requires a combination of technology and observation.

ACTION TAKEN

Guardian and Palexy analyze customer data at the individual store level and in-store touch points. Then, Palexy **integrates AI data with POS data** to calculate the Conversion Rate of each category.

NEW INSIGHT WHAT IS DISCOVERED FROM CUSTOMERS?

The data shows that the Makeup area, one of the Guardian's key product categories, has not reached its full potential despite prime locations inside Guardian stores. The industry's Conversion Rate is below average. Customers enjoy selecting and viewing products, but have not yet made a purchase decision.

Through observation, the problem with makeup products is that many customers need more time to research before buying. **The available data have the Guardian cosmetic suppliers convinced to provide more (makeup) samples and to add PGs & Beauty Consultants trained in makeup advice.** Periodic reviews are performed to continuously monitor the Conversion Rates and evaluate the effectiveness of the Beauty Consultants.

NUMBERS THAT TALK

One month after implementation, Makeup Section Conversion Rate increased by 4% on average and Makeup section revenue increased by **an average of 6%**

CASE-STUDY #2: Conversion rate up by 7% thanks to a personalized engagement strategy

CHALLENGE

Over a decade of presence in Vietnam, Guardian is always looking for ways to improve service quality to better serve customers. After seeing an increase in overall conversion rates thanks to AI-powered solutions, Guardian wanted to increase the customer experience through personalization of the shopping experience. **This time, instead of dividing customers by demographic, Palexy tries an approach: Based on customer behavior.**

ACTION TAKEN

To do this, Guardian and Palexy studied several aspects of customer behavior: shopping time and the impact of employee interaction on Conversion Rate. Palexy then helps categorize Guardian stores based on customer behavior and **customize different engagement strategies for different groups of stores.**

HOW ARE CUSTOMERS CLASSIFIED?

At some stores, buyers spend more time considering. Employees will need to stick with each customer longer to advise on up-selling/cross-selling. Where shoppers spend less time pondering, employees need to speed up their interactions with each customer to move quickly to the next step. From there, Guardian designed two different sales processes for store groups:

- **For Stores with slow buyers:** the focus is on Engagement Time. The first interaction with a customer must take place within a specific amount of time (e.g. X minutes) since the customer entered the store.
- **For Stores with Quick Buyers:** the focus is on Engagement Rate. Employees must not reach customers immediately, instead, they must let customers browse for a bit (e.g. Y minutes) before engaging.

ROI

Guardian's overall conversion rate increased by 7% on average and revenue increased by 10%.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

CASE-STUDY #3: Measure employees' workday "energy flow" to improve customer shopping experience

CHALLENGE

Guardian cares deeply about its employees. It understands that a satisfied, well-trained and motivated team of sales assistants can take the Guardian shopping experience to the next level.

No matter how competent a salesperson is, they still have an energy flow during the workday. Every retail store has periods of high energy and vice versa. Guardian wants to identify break points in employee schedules and take remedial steps. Instead of forcing salespeople to work at their own pace, Guardian wishes to support them to achieve the best results.

ACTION TAKEN

To address this challenge, Guardian chose to measure the **Hourly Conversion Rate**.

NEW INSIGHT

Palexy data uncovers a pattern: **Conversion rates drop at 1-3 p.m., coinciding with shift change hour.**

After that, Guardian carried out the following activities:

First: They review their daily to-do lists and prioritize them. Whenever there is a limited number of employees in the store (e.g. only 1 sales assistant), Guardian removes unnecessary, no-consultation tasks to free up the attention of the employees, allowing them to channel all their energies into serving customers.

Second: They minimize time overlapping between shifts, reviewing shift change processes to ensure that on both shifts, employees can help customers and drive revenue.

Third: They move training sessions from 2pm to early morning when traffic is usually low. The goal is to avoid clogging up employees' schedules and distracting/overwhelming them.

Fourth: They minimize the receipt of goods, and consider ways to increase the efficiency of the receipt of goods from 1-3 pm.

ROI

Conversion rates between 1-3pm increase by 5-7% for street stores and 2-4% for mall stores. ROI/hour throughout the day also becomes more stable.

CASE-STUDY #4: Measuring beauty product flow to better understand the product

CHALLENGE

The beauty market is very diverse, covering six main product categories: Skin care, hair care, makeup, fragrances, toiletries & deodorants, and dental care. Among them, skin care is the leading segment

In fact, the success of any product category can help establish the Guardian's lead over the competition. As a result, Guardian wanted a closer look at how each product category works.

ACTION TAKEN

Palexy helps measure what percentage of customer traffic each category attracts. Then compare the results between stores with the same characteristics.

NEW INSIGHT

The Palexy report shows that while Skin Care is a key category, **the Skin Care industry attracts 50% fewer visitors than the entire chain on average.**

We decided to take a two-pronged approach, "Learn from the Best & Support the Bottom".

The Layout team sat down with the best-performing store managers to understand the basic factors promoting product flow in the SkinCare category. It turned out that location was a key factor in success. The team then determined the best layout to draw people to the Skincare section, among many other strategies.

The Layout team has successfully implemented it in the lowest-performing stores, including rearranging product sections, enhancing lighting, and extending shelf spacing for easier movement.

ROI

Among the stores that studied, traffic to the Skin Care store shelves improved by 8% on average. The revenue of the entire Skin Care category alone increased by 22% on average.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

RANG DONG: COMBINING THE OPENING OF INTERNAL RESOURCES AND CULTURE FROM A GIFT IN PRE-DOI MOI PERIOD TO THE BILLION DOLLAR DREAM



Established in 1960, Rang Dong is a pioneer in providing a synchronous solution system based on core technologies of lighting and IoT. Rang Dong is expected to become a billion-dollar enterprise by 2030, bringing Rang Dong brand to the regional level.

CONTEXT AND PROBLEM TO SOLVE

The 4th Industrial Revolution has formed a digital age, digital era and digital society. In the age of SMAC: Social, Mobile, Analytics & Cloud, **a technology may be today's new thing, but will soon be obsolete tomorrow.**

Customer behavior with expectations, pain or happiness is changing constantly. The competitive factor of the digital age is different from that of Michael Porter Age, when there are many technology platforms, Startup, and competitors from outside of the industry - who have never been involved in light bulb and light source production, can now get in the game. In addition, the integrated economy also means that there are foreign competitors to be faced.

In its 62-year development history, Rang Dong has undergone 4 layers of technology: The first layer is to produce light source lamps and lighting equipment based on Junlenxo's theorem for heating; The second layer is poor gas discharge lamps such as fluorescent lamps, switch lamps; The third layer is LED lights, and the fourth layer as commonly seen today is smart LEDs.

Currently, electricity for lighting in Vietnam accounts for about 35% of the total electricity supply nationwide, while in the world, this field only accounts for 15-17%. Finding solutions to save electricity for lighting while protecting the environment is more urgent than ever. These are also the reasons that motivate Rang Dong's constant innovations.

THE COMPANY'S APPROACH LEARNING FROM THE INTELLECTUALS AND THE PUBLIC LABOR MOVEMENT

Currently, Rang Dong has 3 R&D centers. This is the convergence of intellectuals and scientists, Professors and PhDs from domestic institutes working in the company's space, even attracting technology experts from regional and global corporations such as POSCO, Samsung. The aforementioned Innovation Hubs are used to acquire, transform and integrate the advanced knowledge of mankind into new knowledge and apply it to the Rang Dong ecosystem.

Another resource of Rang Dong comes from the creative labor movement from the masses, expressed in the annual Rang Dong Techday. In the last 3 years, Rang Dong Techday has collected nearly 4000 innovative ideas.

The innovation process in Rang Dong combines two resources: the elite force from outside and the working class within the company such as workers or engineers working on the production lines and factories with the motto: "Internal force is fundamental and decisive, external force is important and breakthrough".

The first center specializes in research on light technology (Lighting R&D Center). This center focuses on applying the achievements of the fourth industrial revolution, such as the application of materials physics, biotechnology, or renewable energy to lighting.

The second center specializes in research on digital technology (Digital R&D Center). The center focuses on areas such as cloud computing, edge computing, and big data, IoT (Internet of Things) and industrial connectivity technology - Industrial Internet of Things (IIoT), AI and sensor technology.

The third center specializes in research and development of platforms including technology platforms and business platforms - Modern Business Model R&D Center

The traditional theory of competition and self-separation are no longer valid. Today, one advantage lasts in just a certain period and no advantage lasts forever. Therefore, it is crucial to innovate, open up, cooperate and create with other knowledge flows. Rang Dong follows Purpose-driven Innovation. Rang Dong's mission is to become a pioneer in providing synchronous lighting systems and solutions, contributing to the creation of smart homes, smart cities, and high-tech agriculture. Rang Dong contributes to the increase of value for shareholders and customers and accompanies the Vietnamese people in the building of a prosperous and thriving country.

THE TYPICAL STORY OF OPEN CORPORATE INNOVATION

ACTIVITIES

Rang Dong's products have gone through four layers of technology. Every time the end of a technology layer is reached, revenue will show signs of decline. Just when the previous technology layer is at its peak, and the revenue is still good, the next tier has to be considered already.

Rang Dong's product ecosystem currently consists of three main arrows. However, to be able to respond to this ecosystem, it is necessary to have smart production - a production platform with high productivity and high level of automation and able to improve the speed of real-time market operation and ultimately shortening the time and distance to bring the product to market.

Rang Dong's model is to acquire knowledge, but the most important thing is to transform and adapt it to one's own resources, qualifications and capabilities. It is not necessary to spend a few million dollars to buy advanced solutions in the world - solutions that have evolved, been tested in the markets of developed countries while their models, structures, and characteristics cannot be applied and made full use of in Vietnam at this time. This can be considered as one of the consequences of the current digital transformation that should be kept in mind when implementing innovation. Rang Dong is an enterprise established in 1960. The traditional culture of Rang Dong has always deeply engraved Uncle Ho's teachings when Uncle Ho came to visit the company and made them an asset. From the basis of culture and communication, Rang Dong built a digital culture - existing and developing in the digital economy. That's the traditional culture, but to build a new business in the digital economy, digital businesses must build a digital culture.

Rang Dong spends up to 15-17% of profit after tax to invest in Innovation Fund or Science & Technology Development Fund and maintain 3 Innovation Centers. Rang Dong also invests in students - a generation of very young, brilliant intellectuals and very passionate Startup. Investment resources for students account for 1/3 of the Fund.

ACHIEVEMENTS

Rang Dong has been conducting a digital transformation strategy since 2020, which coincides with a difficult period of the global economy. Covid-19 creates disruptions in supply chains, in inflation and in workers' health. The country's economy fell by 2.4%. But in these difficult conditions and thanks to the digital transformation strategy, Rang Dong has grown at a new rate in the past two years

About SmartHome products: Rang Dong manufactures light sources that can protect and care for human health called Human-centric Lighting - which improves and illuminates on a biological basis, which can be applied individually for each subject.

About Smart-City products: Rang Dong constituted an achievement applying lighting in Smart City - one of the thriving trends in the world. For street lighting, Rang Dong also has new application technologies called Radio Frequency Net technology, which helps to save energy for street lighting and many other utilities. Currently, Rang Dong has secured 27 orders to make smart cities from provinces.

About High-tech Agriculture products: These products are based on two core technologies: One is lighting technology and the other is behavioral control technology. Rang Dong's strength is that they can create light sources with different wavelengths to suit the growth and development cycle of each type of animal and plant. Next, they create a light source that influences behavior to increase productivity.

INNOVATION CULTURE IN A TRADITIONAL ENTERPRISE

Rang Dong's innovation process is innovative in terms of technology, process and organizational structure. Rang Dong's innovation lies not only in technology, but also in its efforts to innovate its business model - a very difficult thing.

Rang Dong stay innovative from production stage, business stage, to the stage of marketing before, during and after production; From technology, organized processes and also cultural issues. That is the innovation in Rang Dong, which is a very skillful combination of elite forces and mass forces. It is said that the success rate of digital transformation is very low, but a traditional business like Rang Dong has been successful at it.

The business has actually been growing steadily for the past 36 years. Although the growth rate was only 8-10% in the period 2015-2020, from 2020 to now, the growth rate has reached 15-20%, especially in the first 9 months of this year. Rang Dong's digital transformation is currently a typical example of the Central Economic Committee, the Ministry of Science & Technology, the Ministry of Planning & Investment, the Ministry of Industry and Trade or USAID (the United States Agency for International Development).

THE TYPICAL STORY OF OPEN INSTITUTE INNOVATION



Innovation is not only evident in the public sector, in society or in enterprises, but also applied and promoted in universities. Many programs and projects are promoting and bringing the concept of innovation closer to Vietnamese youth, building generations of quality entrepreneurs

and creators right when they're still students. The Entrepreneurship Lab (E-Lab) of VinUni University is a typical example of encouraging and facilitating the acquisition of innovation knowledge and awareness in younger generations.

VinUni University promotes the spirit of innovation and entrepreneurship through open connection activities, from facilities to knowledge connecting and financial support - with 6 highlights:

- #1. E-Lab Startup Center is an Open Innovation Hub with flexible space design and modern facilities.
- #2. 100% of students are trained in Agile Innovation and participate in the 36-Hour Interdisciplinary Hackathon.
- #3. E-Lab grants \$2,000 per project to students in the Incubator Program. The best projects after incubation will be funded up to \$10,000 per project.
- #4. VinUni is receiving problems from businesses to research and find solutions to real life problems.
- #5. E-Lab develops a network of mentors who are successful entrepreneurs/businesspeople to share their knowledge to support students.
- #6. VinUni is connected with excellent professors at leading universities to join transnational research groups on global issues: health, energy, climate change... and commercialize related technology solutions.



When students either start a business or work for corporate organizations later in their careers, the ability to recognize and seize opportunities as well as perseverance and strong will are necessary factors for you to succeed in the future. We are very happy and proud that E-Lab has quickly become a vibrant destination, where seminars, mentoring programs, incubation programs and many attractive competitions are held not only for VinUni students but also for students nationwide.

PROFESSOR ROHIT VERMA - Headmaster of VinUni University



SOME TYPICAL PROJECTS



UpYouth - Incubator of young people, for young people co-founded by Tran Tuan Minh, a student of VinUni. UpYouth's goal is to connect, mentor, train, do market research, and support Vietnamese young people aged 18-25 to establish startups on technology platforms.

After more than a year of establishment, UpYouth has become a community that attracts 2,000 young people from 8 countries, and startup projects supported by UpYouth have been invested more than 2.5 million USD.

<https://upyouth.org>



Zinance is a financial education solution for young people founded by Nguyen Luu Anh Tuan, a student of VinUni. The solution is created based on the "gamification" and "learn-to-earn" models to bring interesting learning experiences to users. Zinance has recently won the Finnovation Champion 2022 - the first national competition on entrepreneurship and innovation in the Fintech field for Vietnamese students.

Currently, the completed test version has been released on the market.

<https://zinance.vn>



BambuUP
Connect to Innovate

2

CHALLENGES

SUNHOUSE - IN SEARCHING FOR INNOVATIVE SOLUTIONS AND IDEAS



SUNHOUSE GROUP.,JSC

Business information:

One of Vietnam's trillion-dollar businesses, accompanying the kitchens of millions of Vietnamese families and the international market.

Contribute ideas and solutions at:



Virtual Challenge Room on BambuUP platform

Market sector: Household products, household electrical appliances.

Challenges/Business Problems:

In terms of Production:

1. Optimizing the production process, increase competitiveness with competitors on SunHouse's non-stick products and rice cookers.
2. Looking for alternative materials (environmentally friendly, unchanged performance, ...) for PP filter element, RO machine
3. Product development solutions to bring quality standards ensuring the criteria of avoiding waste in production, controllable warranty rate and product life

In terms of Market:

1. Ideas & solutions for product design and improvement with the goal of looking more industrial to affirm the value of SunHouse brand: (3-5 ideas/year)
2. Ideas to commercialize products or find breakthrough ideas by adopting Startup' or students' ideas : 3-5 ideas/year
3. The solution to popularize SunHouse's high-end products based on the desire to reach consumers at a reasonable price: Double induction cooker, RO water purifier, ...

Deadline to Submit Solutions: May 31, 2023

DKSH SMOLLAN AND CHALLENGES IN THE FIELD OF TRANSPORTATION LOGISTICS

Market sector: Distribution of sales channels, Field Marketing, Business and sales solutions, Market execution solutions

Challenges/Business Problems:

Description: Vietnam FMCG market is growing, especially in the field of Minimart/Convenience stores in both urban and rural areas. However, the challenge for businesses is that the field of logistics transportation to the locations of such stores nationwide is very difficult because of the extensive spread, high transportation costs, large number of orders requiring processing, goods arrive at points of sale slowly, causing difficulties in the management system and inefficient logistics operating costs compared to net sales at each point of sale.

Nhu cầu: to find a partner with a system that can manage orders and allocate, connect with units/shippers nationwide with effective cost, reduced operating costs while still guaranteeing Return On Investment for each point of sale nationwide

Deadline to Submit Solutions: May 31, 2023

SMOLLAN



**DKSH SMOLLAN
FIELD MARKETING**

Business Information:

DKSH Smollan Field Marketing (DSFM) is a joint venture between DKSH and Smollan, established in 2009 in Malaysia, operating in Field Marketing.

In the Vietnam, DSFM is proud to be the largest direct marketing service provider in Vietnam, bringing growth to customers through every aspect of retail solutions.

Contribute ideas and solutions at:



Virtual Challenge Room on BambuUP platform

MASAN MEATLIFE - THE NEED FOR TECHNOLOGY DEVELOPMENT IN FARMS



MASAN MEATLIFE J.S.C

Business Information

Masan MEATLife is a subsidiary of (Masan Group), the largest company in Vietnam in terms of integrated branded meat platform (Feed – Farm – Food) , focusing on improving the productivity of the animal protein value chain in Vietnam

Contribute ideas and solutions at:



Virtual Challenge Room on BambuUP platform

Market sector: Fast consumer goods business platform, focusing on branded cool meat.

Challenges/Business Problems:

1. Solution for Smart Automated Home for Chickens: meets all the chicken's needs including dry porous coop floor, humid heat that automatically adjusts to the chicken's needs at all times, providing standardized food for each chicken on schedule, assessing chicken health at all times, automated vaccination.
2. Solutions for Smart Farms: Automatically control the spreading source of bacteria, viruses and fungi, preventing harmful animals (insects, rats, birds, ..), sorting clean/dirty channels, automating farm security control
3. Solutions for Digitizing and analyzing statistics: data related to livestock production, chicken health, throughout disease prevention/diagnostic/treatment from hatchery, commercial farm, meat farm.
4. Solutions for Digitizing and predicting demand: Indicators of consumption, production, sales, poultry market information to stabilize production in the enterprise

Deadline to Submit Solutions: May 31, 2023

GUARDIAN VIETNAM AND CHALLENGES IN THE RETAIL INDUSTRY

Market Sector: Retail

Challenges/Business Problems:

02 Common challenges in the retail industry that Guardian Vietnam is looking for solutions to:

1. Challenges of order allocation:

Guardian Vietnam always wants to find optimal solutions for order allocation so that orders can be closest to customers, stores and shippers with the goal of optimizing shipping time for shippers and operating costs for the business, and achieving the shortest possible allocation time (under 5 minutes is a remarkable milestone)

2. Challenges of point-of-sales material (POSM) management:

POSM to meet more than 100 touch points of customers. Therefore, Guardian Vietnam wishes to be able to systematically manage the POSMs in the store to ensure that the images appear in the right places, and are replaced at the right time and on schedule

Deadline to Submit Solutions: December 31, 2022



GUARDIAN VIETNAM

Business Information

Guardian is the leading chain of health and beauty stores in Asia. In Vietnam, there are now more than 100 stores in big cities such as Ho Chi Minh City, Hanoi, Bien Hoa, Vung Tau, Da Nang... and online stores serving millions of Vietnamese across the country with more than 500 brands, more than 5000 authentic items, always ensuring the best reputation, quality, service and value for customers.

Contribute ideas and solutions at:



Virtual Challenge Room on BambuUP platform

OWEN AND CHALLENGES IN THE FASHION INDUSTRY

OWEN

OWEN FASHION BRAND

Business Information

OWEN is a high-end fashion brand, specializing in providing shirts, vests, and casual pants and pioneering in using modern technology materials.

Contribute ideas
and solutions at:



*Virtual Challenge Room on
BambuUP platform*

Market sector: Fashion

Challenges/Business Problems: Developing Innovative Products and Items in Fashion Industry.

In terms of Product:

1. Original fashion products with improved material quality
2. Ideas, design solutions, improvements in style, versatility of fashion products. Affirm the value of OWEN fashion brand.
3. Innovating the product portfolio in the spirit of turning discrete products into a set of synchronous solutions in the style of mix-matching and suitable for customers in all contexts.

In terms of Product:

1. Technological solutions to optimize the production process to enhance the competitiveness of the company in the fashion industry.

Deadline to Submit Solutions: May 31, 2023

HOA BINH INNOVATION CENTER - QUALITY CONTROL IN CONSTRUCTION

Market Sector: Business Incubation, Services On Investment, Construction, Consulting, StartUp And Innovation

Challenges/Business Problems:

In the construction of special high-rise buildings, the quality control of exterior construction becomes difficult due to many obstacles in construction conditions and inspection methods.

Current Status:

Current solutions for construction and quality control are using scaffolding, gondola, sliding scaffolding, etc.

Quality control: according to ITP - Inspection and Testing Plan including checklist, construction drawings and personnel (workers, construction supervisors) directly inspecting and giving conclusions.

Inspection measures: by eye, 2m aluminum ruler, flashlight, plumb... However, there are always many difficulties due to uncomfortable working space, inconsistent segmentation,... affecting the uniformity on the whole plane

Requirement: 100% of the surface of the building must be inspected

Desires:

An automated/semi-automated solution, accurately and efficiently performing the aforementioned quality inspection

After the solutions are submitted through the BambuUP platform, HBCG will be sharing inspection procedures and criteria after the solution has satisfied the implementation principle.

Deadline to Submit Solutions: December 31, 2022



**HOA BINH INNOVATION CENTER
HBIC**

Business Information

Hoa Binh Open Innovation Center is a link between Hoa Binh Construction Group (HBCG) and Startup, small businesses and researchers to create innovative business solutions together.

Contribute ideas
and solutions at:



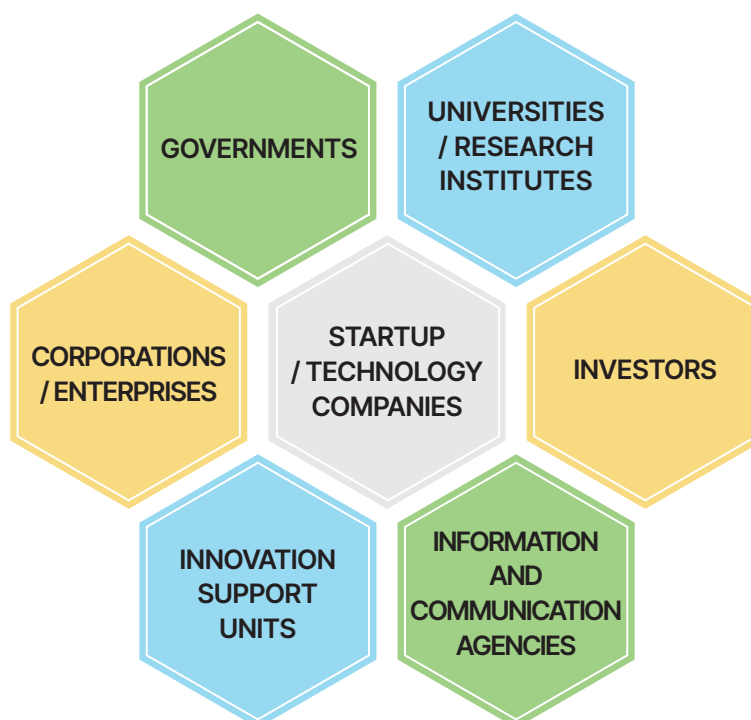
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BambuUP platform*

Part 5

SURVEY OF THE READINESS OF THE OPEN INNOVATION ECOSYSTEM IN VIETNAM

Open Innovation Ecosystem is understood as an ecosystem consisting of many actors (enterprises, state management agencies, investors, research institutes, universities, customers, etc..) and they are all actively implementing Open Innovation activities. Accordingly, these actors not only rely on their own internal knowledge, manpower, and resources to shape Innovation outcomes (products, services, business models, processes, etc..) but also actively seek and use a variety of external sources to accelerate the Innovation process and work towards creating shared value

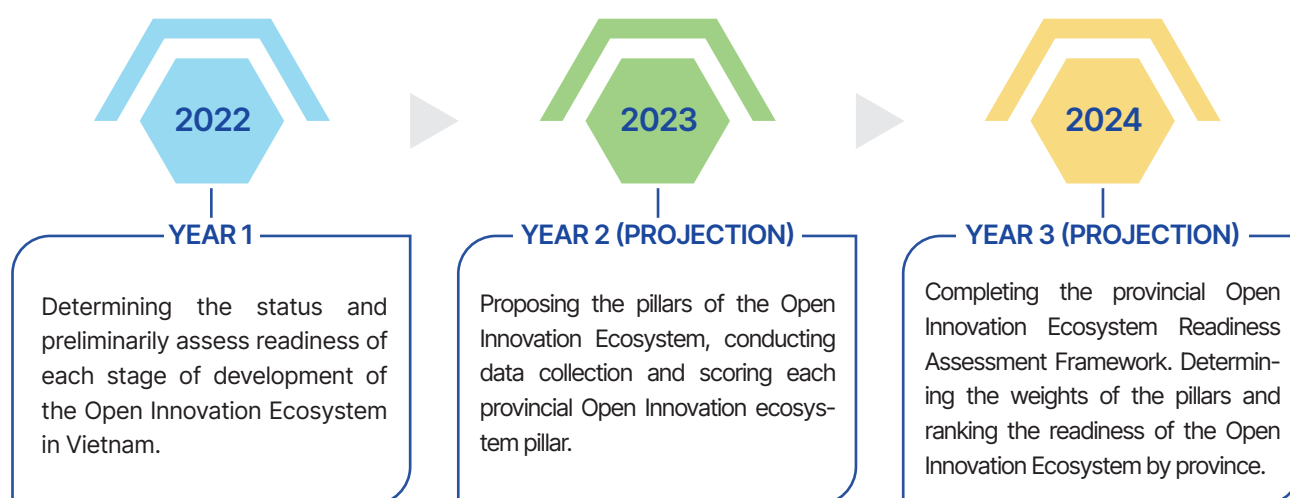
Key actors in the Open Innovation Ecosystem



RESEARCH METHODOLOGY

1 Research objective

The purpose of the study is to assess the readiness of the Open Innovation Ecosystem in Vietnam. The study is expected to be carried out over 3 years with the objectives shown in detail for each year in the figure below. Summary of the first year's research results is presented in the Vietnam Open Innovation Ecosystems Report 2022

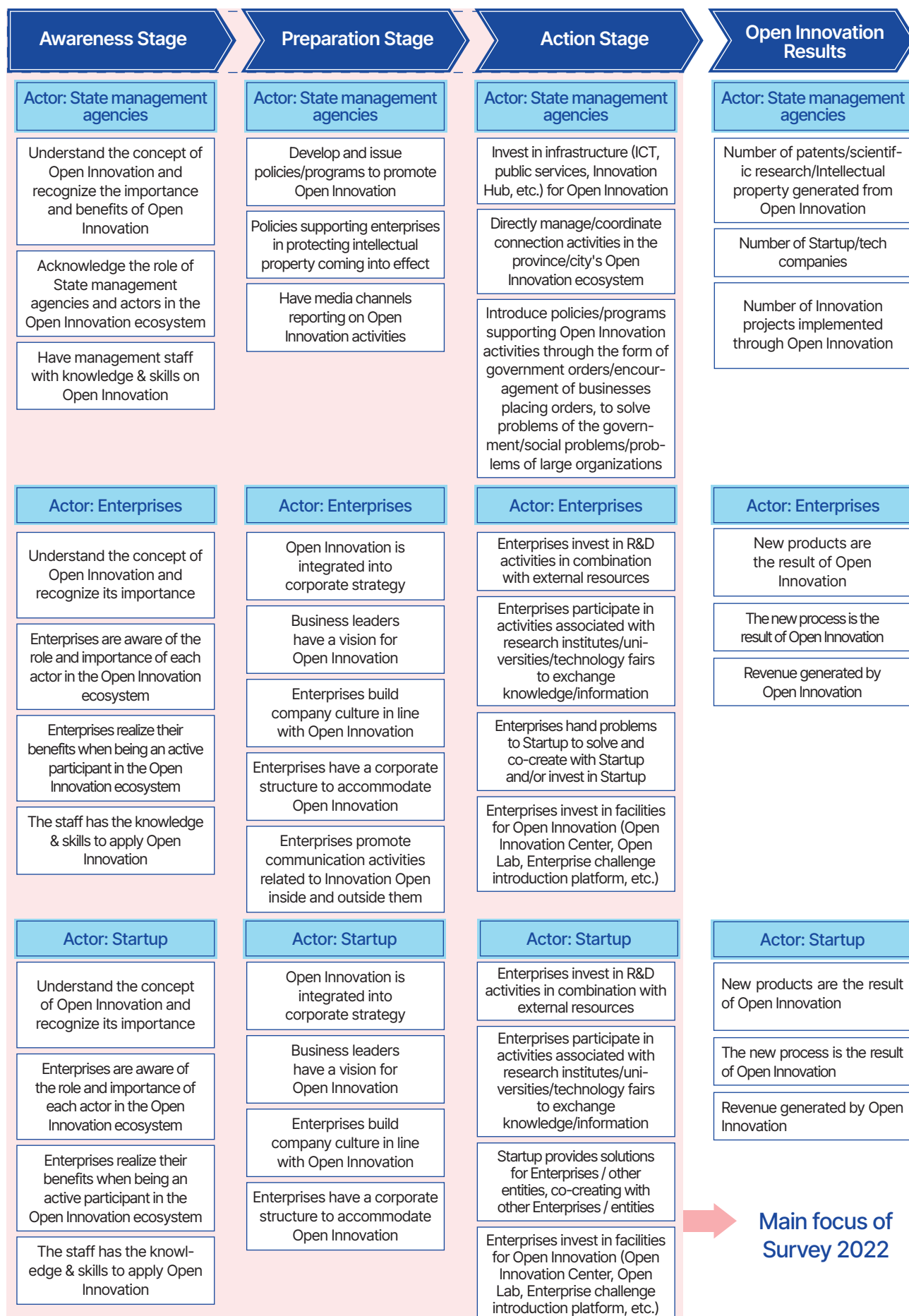


2 Evaluation scale

To assess the readiness of the Open Innovation Ecosystem in Vietnam, the development phase approach is used including: (1) Awareness Stage, (2) Preparation Stage, (3) Action Stage and (4) Open Innovation Results. Research in the 1st year focuses on collecting data and assessing the readiness of the Open Innovation ecosystem shown at stages (1), (2) and (3).

3

The Development Stages of the Open Innovation Ecosystem - BambuUP's APAR Model



1 In-depth interviews for:

- Representatives of state management agencies in 3 regions
- Experts in promoting the Innovation ecosystem and the nation's innovative Startup ecosystem; experts who are working and working at the research institute; experts working at universities. Semi-structured interview method is used with 4 interview guides that have been systematically arranged in advance to suit each interviewee and limit the issues mentioned.

2 Surveys for businesses:

- With sample questionnaire (A) designed for large enterprises and SMEs and sample questionnaire (B) Startup/technology enterprises. The methodology of collecting information on this form is a survey using a self-completed questionnaire through the data collection software Qualtrics; the survey subjects are individuals holding middle or senior management positions with wide knowledge of and in charge of innovation activities in each enterprise.

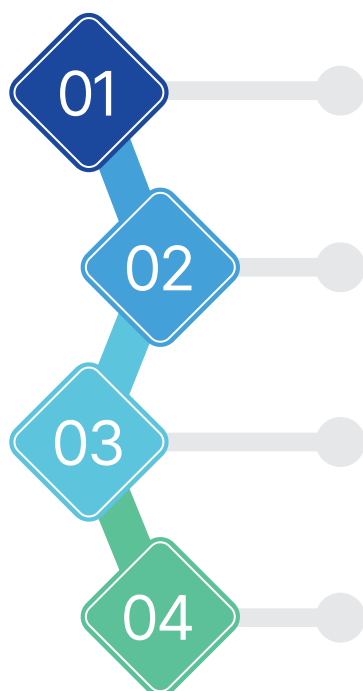
Subject	Targeted Samples	Actual Samples
Experts	3-5 experts across the country	8 experts
State management agencies	18 State management agencies in 18 provinces	7 responses from 4 provinces: Hanoi, Cao Bang, Ninh Thuan, Kon Tum
Enterprises	90 businesses and Startup selectedequally from 3 regions: North, Central, and South	81 enterprises (31 large enterprises - 50 SMEs)
Startup/Technology companies		62 Startup

4 Data processing and analysis methodology:

For qualitative data, the research carried out the following procedure: (1) Removing interview tapes, (2) Reading and encoding data, (3) Describing and interpreting research results.

For quantitative data, raw data from Qualtrics are coded. Tableau and Excel software are utilized to describe and statistically analyze issues related to the readiness of each type of business in the Open Innovation Ecosystem in Vietnam.

5 Research time



STUDY PREPARATION - September 2022

- Developing research plans, research sheets, research instructions and questionnaires
- Developing interview plan and interview guide
- Preparing and reviewing the list of investigation and interview units
- Selecting a survey sample

IMPLEMENTATION OF RESEARCH - October 2022

- Selection of researchers
- Providing training of research guidance and interviews for facilitators
- Building a system of summarizing output and software programs for inputting, checking and summarizing results
- Collecting data at research units

DATA INPUT, PROCESSING, AND CHECKING - October 2022

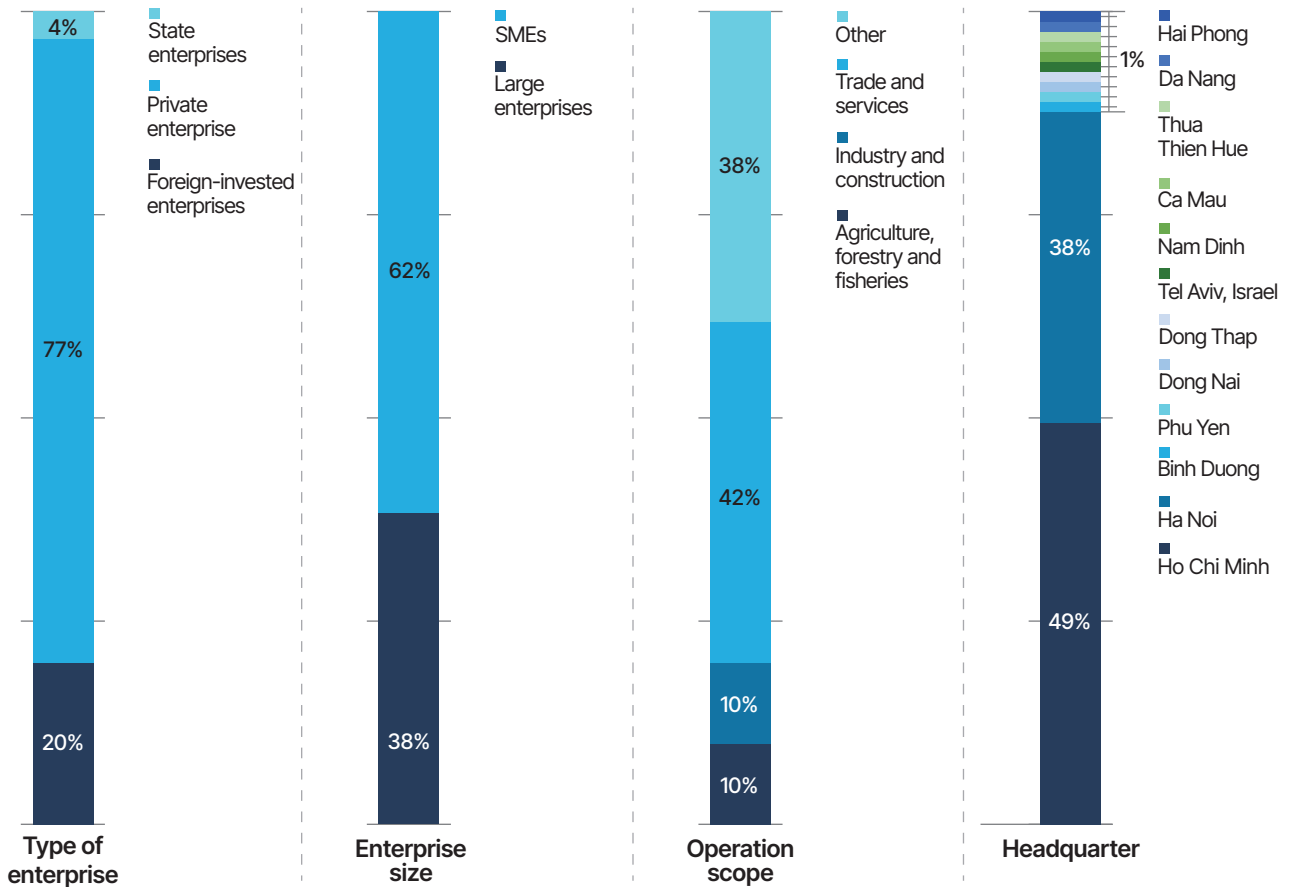
- Inputting data, checking data and reporting status
- Creating an output table, processing and synthesizing data according to the form of output indicators
- Making data tables for the survey results of the studied enterprises

SUMMARY, ANALYSIS AND REPORT OF RESEARCH RESULTS- October 2022

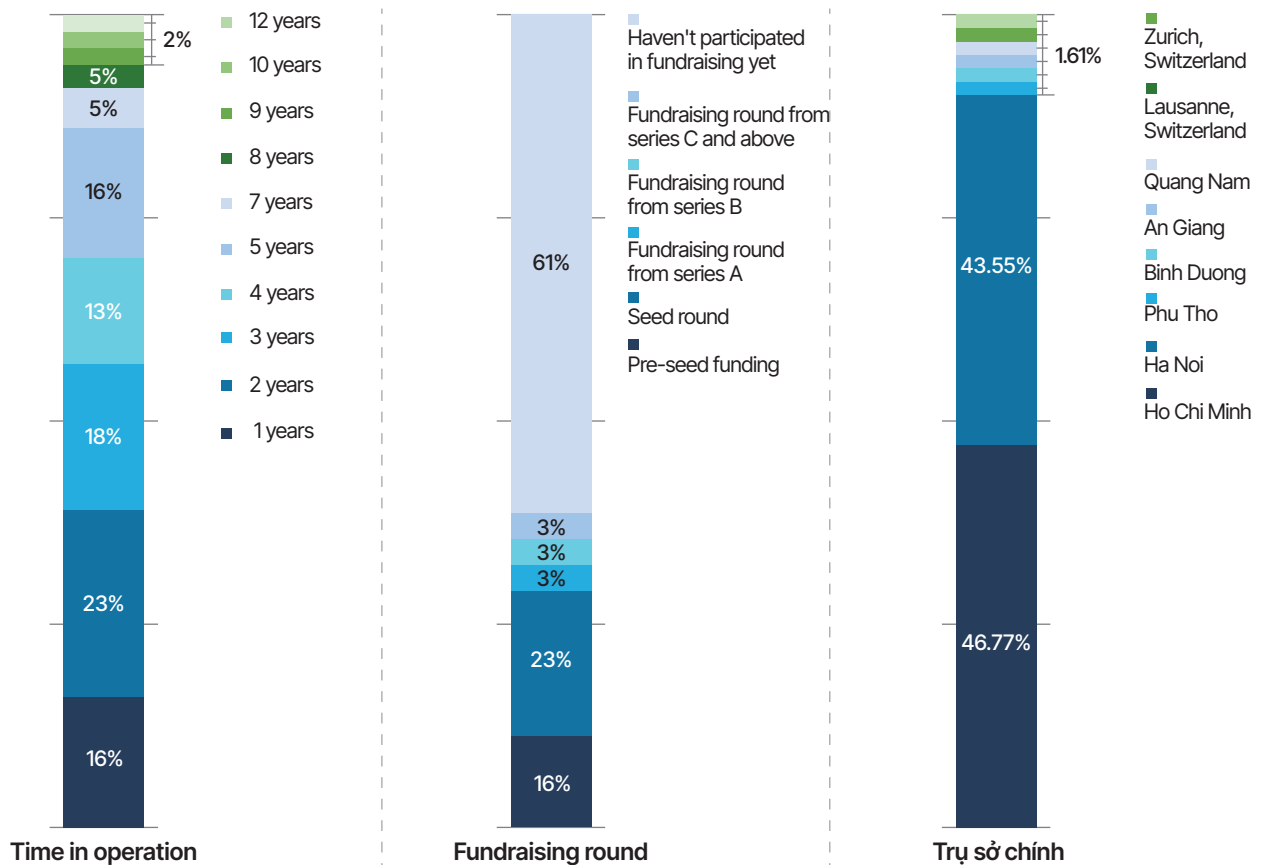
- Preparing research report
- Publication of research report

6 Survey sample information

A. 31 Large Enterprises and 50 SMEs(*)



B. 62 Startup(*)



EXPERT PERSPECTIVE

The Open Innovation Ecosystem in the provinces will focus on linkages and cooperation between parties in innovation activities to solving **complex** challenges from any actor who does **not have enough internal resources** and seek external resources in the innovation network of the province. That means **optimizing all resources** and all participants and society will benefit from it.

1. The role of the main actors in the ecosystem

In the Open Innovation ecosystem, there are three main roles that actors can play, which are:

- (1) Problem owners
- (2) Solution providers
- (3) Enablers

1 State management agencies

The Open Innovation Ecosystem at the national and local level in Vietnam is still in its infancy, so the role of the State is very important at this time. The state has the role of **creating** an environment to promote the elements in the ecosystem to develop. The function of the state at this stage is to preside over, nurture and regulate in all activities related to the connection between actors and create social value from these connections through an appropriate and specific legal corridor system

With the above function, state management agencies often act as **enablers**, but local governments themselves also have a lot of problems to deal with, and therefore they also have the role of **problem owner** so that all actors in the ecosystem can approach and propose appropriate solutions.

2 Large enterprises and corporations

Large enterprises and corporations are considered as **the most potential** actors in the Open Innovation ecosystem. They have all the success factors such as strong financial resources, large markets, great brands, high-quality research and management teams, so in the ecosystem they can play the role of **enablers** who (1) Build investment funds in Startup projects, (2) Fund specific Startup projects to maintain them (3) Share knowledge and experience for the Startup community. More than creating value for society, in an Open Innovation ecosystem, large enterprises and corporations play the role of **problem owners**, and solutions can come from within the business but can also be offered faster, even more disruptively, and more promising from other actors in the Open Innovation ecosystem, typically from Startup. Thus, the benefits for both sides are win-win.

3 SMEs

In all ecosystems, there are three connotations: (1) Diversity: there are many actors; (2) Logic in operation flow: Value chain, supply chain or distribution chain; (3) Cyclicity and growth: one unit becomes the input of another with added value created. Thus, in the Open Innovation Ecosystem, SMEs can become links in the value chain with large enterprises and other actors, and benefit when the actors in the ecosystem operate in tandem and grow. SMEs can also act as a **problem owner**, especially after the COVID-19 pandemic, the breaking of links in the chain makes SMEs realize the need to change their business model or restructure. As well as having a more breakthrough direction, innovation helps them improve their competitiveness, but the difficulty of SMEs is their limited capacity and scale. With those difficulties, SMEs cannot remedy their own pain but should become the problem-proposing party for solution providers to provide solutions for them.

4 Startup

In essence, Startup have met 3 factors of knowledge, culture and technology; what they lack is the output for the market and customers. Therefore, in an Open Innovation Ecosystem, Startup / technology businesses are the ones that provide new, radical or even breakthrough available solutions for the parties with the problems, including large enterprises, corporations, SMEs and even state management agencies. But connecting the problem owner with the solution provider is not simple; it requires support from the actors who play the role of enablers such as state management agencies (analyzed above) and intermediary organizations.

5 Universities and research institutes

The function of universities is to provide human resources for the ecosystem. If we want to have many founders, the university must produce many students with entrepreneurial spirit. The second function is knowledge transfer in addition to technology transfer. With such functions, in an ecosystem the contributions of universities lag 5-10 years or more. Therefore, it is possible to place the university as an enabler for other actors in the ecosystem.

For research institutes, the first function is scientific research (including basic research and applied research), the second is training, and the third is commercial implementation. Thus, research institutes in particular and the whole university sector always play a very important role to provide knowledge and technology to the ecosystem as an enabler, but in many cases, the research institute is also the **solution provider** for businesses due to its function of connecting scientists and the market in the form of establishing spin-off businesses or performing scientific and technological services.

6 Innovation enablers

The **enabling** role of these organizations is extremely important. Because when we talk about Innovation, we have to solve problems in new, high-risk and sometimes difficult to understand ways. So there should be intermediaries in between to connect parties with problems and solutions and more importantly, comprehensive enablers such as consulting, mentoring, investment, fundraising, hardware and software support, support on markets, business models, etc. They also serve the function of controlling the quality and efficiency of projects. In recent times, our Open Innovation Ecosystem has taken over and correctly placed the intermediaries so that new ideas, new products, new models and even new businesses have a chance to succeed sooner, more surely and at a higher rate. Forms of intermediary organizations are also very diverse from: Centers for promotion and support of technology transfer activities; Intellectual property valuation support center; Innovation support center; Technology incubators, science and technology business incubators, Platforms for connecting supply and demand for Innovation; Technology trading platform, etc.

In today's digital age, **digital platforms that connect the supply and demand side of Innovation** will be an **indispensable element** to promote continuous, on-demand and unlimited connectivity in terms of time and space between actors in the Open Innovation ecosystem. Only when these platforms are active and vibrant can they maximize the information flows about Innovation and stimulate the most and fastest interactions and connections between actors. Given the experience obtained from abroad, there is always a need for public-private partnerships for the most effective development and operation of such platforms.

THE ACTOR STATE MANAGEMENT AGENCIES

The information in this section is for reference only because the information is compiled from qualitative research with a small sample size from national innovation ecosystem experts and leaders of provincial state management agencies of 6 cities and provinces: Hanoi, Cao Bang, Ninh Thuan, Quang Nam, Kon Tum, Ho Chi Minh.

THE ACTOR STATE MANAGEMENT AGENCIES

1 Awareness Stage

The levels of understanding of Innovation (in terms of concepts as well as knowledge surrounding Open Innovation) have a large gap between departments as well as between experts and leaders at specialized state management agencies at the provincial/city level.

Some big cities, which have had worked on the ecosystem, resources, the basic knowledge of Innovation, have reached a level where it can promote the acceleration phase and application for the Open Innovation Ecosystem; the understanding level of leaders has only been mainly reached level 3 (partial understanding), while employees in departments including specialized departments, the level of understanding is low (level 2). This figure may be less optimistic in less dynamic provinces with smaller market sizes.

Not all provinces are aware of the benefits and potentials of developing an Open Innovation Ecosystem. Some places even rated the benefits of Open Innovation in the development of the province/city insignificant.

The training activities and necessary knowledge and skills on Innovation and Open Innovation for staff are not uniform across provinces.

Regarding training in Innovation knowledge, thinking and skills, big cities still disseminate common knowledge on a large scale to all officials and departmental leaders. With a fairly clear awareness that Innovation involves many people and departments including financial mechanism, management mechanism, internal governance, etc., the organization of training activities takes many forms. Some of these are thematic reports or for in-depth knowledge, specialized departments and leaders are prioritized to be sent to attend courses offered by reputable institutions in both the public and private sectors in and out of the country. However, almost no training and knowledge supplementary sessions through Open Innovation courses are recorded in other localities.

The knowledge about Innovation and Open Innovation is always being updated and in the Open Innovation Ecosystem, it is necessary for key actors to have the most complete and up-to-date awareness, knowledge and skills to do their job well.

Awareness of the role of state management agencies in the Open Innovation Ecosystem is still low

State management agencies are mostly aware of their role as enablers for the development of their Open Innovation Ecosystem through policy. However, not all representatives believe that the agencies can also play the role of the problem owner of society, whose problems are to call on the community to solve problems that society is concerned about, or the issues and problems that the province is trying to solve. This is the point where the necessary orientations and communication will be needed so that State managers can fully understand the roles that the State management agency can play in the Open Innovation Ecosystems. Even in countries with developed Open Innovation Ecosystems, it is the State agencies that has to take the lead and make headlines to set an example, encouraging other actors to participate more actively, and promote development. sustainability of the ecosystem.

2 Preparation Stage

Regarding the development and issuance of Open Innovation policies, most localities need an orientation and guideline from the central level on promoting Open Innovation at the provincial level. In fact, the concept of Open Innovation and Open Innovation Ecosystem has only been popular in the past 1-2 years in Vietnam. The institutionalization of these policies in writing is not yet official. Currently, only a few documents have been issued such as Decision 844/QĐ-TTg, Decision No. 1269/QĐ-TTg, Decree No. 94/2020/NĐ-CP, Decision 939/QĐ-TTg, Decision 1665/QĐ-TTg and guiding circulars of ministries directly related to Innovation and Innovation Startup ecosystem.

In addition, regarding the formulation and promulgation of policies at the provincial/city level, the localities showed mixed reaction. Some localities believe that the policy is not a disadvantage, even asserting that the locality is not difficult in terms of policy mechanisms, nor is it difficult for the provincial government to accompany with the promulgation of many social policies for the province. In contrast, some localities, even large cities, with the advantage of large markets, concentration and attraction of large projects and all the components of the ecosystem available in large quantities, attribute the difficulty in developing the Open Innovation Ecosystem to the mechanism. They believe that the policies of the central government are not specific enough and need to be more in-depth.

Currently, there is no fund for innovation, and tax policies also greatly affect the money that Startup raise from private investment funds. Localities try to mobilize budget sources, and coordinate with social capital to support creative Startup, but it takes too much effort, so the results have not been satisfactory.

Regarding policies on intellectual property, despite the high awareness of the importance of intellectual property, localities have assessed that current policies have not really helped raise awareness of enterprises, especially Startup about intellectual property registration, as well as not supporting and promoting enterprises to register for intellectual property protection well. In other words, although the localities has a budget, they still cannot support it; Startup are not interested and do not submit documents to receive support. The reason given is that the level of support is not attractive enough for businesses. Another reason is the cumbersome administrative procedures, and the third reason is that the regulations related to Startup are still strict. The review and approval cause many difficulties for provinces and cities when implementing policies.

3 Action Stage

In terms of investment in infrastructure, working and connecting spaces, information and communication technology (ICT) systems, innovation centers, etc. were established to increase the strength of the actors as well as make connections faster. In big cities, infrastructure investment has been made in various forms and quantities, but the supply has not yet been guaranteed. Therefore, specialized provincial state management agencies are still advising the provincial government to utilize the vacant space for renovation, allowing public-private partnership to promote more efficient investment and operation activities. However, a major barrier is still that there are no clear policies and guidelines for PPPs, so such activities have not been promoted. In smaller cities, innovation centers are formed from both the state budget and socialized capital, but the co-working space is limited due to the strict requirements of the central leadership's qualifications. They also think that the communication and connection is not necessarily direct, but can be through online channels, but in fact, there have yet to be any suitable and highly effective online connection infrastructures and platforms.

In big cities such as Hanoi and Ho Chi Minh, the activities involved in building an Open Innovation Ecosystem are showing positive results when projects to build an online connection platform are born, in order for all members of the ecosystem contribute their own data and share the resources they have to the Startup community within the province. However, the solutions seem to just stop at describing the profile and preliminary information of businesses, while regarding connection the parties still have to connect and learn about each other on their own, and the state management agencies have not been able to illustrate statistics of transaction traffic and related data necessary for analyzing and making decisions to further facilitate the connection between entities.

In addition, a real factor that needs to be resolved for the Open Innovation Ecosystem to take off is the participation of State management agencies and corporations and businesses in the role of the problem owners for Startup, tech companies, institutes, schools, etc. Ordering or policies to encourage businesses to order from Startup to exploit available solutions are still lacking or underutilized. There are provinces that have proposed programs to gather community solutions to solve problems. However, the State management agencies are still quite cautious, unwilling to apply these new methods and solutions.

Regarding the connection between corporations, large enterprises, SMEs and other entities such as Startup, universities, etc. in the Open Innovation Ecosystem, although businesses and SMEs themselves are considered to have not been able to promote their roles (due to the lack of resources as well as low awareness of Open Innovation, and difficulties in finding solutions that are available for business), part of the reason is from the policy mechanism. There are very few large enterprises that spend their innovation investment funds to find and exploit available solutions. The government has not developed or issued policies to encourage them, for example policies related to land and tax incentives for businesses that are more committed to being active in the ecosystem like establishing funds and programs accelerating the development of Startup in their field, serving the main goal or the big goal of the province.

THE ENTERPRISES

Awareness Stage of Open Innovation and Open Innovation Ecosystem

There is a relatively large difference in the understanding of Open Innovation between leaders and employees

Most of the enterprises participating in the survey rate Open Innovation as being highly important (about three-quarters of the total number of enterprises), but the level of understanding about Open Innovation in all enterprises is still limited and there is a relatively large difference between leaders and employees.

For the leadership team, there are 47% of leaders who have a relatively high understanding and very clear understanding of Open Innovation, however, up to 53% of the leadership staff do not understand or only partially understand the concept. This ratio is also shown similarly for leaders in Hanoi and Ho Chi Minh City. It should also be noted that within the framework of this survey, the quality level of understanding in the 47% group has not been verified.

For staff, the level of understanding about Open Innovation is still quite low and there is a relatively large gap with the leadership team. Specifically, only 27% of employees really understand Open Innovation, while 73% of employees do not understand or only partially understand it. This is even more evident in Hanoi.

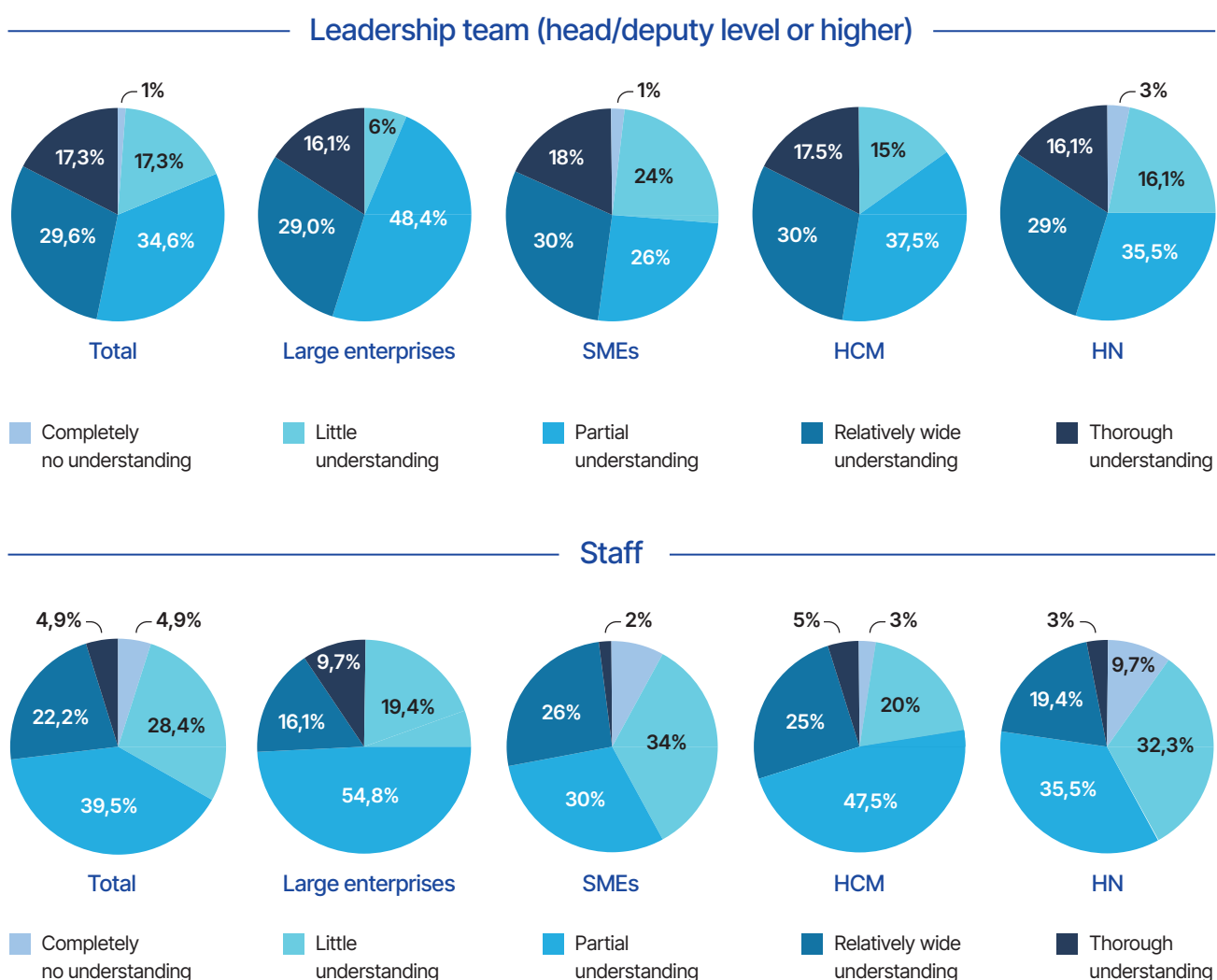


Figure 1: Level of understanding of the leadership team (head/deputy level or higher) and staff from Enterprises on Open Innovation

Small and medium enterprises (SMEs) are not really confident about their worth in the Open Innovation Ecosystem

Most businesses are very clear about the importance of their role in the Open Innovation Ecosystem. However, there are still many small and medium enterprises (SMEs) who rate their role as medium and low, and even more than 16% of large enterprises think they play only an average role. The lack of confidence is most evident in Ho Chi Minh City.

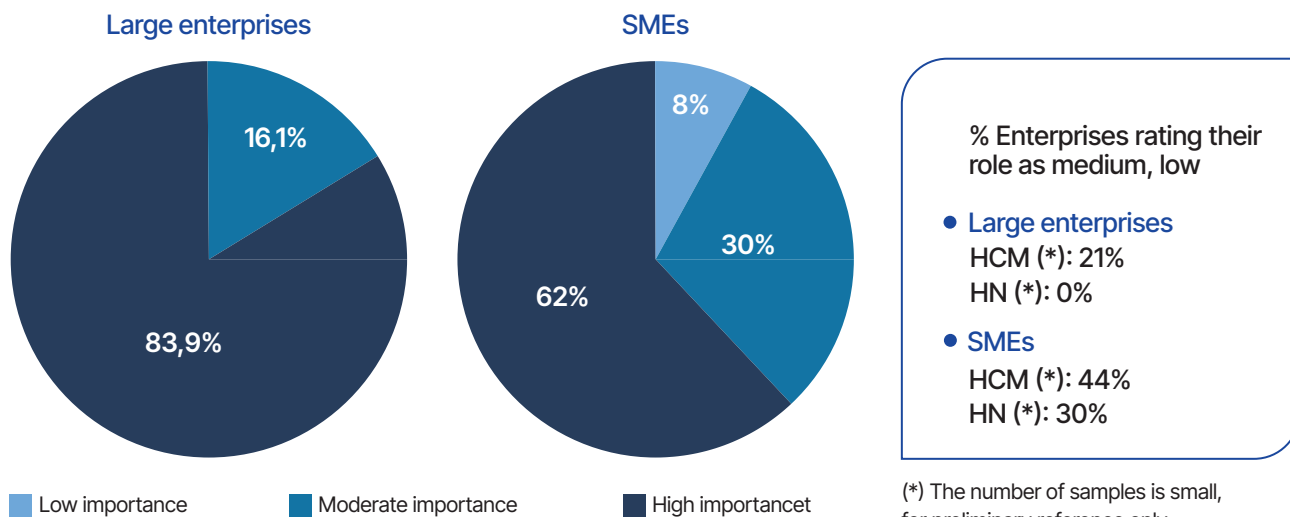


Figure 2: Importance of Large Enterprises and Small and Medium Enterprises (SMEs) to the Open Innovation Ecosystem

The benefits gained from being an active participant in the Open Innovation ecosystem are not really attractive enough for many small and medium enterprises (SMEs).

While large enterprises rate the benefits from being active in the Open Innovation Ecosystem as large (more than 80%), there are still quite a few small and medium enterprises (SMEs) that have not seen much benefit from active participation in the Ecosystem. Specifically, up to 36% of small and medium-sized enterprises (SMEs) think that they only get very little and some benefits, this is also more evident in Ho Chi Minh City (33%) than in Hanoi. (23%)

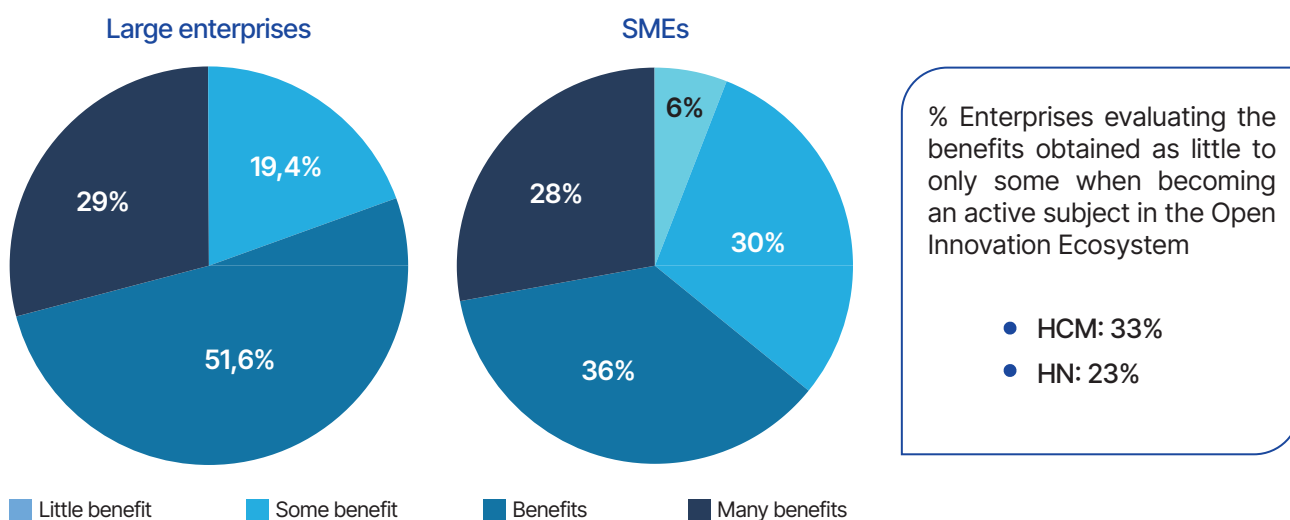


Figure 3: Level of benefits Enterprises get from being an active participant in the Open Innovation ecosystem

2. Preparation Stage for Joining the Open Innovation Ecosystem

Enterprises have begun getting prepared to participate in the Open Innovation Ecosystem, but it will need a more drastic and in-depth elements.

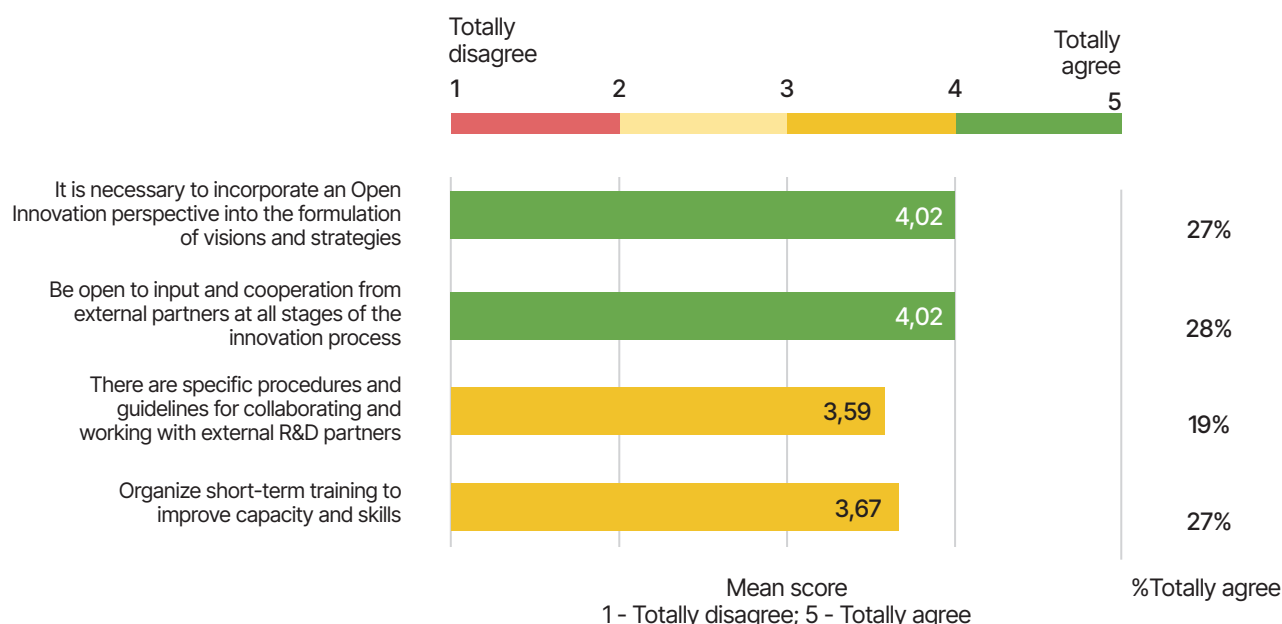


Figure 4: Evaluation of activities to prepare enterprises for participation in the Open Innovation Ecosystem



Figure 5: Evaluation of activities to prepare enterprises for participation in the Open Innovation Ecosystem

Although the rate of agreeing and totally agreeing on bringing Open Innovation into the vision and strategy of businesses accounts for a whole 81%, this is still not necessarily a must for businesses (just over 27% totally agree).

Enterprise management levels have also gradually opened up to opinions and contributions from outside. However, the rate of total openness reaching 28% is still quite a modest figure of which causes and barriers need deep understanding so that businesses can be encouraged to be more 'open' in terms of awareness and preparation. Businesses in Ho Chi Minh City also expressed more hesitation than Hanoi. Interestingly, small and medium-sized enterprises (SMEs) are more willing than large firms in this regard (84% versus 71%).

Of the total number of enterprises participating in the survey, 53% of enterprises have made a move in developing specific procedures & guidelines in cooperation and working with external R&D partners (e.g. rules, mechanisms, quality assessment standards, etc.). This is especially important for large enterprises and enterprises in Hanoi.

Besides, training is also shown to be of interest with 63% of enterprises have started to organize short-term training / send employees to short-term school to improve their capacity and skills to enhance innovation ability. This is a must-have activity of enterprises when they want to promote Innovation.

In fact, enterprises are still quite dependent on traditional innovation information and knowledge sources such as from the company itself and the feedback of customers and product users:

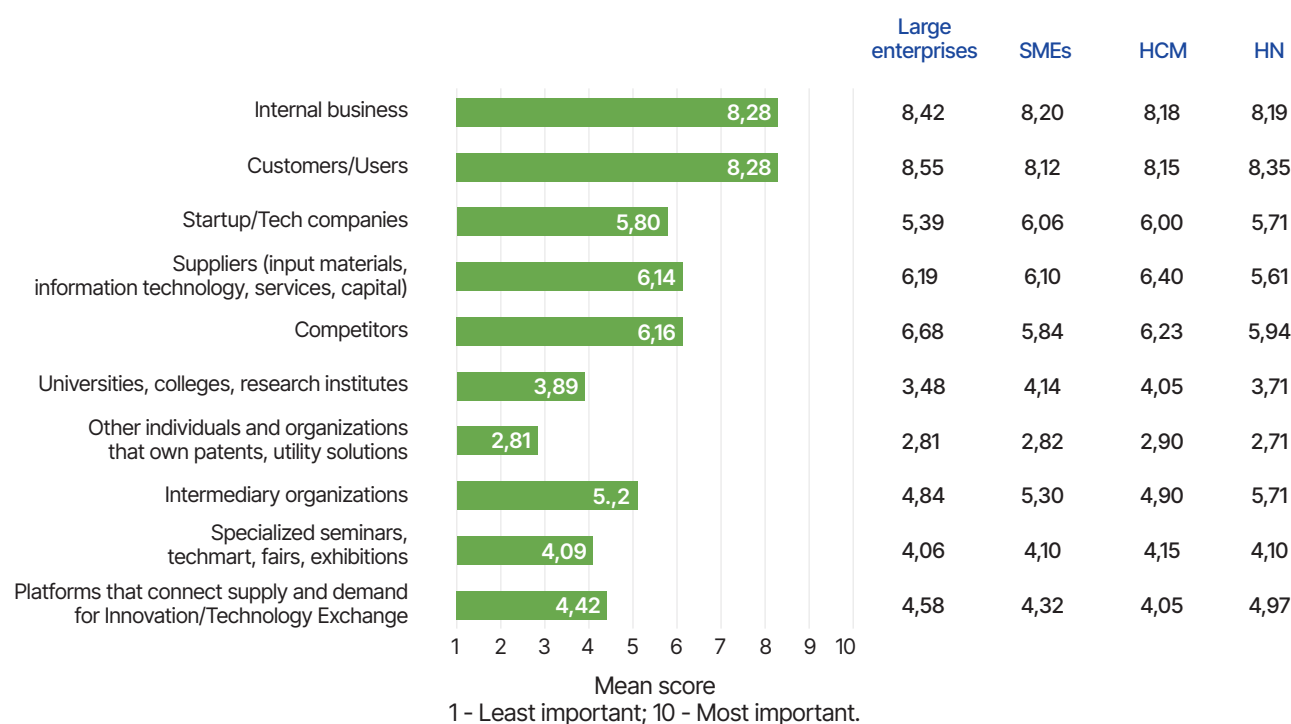


Figure 6: Importance of information and idea sources to Open Innovation activities of Enterprises

Accordingly, when surveyed about idea sources for Open Innovation activities in 2021, most businesses chose 2 answers: "Internal business" and "Customers/Users", with an average score of **8.28/10**. In contrast, the information coming from universities, research institutes, colleges and specialized seminars is still very limited.

In terms of facilities, most (more than 50%) have not yet invested in facilities for Open Innovation.

For Enterprises, there are 4 main types being used: Open Innovation Center, Open Innovation Incubator, Open Lab and Enterprise Challenge Introduction Platform.

4 main types of facilities

>50%

Enterprises have not yet invested in facilities for Open Innovation

1

Open Innovation Center

2

Open Innovation Incubator

3

Open Lab

4

Enterprise Challenge Introduction Platform

Large enterprises are more aware of and take action more in protecting intellectual property rights than small and medium-sized companies (SMEs).

Importance of Intellectual Property/Copyright Rights to Enterprise's Open Innovation

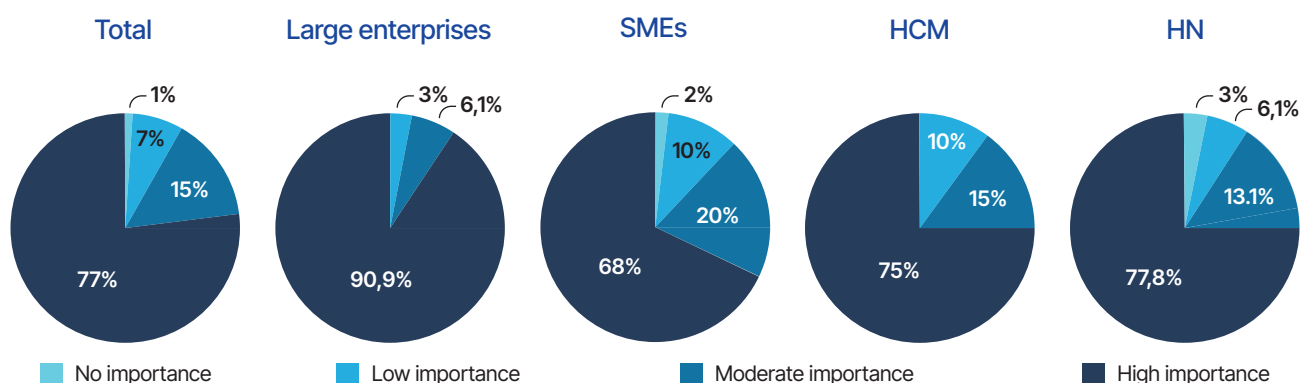


Figure 7: Importance of Intellectual Property/Copyright Rights to Enterprises Open Innovation

Does the enterprise have a policy/action to protect its Intellectual Property/Copyright Rights?

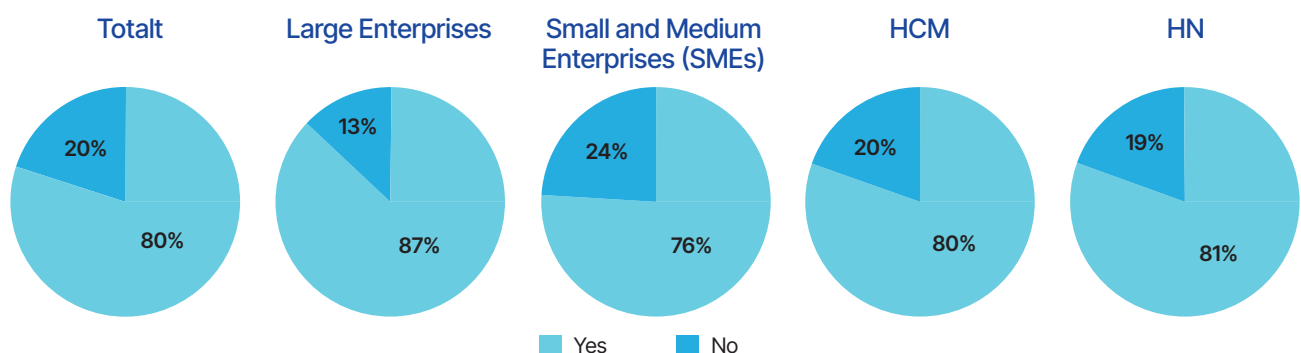


Figure 8: The level of enterprise's application of intellectual property/copyright protection policies/actions

ACTION STAGE IN THE OPEN INNOVATION ECOSYSTEM

Enterprises prioritize Open Innovation activities in the form of cooperation in the development of ideas and inventions. However, the cooperation with the outside is not so common in practice.

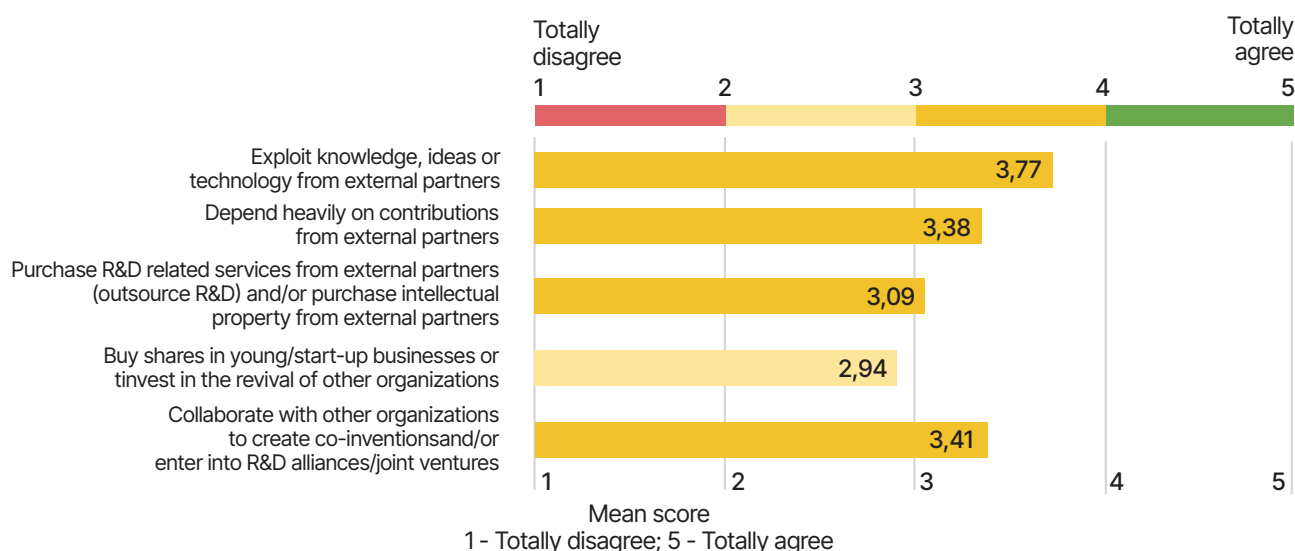


Figure 9: Status of projects/activities in association with Open Innovation of Enterprise

73% of enterprises surveyed said that they cooperate with other organizations to create co-inventions and/or participate in R&D alliances/joint ventures to cooperate in research and development of new products and services. The least preferred method of cooperation is the acquisition of shares of young / Startup businesses or investment in the revival of other organizations.

Marketing & Sales and Research & Development (R&D) are the areas that Enterprises most want to implement Open Innovation

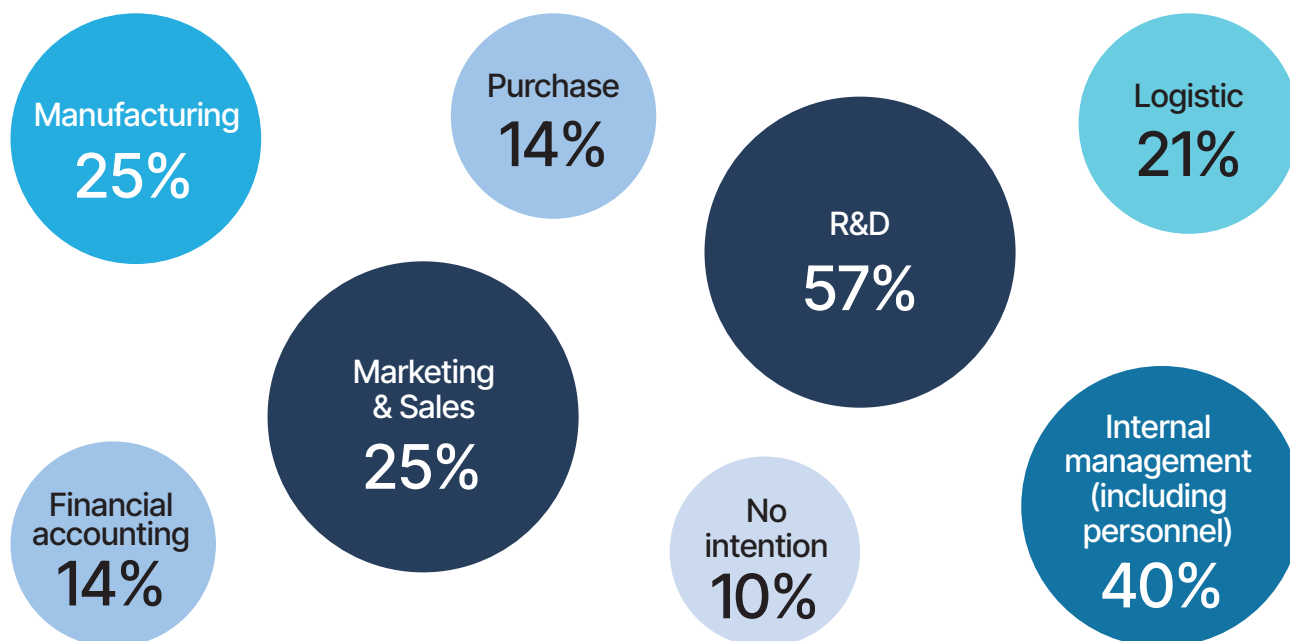


Figure 10: Map of areas of activity in which Enterprises implement Innovation Open Innovation

Businesses consider Customers as the most important object in Innovation activities

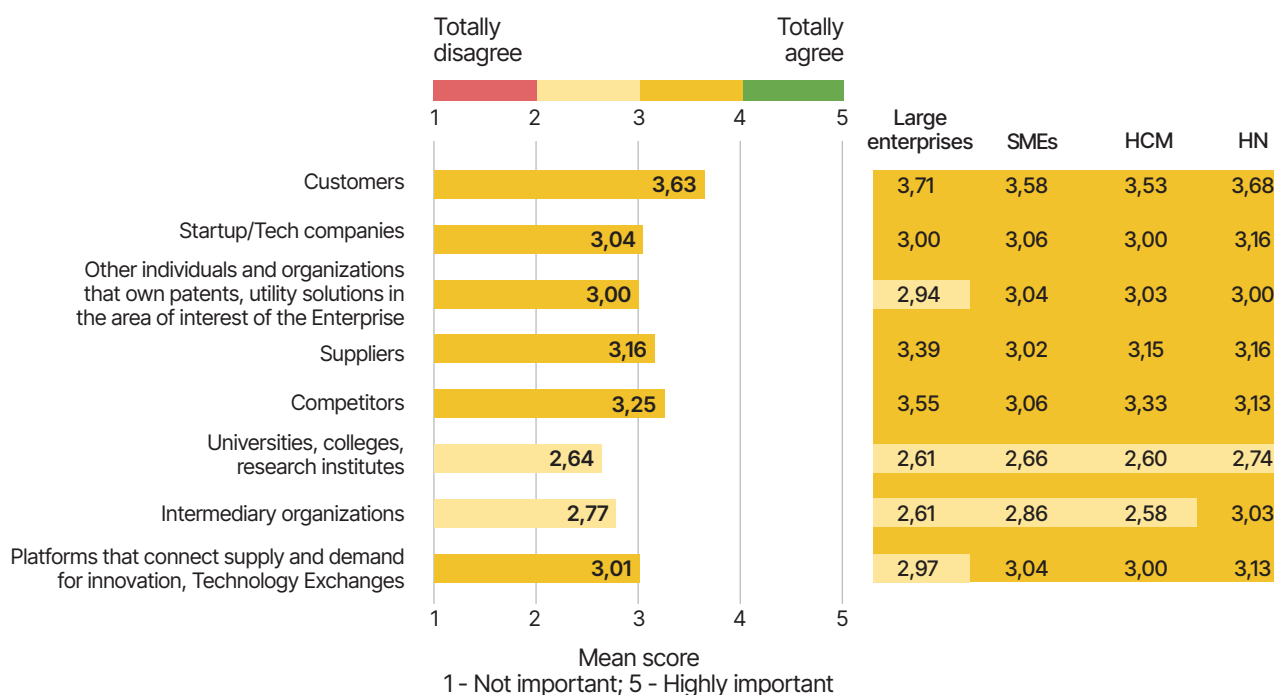


Figure 11: Importance of partner groups in Enterprise Open Innovation activities

Similar to information sources, businesses also prioritize customers when it comes to Open Innovation activities. In the coming time, the Universities/Institutes will also need to have more interactive activities with businesses to be able to further promote their role in Open Innovation activities of Enterprises.

The Startup

Awareness Stage of Open Innovation

The level of understanding about Open Innovation of Startup in Ho Chi Minh City reaches 100%

42% of Startup say they have a relatively wide and thorough understanding of Open Innovation. The percentage of people who have no or little understanding of Open Innovation comes mainly from Hanoi.

100% of Startup in Ho Chi Minh City claim to have awareness and understanding about Open Innovation, but most of them are skew towards partial understanding (47%) which means lacking deep knowledge so specialized training is required to gradually narrow this ratio, increasing the proportion of the group with relatively wide and thorough understanding.

In contrast to Ho Chi Minh City, Hanoi shows two polarities quite clearly. About 27% of Startup in Hanoi have little or no understanding of Open Innovation, but once they are aware of and know about Open Innovation, Startup will grow with depth, reflected in the rate of greater understanding and knowledge of Open Innovation, accounting for 46% higher than that of Ho Chi Minh City and the whole country.

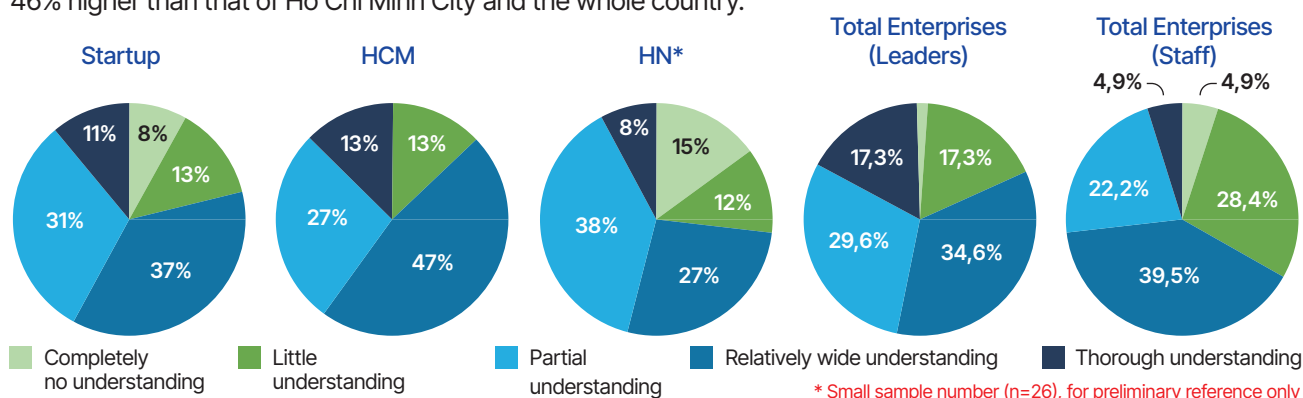


Figure 1: The level of understanding of the personnel at Startup about Open Innovation

Startup's most important role in the Open Innovation Ecosystem is the solution provider

94% of Startup consider themselves a solution provider for the Ecosystem. About 30% of Startup are both solution providers and enablers. Both HCMC and Hanoi have quite similar rates.

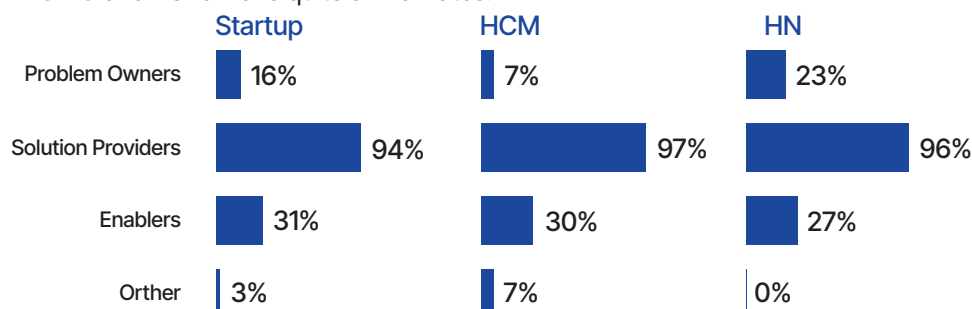


Figure 2: Startup's Role in the Entire Open Innovation Ecosystem

The level of optimism about the benefits of being active in the Open Innovation ecosystem of Startup is lower than that of Large Enterprises and SMEs

In general, actors in the Open Innovation Ecosystem receive certain benefits when actively participating in the ecosystem. 67% of Startup participating in the survey think that they get benefits and many benefits while nearly 33% feel that they do not receive too many benefits from being active in the Open Innovation Ecosystem. This can partly be explained by the fact that Startup do not fully understand Open Innovation, how the ecosystem works and how the actors of the ecosystem interact. This will require more effort for promotion and spreading information and knowledge.

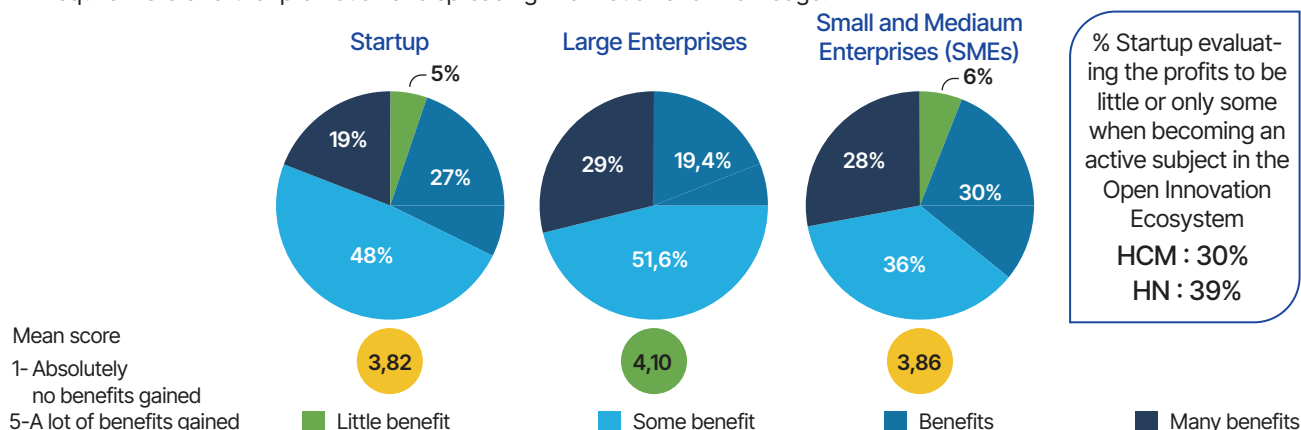


Figure 3: The level of benefits Startup get from being an active participant in the Open Innovation Ecosystem

Preparation Stage for joining the Open Innovation Ecosystem

Startup strategy for innovation activities in the coming time

77%

Prioritize looking for opportunities to link and cooperate with external partners

Most Startup said that they will prioritize finding cooperation opportunities with external partners to support internal resources and manpower in some stages of the innovation process. Meanwhile, only 23% of Startup surveyed said they would prioritize using internal resources in the company's upcoming strategy.

Customers/users (individuals, businesses) are considered by Startup as the most important source of support, promoting their company's Open Innovation activities

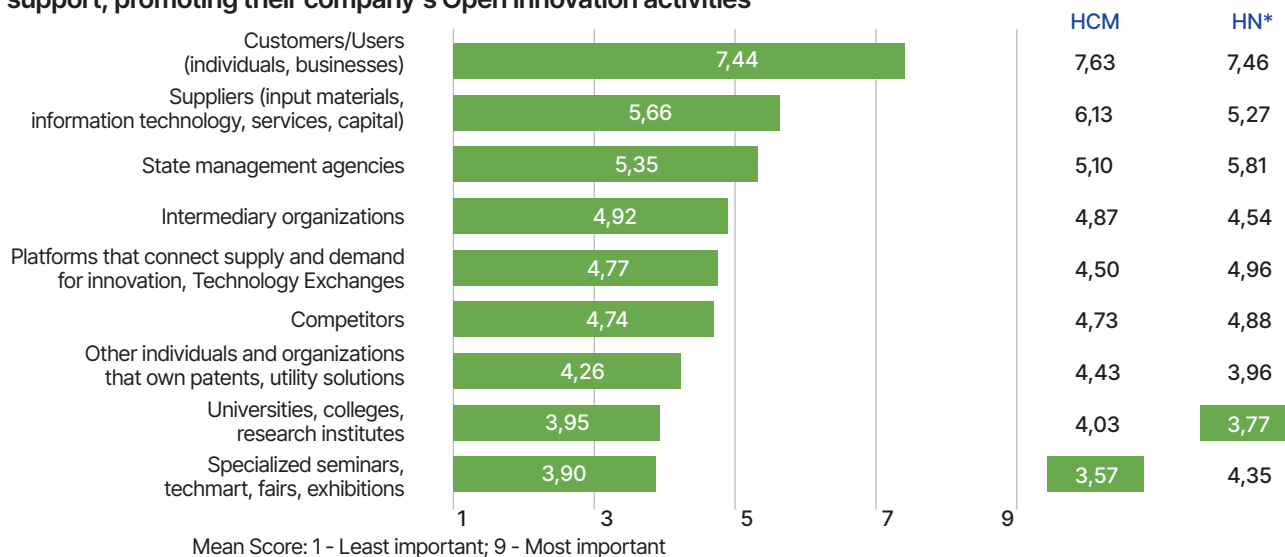


Figure 6: The importance of sources of support and promotion for Open Innovation

The majority of Startup surveyed said that customers/users (individuals, businesses) are the most important source of support, and specialized seminars, techmart, fairs and exhibitions have the least importance for their Open Innovation activities. However, there is a slight difference between Ho Chi Minh City and Hanoi. In Hanoi Startup rank universities, colleges, and research institutes as the least important source of support.

The three sources of support that Startup find most important and also highly expected are directly related to the market output for Startup's products/services and input for internal resource support effective connection channels will be needed to further promote the association and cooperation with suppliers and state management agencies in Open Innovation activities of Startup companies.

Startup have a better sense of and action to protect intellectual property rights than the actor Enterprises

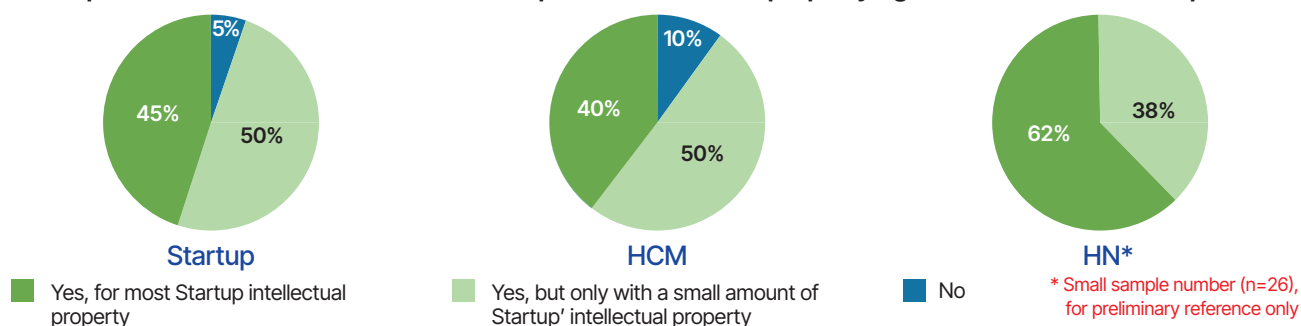


Figure 7: Startup's intellectual property/copyright protection policy/action

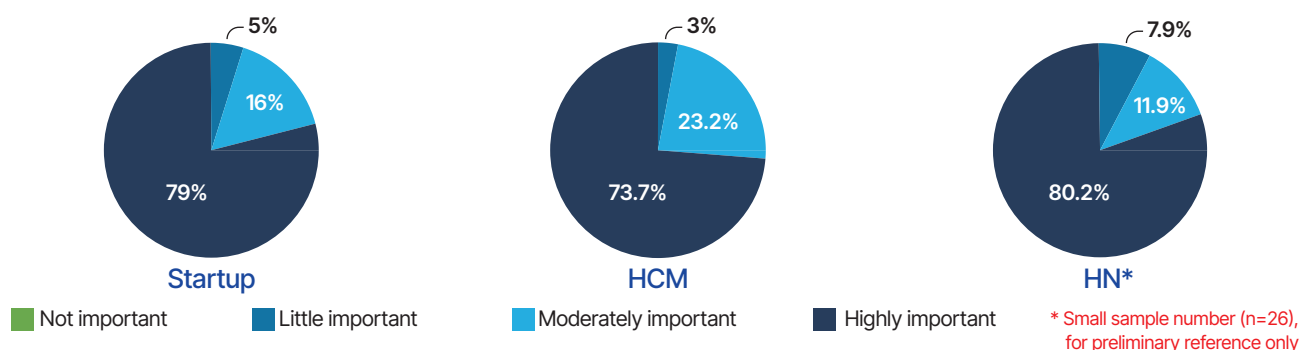


Figure 8: Importance of Intellectual Property/Copyright Rights to Startup's Open Innovation activities

Direct Action Stage in the Open Innovation Ecosystem

Most Startup have associated and cooperated with universities/research institutes, but they have few opportunities to approach the State Administration Agencies.

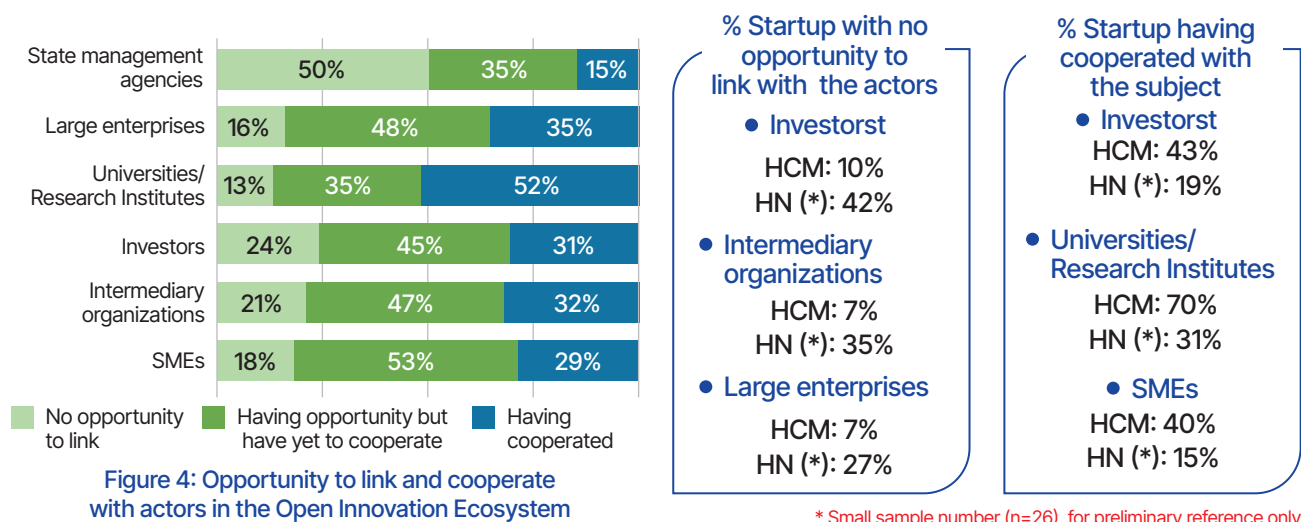


Figure 4: Opportunity to link and cooperate with actors in the Open Innovation Ecosystem

Accordingly, most Startup in the country have had the opportunity to link and cooperate with universities/research institutes (52% have cooperated, 35% have had the opportunity but have not cooperated). Among the actors of the Open Innovation Ecosystem, State Management Agencies are the subject that 50% of Startup claim to have the least opportunity to approach. It is clear that Startup and State Management Agencies do not share a strong connection. The reason may stem from the lack of a convenient and common connection channel for both parties, as well as Startup' understanding of how state agencies at all levels can support and cooperate with them. In addition, survey data shows that Startup in Ho Chi Minh City are more likely to link and cooperate with more entities than in Hanoi. In particular, the biggest difference between Ho Chi Minh City and Hanoi lies in the ability to cooperate with investors, universities/research institutes and SMEs.

Figure 5: The willingness of actors in the ecosystem in promoting/participating in association and cooperation with Startup companies

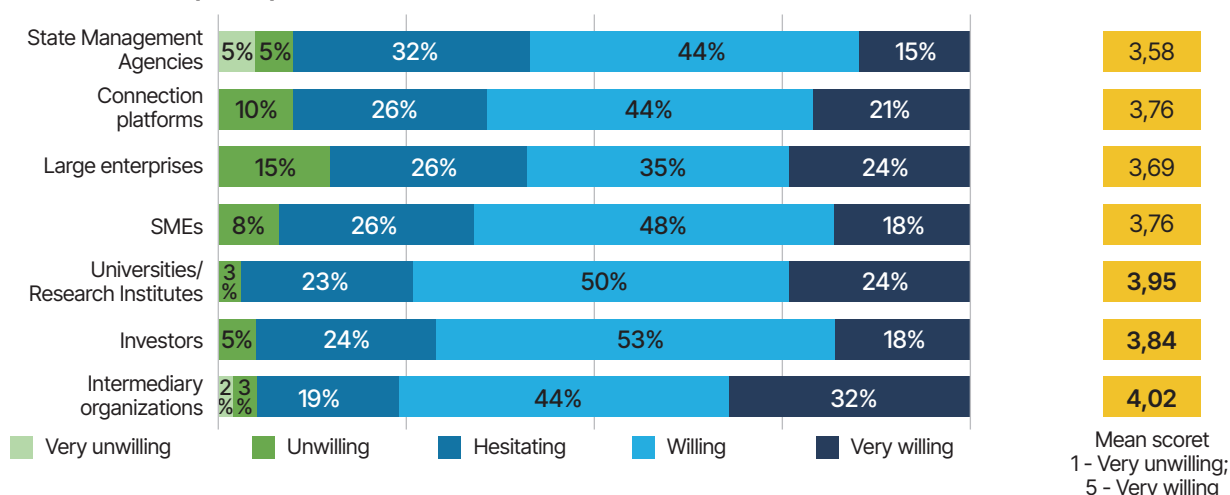


Figure 5: The willingness of actors in the ecosystem in promoting/participating in association and cooperation with Startup companies

It can be seen that Startup highly appreciate the willingness of the actors in promoting / participating in association and cooperation (more than 50% of Startup have a positive assessment of this level of willingness). Intermediaries, universities/research institutes, and investors are the actors with the highest degree of willingness to cooperate. Meanwhile, large enterprises and state management agencies have the lowest level of willingness to cooperate.

79% of Startup surveyed think intellectual property/copyright rights are of high importance to the company's Open Innovation. At the same time, 95% of Startup have policies and actions to protect their company's intellectual property. In Hanoi, 100% of Startup surveyed have had policies/actions to protect intellectual property rights, higher than in HCMC. From a practical perspective, Startup are mostly worried about security issues and protecting their solutions to keep a competitive edge against strong competitors.

Compared with Enterprise entities (large enterprises, SMEs), Startup have a higher level of awareness and action in protecting their company's intellectual property rights.

Most Startup cannot identify difficulties in establishing and enforcing IP protection

Specifically, legal and administrative procedures in registration and establishment of intellectual property protection are the biggest obstacle for 40% of Startup who participated in the survey, saying that they had difficulties in the process of registering and establishing intellectual property protection. Only 24% of Startup do not and totally do not encounter difficulties and problems in administrative and legal procedures.

When it comes to reporting violations or requesting enforcement of intellectual property rights, Startup rate the difficulty as average.

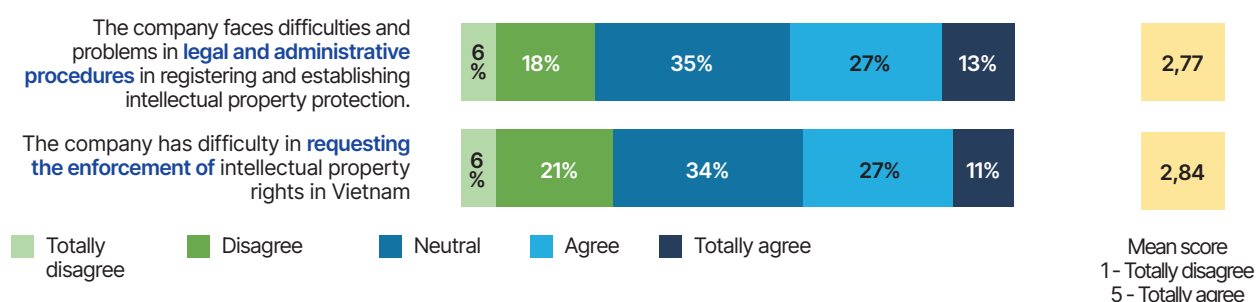


Figure 9: Evaluation of the establishment and enforcement of intellectual property protection at Startup companies

The support and promotion of Open Innovation from the actors play a very important role for Startup, so Vietnamese Startup wish to establish an initial relationship and cooperation with all actors in the Open Innovation Ecosystem, aiming to become a strategic partner in the next 1-3 years

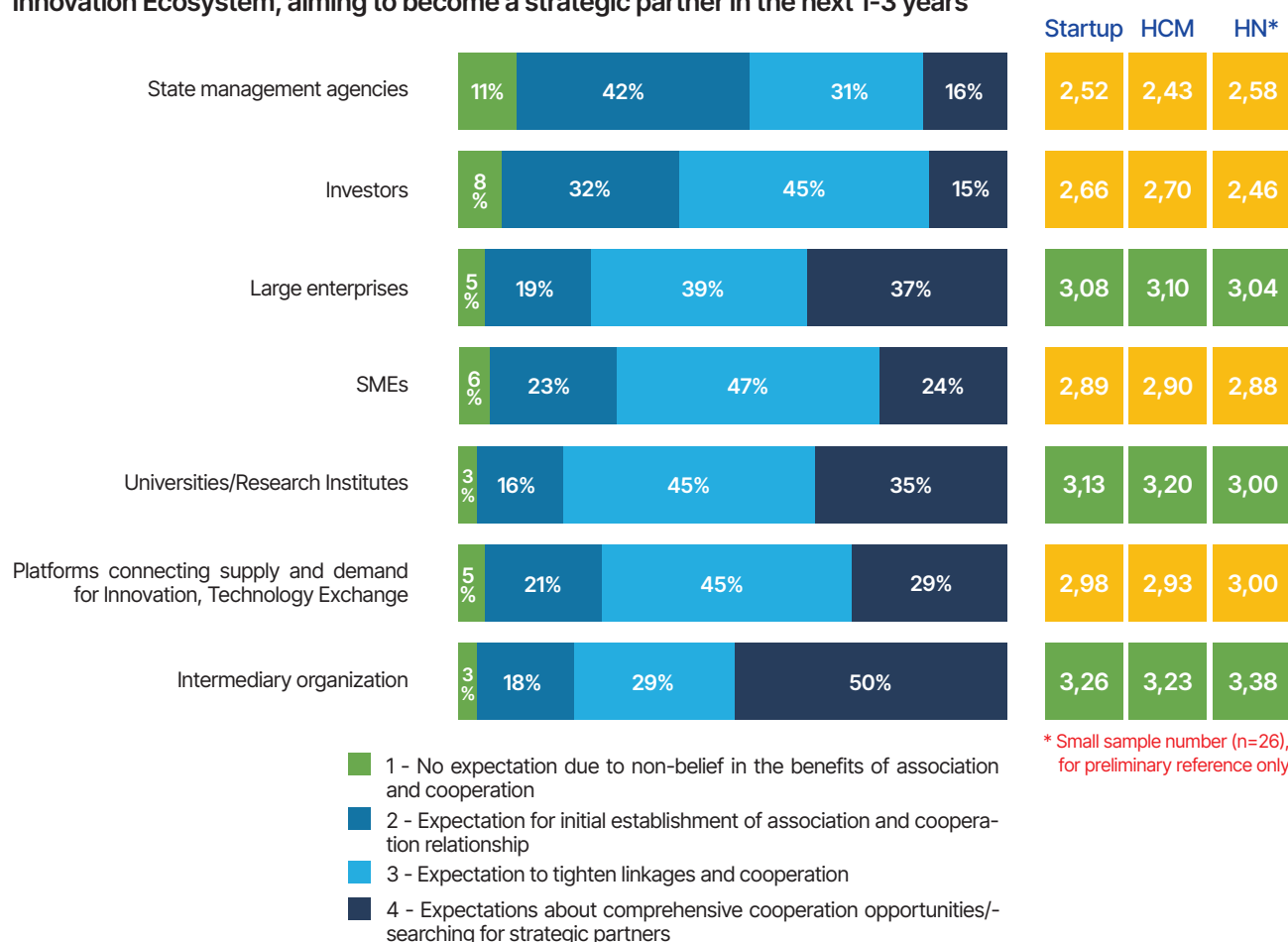


Figure 10: Expectations of linkage and cooperation relationship with actors in the Open Innovation Ecosystem in the next 1-3 years

In the next 1-3 years, Startup expect to be able to have links and cooperation with actors in the Innovation Ecosystem from the first step of establishing relationships to comprehensive cooperation opportunities. In particular, Startup expect to tighten the most priority strategic cooperation relationship with 3 entities including Intermediaries, Universities/Research Institutes and Large Enterprises.

50% of Startup participating in the survey expect to become a long-term strategic partner of **Intermediary Organizations**, while 97% want to establish a relationship and gradually move towards in-depth cooperation with Intermediary Organizations.

For the group of **Enterprises, SMEs, Universities/Research Institutes** and **Innovation Connection Platforms**, Startup have a lot of expectations on tightening existing relationships, creating a solid foundation and even developing relationships to seek opportunities for comprehensive cooperation, becoming strategic partners of each other.

State management agencies and **Investors** are two actors that Startup consider difficult to access, so most of them expect opportunities for establishment and tightening relationships and cooperation. Expectation rate of comprehensive cooperation opportunities / strategic partners is the lowest compared to other actors.

Startup expect help from the State management agencies in many aspects with the most important role of "patron" in innovation activities when they can provide support in various forms, especially in tax incentives.

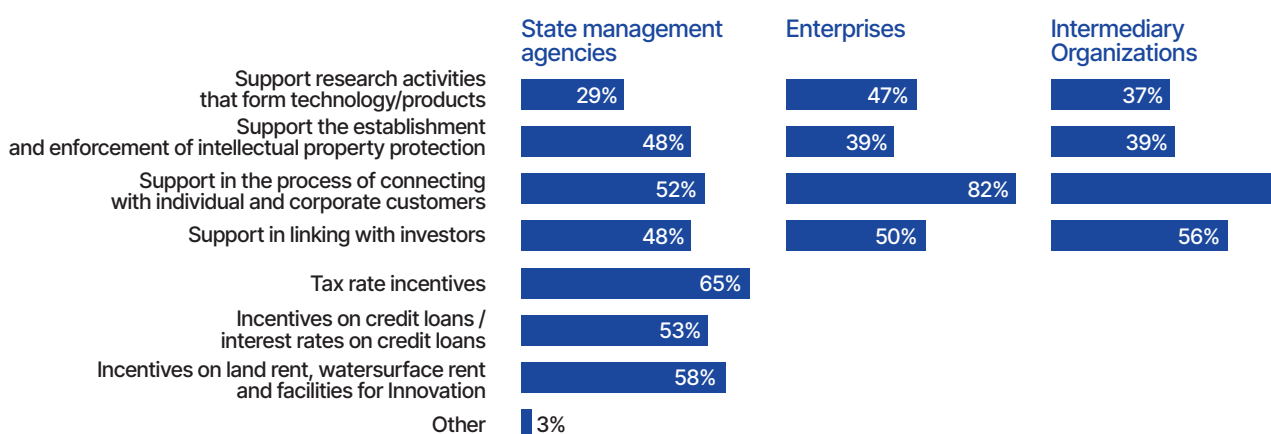


Figure 11: Startup' expectations about forms of support from the State Management Agencies, Enterprises and Intermediaries in the Open Innovation Ecosystem

Open Innovation Results

Vietnamese Startup are now making great efforts to introduce new solutions in the Vietnamese market. The question is how to have more Vietnamese solutions to compete internationally?

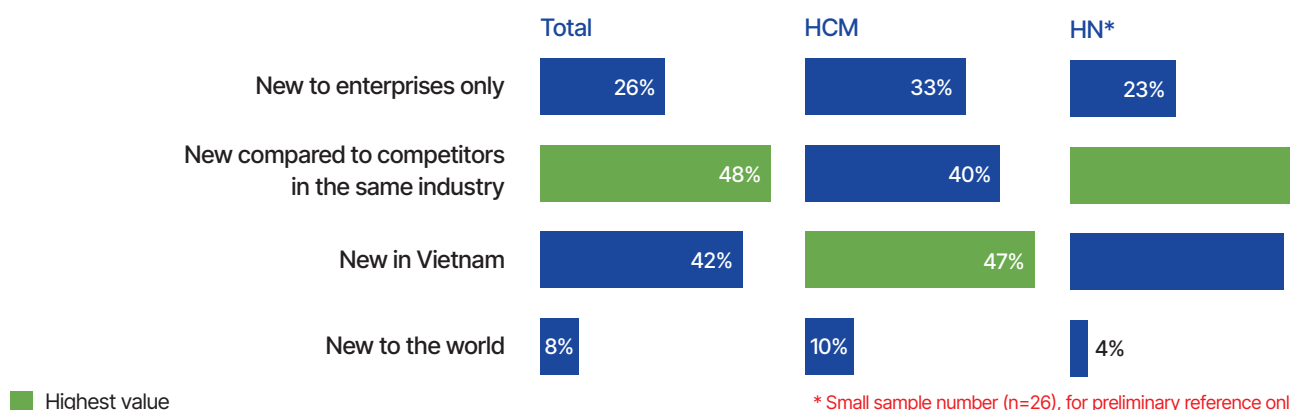


Figure 12: Measure of novelty and breakthrough in Startup' Open Innovation results

92% of Startup participating in the survey said that their solutions/services are new and breakthrough. It can be seen that Startup have a clear orientation in improving and upgrading the quality of their Open Innovation output. The results of Open Innovation also began to have spotlights, 10% of Startup interviewed in Ho Chi Minh City are confident that their solution is new to the international market.

RECOMMENDATIONS

The Open Innovation Ecosystem is a socio-economic ecosystem where each place, each locality, each region has the properties of its constituent components and the degree of responsibility between the components is different. Each locality needs to discover which components need to be focused and promoted for the ecosystem to take shape and become sustainable. However, in order to create a foundation for the development of an Open Innovation Ecosystem with specific characteristics for each locality and a national Open Innovation Ecosystem, some recommendations are given as follows:

Recommendation 1: To form and promote the Open Innovation ecosystem, it must start from the State Management Agencies.

- a. State management agency staff from the central to the provinces need to **be trained and provided with the most comprehensive and up-to-date innovation knowledge and skills** to be able to perform their roles well. Every innovation-related manager must be an expert on innovation and Open Innovation to be able to propose and develop appropriate policies and best support other actors in the ecosystem. The fact that enterprises and Startup are going faster than state management agencies in awareness of innovation and Open Innovation is a drawback that needs to be recognized and remedied immediately.
- b. The State management agencies need to be clearer and stronger in the role of the **problem owner**, not just a policy issuer and enabler. Only then will corporations and businesses follow their footsteps and create opportunities for Startup and technology companies, and institutes/schools.
- c. The governments of the provinces themselves must have **a strategy to promote innovation and build an Open Innovation Ecosystem of their provinces**. The ecosystem model cannot be duplicated mechanically but must be built by the localities themselves, depending on the goals, current situation and local resources to have the most suitable model.

Recommendation 2: Accelerate the formulation and completion of the Policy and Staff training

- a. It is necessary to accelerate the development of **policies related to Innovation and Open Innovation**, promoting creation and experimentation of new things, especially in areas where Vietnam has a competitive advantage such as Fintech, Blockchain, etc. This is an opportunity for Vietnam to leave its marks on the world map of innovative Startup as well as retain quality Startup in the home market.
- b. If the interest and participation of parties seeking innovative solutions is a necessary condition, then the quality of solutions of innovation providers (namely Startup and technology companies) is a sufficient condition for the ecosystem to develop sustainably. Startup support policies in the past time have played a very good role in creating awareness, stirring up the innovative Startup ecosystem, and promoting the quantitative development of the ecosystem. It is time for **policies to go further, deeper and more realistic to create the essence of the Startup ecosystem**. We will need more solutions with high technology content, breakthrough nature and towards sustainable development for Vietnam.
- c. State management agencies at the central and local levels must complete and develop appropriate policies, such as **policies to support and promote enterprises to participate in technology ordering, or policies to prioritize profit sharing for scientists to motivate them to research applied products**, etc. Because if the Government lacks interest and does not accompany and intervene with drastic measures, the local Open Innovation Ecosystems and the National Open Innovation Ecosystem will require a lot of resources and time to be formed from the ground up.

Recommendation 3: Raise awareness for all stakeholders about Open Innovation and its benefits

- a. Training and communication are essential to shaping the correct understanding. The Open Innovation ecosystem in each locality in particular and the whole country in general needs to be understood more broadly. Innovation activities not only take place within the internal scope of Startup, SMEs, large enterprises/groups with one-way support from outside from other entities such as investors, intermediary organizations or state management agencies, etc. but rather they are a handshake between these actors, and at the same time calling for the participation of the whole society, the policy sector, schools, institutes, etc. but with new or more diverse roles such as **problem owner, solution provider and enablers**. Thus, in that ecosystem, it is not only the successful Startup or successful innovation story of each individual, but also the fact that each individual actively presents its own and common problems for all actors in the ecosystem to find suitable solutions, as well as combines and optimizes resources to solve major local and national problems.
- b. The spirit of Open Innovation needs to be formed and exert a great influence on each leader and employee in individual organizations of the ecosystem. **The culture of openness in innovation** will serve as a springboard for the formation of strategies and organizational mechanisms to stimulate individuals to be ready to participate in the Open Innovation ecosystem at a later stage.

Awareness of Open Innovation has formed and spread well in the community and network of Startup and intermediary organizations in some regions and localities, but awareness is not uniform among actors. Local and national Open Innovation Ecosystems emphasize the interaction and linkage between actors. **Only when they interact with each other can the ecosystem begin to function.** If only the most dynamic actor fully grasp the spirit of Open Innovation, but other actors and localities do not link with it, it will not be able to solve its own local problems or the general problems of the country.

Raising awareness about Open Innovation with corporations, enterprises (of all sizes) and local state management agencies is very important so that they can take responsibility as well as for understand that Open Innovation is a way to help themselves rather than just helping Startup to increase competitiveness factors and develop in a sustainable way, creating linkages and value chains for the local economy.

Recommendation 4: Change the approach to building ecosystems

a. **Forming regional and borderless links for the Open Innovation ecosystem**

In many localities, the components of the ecosystem are still incomplete, but even some localities which have fully formed the actors of the Open Innovation ecosystem, the links and cooperation in the ecosystem are still very fragile and weak in terms of operation. If you try to frame the development of an Open Innovation ecosystem within that locality, it will be completely ineffective and wasteful in terms of investment. Ecosystem strategy and operation must be considered in a broader way, for example along regional and even borderless linkages (inter-regional, inter-country).

b. **Building an Omnichannel interactive ecosystem.** To be able to promote connectivity and interaction in an always-on and on-demand manner between actors in the Open Innovation ecosystem, it is necessary to digitize the ecosystem more through the development of direct interaction channels, especially digital platforms besides physical channels such as Innovation hub, etc.

c. **Increasing the power of intermediary organizations.** Currently, the number of intermediary organizations in Vietnam and especially some provinces is still very small, while we need more in terms of quality as well as mechanisms and policies for intermediaries. Most of today's intermediaries are small and medium sized and they don't have the resources to carry out this community mission in a sustainable way. There should be attractive enough public-private partnership and support programs so that these organizations can perform their functions well and at the same time form intermediaries with larger scale and larger sphere of influence.

Part 6

INNOVATION TRENDS IN 5 MAJOR FIELDS



BambuUP
Connect to Innovate

1

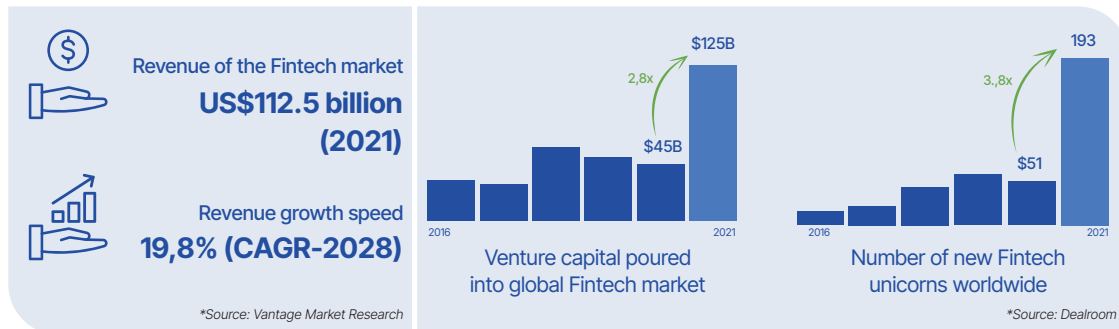
Fintech & Insurtech

Fintech

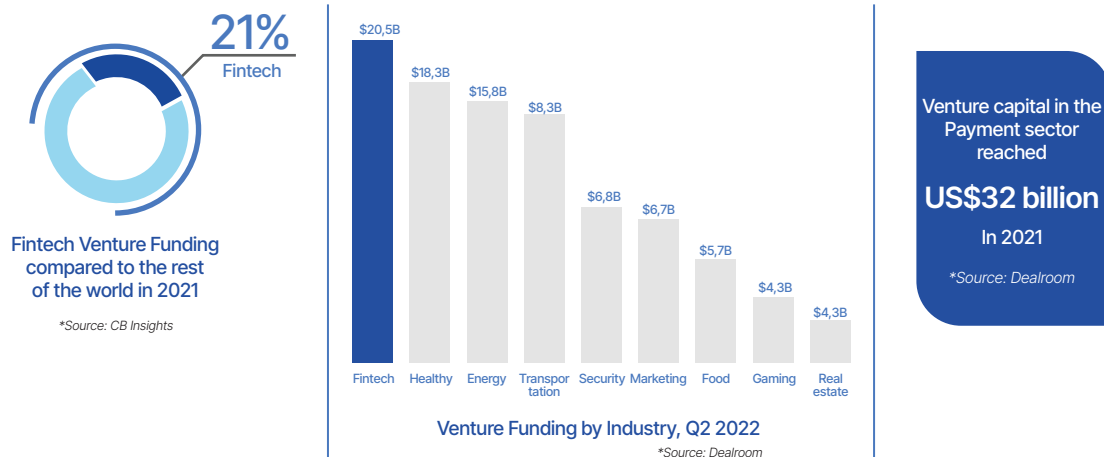
OVERVIEW OF FINTECH MARKET

1 THE POTENTIAL OF FINTECH MARKET

Despite the impact of Covid-19 pandemic, 2021 was still a thriving year for financial technology (Fintech) industry. Venture capital firms poured US\$125 billion into Fintech companies - the highest value ever and grew by 2.8 times compared to that in 2020. In addition, the number of unicorn companies increased dramatically from 51 unicorns (in 2020) to 193 unicorns (in 2021).



Fintech continued to lead the way in attracting venture capital in 2021 and in the second quarter of 2022, accounting for 21% of total global venture funding. In particular, the Payment sector is of the greatest interest to investors.



2 OVERVIEW OF VIETNAMESE FINTECH MARKET

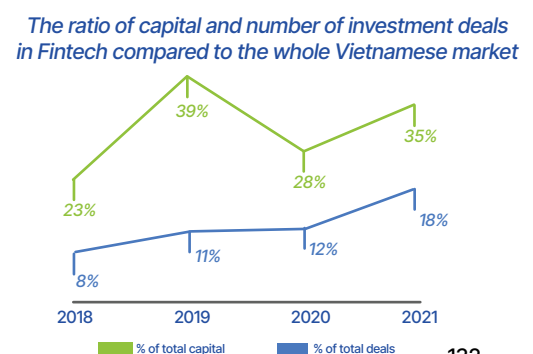
Vietnam possesses certain advantages in terms of infrastructure for digital transformation. Factors such as high rate of smartphone ownership, 70% of the population using the internet, 73% of which using social networks, low internet prices and fast mobile internet speeds have fueled the growth of the digital payment sector, which induced the development of other financial services such as lending, investment and insurance. The size of Vietnam's fintech industry has increased significantly from 39 companies in 2015, to 188 companies in September 2021 (Tracxn, United Overseas Bank - UOB, 2021). According to Robocash Group, the Vietnamese Fintech market could reach a value of up to US\$18 billion by 2024.

With the development potential of Fintech in Vietnam, investors continued to pour more capital into Startup in 2021 even though the Vietnamese economy, in general, has been significantly affected by the Covid-19 pandemic. In particular, deals related to Core Payments and Lending - Consumer received the most attention.

Capital invested into Fintech in Vietnam (million USD)

	2019	2020	2021
Core payments	301	103	455
Lending - Consumer	14	19	15
BaaS	0	30	-
Wealth Management & Capital Markets	3	1	18
Insurance	-	19	-

*Source: DO Ventures



*Source: Do Ventures

Government support policy

The Government and the Prime Minister have issued many support programs and schemes to create a favorable environment for the development of the Fintech market.

- Decision No. 1726/QĐ-TTg dated September 5, 2016 of the Prime Minister approved The Scheme On Increase Of Accessibility To Banking Services For The Economy
- Decision No. 1255/QĐ-TTg dated August 21, 2017 of the Prime Minister approving The Scheme Of Completion Of The Legal Framework On Management Of Virtual Assets, Digital Currencies And Virtual Currencies.
- Decree No. 165/2018/ND-CP dated December 24, 2018 of the Government on E-Transactions In Financial Operations.
- Decision No. 316/QĐ-TTg dated March 9, 2021 of the Prime Minister approving Pilot Implementation Of Telecommunication Accounts For Payment Of Low Value Commodities And Services. In November 2021, the State Bank of Vietnam (SBV) officially granted a pilot license for Mobile - Money.
- Resolution No. 100/NQ-CP dated September 6, 2021 of the Government on The Request For Development Of Decree On Regulatory Sandbox Of Financial Technology (Fintech) Operation In Banking Sector.
- Decision No. 1813/QĐ-TTg dated October 28, 2021 of the Prime Minister approved The Scheme For Development Of Non-Cash Payment In Vietnam For The Period 2021 - 2025.
- In May 2020, the Fintech Steering Committee of the State Bank of Vietnam submitted to the Prime Minister a Proposal for a Regulatory Sandbox for Fintech activities in the banking sector in order to improve the Fintech ecosystem and create favorable conditions for the implementation of new technology and promote the cooperation between Fintech companies and the banking system.

Challenges and barriers

Besides the advantages from the market potential and the support and interest of state agencies, the Fintech market in Vietnam is still facing many challenges and difficulties:

1

Unclear and incomplete legal framework

The legal mechanism is incomplete and unclear about the nature and standards of products/services and Fintech companies' operating model. Besides, there is no coordination mechanism between ministries and branches in the management of Fintech activities. The process of updating, amending and supplementing legal policies is still slow compared to the relatively fast development of technology.

2

Unfinished infrastructure

The official large databases such as population databases, national identity databases are updated and shared. This may affect the control and orientation of the management agencies towards this field.

3

Lack of high-quality human resources

There is a scarcity of high-quality human resources who have expertise in finance and banking, as well as skills in information technology and foreign languages. Therefore, programming applications for Fintech products and services can face many obstacles.

Observations from experts on opportunities and challenges of Vietnamese Fintech market:

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1. The challenge of the legal framework: For now, state management agencies have made positive strides in the roadmap to publish legal documents on the management of Fintech operations. However, the regulatory mechanisms are still not clear enough, making Fintech companies very cautious in product development as well as scale-up to avoid encountering legal problems.
2. Challenges of human resources: the shortage of skilled human resources who are able to meet the requirements of new technology trends is still a major headache for pioneering Fintech companies when they want to promote develop quality products.
3. Other challenges in terms of capital (product development, market), cooperation (openness) of banks and acceptance of users: that was the problem of the past years but now it is being very well improved, which is a very good sign.

MR NAM NGUYEN - Country Manager - Paretix

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Financial technology services are built to reach middle- and low-income customers, accounting for about 70 percent of Vietnam's population. This is a large market, with a high demand for microfinance services which has not been fully met. Although the regulatory framework is currently focused only on the payment sector, the soon-to-be-publicized sandbox model will be the premise for new services to develop not only in the payment sector but also investment, wealth management, personal finance, savings, remittance, credit assessment, insurance... sectors.

MR NGUYEN BA DIEP - CEO - Founder - Momo

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Vietnam has the third largest population in Southeast Asia and is the second in the Top 10 Unbanked Nations in the world. Inadequate access to financial services has made Vietnam one of the most attractive markets in the region for Fintech companies. Along with the golden population structure, Vietnam also allow to investors become optimistic about the potential for Fintech development and continue to accelerate its penetration into this market, even without a clear guiding legal framework.

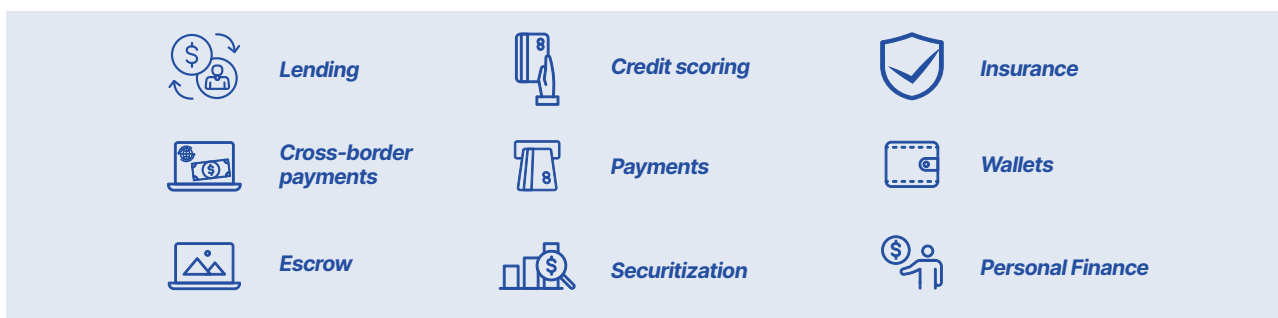
MS. LAM NGUYEN NGOC DUNG - Former Country Manager - FinVolution Group

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1 OUTSTANDING ON-GOING TRENDS IN THE INDUSTRY

1. Embedded finance continues to shine

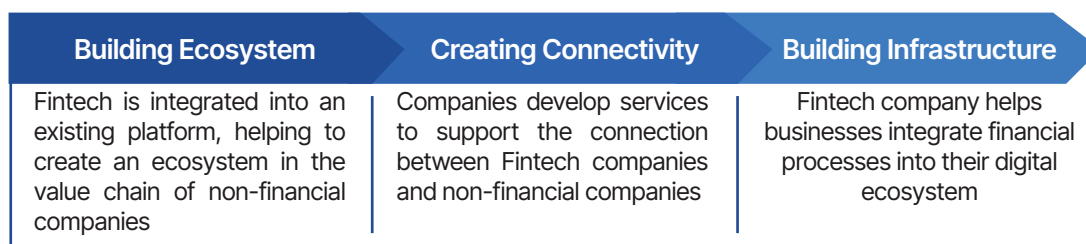
Currently, more than 70% of consumers in Southeast Asia do not use banking and financial services. This opens up a fertile ground for Embedded Financial services, which are integrated in the products and services of a non-financial organization, making it easy for users to choose payment methods when online shopping and get access to many different services such as insurance, shopping, airline tickets, etc.



Some of Embedded Finance services

*(Source: Tech In Asia)

In general, Fintech companies around the world participate in the financial value chain in three main stages: Building Ecosystem, Creating Connectivity, and Building Infrastructure. Therefore, the opportunity to participate in the Embedded Finance market is wide open and diverse in many different fields from health, education, to delivery services.



*Source: Tech in Asia



1. The rise of the trend of cooperation:

- Cooperation between financial and non-financial institutions
- Cooperation between banks and Fintech

In particular, Fintech plays the role of a link in terms of technology solutions as well as business models to optimize the available resources of each party, bring better value to customers and reduce costs for the parties.

2. Embedded finance for end users:

Financial services (provided by financial institutions) will be "embedded" in the existing ecosystem of products and services of non-financial institutions. This is to deliver personalized financial services to users in the non-financial institution ecosystem at the right time, on demand, and at the right value.

3. Embedded fintech for banks:

This solution is the outcome of a combination of several trending technologies (block-chain, openAPI, cybersecurity, AI, ...) that Fintech companies will be the main players to deploy with the backing and active support from pioneering banks (digital banks) as well as companies providing services with a large and quality customer base (retail distributors, e-commerce, utility services, accountants, etc.)

MR NAM NGUYỄN - Country Manager - Paretix



2. The race to become “Super Apps” in Asia

According to Microsoft, super apps are thriving and becoming a “powerful ground” for innovation in Asia. Super apps allow users to access many different services in a diverse ecosystem of a single platform.

One of the reasons leading to the trend of converting into super-apps of Fintech companies is the goal of finding new customers and increasing synergistic value for existing customers. In addition, the orientation to become a super app also helps companies diversify their digital marketing platforms, avoiding being heavily dependent on Facebook or Google and improve the customer experience and meet the increasing needs of consumers at the same time.

Grab is a prime example of a super app that provides services such as delivery, food delivery, motorbike taxi booking, promotion hunting, e-wallets, and other financial services. In addition, there are other famous super apps in Asia such as WeChat, Alipay - China, Paytm - India, GoTo - Indonesia, Kakao - Korea and Zalo - Vietnam. Among the trend, MoMo - the Vietnamese technology unicorn, also harbors the ambition to become a super app with the Mini App strategy. Mini App operates under the app-in-app mechanism, allowing businesses and business owners to integrate their applications into the MoMo platform.

Horizontal super apps

Companies develop an ecosystem that provides a wide range of services, across multiple sectors



Vertical super app

Financial super apps focus on integrating multiple financial services in one app



It's obvious that applications are becoming unpredictable competitors of traditional banks. With the advantage of a huge data warehouse of users, super applications can analyze and understand customer insights, thereby develop financial products tailored to their individualized needs. In this race, banks are expected to follow the general trend.

3. Buy Now, Pay Later – BNPL emerged as a major trend

Buy First, Pay Later (BNPL), which is a part of embedded finance, is on track to become a major trend in 2022. According to Forbes, the BNPL market could reach US\$680 billion in transaction value by 2025. The driving force for development comes from the popularity of BNPL services and financial demand under the impact of the global pandemic. Venture capital into Startup increased 2.7 times, from US\$1.9 billion in 2020 to US\$5.2 billion in 2021 (according to Dealroom), showing the development potential of this market.

In Vietnam, payment by BNPL is thriving. With low credit card penetration (4.7%, according to World Bank, 2020), and the explosion of e-commerce and the digital economy, BNPL will become popular to Vietnamese consumers. The revenue of BNPL companies mainly comes from loan interest, partner fees, virtual credit card fees, selling loans and servicing fees to another investor, commission on each successful transaction upon linking with a bank or a financial institution to give out BNPL loans.

Growth Rate in Vietnam
(CAGR)

45,2%

2022-2028

*Source: Research and Markets

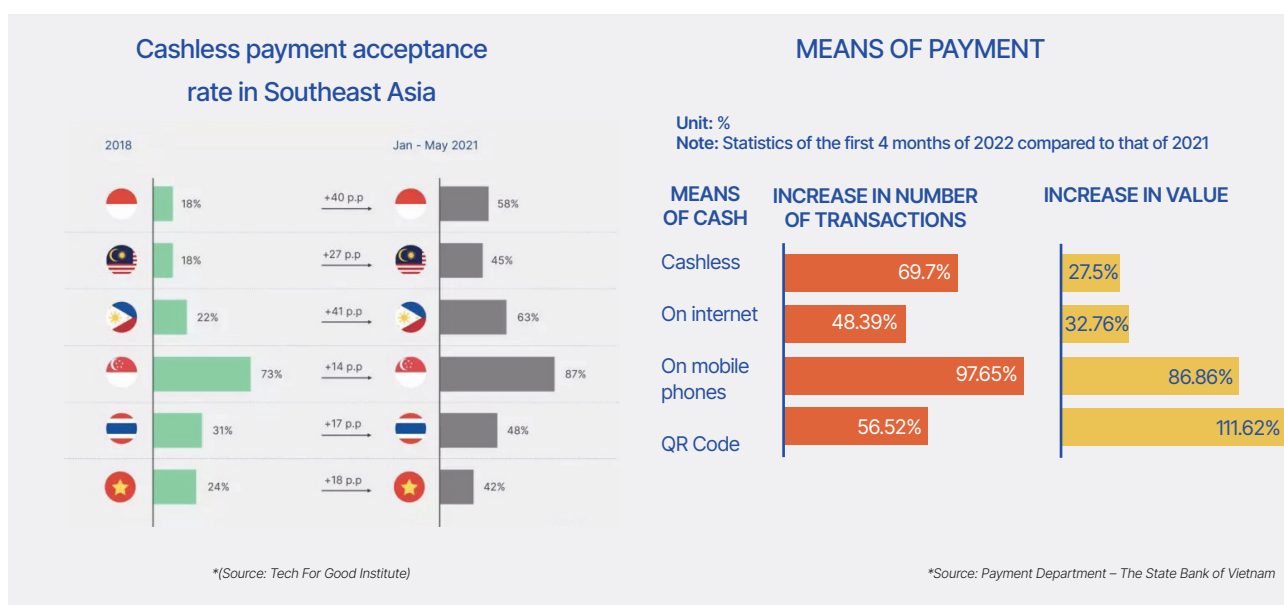
4. Fintech's focus shifts to the financial investment market

According to a survey by Techcombank, the majority of investors enter the financial market to increase their assets, prepare for retirement and provide for their children. In particular, Vietnamese young people, especially Gen Z, are increasingly flocking to asset management platforms with low investment capital instead of putting savings in banks or investing in real estate.

Catching up with this wave, many Fintech companies in the investment and asset management segments flourished, including some names such as Finhay, Infina, StockBook, Fmarket, etc. According to World Bank, Millennials and Gen Z will be the potential customers of this segment, because they have early access to technology and can easily obtain information about the financial market through these Fintech platforms.

5. Cashless payment - E-wallet - still receives positive signals

Cashless payments are becoming more and more popular in Southeast Asia and Vietnam. According to the Vietnam Banks Association (VNBA), cash withdrawal transactions via ATM have plummeted from 26% in 2020 to 12%. Meanwhile, non-cash transactions increased by 27.5% in value in the first 4 months of 2022 compared to the same period in 2021.



Although the e-wallet market in Vietnam is fiercely competitive with 90% market share occupied by MoMo, Moca, ZaloPay (according to PwC), this is still a potential market attracting Fintech companies with the strategy of expanding the ecosystem, developing into a super application to expand the individual customer base and increase the user experience. The attractive utilities for e-wallet users include free money transfer, cashback benefits, or accumulating bonus points and discount vouchers. In addition, e-wallets also tend to expand the range of users to business customers (B2B) and digitize the supply chain (according to Nhịp Cầu Đầu Tư Magazine).

Prime examples are MoMo providing digital transformation solutions for small and micro businesses in Vietnam, or Payoo not only providing smart payment solutions for businesses, but also providing additional support services such as delivery, issuing online discount codes, etc.



With the trend of cooperation and symbiosis between fintech and financial companies, banks and financial technology companies will get the necessary and sufficient conditions to sustainably thrive in the near future."

MR NGUYEN BA DIEP - Co-founder - Momo



Compared to Indonesia and other Southeast Asian countries such as the Philippines, Singapore and Malaysia, Vietnam is considered a latecomer in the field of digital banking. At the same time, the majority of the population still has not had access to the traditional banking system, creating a potential gap for Fintech Startup to fill with the development a variety of embedded financial models, serving as a link between traditional licensed financial organizations and individuals, especially in categories such as digital lending, financial investment, asset management, online payment, etc.

MS. LAM NGUYEN NGOC DUNG - Former Country Manager - FinVolution Group

2 INNOVATION TRENDS IN FINTECH SECTOR

Singapore Fintech Map 2022



*Source: Fintech News Singapore

As of September 2021, Singapore has about 1,350 active Fintech companies, accounting for nearly 40% of the number of Fintech companies in Southeast Asian countries. The companies that account for the highest percentage of the entire Fintech market in Singapore are in the groups of Blockchain/Cryptocurrency, Payments, and Investment/Asset Management. Meanwhile, Vietnam has about 188 companies operating in the Fintech field. The segment with the most participating companies is the groups of Payments, Lending, and Blockchain/Cryptocurrency.

Outstanding fields in Singapore and Vietnam

Blockchain/
Cryptocurrency Payment Lending Investment/
Asset
management

Opportunities for Vietnam

Regtech Comparison
services Remittances

FINTECH SECTOR

P2P LENDING



DATA ANALYSIS, CREDIT SCORING



PAYMENT



CROWDFUNDING



DIGITAL BANKING



ASSET MANAGEMENT



FINANCES FOR SMES



PERSONAL FINANCES



BUY NOW PAY LATER



BLOCKCHAIN / CRYPTO



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



Insurtech

OVERVIEW OF INSURTECH

1 INSURTECH DEFINITION

Digital technologies are changing and reshaping the way enterprises operate, do business, and serve the needs of their customers. The insurance industry is no exception in this general trend. Insurtech has emerged and created a revolution that changes the way the traditional insurance industry operates.

DEFINITION

Insurtech is a combination of "Insurance" and "Technology", referring to the application of breakthrough technologies such as big data (big data), artificial intelligence (AI), Internet of Things (IoT) to improve the efficiency of the current insurance industry's product creation, delivery, and operations. Insurtech is a combination of many factors: People, technology, insurance and customers. In there, insurtech companies focus on improving customer experience and using digital technology to solve that problem.



2 THE POTENTIAL OF INSURTECH MARKET

The global Insurtech market size is expected to reach a valuation of US\$114,489 million, growing at a CAGR of 46.1% between 2022–2030 (according to Globe Newswire).

In Vietnam, the revenue of insurance technology products currently accounts for only 2-3% of the total revenue of the insurance market (according to VN Economy). However, the insurance market is growing strongly at double digits per year, along with economic growth prospects and policies to develop the digital economy, Vietnam's Insurtech market is expected to soon reach tens of billions of dollars in the future.



Insurance premium revenue in Vietnam

*(Source: Vietnam Insurance Association)

VND 217.3 trillion

CARG: **16.71%**

Year 2021

VND 253.73 trillion

CARG: **15.2%**

First 6 months of 2022

PROMINENTLY APPLIED TECHNOLOGIES IN THE INSURANCE INDUSTRY



Big data

A large amount of data is collected from many different databases, and processed and analyzed using statistical tools or predictive models. Big data helps businesses assess risks more accurately, improve insurance processes, thereby improving customer loyalty and optimizing sales opportunities.



Internet of Things (IoT)

IoT devices help collect data from users, which in turn helps insurance companies analyze risks, minimize and even prevent losses in the first place. For example, a car tracker can help predict the level of safety and the likelihood of an accident based on the driver's speed and GPS location.



Artificial Intelligence - AI

Tools that use AI can perform human tasks with greater efficiency and accuracy. Smart chatbots interact with users through a conversational interface in real time, helping to answer customer questions during the purchase process and even assisting with payment.



Blockchain

Blockchain technology detect, prevent fraud, and enhance data security and transparency of online transactions.



Drone

Drone technology can be used by insurance companies to determine the extent of property damage and assess risks around a particular area.

TECHNOLOGY APPLICATION IN THE INSURANCE INDUSTRY VALUE CHAIN

Product development	Valuation and Appraisal	Marketing	Distribution & Sales	Compensation
- Developing personalized insurance products and use-based insurance	- Improving the insurance appraisal process - Automatic insurance premium	- Customer Segmentation - Improving interaction with customers on digital platforms	- Diversifying distribution channels - Providing product comparison information - Simplifying the product purchase process	- Improving fraud detection - Increasing customer experience - Estimating repair cost - Automatic segmentation of claims - Automatic payment
	 		 	  

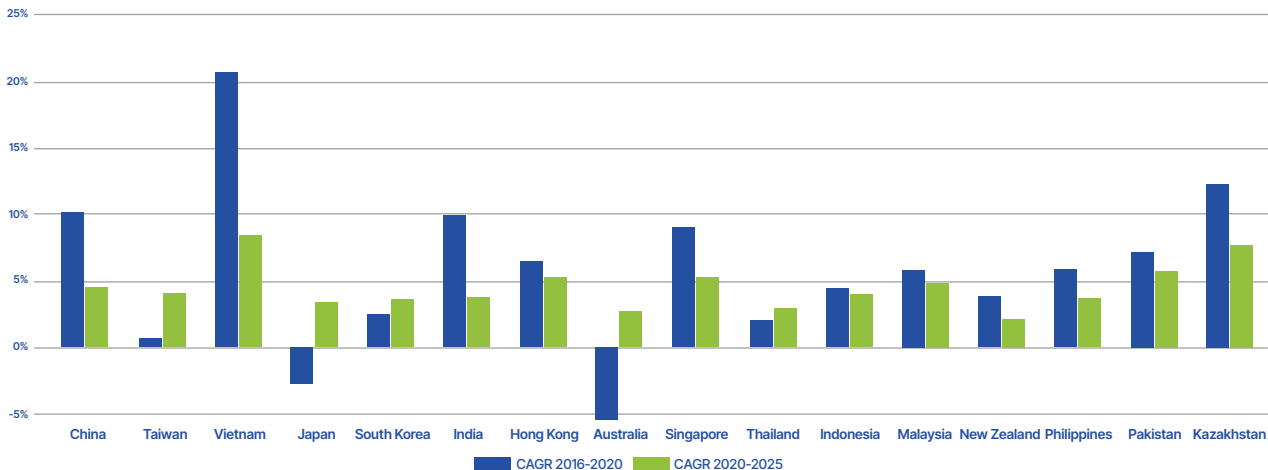
*Source: Swiss Re / various sources

3

THE POTENTIAL OF INSURTECH MARKET

In the Asia-Pacific region (APAC), Vietnam's insurance market has a relatively small (accounting for only 0.5 percent), but has the fastest growth rate in the region.

APAC Insurance Market Performance and Forecast



*Source: MarketLine

Vietnam's insurance market still has a lot of room for development because the penetration rate (premium revenue/GDP) in Vietnam is much lower than that of the whole world, and the average premium (insurance spending per capita) is low.

Penetration rate in
Vietnam
2,3%
Year 2020

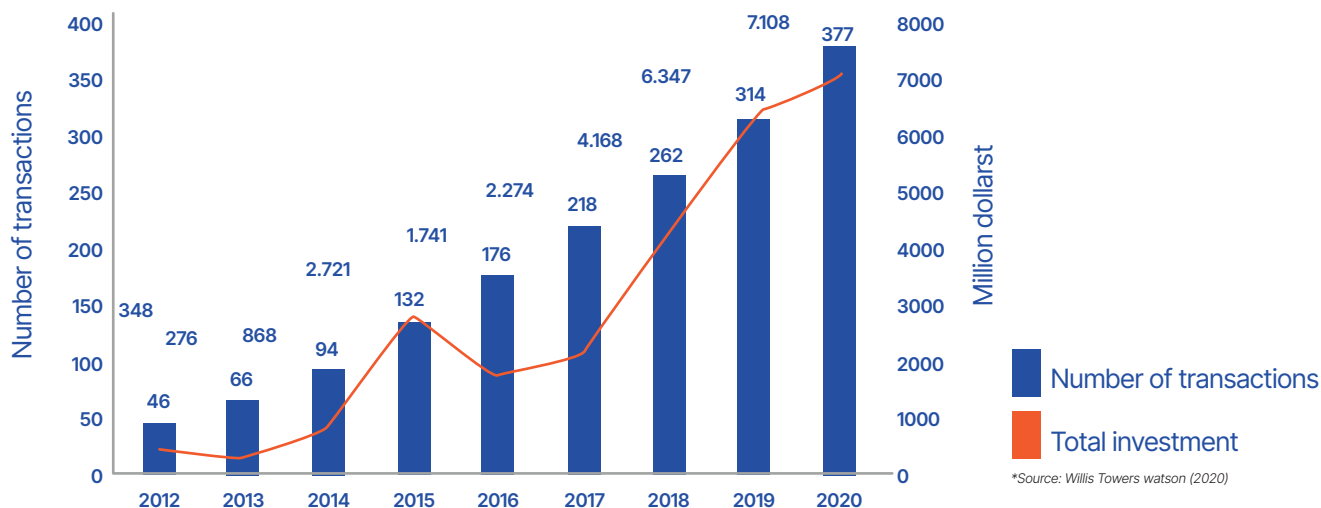
Penetration rate in the
world
7,4%
Year 2020

Insurance fee/person
in Viet Nam
82 USD
Year 2020

Insurance fee/person in
the world
809 USD
Year 2020

*Source: Swiss Re

Investors have confidence in the Vietnamese insurance market in general, and the Insurtech market in particular. The trend of investing in Insurtech companies in the world is constantly increasing in terms of the number of transactions and total investment capital. In there, the property & casualty insurance sector raised large investment capital, accounting for 67% of total funding and 73% of total transactions in Q4 2020 (according to MBBanks).



*Source: Willis Towers watson (2020)

Trends of investment in Insurtech in the world,
2012 - 2020

GOVERNMENT SUPPORT POLICIES



Law on Insurance Business No. 08/2022/QH15

This was approved on June 16, 2022 with a number of improvements, helping to untie insurtech activities. It allows businesses to be proactive in designing and building insurance products, and creates a lot of favorable conditions for the development of micro-insurance.



Decree No. 03/2021/ND-CP on compulsory insurance for cars and motorbikes

It allows the use of electronic compulsory insurance certificates, making it more convenient for people to store and preserve certificates, and at the same time reducing costs for printing, managing and operating certificate forms for the insurance business.

Experts' opinion on the potential of Insurtech Vietnam market:



The 4.0 technology revolution has changed consumer behavior. The supply of insurance products in traditional model (depending on the agent network) is gradually losing its advantages due to many limitations. Customers today have the need to actively search for suitable insurance products and even want to package their own insurance products thanks to the application of technology, AI, IOT, etc.

Insurance businesses invest significantly in technology application to optimize customer experience as well as business management costs. This means that the development of insurance technology will have a lot of potential for growth. At the same time, people's living standards are improving, so the demand for insurance also increases.

Non-life insurance businesses can develop technologies and products to adapt to new technology trends, and cooperate with Insurtech companies to take advantage of technology strengths, especially new experiences that have already been successfully deployed in other countries.

MRS. HOANG THI YEN - Head of PTI Digital

1

The legal framework lagging behind the development of the market

The legal provisions on e-commerce in general have been excluded from the insurance sector, and the insurance activities must comply with the provisions of specialized laws, however, these regulations are not mentioned in the Insurance Business law. This results in insurers being very confused when there is no clear legal framework for carrying out operations. State management agencies also face difficulties in managing and controlling the operation process of enterprises.

2

Well-qualified human resources being scarce

There is a scarcity of human resources who are both tech-savvy and have a deep understanding of the insurance market. The current digital workforce is still limited in quality, especially in terms of staffing requirements for new industries such as Data Science, user experience design (UX Design) or Digital Marketing.

3

Constant fluctuations of the world economy

The constant volatility of the world economy leads to a decrease in the revenue as well as the profit of insurance companies. This means that the investment resources for Insurtech of insurers will be limited.

4

The public's low interest in insurance

Currently, only 11% of Vietnam's population bought life insurance in 2021, much lower than Malaysia (50%), Singapore (80%) and the US (90%). Life insurance penetration is quite low - only about 2% of total GDP in 2020 - compared to Thailand (3.1%), Singapore (9.8%), Taiwan (13.7%). and Hong Kong (19.7%). The insurance products supplied to the market are mostly traditional product lines. There have not been many insurance products following the Insurtech model. Therefore insurance has not attracted the attention of the people.

*Source: MB Banks/ various sources

Experts' opinion on the challenges of Insurtech Vietnam market:

Insurance product lines need to be developed, redesigned, ensuring the simplicity and the suitability to user behavior, and especially the use of insurance terms must be explained in an informal and easily understandable way. Therefore, the insurance business law must be adjusted in accordance with the development trend of the market. At the same time, it is necessary to cooperate with agencies, departments and communicate with businesses to remove the negative view of "insurance" of the people, so that insurance can properly play the role of the product/insurance industry and bring it closer to the people.

MS. DINH THI NGOC NIEM - Chairwoman of the Board - General Director of Global Care

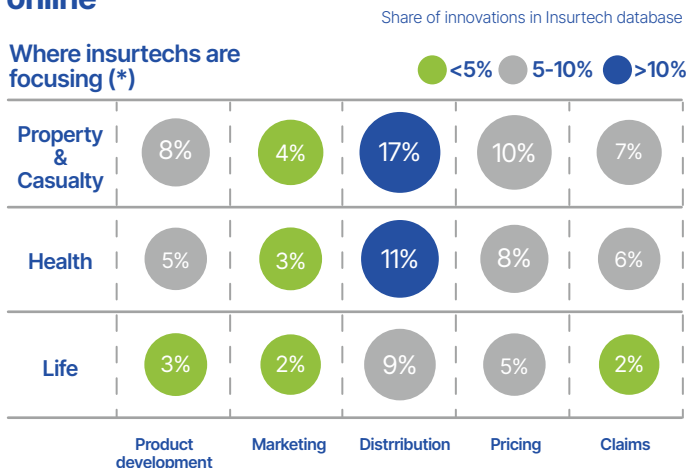
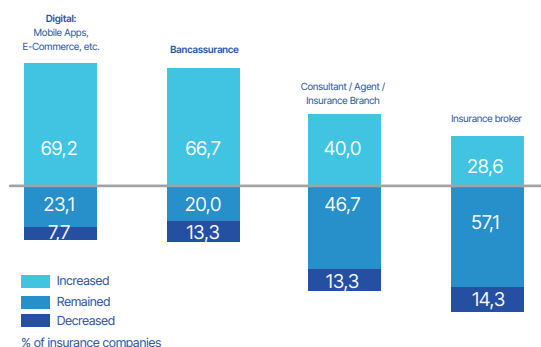
INNOVATION TRENDS IN INSURTECH

1 OUTSTANDING TRENDS HAPPENING IN THE WORLD AND IN VIETNAM

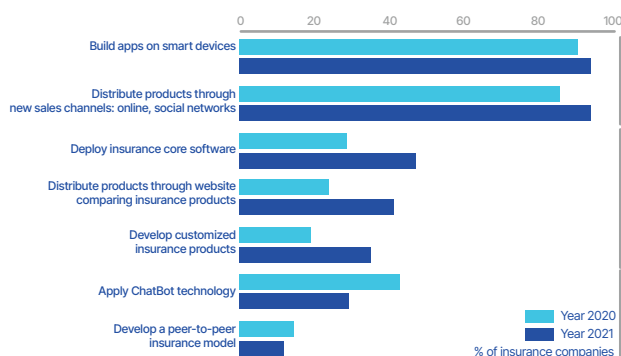
1. Insurtech putting traditional products online

Insurtech companies in the world mainly focus in the sector of distribution and sales of insurance products via digital platforms. Products distributed online are non-life insurance, such as travel insurance, health insurance, outpatient medical examination and treatment, car/motorbike insurance, automobile/motorbike civil liability insurance required by the Law.

According to a survey by Vietnam Report, Vietnamese insurance companies are focusing on using Insurtech to increase the efficiency of distributing available products to customers. Revenue from Digital channel grew the most with 69.2% of insurers after the Covid-19 pandemic.



*Source: McKinsey



*Source: Vietnam Report, Survey of insurance companies in Vietnam, June 2021.

2. Microinsurance is getting attention

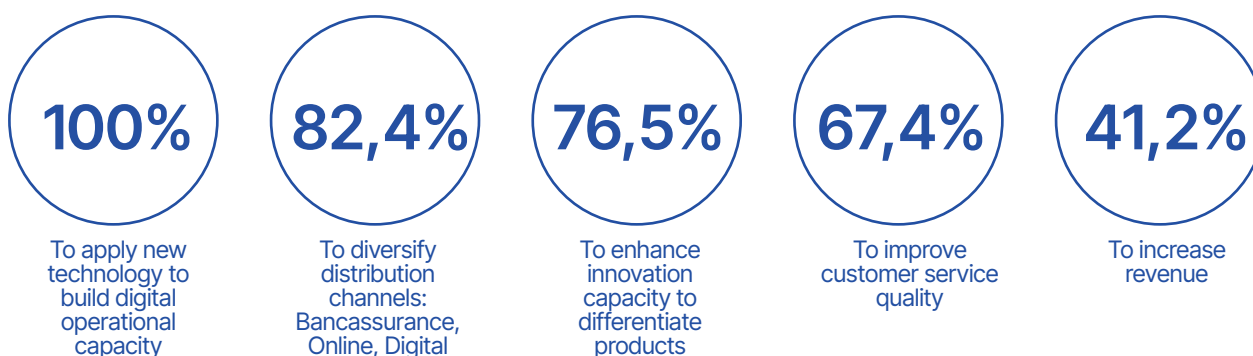
Compared with traditional insurance products, microinsurance is designed with low premiums, small insurance money, and simple insurance products. Microinsurance is suitable for low-income people and disadvantaged people in society, helping them easily access insurance to meet their savings needs and protect against possible life risks in the future. Microinsurance is receiving the attention of State agencies, such as granting agricultural insurance to farmers to help them reduce losses when facing adversities.

Grasping market demand, insurtech companies are also involved in providing digital microinsurance services in Vietnam. Igloo has partnered with Loship to provide shipping failure insurance for 70,000 delivery drivers, with a fee of VND28,900/month. This insurance allows the driver to receive return shipping fees if the consumer returns the item due to a faulty order. In addition, Igloo has also cooperated with Mobifone to bring the "Mobicare" service to 30 million Mobifone mobile subscribers. "Mobicare" is a personal accident insurance product that includes a daily expense allowance, internet data plan and teleconsultation service.

3. Digital transformation trend in traditional insurance businesses

Consumers' need to move online has motivated traditional insurers to push for digital transformation over the years. According to a survey by Vietnam Report, 88.2% of insurers are currently implementing a digital transformation program, while the remaining 11.8% are planning to do so in the near future.

Top 5 priority strategies of insurers in the next normal period (% of insurance companies)



*Source: Vietnam Report, Survey of insurance companies in Vietnam, June 2021.

According to Marilyn Wang, Director of Marketing and Communications at Manulife Vietnam, insurance is an intangible product and insurance contracts usually last from 10-20 years, so service is the only thing that is tangible and makes the difference among insurance companies (source: Nhịp Cầu Đầu Tư). In the race of traditional insurers, especially for the top 5 companies in the industry (Manulife, Bao Viet, Prudential, Dai-ichi, AIA), digital transformation is a way to increase competitiveness and respond to new customer demand, by taking advantage of big data in improving service quality, diversifying products, as well as optimizing operating costs.



Builds digital platforms, including an online insurance policy management platform, and automating insurance appraisals. Partners with digital banks and fintech to diversify payment methods.



HEALTHIER. LONGER.
BETTER LIVES

Partners with the e-commerce platform Tiki to reach customers and the platform's "all-in-one" ecosystem. Diversifies distribution channels and invest in technology capacity building.



PRUDENTIAL

Deploys online health examination service, helping connect customers with doctors remotely. Makes insurance claims for more than 50,000 digital accident insurance policies, including 25,500 insurance policies sold through Shopee.

Insurance companies are diversifying and expanding online distribution channels, while focusing heavily on improving customer experience, making customers the center of business activities.

4. The emergence of lifestyle insurance product lines

In the trend of customer-centricity, many non-life insurers have launched innovative risk management services following the Covid-19 pandemic. These insurance products usually have small premiums, are easily distributed on online platforms, are effective according to each payment, and the claim process is completely digitally applied to meet the people's diverse needs and bring the most convenient experience to customers.

Several lifestyle insurance products: travel insurance, electronics insurance, flight delay insurance, cargo insurance, data and cybersecurity insurance, guarantee insurance, etc.

 BẢO HIỂM BƯU ĐIỆN Lifestyle insurance product lines	 Rain Insurance Payment of compensation for the cost of technology vehicles that increase when it rains	 JupViec Care Insurance Compensation for accidents with the premium divided into installments, from 2,000-5,000 VND/time	 Genuine Product Insurance Payment of compensation for 100% of the value of goods when there is any attack, or forgery of traceability stamps, or when a failure of TrueData's security system causes consumers to buy counterfeit goods
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5. Focus on insurance claims

Insurance claims are a key link in the value chain of the insurance industry. Traditional insurers and Insurtech companies, especially companies in the non-life sector, are applying digital technology to increase efficiency, accuracy and transparency in claims processing, thereby helping improve customer experience and build trust.

Software applications apply Artificial Intelligence to automate at least part of the claim process, the most common of which is the application of chatbots to assist customers in submitting claims, checking information, detecting fraud and submitting claim payment of compensation automatically to the bank.

Lemonade

This is a New York-based startup that specializes in providing insurance to renters. Lemonade has used chatbots to interact with and support customers to submit claims and make payments quickly without any human intervention.

Experts' opinion on the outstanding trends in Vietnam:



In terms of technology, over the past year, the Insurtech sector has researched and applied modern technologies such as AI technology, IoT technology and Big data, making the sales process as well as the after-sales customer care process smart, fast, highly accurate, with low business costs. And this technology also opens up many opportunities for the market to develop lifestyle-specific micro-insurance products such as fraud insurance, impersonation insurance, cyber security insurance, or booking refund insurance, driving behavior-based insurance,... The market for micro-insurance products is proving its strength and flourishing like never before!

MS. DINH THI NGOC NIEM - Chairwoman of the Board - General Director of Global Care

2 STARTUP MAP IN VIETNAM AND IN THE WORLD

115+ Europe-based startups transforming insurtech

Technology providers



Insurance providers



*(Source: CB Insights)

Insurtech trends in Europe are focusing on the Data Analysis solutions group, and the Home and Auto Insurance Distribution segment. Meanwhile, the majority of Insurtech companies in Vietnam focus on Online Insurance Distribution for individual customers, especially non-life insurance products such as health insurance, auto insurance and travel insurance. It is visible that the Insurtech picture in Vietnam is presenting many opportunities for startups to participate in this playground.

Opportunities for Vietnam

Data analysis

Weather and geographic analysis

insurance premium calculator

Disaster risk insurance

Animal insurance

Cyber risk insurance

BambuUP Open Innovation Platform is committed to providing businesses with quality connections with specialists and top solution suppliers in their journey of discovering and developing Smart Manufacturing.

Contact us at:
info@bambuup.com or scan QR code



INSURTECH SECTOR



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



2

Martech & Salestech

GLOBAL MARKETING TRENDS

The past 2020 and 2021 marked many important milestones for the world and many changes in consumer buying behavior, in the face of the global pandemic and social, economical, and political upheavals. Increasing consumer demands force businesses to reposition their customer acquisition strategies. According to a study by Deloitte, brands with the highest growth in the market are focusing on developing a holistic **customer experience** – from redesigning sales channels to building a customer data strategy. Four prominent global marketing trends in 2022 include:

- Making customer **convenience** a top priority
- Unique experience across **all sales channels**
- Specialization and Personalization for **Unique Needs**
- Designing a customer-centric **data strategy**

1 Making customer convenience a top priority

The COVID-19 pandemic not only affects the global economy, but also creates many changes in consumer shopping psychology. Customers now prioritize buying experience based on the main keyword: **convenience**. One of the most prominent commercial models that have evolved from this trend is the **Direct-to-Consumer (D2C)** model. Enterprises are gradually shifting from reaching customers through media channels to e-commerce platforms; for example, the Nike brand launched an ambitious plan with 30% of revenue coming from D2C by 2024.

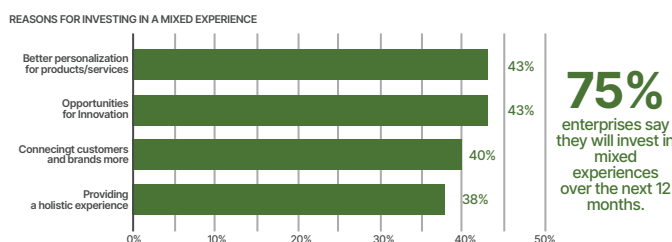
One of the pioneers leading the D2C trend is Unilever Vietnam. From using D2C for each brand (Lifebuoy and Closeup) it has developed into UShop, which is applying D2C to all the brands of the corporation.



Other businesses also define customer convenience in different ways, such as a **contactless** shopping experience – a grocery store that allows customers to make purchases without getting out of their vehicle by the Woolworths retailer, cashless – Family Mart's **cashless** vending machine system in Malaysia, and **customerless** – Happy fresh's dark stores.

2 Unique experience across all sales channels

According to NielsenIQ research, up to 47% of consumers have a desire to experience new things, and for many businesses, novelty equates to new sales channels. According to another study by Deloitte, up to 75% of businesses say they will invest in a combination of physical and virtual buying experiences in the next 12 months.



*Source: Deloitte

The fast food industry is one of the most competitive for the attention of Gen Z, a generation known for its adoption of multi sales channel. Among them, the Wendy's brand has achieved the most success, thanks to its multi-channel marketing strategy.

In 2021, Wendy's has partnered with the famous cartoon brand "Rick and Morty" to set up pop-up restaurants with special themes. Following that in March 2022, the company established Wendyverse on the Horizon Worlds metaverse platform with many online outlet stores.



3 Specialization and Personalization for Unique Needs

In addition to the needs for products and shopping experiences, today's consumers have many other needs that are more diverse and complex. Therefore, marketers also need to be quick to detect and respond to the unique needs of customers, as well as create specialized and personalized experiences in each of their marketing campaigns. Accordingly, McKinsey studies show that businesses that integrate personalization into their customer experience strategies generate 40% more revenue than their competitors in the market.

The specialization has been demonstrated quite clearly in the goods distribution system in Vietnam with the emergence of specialized sales channels, typically mom & baby stores in recent years. In 2020 in Vietnam only 19% of milk for infant sales were from Mother & Baby stores, however this figure will be 27% in 2021 (Source: NielsenIQ). Mother & Baby stores offer not only expertise, but also convenience, experience and omnichannel. Personalization has also almost become an inevitable trend that businesses need to adapt promptly. From simple features like displaying product catalogs on shopping apps based on Whole Foods customers' shopping history, to more advanced applications, like the application of 3D printing technology in designing unique and personalized shoe models of the FitMyFoot app.

Taking advantage of the trend that customers are gradually **combining shopping on search sites** through search engines like Google and **searching on shopping sites** such as e-commerce platforms like Shopee, Lazada, and Amazon, AI technology is used to predict customer behavior, thereby specializing and personalizing services and products.

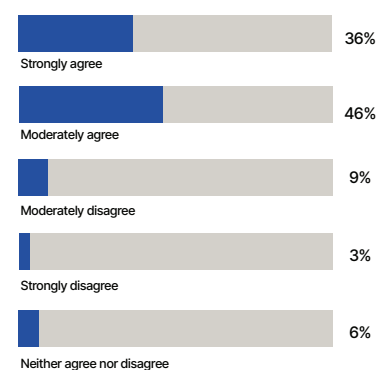
4 Designing a customer-centric data strategy

Customer data is undoubtedly one of the most important resources in shaping a business' marketing strategies. Today's businesses are focused on investing in technologies that help them understand their customers more deeply, creating the premise to drive higher customer satisfaction. However, collecting customer data today is also not a simple matter with the gradual disappearance of data sources through third party cookies and increased vigilance of customers with their personal information. Many high-growth businesses are moving in the direction of building data from establishing a direct relationship with the customer (first data party). According to Deloitte, customers are 2.5 times more willing to provide personal information to develop products for brands they are familiar with than brands that are unable to prove their value.

In addition to putting customer experience at the heart of shaping new trends in the Marketing & Sales industry in 2022, the birth and development of core technologies such as e-commerce platforms, Metaverse, AI, etc. also contributes to promoting marketers to constantly update new technologies in order to improve the capacity of businesses and their competitiveness in the market. Therefore, the Martech & Salestech industry is expected to continue to grow strongly in the coming years, especially with the resonance from the world's Startup economy.

According to Oracle's Marketing Trends 2022 report, 82% of marketing businesses say they will adapt and upgrade their Martech technologies.

We will have to add, remove, or replace components of current martech stack to improve performance in 2022



*Source: Oracle



The rapid digitization of the customer experience during the pandemic and the entry into the Metaverse raises a big question for marketing: Is it possible to automate the human journey of connection? The answer always revolves around the process of authentic connection between people, between brands and markets. Digital solutions help us travel to a virtual world where people, assets, and space are all digitized. New tools but the same storytelling nonetheless. It's all about using virtual reality to create a real experience. Technology will not be a makeup, but combined with creativity, empathic thinking, to create a great experience that connects customers.

MRS. NGUYEN DIEU CAM - General Director - T&A-Ogilvy - Ogilvy Vietnam

THE MARTECH & SALESTECH MARKET

The rise in digital transformation, rapid technological development and change in consumer behavior are the main factors that have driven the growth of the Marketing Technology (Martech) market.



245,65 billion

Value of the global martech market in 2021



6.612,60 billion

Estimated value of the global martech market in 2023



44% CAGR

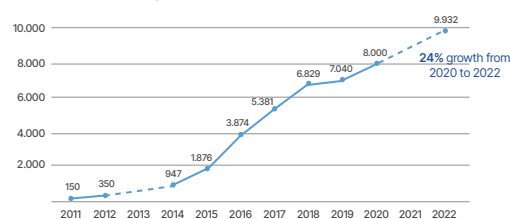
Compound growth rate for the period from 2022 to 2023

**Source: Emergen Research*

According to the Marketing Technology Map (Martech Map) compiled by Chiefmartec and MartechTribe, as of March 2022, there were nearly 10,000 solutions in 49 different fields recorded, while in 2011 there were only 150 solutions. It can be seen that within over 10 years, the number of solutions in the field of Martech grew rapidly, up to 6,521% from 2011 to 2022. Especially during the covid pandemic, the growth rate still reached 24% from 2020 to 2022.

Number of solutions growing year by year

6.521% growth from 2011 to 2022



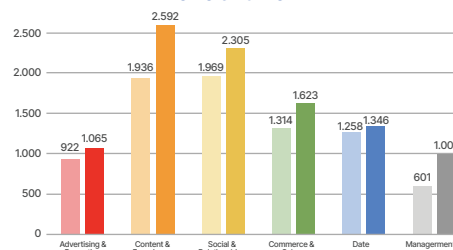
**Source: Chiefmartec*

Specifically, the following 6 sectors have a remarkable growth in the number of marketing technology solutions:

- Advertising & Trade Promotion: 16%
- Content & Experience: 34%
- Social & Relationships: 17%
- Commerce & Sales: 24%
- Data: 7%
- Management : 67%

The areas with the greatest increase in the number of solutions are Content & Experience, Commerce & Sales, and Management, all of which have great potential to make a difference in customer experience.

Number of solutions growing by sector in 2020 and 2022



**Source: ChiefMartec & MartechTribe, The State of Martech 2022 Report*

Besides the development of Martech, Sales Technology (SalesTech) is also receiving considerable attention and investment. Salestech helps to optimize the touch points on the customer's shopping journey and especially the online ones, thereby helping businesses build a database and make the right decisions faster, more efficiently at lower costs.



Sales Engagement

5,59 billion

Expected market value in 2023 - prediction from Aragon Research



Sales Intelligence

4,89 billion

Expected market value in 2027 - prediction from Data Bridge Market Research



Sales Enablement

3,08 billion

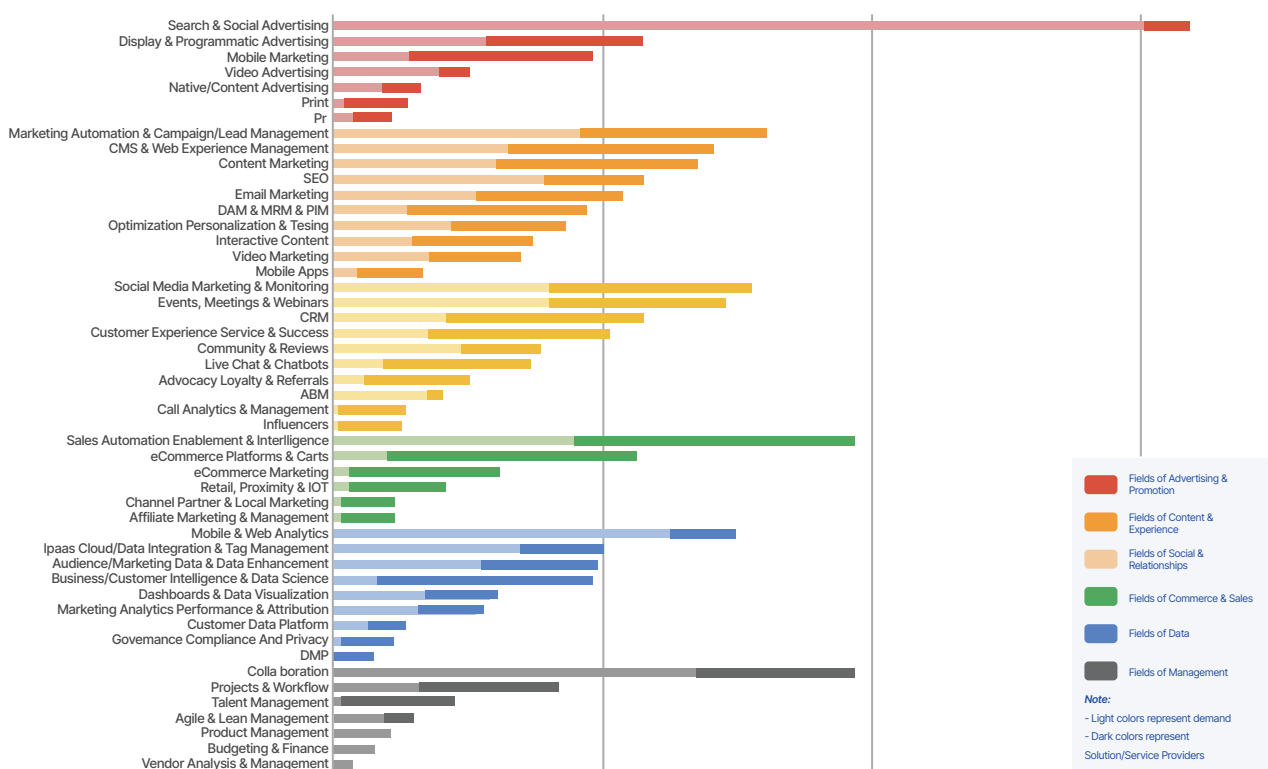
Expected market value in 2026 - prediction from 360 Research Report

Chiefmartec and MartechTribe's The State of Martech 2022 report has compared the correlation between supply and demand across sectors (in 6 segments Advertising & Promotion, Content & Experience, Social & Relationships, and Commerce & Sales, Data, and Management) (*).

Most of the fields in the major segments of the Martech market show the potential for product/service providers to find opportunities to participate and serve market needs. In particular, the field of Search and Social Advertising shows a huge difference in demand compared to solutions/services. Besides, the field of Collaboration in Management and some other fields in the same segment also show great potential in terms of demand and low level of competition.

However, technology solution providers in the Commercial & Sales segment show that the level of competition has become quite high.

Correlation between supply and demand in the sectors of the Martech market



*Source: ChiefMartec & MartechTribe, The State of Martech 2022 Report
(*) based on the number of solution providers compared to the presence of products/services of the respective field.



Traditional Digital Marketing channels such as Facebook and Google still play an important role, but businesses also gradually realize the difficulty and effectiveness decreases when users are increasingly smart and fastidious. The buying decision-making mechanism as well as the customer journey has now changed. New Digital Marketing channels (such as e-commerce platforms, Social Marketing) gradually show remarkable effectiveness, helping businesses to control their budgets and ensure quality. Therefore, businesses need to focus on applying technology to promote Conversion (experience), increase CLV (Customer Lifetime Value) and ROI (Return On Investment).

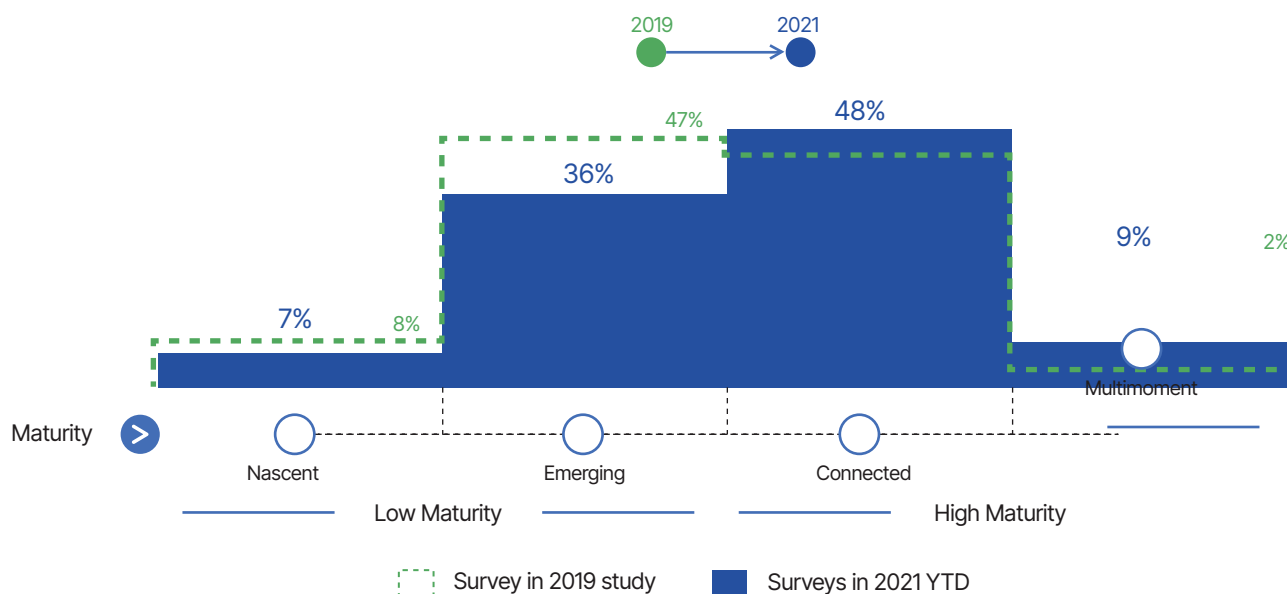
MR DO HUU HUNG - General Director of AccessTrade Vietnam

LEVEL OF MATURITY IN MARKETING TECHNOLOGY IN THE WORLD

Marketing technology solutions show developments in all areas, helping businesses market more effectively to consumers. However, not all businesses have the same level of Martech maturity. The four main stages of maturity in the application of Martech include:

- **Nascent stage:** At this stage, most marketing campaigns use data sources from outside the business, advertising through connecting intermediaries. And this stage has very little connection with the selling stage.
- **Emerging Stage:** Marketers begin to use the data that the business have, and they also begin to optimize and test campaigns on single channels.
- **Connected Stage:** At this stage, data-driven business marketing is integrated and enabled across digital channels, with clear alignment through alternative metrics, helping to show return on investment (ROI) and sales.
- **Multimoment Stage:** Businesses at this stage optimize marketing performance across channels throughout the consumer's buying journey to achieve the best business results.

4 Main Stages of Martech Maturity

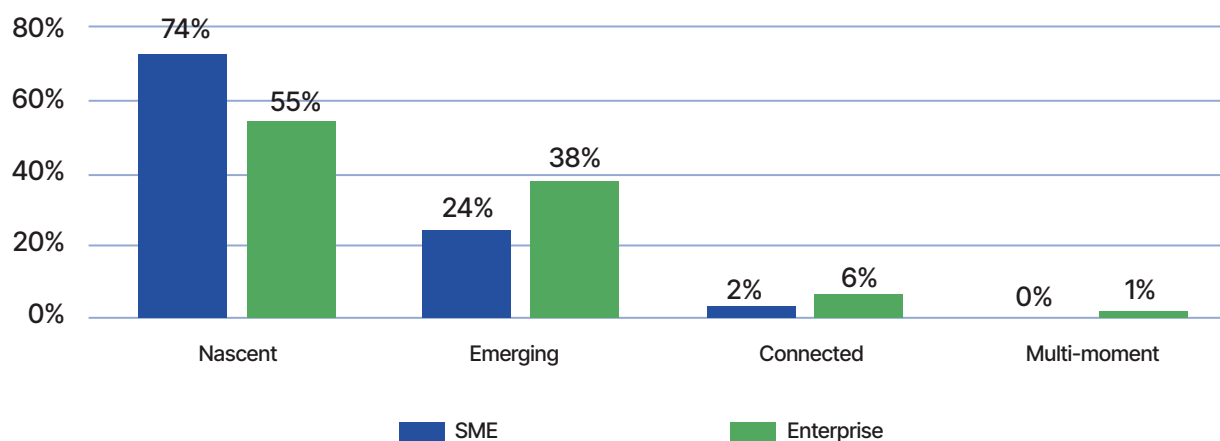


*Source: BCG, The Fast Track to Digital Marketing Maturity, 2021

In 2019, 90% of organizations were in the Emerging stage, while only 2% reached the Multimoment stage. In the face of market changes and technological breakthroughs, 2021 saw a higher number of businesses in the more mature stage, of which up to 9% of businesses reached the Multimoment stage. According to research, businesses that have reached the Multimoment stage are able to deliver relevant content to consumers at any point in time, throughout the purchase journey, thereby saving costs up to 30% and increasing sales by 20%. In addition, businesses that apply Machine Learning can increase the performance of their marketing campaigns by more than 15% compared to businesses that do not.

According to a quick survey by Opla Consulting, the Maturity Index of Martech application of Vietnamese corporates, including large, small and medium-sized ones, still concentrates mainly in the initial stage of formation.

Maturity in Martech in Vietnam



*Source: Opla Consulting Vietnam

The Martech market in Vietnam shows that there are still many room and the potential for further growth. The majority of corporates are still in the Nascent stage (74% of SMEs and 55% of large corporates). With the emerging stage and the connected stage, large corporates show more maturity when up to 42% of large corporates belong to these two stages while for SMEs only accounts for 26%. However, very few large corporates have reached the multimoment stage of Martech maturity.



In 2022, many businesses from finance to manufacturing and retail announced the kick-off of million-dollar investment projects in marketing technology, which is still just enough to bring Vietnam's MMS index to around 1.8. Although marketing technology in Vietnam lags behind developed markets, this is not a shame, and it is even a positive signal and brings many opportunities. Because in fact, marketing technology is mainly an application that equips businesses to compete with each other in the domestic market, not the international market. On the other hand, because the starting point of most businesses in Vietnam is the same, the ones that catch up with the trend more quickly and boldly in applying technology will definitely gain advantages from the technology.

MR NGUYEN BINH NAM - CEO Opla Consulting & Opla CRM



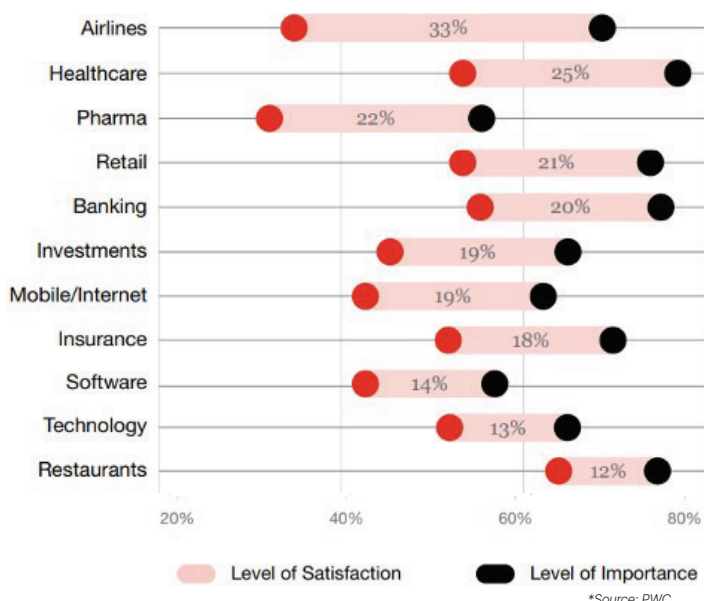
Ever since 2019, I have spent a lot of time researching and analyzing Vietnamese marketing technology providers with more than 160 typical suppliers recorded in the 2022 MarTech Vietnam Map compiled by Vietnam MarTech. More than 80% of solution providers are serving the Nascent group of businesses, the rest are distributed among Emerging and Connected enterprise solutions. In terms of growth potential, I appreciate the maturity of Vietnamese technology companies after the covid crisis, especially how they position their solutions. No longer just a Tool but a Solution, a MarTech Solution. In the not too distant future (2-3 years), I predict the number of MarTech companies will increase significantly, the number can be predicted up to 500 - 800 companies, especially the group of companies that supply solutions related to User Data Analytics and Multi-Channel Experience Personalization

MR TINH NGUYEN - Founder & Executive Chairman of Vietnam MarTech

MARTECH & SALES TECH AND CUSTOMER EXPERIENCE TREND

The strong development of Martech & SalesTech serves an overarching "old but new" trend called "Customer Experience". More than 70% of senior management personnel surveyed rated Customer experience as one of the top priorities in the company's business strategy in the coming years (Source: McKinsey). According to a report by PwC, customers are willing to pay 16% more for services with a good experience and 63% of customers will share personal information when they have a great time shopping. In the opposite direction, consumers also become more demanding, as more than 30% of consumers surveyed would leave a brand after just one bad experience.

The gap between expectations and reality of American customer experience



One of the biggest challenges businesses face in making customers happy is not being able to keep up with the changes in their psychology and buying behavior, especially after the turbulent times of the world in recent years. After Covid-19, everything about consumers is changing, from their buying motivation, how they connect with others, their time and purchasing power, to their higher expectations for health and safety services. So what was once considered a great customer experience is suddenly no longer good enough, requiring businesses to reorganize their approach to customers. Businesses that do not notice these changes and do not change their Customer Experience strategy will gradually become lagged in today's fierce market.

So what is the optimal solution to the difficult problem called "Customer Experience"? The answer lies in one word: Technology. Most of the pioneers in improving customer experience look to technology solutions as a leading tool to completely change this game, and this innovation can lead to significant changes. According to McKinsey's report in 2022, businesses that effectively apply technology in the sales process have increased customer satisfaction by 20%, increased purchase rates by 15%, and reduced costs by 30% and even increased employee engagement by more than 30%. By using the customer as the center of driving the technology platform, connecting the entire customer procurement process and creating a comprehensive program, businesses can achieve remarkable results.

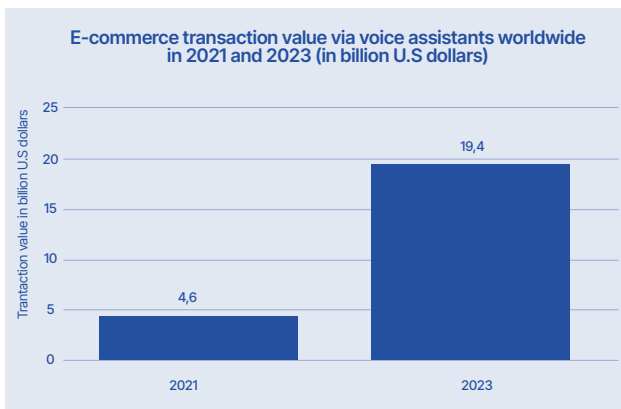
1 Total experience strategy of businesses drive by Artificial Intelligence

Total experience is a also keyword that is interested in by many senior managers in recent years. Total Experience Strategy is an enterprise strategy that integrates employee experience, customer experience, user experience, and multi-experience through multiple touchpoints to drive company growth (Source: Gartner's Top Strategic Technology Trends 2022 Report). It is estimated that by 2024, businesses that provide an integrated approach to Total Experience will increase their customer and employee satisfaction metrics by 25% compared to their competitors. One of the technology solutions most commonly used by companies to drive Total Experience is Artificial Intelligence (AI).

Applications of the AI integration tool in Total Experience include:

- **Customer experience:** chatbot and voicebot technologies provide customers with excellent, fast and personalized support for each customer. These bots optimize AI, machine learning and natural language processing capabilities to learn about behavior and psychology and in turn, recommend to customers suitable products based on interests, activities and their profile in the future.
- **Employee experience:** conversational platforms with AI can make it easier for employees to solve problems by building departmental chatbot characters to meet every need, from HR to Information Technology helpdesk.
- **Multi-experience:** conversational platform with AI that allows users to experience personalized interactions across multiple channels (social, web, voice, etc.), across multiple devices (mobile, desktop, smart speaker, etc.) and in multiple languages (multilingual function).

One of the most prominent and popular applications of Artificial Intelligence is **voicebots the virtual assistant technology**. Starting with Google's audio search engine, Google Voice Search, voice assistants have become an integral part of customers' shopping experiences with apps like Apple's Siri, or Amazon's Alexa, etc. According to Statista, the total volume of e-commerce transactions made through voice assistants will increase from \$4.6 billion in 2021 to \$19.4 billion in 2023.



*Source: Statista

2 Devices that connect the real and virtual worlds for a richer user experience

With the rise of millennials and Gen Z, the consumer segment especially quick in adapting to online information channels, businesses cannot help but focus on enhancing customer experience across digital channels. According to Adobe's Digital Trends 2022 report, more than 75% of businesses in the Asia-Pacific region have grown in customer numbers through digital channels within the past 18 months. This shows that customer experience on digital channels is one of the prerequisites to attract and retain consumers.

Devices that connect the real and virtual worlds such as Augmented Reality (AR) or Virtual Reality (VR) are growing rapidly, although they are still not seen as a household's name. Meta, one of the pioneers in the development of Metaverse, has sold 10 million Oculus Quest 2 headsets in 2021. Companies like Meta, Microsoft, Qualcomm and Sony are also entering these markets, and we can expect breakthroughs in the prevalence of real and virtual connected devices in the future, as well as technological breakthroughs for this product line.

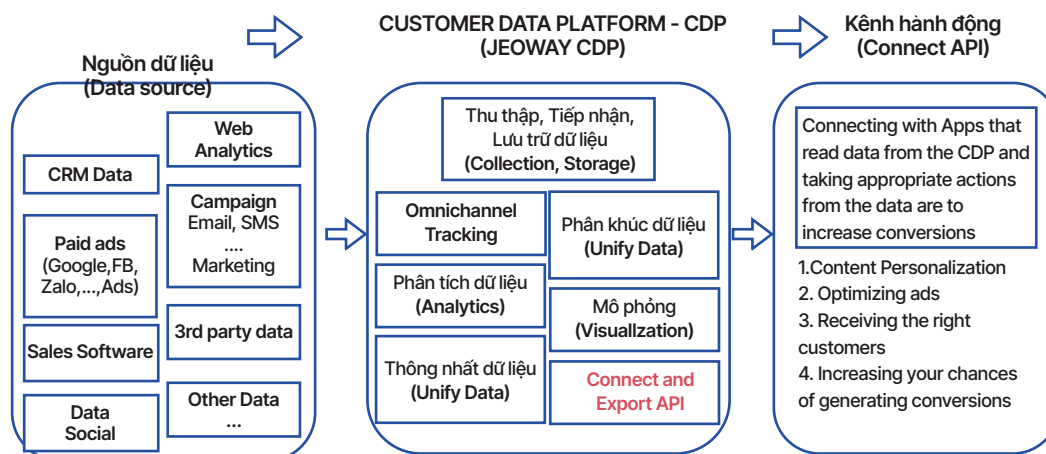
Virtual reality (VR) is gradually becoming more "real", bringing customers and employees into a more realistic, sensory world than ever before (including images, sounds, spaces). As a result, users will feel more emotionally connected and companies can observe and record consumer behavior and psychology.

One of the world's largest retailers - Walmart - recently launched a "virtual fitting room" feature. After the retail giant acquired virtual fitting-room Startup Zeekit in 2021, Walmart launched its "Choose My Model" technology, which allows customers to choose from one of 50 models with different measurements to see how the clothes they intend to buy will fit their bodies. In the next phase, with the "Be Your Own Model" feature, users can try on more than 270,000 items on their own bodies.



Looking closer in Vietnam, many Startup also introduced solutions that integrate the real and virtual worlds to develop customer experiences. Typical among them is the health care application Calo Metaverse that applies AR technology to all daily sports activities such as swimming, cycling, running, spot sports, climbing, etc. to make working out at home more enjoyable.

2 Customer Data Platform (CDP) driving the data revolution in customer experience



*Source: cdp.com

CDP is a software that collects and aggregates customer data from multiple first party data sources to build a complete and consistent customer portrait that can be accessed by other systems for the analysis, tracking, and management of customers' interactions. This tool helps businesses to continuously update on customer attitudes and behaviors, thereby improving their ability to satisfy them.

CDP services are also increasingly advanced and become more popular. According to Statista, the revenue of this field is expected to reach the milestone of US\$2 billion in 2022, up 25% from the previous year. In Vietnam, there have also been many pioneering enterprises providing CDP services and achieving some remarkable achievements such as Antsomi, Primedata, ByteTech, PrimeData, Mobio, LeoCDP, Hubjs, etc.



Under the challenge of a risky and volatile business environment, enterprises need to focus on three most important strategic goals, which are:

- Sustainable revenue growth (sustainable growth)
- Maintaining and enhancing existing customer value (CLV - customer lifetime value)
- Improving customer experience (CX - customer experience)

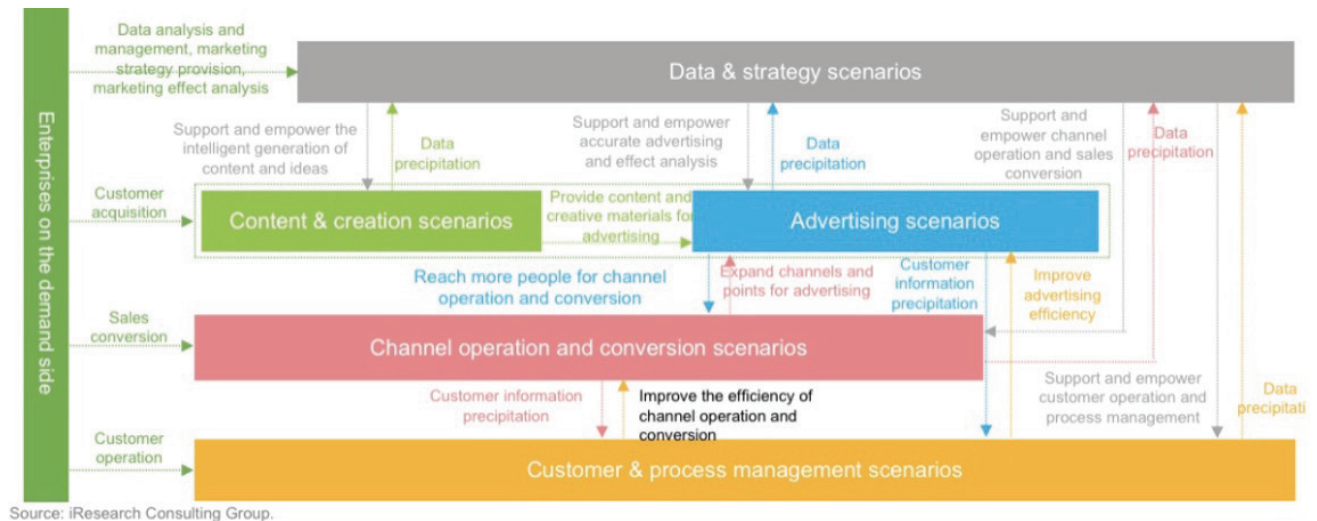
To achieve this, businesses need to create and possess the following 02 capabilities, making a remarkable difference:

- Knowing customers based on merging traditional and digital omni-channel customer profiles & behaviors
- Personalization, and automatic shopping experience, and customer care with new technology such as CDP, CEP, etc. platform,

MR NGUYEN HAI TRIEU - Founder & CEO PrimeData

APPLICATION OF MARTECH AND SALESTECH IN BUSINESSES

To effectively apply Martech and Salestech, businesses need to understand and maximize the relationship and interaction between operational steps. More than ever, with Martech and Salestech, businesses have a data-base to continuously measure, analyze, and predict behavior and come up with solutions to improve efficiency. The coordination between business departments can be completely data-driven to make decisions and ensure close and timely cooperation.



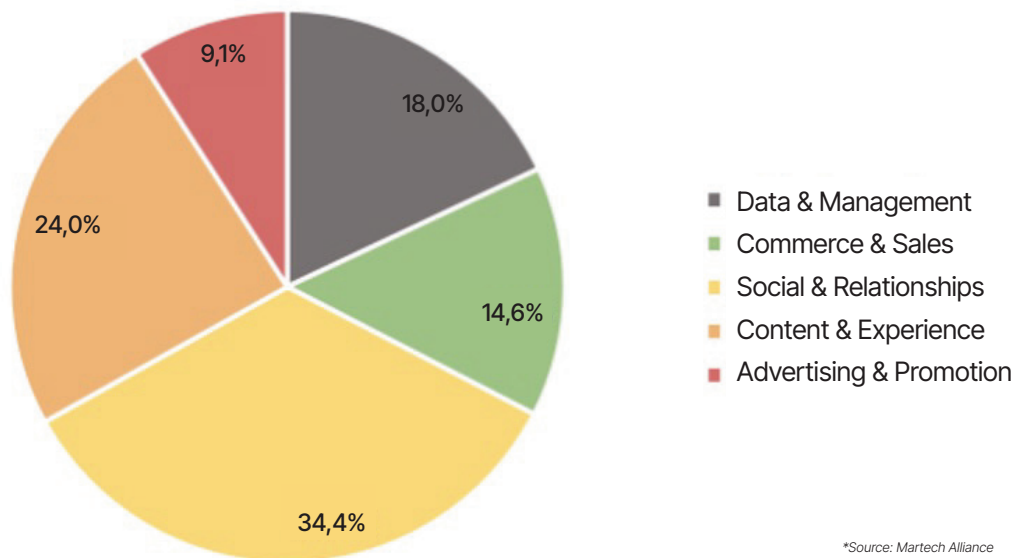
The relationship and interaction between the operating steps of the Enterprise when applying Martech & SalesTo effectively integrate technology into business development strategies, businesses need to perform a number of prerequisite activities as follows:

1. Enterprises need to have a methodical Marketing strategy and regularly update data.
2. Enterprises need to build a Marketing communication plan and have the integration and cohesion between Sales and Trade Marketing.
3. Businesses need to choose the right Martech and Salestech tools.
4. Businesses need to choose the suitable partner for their business, not the biggest or most famous partner in the industry.
5. Businesses need to regularly monitor the results of Martech and Salestech activities.

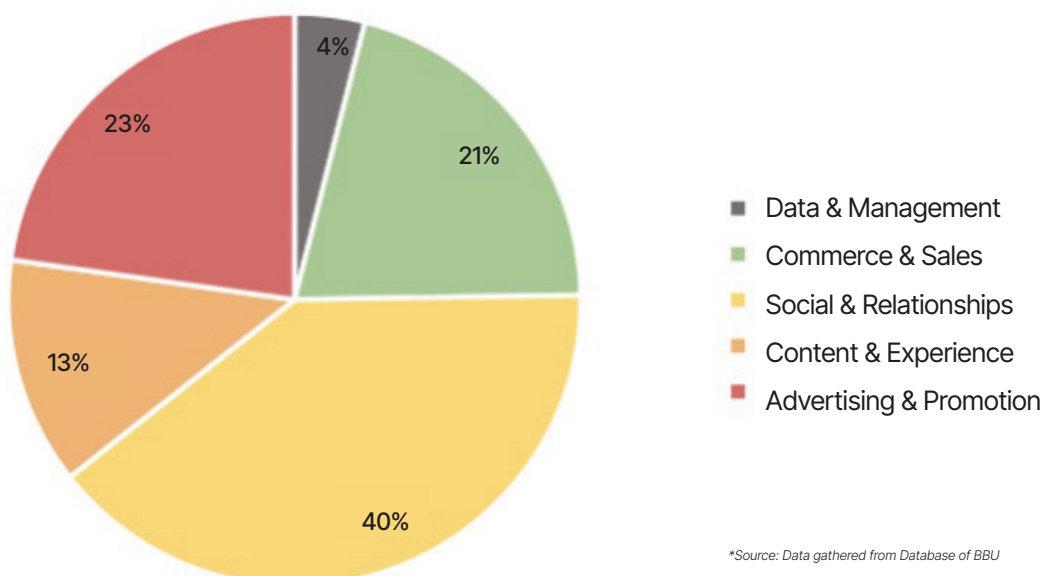
MR NGUYEN DANG DUY NHAT - CEO Global Elite Consulting Corporation

STARTUP & INNOVATION MAP IN VIETNAM AND THE WORLD

Distribution of Startup by Key Sectors of Martech in Asia Pacific, 2020



Distribution of Startup by Key Sectors of Martech in Vietnam, 2022

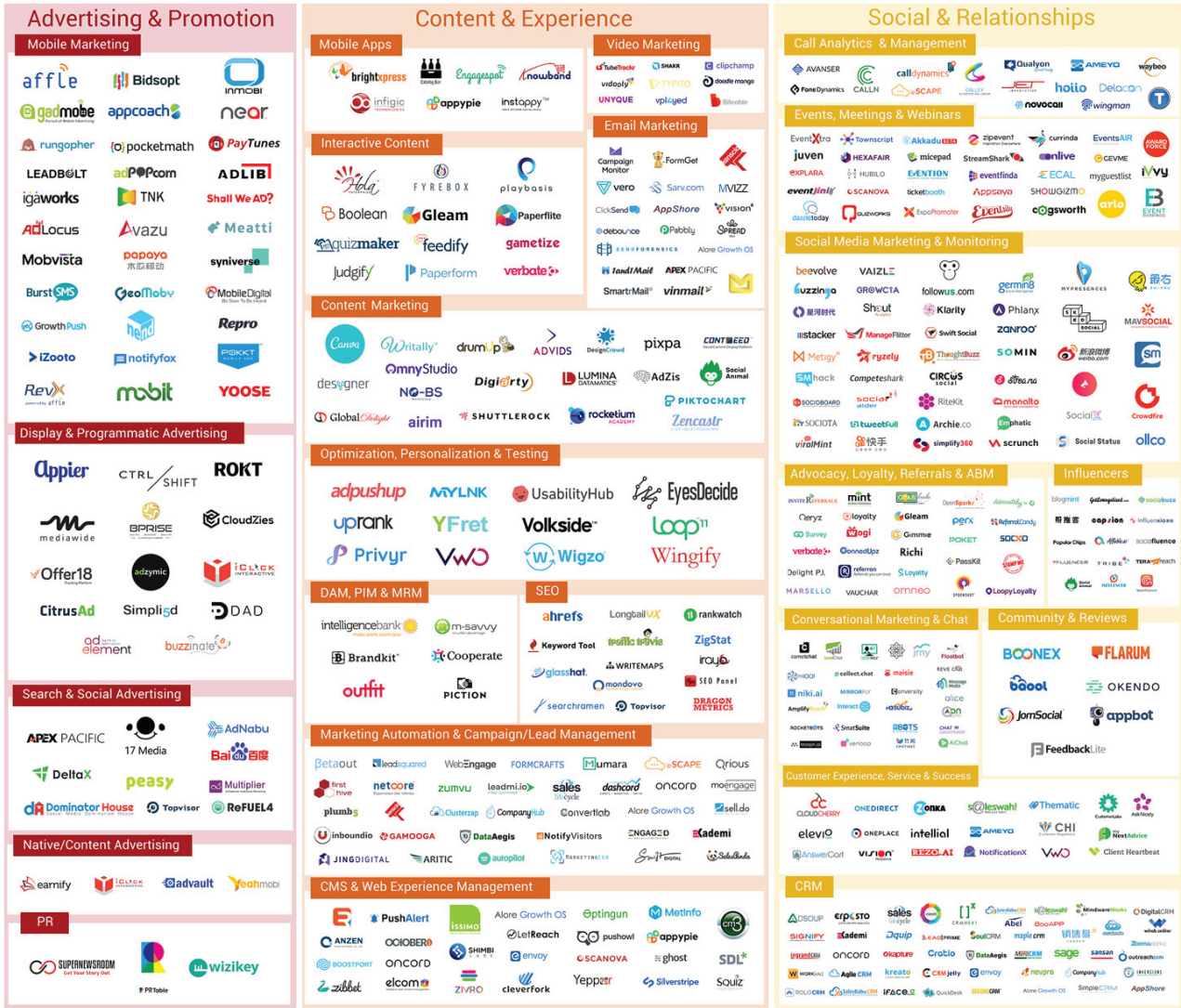


In the Asia Pacific region, three sectors that receive the largest concentration of Startup are Social & Relationships (34.3%), Content & Experience (24%) and Data & Management (18%). Meanwhile, the field of Commerce & Sales and the field of Advertising & Promotion are the two sectors that receive the least concentration, with only 14.6% and 9.1% of Startup.

Compared with the distribution of the number of Startup by key sectors in Vietnam, it can be seen that Data & Management and Content & Experience are the two areas that are still vastly vacant with only 4% and 13% of Startup. The top 3 areas that are receiving great concentration in the Martech market in Vietnam are Content & Experience (40%), Advertising & Promotion (23%) and Commerce & Sales (21%).

STARTUP MAP IN VIETNAM AND THE WORLD

Map of Martech in Asia Pacific, 2020



*Source: Martech Alliance

BambuUP Open Innovation Platform is committed to providing businesses with quality connections with specialists and top solution suppliers in their journey of discovering and developing Smart Manufacturing.

Contact us at:
info@bambuup.com or scan QR code



STARTUP MAP IN VIETNAM AND THE WORLD

Map of Martech in Asia Pacific, 2020



*Source: Martech Alliance

MARTECH SECTOR

CONTENT AND EXPERIENCE

CONTENT EXPERIENCE MANAGEMENT

ladipage zypro PageFly
SlimWeb BePage CHILI
SHOPLINE LarContent GEM-PAGES

CMS

publish
NUKEVIET.VN
DRIVING SUCCESS. CONNECT FUTURE.

MARKETING AUTOMATION & CAMPAIGN MANAGEMENT

ladiflow ABOT
ONMARKETER by NOVAON hub-js

EMAIL MARKETING

ladiflow mautic etaMail
ULTRAMAILER GOBYSEND
BizflyCLOUD TriggerM

SEO

LarKeyword
Ren seo

INTERACTIVE CONTENT

WORRY edulive TOURZY ONMIC

SOCIAL & RELATIONSHIPS

CRM

Getfly ladichat onlineCRM VINNO
salesforce genCRM ONCUSTOMER CRMVIET
MISAAMIS SlimCRM BizflyCRM
EX Tech HubSpot CRM Zoho CRM

CALL ANALYTICS & MANAGEMENT

FPT CLOUD CX CareSoft OMICALL Telehub
Gcalls Stringee CMC CLOUD Callio
fone bee

BOTS & LIVECHAT

SmaxBot fchat Hana.ai ladichat FPT.AI PANCAKE BotStar
BOT BAN HANG harasocial AntBuddy.com messnow DooPage

INFLUENCER MARKETING

ACCESS KOC hiip 7SAT ADSOTA ELOQ box studio
GOLDEN ONFLUENCER by NOVAON REVU CREATORY

ADVOCACY, LOYALTY & REFERRALS

cnvloyalty SMART LOYALTY URBOX My Retail haraloyalty powered by haravan

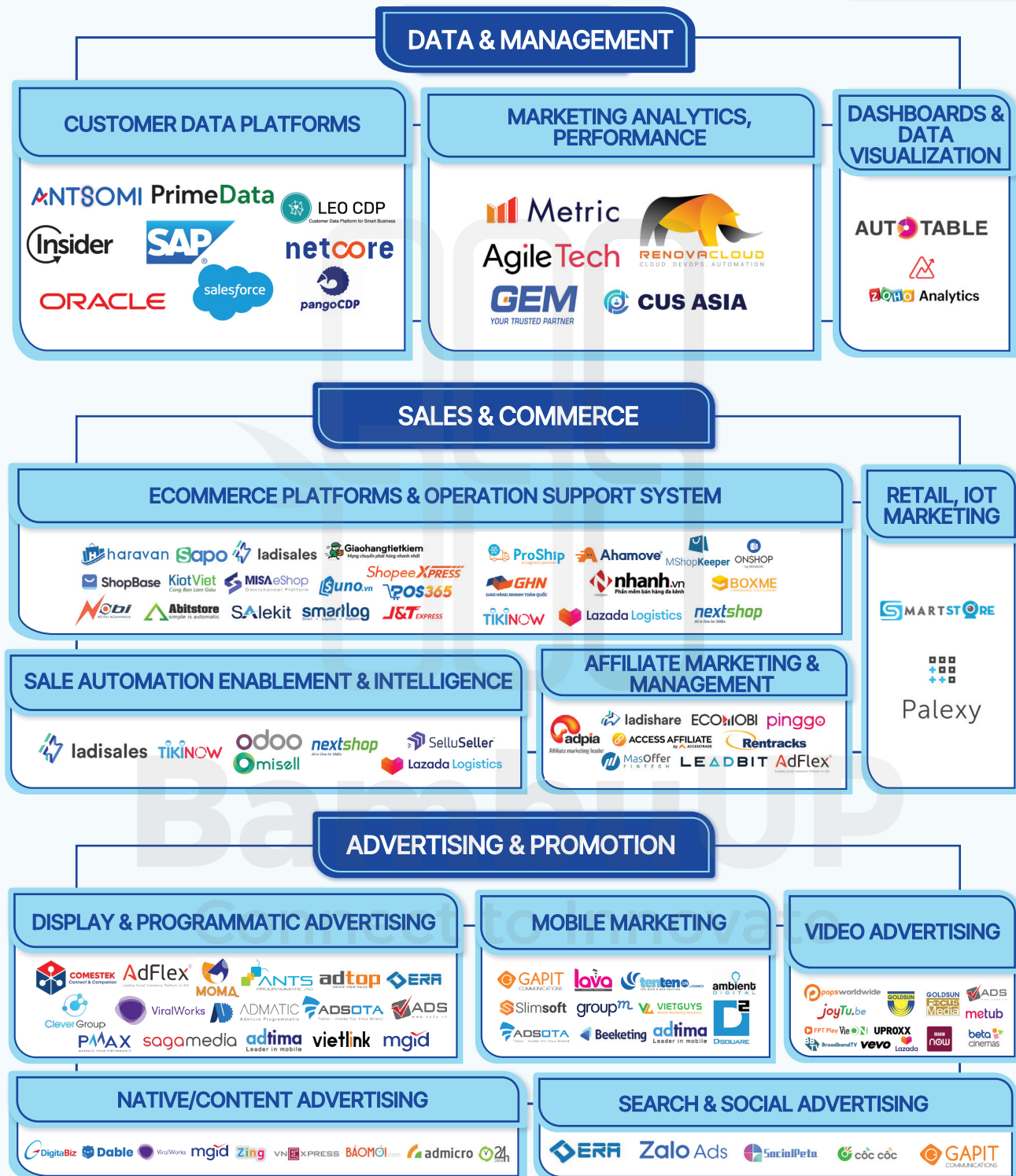
EVENT, MEETING, WEBINAR

Sukien.net ticket box edubit

(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



MARTECH SECTOR



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SALESTECH SECTOR

SALES REPS, SDRS, ISRS, ACCOUNT EXECS

SOCIAL SELLING

ECOMIOBI
TikTok Shop

LEAD CAPTURE

HubSpot
Airtable
ladiflow Typeform

SALES ENGAGEMENT

SmaxBot messnow Gcalls
DooPage harasocial UCALL
FPT.AI Hana.ai BotStar
PANCAKE EM&AI
ladichat BOT BÁN HÀNG
fchat AntBuddy.com

VIDEO SELLING

LEAD ENGAGEMENT

salesforce ladiflow

CONVERSION OPTIMIZATION

Stringee Te UltraMailer
akaBot UCALL LinkLeads
VIHAT ladipage

ONLINE VIDEO MEETING

zoom
S Google Meet

COLLABORATION & KNOWLEDGE SHARING

Notion slack
Lark Confluence

MANAGEMENT & SALES OPERATIONS

MISA CukCuk MISA AMIS Callio Bota UCALL hub-js KiotViet zsale SoBanHang
LOOP iPOS.VN D'CORP R-KEEPER POWERSSELL Sapo MOBI WOAY VN BAHADI PANCAKE Omisell

CRM SYSTEMS

Getfly ladichat onlineCRM VINNO SlimCRM Bizfly CRM MISAAMIS
salesforce genCRM ONCUSTOMER CRMVIET HubSpot CRM Zoho CRM EX Tech

(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



3

Smart Manufacturing

SMART MANUFACTURING OVERVIEW

1 The technological change in the Industrial Revolution 4.0 and the transformation in the manufacturing industry

THE TECHNOLOGICAL CHANGE	Industrial Revolution 3.0	Industrial Revolution 4.0
	Automation	Automated communication and decision-making
	Robots	Autonomous robots with the ability to communicate with each other
	Efficient Production	Flexible Production
	Forecasting-based Production	Demand-based Production
	Solutions for internal manufacturing processes	Solutions connecting the whole supply chain

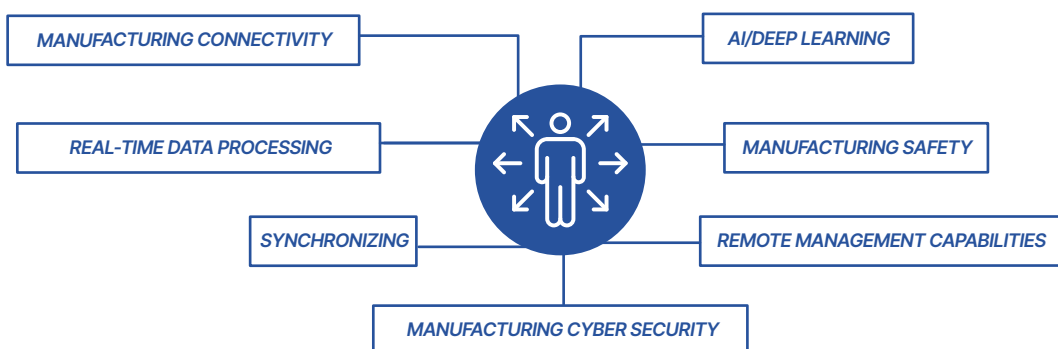
According to the observations and analysis of leading experts and economists in the world, the 4th Industrial Revolution will produce a drastic change in the orientation of the distribution of production resources and the way of manufacturing and consuming products thanks to the remarkable development of science and technology such as internet of things (IoT), artificial intelligence (AI) or Cloud computing.

The typical **"Automated Manufacturing"** of the 3rd Industrial Revolution has transitioned to **"Smart Manufacturing"** in the 4th revolution.

2 Smart Manufacturing

Is the connection of manufacturing systems (machines, equipment, production stages, and parts manufactured by digital technology, ...), warehouses, logistics, and even environmental and social factors to provide real-time data through high-tech applications to form an automated digitized manufacturing environment, to tackle problems at the factory, and to respond quickly and flexibly to new requirements from the market.

This is considered a game-changing move to the entire manufacturing landscape and is becoming the focus of the global manufacturing industry. However, there will be **several technological challenges** when businesses decide to transition to smart manufacturing that they need to understand to be best prepared for the transition.



3 KEY GROUPS OF BENEFITS OF SMART MANUFACTURING

Increased production readiness:

- Minimizing production line downtime
- Built-in security

Minimized investing and operating costs:

- Reducing costs
- Reducing total cost of ownership through process simplification with operational and management software

Increased flexibility:

- Faster technology/solution application
- Reducing dependency on suppliers, increasing production system interaction
- Simplifying the scale of production system

GLOBAL AND DOMESTIC SMART MANUFACTURING MARKET OVERVIEW

1 Global Smart Manufacturing Market

Global smart manufacturing market is expected to reach

97.6 BILLION USD

In 2022

And is forecast to reach

228.2 BILLION USD

By 2027

With a CAGR of

18.5%

From 2022 to 2027.

Source: Marketandmarkets

Manufacturing enterprises are increasingly becoming interested in and applying smart manufacturing globally. For every 3 manufacturing enterprises, 2 enterprises have been using application components in smart manufacturing, and more than 60% of manufacturing companies have applied AI technology to increase operational efficiency. The adoption rate in the global Smart Manufacturing sector has reached 50% from 2021 to now.

93% of manufacturing enterprises in the APAC region place a higher priority on developing smart manufacturing than organizations in North America (84%) or Europe, the Middle East, and Africa (EMEA) (75%). China, Germany, Japan, Korea, the USA, and France are leading in the global Smart Manufacturing market.

The values that the Smart Manufacturing sector has managed to garner in today's digital age are contributed by many factors as follows:

*Firstly, **rapid industrialization** in developing economies is one of the crucial preconditions for growth in the Smart Manufacturing sector. In order to maintain or increase competitive advantages, developing countries need to invest, build and deploy more efficient production and operating models to bring higher productivity and quality through the application of new and modern technology platforms in the manufacturing process.*

*Secondly, **governments have been gradually recognizing the role of manufacturing in economic recovery and growth; and have stimulated activities or policies to establish ecosystems to support transformation in businesses.** As in the United States, initiative groups such as the Industrial Internet Consortium (IIC), the Smart Manufacturing Leadership Coalition (SMLC), were formed to provide an environment in which businesses can coalesce to develop and leverage new digital technology platforms for smart manufacturing.*

*The last important point to mention is the growth of the **Internet of Things (IoT)**. IoT technology (wired and wireless) creates a connection between data streams collected from machines, production equipment..., provides the ability to monitor and manage processes remotely, and allows changes in production plans on the fly, in real time if needed. IoT technology helps to significantly improve production results, reduce waste, speed up production, and improve productivity and quality of manufactured goods.*



Smart manufacturing solutions help maximize production efficiency and shorten the time to meet production needs. Smart manufacturing also helps to create closer links between manufacturers in the supply chain, allowing manufacturers to respond more flexibly to consumer needs, as well as market changes. **The development trend of the Smart Manufacturing market is heading towards solutions that increasingly shorten the distance between manufacturers and end consumers while flexibly meeting mass customization needs.**

MR. NGUYEN XUAN HACH - CEO of ITG Technology

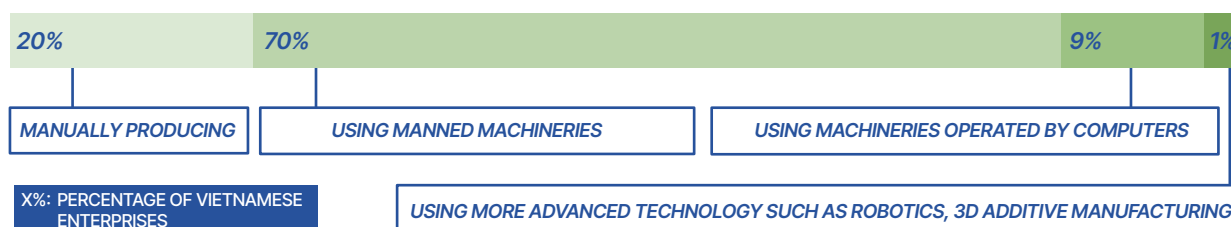


ASEAN in general and Vietnam in particular are the countries that are more motivated than ever in the digital transformation to enhance their position of industrial production on the global manufacturing industry map.

MR. NGO VIET HAI – Deputy General Director of Advantech Vietnam

2 Domestic Smart Manufacturing Market

Industrial Revolution 4.0 is attracting the attention of many countries and Vietnam is no exception. As Vietnam evolves to enhance its position in the global manufacturing industry and value chains, more opportunities will arise for manufacturers in the manufacturing industry to continue to increase their capabilities by applying increasingly notable modern technologies such as artificial intelligence (AI), 3D printing, Internet of things (IoT),... However, for now, most factories in Vietnam are in the earlier stages of development - the Industrial Revolution 1.0, 2.0. A study by the World Bank in the East Asia - Pacific region on enterprises in the manufacturing industry showed that:



Vietnamese industry has not caught up with modern production, the production technology of domestic enterprises is still slow to innovate, and factories are still mainly in the stage of partial or partial automation. Most enterprises are at a low approach compared to the requirements of smart manufacturing and smart factory. The digital transformation in most of Vietnam's manufacturing enterprises is still limited and not really prepared due to several difficulties and challenges:

HUMANS

Human resources in the Vietnamese market are still **lacking skills** in using Internet of Things (IoT) devices, in monitoring tools to prevent human errors in the production process, with **low process compliance**.



APPLICATION OF IT/OT TECHNOLOGY

Factories in Vietnam have been applying different information technology systems but still sporadically. However, the use and application of IT is only at the Silo level - it can only serve a few business processes, and the application can only meet current needs, but not long-term ones due to the **lack of planning and architecture** to link those applications together.

However, Vietnam also has many large leading enterprises that have succeeded with smart manufacturing models, such as **VinFast, Thaco, Tan Hiep Phat, Vinamilk, TH True Milk**, creating a driving force for those future changes of the remaining manufacturing enterprises in Vietnam.

In a market that has not yet formed, it requires manufacturers to change and develop more in terms of their strategy, human resources, and technology in the production process. **With the benefits that Smart Manufacturing can bring, this is a trend that manufacturers in Vietnam will have to turn to in the future to improve productivity, quality, efficiency and "avoid being left behind."**

According to the annual aggregate research report on the Vietnamese industry from Savills, the manufacturing sector can achieve 16% growth during the implementation of the 4.0 strategy by 2030 if SMEs start to deploy mid-tier technologies and the new technologies are forecasted to help the sector grow by \$7-14 billion.

Some of the main driving forces that promote the development of smart manufacturing in Vietnam

2 **Government policies and guidelines** that strongly promote the development and application of new technologies in socio-economic fields. In addition, Vietnam has been signing many free trade agreements to remove economic - political - social barriers. Through this, businesses are given opportunities to be exposed to the world's leading technical systems, machines, and technologies.

1 **Breakthroughs in technology** such as Computer Vision, Artificial Intelligence and Automation, IoT ... are the platforms that strongly promote the transformation in smart manufacturing across the world and in Vietnam.

3 **Supply Chain Complexity:** Today's manufacturers compete at different levels, and with the growing need for customization and shorter time to market, there are urgent needs for data processing systems to reduce costs, waste, and time.

HOWEVER, VIETNAMESE ENTERPRISES ALSO FACE CERTAIN CHALLENGES WHEN DECIDING TO PARTICIPATE IN THE TRANSITION TO SMART MANUFACTURING. IT IS NECESSARY TO CATCH UP AND BE PREPARED TO HAVE A SUITABLE PLAN FOR A SUCCESSFUL TRANSITION.



HUMANS

The problem of humans is always a complex problem for businesses when deciding to apply technology. The application of models in production and management processes requires workers to achieve specific qualifications. On the other hand, thinking that machines will replace human workers will lead to resistance from employees, which causes many obstacles for planners in restructuring the factory.



VISIONS AND STRATEGIES

Technology adoption also requires manufacturers' clear vision and strategy to ensure ROI



CYBER SECURITY

One of the most critical issues is cyber security because once the factory starts automating processes, all data will be centralized in a single source. This makes the data very easy to be leaked, and the security of information will be increasingly difficult.



ABILITY TO APPLY TECHNOLOGY

Enterprises need to understand and ensure the ability to apply technology in production processes because automatic machines and equipment have high requirements in terms of both budget and technical level for the application.



SUSTAINABILITY

Sustainability is about radically solving the problems of materials, production processes, energy, and pollutants generated in the production process. Products and processes following sustainability criteria will bring many benefits to businesses.

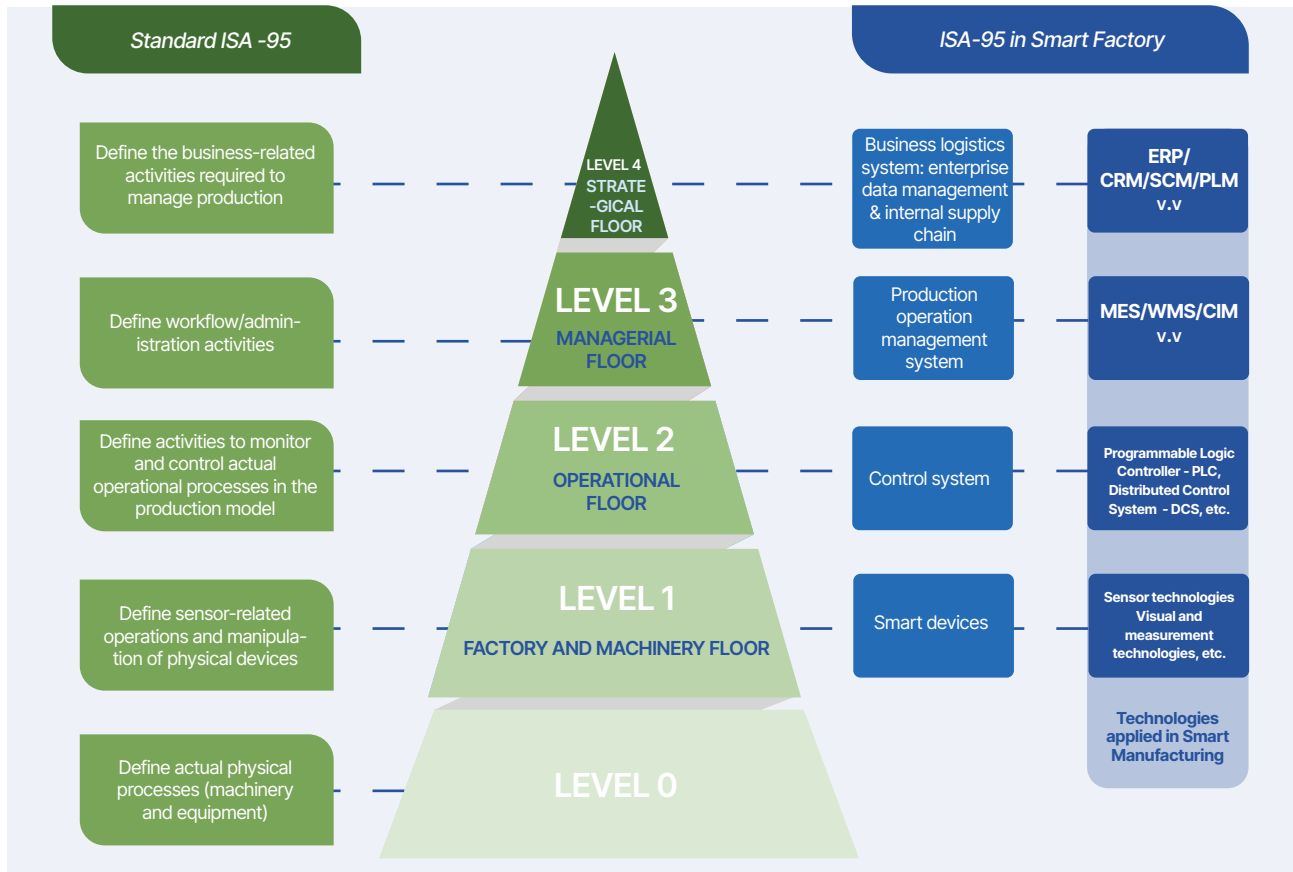


In the process of digital transformation and building smart manufacturing factories, besides the transformation in terms of technology, manufacturing enterprises cannot neglect other aspects, from enterprise strategy, business production strategy, to corporate culture, and the human factor in the enterprise. All these four aspects are the sum total for the comprehensive success of digital transformation in enterprises generally and in manufacturing enterprises particularly. According to the approach of countries such as India, Malaysia, Thailand, etc., investment in technology and people is the first foundation of the development of production level. In Vietnam, during my working experience, out of 10 businesses wishing to implement digital transformation, up to 7 of them are advised to not immediately implement digital transformation in terms of technology, but to conduct training, strengthen digital literacy and digital capabilities for the management team and key personnel positions in the factory first.

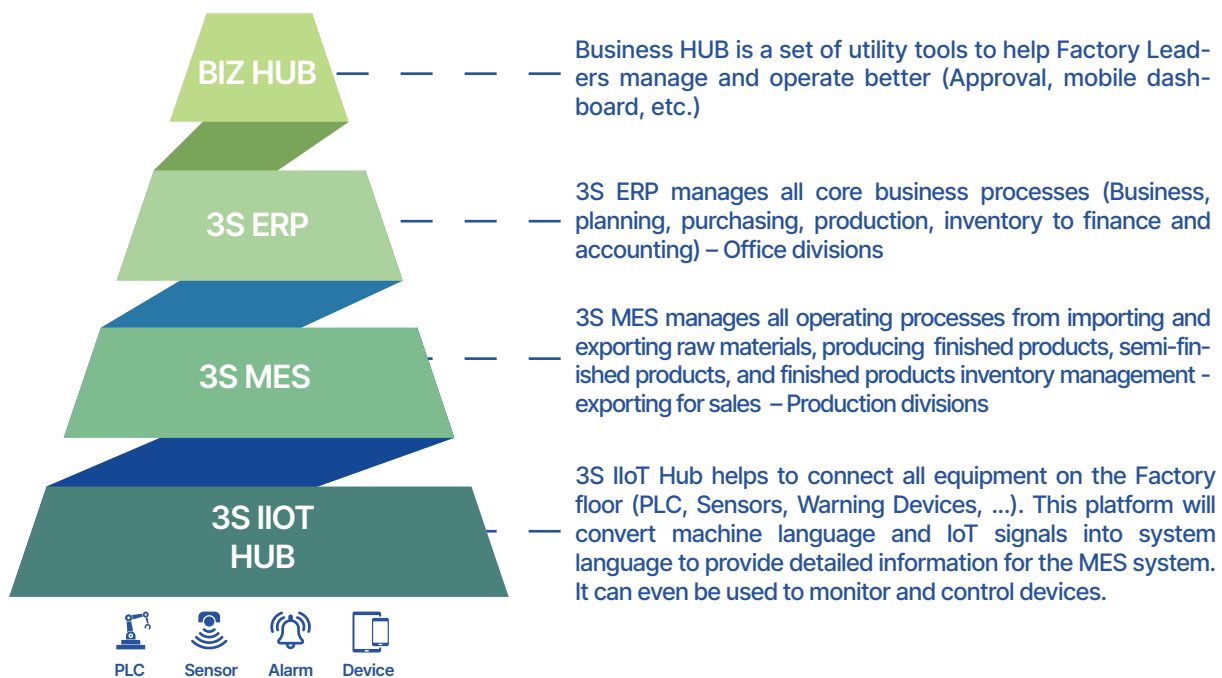
MR. NGUYEN DUC QUE - Director of Distribution Of Intel Vietnam

3 Technology model applied at the factory in Smart Manufacturing

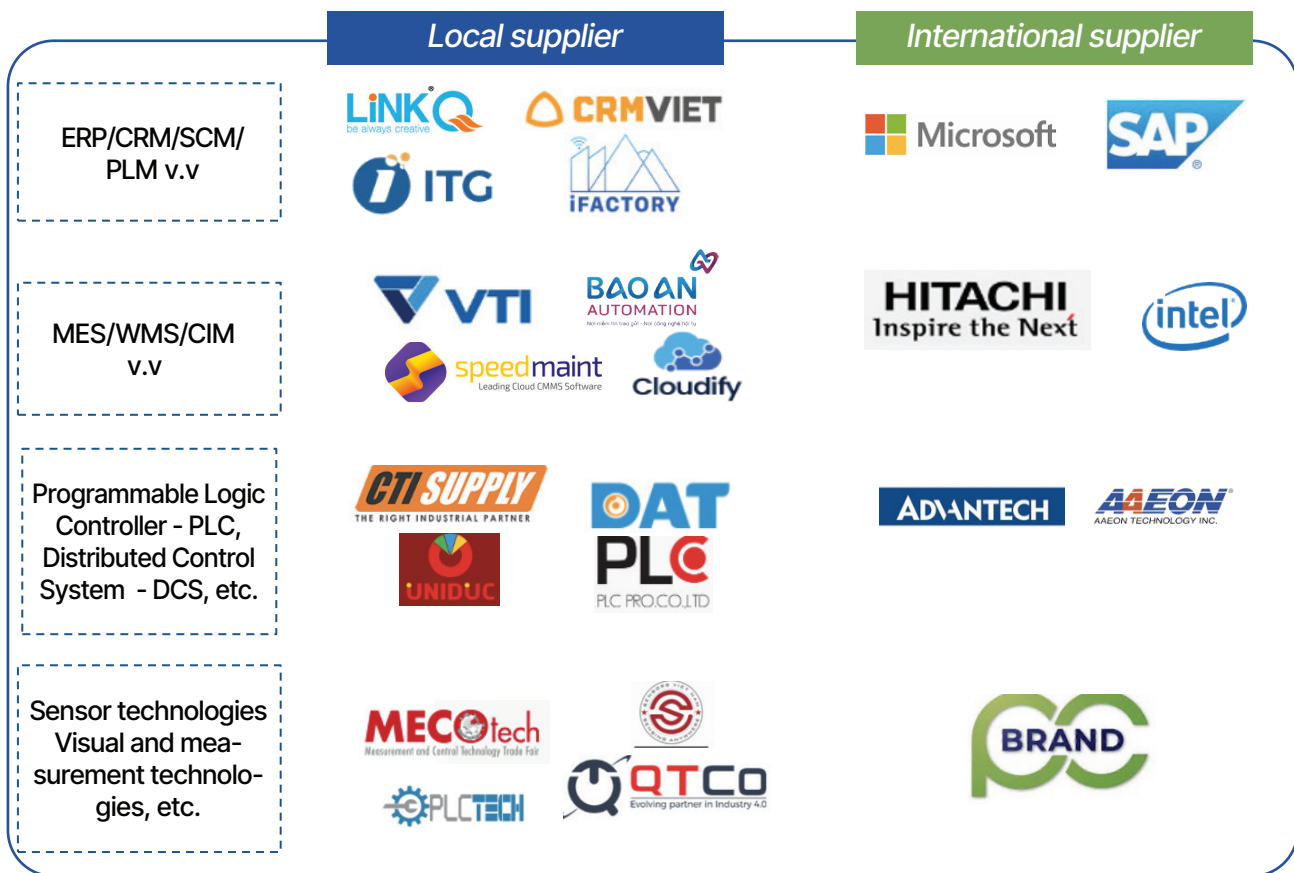
The ISA-95 model is an international standard model to build a prototype for integrating management software and control systems in manufacturing enterprises, describing the logical hierarchies for the systems used in monitoring, operating, and controlling production.



For example, a **3S iFACTORY smart factory solution** from ITG to help complete digital transformation for production units according to the ISA-95 model is being trusted by many large domestic factories as well as FDI enterprises.



COMPANIES THAT PROVIDE TECHNOLOGY SOLUTIONS RELATED TO EACH LAYER OF THE ISA-95 MODEL



Many typical domestic enterprises as well as FDI enterprises have developed smart factories such as Jager - Producing interior wood, Ricco - Producing construction glass, Viet My Dong Nai - Producing high-quality exteriors, KIMSEN - Producing aluminum profiles & components,...

Jager interior factory

Two-thirds of the key elements of the development strategy have contributed to the formation of JAGER's smart factory, including Convergence of ERP (Enterprise Resource Planning System), MES (Manufacturing Execution System), Robotic Process Automation (RPA), and Industrial Internet of Things (IIoT).

At JAGER, machine automation involves not only automated production lines but also the use of robots to transport and store goods. The heart of this automated technology is a smart plank storage system that recognizes unlimited material codes and uses robots to pick and stack bulky materials into hundreds of models for the next machinery step (milling, cutting, splinting, etc.). In parallel with this operation, data is automatically connected between machines, allowing seamless technical communication without the need for an intermediary. This ensures maximum accuracy and replaces basic human input.

KIMSEN smart factory

KIMSEN is promoting investment in machinery and equipment line systems imported directly from developed countries in the world, such as Germany and Japan.

During the production process, the system integrates the latest technologies, such as barcode / QR code scanning and IIoT sensors recording output data, eliminating manual data entry. This system allows the highest quality control even in manufacturing plants such as extrusion plants, coating plants, ANODE workshops, which can improve capacity, productivity, and work quality.

Applying ERP and MES technology software has helped KIMSEN obtain a synchronous information system between the Hanoi Office and all production activities at the factory in Bac Ninh, thereby standardizing business and operational processes effectively across departments and divisions.

4

Assessment of level of catching up of Vietnam compared to the world

Vietnam is the leading destination for investors in the manufacturing sector; however, for the smart manufacturing sector, only a small percentage of enterprises, large enterprises in particular, have applied it. For the rest enterprises, the development of smart production is still limited and not really prepared due to many difficulties, namely a lack of systematic planning and a lack of enterprises providing solutions. The smart manufacturing field in Vietnam still has a huge gap compared to the smart manufacturing development in the world.

Israel is a country with a modest industrial sector, but it is still the destination of many world giants in manufacturing. This innovative nation excels in the technologies needed for the digital transformation of manufacturing to build factories of the future for smart manufacturing. Israeli Startup are renowned for their ability to adapt to new fields and adapt their technology for new purposes. Moreover, their local Startup always head towards the global market to tackle global challenges and needs.



Source: Let-Lab

SMART MANUFACTURING



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



The number of technology Startup in the field of Smart Manufacturing in Vietnam is still quite modest and is currently quite left behind by Israel - a country with a development history quite similar to Vietnam in many aspects with many difficulties and fluctuations (38 Startup listed in Vietnam compared to 218 Startup in Israel - data updated in 2022)

Technology Startup in the field of Smart Manufacturing in Israel are evenly distributed in almost all necessary technology segments. The 3 areas that received the highest concentration of development were Artificial Intelligence (25.2%), Industrial Internet of Things Platform (24%) and Cyber Security (18%).

Meanwhile in Vietnam, due to the limited number of technology Startup in the field of Smart Manufacturing, some technology segments in Vietnam lack major investments such as: Energy Technology, Cybersecurity Technology, AR/VR and Sensor Technology. Some of Vietnam's technology segments that have received development attention include: Technology & Enabler (7 Startup), Robotics & Automation (8 Startup), Additive Manufacturing (6 Startup) and IIOT Platform (7 Startup).

In order for manufacturing enterprises to be able to develop and transition more strongly to Smart Manufacturing, promoting the development of the ecosystem of technology Startup to provide a wide range of solutions that are suitable for the scale and operating model of manufacturing enterprises is a matter of top concern for management agencies as well as enterprises across the country.

OBSERVATIONS OF LEADING EXPERTS IN VIETNAM ON THE DEVELOPMENT AND SOME OUTSTANDING TRENDS OF SMART MANUFACTURING IN VIETNAM



Implementing digital transformation in factories and building smart manufacturing factories in Vietnam are receiving many opportunities thanks to the maturity and readiness of advanced technology solutions developed by world-renowned technology companies. Taking advantage of them will help our manufacturing enterprises overcome the weaknesses of Vietnam's industry such as small scale, low labor productivity, weak human resources...

We need to keep in mind that digital transformation in smart manufacturing is a continuous, sequential, fast and slow, long-term and enduring process, with successes and failures intertwined. It is not a miracle that can immediately innovate, increase factory productivity and dominate the market. But digital transformation is an objective inevitability, if you want to survive, compete and develop. Therefore, you should implement the digital transformation of your factory as soon as possible. Right now, or you'll miss the 4.0 train!

MR. NGUYEN DUC QUE - Distribution Channel Manager of Intel Vietnam



In reality, the proportion of Vietnamese enterprises willing to participate in the digital transformation of production is still modest; in other words, enterprises that have not really paid attention to the digital transformation of production account for a high proportion of domestic manufacturing enterprises. Only a few high-value industries, FDI enterprises, and export goods manufacturers have taken steps and actions in investment plans for digital transformation in manufacturing, such as Electronics, Computers, and some auxiliary equipment manufacturing industries.

Currently, investment trends in technology applications in Vietnam still focus mainly on the non-manufacturing sector (service market, finance ...). The rate of 4.0 technology application in industrial and agricultural production accounted for a low percentage: Smart agriculture accounted for 7.1% of the adoption rate, AI 5.9%, Robotic 6.1%, Cloud computing 6.9%, and industrial production accounted for 1.5%. Thus, it can be said that Vietnam's level of catching up with technology trends compared to the world still has a huge gap between expectations and reality.

MR. NGO VIET HAI - Deputy General Director of Advantech Vietnam



We have seen a sharp growth in the demand for industrial computer products and industrial cameras for technology solutions in factories from 2019 to now, especially in the period after the Covid pandemic was under control.

MR. DUONG THANH LAM - CEO of BrandPC Vietnam



The Smart Manufacturing market in Vietnam is growing at a rapid pace, but at a lower level; most new businesses are implementing it at the level of data and process digitization. Only a small proportion of large enterprises with strong potential are able to invest in factories and production lines with a high degree of automation and synchronous technology solutions under the smart manufacturing model.

Vietnam has a great advantage in terms of top-of-the-world Internet development speed, and at the same time, Vietnam is also in the top 10 most attractive software outsourcing countries in the Asia-Pacific region. These advantages have helped Vietnamese technology enterprises to access new technologies quickly. In addition, technology businesses also have a professional and focused investment in new technology fields, thereby bringing to the market technology solutions that are close to the general development trend of the global market and meeting the needs of digital transformation in smart manufacturing industry.

However, technology companies in Smart Manufacturing in Vietnam are also facing some major barriers, such as Lack of competitiveness in terms of branding compared to foreign solutions; Limited awareness as well as the human capacity for the digital transformation of enterprises applying solutions in the market.

MR. NGUYEN XUAN HACH - CEO of ITG Technology



Almost every month, I contact and consult with 7-10 new businesses, which are manufacturing enterprises; and there is a common perception that the transformation to smart manufacturing of Vietnamese enterprises is still relatively slow and cautious. It seems that Vietnamese businesses have not really figured out what basis to adopt, where to start, and what the benefits are. If it is said that Vietnamese enterprises do not have a long-term vision, that is not necessarily the case. This cautious approach of Vietnamese enterprises can be explained by the fact that the maturity level of the business management system is not so high, and the operating system is yet to be standardized well enough to be able to establish a recognition mechanism to identify organizational problems, and when businesses cannot identify the problems, most of them cannot see the value of savings that innovation activity in the direction of "Smart" brings.

We don't have a long time to be developed in production management, so a quick transformation is not feasible for most Vietnamese enterprises. However, we can learn how to deploy smart manufacturing the way Korea has been doing: Partial transformation. When problems are identified, we can apply partially and standardize as the process goes on to achieve new and better results, and the profits generated from the innovation are reinvested in the next initiatives. Solutions that are in high demand today and tackle many problems in production include IoT solutions to measure and compile statistics of output, monitor machine health, identify production imbalances, identify and detect defective goods ...

Today, Vietnam requires more Startup in smart manufacturing industry because there is a lot of waste in Vietnam's production activities, and when the right type of waste is addressed, yielded savings are much larger than the investment in smart manufacturing transformation. In addition, Vietnamese business owners are already aware of how to be efficient in production, so the demand for smart manufacturing solutions in the near future will be huge.

MR. LUU NHAN KHAI - CEO of VJIP JSC

BambuUP Open Innovation Platform is committed to providing businesses with quality connections with specialists and top solution suppliers in their journey of discovering and developing Smart Manufacturing.

Contact us at:
info@bambuup.com or scan QR code



4

Blockchain
Web3
Metaverse

OVERVIEW OF THE THREE TECHNOLOGY TERMS

1 Blockchain

Blockchain is an innovative database technology, the center of nearly all cryptocurrencies - introduced in October 2008 as part of a proposal for Bitcoin - a virtual currency system that avoids conventional currency control, capable of transferring ownership and confirming transactions. Bitcoin is the first application of blockchain technology.

Source: HBR

Blockchain creates a data structure, **where users do not need to put their trust in a third party to authenticate information.**

10.02
billion USD



Global Blockchain
Technology Market Size 2022

85,9 %



CAGR (2022 - 2030)

Sorting by technology application, Blockchain market is classified into Digital Identity, Payment, Smart Contract, and Supply Chain Management. The payments segment dominated the Blockchain market in 2021 and accounts for over 44.0% of the global revenue share. Blockchain technology improves the efficiency of the payment system, reduces operating costs and brings transparency.

Source: Grand View Research, Inc

APPLICATION OF BLOCKCHAIN TECHNOLOGY IN BIG COMPANIES IN THE WORLD (2021)

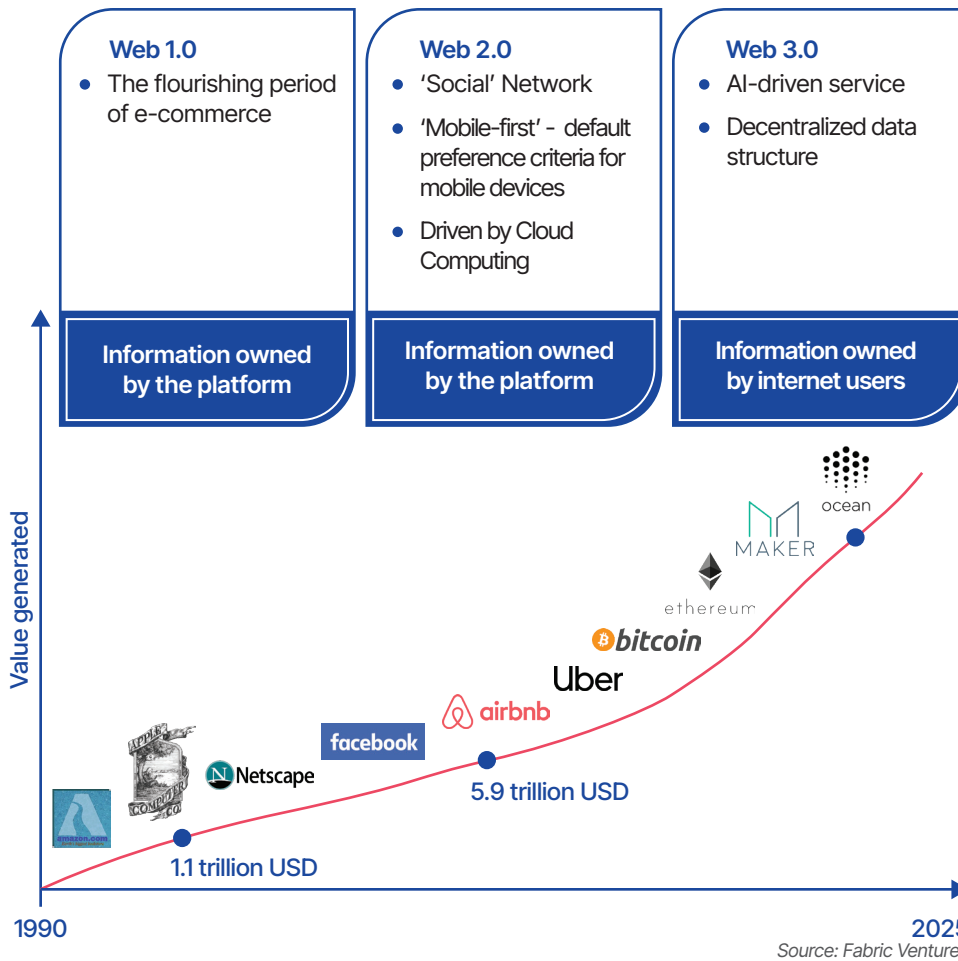
Company	Technologies Used (Blockchain networks / DLT frameworks / SC language / Software)				
Microsoft	bitcoin	ethereum	Quorum	daml	
Alphabet	THETA	HYPERLEDGER FABRIC	ethereum	Hedera Hashgraph	
Alibaba Group	ANTCHAIN	HYPERLEDGER FABRIC	Quorum		
Coca-Cola	HYPERLEDGER FABRIC	baseline	ethereum		
accenture	HYPERLEDGER FABRIC	c.rda	Quorum	daml	
TCS	HYPERLEDGER FABRIC	ethereum	c.rda		
SAP	Quorum	ethereum	MultiChain	c.rda	HYPERLEDGER FABRIC
Shell	energy web CHAIN	Quorum	ethereum		
citi	c.rda	AXONI	ripple		
Goldman Sachs	c.rda	Quorum	ANTCHAIN		
SAMSUNG	Nexledger	ethereum	HYPERLEDGER FABRIC		

Source: Blockdata.tech

Companies are using blockchain and deploying it as their infrastructure. Companies have also incorporated blockchain technology into their supply chain solutions to improve product traceability. Of course, DLT (Distributed ledger technology) solutions are also being used in capital markets, for example in clearing.

OVERVIEW OF THE THREE TECHNOLOGY TERMS

2 Web3



Web 3.0 is understood as the 3rd generation of web - where users can participate in the administration and operation of web protocols in a decentralized manner, not just as users or customers of large platforms like the 2nd generation anymore. Web 3.0 is a large blockchain applied environment, where areas such as Defi (decentralized finance), NFT (non-fungible asset), metaverse or DAO (decentralized autonomous organization) are given strong development conditions.

Web3 is defined as **the internet owned by users and managed by tokens.**

(Source: a16z - Andreessen Horowitz Investment Fund)

1.73 billion USD



Global Web 3.0 Market Size in 2022

44,9 %



CAGR (2022 - 2030)

Web 3.0's ability to grant Internet users using Blockchain technology access to decentralized applications is a key factor promoting the growth of this market. Web 3.0 provides users with awareness based on their search histories and allows them to control their data on web pages.

Source: Grand View Research, Inc

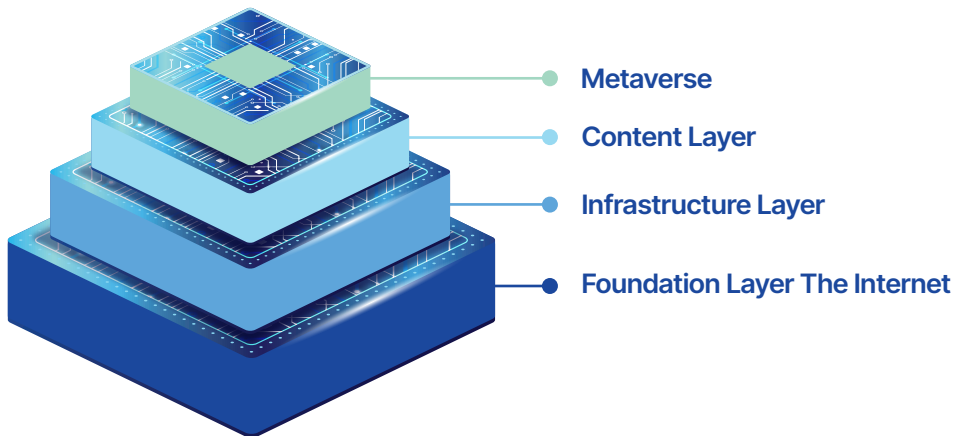


Web3 is still a world in the process of creation. Many issues, including questions surrounding the regulation, will need to be resolved before it convincingly expands to achieve mass adoption. However, the value proposition for the user is at the center - the proposition that unifies data, functionality, and value, and creates opportunities for new and more efficient forms of application and ownership of assets. If history is any indication, large and small companies, as well as governments and society, can take note of the influence of Web3 and start thinking about responsible ways to interact with it. Those who currently fail to do this may suddenly find themselves overtaken by a flurry of new technologies, new assets, and new ways of doing business.

MR. NAM NGUYEN - Researcher & Founder - StocX

OVERVIEW OF THE THREE TECHNOLOGY TERMS

3 Metaverse



US\$400 billion is the Forecasted Revenue of Metaverse in 2025.

Blockchain

Web3



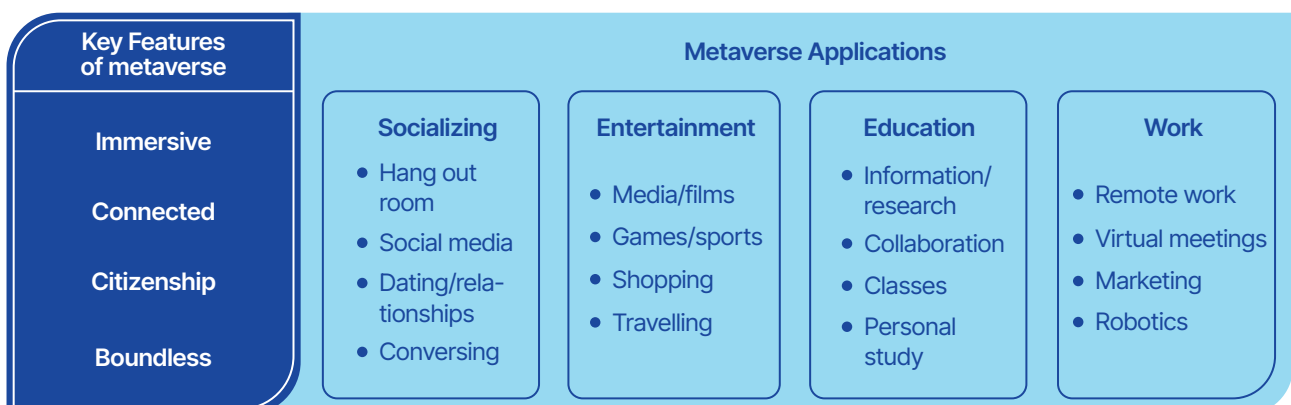
Technology often develops very quickly, the cycle of emergence of new technology trends is being shortened more and more. Metaverse is said to be the future, the next version of the Internet. Over the past 30 years, although the Internet has witnessed miraculous developments, it still stops at the level of humans interacting with the digital world through a device plane (computer screen, smart-phone, television...). Metaverse is expected to change almost entirely this user experience. Instead of just standing outside to control the systems, users will role-play and get inside the digital world with the support of VR/AR, 3D, Blockchain, Web3 technologies... These factors prove a real attraction for Internet users around the world, and many organizations and individuals think that this will become a brand new opportunity in all aspects of life, from business to entertainment, to education, like the way the Internet and Web 2.0 did.

DR. TRINH CONG DUY, Co-Head of Metaverse Village, Founder of Bizverse World project

"Metaverse" is a **set of virtual spaces where you can create and explore with other people who aren't in the same physical space as you.** You'll be able to hang out with friends, work, play, learn, shop, create and more.

Source: Meta

Technology companies believe that metaverse is not only a place to vividly reproduce real-life experiences in a digital environment, but allow us to also integrate the two.



Source: Oliver Wyman Forum

FACEBOOK

Meta

At the end of 2021, as Mark Zuckerberg betted the future of his company - Facebook on the metaverse, more and more companies have bought their shares of this game. From Microsoft, to Nvidia and Shopify, it looks like big names across industries are trying to get their foot in the door early.

Global investment bank Goldman Sachs argued that Metaverse could be an **US\$8 trillion market** with other estimates putting the number even to US\$30 trillion within 10 or 15 years.

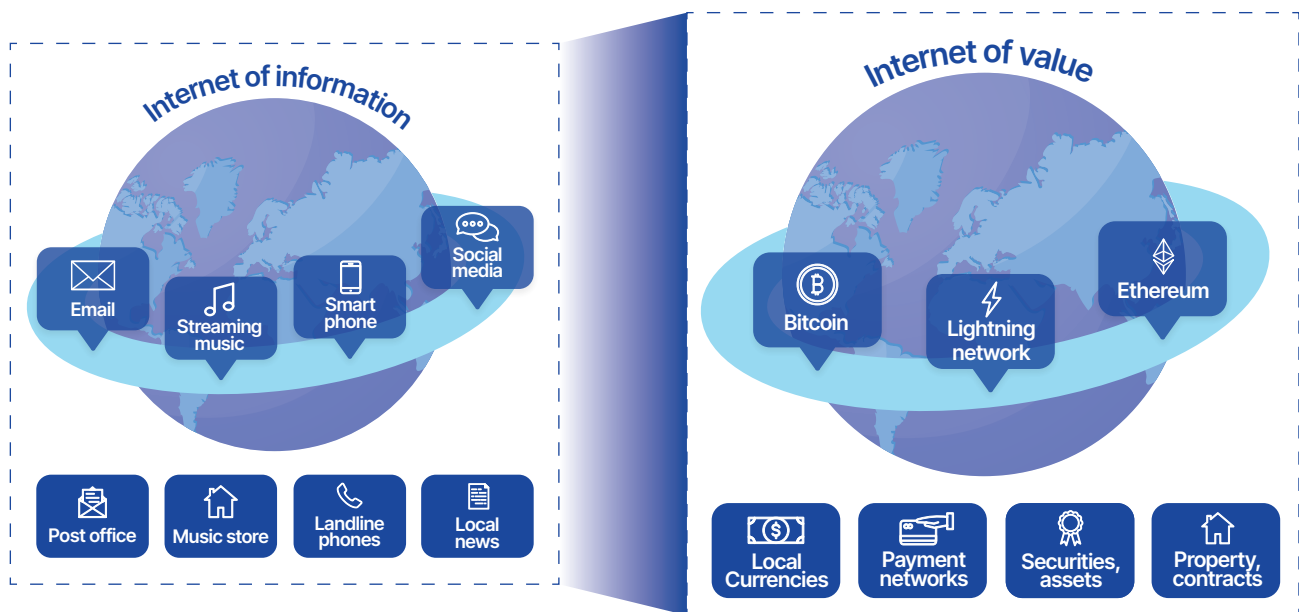
Source: coinser.io

OVERVIEW OF THE THREE TECHNOLOGY TERMS

3 Blockchain, Web3, Metaverse

Blockchain, Web3 and Metaverse technologies are thriving and playing an important role in the transformation of the Internet. The Internet of Information is transforming into the Internet of Value.

The Internet of Value is the new change that allows the transaction of value in real time between peers without the need for intermediaries and other associated costs. Just as Internet users transfer information in real time without the need for third-party permission, on the Internet of Value, peer-to-peer companies exchange value over the internet in terms of money



Source: Wells Fargo Investment Institute

Internet of Value (IoV) tackles the following problems:

Cross-border trade payments and Cross-system payments

In the former financial system, money transfers were expensive and time-consuming. With latest technologies, especially Blockchain, end users can conveniently and instantly make the transaction without waiting.

Global financial access problems

Another problem the Internet of Value is trying to tackle is the lack of global access to financial instruments. Internet is predicted to surpass banking coverage globally:

1.7 billion adults

do not have access to banks

4.1 billion people

tiếp cận với Internet

Source: World Bank

Financial transparency problems

With blockchain, all transactions are public and immutable. Stricter regulations are setting the stage for new technology to gain momentum in a mainstream where users need more certainty and easier management of their money.

TRENDS - WORLDWIDE

1

BLOCKCHAIN TECHNOLOGY IS APPLIED THROUGHOUT THE VALUE CHAIN

New product development - Research and development - Intellectual property rights protection	Supply of raw materials - Socially responsible sourcing identification - B2B transactions	Traceability in the supply chain - Traceability - Product recall - Cold chain management	Logistic - Cross-border transactions - Customer dispute resolution - Last mile delivery
Shopping experience - Product authentication - P2 - Customer Loyalty Program	Marketing Digital advertising	Service and Warranty - Warranty history storage - Manage customer warranty claims	Predictive analytics Predict customer behavior

TYPICAL EXAMPLES OF BLOCKCHAIN APPLICATION IN BUSINESS ACTIVITIES

New product development



Nike acquired digital fashion company RTFKT Studios to create another "dimension" of the Nike brand's digital fashion.
Big brands are encroaching on the Blockchain field to explore new products and reach new customer groups.

Traceability in the supply chain



Pfizer uses a blockchain-based system to track prescription drugs throughout the supply chain to limit the entry of counterfeit drugs.
Pharmaceutical brands are showing their interest in Blockchain technology to develop systems for drug tracking and traceability as well as tracking drug returns.

Marketing



HSBC partnered with Sandbox - a decentralized virtual reality platform, to build a loyal user base by building a financial training game world for future customers.
To reach the group of future customers - young technology-loving customers, big, established brands are promoting the creation of a digital presence and the formation of interaction with all who participate into the 3D world.

Shopping experience



Yield Guild Games builds a gaming community that connects players to earn money through a blockchain-based economy.
Game creators build communities on their games, exploiting the Play-to-earn trend (a model in which a platform offers players the opportunity to earn any form of in-game asset that can be transferred to the real world as a valuable resource) to increase user loyalty.



Born in the Internet Era, I have witnessed the great technological revolution such as the platform economy and Web 2.0 gradually changing the world. Now, I'm more excited than ever to witness the spectacular combination of blockchain and other cutting-edge technologies, with Web 3.0 and Metaverse at the heart of development. In the future, Web 3.0 is expected to explode in the market as a repeat of the miracle of the Internet era, this time with new features such as immutability, transactional trust, easy access for all, and easily given individual ownership rights for each user. So we can expect an economy that truly empowers users and communities.

MS. DOAN KIEU MY - Growth Manager, Earable® Neuroscience - Founder, YellowBlocks
Former Global Marketing Director, VinFast

TRENDS - WORLDWIDE

NFT or Non-Fungible Tokens are unique and irreplaceable tokens. Each NFT can act as “proof of authenticity” and “property” in digital-related fields. This superiority is due to the application of Blockchain technology, in which each unit of encrypted data stored on the Blockchain represents a certain asset. These assets can be “virtual assets” but can also be “cryptographic versions” of something in the real world.



Roles of NFT to brands



NFT provides a new user experience, increased brand awareness and preference. In marketing strategy, brands can use NFT technology to provide “personalized gifts”, vouchers, etc. to customers.



NFT opens up a whole new revenue stream for brands. Brands can sell NFTs digitally or as a supplement to a physical product. To catch up with this, the brands Coca-Cola, PepsiCo,... began to issue NFTs and apply them in communication and advertising campaigns.

Source: Advertisingvietnam

Typical examples:

VISA

Visa is the world's leading electronic payment technology company, currently processing payment transactions between consumers, businesses, financial institutions and government agencies in more than 200 countries and territories .

ShopNEXT cooperates with Visa to launch Web3 Loyalty Platform – The first membership points platform on blockchain. Anyone holding a Visa card can participate in shopping and get rewarded with tokens. This Loyalty platform is expected to help millions of brands grow and develop as well as contribute to stimulating the global economy and bringing Web3 to the vast majority of users.

ShopNEXT

ShopNEXT is a Web3 Loyalty platform powered by BNB Chain. ShopNEXT combines Visa card payments, NFT and gamification to create a unique Shop-To-Earn model. ShopNEXT allows users to receive token rewards through daily purchases, while also helping partners grow and develop their businesses. The ShopNEXT token is a kind of membership bonus. The difference is that they are issued on the blockchain and are exchangeable.

ShopNEXT uses the card linking feature of VOP (Visa Offers Platform) which allows users to link their Visa card to the ShopNEXT app. Based on data from VisaNet, when the linked card generates a successful transaction, ShopNEXT will reward users in the form of bonus tokens. The bonus token issued by ShopNEXT is a form of membership bonus but the difference is that it is developed on the blockchain.

Besides, ShopNEXT also integrates gameplay and NFT cards right in its application. These features are optional for users to increase rewards. **The combination of shopping, gamification and NFT cards is expected to create a new and innovative Shop-To-Earn model.**

Source: Visa.com.vn

TRENDS - VIETNAM

Representative examples:



VinFirst is an exclusive membership program for the earliest customers of VinFast. VinFirst members enjoy preferential rewards and privileges that are transferred directly to customers' VinFirst Genesis Wallet.

VinFast is a global electric vehicle brand of VinGroup. VinGroup is the largest conglomerate in Vietnam and one of the largest in Asia, with a total market capitalization of \$34.9 billion from three publicly traded companies (as of November 3, 2021). VinFast made its global debut at Los Angeles Autoshow 202 and is gradually becoming a prominent brand in the global electric vehicle market.

NFT VinFirst



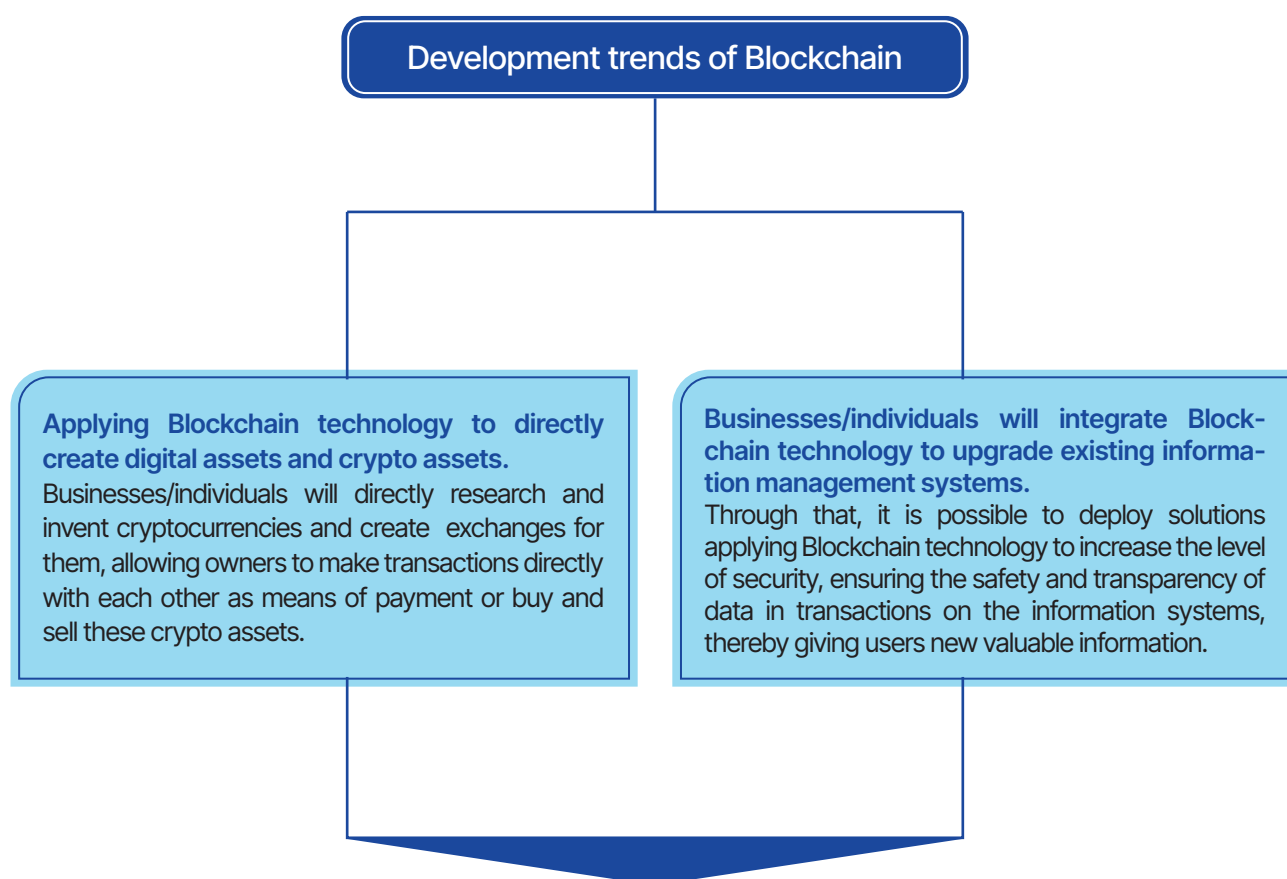
VinFast is the first electric car brand in the world to apply Blockchain technology to the VF8 and VF9 global car reservation program. During the CES 2022 event in January 2022, VinFast launched a program for proving membership using VinFast's Genesis VinFirst NFT for the first 2,022 customers who left US\$50 as a deposit on the VinFast EVs. From April 2022, VinFast has activated VinFirst NFT trading on the OpenSea exchange of the Polygon platform, one of the largest NFT exchanges in the world.

VinFirst is an exclusive membership program for the earliest customers of VinFast. VinFirst members enjoy preferential rewards and privileges that are transferred directly to customers' VinFirst Genesis Wallet.

Conclusion

The automakers that have announced **the NFT cooperation show that the NFT application on the market is still in its infancy and mainly serves the customer's hobby of collecting and connecting with the physical vehicle.** For example, BMW released NFTs associated with car engine sounds; McLaren separates F1 racing car parts into many NFT components, if a user owns a full collection of NFTs, it will be converted into a virtual version of F1 car, etc.

Meanwhile, **VinFast sets itself apart by pioneering the use of NFT in maintaining customer relationships between the company and users.** Specifically, users will receive a refundable and convertible e-voucher worth US\$3000 - US\$5000 when creating an account in the MetaMask wallet and connecting to the VinFast NFT homepage. In addition, VinFast's efforts to build and connect the community are also demonstrated by allowing users to access the website to check the NFT status and trade on the secondary market. Additionally, the benefits and privileges reserved for VinFirst members will be transferred directly to the blockchain wallet, opening up many attractive service opportunities while ensuring that checking customer preferences is easy and transparent.



The Vietnamese government has realized the importance of blockchain in the new era. Its potential is comparable to artificial intelligence (AI), which are all the spearheads promoting the development of the economy and improving the quality of life of each country. The Ministry of Science and Technology has issued Decision No. 2813-QD-BKHCN, clearly identifying blockchain and AI as two key technology industries. Recently, Vietnam's first official organization, the Blockchain Alliance, was established. These are positive signals for the development of the blockchain community, although there is yet to be a clear set of policies for recognition and management.

However, Vietnam has not yet issued any official legislation on blockchain technology, leading to apprehension of both investors and businesses. When the legal framework has not been completed, many businesses have chosen to set up overseas and then do cross-border business in Vietnam.

Opportunities

- Vietnam is a **dynamic market** and quickly responds to new technologies
- Vietnamese people do not have a clear and systematic understanding of **Blockchain technology**

Challenges

- Vietnam does not have a **clear legal corridor** for Blockchain technology
- Blockchain technology in Vietnam is still in a state of "**thirst for personnel**"
- **Difficulty in fundraising and appraisal**

Source: agridental.vn

Blockchain technology and the legal framework in Vietnam are receiving attention from the Government

Legal documents issued regarding blockchain technology

- **Decision No. 2117/QĐ-TTg 2020** on promulgating the list of applied technologies in the field of digital technology, including blockchain technology;
- **Decision No. 100/QĐ-TTg 2019** of the Prime Minister on Traceability which encourages the application of blockchain technology;
- **Decision No. 942/QĐ-TTg** dated June 15, 2021 of the Prime Minister approving Strategy For Development Of E-Government Towards Digital Government For 2021 - 2025 With Orientations Towards 2030, which includes : Researching, developing and mastering core technologies as priorities, promoting the research movement of some core technologies in which Vietnam has the advantages and capability of creating strong breakthroughs such as QR code , artificial intelligence (AI), blockchain, research, construction and pilot use of virtual currency based on blockchain;
- **Decision No. 664/QĐ-BTC** dated April 24, 2020 of the Ministry of Finance deciding to establish a Study Group on virtual assets and virtual currency;
- **Decision No. 411/QĐ-TTg** of the Prime Minister approving The National Strategy For Development Of Digital Economy And Digital Society By 2025, Orientation Towards 2030, including researching and proposing mechanisms and policies on blockchain-based digital money;
- **Decision No. 343/QĐ-BNV** dated April 27, 2022 of the Ministry of Home Affairs licensing the establishment of Vietnam Blockchain Association;
- **Decision No. 2813/QĐ-BKHCN** of the Ministry of Science and Technology approving the National Science and Technology Program to 2025, ranking blockchain second after artificial intelligence (AI).

Some other government activities promoting Vietnam's Blockchain technology

The State directs agencies and departments to focus on the development of blockchain technology infrastructure and human resources.

The State continues to study, promulgate, amend and supplement the legal framework, as well as research and develop plans and roadmaps for the development of blockchain technology applications alongside researching appropriate policies and legal regulations to manage and promote the development of blockchain technology in Vietnam.

Building appropriate sanctions to minimize risks and consequences from virtual currency exchanges showing signs of fraud, contributing to ensuring the security and stability of the financial market.

To ensure continuous development and removal of some barriers, the Vietnamese blockchain market requires the companionship of large funds.

Venture capital funds are still optimistic about the potential of blockchain to enhance the efficiency, accessibility and security of financial markets.

In Southeast Asia, the wave of investment in blockchain Startup is stronger than ever and Vietnam is no exception.

According to Tran Minh Duy Cris, CEO of the Vietnam National Startup Fund and Strategic Director of Huobi Global Group in Vietnam, the proportion of capital poured into Blockchain Startup can account for one-third, even half of the total investment capital for Startup in the Vietnamese market.

When Startup raise capital with underperforming internal resources and poor capital management skills, it is likely that they will lose control of cash flow when the market is in a downward trend, which might lead to Startup's bankruptcy. Therefore, to continuously develop and self-maintain, blockchain Startup need the companionship of large funds.

Exemplary investment fund



With the vision of becoming the leading Innovative Startup Investment Fund in Vietnam and Asia in the blockchain sector investment, FundGo is accelerating the implementation of many plans to promote the development of the Vietnamese blockchain market. The Fund will seek and support potential projects more and more, helping businesses understand and access this breakthrough technology. FundGo guarantees to help businesses solve capital problems and overcome financial worries when accessing and applying blockchain.

BambuUP Open Innovation Platform is committed to providing businesses with quality connections with specialists and top solution suppliers in their journey of discovering and developing Smart Manufacturing.

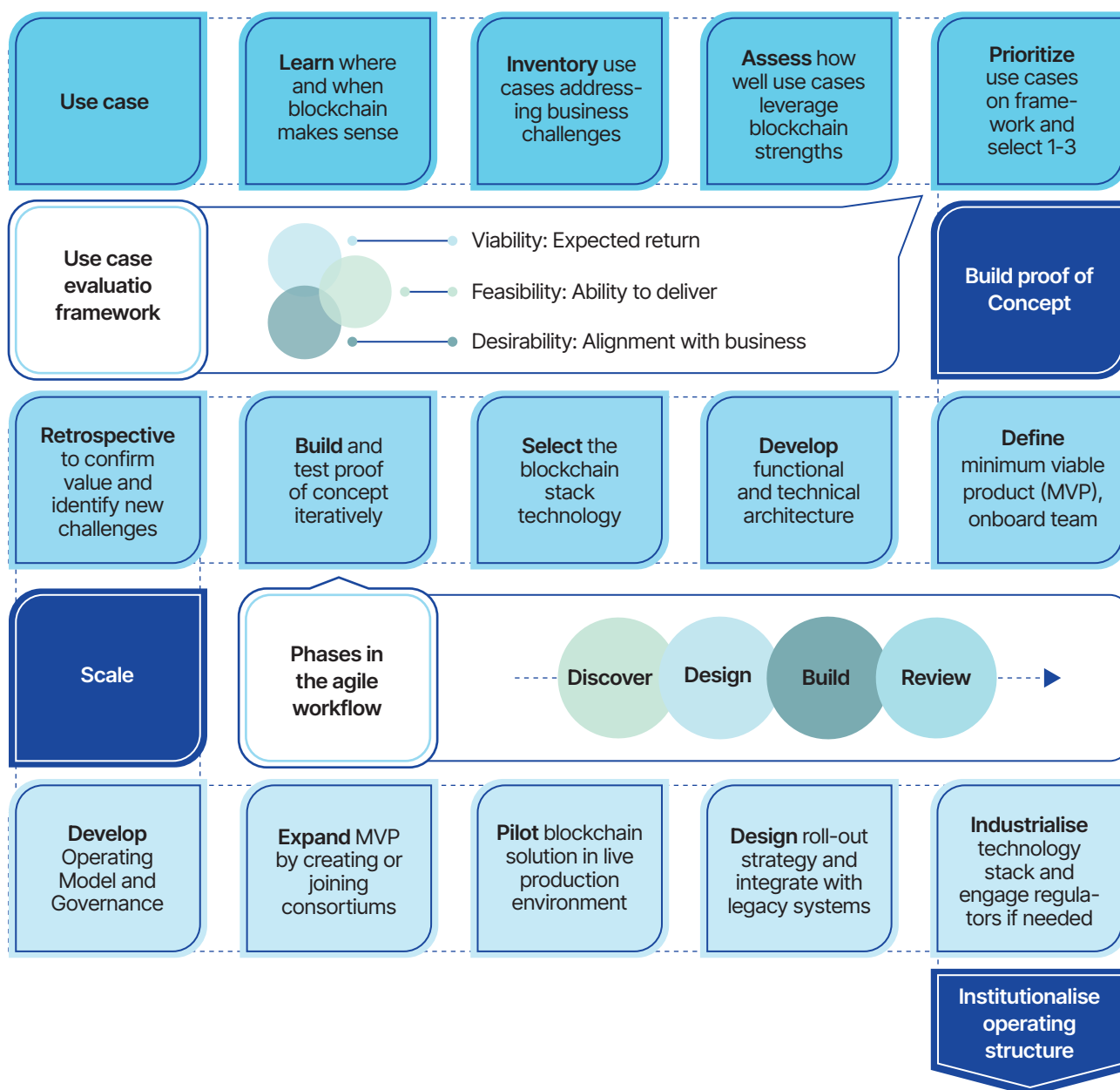
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THE ROADMAP AND SECURITY FACTORS BUSINESSES NEED TO CONSIDER BEFORE BUILDING AND APPLYING BLOCKCHAIN TECHNOLOGY

Before participating in Blockchain technology, whether the enterprise intends to utilise an existing blockchain technology in the market or create a brandnew blockchain technology, it needs to evaluate the nature and think carefully about the design, the parties, and functions that affect the security of enterprise information.

Roadmap for building/applying Blockchain technology/solution



5 security factors to pay attention to when developing a blockchain application project

Identifying the most important assets that need to be protected.

Preventing known threats.

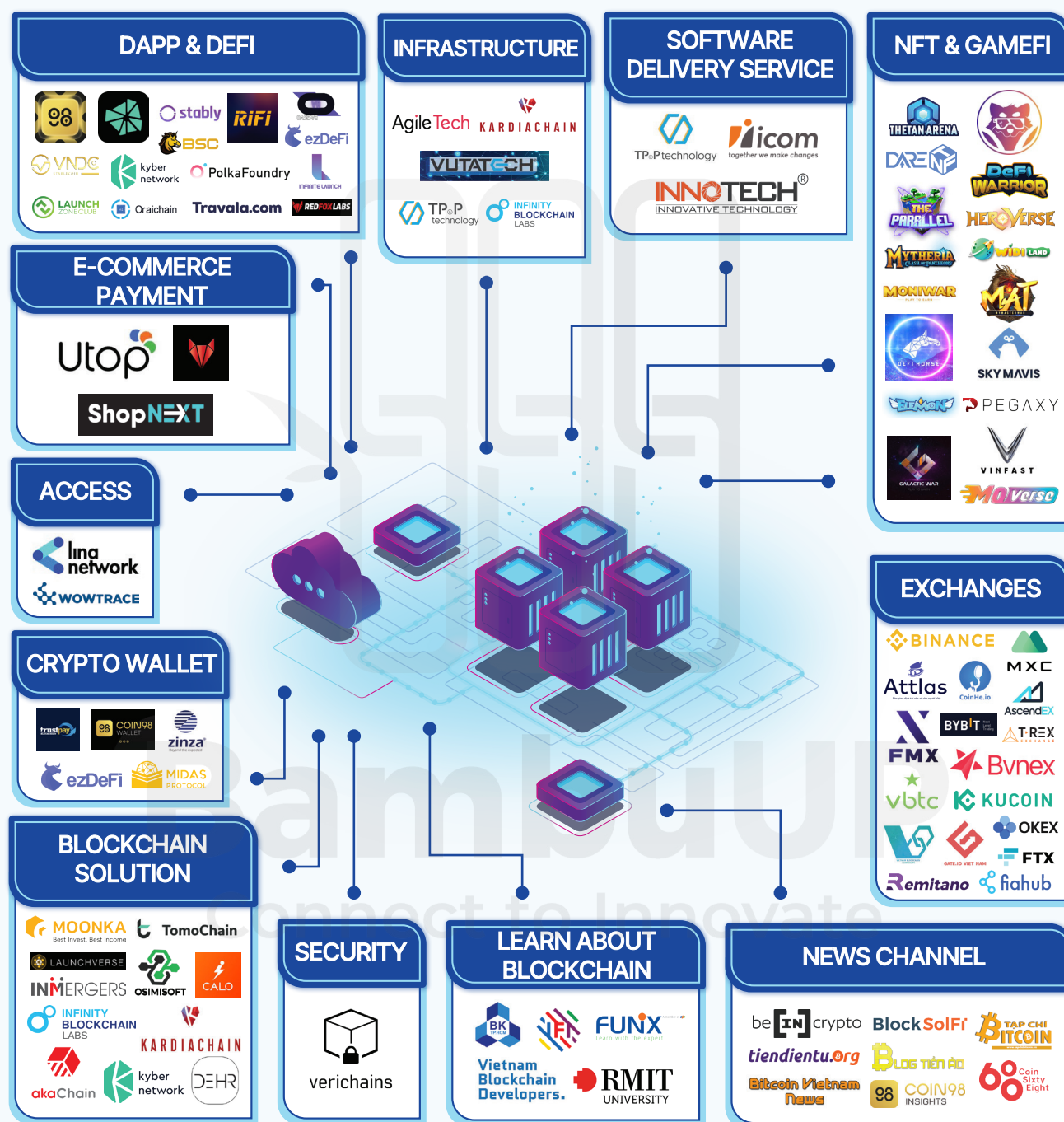
Identifying and uncovering new threats.

Patching security vulnerabilities quickly and in a timely manner.

Regularly evaluating and improving your security work.

Source: Security box

BLOCKCHAIN TECHNOLOGY



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



5

Agtech & Foodtech

OVERVIEW OF AGTECH AND FOODTECH

"AgTech and FoodTech" is an ecosystem including all businesses and Startup in the Agriculture & Food sector (from production to distribution) applying breakthrough technologies to innovate products, distribution, and marketing channels or business models.

AGTECH

Startup providing breakthrough solutions in the field of agriculture

FOODSERVICE

Startup providing breakthrough solutions in the restaurant & hotel sector

FOOD SCIENCE

Startup developing new ingredients and foods

FOODTECH

CONSUMER TECH

Startup developing services and supporting equipment for cooking

DELIVERY

Startup developing food ordering and delivery services

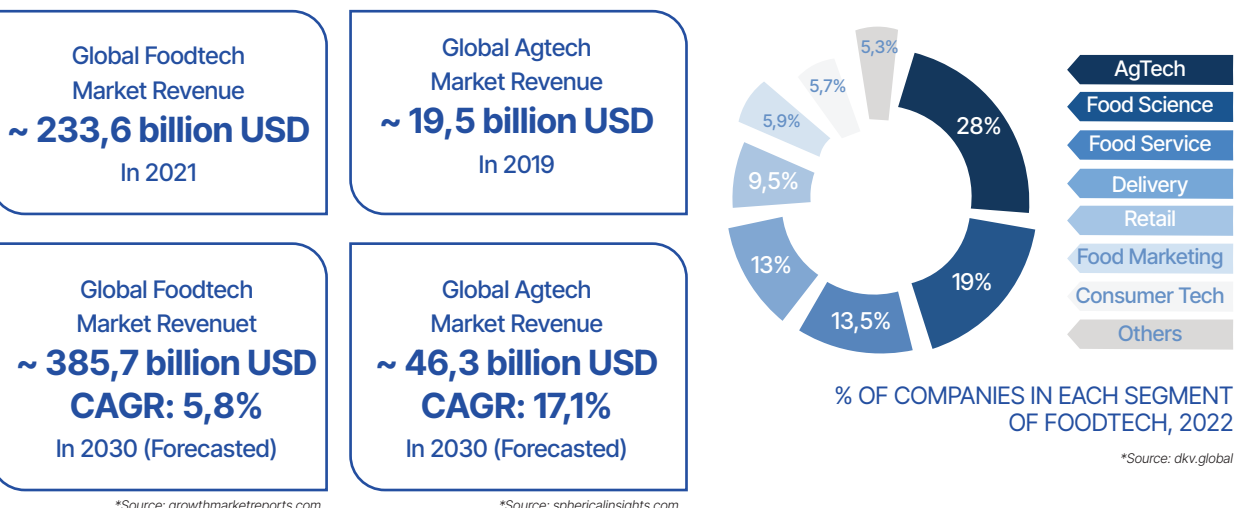
SUPPLY CHAIN

Startup developing digitization and automation solutions for the food supply chain and retail industry

*Source: Digital Food Lab

1 Global market overview

In recent years, the global agricultural sector has faced numerous challenges, such as climate change, supply chain disruptions due to the Covid-19 pandemic, and the war in Ukraine causing inflation and threatening global food security, negatively affecting the overall growth rate of the world agricultural product market in 2022. In the face of these challenges, advanced technological solutions are increasingly being applied in the agriculture and food value chain to improve productivity and product quality, ensure food security, and gradually improve the lives of farmers.



Investments in the global Agtech and Foodtech sector have grown at an impressive rate. In 2021, venture capital sources for Agtech and Foodtech both doubled in deal value compared to the same period last year. In particular, the eGrocery market received the most attention from investors due to the explosive trend of e-commerce during the global pandemic.

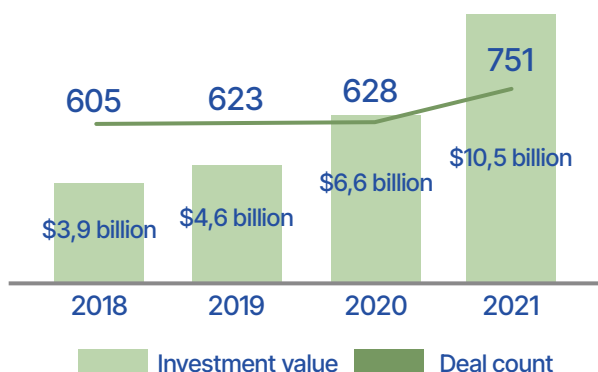
Investment activities in 2021 Agtech and Foodtech sectors

51,7 billion USD Value	3155 Deals	4570 Investors	3 billion USD Most valued deal	35,8% Invested in eGrocery
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*Source: Agfunder

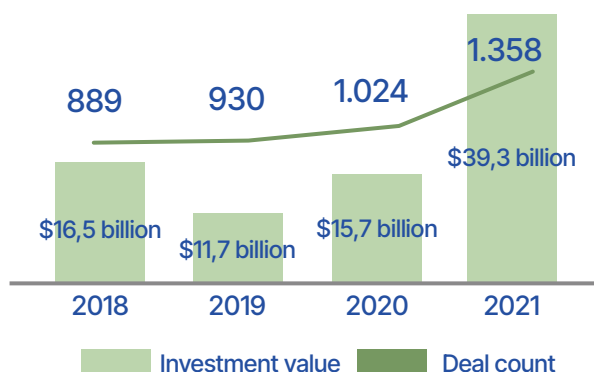
Agtech Venture Capital Deal Activity

*Source: PitchBook



Foodtech Venture Capital Deal Activity

*Source: PitchBook



2 Vietnam market overview

Currently, there are no official statistics on the size of the entire Agtech and Foodtech market in Vietnam. However, the potential of this field in Vietnam can be somewhat discerned when looking at some areas in Foodtech where Vietnam is quite a notable player, such as Online Food Delivery and E-commerce for Food and Beverage.



Food Delivery Market Size
~ 597,1 million USD (2021)
~ 1,55 billion USD (2027)
CAGR: 16,4%

*Source: imarrcgroup.com

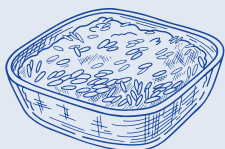


E-commerce for Food and Beverage Market Size
~ 710 million USD (2021)
~ 1,3 billion USD (2026)

*Source: agriculture.canada.ca



In the past years, although most of the investment capital has been poured into Fintech, E-commerce, or Edtech, Agtech and Foodtech in Vietnam are gradually attracting the attention of investors and are expected to grow rapidly in the future thanks to the support policies of the government.



Vietnam Digital Agriculture Association

Established in 2019 with the mission of promoting the completion of technological infrastructure for agriculture, expanding the market; searching for and selecting suitable technologies, and attracting investment.



Policies

Decision No. 749/QĐ-TTg identifies agriculture as one of eight priority sectors for digital transformation.

In February 2021, the agricultural restructuring plan for the period 2021-2025 was approved to develop a modern and sustainable agricultural industry and stay connected to the world's value chains.



Financial support

The State Bank of Vietnam and other banks have launched a financial support package worth VND 100 trillion to support hi-tech agricultural enterprises. In addition, the Ministry of Planning and Investment is also drafting a decree amending Decree No. 57/2018/ND-CP to support loans and interest rates, as well as provide financial support for investors in this field.

Experts' opinion on opportunities and challenges in the industry:



To solve the problem of transparency in the agricultural and food value chain, aimed to let consumers enjoy comprehensive, sustainable, transparent, clean, green and organic value, thereby raising the bar for In Vietnam's agriculture, Startup can target two aspects that are currently an opportunity gap in this field:

1.Startup need to provide solutions to help make the value chain transparent from exploitation, cultivation, processing, packaging, and traceability stages.

2.Technically, Agtech with Foodtech Startup need to get linked because these two fields are currently not connected. Furthermore, the Startup can build the Agtech & Foodtech ecosystem from the stages of breeding, spawning, fertilizer, traceability, farming assurance, to transportation and distribution to consumers or food packaging and processing companies.. Then they should be all registered on one platform to bring about transparency from farmers, policymakers, beneficiaries and suppliers of agricultural products such as fertilizers, plant varieties, and more.

MR MA THANH DANH - Chairman - International Consultant CIB Joint Stock Company



Innovation in the agricultural sector lays the foundation for sustainable development. However, with many challenges in the industry with the traditional agricultural production, lack of connection with the impact of urbanization, climate change, and the "unkindness" in both production and business activities are gradually presenting to the industry's environment many risks of instability.

In order to accelerate the speed of development, as well as move towards sustainable development, in my opinion, Vietnam's agricultural industry needs to catch up and keep pace with the development of today's society (which is in the flow of the 4.0 industrial revolution) through open innovation resources, namely investment in Agtech, smart agriculture and gradually moving towards precision agriculture. A long-term vision to innovate strategies is needed, with specific steps, the readiness to link together, appropriate investment, along with a suitable roadmap based on the spirit of entrepreneurship and the spirit of ownership so that each Startup, each organization and individual in the value chain/in the AgTech ecosystem understand their role, focus their efforts on thoroughly solving one or a few problems in the chain, in the ecosystem, especially in activities such as large-scale agricultural production management, mechanization, automation; post-harvest processing and preservation; creating linkage models in the chain/ecosystem; improving the value of agricultural products... Those are the opportunities for Startup to invest in to contribute together to the building of a resilient, sustainable and prosperous Vietnamese agriculture in the future.

MR TRAN NGOC TRUNG - CEO - Agritech





There are four big opportunities in agriculture:

1.Helping convince customers to buy products at better prices. There are too many claims and advertisements about organic, clean, high quality or limited products, but there are too few ways to help customers verify those claims. That makes customers unable to tell lies from truths, they gradually lose faith and serious farmers are negatively affected. If it is possible to take advantage of the achievements of blockchain, virtual reality or streaming technology in verifying the origin of agricultural products, ordering from the beginning of the season or even co-farming growing, then this problem will be solved.

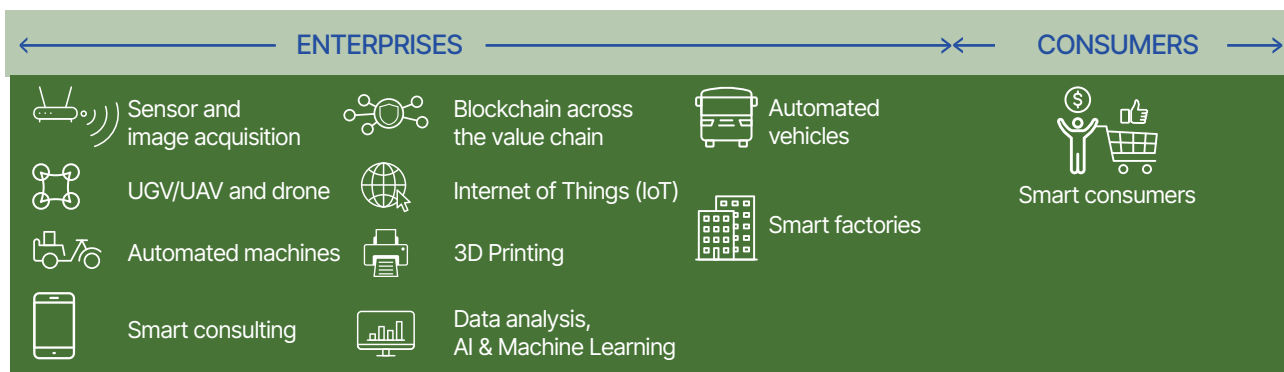
2.Helping farmers produce more efficiently. Accurate forecasts help farmers choose the right crops, livestock and output to avoid price deflation with a bumper crop and price inflation with a poor crop. Precise farming in reality of increasingly scarce resources will help to feed, water, fertilize, adjust temperature and light... in an optimal way: at the right time, in the right place, at the right dose and right way. Nanotechnology, microbiology, big data, artificial intelligence, the internet of things, drones... are becoming increasingly available, accurate and cheap and will help us realize this challenge.

3.Helping increase the resistance of agricultural products. With the situation that the earth is gradually getting hotter, sea level is rising, the ozone layer is perforated and magnetic waves are getting stronger, the demand for new varieties of seeds and seedlings is increasing day by day. Large-scale agriculture also makes diseases easier to spread and thus the demand for resistant varieties and seedlings is higher. The achievements of biotechnology, nanotechnology and information technology will help the development of new varieties become faster.

4.Helping reduce intermediate levels in agriculture. Currently, the selling price of farmers and the buying price of consumers are unmatched by many times. The benefits flowed into the pockets of people who weren't actually farming. With the development and popularity of the internet and terminal devices today, it is completely possible to start thinking about products or platforms to help farmers sell directly to consumers. At that point, they will have more profit and better market perception as a premise for the following seasons.

MR TRAN BANG VIET - CEO - Dong A Solutions

3 Notable technologies in the sector



DATA ANALYSIS	Big sets of data are mined to provide business insights needed for business decision making: - Based on data on growing conditions of crops, livestock, and weather forecast to plan appropriate farming. - Using data on diseases and pests to develop prevention plans against harmful agents
ARTIFICIAL INTELLIGENCE	Artificial intelligence possesses high computing speed, rich and quality data warehouses, and advanced algorithms. AI uses probability to predict an outcome and take the best action based on that outcome: - The machines automatically adjust the temperature, air humidity, product cooling time, etc. based on external conditions. - Automatic machines and robots are used for cultivating land, sowing seeds, spraying pesticides, plowing, etc.



BLOCK CHAIN

Blockchain is a technology that encrypts data, creating a decentralized database that stores information in blocks of information that are linked and expanded over time. Blockchain is designed to resist data change:

- Supporting the maintenance of a complete and highly accurate data warehouse for traceability throughout the agricultural value chain.
- Smart contracts, fast electronic payments, etc. These payment tools help to simplify the product distribution model, save time in processing purchase and sale transactions, and serve as a direct link to connect the manufacturer with the consumer without going through distribution or retail channels.



INTERNET OF THINGS - IOT

IoT helps connect devices to the internet through software and sensors, facilitating the sharing of information, collecting and exchanging data between devices:

- Using IoT sensors in traceability solutions, smart irrigation.
- Using IoT sensors in traceability solutions, smart irrigation.
- GPS-integrated technology to help prevent cases of livestock and poultry being stolen or lost.

*Source: Digital transformation handbook for SMEs in agriculture - Ministry of Planning and Investment

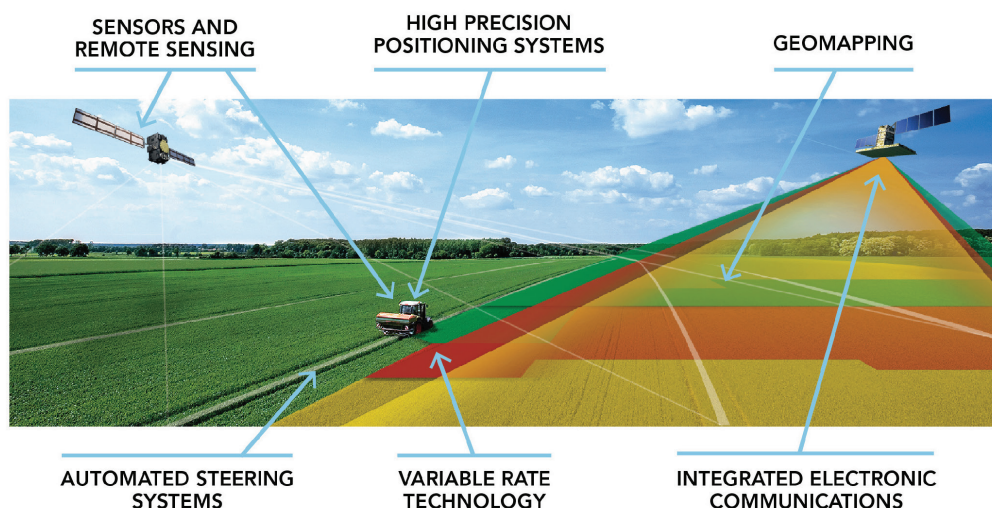
GLOBAL AND DOMESTIC INNOVATION TRENDS

1 NOTABLE ON-GOING TRENDS IN THE INDUSTRY

1. Precision agriculture

Precision agriculture is the trend of using moisture, soil, and climate data to optimize farm and crop management practices. Technologies applied in precision agriculture include:

- Sensors and remote sensing or drones: collecting data remotely on soil conditions (moisture, soil nitrogen,...) and plant health (color of leaves, the height of trees,...)
- High precision positioning systems: recording the position of fields with geographic coordinates, thereby helping to locate and navigate agricultural vehicles with high accuracy.
- Geomapping: mapping the current status of each field according to the area of crops, soil, weeds, pests.
- Automated steering systems: performing driving operations automatically, reducing human errors during the operation of mechanical equipment.
- Variable rate technology: allowing control and variation of inputs in the farming process.



*Source: Dong A University



Data Farming, an Australian company, specializes in providing digital solutions for precision agriculture, such as satellite maps, high-resolution satellite imagery, automated farm area mapping, etc.



MimosaTek, a Vietnamese Startup, provides a cloud-based system that connects to environmental monitoring sensors, which send data to and alert farmers about hazardous environmental factors.



MiSmart, a Vietnamese Startup, provides a crop health measurement solution based on drone technology (drone) combined with AI to detect and spray the right plants with pests and diseases.



Taranis, a Startup that provides aerial imaging and data analysis solutions, helps identify threats affecting crops and plants.

2. Strengthening the application of IoT and AI in the sustainable development of the agricultural industry

Agricultural production activities fall victim to climate change, but they are also a major culprit of greenhouse gases emission and global warming. In Vietnam, temperatures have increased by 0.9 degrees Celsius in 2019 alone, leading to drought in the Mekong Delta and worsening water shortages. In addition, heavy fertilizer use and tilling practices can degrade soil quality, making crops more susceptible to pests, and drought. To solve this problem, Startup worldwide have developed solutions applying IoT and AI technology for the sustainable development of the agricultural industry.

The application of IoT and AI technologies helps collect data for decision-making, optimize resource use, and limit the environmental impact on crop yield and quality, allowing the conservation and restoration of agricultural land and biodiversity. According to a market research report by Meticulous Research, the global agricultural IoT market is expected to grow at a CAGR of 15.2% and reach a value of \$32.7 billion by 2027.

Vinamilk Tay Ninh Farm

Vinamilk Tay Ninh Dairy Cow Resort is the opening farm for the application of 4.0 modern technology to dairy farming in Vietnam. 4.0 technologies such as IoT and AI technology help ensure that the cows are always optimally cared for, gaining high productivity and high-quality fresh milk.

Ration Management System

Measuring and ensuring feed quality according to the age and development stage of the cows.

Cloud storage

Storing information on the cloud, allowing updating and adjusting from anywhere.

Feed-pushing robot Lely juno

Automatically mixing feed and playing music for cows to relax while eating.

Herd health and activity control system

Analyzing and reporting health status thanks to electronic chips mounted on each cow.

Barn system

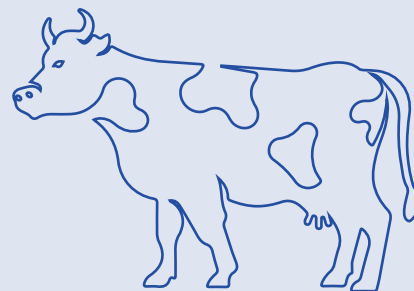
Using advanced cooling technology, ensuring a comfortable living environment for the cows.

Maintenance software system

Managing and planning the operation of motor vehicles and equipment on the farm.

Modern milking equipment

Capacity: 200 pcs/ time of milking. An electronic chip mounted on each cow helps to collect data on each cow's milk quantity and milking time.



3. Automation in farm management activities

Farm automation is the use of agricultural machinery, computer systems, electronic equipment, chemical sensors, and management software in the operation of the farm, helping reduce dependence on humans and human errors. Some automation solutions include:

- Automated harvesters, drones, tractors, or automatic seeders and weeders.
- Farm management software: a platform that provides real-time data, helping farmers monitor daily activities and make more accurate decisions during farm operations. With the growth and increasing popularity of the internet, the farm management software market is expected to grow 11.2% by 2026 (according to Mordor Intelligence).
- Irrigation solutions, water management: helping optimize the use of water in irrigation activities and ensure crop productivity. For example, the company N-Drip offers a drip irrigation solution that allows water to drip slowly down to the roots of plants, which reduces water use by up to 50% and improves crop quality.

4. Livestock farming technologies

Livestock farming technology solutions provide farmers with useful information and data for farm management, taking care of livestock, and increasing production productivity. Here are some new and innovative solutions in the livestock farming sector:

- Automatic milking system: milking automatically without human intervention while helping farmers control milk quality with sensor systems.
- Automatic cleaning system: automatic waste cleaning and removal, ensuring a clean environment for the barns.
- Using acoustic pulse technology (APT) in the treatment of mastitis in cows.
- Automatic feeding system: automatically mixing feed according to the type and quantity that suits the needs of each cattle.

5. Alternative foods & Alternative protein are the major trend

The Food Alternatives market is divided into two main segments: Alternative meat and alternative milk. This market has reached a value of 10.7 billion USD by 2021 with the Alternative Meat segment holding a significant market share (according to Globe Newswire).

Alternative meat, also known as alternative protein, comes in three categories: plant-based products, biological products grown from LAB or fungi. In particular, plant-based products are currently a mainstay in the 3 segments of alternative protein.

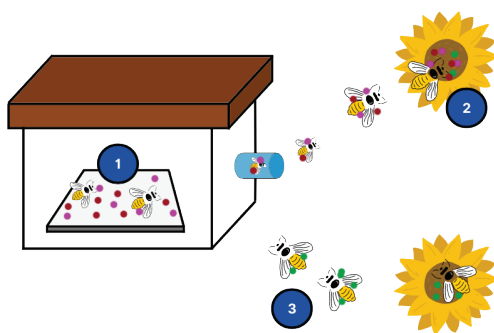
Currently around the world there are around 1000 producers and 500 feedstock suppliers active in this market, with venture capital reaching \$5 billion by 2021. Global alternative protein market is expected to reach a value of at least \$290 billion by 2035. In Vietnam, the alternative protein market is expected to reach \$500 million by 2025 (according to Asia Perspective). This sharp growth is mainly due to increasing consumers' health awareness and concerns. Although it cannot completely replace animal protein, it is a sustainable and environmentally friendly solution and a food source that do wonders to consumers' health.

6. Breakthrough technology solutions

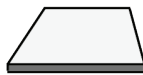
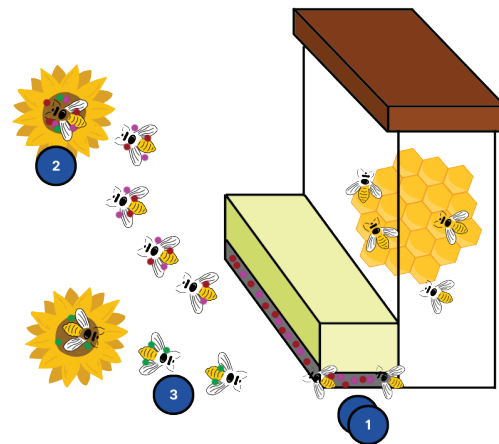
6.1 Bee vectoring system:

Bee vectoring technology provides a system of crop protection against naturally occurring pests without the need to spray pesticides. In this technology, the hive is scientifically designed, allowing the bees to carry a small amount of natural biopesticide powder on their feet and spread them over the plants during pollination. This technology is aimed at sustainable farming practices, improving crop yields and soil quality.

Wasps – The natural biopesticide powder container is in the hive



Honeybees – The natural biopesticide powder container is outside the hive



Natural biopesticide powder container



Natural biopesticide powder



Pollen

1

Bees go out to pollinate and bring along natural biopesticide powder.

2

Bees pollinate and spread the powder on flowers.

3

Bees bring pollen back to the hive.

6.2 Laser bird deterrent technology

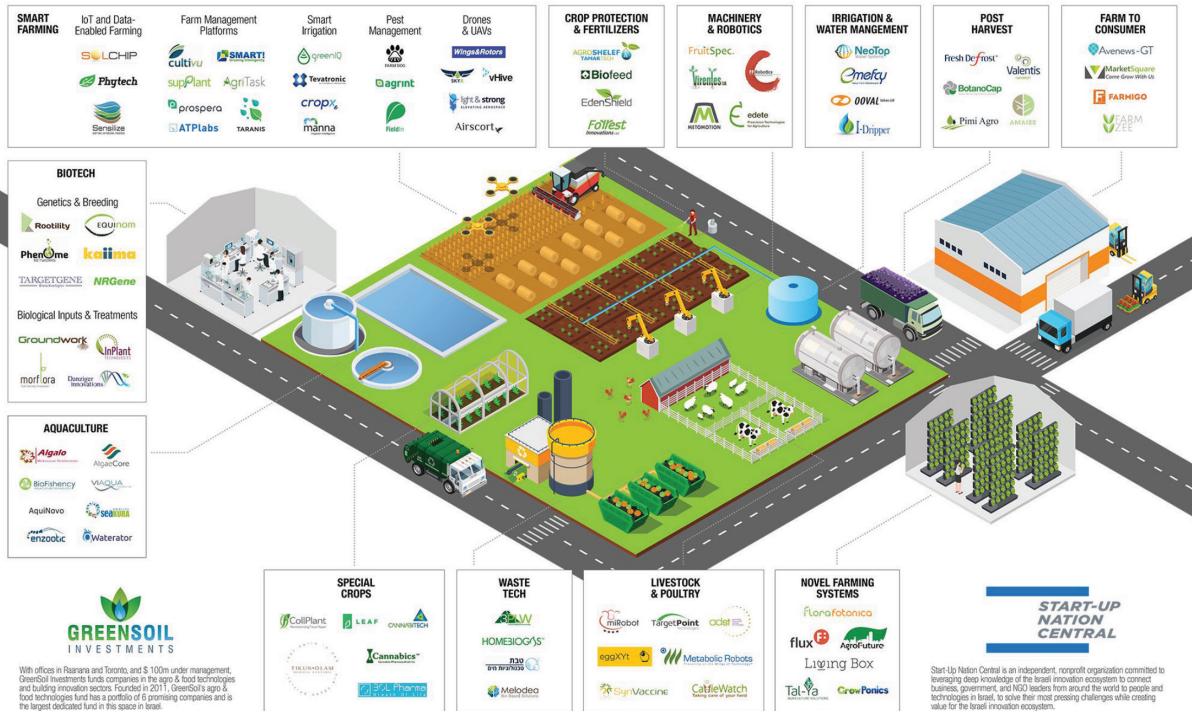
In the past, farmers used to install handmade scarecrows to prevent birds and other animals from feeding on or damaging crops. Today, handmade dummies are replaced by robots using laser technology. The researchers discovered that birds are sensitive to the color green, and designed a robot that uses a green laser with a beam of 600 feet (about 183 meters) to scare away the birds. This device can prevent 70-90% of the birds from feeding themselves in the fields and helps reduce crop damage.

2

THE LEVEL OF INNOVATION BETWEEN VIETNAM AND THE REST OF THE WORLD

ISRAELI INNOVATION: PUTTING THE TECH IN AGRITECH

ISRAEL HAS **400+ AGRITECH START-UPS AND COMPANIES**. 50% OF THEM WERE FOUNDED IN THE LAST FEW YEARS
Here's a selection of AgriTech companies from Israel's diverse ecosystem. Start-Up Nation Finder™ is your gateway to Israeli AgriTech Innovation



*Source: Agfunder News

Israel is a country famous for its agricultural growth initiatives, with more than 500 Startup in the fields of Agtech and Foodtech (according to the Vietnam Open Innovation Landscape Report 2021). It can be seen that the majority of Startup in Israel are focusing on operating upstream of the agricultural value chain, providing solutions for smart agriculture, robotics, and automation, etc. Meanwhile, the Agtech field in Vietnam, although still modest in the number of Startup, is already having similar technology solutions to Israel, such as solutions for plant varieties and livestock, automation, IoT, pest monitoring, etc. Besides, the gap in the aquaculture and wastewater treatment technology sectors will be an opportunity for Start-up in Vietnam to participate in this playground.

Notable sectors in Israel and Vietnam

Sensor

IoT

Opportunities for Vietnam

Aquaculture

Wastewater treatment technology

BambuUP Open Innovation Platform is committed to providing businesses with quality connections with specialists and top solution suppliers in their journey of discovering and developing Smart Manufacturing.

Contact us at:
info@bambuup.com or scan QR code



AGRITECH SECTOR



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FOODTECH SECTOR



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Part7

STARTUP AND INNOVATION MAP IN OTHER FIELDS

VIRTUAL REALITY TECHNOLOGY

TRACKING DEVICES, SENSORS, CAMERAS

WEARABLES,
MONITORING
DEVICES HAPTICS

SCREENS,
PROJECTORS,
OPTICAL DEVICES

HARDWARES



CONTENT AND
CONTENT
DISTRIBUTOR
PLATFORMS

SOFTWARES

SCANNING &
PHOTOGRAPHING

GAMES & APPS



SOLUTIONS FOR BUSINESSES



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WRIST WEARABLE TECHNOLOGY

SMART WATCHES AND ACCESSORIES

HEALTH AND FITNESS GROUP

INDUSTRY/ BUSINESS

SMART COSTUMES

AR/VR HEADPHONES

MANUFACTURING

BIO-SENSORS

DEVELOPING APPLICATION



NOTABLE STARTUPS



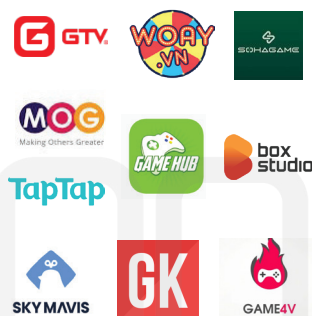
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ENTERTAINMENT & GAME

OPERATION

PERFORMANCE CONTROL
ADVERTISING OPTIMIZATION
CLOUD INFRASTRUCTURE & SERVICES
GAME ANALYSIS
OPERATION PLANTS
CUSTOMER ATTRACTION



ENTERTAINMENT

NEWS
GAMESHOW, FILM
NETWORKING AND MANAGING ARTISTS
SPORTS AND ACTIVITIES
MUSIC



GAME DEVELOPMENT

GAME DEVELOPMENT SOFTWARES
GRAPHIC TOOLS
SOFTWARE ADMINISTRATION TOOLS
SOUND DEVELOPMENT TOOLS



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BEAUTY AND DEVELOPMENT



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F&B SECTOR



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SPORT TECH SECTOR

PHYSICAL AND MENTAL HEALTH

CONTENT CREATING

AI CAMERA

ASSISTING ATHLETES IN
INTERACTION WITH FANS

DIGITAL MARKETING
(DIGITAL TICKETS)

MEDIA

ARENA TECHNOLOGY
(SMART STADIUM)



PHYSICAL SPORTS

RECOVERING AND
CONDITIONING

DOSPORT

BODY WEARABLE
DEVICES

WRIST WEARABLES

MATCHING



SCIENCE-BASED TRAINING

PERSONNEL MANAGING

PRACTICING

TECHNOLOGY

INJURY RECOVERY

AI ASSISTANT



SPORTS COMMERCE



COMMUNICATION AND FANBASE

SPONSORS/ADVISORS

BROADCASTING LICENSE

AUDIENCE



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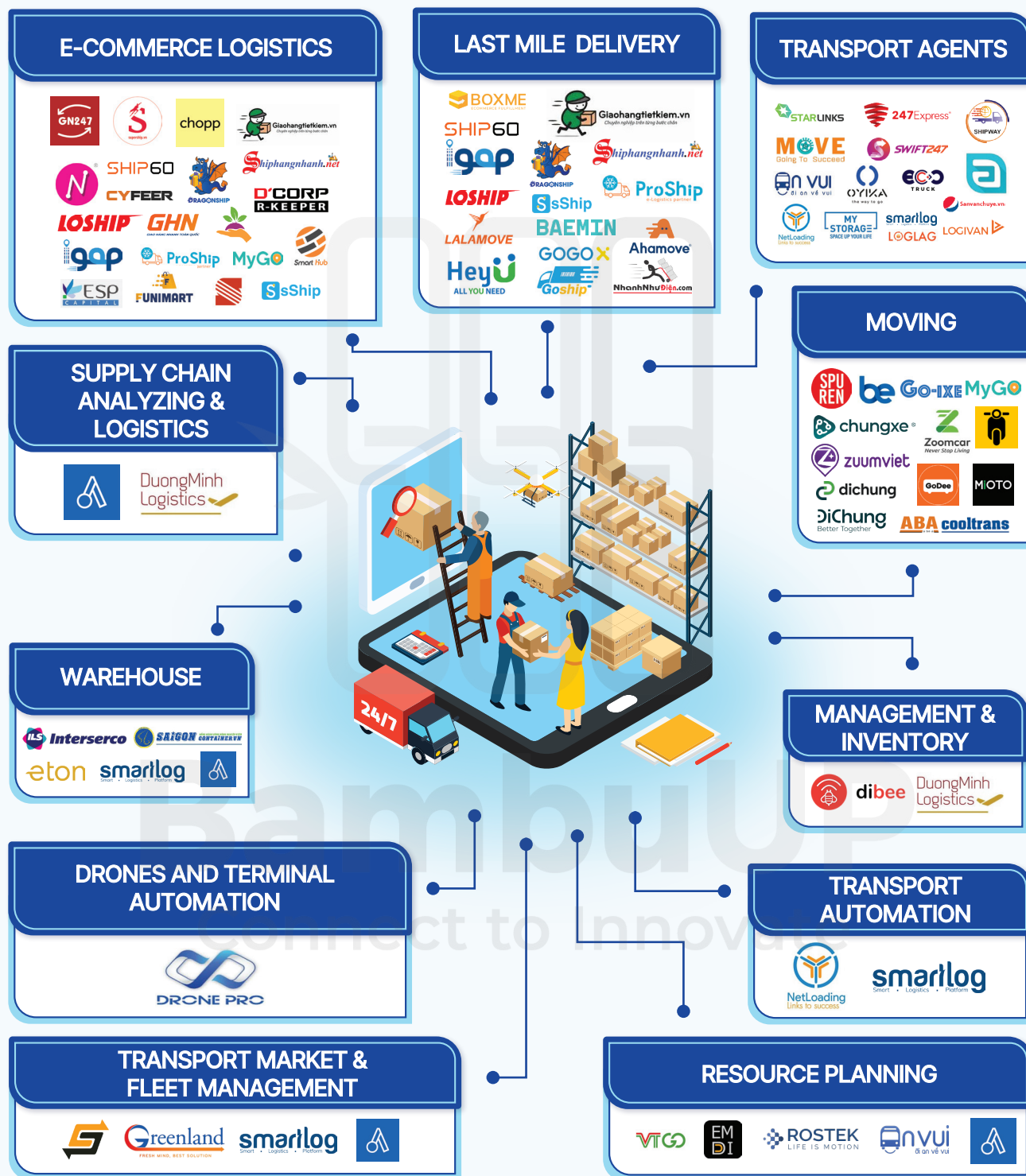
RETAIL TECHNOLOGY SECTOR



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LOGISTIC AND SUPPLY CHAIN



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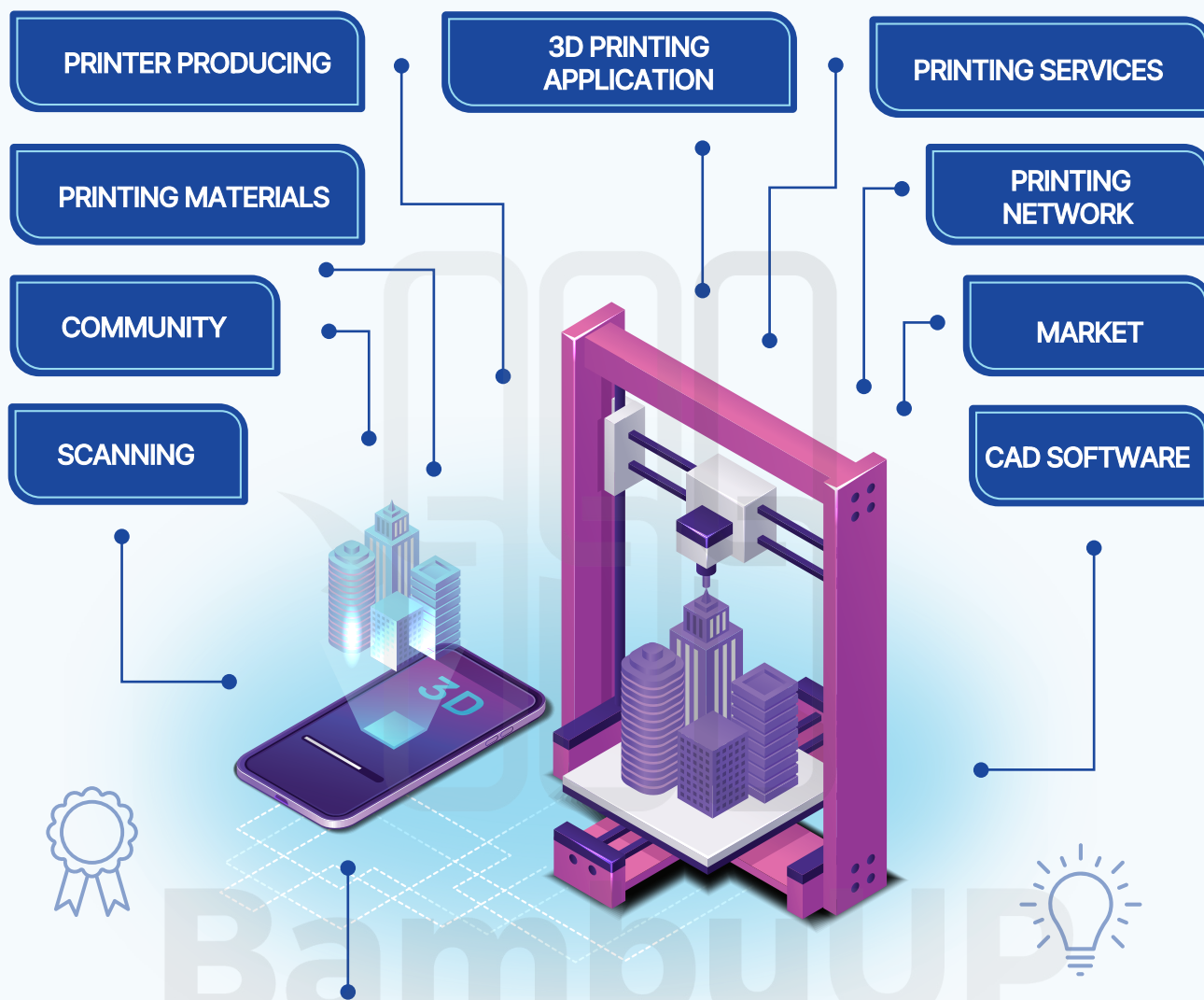
BIG DATA SECTOR



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3D TECHNOLOGY SECTOR



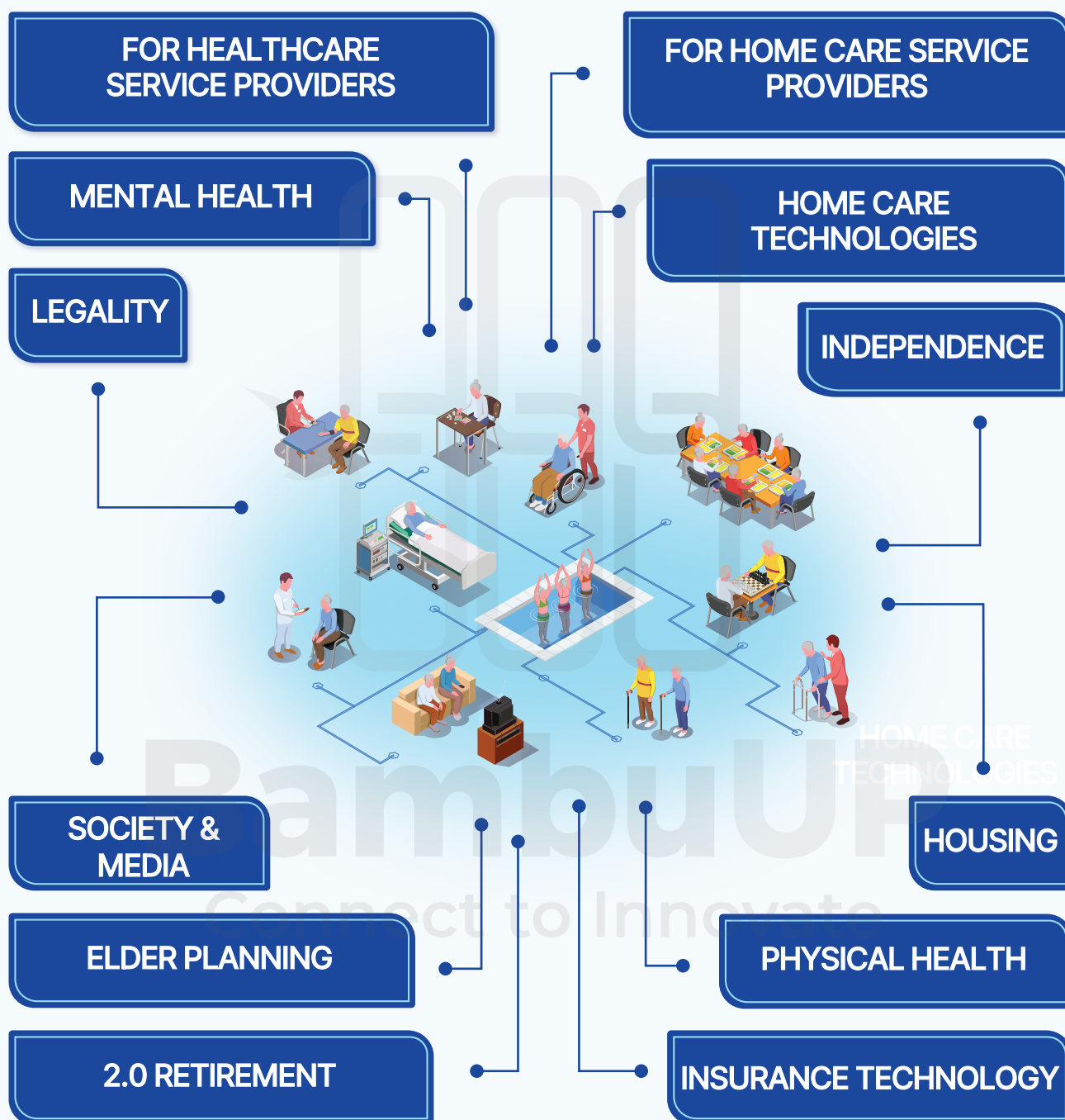
NOTABLE STARTUPS



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SENIOR-ASSISTING TECHNOLOGY



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MINOR-ASSISTING TECHNOLOGY



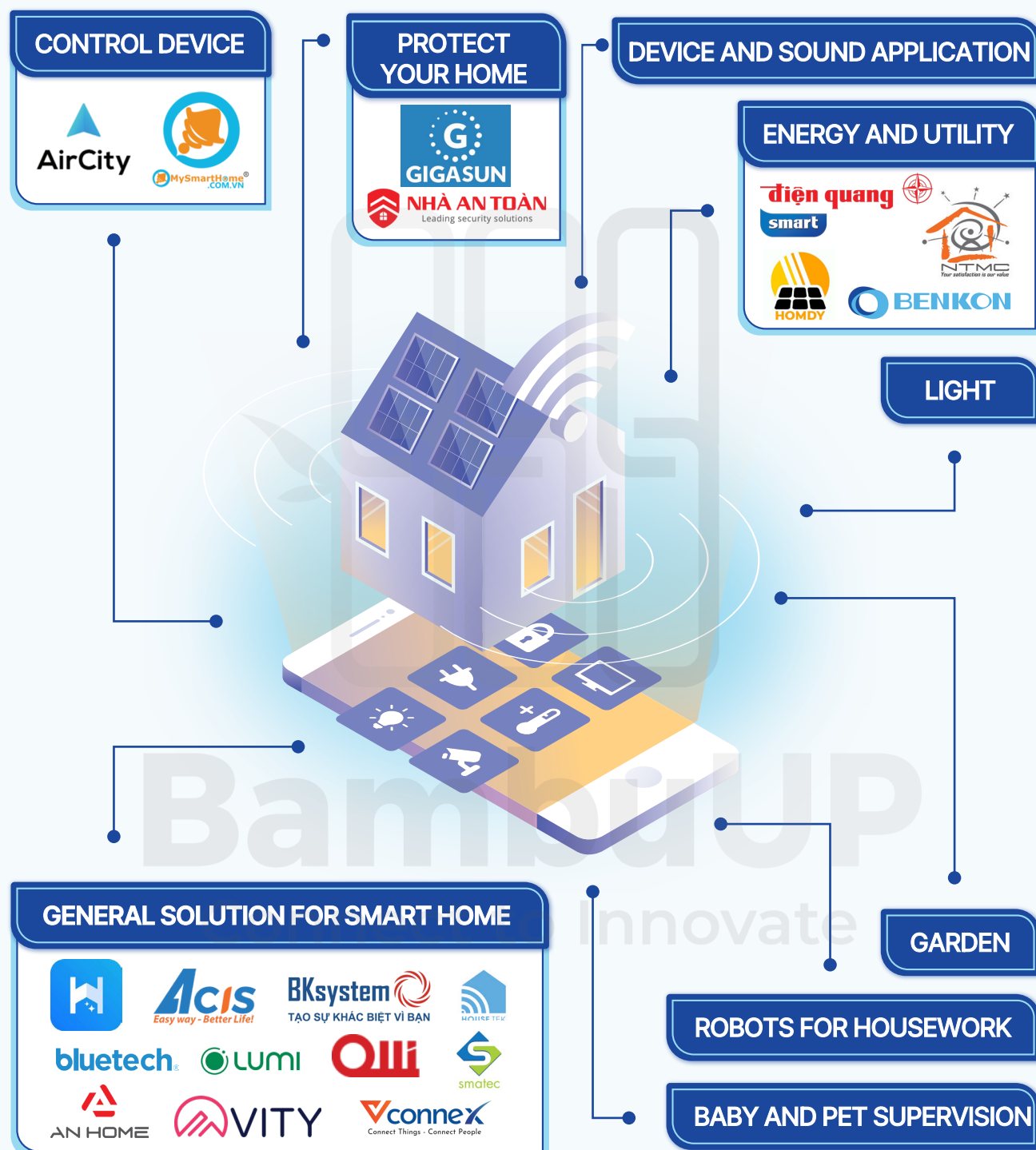
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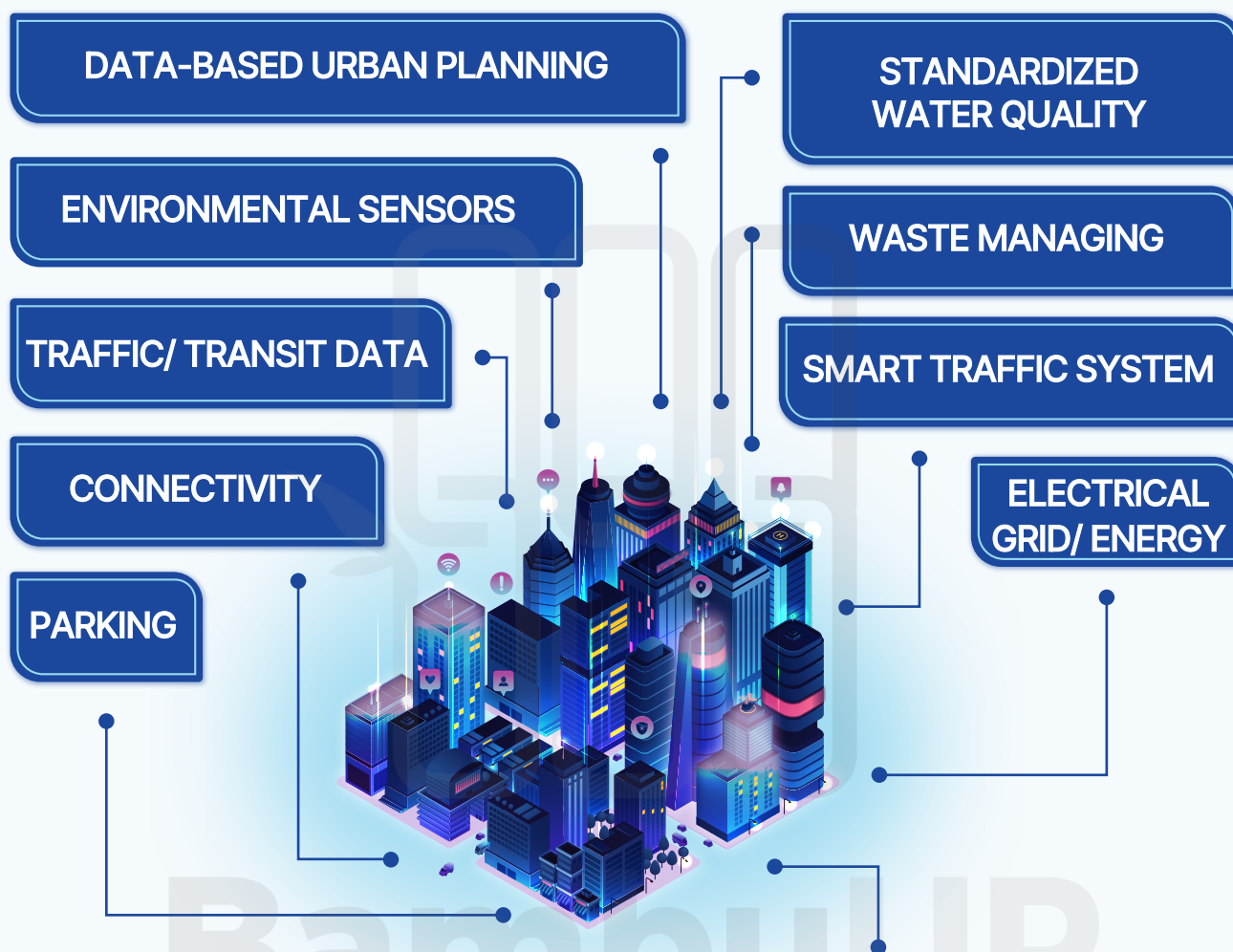
SMARTHOME TECHNOLOGY



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SMART CITY SECTOR



NOTABLE STARTUPS



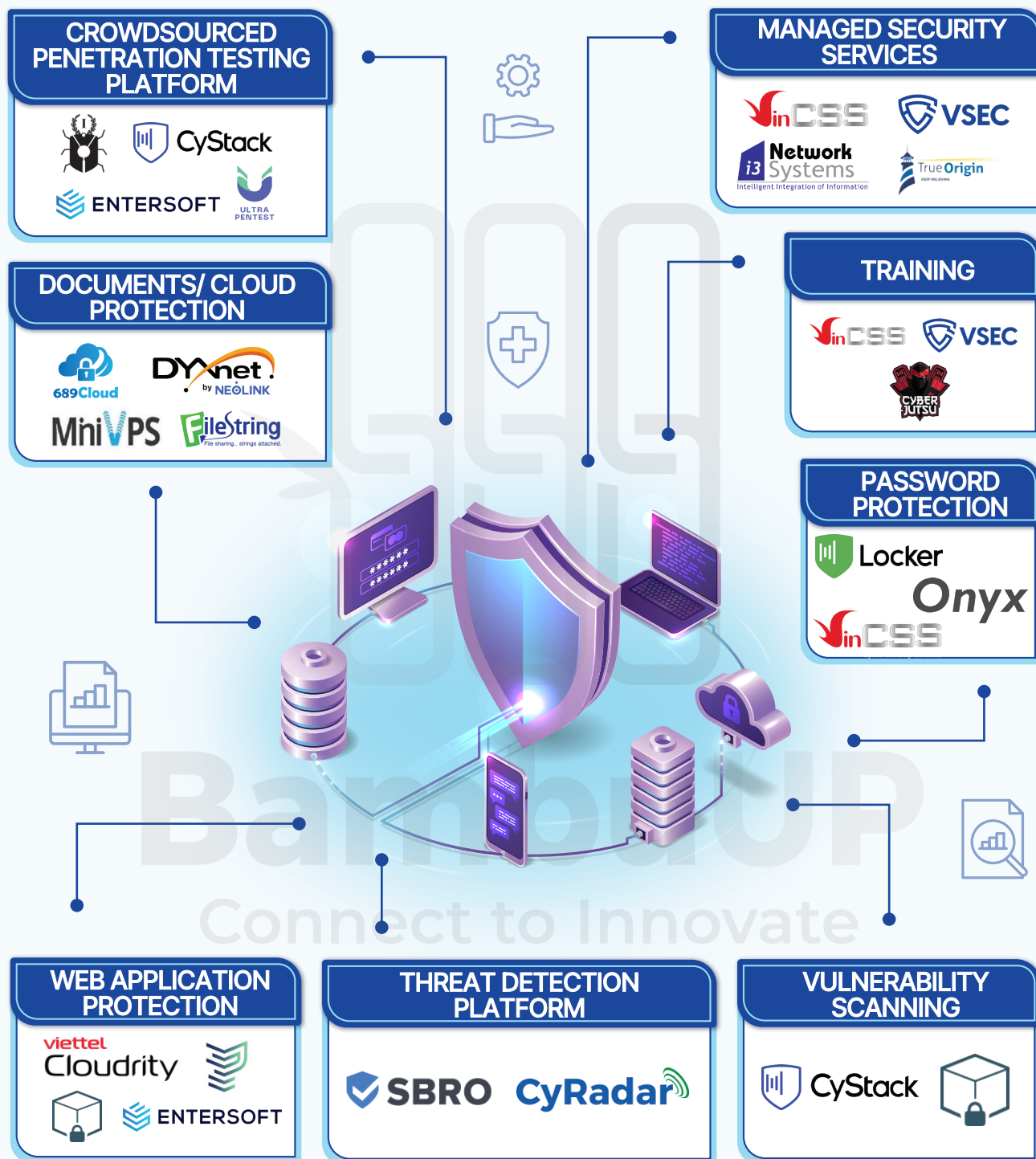
tpizi.com



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CYBER SECURITY SECTOR



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HEALTHCARE SECTOR



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CLOUD COMPUTING TECHNOLOGY

SAAS



DISTRIBUTION CHANNELS



CLOUD



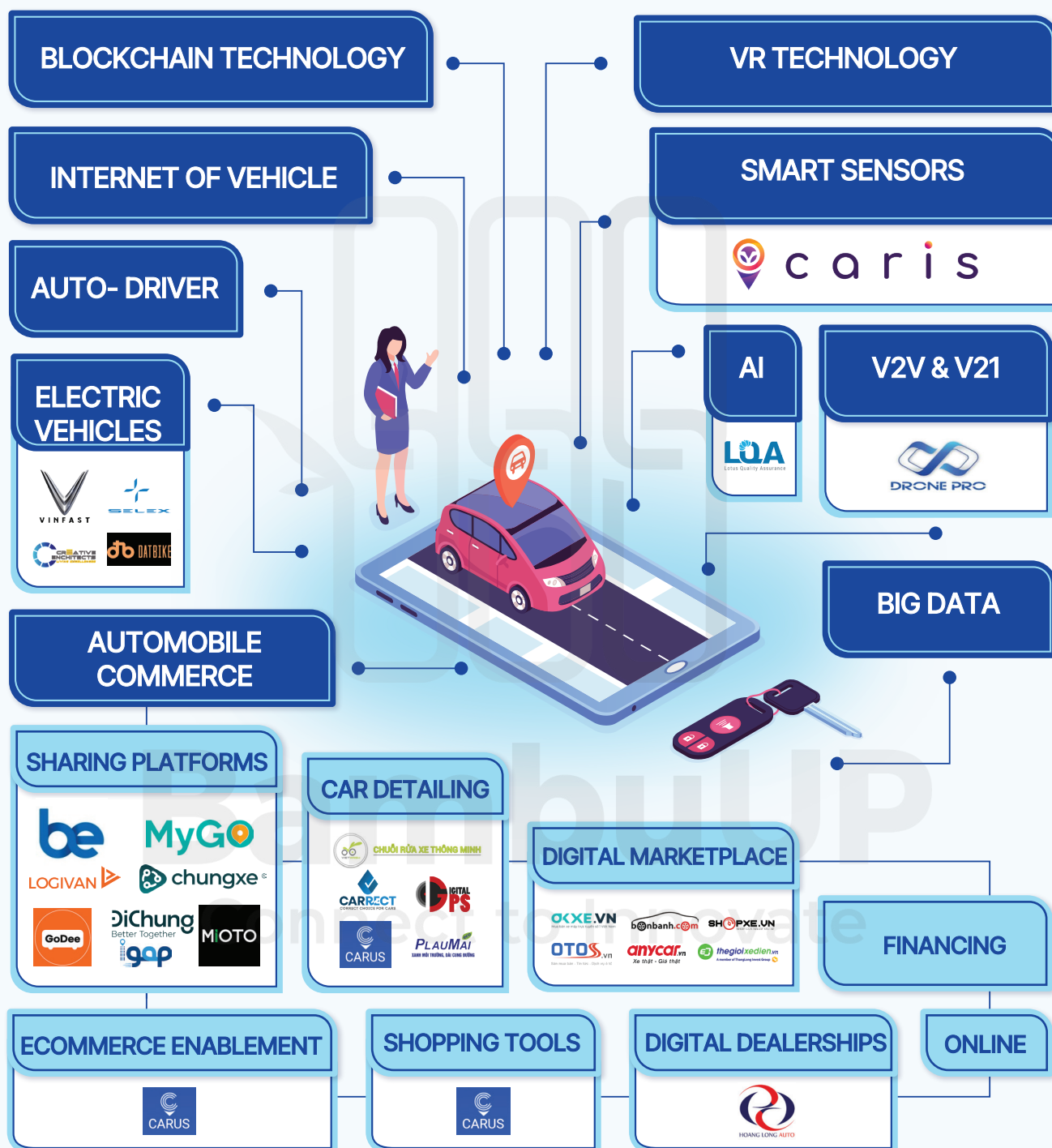
PAAS



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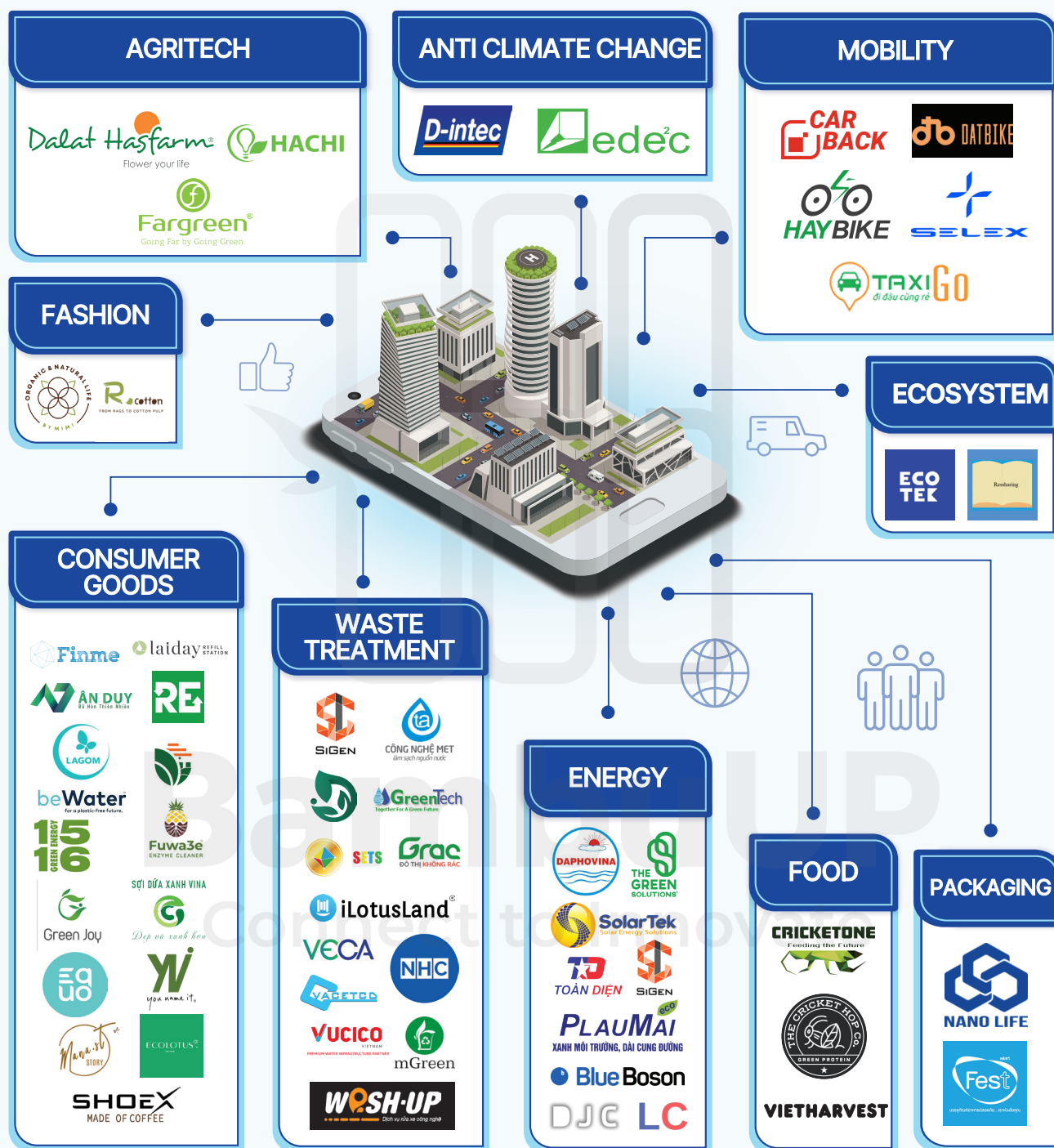
AUTOMOBILE TECHNOLOGY



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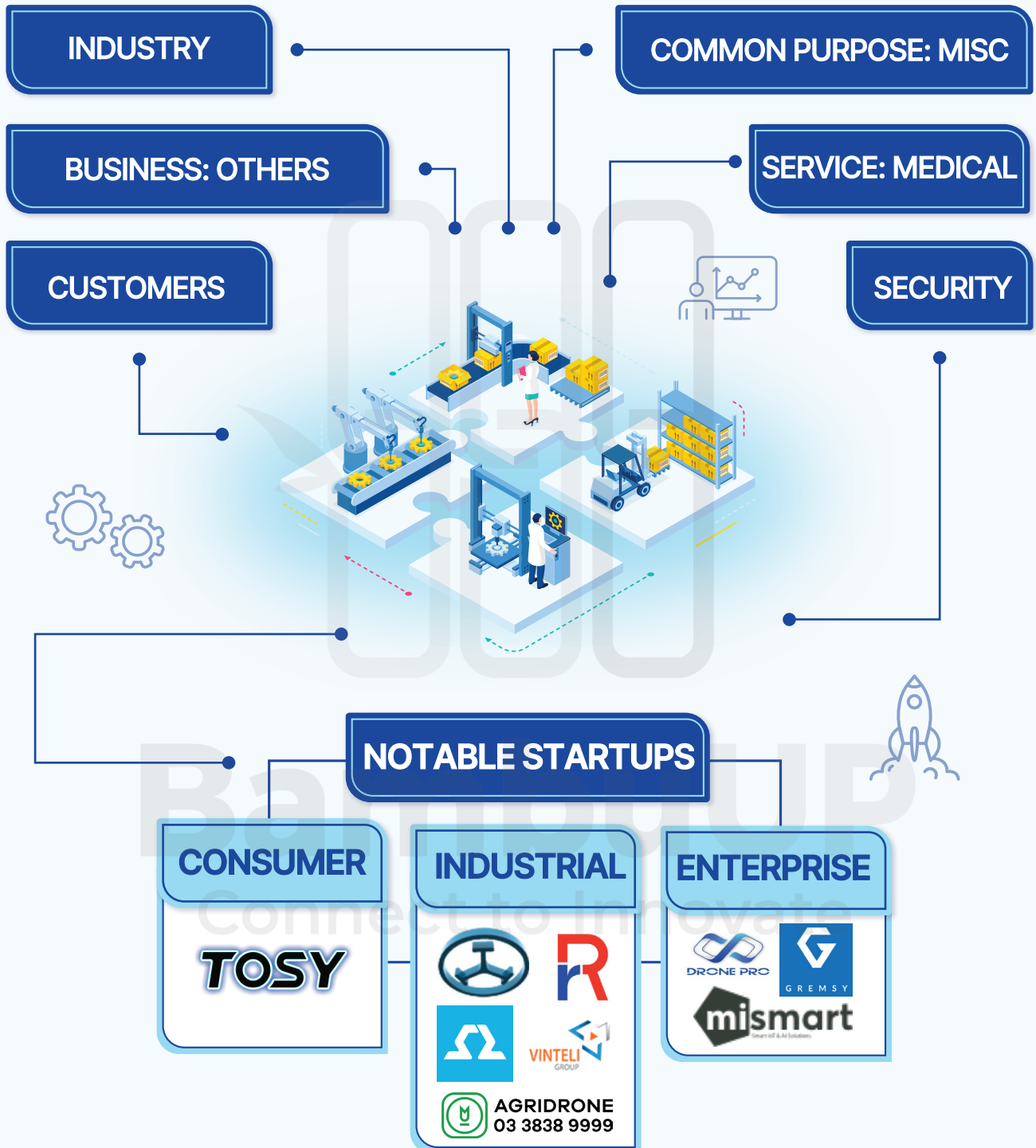
SUSTAINABILITY SECTOR



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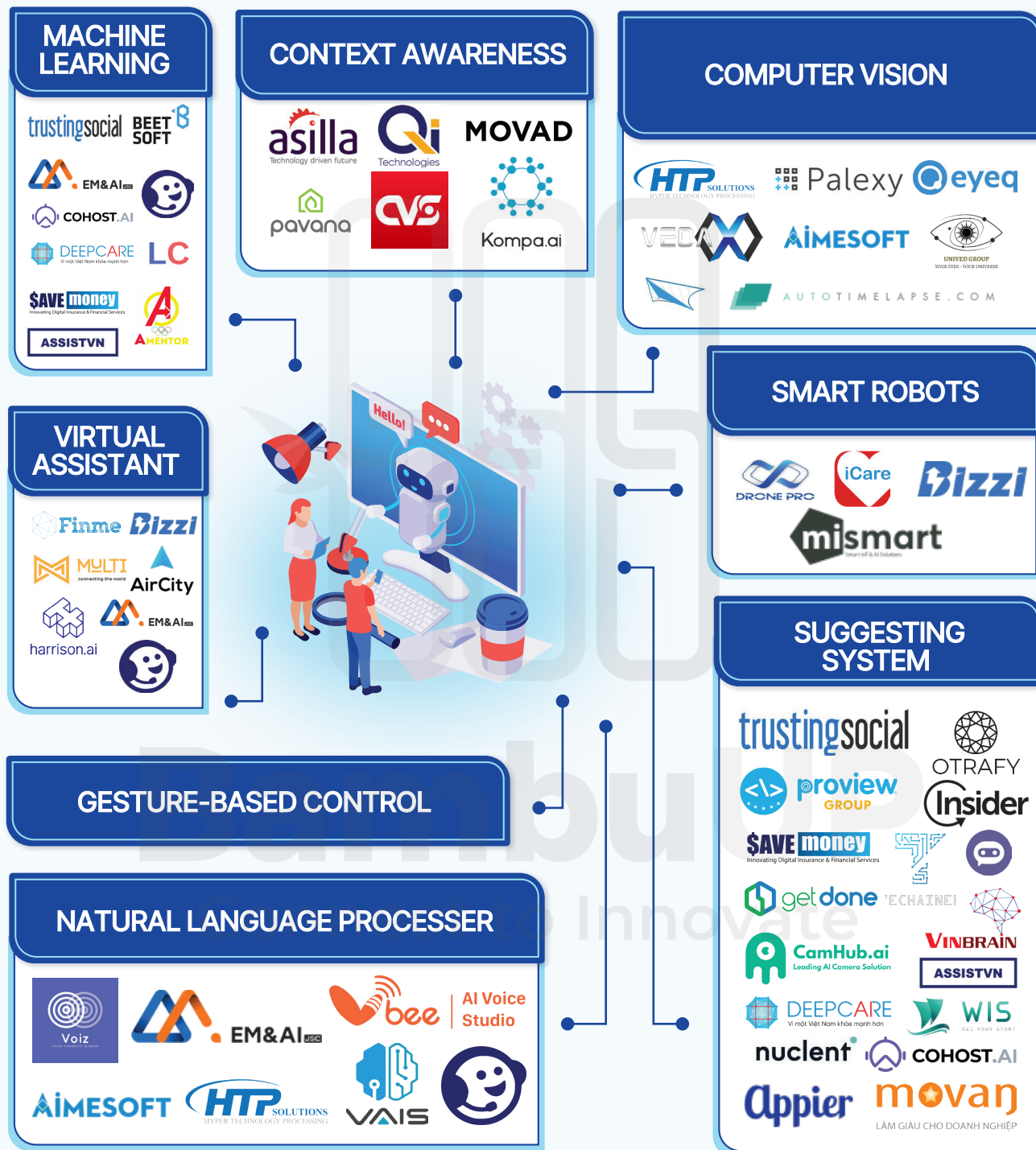
ROBOTICS SECTOR



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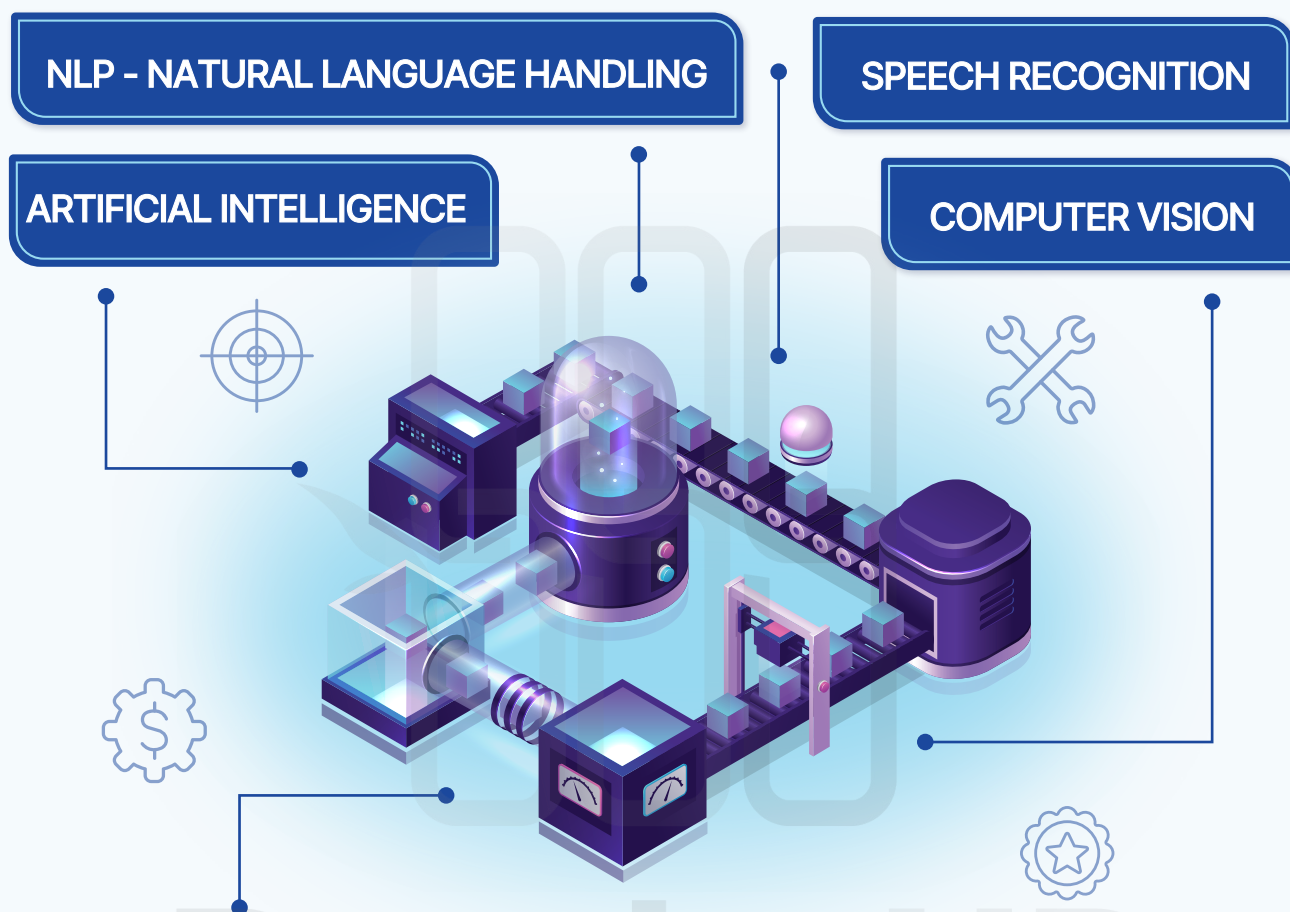
ARTIFICIAL INTELLIGENCE SECTOR



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MACHINE LEARNING SECTOR



NOTABLE STARTUPS

BEET INNOVATORS



bee AI Voice Studio

Polygons

ViralWorks

Got It

CyStack

hekate

SAIGON A.I.



minet

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PROPTech SECTOR



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BIOTECH SECTOR

GREEDING/ BIOTECH TRAIT



GENE MODIFICATION



Be the Change



HEALTH CARE



RECYCLING AGRICULTURAL WASTE INTO CONSUMER PRODUCTS



Going Far by Going Green.

BIOFUELS

CONSUMER GOODS



Được liệu Hải Hậu ACT



CELL TECHNOLOGY



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CONSTRUCTION TECHNOLOGY

PLANNING AND DESIGNING



PROJECT MANAGING AND LINKING PLATFORM



TECHNOLOGY FOR INFRASTRUCTURE



ADVANCED CONSTRUCTION MATERIALS AND METHODS



CONSTRUCTION SAFETY

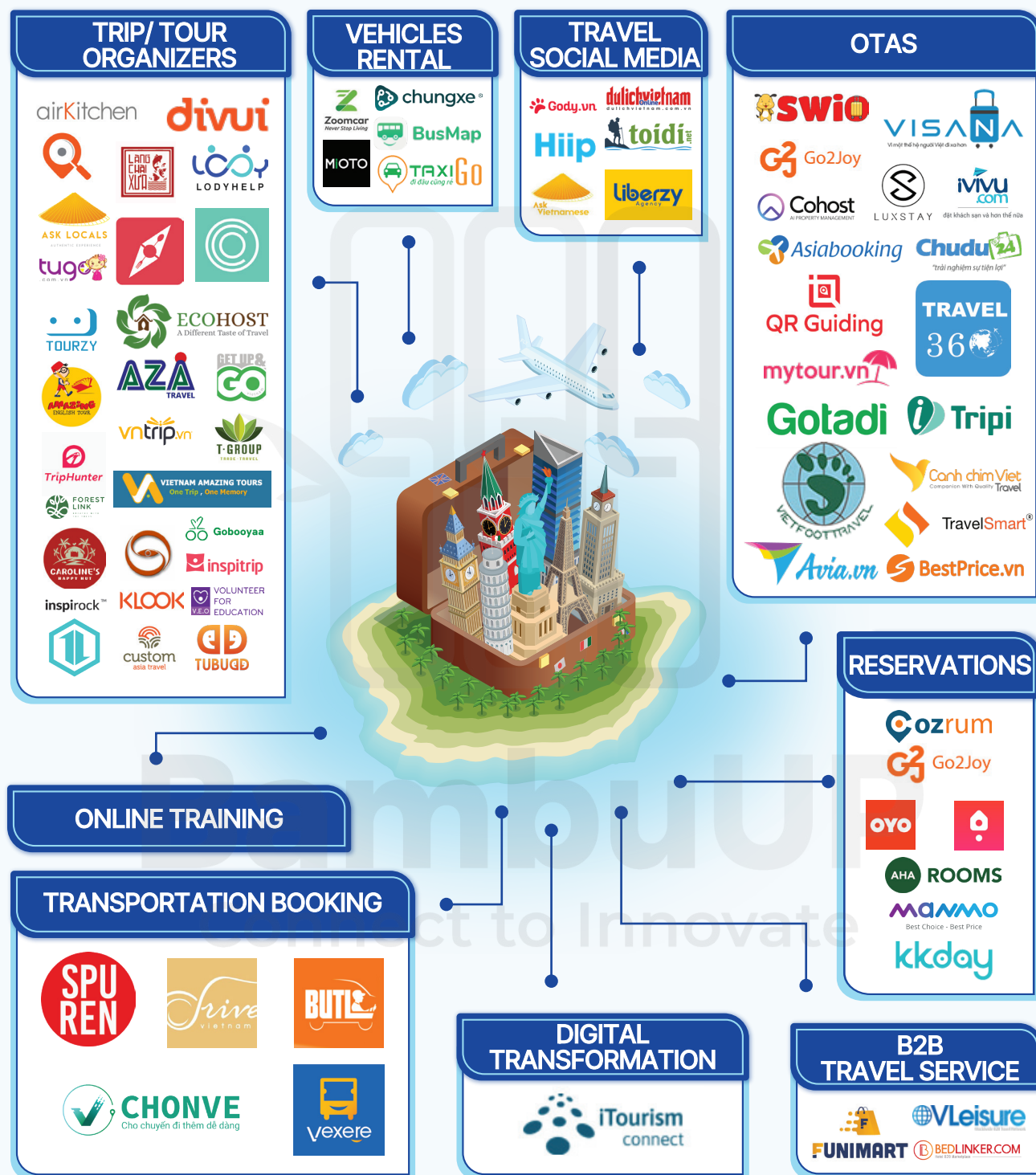
IMPROVING ON-SITE CONSTRUCTION CAPACITY

CONSTRUCTION CHECKING AND MONITORING

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TRAVEL & HOLIDAYS SECTOR



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PET CARE SECTOR

E-COMMERCE

THÚ KIẾNG .com

VIET PET GARDEN

Pet Xinh.net

petpet.net

Dogily
My Dog is Family

PETSAIGON
Hệ thống cửa hàng cho thú cưng

FOOD, ITEMS AND SERVICES



PET SERVICE
BUSINESS MARKETING & SERVICE

petmart

DIVA
www.facebook.com/DIVApishampoo

petcity
thành phố thú cưng

PetChoy

VETERINARY AND PET HEALTH



Bệnh Viện Thú Y
PETCARE

2VET
Animal Hospital

Petit

APPLICATIONS FOR PETS

vPET

My Pet

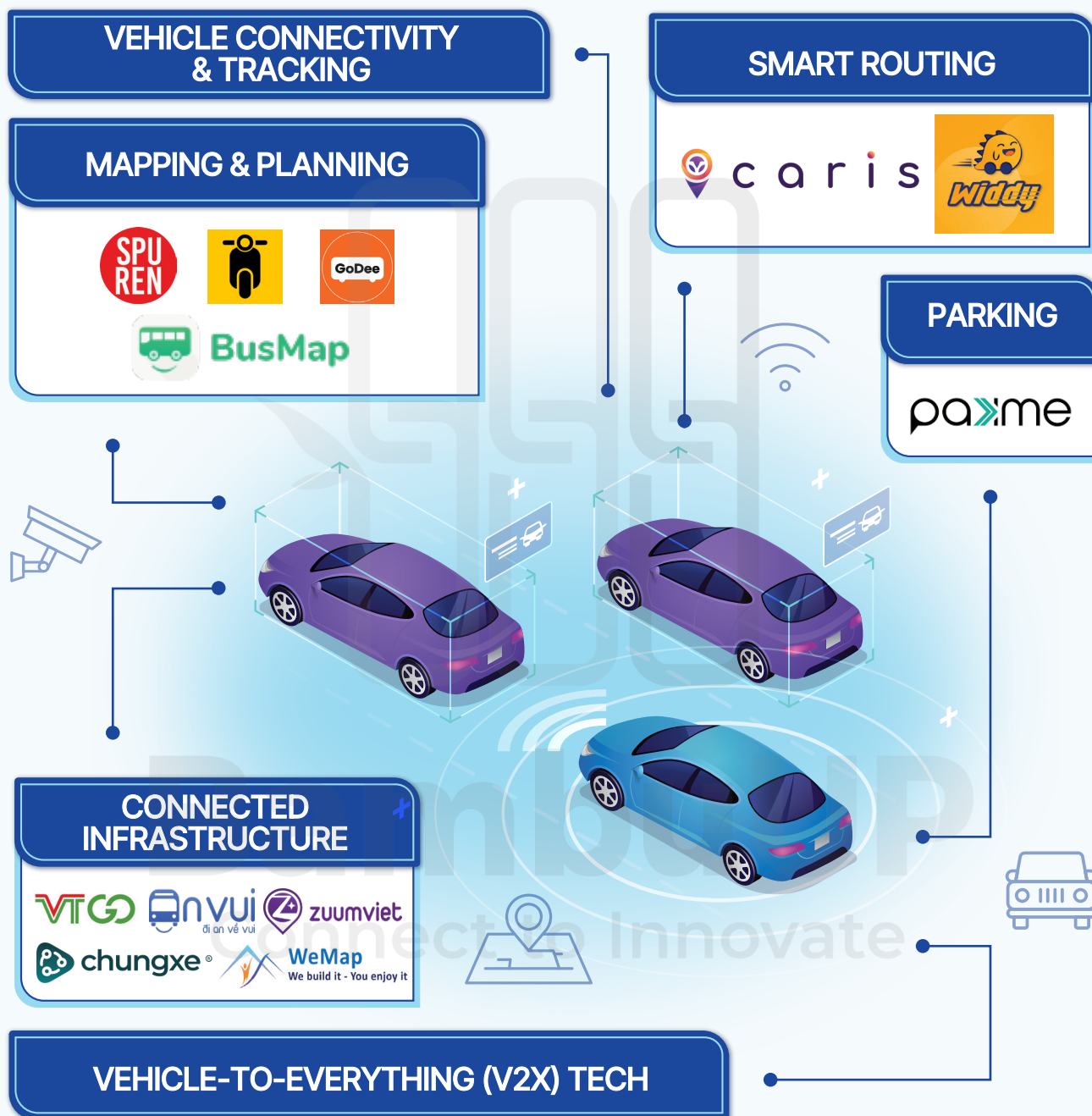


Vpet.vn

(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



TRAFFIC TECH SECTOR



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



EXHIBITION TECHNOLOGY



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



EDUTECH SECTOR

ENTERPRISE LEARNING



LANGUAGE LEARNING



STUDENTS & PROFESSIONALS



STEAM/STEM



TEST & ASSESSMENT



LEARNING MANAGEMENT SYSTEM



KINDLY EDUCATION



PLATFORM SOLUTIONS AND TOOLS



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



HR TECHNOLOGY

RECRUITING MARKETPLACE & SEARCH PLATFORM



OPERATIONS MANAGEMENT



INSURANCE/ HR BENEFITS



APPLICANT TRACKING



CULTURE & PRODUCTIVITY



RECRUITMENT TOOLS



EMPLOYEE PERKS



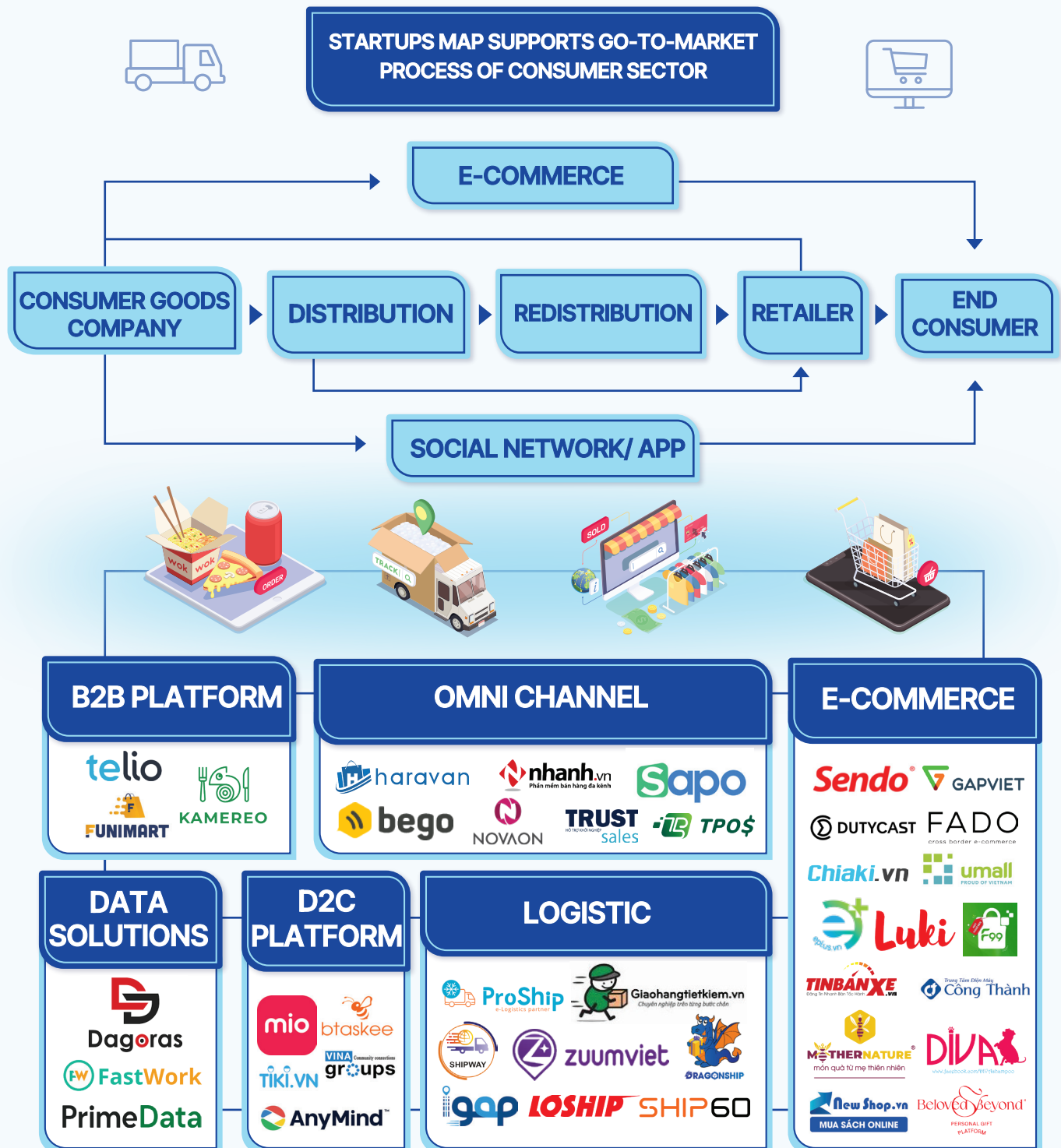
RECRUITING: CONTRACTORS/ FREELANCERS



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



CUSTOMERS SECTOR



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



OTHER SECTORS

COMMUNICATION/ MARKETING/ DESIGN



WEB/ APPLICATION DEVELOPMENT



LAW/ ACCOUNTING/ AUDITING



CONSULTING/ IMPLEMENTATION



OTHER PRODUCTION/ SERVICE



(*) The information and classification on the Map are collected from Startup listing, information from partners and desk research. We hope that readers and startups can continue to contribute data to complete the maps via email info@bambuup.com or via QR Code



Part 8

INTRODUCTION AND INFORMATION ON PARTNERS AND SPONSORS OF THE PROJECT



THE LEADING DIGITAL OOH SYSTEM IN VIETNAM



2,140+ buildings nationwide.



4,650+ billboards in 50 provinces.



30+ billboards in big cities.



1,980+ advertising locations at airports nationwide.



15,100+ LCD and DP screens at Airports, Shopping Malls, Apartments, Office Buildings and Supermarkets.



Wifi Marketing System at key Airports, Buildings and Walking streets.

Trusted by **3,700+** domestic and international clients.

Account for
51%
of the building
advertising market

All over 50 cities

30 years
of experience

Bring the brand "JUMP" into customers' mind

- Outdoor and airport advertising: <https://goldsungroup.com.vn/> - 090 464 6699
- Building and supermarket advertising: <https://goldsunfocusmedia.com.vn/> - 093 450 9669

GENERAL INFORMATION:

- Company name: **Interspace Vietnam Co., Ltd**
- Product Name: **ACCESSTRADE**
- Website: **www.accesstrade.vn**

HISTORY:

Founded in Japan in 1999, Interspace is a technology company providing online marketing services. With the Global Development strategy, Interspace started opening representative offices in a number of countries such as China, Thailand, Indonesia, Singapore, Malaysia...

In 2015, Interspace Japan Corporation and MOG Vietnam officially established Interspace Vietnam. Interspace Vietnam is currently a pioneer and leading firm in the Affiliate Marketing field in Vietnam, running and developing its product ACCESSTRADE platform.



Available in 6 countries
With 21 years of experience



1,700,000+ Publishers
(Only in Vietnam)



1,000+ Advertisers
cooperating.



74,000,000+ SKUs
at ACCESSTRADE



305,000,000
Clicks/month

After a 7-year journey of growth, ACCESSTRADE maintains its position as the leading scale and prestigious Affiliate Marketing platform while positioning the brand as The Leading Revenue Growth Platform in Vietnam & SEASIA.

With an ecosystem of 5 solutions, ACCESSTRADE has been supporting thousands of businesses to effectively solve the problem of revenue growth.

 **ACCESSTRADE.VN**

 **/ACCESSTRADEVN**



ACCESS AFFILIATE

ACCESS AFFILIATE is an Affiliate Marketing Platform that maximizes conversion efficiency based on CPA (Cost-Per-Action). Basically, the business (Advertiser) pays a commission to the affiliate marketing partners (Publisher) only when a sale or conversion occurs.

- CPA types under ACCESS AFFILIATE solution: CPO, CPL, CPQL, CPA, CPS
- Strengths: E-commerce, Beauty, Travel, Education, Entertainment, SAAS, Mom & Kid, Telecom...
- Some key advertisers at ACCESS AFFILIATE: Shopee, Tiki, Lazada, Vietnam Airlines, Traveloka, Agoda, Unica...

ACCESSTRADE is the largest and most prestigious affiliate marketing platform in Vietnam with over 4,000,000 conversions/month, helping businesses improve sales effectively, ensure ROI, and create income for more than 1.7 million Publishers.



ACCESS D2C

The ACCESS D2C solution is a direct selling solution for manufacturers to end consumers (Direct To Consumers), helping businesses effectively solve the "go to market" challenge at optimal costs with no intermediary fees, no worries about operations, ensuring ROI with impressive order conversion rates of 30%-50%.

- Owning DiMuaDi App: Top 10 best popular apps on the iOS App Store & Google Play in 2021.
- 500+ active advertisers with 10,000+ SKUs.
- 300,000+ Publishers.
- 20,000+ New publishers monthly.
- Key advertisers: Sunhouse, Kangaroo, Kalite, Loreal, Nutifood...

Top Achievements: Sao Khue Award 2022 in Advertising, Marketing and Digital Communications.



ACCESS MOBILE

ACCESS MOBILE is an effective platform for attracting & retaining app users with innovative and distinguished USPs:

- Cost Per Register (CPR) model: guarantee 100% Real Users after eKYC for banks, financial institutions, and businesses.
- With more than 74+ million SKUs available (vouchers, cashback, promotions, discount codes...), the exclusive ecosystem helps turn your app into a "super app" quickly and efficiently.
- Traffic reaches 15M clicks/month; 600K new user registrations/month.
- Some key advertisers at ACCESS MOBILE: MB, Techcombank, HD Bank, TP Bank, Cake...

Top Achievements:

- Top 3 the most effective Mobile App Marketing solutions in Vietnam 2020 (voted by AppsFlyer)
- Silver Smarties™ Award 2021 for Mobile App Marketing solution (voted by MMA Vietnam).



ACCESS KOC

ACCESS KOC is a platform that helps businesses promote & sell through social networks with KOC (Key Opinion Consumer) - the social influencers who have direct impacts on the buying decision of end consumers.

ACCESS KOC USPs:

- Possessing an iOS & Google Play app for KOC.
- The exclusive & unique KOC ranking dashboard in Vietnam allows businesses to evaluate & easily choose the best KOC
- KOCs cooperate in a variety of ways with brands like bookings, CPQC, sampling, affiliates...

As of 10/ 2022, ACCESS KOC has:

- 1,270+ campaigns launched.
- 13,400+ KOCs own traffic; 7,450+ KOCs generate orders
- 7,830,000+ orders generated.
- Key advertisers: PNJ, Unilever, Happy Skin, Traveloka,...

Top Achievements:

- Top 3 best popular apps on the iOS App Store in 2021.
- Sao Khue Award 2022 (rating 5 stars) in the New products and software solutions category.

A DROPSHIPPING E-COMMERCE PLATFORM WITH PERSONALIZED SALES AND HIGH-QUALITY PRODUCTS



GENERAL INTRODUCTION

Droppii was established in **2018** in Vietnam with the mission to be an e-commerce platform for consulting products - connecting suppliers, online sellers, and end customers to make online business easier and more accessible for all.

WHY YOU SHOULD BECOME OUR PRODUCT SUPPLIER

Droppii agents are professionally trained on products and sales skills that help them close orders efficiently, even when the product isn't yet recognizable in the market.

By integrating dropshipping model into the process, products are shipped directly from Droppii warehouses to the customers without going through intermediary distribution channels.



Customers are advised by consultants who are knowledgeable about the product, from which it is easy to make purchasing decisions and create great trust and loyalty.

Quick and flexible financial control policy helps product partners to be proactive on their cash flow, allows them to reinvest back into production and business.

WHY YOU SHOULD BECOME OUR SALES PARTNER

Comprehensive online business support solutions



Integrating Dropshipping model into the process allows our agents to focus on the one job they're best at: consulting, without the worries of capital, inventory or delivery.

Technology



The Droppii app makes selling simpler, now you can manage your business on your phone anytime, anywhere. Partners can manage customers, track delivery status and select products for consultation right on the application.

Warehouse



Droppii owns 2 large warehouses in Ho Chi Minh City and Hanoi with an area of more than 2500 m2 each, semi-automatic production lines and modern technology application to manage and ship orders with processing speed up to 30,000 orders/day.

65.000 +
Users

135.000 +
SKU/Month

2.000 +
Quality genuine products

5.000 m2
Fulfillment centers

4 countries
Cambodia, VietNam,
Thailand, USA



FUNDGO STARTUP & INNOVATION FUND



**EMPOWER INNOVATION
PROMOTE CREATIVITY**

ABOUT US

FUNDGO is the first startup and innovation fund in the Mekong Delta with the mission of incubating and providing long-term funding for startup projects and innovative small and medium-sized businesses.

FIELDS OF INVESTMENT

Finance

Technology

Education

Medicine

Sport

Jewelry

Film

Music

MISSION

- Provide financial support and strategy consultancy for projects and businesses
- Incubate ideas and promote digital transformation

VISION

- Become a leading startup investment fund in Vietnam and Asia
- Focus on the blockchain sector

MANAGED BY



Total committed investment capital of
\$150 million



Partnering platforms with over
5 million users



A large network of over **30** domestic and foreign investment funds



Close cooperation with domestic **agencies and institutions**

Fujitsu Uvance

About Fujitsu

Established in 1935 in Japan, Fujitsu has become one of the world's biggest ICT companies and number 1 IT service provider in Japan, offering technology and communication solutions with over 124,000 employees globally. By always defining our customers as the top priority, we have been trusted by customers from more than 180 countries. Beside our excellence in our profession, we have been considered to be a wonderful environment to dedicate to and awarded as "World's Most Admired Company" voted by FORTUNE. Fujitsu has also been recognized as a socially responsible company with the title "World's leading Socially Responsible Companies" awarded by Dow Jones.

About Fujitsu Vietnam

Established in February 1999, we have had 23 years experience in Viet Nam market with a headquarter in Ha Noi and a branch in HCM city. Inheriting Fujitsu's decades of experiences and Japanese high quality, we are determined to provide comprehensive IT solutions that deliver tangible business value and enable customers in Vietnam to meet the challenges of the new global economy.

Our story

We use technology to make happier lives

We are a global leader in technology and business solutions that transform organizations and the world around us. We have a long heritage of bringing innovation and expertise, continuously working to contribute to the growth of society and our customers.

Our purpose

Make the world more sustainable by building trust in society through innovation.

We have reconsidered what role Fujitsu should play in this changing world. Our purpose drives every action of every person at Fujitsu.

What we do

Building new possibilities by connecting people, technology and ideas, creating a more sustainable world where anyone can advance their dreams. By bringing together our integration capabilities and cutting-edge technologies, we drive your success, moving forward for a more sustainable world. We call this 'Fujitsu Uvance'. Through Fujitsu Uvance, we are committed to transforming the world into a place where people can live their lives, enjoying prosperity and peace of mind.

Fujitsu Uvance

Moving forward for a sustainable world

Fujitsu Uvance focuses on 7 key areas: Sustainable Manufacturing; Consumer Experience; Healthy Living; Trusted Society; Digital Shifts; Business Applications and Hybrid IT.

Fujitsu Vietnam Limited

Unit 01-03, 17th Floor, Keangnam Hanoi Landmark Tower, Me Tri, Nam Tu Liem, Hanoi, Vietnam
☎ (+84) 904980505 | ✉ sale-vn@fujitsu.com | 🌐 <https://www.fujitsu.com/vn/vi/>



CMC TECHNOLOGY AND SOLUTION

TRUSTED DIGITAL TRANSFORMATION PARTNER



DIGITAL TRANSFORMATION

- DX consulting & implementation
- Process Automation
- Database
- ERP/CRM consulting & implementation

CLOUD TRANSFORMATION

- Cloud advisory & migration
- Cloud infrastructure & application
- Identity & Cloud security
- Data Analytics
- Modern Workplace
- Managed Services

DOMAIN SOLUTIONS

- Banking, Financial Services & Insurance
- Smart City
- Digital Government
- Smart Manufacturing
- Real Estate
- Energy
- Logistics
- Education
- Healthcare

C-SOLUTIONS FOR DIGITAL TRANSFORMATION

- e-Contract C-Contract
- e-Invoice C-Invoice
- C-Suite
- Remote Signing

SYSTEM INTEGRATION & IT SERVICES

- T systems consulting & implementation
- Smart infrastructure
- IT Services
- Virtualization

CYBER SECURITY

- Security consulting
- System security
- Security services CMC SOC

2021

REVENUE

3300 BILLION DONG

EMPLOYEE

1000

CUSTOMERS

10,000

PROJECT

63 PROVINCES/CITIES
NATIONWIDE

TOP 1

- Technology solution provider in the Southern market, 30% market share
- Cyber Security provider in Vietnam with 2 SOC's in Hanoi and HCMC
- Digital Banking solutions provider
- Insurance core solutions provider
- Securities core solutions provider

- Smart Manufacturing solutions provider: MES, ERP, PLM, HRM, CRM
- Smart City solutions provider
- Microsoft solutions provider for SMEs & corporations
- Dell Technologies equipment and solution providers
- Oracle Cloud Platform partner



AWARDS

CIO TOP 10 APAC
Advisor CLOUD
CONSULTING/SERVICE COMPANIES - 2019

APAC
CIO Outlook TOP 10
MICROSOFT
SOLUTION PROVIDERS - 2021

FROST & SULLIVAN
BEST PRACTICES
AWARDS

OUR 7 BIG MOVES



150+
WORLDWIDE
PARTNERS





Ngon **R**õ vi
Vi **R**õ ngon

Starting the mobile business in Hong Kong since 2013, Anh Duong Consulting - Investment - Trading Co., Ltd (SEA - Sunshine Asean Holdings) was established in 2015 in Vietnam, now a multinational company. in Southeast Asia with a turnover of 35 million USD/year, with the following scopes of activities:

Impact Business

Building, developing business capacity & Business model for products and services in the field of Agriculture and Smartphone.

International Trading

Connecting business, distributing products and developing markets globally and in Southeast Asia.

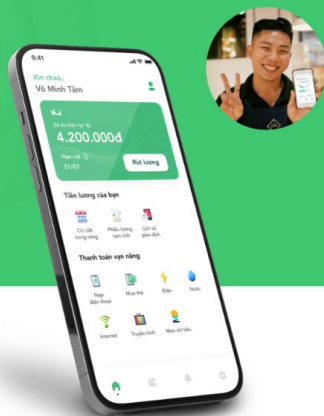
Business Strategy Consultancy

Providing strategic consulting solutions for market development - based on Digital Marketing 360 technology in Southeast Asia.

"COURAGEOUS STEP FORWARD"

We are ready to take on bigger challenges and grow our business a little bit more every day.

During 8 years of operation, the company has gradually grown from a small unit to become a leading distributor for Samsung, Xiaomi, Apple and refurbished phone manufacturers in Vietnam and Southeast Asia. Since then, we have built a global supply chain with strategic partners, customers, manufacturers in Hong Kong, Singapore, Dubai, Australia, USA and have strong relationships with brands. great.



Vui App

developed by Nano Technologies

Empowering your workforce with Earned Wage Access

Access your earnings in 30 seconds instead of 30-day pay cycle

Vui App (Nano Technologies) is the category maker and the leading Earned Wage Access provider in Vietnam. Striving to be the next employee benefit platform, Vui App builds the positive route for Vietnamese workers with:

THE POWER

- to track their working hours and accrued wages
- to get their salary any time they want
- to access the safe and affordable financial services

Vui App connects with the HRM system and optimizes the employers' resources. It is also the touchpoint of compassion that helps the leader board understands their workforce, retain their employees with the differentiated benefit program and build the empowering workplace. Around **100,000 employees** of leading companies such as FPT Retail, Central Retail Vietnam, GS25, Kangaroo, AA Corporation, TTF, etc., have been granted salary access on Vui App by 2022.

“

We bet on the future that Earned Wage Access becomes the popular and normal rights for millions of workers. That is the social progress.

- Mr. Dzong Dang, Co-founder & CEO of Nano Technologies

Power over visibility:
Track the shifts and working hours



Power over pay:
Salary 24/7 at the speed of life



Services of choice for the future of financial inclusion





PROPTech FOR REAL

1M2 is a Start-up in the field of Proptech (Real Estate Technology).

The 1M2 "super app" aims at a real-time secondary real estate transaction platform, combined with an ecosystem of fast and easy liquidity utilities for any audience.

Applying the most advanced technologies Big Data/Smart Data, AI, Blockchain,... Increase the transaction success rate.

1M2 aims for the following features:

- Real-time trading.
- Information close to the market.
- Analytical data, GIS maps, automated pricing.
- Legal advice/guidance.
- Housing services, electronic bidding, fast liquidity support, ...

📍 124 Dien Bien Phu Street, Dakao Ward, District 1

☎ 0877 111 247

📱 1m2.app



ABOUT JOBTEST

JobTest is an international standard comprehensive human resource development consulting and technology company - a strategic partner of the world's leading HR organizations.

Having a diverse ecosystem (**One-stop-shop of Talent Solutions**) and a mission to supply **high-quality human resources** to businesses, JobTest provides HR solutions and services according to advanced competency standards combining high technologies such as AI, Big Data, Internet of Things IOT... to help businesses create competitive advantages and develop sustainably.

- STRATEGIC PARTNERSHIP -



Our Services



HR Outsourcing Services



Consulting & Management HR



Online HR Services Platform



Talent Recruitment & Online Assessment



Competency Framework & Dictionary



Talent Attraction & Selection



Employer Branding



Training & Developing Talent



Comprehensive Human Resource Management Software
Vietnam's leading virtual HR expert

Learn about JobTest >>





QUALITY



FAST



LOW PRICE

THIEN LONG

NEW OFFSET TECHNOLOGY

Thien Long Print has been in the design and printing industry for nearly a decade. We constantly focus on continuous improvement to bring trust to our customer via the creativity in design, the stability in quality, and the satisfaction in our final products.



038 590 6789



inhanoi.net.vn



No.14 Land 73/26b Nguyen Trai, Thanh Xuan Dist, Ha Noi



CATALOGUE



PAPER BAG



PAPER BOX



ENVELOPE



FOLDER

Bizzi

In September 2019, the Bizzi founding team began to lay the first bricks for the product. Bizzi was founded with the mission of developing automation solutions applying technology 4.0 (Process automation robots, machine learning, AI) for accounting and financial tasks, helping to increase efficiency and reduce costs. for Business .

Bizzi hopes to become an effective assistant of the finance-accounting department in the digital transformation process, making accounting work simpler and lighter.



EFFECTIVE MANAGEMENT

Control and manage expenses easily in real time.



COST SAVINGS

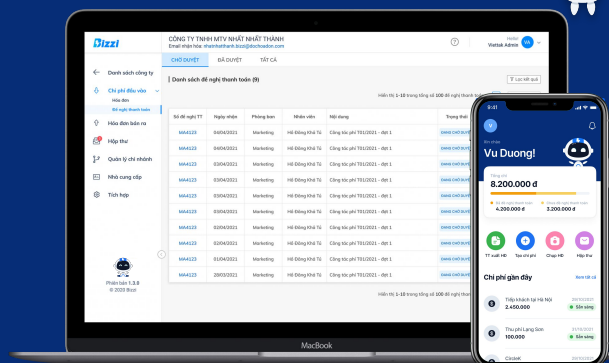
Manpower expenses and paper materials will be maximally saved.



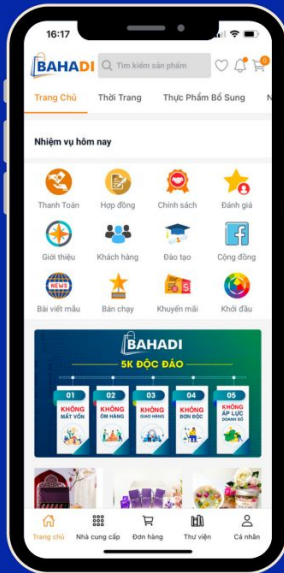
AUTOMATICALLY

Minimize the time to collect documents, make payment request

SIMPLIZE AND DIGITALIZE CREATE - COST APPROVAL PROCESS



BAHADI - THE FREE PLATFORM FOR ONLINE BUSINESS



5 'NOs' SOLUTION (5K IN VIETNAMESE)

NO FUNDS. YOU CAN
ALWAYS START YOUR
BUSINESS WITH 0 VND

NO NEED TO BUY A LARGE
QUANTITY OF GOODS PRIOR
TO EARN HIGHER COMMISSION

NO NEED TO STORAGE
THE GOODS

NO PRESSURE OF
MONTHLY SALE

NEVER BE ALONE

Combining advantages of drop shipping and affiliate marketing, Bahadi free its vendors from worries about products, funds, storages, and shipping

TEL: 0799077788

WWW.BAHADI.VN

NO.519 KIM MA, NGOC KHANH,
BA DINH, HA NOI



BAHADI offers a comprehensive online business solution, connecting hundreds of reliable domestic and foreign suppliers to bring you thousands of qualified and genuine products at the best price, allowing you to run your own business without any risk.

- ✓ Professionally and methodically trained
- ✓ Easily sell and earn with a smartphone at any time
- ✓ Thousands of high-quality products
- ✓ Big discount, 100% risk-free
- ✓ Work anywhere and anytime



COMIT

POLIOR INNOVATION - CREATING SUSTAINABLE VALUE

COMIT Corporation was established in 2003 as a representative office for Acterna (Acterna is currently VIAVI Solutions – the world's largest manufacturer in the field of Telecommunication Testing). Since its establishment, COMIT has

affirmed its position as a leading provider in the region with services & solutions including Test & Measurement, RAN Plan & Optimization, Business & Operations Support Systems (BSS/OSS).

Based on the support and trust of customers, COMIT has garnered a wide network of customers from Vietnam, Myanmar, Laos, Cambodia, East Timor to Mozambique... Since 2017, keeping up with industry trends 4.0, COMIT has started to research and develop the Technology products applying Artificial Intelligence, for example VSaaS - a centralized video surveillance platform. Currently, in all office buildings, manufacturing plants, shopping malls, (chains of) retail stores, etc., the use of surveillance cameras has become extremely useful when managers can easily monitor the operation as well as the security of the business. The VSaaS platform, allowing connection to surveillance cameras, helps to centrally manage videos from the service provider's data center. Thus, managers can completely relax but still closely monitor the operation at the enterprise. Moreover, the platform excels by applying Artificial Intelligence and developing features for face recognition, shape, access control and permits, smoke detection, labor compliance monitoring, etc. The working process and management at enterprises has become optimized, which enhances labor productivity and reduces operating costs significantly. With this service, COMIT has been playing a key role in increasing the benefits for customers in the fields of retail and marketing, security and surveillance, quality control, and perimeter security.

With the trend of developing and combining technologies of the 4.0 Revolution, along with the exploitation of the benefits from deploying Artificial Intelligence, Internet of Things and Big Data applications, COMIT is aiming for a new vision: "To be the leading regional provider of innovative solutions for a connected and secure world, with a talented, passionate and dedicated team to serve our customers". COMIT is committed to providing perfect solutions and services for businesses to not only help them grow in revenue but also create a premise for businesses to confidently enter the digital era.



Where MarTech Founders Meet, Learn, Launch & Grow



Events

Connects MarTech players & industry stakeholders in Vietnam & Asean.

It aspires to promote the adoption of MarTech in Asean and facilitate intra-regional trade in MarTech through Vietnam MarTech Expo



Resources

Research, reports, landscapes and best practice guides for you to sink your teeth into, includes:

- Vietnam MarTech Landscape;
- State of Vietnam MarTech Report;
- MarTech in Asia Newsletters;



Fund

Our year-long remote accelerator program is designed to help founders with a revenue-generating MarTech Startups optimize product-market fit & grow faster.

Website: www.vietnammartech.com | www.martechexpo.vn | www.martechtoday.vn

Email: info@martechtoday.vn | partner@vietnammartech.com



CALO METAVERSE

THE FIRST BLOCKCHAIN APPLICATION IN FITNESS IN VIETNAM

Calo Metaverse is a tech platform that encourages the community to be more active every day through outdoor and indoor activities to bring health as well as material value.

We aim to create an innovation in the world's trend of healthy living by bringing more practical values to people's exercise and movement efforts.

Don't just move, make a movement together.

181 Cao Thang, Ward 12, District 10, HCMC

calo.run

hi@calo.run

t.me/caloapp

[/calometaverse](https://calometaverse)

[@AppCalo](https://twitter.com/AppCalo)

dsc.gg/calocommunity



Omnichannel Commerce solution for every business



ABOUT HARAVAN:

Haravan is an omnichannel sales solution for every small and medium-sized enterprises. You can grow your business with Haravan, because we will make it easy for you to sell every online, easily close orders, easily take care of and resell to customers with our pioneering technology, dedicated team, and experience in deploying for more than 50,000 retailers and businesses.

The best technology solutions for omnichannel sales, building E-commerce websites, Omnichannel retail and Online Marketing

- 1 Haravan Omnichannel :** Omnichannel sales solution, centralized management: ecommerce website, integrating Facebook, Zalo, marketplace: Shopee, Tiki, Lazada, Tiktok
- 2 Haravan Website :** Professional website builder platform
- 3 Haravan Social :** Social Commerce Platform
- 4 Haravan Loyalty :** Customer loyalty developing platform, maximize customer lifetime value
- 5 Google Ads Solution :** Automated Google advertising solution, helping to increase order conversion 30%.

Haravan Technology Corporation

Floor 4, Flemington building, 182 Le Dai Hanh, Ward 15, District 11, HCMC
Hotline: 1900.636.099 | Email: hi@haravan.com | www.haravan.com

50.000+ Retailers, Small and medium-sized enterprises use

100+ Top brands trusted

		L'ORÉAL		
		THE FACE SHOP	iBasic	AEON
	COUPLE TX	JUNO	THE COFFEE HOUSE	DOJI



As a business partner of Meta 2022, meeting the highest standards of efficiency and service to support online businesses on the Facebook.



The first technology partner in Vietnam recommended by Google as the best platform for Google Smart Shopping advertising application retailers.



NỀN TẢNG TUYỂN DỤNG NHÂN SỰ TRẺ

BÚT PHÁ MỌI GIỚI HẠN



Với hơn 90 triệu dân và dân số trẻ chiếm hơn 50%, Việt Nam đang trong thời kỳ vàng về nguồn lao động.

Fjob - Nền tảng tuyển dụng - hiện đại, mới mẻ kết nối chủ lực nguồn lao động trẻ trung - năng động - tiên phong đến các Doanh nghiệp thuộc mọi ngành nghề trong và ngoài nước.

F - Match

Hệ thống tự động đề xuất ứng viên phù hợp

F - Call

Liên hệ ứng viên chỉ cần 1 chạm trên app

F - Tick

Thông tin hồ sơ ứng viên được xác thực và cập nhật

F - Manager

Quản lý thông tin ứng viên tiện lợi

F - Optimization

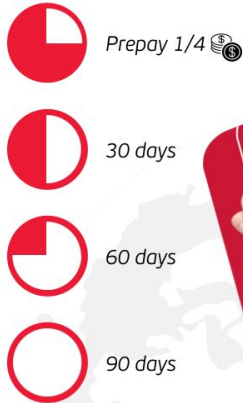
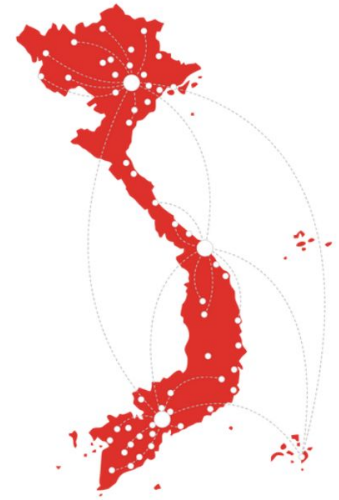
Hệ thống báo cáo thông minh, tối ưu hiệu quả chiến dịch tuyển dụng

BNPL (BUY NOW PAY LATER) IN HEALTHCARE SECTOR

HENO offering the best Buy Now Pay Later (BNPL) service in Vietnam in the healthcare and beauty sector. We cooperate with clinic, dentist, beauty salon,

vaccination center,... to assist customer in splitting the bill into 4 monthly payments and paying it off over the ensuing months without incurring any fees.

Operating in 63 provinces and cities and more than 200 clinics nationally, HENO has a team of skilled employees and the capacity to offer Fintech Solutions.



HENO prepays the customer with the merchant and periodically collects postpayments. The Discount (MDR) per successful transaction is where HENO derives its income.

Outstanding because of innovative financial and technological applications, HENO enables consumers to use 100% online, quick processing in only 15 minutes per transaction.

63
Provinces

50+
Merchants

200+
Facilities, service clinics



www.heno.vn

contact@heno.vn

0247 1088 968



Survey, data collection and real-time analysis platform

30.000+
User

350+
Interviewer

7+
Field station

5000+
Sample / day

- Get **information** quickly and accurately
- Optimizing **research costs**
- **Comprehensive & in-depth** survey
- **Data-driven** strategic recommendations

Survey and Market research solutions for all departments

HR

Marcom

Sale

R&D

Customer Service

Technology

Market Research

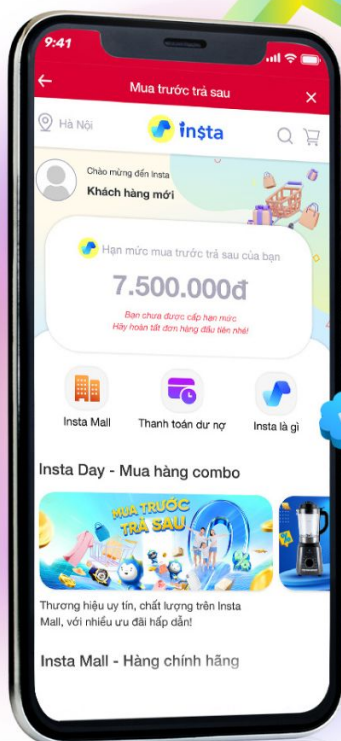


Contact us

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tienmanh.lai@mibrand.vn



INSTA – Buy Now Pay Later

Founded by Amigo Fintech in 2020, with the motto "All for the benefit of the Vietnamese people", Insta want to help customers to optimize their quality of life and seize future opportunities by taking advantage of using Insta's modern payment solution – Buy now, pay later.

Partners



Credit platform



ViHAT GIÚP TỐI ƯU HÓA TẤT CẢ KÊNH LIÊN LẠC TỪ DOANH NGHIỆP ĐẾN KHÁCH HÀNG

ViHAT cung cấp hệ thống SMS Brandname, Viber, Zalo, Voice Marketing, Tổng Đài Ảo VoIP, Contact Center tích hợp sẵn CRM để quản lý khách hàng trên đa kênh, đa thiết bị. Với tiêu chí tạo ra các hệ thống công nghệ tiên tiến nhưng đơn giản dễ dùng và chi phí rẻ nhất.



ViHAT HELPS OPTIMIZE ALL COMMUNICATION CHANNELS FROM BUSINESS TO CUSTOMERS

ViHAT provides SMS Brandname, Viber, Zalo, Voice Marketing, VoIP Virtual Switchboard, Contact Center with built-in CRM to manage customers on multi-channel, multi-device. With the criterion of creating advanced technology systems that are simple to use and at the lowest cost.

We want Tomato to become a home where people come together and find joy and intimacy with lovely, quality items.



Our vision is to become the pioneer brand in the field of manufacturing and distributing handmade products made from high quality fabrics in Vietnam.



Fabric wallet bag



Soft interior decoration



Children's fabrics



Quilting



SINCERELY

KINDNESS

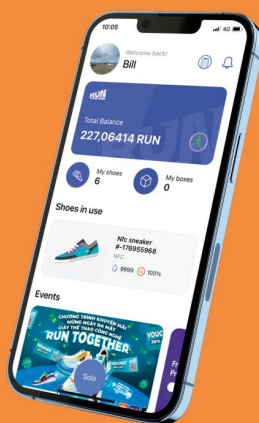
PATIENCE

- The product combines a variety of techniques such as: hand stitching, detailed machine sewing, quilting, hand embroidery.
- Designed, colored and created by the founders of Tomato Handmade,
- Material completely imported from Korea, USA, ... or Vietnamese brocade fabric
- Rich designs, hand-cutting and tailoring techniques
- Environmentally friendly material, no harm to the skin

RUN TOGETHER

Be Healthy Together!

- ♥ Run Together - an application that combines Game-Fi and Social-Fi aspects.
- ♦ Run Together project was born with a meaningful mission: building a healthy and prosperous community.
- ♦ Run Together is built around two activities: walking and jogging, which are essential for everyone to stay in shape.
- ★ To become a leading brand of technology sneakers, Run Together commits our customers to provide products and services of the best quality.



10K+ Users

Number of active users per month



120K+ Kilometers

Total running distance recorded



65K+ Calo

Calories that users have burned while using the app



4.9/5

Average rate on App Store & Google Play

runtogether.vn



Don't forget to leave us a 5-star review!



RUN TOGETHER



GLOBAL CARE

TIỀN PHONG CUNG CẤP CÁC GIẢI PHÁP NỀN TẢNG CHUYÊN ĐỔI SỐ TRONG NGÀNH BẢO HIỂM TẠI VIỆT NAM



Founded in 2017, Global Care pioneered in providing digital transformation solutions for insurance agents to simplify sales and management processes.

Sales agents and agents can:

- Sell insurance products through mobile app
- Manage insurance transactions and revenue through Web Admin platform
- Manage insurance products

Customers can:

- Search and manage all insurance policies quickly and easily
- File a claim online
- Contact a counselor immediately when there is a problem



650K+

Thành viên đăng ký mới



3Tr+

Sản phẩm bán ra



600+

Doanh nghiệp tin tưởng hợp tác



24/07

Chăm sóc khách hàng



SẢN PHẨM BẢO HIỂM TIÊU BIỂU DÀNH CHO CÁ NHÂN

- Bảo hiểm TNDS BB Xe Máy
- Bảo hiểm tích lũy Tomato
- Bảo hiểm đột quỵ
- Bảo hiểm mất cắp, mất cắp an ninh
- Bảo hiểm hàng hóa
- Bảo hiểm bệnh hiểm nghèo
- Bảo hiểm tài sản cá nhân
- Bảo hiểm TNDS BB Ô Tô
- Bảo hiểm du lịch
- Bảo hiểm sức khỏe GC Care
- Bảo hiểm nhà
- Bảo hiểm vật chất xe ô tô





Every good decision starts with **good data**

Our mission is to empower worldwide retailers to optimize their customer in-store experience and operation efficiency using our pioneering AI & Computer Vision technology

OUR SOLUTIONS

Bring values across different departments

We turn your stores into a data system using our patent-pending AI & Computer Vision technology

Our Computer Vision technology automatically detects and sorts shopper profiles into age and gender groups at every store location. Unlike sensor-based footfall counter solutions, our Machine Learning algorithms exclude staff from counting and treat every shopper as one unique traffic source, even if they walk around the store multiple times.



DIGITIZE EVERY CUSTOMER'S TOUCHPOINT



MARKETING

OPERATIONS

LOSS PREVENTION

MERCHANDISING

RETAIL MANAGEMENT

OUR CUSTOMERS



"The top-notch Vietnamese jewelry manufacturer and retailer since 1988."



"The premier retail chain that specializes in beauty and health care products."



"The No.1 provider of bedding in Vietnam."



"The renowned Canadian retailer that owns a worldwide share of footwear and accessories stores."



WESHARE

NỀN TẢNG GÂY QUỸ BỀN VỮNG TỪ CÁC ĐƠN HÀNG ONLINE



Người dùng

Bấm qua trang thương hiệu
mà họ muốn mua sắm



Tổ chức xã hội

giúp người dùng
quyên góp

hoa hồng

100+ Thương hiệu

3 BƯỚC QUYÊN Góp KHÔNG MẤT PHÍ CÙNG WESHARE

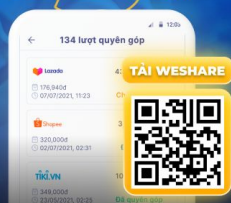
CHỌN TỔ CHỨC
XÃ HỘI MUỐN
QUYÊN Góp



MỞ THƯƠNG HIỆU
TỪ WESHARE,
MUA SẮM NHƯ MỌI KHI



QUYÊN Góp TỰ
ĐỘNG CHỈ NHẬN
TRONG VÒNG 24H



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weshare.asia@gmail.com