MALAYSIA STARTUP ECOSYSTEM ROADMAP
2021-2030

SUPERcharging The Way
To Our Shared Future

KEMENTERIAN SAINS,
TEKNOLOGI DAN INOVASI
MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

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Startups are Engines for Innovation and A Sustainable Economy

Innovation plays a key role in improving the socio-economic status of communities and nations. Globally, the startup industry has pioneered some of the most innovative technologies, aside from generating far more jobs than traditional businesses[1]. The benefits of the startup industry and the value of their proliferation in light of the Fourth Industrial Revolution era, cannot be denied.

Today, the global startup economy is worth more than RM12.8 trillion (USD3 trillion). Between 2008 and 2016, the startup ecosystem contributed RM3.4 billion to Malaysia's Gross Domestic Product (GDP), created 80,600 jobs, attracted RM1.3 billion in private and foreign equity, and is projected to contribute RM30.8 billion to the GDP by 2030[2] representing a ten-fold increase.

YB Dato' Sri Dr. Adham bin Baba

Minister of Science, Technology and Innovation (MOSTI)

In Malaysia, we still have some distance to go in creating a robust startup ecosystem. Take Grab and Carsome for instance - two unicorns, of same origins, with different outcomes - which gives us impetus to improve.

MOSTI aims to fully support the progress and development of startups at every stage, especially those with potential. This effort will include uplifting the startup ecosystem, providing incentives for private and public investors, and support to enable startups to overcome the challenges and barriers in Malaysia's quest to become a leading and successful global startup ecosystem.

MOSTI is committed to the development of a sustainable, robust and welcoming startup environment which will ensure a strong economy and bright future for every Malaysian, young and old, regardless of their economic status (Keluarga Malaysia). This includes making Malaysia a top destination of choice for founders and innovators. This will enable us to attract foreign and local investors, provide more job opportunities for local talent and generate greater knowledge sharing.

To this end, MOSTI has developed several roadmaps and action plans for the advancement of science, technology and innovation (STI), with the aim of becoming a high technology nation by 2030, in accordance with the National Policy on Science, Technology and Innovation (DSTIN).

I am therefore honoured to be given the opportunity to launch The **Malaysia Startup Ecosystem Roadmap (SUPER) 2021-2030**. SUPER is developed to transform Malaysia into a Top 20 global startup ecosystem by 2030. It will also help us realise our goal to generate 5,000 startups, including five with unicorn status, by 2025. It will also help us realise our goal to generate 5,000 startups, including five with unicorn status, by 2025.

SUPER will be a tool to increase our GDP, contribute to high-value jobs, and increase our investments in high impact and deep technology fields – among others. The innovative solutions and disruptive business models offered by startups also have the potential to improve our social well-being and catalyse economic growth.

To reduce the impact of the COVID-19 pandemic on startups, MOSTI, through its agencies and departments, will continue to support qualified startups - which includes attracting private investors. We welcome all efforts to enliven the growth of the startup industry through research, development, commercialisation and innovation with special emphasis in research and experimental development.

MOSTI is confident that this Roadmap will close gaps in the ecosystem, while laying a solid foundation for our future. With all stakeholders on board, it sets out our journey to success.

Let us SUPERcharge our future!
Thank you.

Empowering the Startup Industry

At MOSTI, charting the future of our nation becomes complex, with greater consequences that affect every Malaysian and our standing in the world - especially as we rise from the pandemic.

We are cognisant of this responsibility everyday. In planning, we do our best to ensure that Malaysia achieves its fullest potential.

Our nation is our 'Keluarga Malaysia', a family unit which must be kept strong, nurtured and encouraged to be the best it possibly can. With a mandate to use technology to solve the grand challenges of our nation, we began the journey towards the technology-driven, innovation nation that each of us envision.

**Datuk Zainal Abidin bin Abu Hassan
Secretary General**

Ministry of Science, Technology and Innovation (MOSTI)

The key to this vision lies in startups -- a RM15.9 trillion (USD3.8 trillion) industry that is the economic powerhouse of the global world today, spawning countless innovations we just can't do without.

In tandem with ongoing national policy initiatives which have the overarching goal of generating high-tech innovation, equitable growth for society and building an entrepreneurial nation by 2030, we began to design a roadmap for our desired destination.

The **Malaysia Startup Ecosystem Roadmap (SUPER) 2021-2030**, is the result.

In developing SUPER we examined the strengths and challenges in Malaysia startup ecosystem, in comparison with other high performing ecosystems as well as consulted many key stakeholders in our ecosystem.

We were cognisant to also ensure SUPER would be the vein that runs through key national policy initiatives. It connects the country's various socio-economic policies and as it aims to spearhead Malaysia's socio-economic transformation.

With a clear vision and goals to be achieved by 2030, this 10-year action plan outlines 16 interventions across 5 key thematic areas, each one aligned and concurrent to existing policies.

This is a comprehensive Roadmap to intensify the nation's startup ecosystem, leveraging the collaboration of key stakeholders, It sets out clear areas of interventions and strategies to enhance the startup ecosystem through collaboration.

In so doing, we believe it will create a robust ecosystem for startups to flourish, and ultimately result in shared prosperity, as well as produce digital-minded citizens who are also passionate about entrepreneurship; and people filled with an entrepreneurial spirit; with goals shared by the national policies.

It will not happen overnight, but we are on the right track, and closer to our goals than we imagine. This roadmap helps us see clearly the policy alignment necessary to propel us to the future.

We hope SUPER will be a handbook that combines our aspirations to make them tangible, actionable and outcome-driven.

Our future is a shared one.

Let's move together toward that shared hope and vision.

Thank you.

When we think about a startup, what comes to mind?

Netflix? Facebook? Google? Uber? Carsome?

These founder-driven companies started out small, but have today become multi-billion dollar companies with products and services that are an indispensable part of our lives.

If there is one common trait today's top tech giants share, it is this: they set out to change the world, fueled by a ceaseless appetite for scale and success.

INNOVATIVE
Technology-driven products, services or solutions that resolve challenges in novel ways.

GROWTH-ORIENTED
Highly-scalable, fast-growing; "Move fast, break things."

DISRUPTIVE
Products, services or solutions are focused on new ways of solving problems; often disrupting the status quo and traditional businesses.
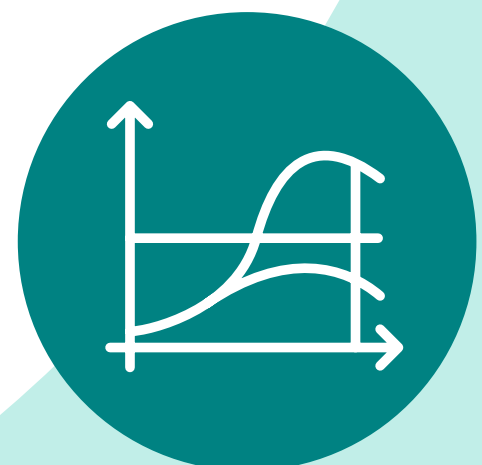
J-CURVE
Growth trajectory follows a J-Curve trendline, which shows an initial loss ("valley of death") immediately followed by a dramatic and steep gain.

Startup vs Technology Company or Business

While there are many definitions, MOSTI defines a startup as

"**a technology or innovation enabled business at an early stage, with a scalable business model and a high growth strategy.**" - MOSTI 2021

A Startup?
You are if you are looking for a new, attractive and profitable business model for a novel product or solution (usually disruptive).

Are You...

A Technology Company or Business?
You are if you already have a prior business model and are focused on executing the said business model successfully. Some examples are Samsung, HP and Nokia.

Is my company a startup?
YES! If you also tick all of these boxes!

- ☑ Self-funded, perhaps bootstrapping or with angel investors
- ☑ Founder-led
- ☑ Are developing a profitable business model that has the ability to scale

Malaysia:
A Globalising Ecosystem

Malaysia is an ideal location for entrepreneurs to consider for startup incubation, due to low costs, high quality of living and progressive talent, fast-tracked visas, and robust government support - making it a great choice also for investors.

We are here

Activation Stage

These are ecosystems with fewer than 1,000 startups with limited startup experiences. These ecosystems are at the very early stages of their development and just beginning to recognise the huge growth potential of startups.

< 1000

Globalisation Stage

Ecosystems with 800-1200 startups (depending on its population size). They are regionally impressive, are worth up to USD100 million, and have grown to have increased Startup Experience.

800 - 1200

Attraction Stage

Ecosystems with more than 2,000 startups, are globally impressive, and use Global Resource Attraction to significantly expand the size of their ecosystem and fill remaining gaps. Robust, developing and attractive to venture funders and investors.

>2000

Integration Stage

Ecosystems with more than 3,000 startups, are self-sustaining and hugely successful, with startups that create knowledge transfer and wealth. The ecosystem is mature and flourishing.

>3000

NUMBER OF STARTUPS

Source: Global Startup Ecosystem Report 2020

Our Strengths

Digital Platform Economy Index 2020

Malaysia is a Gainer, 2nd after Singapore (Followers) amongst SEA countries. Gainers are defined as **"possessing good digital technologies of which citizens are active users, however many aspects of the digital entrepreneurship ecosystem require considerable development"**

Global Startup Ecosystem Report 2021

Malaysia ranked **Top 9 based on Ecosystem Value** in the emerging startup ecosystem group, and is gaining strength in gaming and fintech subsectors

Global Startup Ecosystem Report 2021

Malaysia ranked 21st in the Top 100 Emerging Ecosystem

Global Entrepreneurship Index 2020

Malaysia ranked **43rd in the Global Entrepreneurship Index 2020** behind Singapore (27th) but is ahead of Thailand (54th), Indonesia (74th) and Vietnam (75th); up 15 spots from 58th the previous year

Global Innovation Index 2020

Malaysia ranked **2nd Most Innovative Country in Southeast Asia**

Tracxn

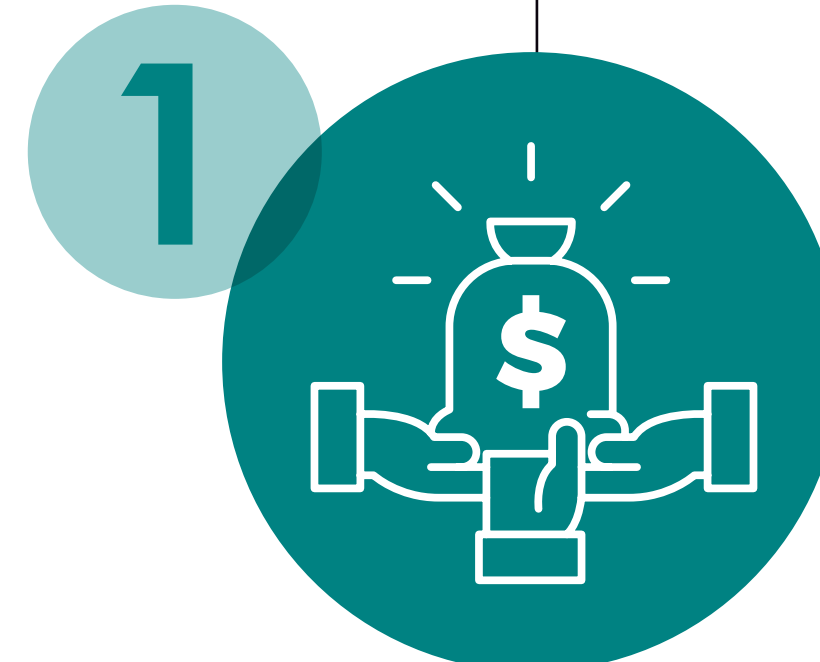Malaysia ranked **3rd for the most number of startups in Southeast Asia**

Current Challenges in the Ecosystem

No journey is without its obstacles, and ignoring them slows down progress and frustrates stakeholders. While we are in good standing regionally, the ecosystem is not yet as robust and inclusive as we need it to be.

In our bid to truly understand the pain points in our current ecosystem, we sought the feedback of 337 stakeholders, inclusive of 209 public respondents. We also held meetings with 24 organisations, and carried out numerous questionnaires and roundtables with industry captains.

Based on our analysis, the challenges and gaps in Malaysia's startup ecosystem can be grouped into 5 thematic areas.

These are: **Funding, Talent, Innovation, Policies and Regulations,** and **Market Environment.**

1

FUNDING

Lack of robust policies and regulations to provide a sustainable startup environment

Lack of a clear path from ideation to commercialisation for startups

Lack of local and foreign talent with the required technical and digital skills

Lack of validation and support; lack of access to cross-border market penetration

Lack of private sector driven funding

Lack of private sector driven funding

While the government plays a big role as a shareholder, providing direct funding to startups, more needs to be done to draw in private investors.

What does this mean?

Currently, the government, through various agencies such as Cradle Fund, the Malaysian Technology Development Corporation (MTDC), Malaysia Debt Ventures Bhd (MDV), Malaysia Venture Capital Management (MAVCAP), Kumpulan Model Perdana (KMP), and the Malaysia Digital Economy Corporation (MDEC), offers direct financial support to local startups.

Between the Ninth Malaysia Plan and the Eleventh Malaysia Plan, the total amount of government funds approved or invested into five technology based funds was RM1.31 billion.[3]

While this is a good show of support by government-owned venture capital (VC) firms in Malaysia, they tend to take on the role of shareholders instead of indirect investors. This is unlike the role played by governments of the United Kingdom (UK), United States of America (USA), Singapore and Korea, leading to very different outcomes.

Instead of channeling direct funding to government-owned VCs as a vehicle to invest in startups, other governments act as enablers, to avoid direct competition with VCs and private funders.

Efforts must be made to reduce this push factor of direct competition with private funders, and at the same time attract private investors by providing pull factors such as tax breaks and matching grants. This will not only increase the pool of funds for startups, but also ensure that investment momentum remains active at the later stages of a startup's life cycle.
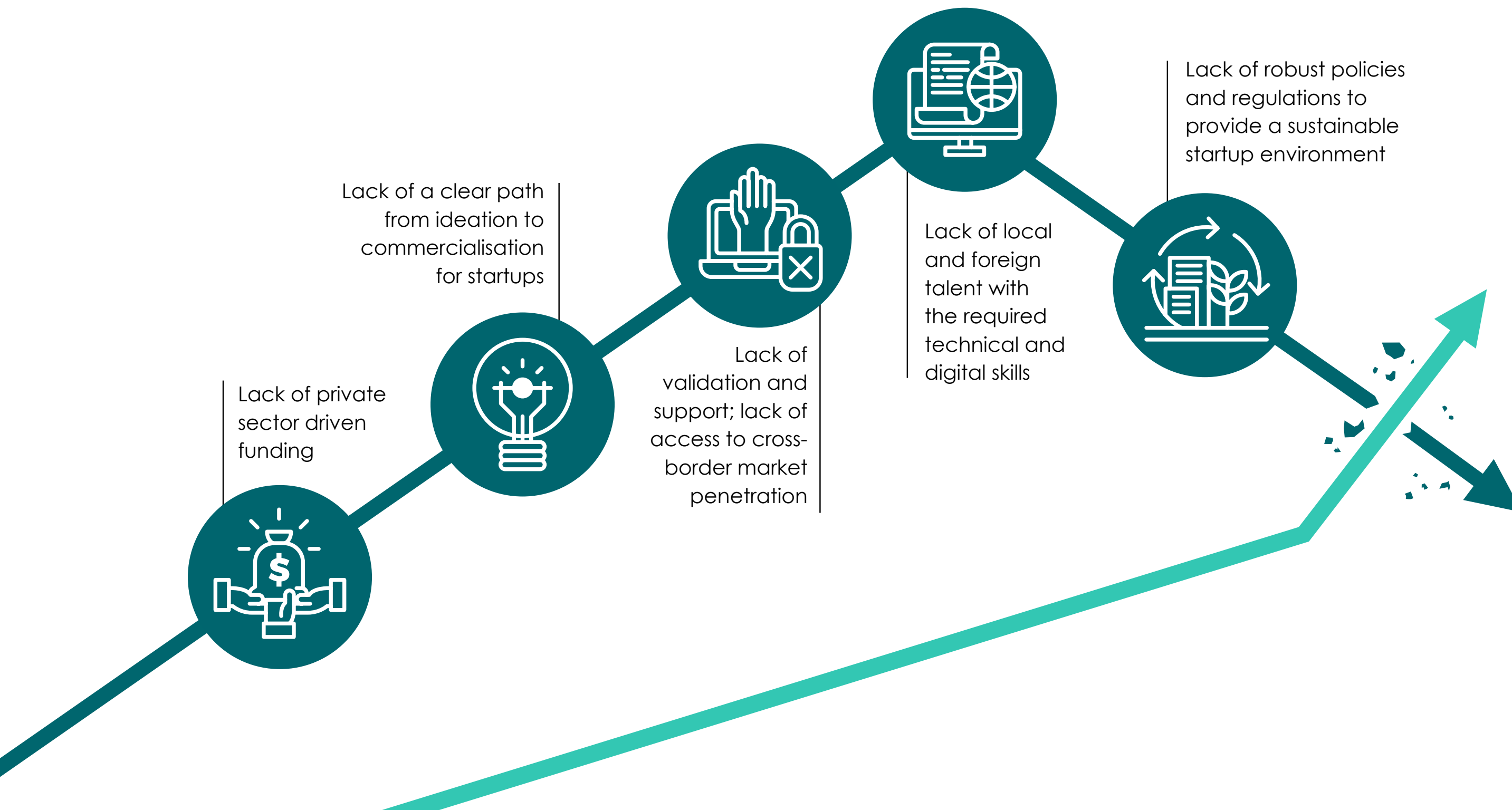
2

TALENT

Lack of local and foreign talent with the required technical and digital skills

Local talents lack an entrepreneurial mindset caused by a fear of failure, while visas for foreign talent lack rigorous assessment.

What does this mean?

One of the reasons Malaysia dropped from 19th place in 2016 to 27th in 2020 was due to a highly competitive global hiring climate and a shortage of tech talent. [4]

Malaysia also appears to have one of the lowest scores for 'Cultural Support', indicating that entrepreneurs held an inferior level of social status and respect. This could also be due to Asian cultural norms where parents prefer their children to have more traditional, 'stable' jobs and where failure is seen as shameful. [5]

45% of Malaysians agree that they can spot good opportunities, but would not start a business for fear of failure.[6]

Based on a survey conducted by the Organisation for Economic Co-operation and Development (OECD), 75% of students in Malaysia also indicated that they are concerned with what others think of them when they fail, and don't want to lose 'face'. [7]

As for foreign talent, Immigration laws play an important role. Globally, countries are introducing visas with stringent prerequisites targeted at top quality talent but Malaysian laws have yet to include requirements for proven Intellectual Property (IP) ownership, or existing funding secured. This compromises the quality of talent and startups entering the local market.

3
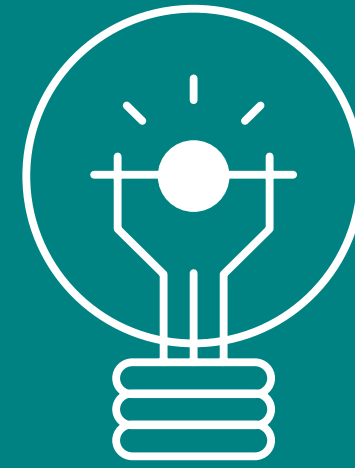
INNOVATION

Lack of a clear path from ideation to commercialisation for startups

Startups are not fully equipped with the knowledge and access to bring their products from ideation to commercialisation.

What does this mean?

Malaysia increased its scientific research output 4.5 times between 2008 and 2018. However, only 8.3% of national research and innovation products implemented in the Ninth and Tenth Malaysia Plans were actually commercialised.[8]

While there are many ongoing efforts to increase collaboration between educational institutions and the market, there remains a missing link between research products and solutions to commercialisation.[9]

Research shows that while there is support for startups at the ideation stage, market experts only get involved towards the end of the process, leading to a mismatch between problem and solution.[10]

A relatively low number of IPs obtained by Malaysian startups also affect investment potential. A closer look revealed that trademark protection is the most common IP application - when patents, copyrights, and protection of trade secrets are what investors deem as more 'valuable'.[11]

4

Lack of robust policies and regulations to provide a sustainable startup environment

Numerous programmes provide plentiful opportunities, but can also be confusing if regulatory measures aren't responsive enough to support maturing startups to scale.

What does this mean?

As markets keep evolving at an unprecedented pace, policies and regulations need to be agile enough to anticipate trends and provide allowances that improve the ease of doing business.

Malaysia's current policy and regulatory landscape often does not provide sufficient long-term support for nurturing startups to sustain market uncertainty and to scale-up.[12]

The World Competitiveness Ranking 2020 by the Institute for Management Development (IMD), placed Malaysia 52nd for ease of starting or setting up a business. However, we recorded an increase in "startup days" from 13.5 days in 2019 to 17.5 days in 2020.

Startups also find it difficult to identify where to go for support. There are various agencies involved such as the Malaysian Global Innovation and Creativity Centre (MaGIC), MDEC, SME Corporation Malaysia, and the Selangor Information Technology and E-Commerce Council (SITEC), which have overlapping functions in supporting startups. This brings challenges for startups to identify the right entity from early on to seek support and guidance.

International startups see these multiple sources of information and functions as obstacles to making Malaysia a preferred destination.

To make things worse, existing data on startups is often rather limited and fragmented.[13]

We need a more conducive and agile business environment for startups, where data, policies and governing agencies are more consolidated.

5

Lack of validation and support; lack of access to cross-border market penetration

Few international accelerators and incubator programmes means narrower opportunities for startups to penetrate foreign markets; while lack of government procurement for startups may hamper their domestic growth.

What does this mean?

Currently, Malaysia has 28 accelerators or incubators backed either by the government, the corporate or the private sector.[14] The majority of these entities are local, and in order to gain access to the global market, these accelerators and incubators need a more prominent international network or counterpart. There is therefore a need for more programmes originating from international networks which can offer startups direct access to global networks.

In terms of domestic growth, startups which are considered non-traditional vendors, find it difficult to gain access to government procurement contracts.[15] This presents a significant source of missed opportunity for startups, as on average, OECD countries spend an estimated 12% of their GDP each year on government contracts. For Malaysia, that amounts to around RM180 billion. [16]

Government procurement processes, eligibility, and assessment criteria often remain a hindrance to young and budding startups.

In return, the government misses out on potentially innovative and efficient solutions for their specific needs, due to bureaucracy.

How Did We Develop SUPER?

First, we listened to the people who matter the most

THROUGH ● ● ● ● ● ● ▶

Focused meetings
We held engagement sessions with key stakeholders in the startup scene to gain insight on challenges and needs; we stress-tested interventions, and engaged with the relevant ministries and agencies.

A visioning workshop
We discussed the prioritisation of potential interventions and co-created compelling visions for the ecosystem.

Questionnaires
We obtained feedback from stakeholders and validated our hypothesis and challenge statements.

Roundtables with industry captains
We stress-tested the proposed interventions with C-Suite executives in the ecosystem.

WE SPOKE TO ● ● ● ● ● ● ▶

Government stakeholders
To align aspirations and gain understanding on existing and future plans to benefit startups and strengthen the ecosystem.

Startups
To validate challenges and co-create interventions required to meet their needs.

Investors
To gain perspective of key characteristics they look for in a startup and how the government can help.

Corporations
To understand their priorities when collaborating with startups and to stress-test our interventions.

Educational Institutions
To gain insight on programmes and training to strengthen talent in startups.

Startup communities and associations
To validate challenges and gain input on proposed interventions.

Incubators/accelerators
To gain insight into capability building.

IN ORDER TO

Develop the Malaysia Startup Ecosystem Roadmap (2021-2030) study which offers holistic interventions for major pain points.

Not leave anyone in the ecosystem behind.

Be inclusive in our approach and methodology for the benefit of all.

Our Commitment

Therefore, this Roadmap is our commitment to put startups and all relevant stakeholders at the centre of our goals, and contains:

✓ **Impactful actionable initiatives to be rolled out**
16 key interventions within 5 thematic areas

✓ **Adequate representation of all players within the ecosystem, through holistic stakeholder engagements**
4 key stakeholder groups

✓ **Key achievement targets which will be measured and tracked**
3 phases and their respective outcomes

✓ **Provision for accountability, checks and balances**
1 key agency to own this roadmap and be accountable for its implementation

✓ **Content that is shaped to meet the need of changing times**
The path to an agile and adaptable ecosystem to meet changing times

Second, we learned from other ecosystems

In developing our Roadmap, we also studied best practices from countries currently dominating the list of Top 20 startup ecosystems in the world.

Silicon Valley is said to have birthed the startup industry and given rise to some of the biggest and most successful startups-turned-tech giants of the world.

The success of **Silicon Valley** can be credited to several key strengths [17] [18] :

- A 'dual ecosystem' of large firms and startups, where startups nestle among large firms to increase the source of human capital

- Top talents and expertise

- Strategic alliances

- A high density of wealth investors and funding institutions

- Adaptive regulations and a welcoming VC environment

- Early government policy shifts (like the relaxation of the Employment Retirement Income Security Act restrictions in 1979, which allowed corporate pension funds to invest in venture capital, eventually making pension funds the prime funder of venture capital)

In Silicon Valley, and in the US in general, failure is not considered shameful and the culture of innovation is strong.

In the **United Kingdom**, government policy intervention has been crucial to their success as Europes' fintech hub.[19] The UK is the world's first nation to introduce a regulatory sandbox as a way to fast-track the birth of highly-competitive fintech startups. They've also emerged as a hotspot for incubators and accelerators.

In **Singapore**, cohesive and consistent government intervention is leading it to become Southeast Asia's and Asia's next big tech hub. From welcoming regulatory policies to comprehensive and systematic approaches toward fostering a competitive startup ecosystem, it is currently home to 6 unicorns, including Asia's first decacorn valued at RM41.9 billion (USD10 billion), Grab. [20] [21] It also has introduced programmes to instil innovation amongst youth, and is friendly to foreign investment and talent.

Third, we aligned with key national policies

Malaysia Digital Economy Blueprint

A blueprint to guide our aim to become a leader in the digital economy, and to achieve inclusive, responsible and sustainable socio-economic development.

National Entrepreneurship Policy 2030

Guiding Malaysia to become an outstanding entrepreneurial nation by 2030.

Industry4WRD: National Policy on Industry 4.0

Revolutionising Malaysia as a strategic partner for smart manufacturing and technology-driven solutions, across the region.
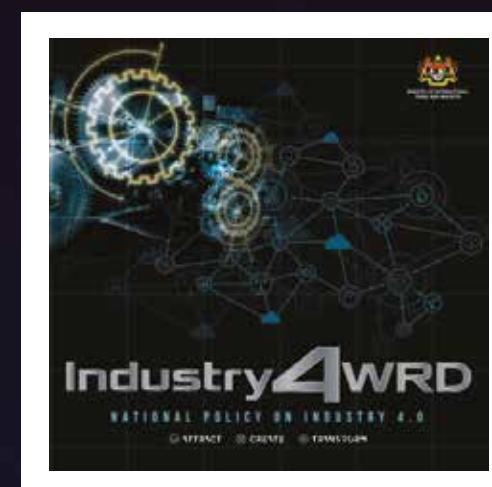
SUPER is aimed at **mapping out the way for startups to achieve scale and success**, and in doing so, **support the various ministries, agencies and stakeholders in achieving their targets** for the key national policies outlined here.

01
02
03
04
05
06
07

Shared Prosperity Vision 2030

A commitment to make Malaysia a nation that achieves sustainable growth with equal distribution of wealth across all layers of society.

National Policy on Science, Technology and Innovation 2021-2030

To advance Malaysia into a high income, high technology nation based on science, technology and innovation.

National Fourth Industrial Revolution (4IR) Policy

Fostering balanced, responsible and sustainable growth by harnessing the potential of 4IR technologies.

10-10 Malaysian Science, Technology, Innovation and Economy (MySTIE) Framework

A systematic approach on 10 key technology drivers and 10 socio-economic sectors to transform Malaysia into a knowledge-intensive economy and an innovation-driven nation.

The Way Forward is Clear

Our vision is for Malaysia to have an ecosystem where startups can grow and flourish, and be the top destination for the brightest minds both locally and internationally.
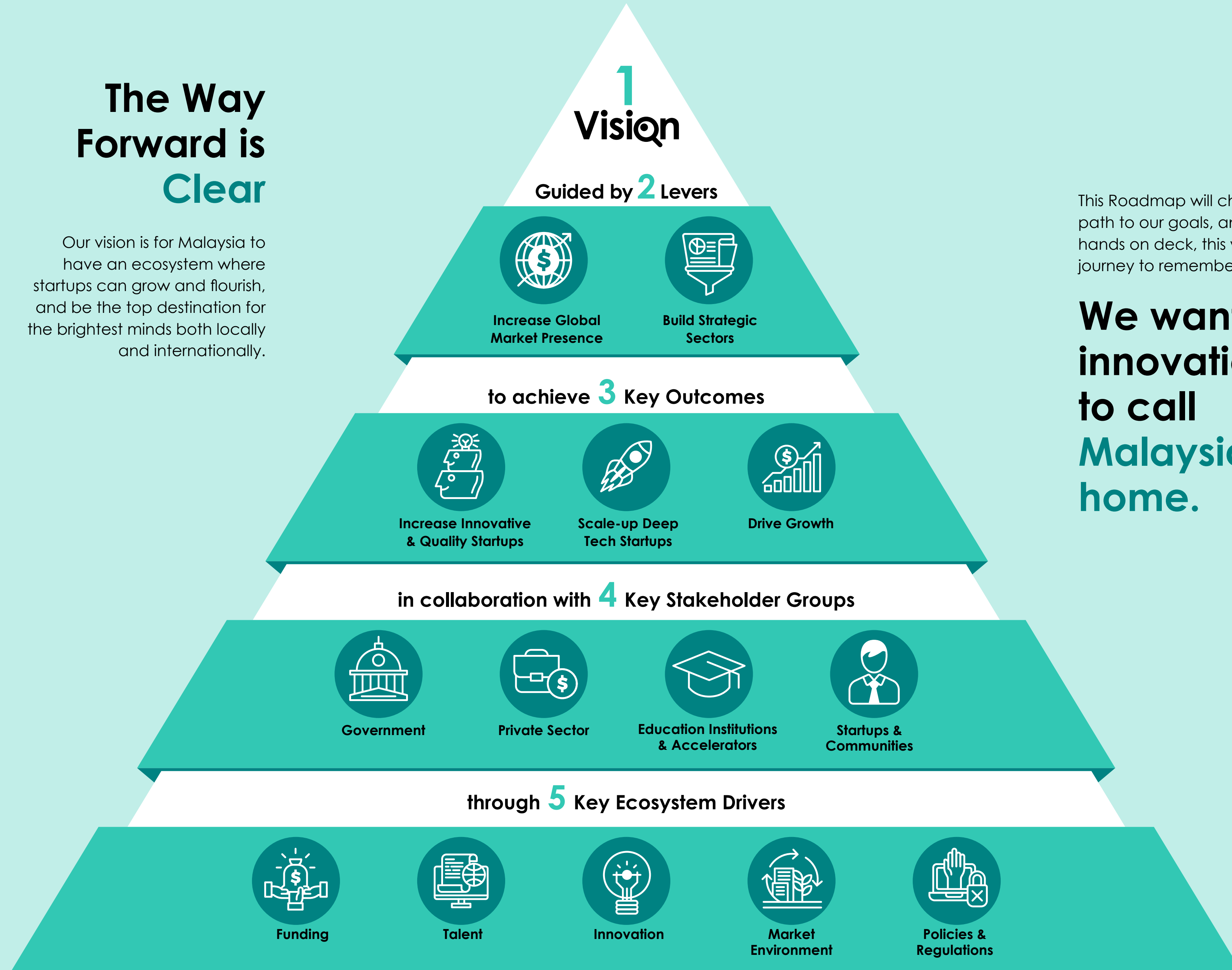
This Roadmap will chart the path to our goals, and with all hands on deck, this will be a journey to remember.

We want innovation to call Malaysia home.

1 Vision

Guided by **2** Levers

- Increase Global Market Presence
- Build Strategic Sectors

to achieve **3** Key Outcomes

- Increase Innovative & Quality Startups
- Scale-up Deep Tech Startups
- Drive Growth

in collaboration with **4** Key Stakeholder Groups

- Government
- Private Sector
- Education Institutions & Accelerators
- Startups & Communities

through **5** Key Ecosystem Drivers

- Funding
- Talent
- Innovation
- Market Environment
- Policies & Regulations

1 Vision: Ranked In Top 20 Global Startup Ecosystem by 2030

In 2020, the global startup ecosystem was valued around RM12.8 trillion (USD3 trillion).[22] This number is growing everyday and is worth more than the individual GDP of most G7 economies.

Seven of the top 10 largest companies in the world are technology related, and in 2019, close to RM1.2 trillion (USD300 billion) venture capital investments went to startups.[23]

According to Startup Genome, Malaysia's startup ecosystem was estimated to be worth RM67.4 billion (USD16.1 billion) in 2021.[24]

In 2030, we aim to be ranked as one of the Top 20 global startup ecosystems, functioning in the Integration Stage, with a mature and flourishing ecosystem abuzz with 5,000 startups, largely self-sustaining and hugely successful, creating knowledge transfer and wealth.

What do these numbers truly mean? How are they important at a time when the world has irreversibly changed due to the COVID-19 pandemic?

They are important for **two reasons.**

The **first**, and most obvious, is the economic value generated by startups.

When the number of startups in an ecosystem grows, the whole economic community related to the ecosystem, such as talent, universities, and accelerators also generate more value.

As such, preserving the number of startups in an ecosystem helps protect the overall economic value. Policymakers should never forget this, says Startup Genome.[25]

The **second** reason is perhaps less obvious, but arguably more important: startups have the potential to be the game-changer that will drive not just Malaysia's economy, but her spirit as a nation of innovators, thinkers and inventors. This spirit will lift us out of the difficulties brought about by the COVID-19 pandemic, generate new jobs and income, steer our recovery, and position Malaysia as a force to be reckoned with.

A larger startup ecosystem creates greater economic value.

The "size of an industry cluster greatly matters for its overall performance"; as the ecosystem grows, so does the economic impact of each startup. Therefore, the larger the ecosystem, the higher the performance and average value of each startup.

each startup adds an average RM21.3 million (USD5.1 million) in economic value

each startup adds RM28.9 million (USD6.9 million)

each startup adds RM36.4 million (USD8.7 million)

each startup adds RM44.1 million (USD10.6 million)

1,000 startups

2,000 startups

3,000 startups

4,000 startups
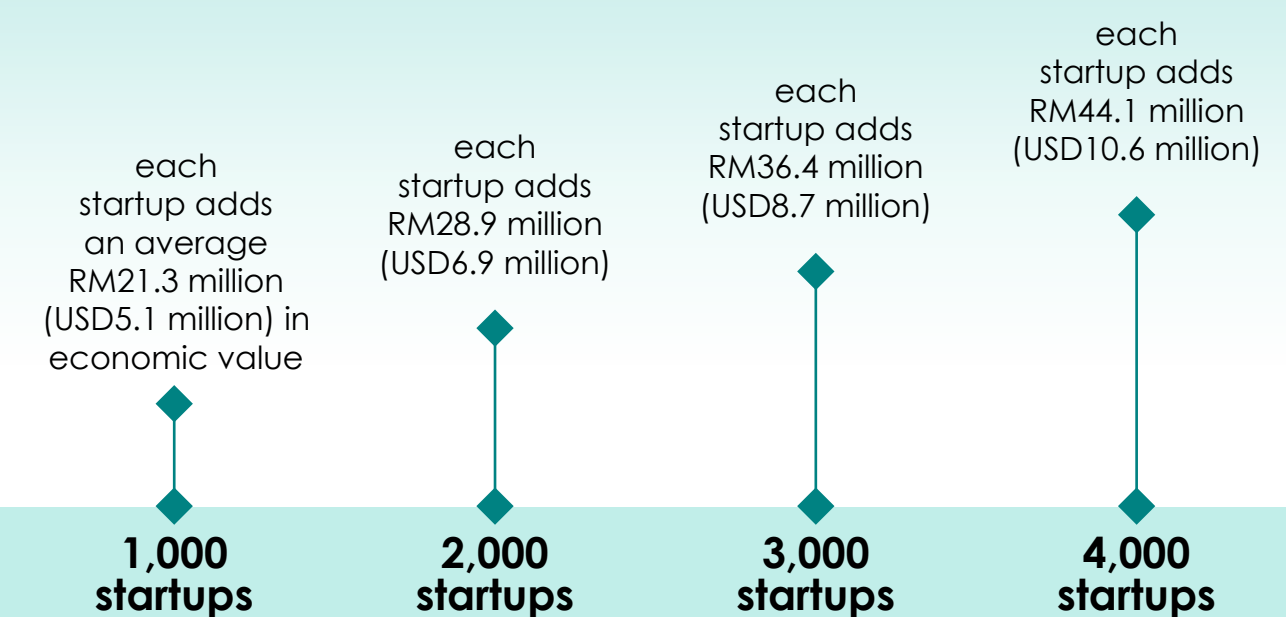
For Illustration purposes only

Source: Startup Genome 2020

2 Key Levers

Now that we've established the kind of ecosystem we want for our nation, let's turn our attention into 'how' we get there.
We have identified two key levers to drive us to that destination - a two-pronged approach outlining the dimensions that will guide areas of opportunities for the ecosystem.

Lever 1 — Grow startups in commercial sectors and increase global market presence

Financial Services — FINTECH

IT Services — DIGITAL CONTENT

IT Services — CYBERSECURITY

Global market opportunities

FINTECH

Shift in consumer behaviour towards cashless transactions and digital banking [26]

USD5,504.13 billion (RM2,303.4 billion) was the value of the global fintech market size in 2019

Market growth is projected to accelerate at a **Compound Annual Growth Rate (CAGR) of approximately 23.5%**

49.45% of the market share was dominated by the Asia Pacific region in 2019

DIGITAL CONTENT

Increasing importance of digital content in driving growth of businesses [27]

USD519.83 billion (RM217.53 billion) potential growth of digital content market size during 2020-2024

Market growth is projected to accelerate at a **CAGR of approximately 10%**

44% of the growth is expected to originate from the Asia Pacific region

CYBERSECURITY

The need for a secure digital world is becoming increasingly prevalent as data flows at unprecedented levels [28]

USD418.3 billion (RM175.1 billion) projected market size for Cybersecurity by 2028

Risks related to cybersecurity and data governance are **top concerns** of chief audit executives and corporate boards

Malaysia's position

FINTECH

Malaysia has a strong fintech presence and is the largest Islamic Fintech market in the region

Malaysia is the world leader in the Islamic finance industry, boasting a 48% market share of global sukuk issuance in 2019, double that of Saudi Arabia.

According to MDEC's Islamic Fintech Report, published in February 2020, 26 Islamic fintech providers were operating in Malaysia in 2019, higher than in the UK (19), United Arab Emirates (16), Indonesia (12) and US (10).

In addition, Malaysia has the largest Islamic Fintech market in the region, with 149.5 e-payment transactions per capita as of 2019, up 81% from 82.6 in 2015 and 26 Islamic Fintech service providers.

DIGITAL CONTENT

Malaysia is a leading producer and consumer of digital content in Southeast Asia

The COVID-19 pandemic accelerated digital consumption in Malaysia, and a 2020 study by Facebook and Bain & Company showed Malaysia recording the highest percentage of digital consumers at 83% of its population (aged 15 years and above), compared to the 70% projected for the region.

Not only are Malaysians consuming content, they are producing it too. Malaysia is ranked first in Southeast Asia in animation IPs, and is placed 21st in the world gaming market.

CYBERSECURITY

Malaysia demonstrates strength and initiative in addressing cybersecurity challenges, lending weight to its rank as 5th in the world in the Global Cybersecurity Index 2020

The Global Cybersecurity Index (GCI) is a measure of a nation's commitment to cybersecurity, and Malaysia ranked 5th in the world and second in Asia Pacific.

We also ranked highly in the 2018 International Telecommunication Union (ITU) Global Cybersecurity Index, coming in 8th globally and 2nd in the Asia Pacific. This was further strengthened by the establishment of the National Cyber Security Agency (NACSA) in 2017.

Lever 2

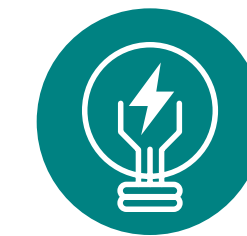## Build strategic sectors that create social and environmental impact

	LIFE SCIENCES	EDUCATION	AGRICULTURE	ENERGY
Area	Life Sciences, including Biotech, Pharma, and Medtech, are crucial solutions for improving the quality of life	Edtech is gaining importance with increased reliance on remote learning	With an upward trend in the use of Internet of Things (IoT) and the application of other IR4.0 technologies in agriculture, there is a huge potential to build food security	Clean energy is an emerging sector as more emphasis is given to sustainable development and to reducing our environmental footprint
Global Market Opportunities	The global health industry was worth RM35.36 trillion (USD8.45 trillion) in 2018 and global healthcare spending is expected to reach over USD10 trillion by 2022.[29] This presents a huge opportunity for Malaysian healthcare companies.	Edtech Digest estimates that the global market size for education technology, valued at RM319.7 billion (USD76.4 billion) in 2019, is expected to grow at a CAGR of 18.1% from 2020 to 2027. [30] With more and more students and adult learners using technology for home-based learning, this is a huge emerging area of opportunity.	The global smart agriculture market in 2018 was valued at approximately RM26.9 billion (USD6.45 billion), and is expected to grow at a CAGR of 13.09% to reach RM82.3 billion (USD19.6 billion) by 2027. [31]	The global renewable energy market, according to Allied Market Research, was valued at RM3.6 trillion (USD881.7 billion) in 2020, and is projected to reach RM8.29 trillion (USD1.98 trillion) by 2030, growing at a CAGR of 8.4% from 2021 to 2030. [32]
Malaysia's position	According to ASEAN Briefing, Malaysia's healthcare market is forecast to be valued at RM125.7 billion (USD30 billion) by 2027, fueled by increasing opportunities for healthcare services.	Malaysia's education market is expected to be valued around RM41.9 billion (USD10 billion) by 2023, with new interactive education models harnessing online platforms, emerging technologies and augmented reality (AR).	The agriculture sector is one of the main employment providers and economic contributors for the nation, contributing 7.1% of the GDP (2019).	Energy, especially clean energy, is a critical sector of growth for the Malaysian economy and has accounted for nearly 20% of the country's total GDP in recent years.

These two levers are crucial components of our ecosystem,

and will set the stage to guide us through the key sectors which will increase our output as an innovation nation and allow for the flourishing of ideas.

The two levers outline the way for our three key outcomes which, with the support of four stakeholder groups, guide the formation of our interventions in the five ecosystem drivers.

3 Key Outcomes

1 Increased pool of innovative and quality startups

Talent is the lifeblood of a thriving ecosystem, without which it would not grow. Recognising this, our targets are to:

- Achieve early stage funding to the GDP at a ratio of between 0.3% to 0.4% by 2030
- Have 10,000 coders by 2030
- Have 5,000 startups by 2025 [33]

2 Accelerated scale-ups through the growth of Deep Tech startups

Deep Tech, which refers to scientific or engineering breakthroughs with huge potential for commercialisation and patenting, enables startups to evolve their products to solve even more complex problems. While it may seem niche, fostering Deep Tech serves to strengthen the ecosystem, giving startups a competitive edge and advantage in this rapidly evolving world of technology. As such, we target to:

- Increase volume of patents to reach 10,000 by 2030
- Increase GERD/GDP by 3.5% [34]

3 Drive growth of local and international unicorns

The unicorn status - where a startup is valued at RM4.19 billion (USD1 billion) - is much coveted, but beyond just an impressive valuation. Unicorns don't just provide economic value, but have the potential to cause a spillover effect. In India alone, its 44 unicorns from the last decade have generated over RM444 billion (USD106 billion) in value, resulting in the direct and indirect generation of more than 1.4 million jobs annually.[35]

We recognise the huge potential of unicorns, and aim to:

- Be in the Top 25 of the Global Entrepreneurship Index under the Entrepreneurial Abilities Sub-Index and Pillar-Values, by 2025
- Be in the Top 20 for "Starting a business" in the IMD World Competitiveness Ranking
- Be in the Top 20 for Knowledge & Technology Outputs pillar in the Global Innovation Index (GII) by 2030
- Attract a total of 5 local or homegrown unicorns by 2025

4 Key Stakeholder Groups

The success of our startup ecosystem, and SUPER, will depend on the concerted effort of all our key stakeholders and the execution of the proposed recommendations within it.

We cannot overstate the importance of the government and the public sector in our vision to be ranked a Top 20 Global Startup Ecosystem. As one of the key stakeholders, they are the driving forces of SUPER

As such, the **government** should:

- Improve the ease of doing business
- Enable the creation and growth of a pool of quality startups
- Establish regulatory frameworks that are agile and receptive to new trends, technologies and startups
- De-risk technology implementation and mitigate the risk of innovation by focusing funding on startups in its pre-seed stage (prototype or proof-of-concept (POC) stages)
- Strengthen mechanisms and regulations which encourage private sector investment in startups
- Leverage government networks to channel opportunities for startups to access regional and international opportunities

Collaborations between corporate entities (the private sector) and startups are incredibly beneficial for both parties.[36] Startups will benefit from the funding and resources of corporations, and gain customer access, while corporations are able to innovate to stay ahead of competitors and disruptions, while gaining access to the new technologies which startups offer.

Thus, **corporations** should:

- Participate in the startup ecosystem as enablers in areas such as mentorship, market access, infrastructure sharing, and leveraging networks (such as suppliers and customers)
- Be a startup's first-customer, either through co-innovation or outsourcing innovation

Investors pour funds into startups, put faith and trust in them and help them speed up their scale and success. Startups in return, provide returns-on-investments (ROI) for its investors.

Investors can:

- Drive private sector investment into the Malaysian startup ecosystem
- Increase angel investment activity into the Malaysian startup ecosystem
- Collaborate with the government to improve the investment landscape through attraction and promotion efforts

The Why:

A nation where an entrepreneurial and innovative spirit flourishes is one nation that stands to grow not just economically, but in the soft skills of invention and creativity. We will stand to benefit greatly if more new businesses see Malaysia as a top startup ecosystem in Asia, and in the world.

Government

Private Sector

The Why:

Staying ahead of the curve requires the rapid development of new technologies, and the ability to anticipate disruption - both of which are the very definitions of a startup. By collaborating, both Investors and startups stand to benefit from one another. Corporations have first-access to new technologies, while startups have a pool of resources at their disposal. We've seen this work successfully, especially for fintechs. Banks are working closely with financial startups to create new products for customers, while startups have a ready network of customers to tap into. Meanwhile, investors stand to gain a huge ROI from the success of the startup.

Education Institutions & Accelerators

Startups & Communities

The Why:

Technical education and entrepreneurial expertise will be the major driver of tomorrow's education landscape. How we prepare for this scenario today will determine our competitive edge in the education sector.

The Why:

Co-operation leads to greater outcomes, and sharing of experiences prevents pitfalls. Startups often feel like they have to go it alone, but this is a myth. A thriving and robust community of startups will widen networks and create more opportunities to learn from each other.

The spirit of entrepreneurship and the technical skills needed for startup growth often begins in the classroom. Educational institutions play a crucial role in fostering a pool of talent through a targeted curriculum and an innovation-driven environment.

Education institutions can:

- ✓ Have Technology Transfer Offices (TTOs) for startups to commercialise ideas developed in the university

- ✓ Recruit entrepreneurs with technical and business expertise to conduct entrepreneurship programmes and guide students

Education should also be complemented with **accelerators and incubators**, who can:

- ✓ Help startups expand and gain market access regionally and internationally by forming alliance networks

- ✓ Create a wider awareness about the potential of Malaysia's startup ecosystem to attract the presence and activity of ecosystem builders

Startups thrive within a community of like-minded founders and innovators. As such, a support system comprising fellow entrepreneurs and creatives is crucial.[37]

Startup communities can:

- ✓ Form a place for a group of entrepreneurs to share ideas and startup stories, establish connection, and normalise failures

- ✓ Partner with accelerators to provide opportunities for entrepreneurs to learn continuously

Meanwhile, **startups** need to:

- ✓ Focus on quality business ideas which have international scalability

- ✓ Explore, innovate or utilise new technologies such as Deep Tech to solve problems or address needs, and validate with the market

- ✓ Increase business resilience through knowledge and exposure

5 Key Ecosystem Drivers

The following 16 Interventions across 5 Ecosystem Drivers will be the stepping stones to achieve our vision to be ranked in the Top 20 Global Startup Ecosystem.

① Funding

TARGET

Attract a total of 5 local or homegrown unicorns by 2025

—

Increase ratio of early stage funding to the GDP to be between 0.3% to 0.4% by 2030, from 0.049% (RM691.3 million, or USD165 million) in 2021

The government needs to shift its focus to fund startups in the pre-seed stage of its life cycle, so that the private sector can act as a complementary and collaborative funding source.

Increasing private sector investment in mid-to-late stage startups will enable government funding to be channelled to startups at their very early stage, specifically at the pre-seed stage, in the form of prototype, challenge grants and POC funding.

This shift to early-stage funding by the government will help close gaps. Malaysia's early stage funding (Seed and Series A) was valued at RM691.3 million (USD165 million) in 2021, contributing only 0.049% to our GDP. [38]

To put this in context, based on the GSER data and publicly available information on the country's GDP, the level of early stage funding versus GDP ratios available in the world's Top 20 Ecosystems, are between 0.1% to 0.4%.

As the level of early stage funding and its growth rate is one of the key indicators, evidence abounds for the need to re-prioritise how the government funds startups, while increasing the pool of private sector funds in the ecosystem.

INTERVENTION 1

PHASE 1

Reprioritise public funding towards proof-of-concepts stage and enhance an indirect role for the public sector in later stages

In this intervention, public sector funding can shift its focus to:

a. A direct funding approach for the pre-seed and early stage
To empower relevant government agencies to focus on prototype or POC funding in an effort to de-risk innovation.

b. An indirect approach when funding startups in its later stages
To replicate successful national funding programmes to attract foreign investment into Malaysian startups. For example, the Dana Penjana Kapital programme, which has a 1:1 matching feature for foreign investors, has pooled RM1.57 billion in funds, exceeding its original target of RM1.2 billion in 2020.[39] This indicates that investors are attracted to Fund of Funds (FoF) investment structures that are private sector driven.

c. Leverage private sector expertise for later-stage funding
To increase government investment in the FoF model or into venture capital funds to leverage private sector expertise, industry knowledge and to divert accountability.

PROPOSED STRUCTURE OF FUNDING

Ideation Stage Funds (Direct Role)

Government
|
Agency
⌄
Startups
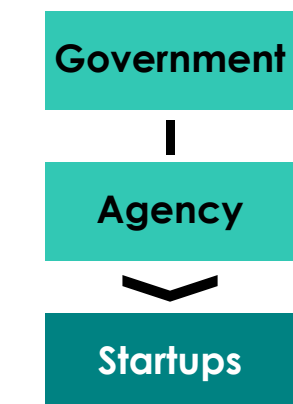
Maintain the status quo and empower Government agencies to focus on prototype/ Proof-of-concept funding in an effort to de-risk innovation

Early, Mid & Late Stage Funds (Indirect Role)

Government   Private
| |
Agency   〉 VC fund/ FoF
              ⌄
           Startups
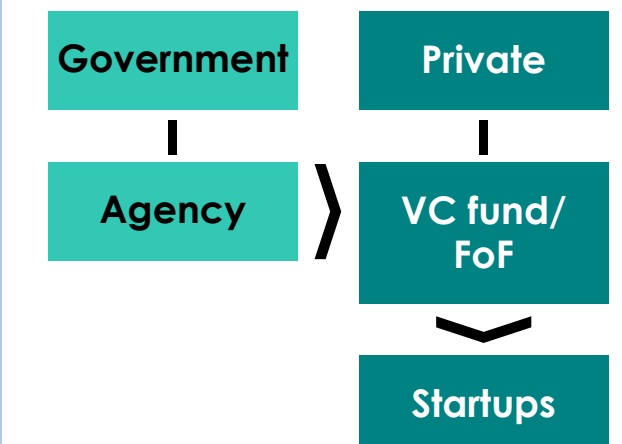
Government to employ a Fund of Funds (FoF) model or invest directly into a VC fund to leverage private sector expertise, industry knowledge and divert accountability

INTERVENTION 2

Remodel the investment attraction framework to make it more efficient and able to attract higher quality investments

This intervention will remodel the current investment attraction framework by:

a. Creating a targeted investment attraction and promotion plan
Based on information from MIDA's website, current investment promotion plans mainly focus on the Manufacturing and Services sector. We will harness feedback from stakeholder engagements to create a focused plan and strategy that will attract startup-specific investments.

b. Revisiting the investment incentives to ensure that they are direct, non-discretionary and flexible across the different stages of startups and investment life cycle
The effectiveness of existing structures for attracting foreign investors, such as tax incentives, exemptions and deductions, will be reviewed. Feedback from stakeholders will be incorporated to ensure that the qualifying processes (for the incentives) are straightforward to ease the injection of investment into the ecosystem.

INTERVENTION 3

Establish a launchpad which profiles deal flows of high growth startups

This intervention will lead to:

a. A platform that consolidates information on deal flows
Information on deal flows are crucial for investors to gauge the health of a startup, the startup ecosystem, and the economy in general. Currently, there is a lack of visibility of the rate at which these business proposals and investment pitches are flowing. This affects investor confidence. Investors in the ecosystem need to establish a network to make these deal flows more visible.

b. Databases that increase the transparency of a startup's performance
Investor confidence can be increased by providing transparent information on a startup's funding status, when it last secured funding, and which top startups have recently 'graduated' from local incubator or accelerator programmes with innovative and new business ideas to showcase. They should be searchable by type of technology, industry, funding amount, accelerator programme, and the like.

2 Talent

TARGET

Attract a total of 5 local or homegrown unicorns by 2025

—

Increase the number of coders to 10,000 in 2030

—

Top 25 in the Global Entrepreneurship Index under the Entrepreneurial Abilities Sub-Index and Pillar-Values, by 2025, up from 44th in 2020

—

Increase number of startups to 5,000 by 2025, up from the current estimate of between 800 to 1,200 startups in 2020

The lifeblood of a thriving startup ecosystem is talent, without which the ecosystem is moot.

We need a startup ecosystem that continuously nourishes a growing pipeline of local and international highly skilled tech-talent. While Malaysia has a pool of quality talent, there's still work to be done to equip them with the necessary technical skills which are pivotal for the startup ecosystem. There is also a pressing need to address the fears of failure by encouraging open sharing and discussion on normalising failures to drive fearless innovation.

What we will do is focus on building foundational tech and entrepreneurship skills among Malaysians, while also inculcating a culture that promotes learning from both failures and successes. This would widen perspectives of rising startups while preparing them for greater challenges ahead.

We want to build a sustainable pipeline of technical talent, which would give a competitive advantage to startups, and in turn, these tech talents can become tech educators to benefit the ecosystem in the long term. Attraction and retention of foreign talent in the startup ecosystem is also key in having a large pool of talent that would add value to the ecosystem with the diversity it needs.

INTERVENTION 4

Implement intensive Tech Talent programmes

PHASE 1 - 2

This intervention will focus on:

a. Inculcating technical and digital skills pivotal for the startup ecosystem
Provide intensive structured programmes targeted for Higher Education Institution (HEI) graduates, Technical Vocational and Education Training (TVET) students, and aspiring entrepreneurs to ensure that there is a match of skills to the needs of the ecosystem. This will be done in collaboration between tech academies, Multinational Corporations (MNCs), startups, and Premier Digital Tech Institutions (PDTI).

b. Increasing the creation of relevant and quality talent into the ecosystem
Leverage and build upon the existing PDTIs, as well as existing programmes such as the Digital Maker Programme and the Digital Maker Hub led by MDEC, in order to meet the tech talent requirement of the ecosystem, which forms an important component of the Global Startup Ecosystem metrics.

INTERVENTION 5

Create an open network to share successes and failures between founders and provide opportunities for students to work in startups

This intervention creates an open network by:

a. Providing a platform where potential founders and innovators are able to learn about the experiences and failings of working in startups
This will inculcate a resilient mindset, by normalising failure and using failure as a learning experience to build an entrepreneurial mindset.

b. Enhancing current platforms and encouraging open discussion and continuous learning
MaGIC's Grill or Chill (GoC) and University Startup Challenge (USC) are existing platforms that work and should be replicated. GoC is a platform for startups to showcase their products and get valuable feedback from experts in the startup ecosystem. The USC provides a platform for university students to experience how deep solutions are developed based on market needs, learn how to apply the appropriate entrepreneurship tools and canvases, receive guidance from experts through mentorship and advisory sessions, and network and solicit support from the startup ecosystem.

INTERVENTION 6

Accelerate special visa approval for fast entry and proactive retention of foreign tech talent

This intervention will focus on:

a. Making Malaysia a hospitable and attractive destination for innovative and technologically-skilled individuals
We will enhance current efforts by providing special entry lanes for talent and fast-track visas to retain talent. The visas proposed are not meant to replace existing ones in Malaysia, but are an additional offering to attract highly skilled talent to work or start a business in Malaysia.

At the same time, we will work to enhance existing programmes such as the Malaysia Tech Entrepreneur Programme (MTEP), which is an entrepreneur talent pass initiative under MDEC, through which over 130 entrepreneurs are already operating their businesses from Malaysia. Talent already with startups that are contributing to the employment and the economic growth of the country, can be considered for a special visa extension.

b. Adopting a monitoring mechanism to proactively track high-value founders and talent so as to retain them
This monitoring mechanism will create a database of the identified talent's track record and enable the lead agency to proactively retain them through visa extensions.

This will work simultaneously with a closer inspection of current eligibility criteria for entrepreneur visas, which currently lack rigorous assessment criteria to assess the type of talent we aim to attract.

3 Innovation

TARGET

Increase GERD/ GDP to 3.5%, up from 1.04% in 2018

———

Volume of patents to be 10,000 in 2030, up from 1,182 in 2020

———

Increase the number of startups to 5,000 by 2025, up from the current estimate of between 800 to 1,200 startups in 2020

———

Top 20 for Knowledge & Technology Outputs in the Global Innovation Index (GII) by 2030, up from 38th in 2020

There is a missing link between ideation and commercialisation. Startups in the ecosystem are not fully aware of the importance of IPs, and how it helps solidify their inventions and boost investor confidence. So, while there is good support for startups at the idea stage, the path to commercialisation is not quite as clear, and startups often find it challenging to scale.

As such we are cognisant that we need to zero in on commercialisation, and identify areas of rapid growth. One of these is in Deep Tech, where advances in this area would bring innovation opportunities for startups to accelerate growth.[40]

Technological breakthroughs, research capacity, and tangible IP rights are key for Deep Tech startups to succeed. With growing Deep Tech investment globally, we envision that Deep Tech startups will be driving the next generation of unicorns.

These interventions will create an open flow of innovation and knowledge that are able to produce Deep Tech solutions and leading-edge business models. The proposed strategy is to focus on driving Deep Tech innovation to market value and provide a clear path to commercialisation through enhanced programmes and involvement from all stakeholders in the ecosystem.

INTERVENTION 7

PHASE 1 - 3

Enhance current corporate-led Deep Tech startup incubation programmes

This intervention will focus on:

a. Identifying, facilitating and mentoring Deep Tech startups across the country
The intention is to support entrepreneurs with a technology-related idea in the early stages of R&D, so as to reduce the project's risks and provide expertise to prove the feasibility of a technological idea.

b. Building upon and enhancing existing programmes aimed at Deep Tech startups
We will enhance existing programmes such as the Virtual Deep Tech Bootcamp by MaGIC, which provides tech founders with the opportunity to deep dive into refining their ideas for inventive workable business solutions, to produce a minimum viable product (MVP) suitable for commercialisation.

c. Accelerating Deep Tech startups by increasing commercial applications out of R&D, and increasing patents on Deep Tech, especially in key focus sectors
We will focus on the development of strategic sectors such as Agriculture, Education, Life Sciences and Energy (as per the Key Levers), where more technology can be used and explored, guided by the technology enablers identified in the 10-10 MySTIE Framework.

INTERVENTION 8

Unlock commercialisation of research-based IPs with startups and corporate entities through a "reverse pitch" approach

This intervention will focus on:

a. Providing a clear path for commercialisation of research-based IPs and increase the collaboration between researchers, startups and corporate entities

There is still a missing link between moving products and solutions at research stage to commercialisation, and this is where a "reverse pitch" approach could create opportunities. Here, corporate leaders present their problem statements and innovation needs to researchers instead of researchers pitching technologies and solutions to potential partners.

It focuses on solutions that companies need, and moves them forward with an eye on the business realities of creating new markets. The 'reverse pitch' approach will allow corporations to pitch their problems to researchers and startups, which is an approach yet to be fully explored.

b. Leveraging existing programmes to boost commercialisation

We will leverage on existing programmes such as the IPHatch challenge by MDEC, which is a regional open-innovation challenge where patent owners such as Nokia, Panasonic and Ricoh offer patents to award-winning business proposals from startups and entrepreneurs. MYHackathon by Cradle Fund on the other hand, is a nationwide series of hackathons, each driven by a specific "theme" and a matching set of problem statements to draw out the widest variety of solutions from a single event.

1. Pitch problem statements and business challenges

Researchers/ Startups → **Corporate Leaders**

5. Develop solutions for corporate needs

2. Propose or provide tech solutions based on the pitch

6. Procure or invest and provide funding to startups and co-develop products and solutions

Incubator/ Innovation Hub

3. Collaborate with researches/startups and build pilots
4. Determine whether the solutions meet corporate needs

INTERVENTION 9

Intensify research-based startup spin-offs through strengthening policies at HEIs

This intervention aims to increase the number of IP registrations through:

a. Reviewing of current policies for IP commercialisation at HEIs

This will provide structure, predictability, and a suitable environment to turn more research outputs into business solutions. It will support an inclusive entrepreneurship ecosystem with clear, strategic direction, goals and objectives and will enable universities to foster more entrepreneurial activities for research works and promote a research-based startup ecosystem.

b. Streamlining IP commercialisation policies across HEIs

The process of commercialising R&D can be bureaucratic, and restricts researchers who need to react quickly to potential collaborative opportunities. From the feedback gathered, university commercialisation policies are found to be stringent and often fragmented. As such, the Entrepreneurship Action Plan for Higher Education Institutions (EAP-HEIs 2021 - 2025), will be a key initiative to execute this intervention, and will involve a continuous process of improvement.

4 Policies & Regulations

TARGET

Attract a total of 5 local or homegrown unicorns by 2025

—

Top 20 for "Starting a Business" in the IMD World Competitiveness Ranking, up from 52nd in 2020

—

Increase number of startups to 5,000 by 2025, up from the current estimate of between 800 to 1,200 startups in 2020

Malaysia has come a long way in creating a fertile environment for businesses to grow, and it is crucial that we maintain our competitiveness and continue on this upward trajectory. We need to create an ecosystem with startup-friendly policies that enable ecosystem players to set up, operate, invest and raise funds-- quickly.

The proposed strategy is to provide clarity for navigating policies and the regulatory landscape.

Success factors include improving regulatory response to innovation and disruption by creating pathways for regulation to change and adapt to post-sandbox environments. A central repository of everything to do with startups with equal access to information and knowledge will add to the ecosystem's attractiveness. All ecosystem players need to be engaged to provide firm and dedicated support to position and brand Malaysia as a Global Startup Hub.

INTERVENTION 10

PHASE 1

Establish a single portal of information for startups with facilitation services to navigate the ecosystem

This intervention seeks to streamline information for startups by focusing on:

a. Establishing an end-to-end facilitator to ease the process for startups in Malaysia
Cradle Fund as the Focal Point in managing the development of startups in the ecosystem will be the single point of contact for businesses to get advice on navigating the startup ecosystem in Malaysia, combining the resources of the fragmented information network. This will allow for the integration of information across ministries and agencies related to startups, ease processes and services currently absent in the ecosystem, and guided by the technology enablers identified in 10-10 MySTIE Framework.

b. Collecting data and employing a monitoring and evaluation framework for the ecosystem, in order to make informed decisions and foster continuous agility
By and large, existing data on startups is still fragmented. As such, the Focal Point (see Governance Structure) will also be responsible for collecting and collating data on the number of startups (including the number of new startups each year, what category they fall into, which technology applications are being used, the percentage share of startups from SMEs, and the survival rate of startups after 5 years); as well as data on the pool of founders and talent, such as the number of STEM graduates, the percentage of startup founders from STEM graduates, and more.

c. Deepening the seamless collaboration between existing platforms and facilitating agencies
There will be deeper collaboration between existing platforms and initiatives. For example, MaGIC's Startup Campus ID is an end-to-end platform where users can opt-in for guided learning through a gamified learning pathway, to kickstart their startup journey, while MyStartup Hub Programme (MSH) is a soft-landing programme for global innovative startups from all over the world to establish a business hub in Malaysia. There is also MDEC's GAIN Programme,which was set up to propel high-potential tech companies headquartered in Malaysia to the global stage.

INTERVENTION 11

Enhance pathways of friendly regulation for startups through National Technology and Innovation Sandbox (NTIS)

PHASE 1

While the NTIS has already seen early success, this intervention aims to:

a. Enhance and strengthen the NTIS initiative
The NTIS initiative allows startups to operate in a live environment where they can test their inventions, solutions and products under relaxed regulatory parameters. The NTIS also provides facilitation support to engage government regulators, agencies and ministries. However, the pathways to regulatory approval still needs to be improved to enable startups to scale. For example, regulators at the state level need to also recognise NTIS in order for its applicants to operate in all states.

b. Ensure continuity for startups that have 'graduated' from the NTIS
Creating the pathway to permanent regulation changes after the sandbox duration is a necessity in order to ensure continuity and unfettered growth for the Sandbox applicants.

INTERVENTION 12

Targeted and concerted effort to brand Malaysia as a Global Startup Hub

PHASE 2 - 3

This intervention will work to:

a. Position and brand Malaysia's ecosystem as a Global Startup Hub
Ministries, cross-border investment agencies, startup communities and international investors in Malaysia will work together to create a successful 'brand' for the ecosystem, showcasing the programmes and initiatives of the ecosystems on both local and international platforms. This will be targeted and concerted to position Malaysia as the first choice in starting, growing and seeking exits for startups.

b. Strengthen and enhance ongoing 'branding' initiatives for clearer and more streamlined messaging
Closer attention will be paid to strengthen existing initiatives and to replicate their success. Some existing initiatives include the annual E-Nation conference by MaGIC on future possibilities around technology and innovation; as well as Heart of Digital ASEAN by MDEC to position Malaysia as ASEAN's hub for the digital economy.

5 Market Environment

TARGET

Attract a total of 5 local or homegrown unicorns by 2025

———

Top 20 for Knowledge & Technology Outputs in the Global Innovation Index (GII) by 2030, up from 38th in 2020

———

Increase number of startups to 5,000 by 2025, up from the current estimate of between 800 to 1,200 startups

———

Volume of patents to be 10,000 in 2030, up from 1,182 in 2020

One of the defining characteristics of a startup is its ability to scale rapidly. While Malaysia is home to 32 million people, our domestic market alone is not enough for startups to truly achieve scale, or reach unicorn status. This is why local startups need to have a global mindset, capable of penetrating and expanding into foreign markets from the get-go.

Our aim is for a globally connected local ecosystem, supported by private-led corporations, accelerators and incubators. The proposed strategy is to focus on creating opportunities which enable greater forms of connectedness. This can be achieved by developing an international network of innovation alliances and leveraging on a technology commercialisation accelerator (TCA) to help startups grow and scale into overseas markets.

Meanwhile, introducing the government as first-customers to startups, will help to boost a startup's market validation; and programmes which are focused on nurturing soonicorns, will help Malaysian startups achieve the much sought-after unicorn status.

INTERVENTION 13

PHASE 1 - 3

Establish a MY-Unicorn scale-up programme driven by private accelerators

This intervention will focus on:

a. Creating unicorns through targeted support
We will establish a MY-Unicorn scale-up programme to assist startups in their mid-to-late stages with promotion, branding, media coverage, and collaboration with large private sector corporations for access to networks and clients. This programme will also provide startups with access to mentors (with technical, business, legal or marketing expertise), help them connect with investors globally and regionally, and assist in their market expansion.

b. Replicating the success of existing scale-up programmes
We will work to replicate the success of existing scale-up programmes such as MaGIC's Global Accelerator Programme (GAP). GAP's participants are funnelled from private accelerators to obtain customised coaching sessions with established corporations. ScaleUp Malaysia is another accelerator programme focused on helping startups referred to as 'Pegasus', which are companies with high growth portfolios, have a clear path to profitability, and are seeking regional market expansion.

INTERVENTION 14

Establish a startup procurement programme

PHASE 1 - 3

This intervention will:

a. Develop a startup-friendly government procurement model
A more startup friendly government procurement model, akin to the Perolehan Impak Sosial Kerajaan (PPISK) programme that piloted procurements from social enterprises, will not only benefit startups but the government too. This intervention will offer the opportunity to drive innovation, ingenuity and productivity in public services, with the aid of tech founders. Startups will be able to propose innovative solutions and problem solve at a much faster rate than traditional businesses, and can even co-develop solutions to increase efficiency of government products and services, ensuring the government stays ahead of the pack in innovation and efficiency.

Startups	Pre-qualification criteria	Evaluation criteria	Successful Accreditation
	Innovative	Technical	
	Tech/ IP driven	Operational	
	Not a reseller	Product	
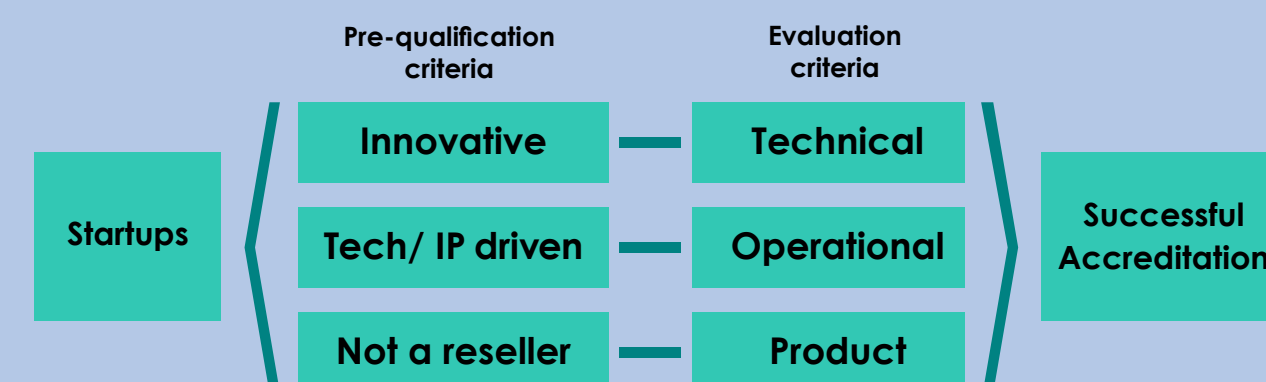
INTERVENTION 15

Form a global alliance programme to foster partnerships and collaboration

PHASE 1 - 3

A global alliance programme, formed through this intervention will:

a. Facilitate cross-border collaboration, connectivity and market access for startups and other ecosystem players
There is a real need for local startups to gain greater exposure and access to regional and global markets. Much is to be learnt from best practices in benchmarked countries, there will be opportunity to network and form alliances with other high growth and high performing ecosystems and it will open doors for mutually advantageous inter-country market penetration. Such an alliance will also strengthen Malaysia's startup ecosystem and its connection to other innovation hubs around the world.

INTERVENTION 16

Leverage on the Technology Commercialisation Accelerator (TCA) as an innovation hub to serve startup ecosystem players

PHASE 1 - 3

This intervention seeks to:

a. Leverage on the TCA as the hub that will forge a connected ecosystem, accelerate innovation to market and provide integrated state-of-the-art facilities
The TCA will be a platform to facilitate and accelerate the commercialisation of R&D products and services. R&D commercialisation will be accelerated via three processes, with active interventions and the participation of academia, industry, government and society.

TCA	Ideation & Applied Research	Prototyping and Viability Testing	Scaling up and Commercialisation
	Idea / Research	Commercialisation Approach	Regulatory Certification
	Research prototype	Integration & Collaboration	Manufacture & Scale-up
	IP Protection	Industry Prototype Testing & Validation	Commercial Deployment

10 Quick Wins

Quick win interventions can be defined as solutions that can be implemented faster and easier, producing a high impact within a short time frame.

I1   Reprioritise public funding to POC stages and enhance an indirect role for later stages

I3   Establish a launchpad which profiles the deal flows of high growth startups, targeting local and foreign investors

I4   Organise Intensive Tech Talent programmes via collaboration between tech academies, tech MNCs, startups and PDTI

I5   Create an open network to share successes and failures between founders and university students

I6   Accelerate special visa approval to enable fast entry and proactive retention of foreign tech talent

I10   Establish a single portal of information for startups with facilitation services to navigate the ecosystem

I11   Enhance pathways of friendly regulation for startups through National Technology Innovation Sandbox (NTIS)

I12   Targeted and concerted effort to brand Malaysia as a Global Startup Hub

I14   Conduct a startup procurement programme

I16   Leverage TCA as an innovation hub to serve startup ecosystem players

6 Critical Interventions

Critical interventions are those requiring larger effort to implement, with impacts seen in the long term.

I2   Remodel the investment attraction framework to make it more efficient and able to attract higher quality investments

I7   Enhance current corporate-led Deep Tech startup incubation programmes

I8   Commercialise public research and university IPs

I9   Intensify research-based startup spin-offs by strengthening policies at HEIs

I13   MY-Unicorn scale up programme driven by private accelerators

I15   Form a global alliance programme to foster local and international partnerships and collaboration

Our Impact Pathway

Illustration of the Impact Pathway of the Roadmap

5 Ecosystem Drivers

FUNDING
Low reliance on government, primarily driven by private sector

—

TALENT
A growing pipeline of domestic and international high skilled tech-talent

—

INNOVATION
Open flow of innovation and knowledge and able to produce Deep Tech solutions and leading-edge business models

—

POLICIES & REGULATIONS
Startup-friendly policies which make it easy for ecosystem players to set up, operate, invest and raise funds

—

MARKET ENVIRONMENT
Globally connected local ecosystem which is supported by private-led corporations and accelerators/incubators

16 Interventions

I1
I2 — Funding agencies redirect funds for startups in ideation stage

I3 — Private sector to directly co-invest | Increase value of investments

I4
I5 — PDTI offer a range of tech modules | Pool of talent equipped with high tech skills

I6 — Founders relocate to MY | Graduates become founders

I7
I8 — Increased number of startups in Deep Tech

I9
I10 — Focal Point to facilitate and help startups | Conducive environment to start a company

I11
I12 — Industry taking proactive roles in regulatory design | Future-flexible regulatory models that are adaptive and agile

I13 — Support soonicorns | Locally connected ecosystem

I14 — Access to other markets

I15 — Cross-border collaboration | Government procures from startups

I16

3 Key Outcomes

Increase pool of innovative and quality startups

—

Accelerate scale-ups through the growth of Deep Tech startups

—

Drive growth of local and international unicorns

Socio-economic Impact

Increase in GDP

———

High-value job creation and job multipliers

———

Increase in Tech and Deep Tech Investments

———

Social well-being

———

Reduced environmental impact

Implementation phases

Phase 1
2021 - 2022
Supercharge growth

Phase 2
2023 - 2025
Expand the ecosystem

Phase 3
2026 - 2030
Lead the game

Phase 1

- ★ Reprioritise public funding towards proof-of-concepts stage and enhance an indirect role for the public sector in later stages
- ★ Accelerate special visa approvals for fast entry and proactive retention of foreign tech talent
- ★ Establish a single portal of information for startups with facilitation services to navigate the ecosystem
- Remodel the investment attraction framework to make it more efficient and able to attract higher quality investments
- Establish a launchpad which profiles deal flows of high growth startups
- Enhance the current corporate-led Deep Tech startup incubation programme
- Unlock commercialisation of research-based IPs with startups and corporate entities through a "reverse pitch" approach
- Enhance pathways of friendly regulation for startups through the National Technology and Innovation Sandbox (NTIS)
- Establish a MY-Unicorn scale-up programme driven by private accelerators
- Form a global alliance programme to foster partnerships and collaboration

Phase 1 - 2

- ★ Implement intensive Tech Talent programmes
- Intensify research-based startup spin-offs through strengthening policies at HEIs

Phase 1 - 3

- ★ Remodel the investment attraction framework to make it more efficient and able to attract higher quality investments
- ★ Establish a "MY-Unicorn" scale-up programme driven by private accelerators
- Create an open network to share successes and failures between founders and provide opportunities for students to work in startups
- Enhance the current corporate-led Deep Tech startup incubation programme
- Accelerate special visa approval for fast entry and proactive retention of foreign tech talent
- Establish a startup procurement programme
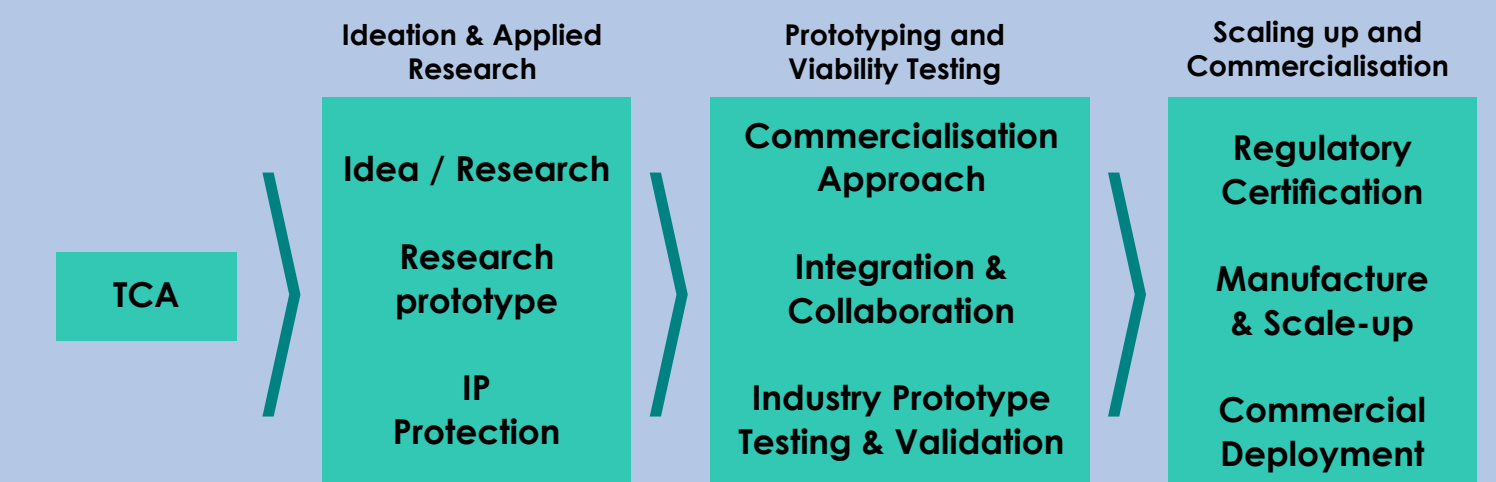- Form a global alliance programme to foster partnerships and collaboration
- Leverage the Technology Commercialisation Accelerator (TCA) as an innovation hub to serve startup ecosystem players

Phase 2 - 3

- Remodel the investment attraction framework to make it more efficient and able to attract higher quality investments
- Grow Deep Tech startups
- Unlock commercialisation of research-based IPs with startups and corporate entities through a "reverse pitch" approach
- Targeted and concerted effort to brand Malaysia as a Global Startup Hub
- Establish a MY-Unicorn scale-up programme driven by private accelerators
- Form a global alliance programme to foster partnerships and collaboration

Legend:
★ Critical Interventions

Governance Structure

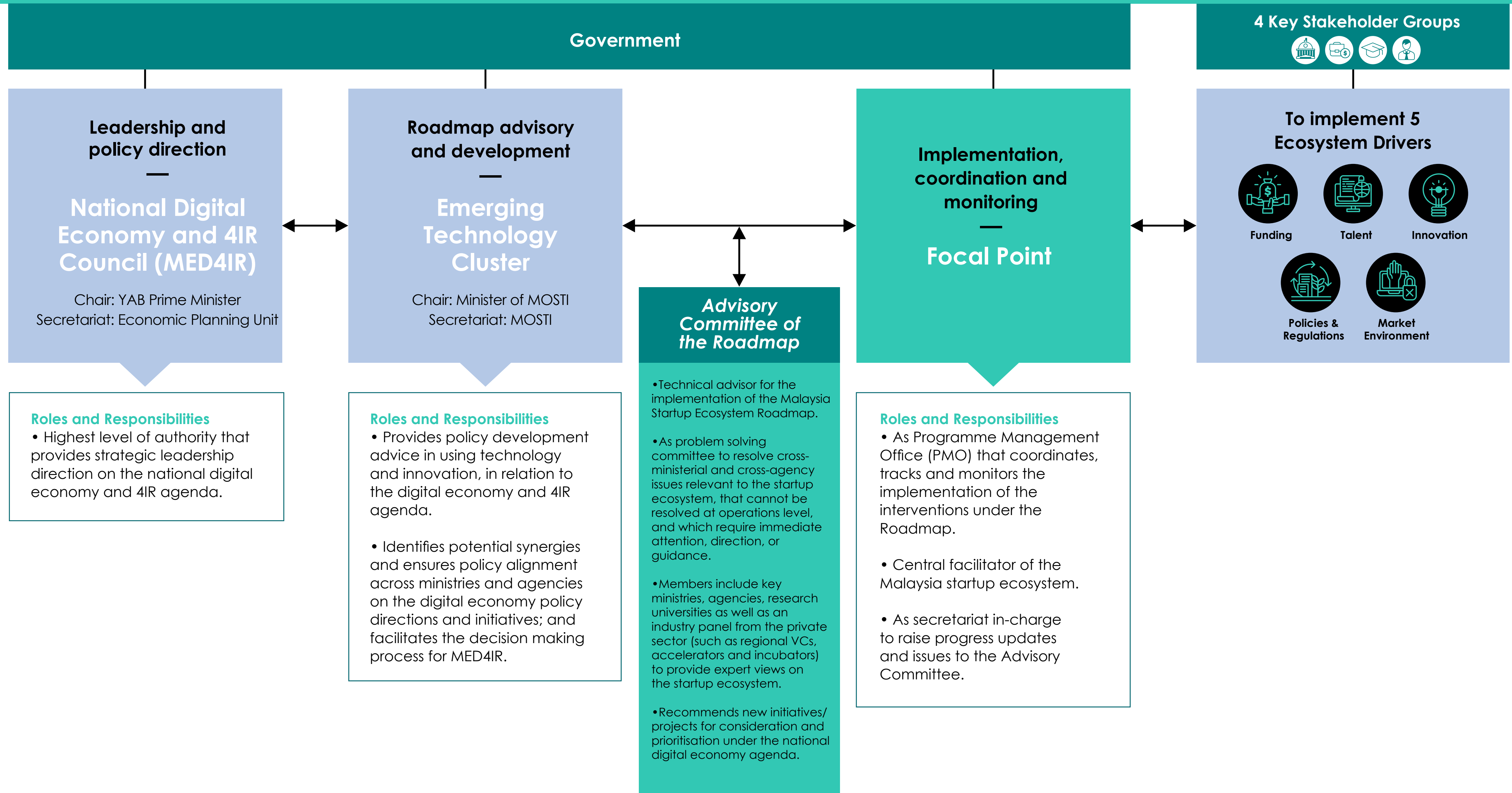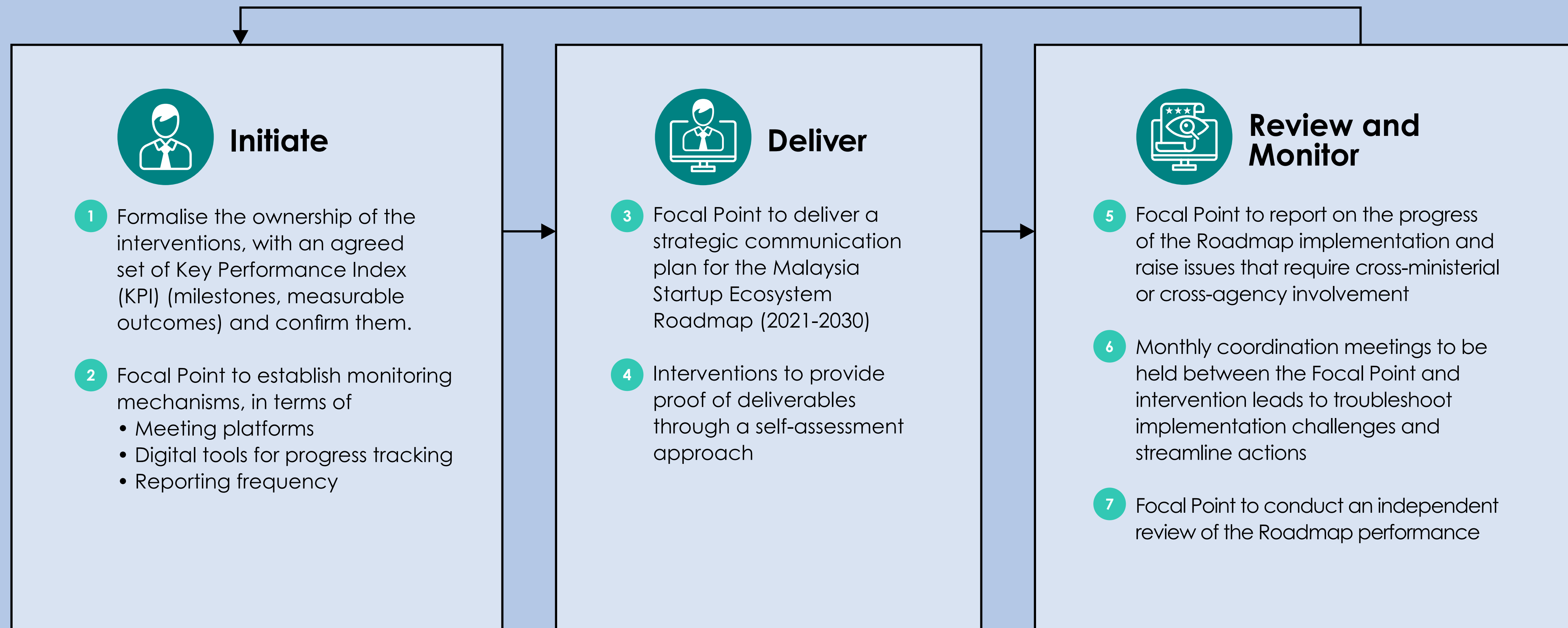The implementation of the Roadmap will require concerted effort from all levels, and having a governance structure with clearly laid-out roles and responsibilities will be the key to driving its success.

Government

Leadership and policy direction
—
National Digital Economy and 4IR Council (MED4IR)

Chair: YAB Prime Minister
Secretariat: Economic Planning Unit

Roles and Responsibilities
• Highest level of authority that provides strategic leadership direction on the national digital economy and 4IR agenda.

Roadmap advisory and development
—
Emerging Technology Cluster

Chair: Minister of MOSTI
Secretariat: MOSTI

Roles and Responsibilities
• Provides policy development advice in using technology and innovation, in relation to the digital economy and 4IR agenda.

• Identifies potential synergies and ensures policy alignment across ministries and agencies on the digital economy policy directions and initiatives; and facilitates the decision making process for MED4IR.

Advisory Committee of the Roadmap

•Technical advisor for the implementation of the Malaysia Startup Ecosystem Roadmap.

•As problem solving committee to resolve cross-ministerial and cross-agency issues relevant to the startup ecosystem, that cannot be resolved at operations level, and which require immediate attention, direction, or guidance.

•Members include key ministries, agencies, research universities as well as an industry panel from the private sector (such as regional VCs, accelerators and incubators) to provide expert views on the startup ecosystem.

•Recommends new initiatives/projects for consideration and prioritisation under the national digital economy agenda.

Implementation, coordination and monitoring
—
Focal Point

Roles and Responsibilities
• As Programme Management Office (PMO) that coordinates, tracks and monitors the implementation of the interventions under the Roadmap.

• Central facilitator of the Malaysia startup ecosystem.

• As secretariat in-charge to raise progress updates and issues to the Advisory Committee.

4 Key Stakeholder Groups

To implement 5 Ecosystem Drivers

Funding   Talent   Innovation

Policies & Regulations   Market Environment

Continuous Improvement Process

As part of the governance process, there needs to be a closed-loop approach in ensuring continuous improvement where the implementation and learning process enables the Roadmap to fold in new discoveries and factor in adjustments.

Initiate

1 Formalise the ownership of the interventions, with an agreed set of Key Performance Index (KPI) (milestones, measurable outcomes) and confirm them.

2 Focal Point to establish monitoring mechanisms, in terms of
- Meeting platforms
- Digital tools for progress tracking
- Reporting frequency

Deliver

3 Focal Point to deliver a strategic communication plan for the Malaysia Startup Ecosystem Roadmap (2021-2030)

4 Interventions to provide proof of deliverables through a self-assessment approach

Review and Monitor

5 Focal Point to report on the progress of the Roadmap implementation and raise issues that require cross-ministerial or cross-agency involvement

6 Monthly coordination meetings to be held between the Focal Point and intervention leads to troubleshoot implementation challenges and streamline actions

7 Focal Point to conduct an independent review of the Roadmap performance

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ACKNOWLEDGEMENTS

The Malaysia Startup Ecosystem Roadmap (SUPER) is the result of deep engagement with various ministries, agencies, industry representatives, startups and academics.
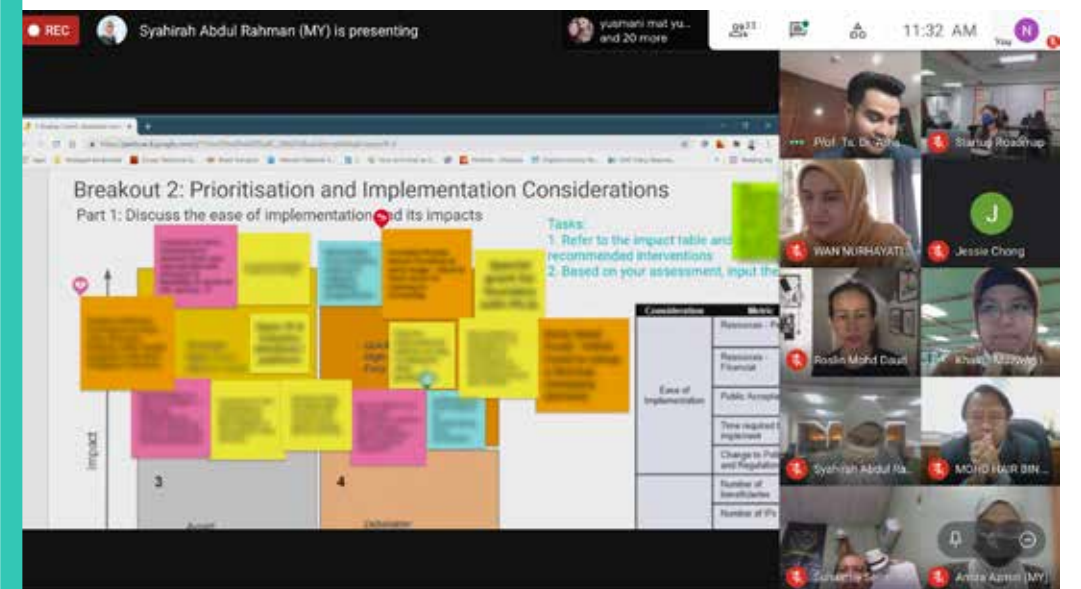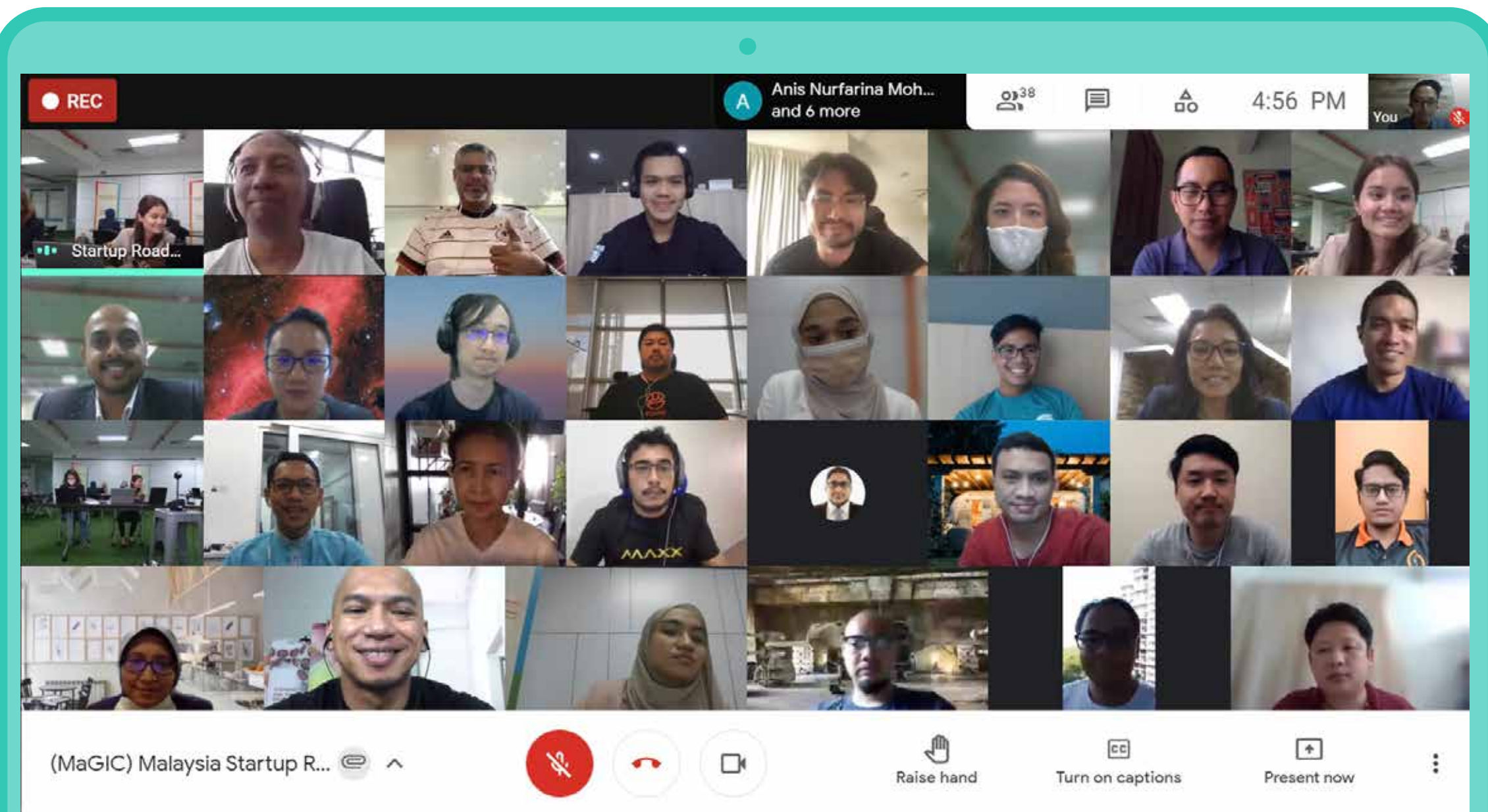
In total we consulted 337 from:
- 155 Startups
- 58 Government entities
- 31 Accelerators and incubators
- 29 Education institutions
- 28 Corporations
- 29 Investors
- 7 Startup communities and associations

Our sincere appreciation to all stakeholders for your support and valuable input.

We also wish to give special thanks to the following organisations for the advisory support and participation in the roundtable discussion:

Akademi Sains Malaysia (ASM)
Proficeo
iGene, Infovalley
RISE
1337 Ventures
Golden Gates Venture
Malaysian Investment Development Authority (MIDA)
Cradle Fund (CRADLE)
Get Slurp
Terato Tech
UKM Blockchain, Consulting Board Asia
ipay88

Malaysian Global Innovation and Creativity Centre (MaGIC)
Netccentric Ltd
Media Prima Berhad
Malaysian Digital Association (MDA)
Universiti Kebangsaan Malaysia (UKM)
Universiti Malaya (UM)
Malaysia Digital Economy Corporation (MDEC)
Malaysian Business Angel Network (MBAN)
Malaysian Technology Development Corporation (MTDC)
Universiti Malaysia Kelantan (UMK)
UNIRAZAK
Technology Park Malaysia