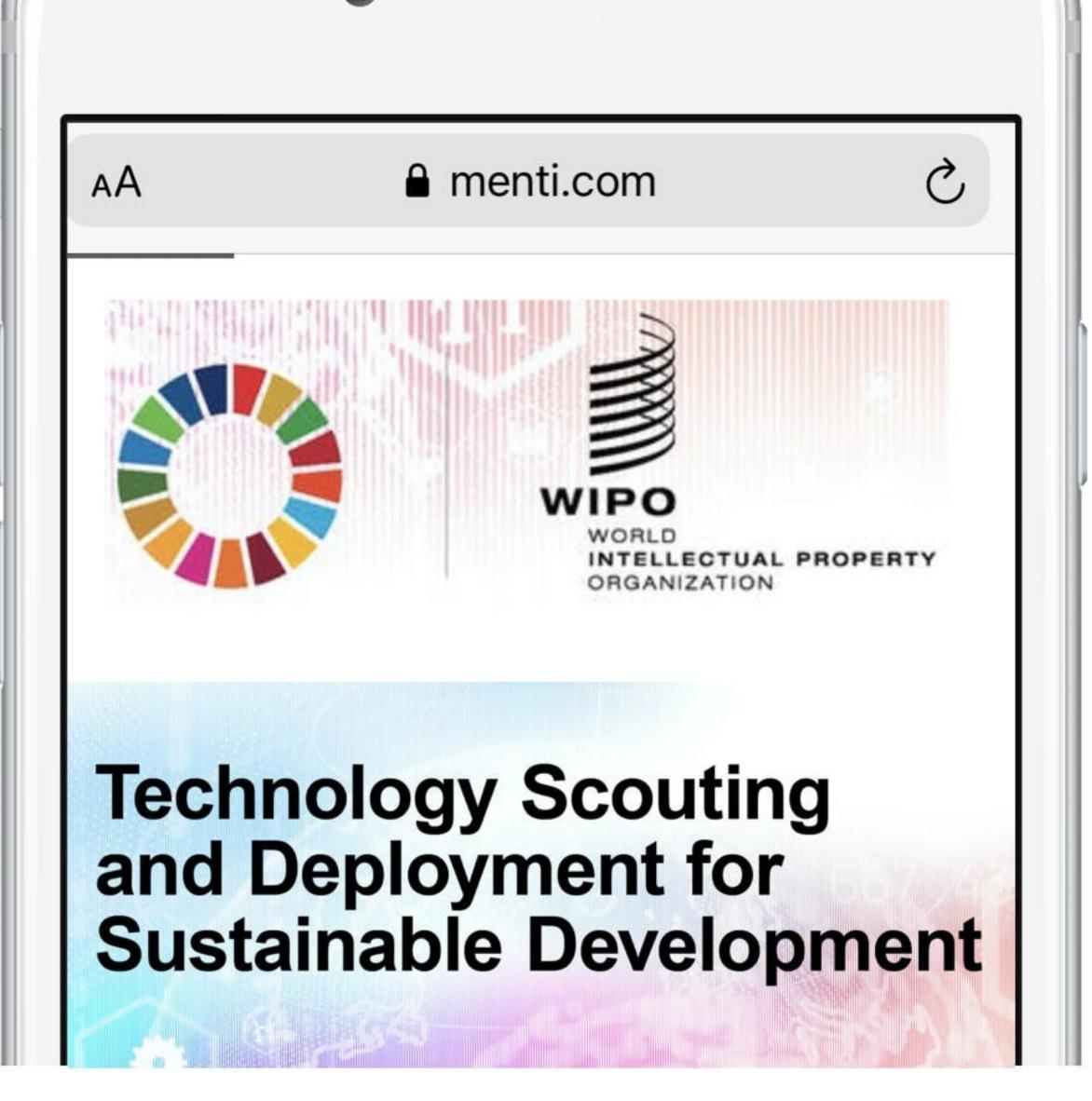


# NOV. 10





## Thank You for Joining Us

#### PLEASE STAND BY

SESSION WILL START AS SCHEDULED







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Reactions?

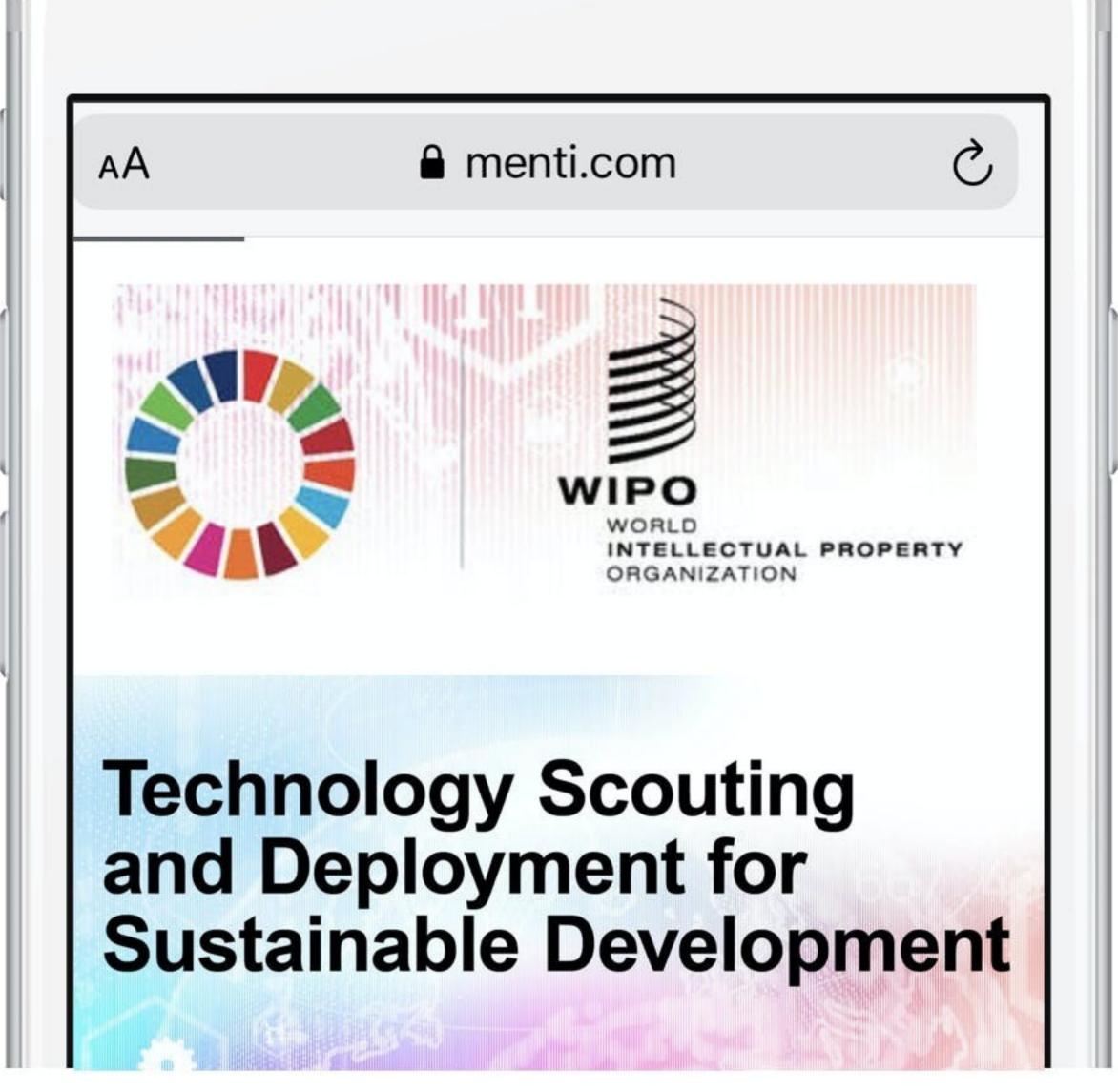








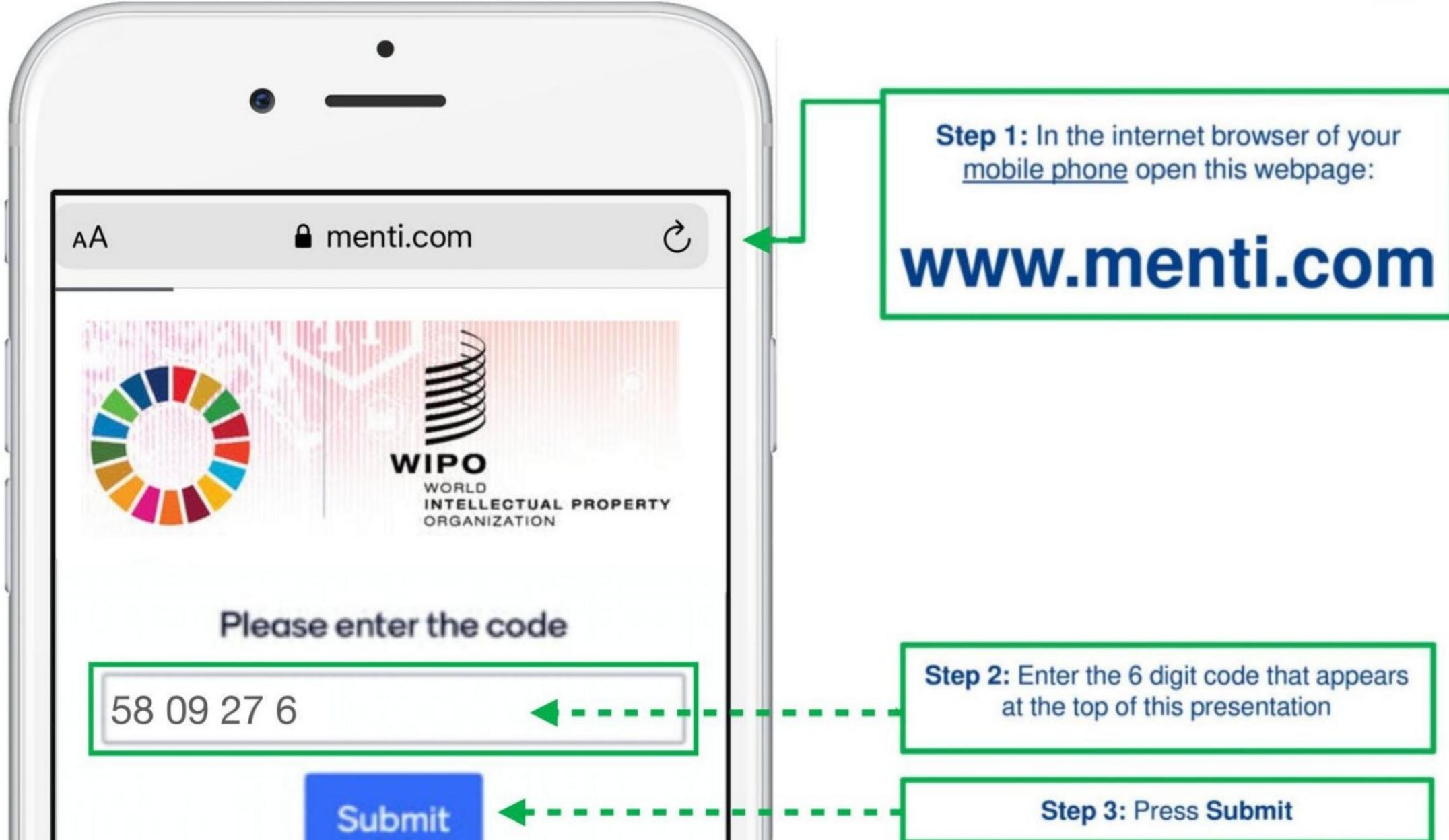




Ask your questions at the end of presentations during the open forum through menti.com in your mobile

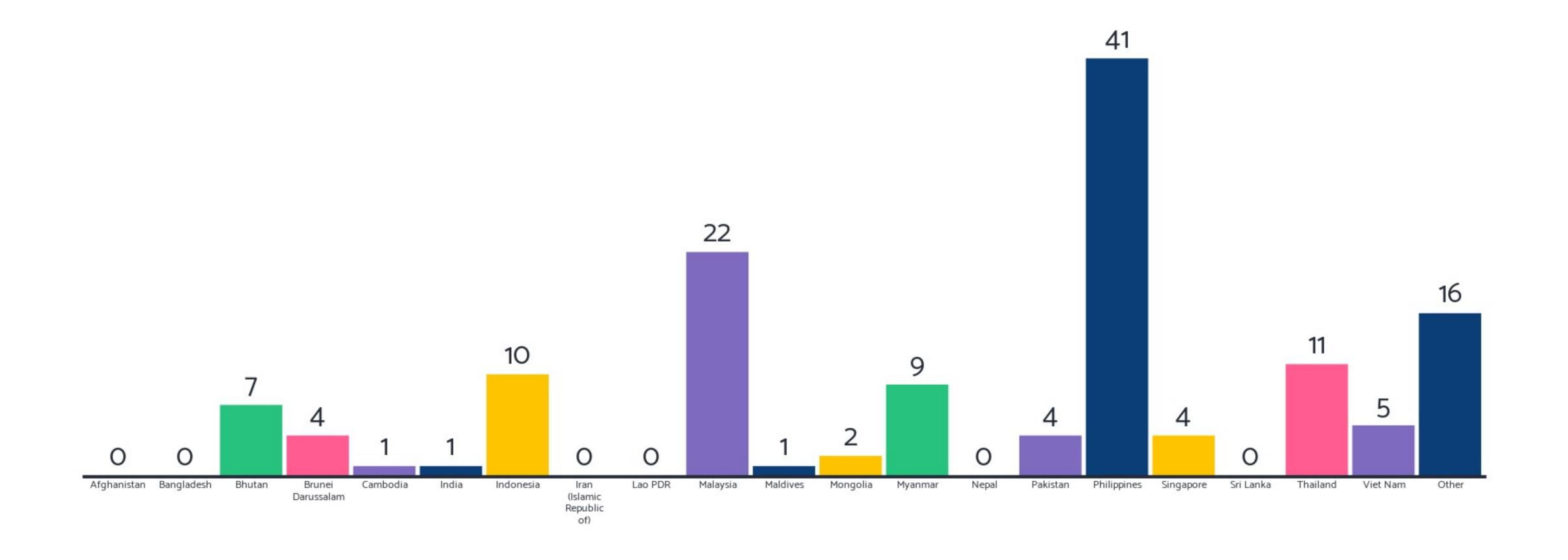






#### Using menti.com answer this question:









# Technology Scouting and Deployment for Sustainable Development









## Panel Discussion on Technology Scouting

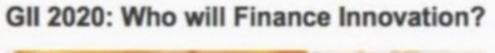
Theme: "Scaling Up Technology Deployment: Harnessing Technology in the Age of Covid and Beyond, for the Sustainable Development Goals for Asia

10 November 2020



#### World Intellectual Property Organisation









#### **WIPO Director General Daren Tang Takes Office**

Daren Tang officially assumed his functions as Director General of the World Intellectual Property Organization on October 1, 2020, starting a

#### IP services

We provide IP services that encourage individuals and businesses to innovate and create. The WIPO IP Portal is a one-stop shop for global IP services.

#### Patents WIPO PCT

The International Patent System

#### **Trademarks**

WIPO MADRID

The International Trademark System

#### **Industrial Designs** WIPO HAGUE

The International Design System

#### Geographical

Geographical Indications

#### Dispute Resolution WIPO ADR

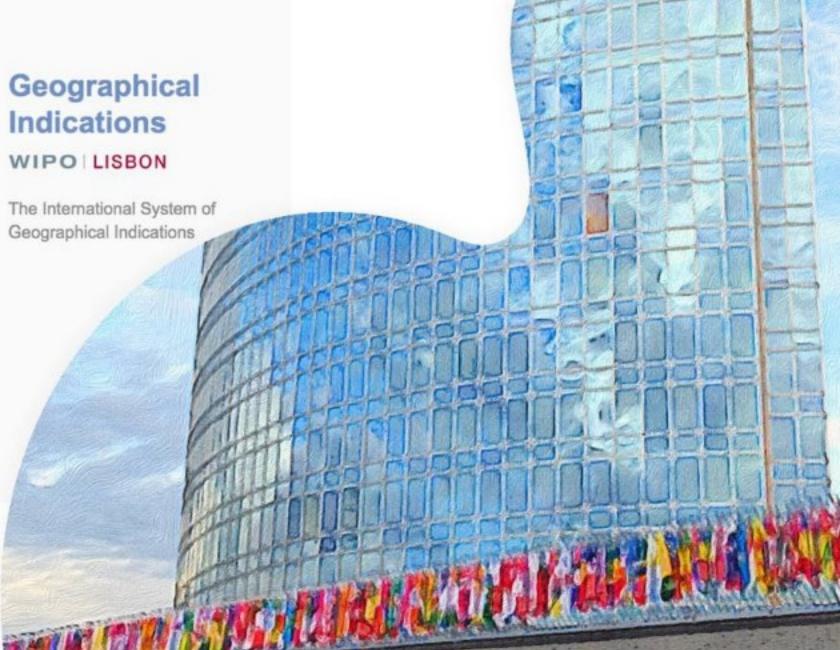
Arbitration and Mediation Center

#### **Domain Names** WIPO ADR

Arbitration and Mediation Center

#### Data & Digital Assets WIPO PROOF

Trusted Digital Evidence







the rights that creators have over their iterary and artistic works. Works covered by copyright range from books, music, paintings, sculpture and films, to computer





available in the published patent documen



distinguishing the goods or services of one enterprise from those of other enterprises. decide how - or whether - the invention can be used by others. In exchange for this right, artisans used to put their signature or "mark"



A design may consist of three-dimensional



Geographical indications and appellations of origin are signs used on goods that have a specific geographical origin and possess are essentially attributable to that place of indication includes the name of the place of



The unauthorized acquisition, use or manner contrary to honest commercial





WIPO is the global forum for intellectual property (IP) services, policy, information and cooperation. We are a self-funding agency of the United Nations, with 193 member states.

Our mission is to lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all. Our mandate, governing bodies and procedures are set out in the WIPO Convention, which established WIPO in 1967.





#### Development Agenda

The WIPO Development Agenda ensures that development considerations form an integral part of WIPO's work. The effective implementation of the Development Agenda, including the mainstreaming of its recommendations into our substantive programs, is a key priority. The adoption of the Development Agenda was an important milestone for WIPO.

The Agenda was formally established by WIPO's member states in 2007, in a decision which included the adoption of 45 Development Agenda recommendations, grouped into six clusters, and the establishment of a Committee on Development and Intellectual Property (CDIP).























#### **TECHNOLOGY SCOUTING**

All-too-often, businesses, government and communities do not have the capacity to evaluate the relative cost and benefits of new and existing technologies. Will they answer a particular need? Do they meet the minimum quality and performance standards? Can they be tailored to the unique needs of your specific company, country or community?

A robust technology scouting capacity will help countries and companies answer these questions. With this capacity in place, entities will be better able to identify and evaluate potential solutions available around the world, build a business case to support the deployment of that solution, and incorporate them into their daily operations.



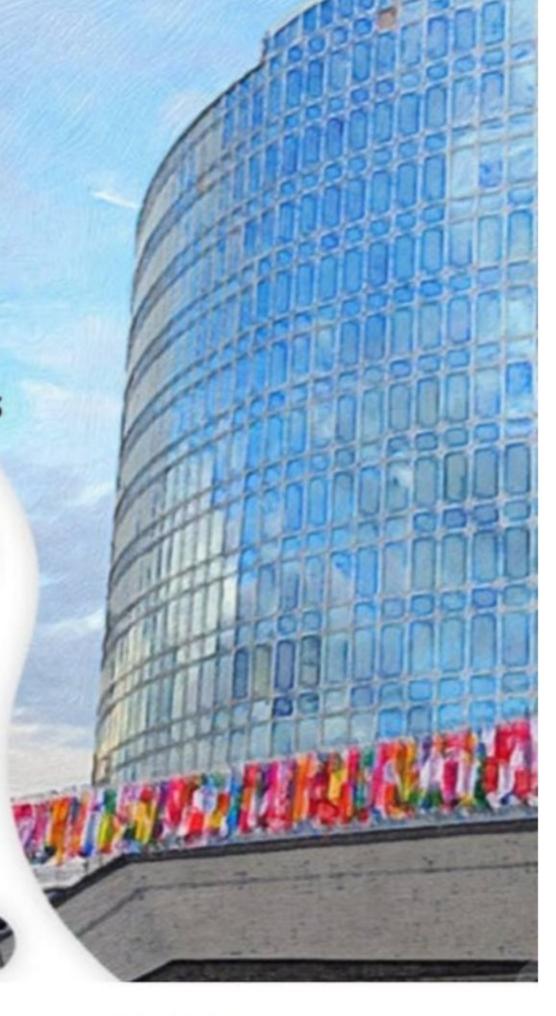
WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION



#### TECHNOLOGY DEPLOYMENT

This is the purview of entrepreneurs, community leaders, foundations, equipment vendors, logistics experts, financiers, government officials, social enterprises, small local companies, large multinational corporations, and local universities.

Their tasks include building a for-profit or not-for-profit business around specific technologies to provide an essential good or service (potable water, roof-top solar, etc.), by developing and scaling the business, organizing supply chains, training skilled technicians to perform essential installation, operation, and maintenance tasks, developing community outreach programs, organizing marketing strategies, arranging payment and billing systems, and determining how to finance these operations.



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#### **LEAD EXPERT**



#### **Alfred Watkins**



Chairman, Global Solutions
Summit, lead World Bank STI
capacity building programs
throughout the Former Soviet
Union, Asia, and Africa.



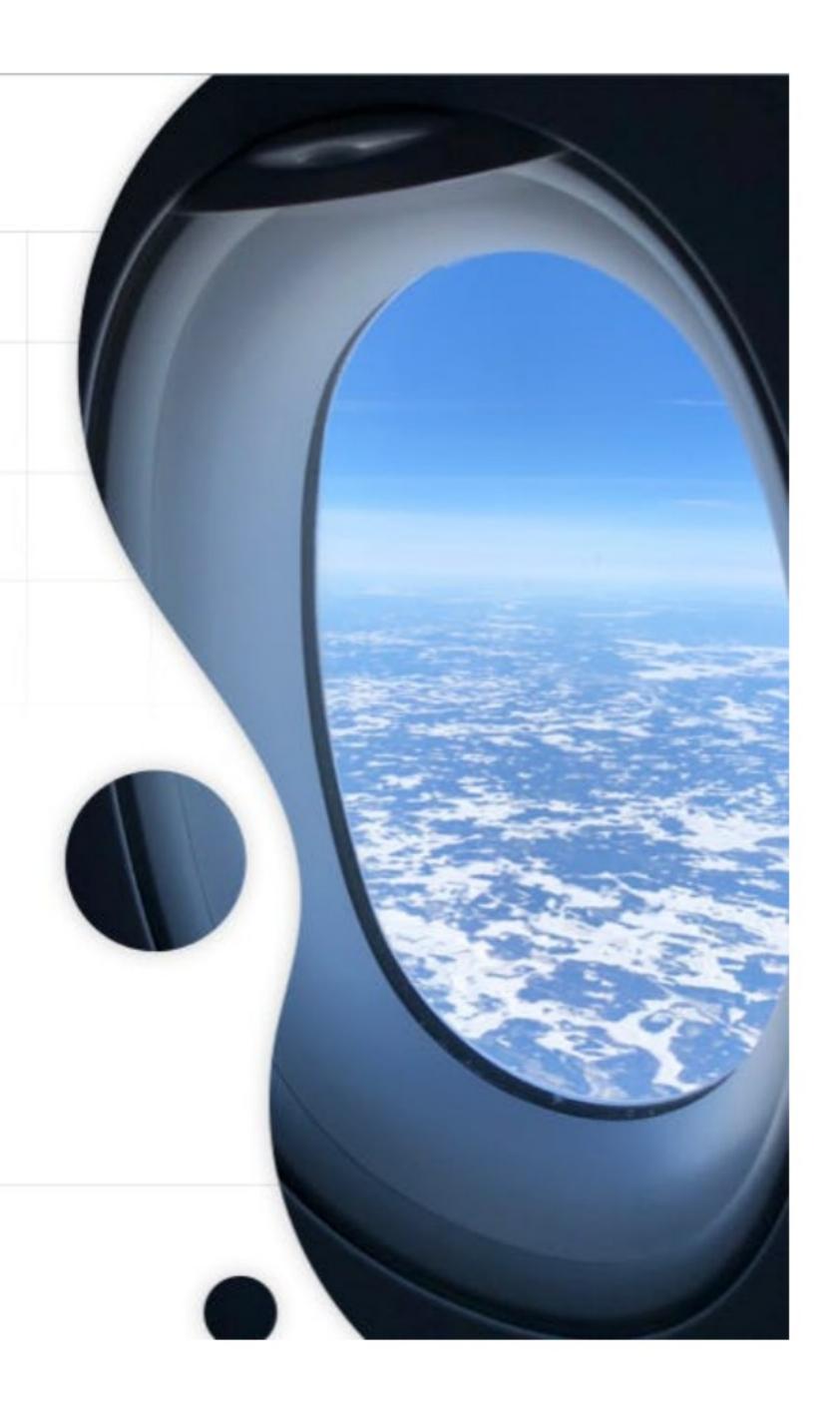


## REGIONAL PARTNER



ASEAN Committee on Science, Technology & Innovation

ASEAN Working Group on Intellectual Property Cooperation







Technology Scouting and Deployment for Sustainable Development





Technology Scouting and Deployment for Sustainable Development





Technology Scouting and Deployment for Sustainable Development





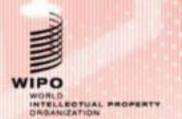
Technology Scouting and Deployment for Sustainable Development





**Technology Scouting** and Deployment for Sustainable Development





Technology Scouting and Deployment for Sustainable Development





Technology Scouting and Deployment for Sustainable Development





**Technology Scouting** and Deployment for Sustainable Development







## TECHNOLOGY SCOUTING FOR SUSTAINABLE DEVELOPMENT



### Alfred Watkins Global Solutions Summit

WIPO Virtual Conference
Technology Scouting and Deployment
for Sustainable Development
10 November 2020



Critical
Development
Issues for the
Asia Pacific
Region

Developing smarter, more productive factories, farms, and service sector companies

Promoting inclusive, affordable access to potable water, off grid, renewable energy, internet connectivity, and food security

Boosting income and creating jobs Climate change



# Why?

## 

## Why bother with technology scouting?

How can it help?
How do I do it?

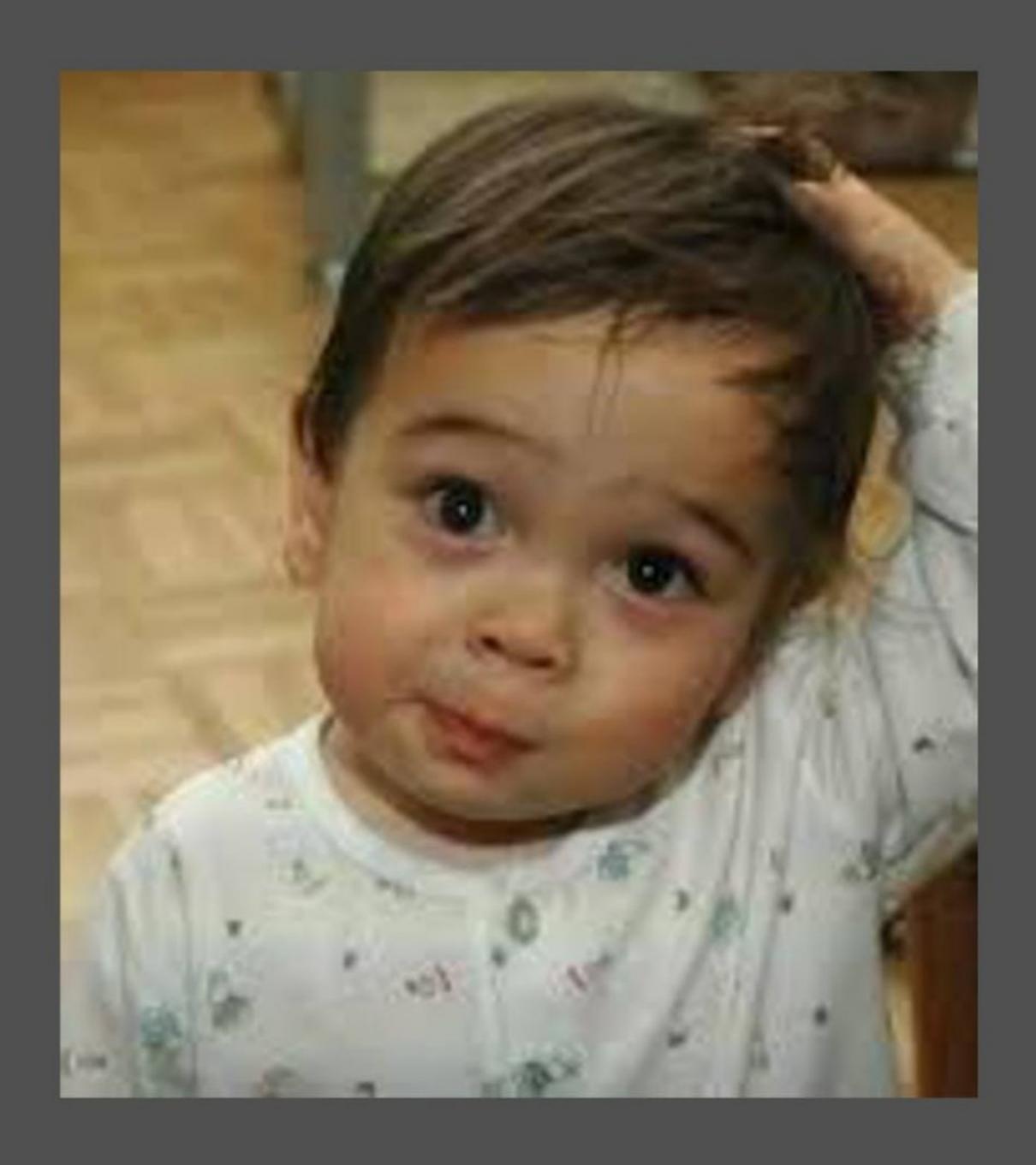


# Why Technology Scouting?

- Most R&D occurs outside your country
- Technological solutions to many challenges already exist and are being used elsewhere
- New technological solutions are being developed at a rapid pace around the world

#### Technology scouting helps you:

- Select from the vast supply of available R&D and development solutions
- Avoid wasting time and scarce resources trying to reinvent the wheel



## Technology Scouting Tool for the Perplexed

Business, government, community, and NGO leaders need to evaluate the costs, benefits, and technical merits of new and existing technologies:

- ☐ Are they cost effective and affordable?
- ☐ Will they deliver the expected benefits?
- ☐ Are they tailored to the needs of your specific company, country, or region?
- What are the requirements for successfully deploying this technology at scale on a financially and operationally sustainable basis?



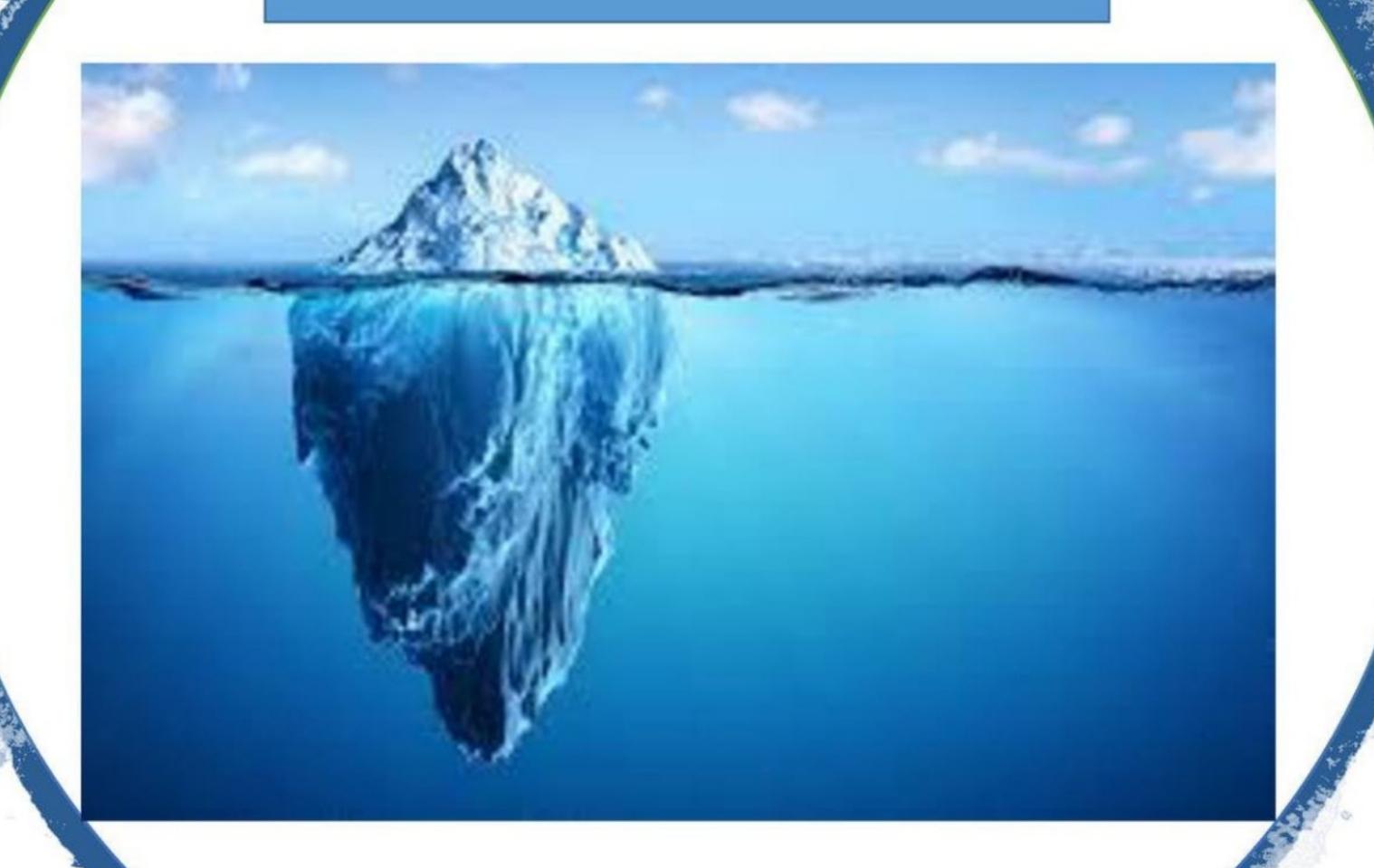


#### Technology scouting will help you

Identify and evaluate potential solutions available around the world Build a business case to support the deployment of that solution Incorporate them into the operations of the country's farms, factories and social enterprises



#### Tip of the Iceberg







## Alfred Watkins Global Solutions Summit

alfred.watkins07@gmail.com





#### Technology Scouting

Cung Vu, PhD November 10, 2020 WIPO Panel on Technology Scouting

#### **Table of Content**

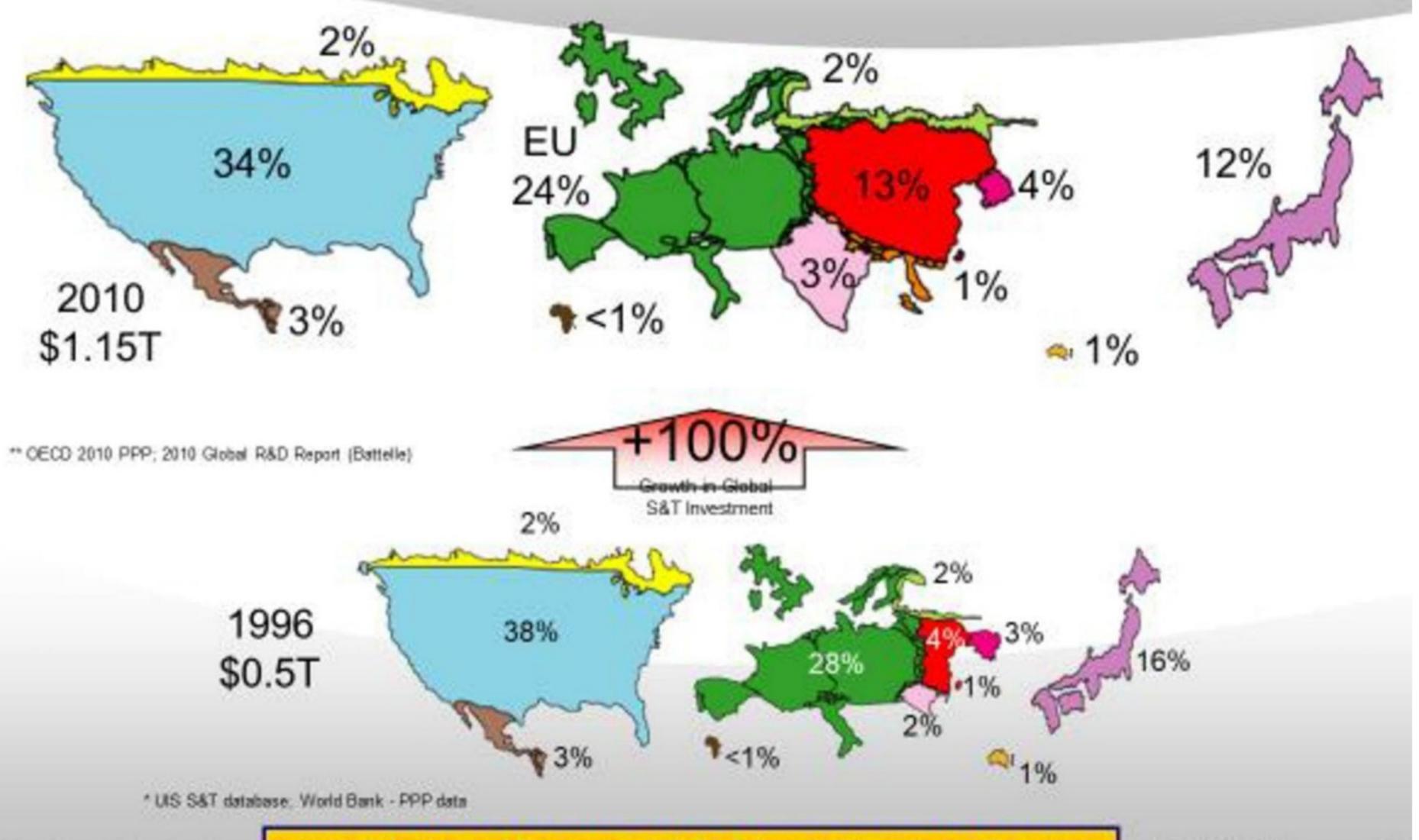


- . Technology scouting at ONR/ONRG
- . Technology scouting in Asia
- . Conclusions

#### **Total R&D Investment Growth**







#### 2020 GLOBAL R&D FUNDING

(ADJUSTED FOR COVID-19 EFFECTS)



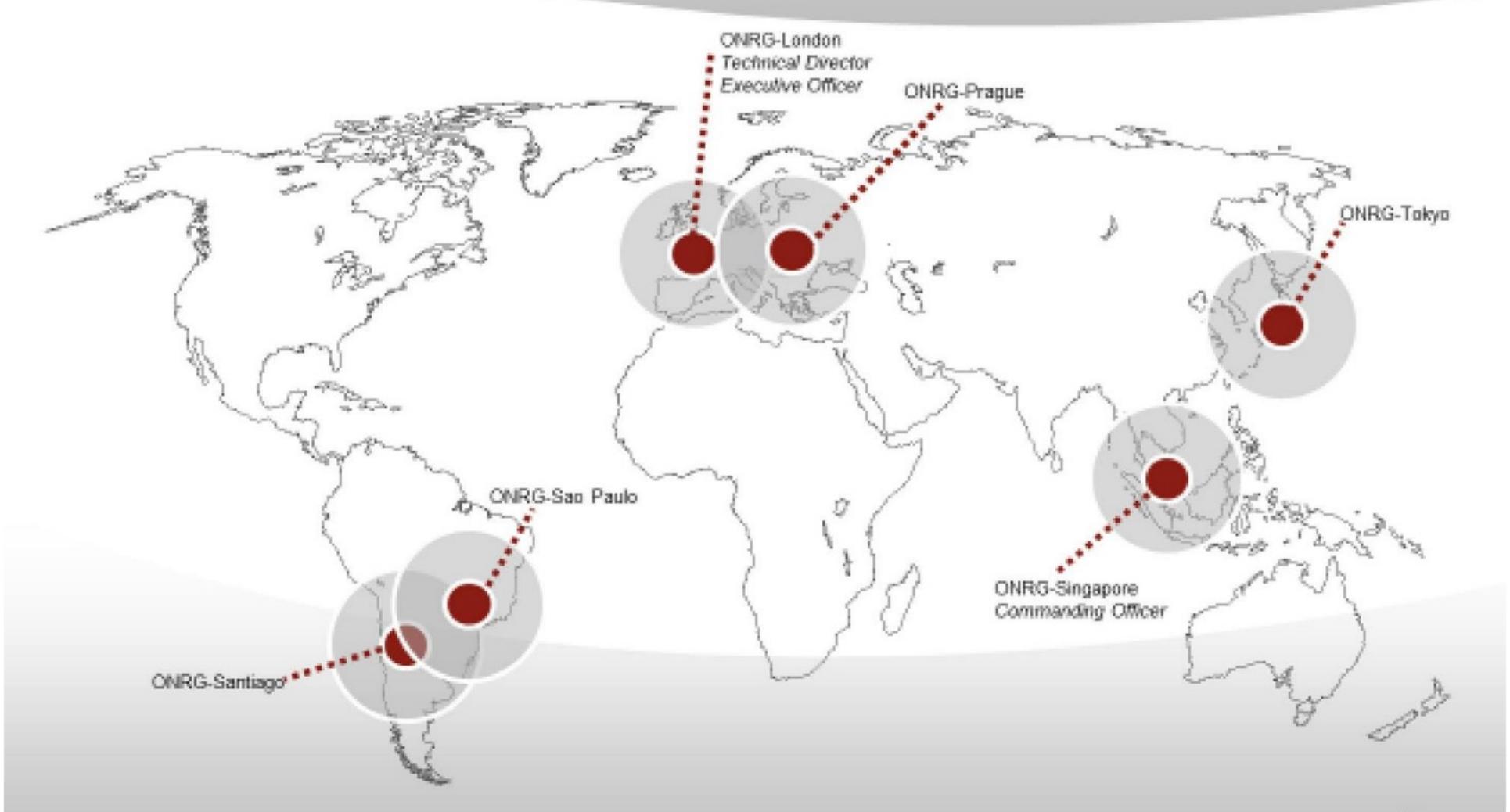
	2019		2020 (1/1/2020)		2020 (7/15/2020)	
	GERD Bil USD	R&D Share	<b>GERD</b> Bil USD	R&D Share	<b>GERD</b> Bil USD	R&D Share
All Countries	2,370.8	100.0%	2,434.3	100.0%	2,280.2	100.0%
Top Ten Countries	1,857.5	78.3%	1,909.8	78.5%	1,795.1	78.7%
North America	644.5	27.2%	658.4	27.0%	613.0	26.9%
U.S.	596.6	25.2%	609.7	25.0%	568.1	24.9%
South America	51.8	2.2%	52.6	2.2%	47.8	2.1%
Europe	492.0	20.8%	499.7	20.5%	458.0	20.1%
Africa	20.6	0.9%	21.2	0.9%	19.8	0.9%
Middle East	56.3	2.4%	57.9	2.4%	54.2	2.4%
Russia/CIS	64.5	2.7%	65.8	2.7%	60.8	2.7%
Asia	1,041.1	43.9%	1,078.8	44.3%	1,026.6	45.0%
China	532.8	22.5%	563.7	23.2%	538.1	23.6%

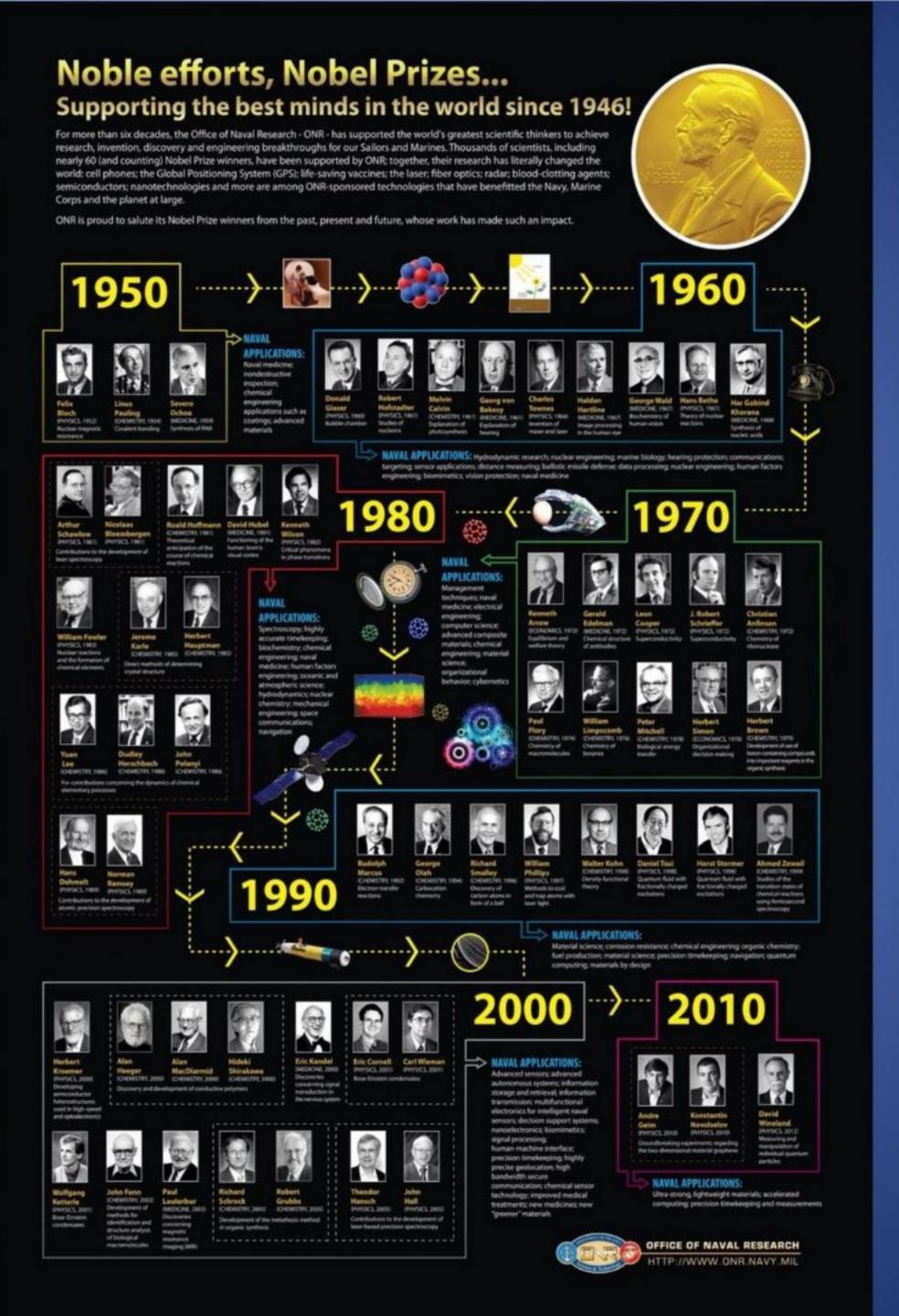
Source: IMF, CIA, R&D World

#### ONRG Associate Director Presence













- India: India Institute of Technology Madras (Chennai), Indian Institute of Science (Bengaluru), TERI university (New Delhi)
- Thailand: Chulalongkorn U, Mahidol U, King Mongkut IT, National Science and Technology Development Agency, Chiang Mai U, CMRU, U Phayao, CCRU, Naresuan U
- Myanmar: U of Yangon
- Vietnam: MOST, VISTI, VAST, UT/USc/VNU HCMC, Hanoi
  UT, Can Tho U
- Singapore: NTU, NUS, SUTD
- Malaysia: Universiti Teknologi MARA (UiTM)
- Indonesia: ASEAN Center of Energy



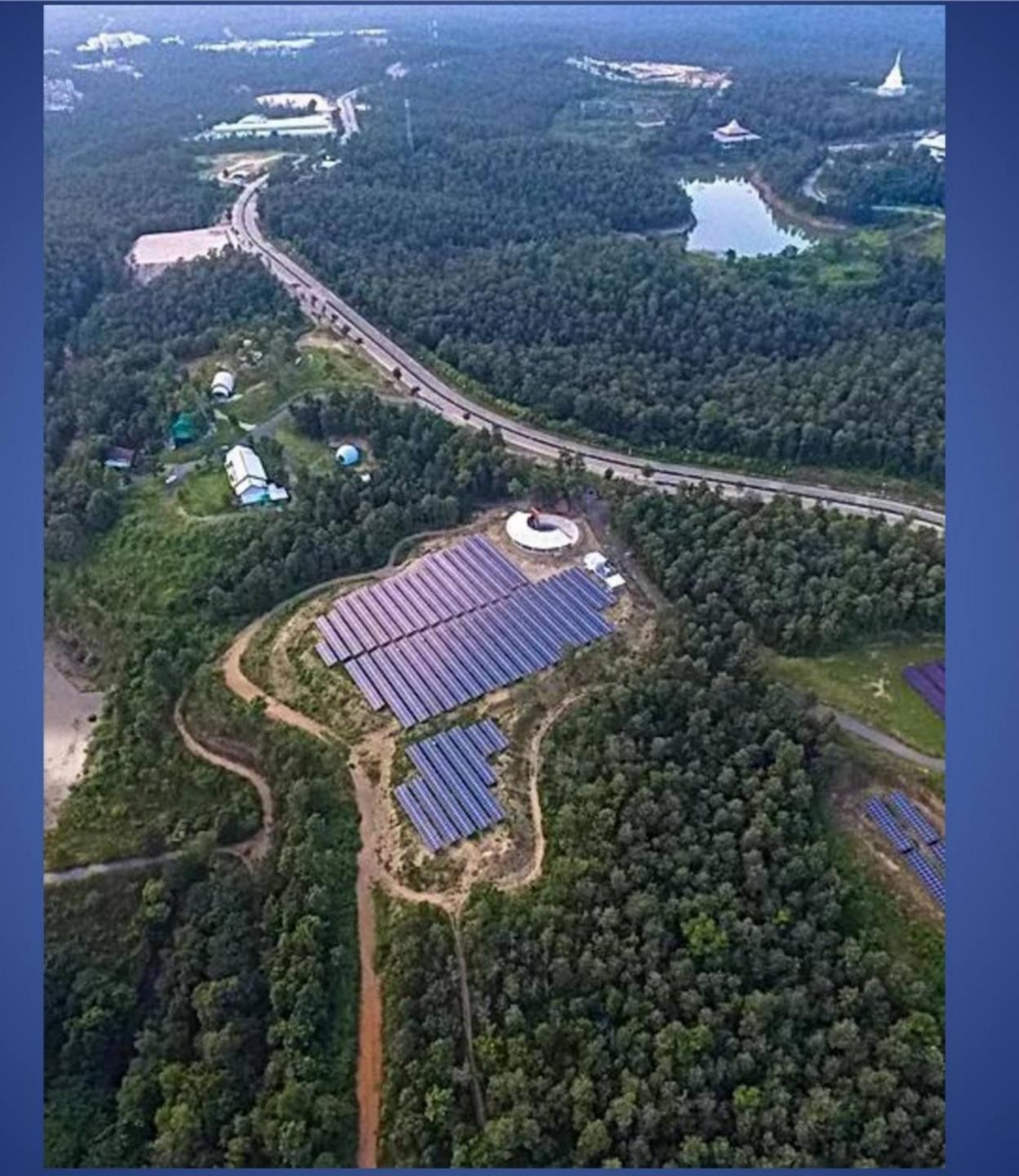






VIPO







#### Your one stop solution for clean water supply

Australia | China | Hong Kong | Indonesia | Philippines | Malaysia | Singapore























## Conclusions



- Policy and decision makers must be aware of technology scouting to set policy, funding, education, training, infrastructure. Business leaders to develop products/services and to know their competitors
- Technology scouting is the first step but critical to identify both technology available and requirements



# Thank you

Vu Consulting LLC Cung.vu@gmail.com





GLOBAL™
TECHNOLOGY
INTERFACE

WIPO TECHNOLOGY SCOUTING PANEL PRESENTATION BY
LEENA PISHE THOMAS
CEO

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### **GBI - Open Innovation and Technology Scouting**





**Global Business Inroads** (GBI) is an international business, technology and innovation management consultancy, based in India, Europe, UK, USA, SE Asia, that is specialized in technology access and deployment. GBI has expertise in technology transfer and project management with focus on the UN Sustainable Development Goals.

GBI has the expertise to scout for innovation, intellectual property (IP), technologies and/or solutions for **governments**, **corporates** and **enterprises** that are looking to improve their existing businesses or productivity.

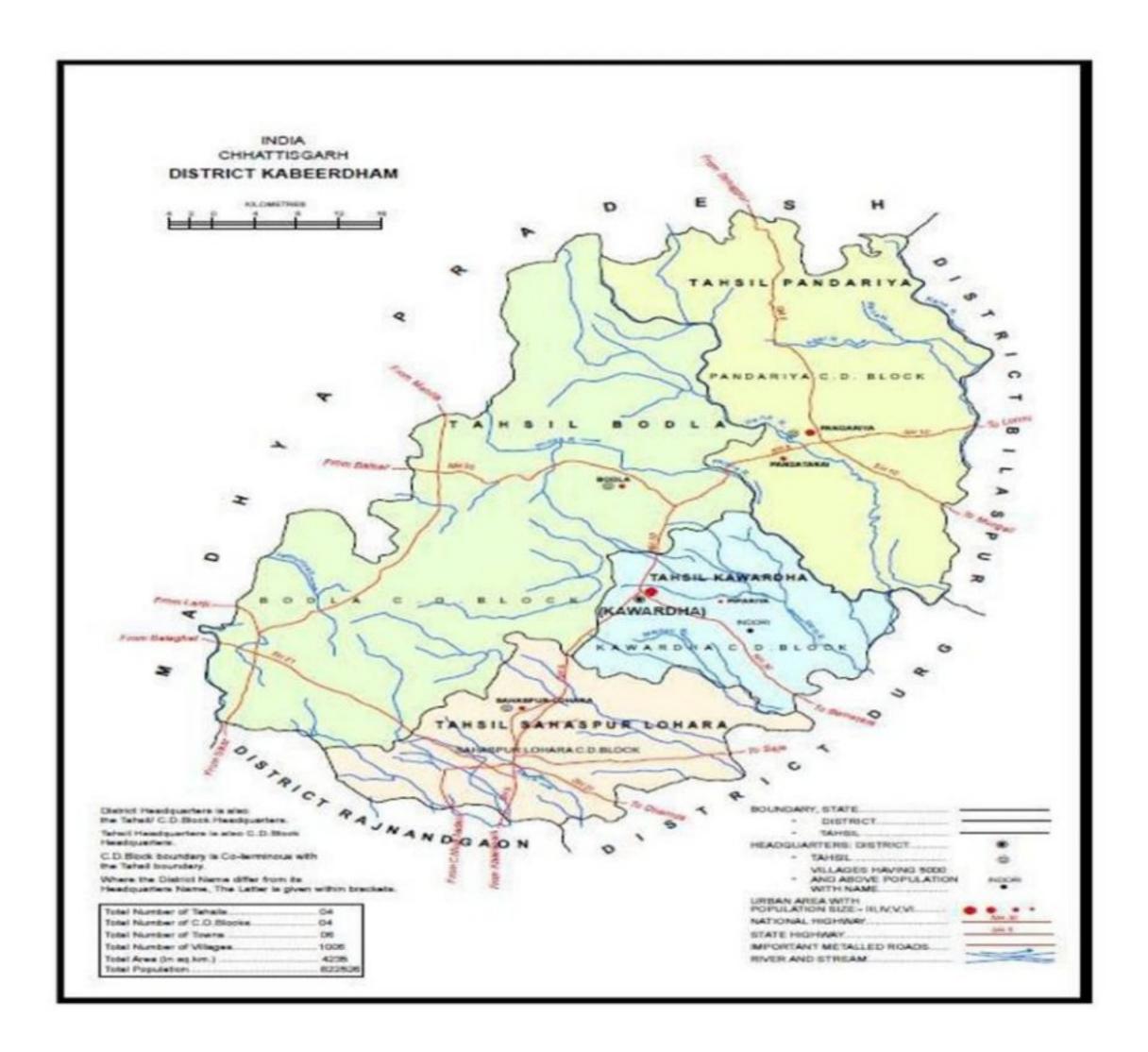
Providing curated matchmaking methodology, matching technology vendors with appropriate potential customers and helping local businesses seeking technological solutions find technology vendors with the best-fit technology

#### **CHiRP Project - Overview**





- The Central Highlands Restoration Project (CHiRP)
  is being facilitated by Commonland, The Nature
  Conservancy (TNC), Samerth Charitable Trust and
  Global Business Inroads (GBI), and is supported by
  the IKEA Foundation.
- The region is looking for technology to restore the landscape in the region and help local stakeholders elevate the Agroforestry sector and to improve their local economy.



#### **Needs Assessment**

Access to energy

Environmental technologies - clean

cooking technologies





Agro forestry / agritech
Product yield
improvement,
Biodiversity assessment,
Market Linkages ,Supply
Chain traceability and
regeneration of forests

Tele communications /
internet: Internet
bandwidth
amplification for
improved access to
markets

Bamboo – identification of other opportunities to up cycle, possibly with a longer life cycle: e.g. Bamboo to furniture

Healthcare and nutrition - adding nutritional value to local produce

NTPFS - Non-timber forest products (NTFPs) – technologies that are cost effective, easy to use - for processing, storage, electricity, packing,

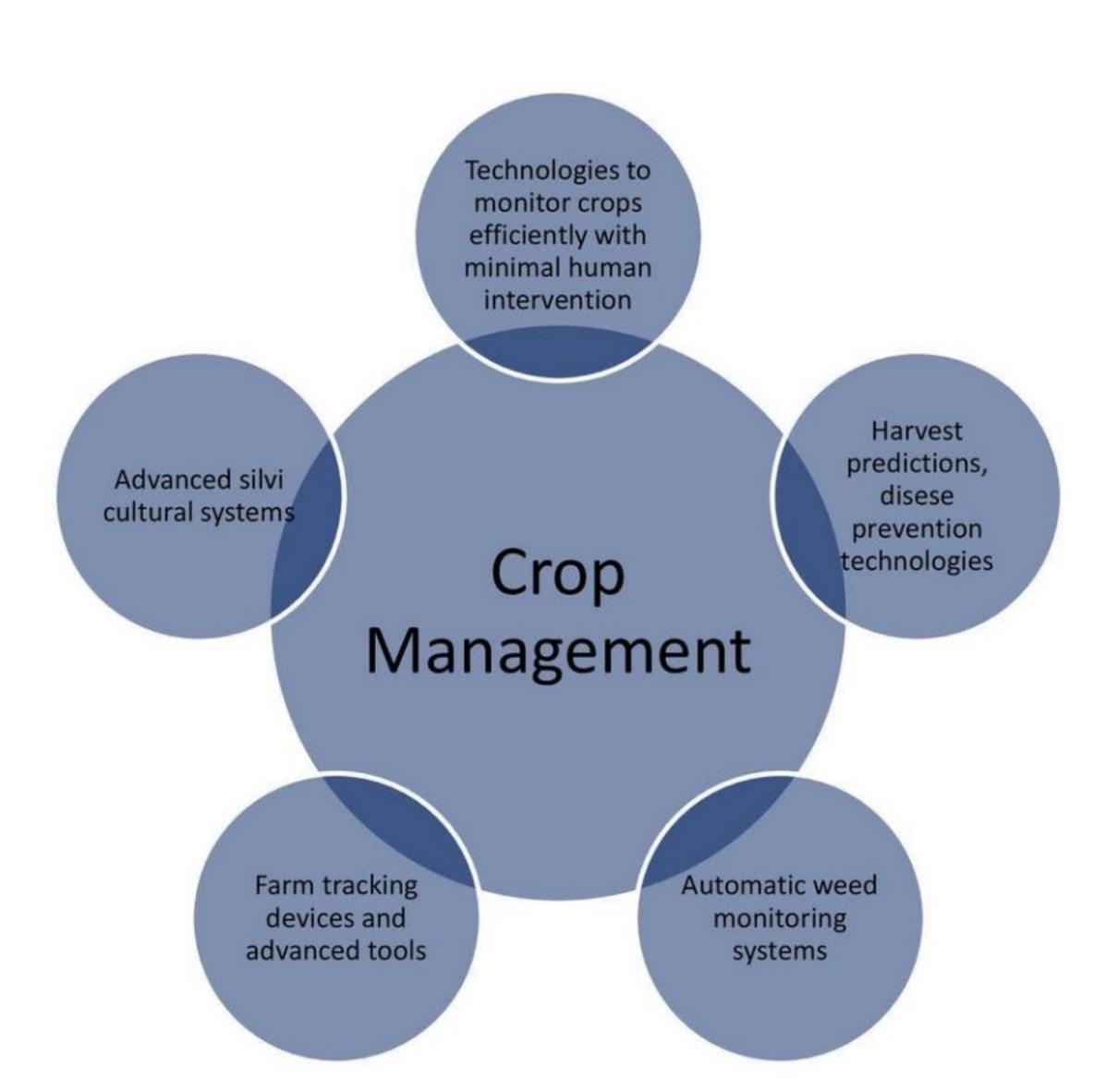
GBI's High Level Needs Assessment

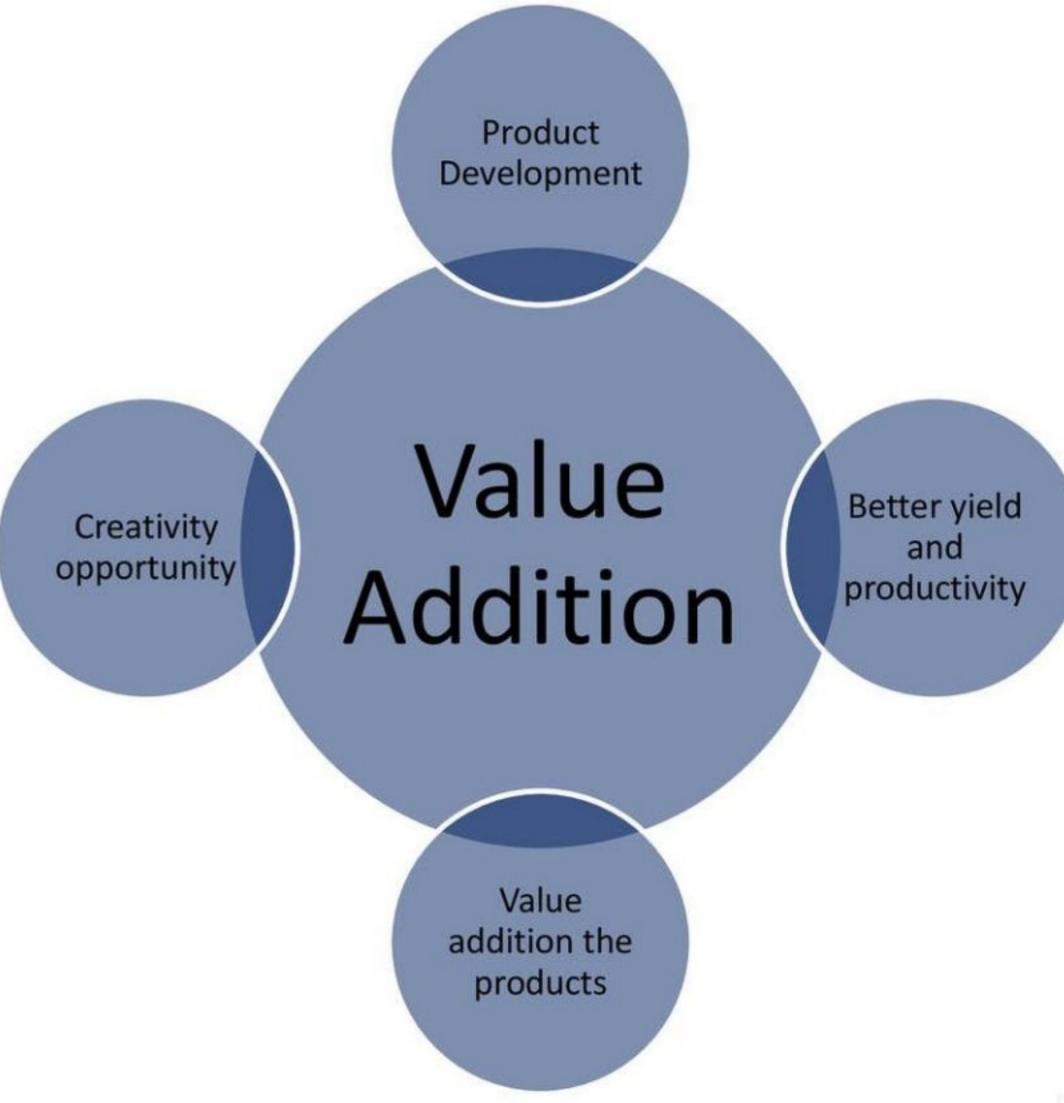
Water and sanitation

#### **Technologies for Crop Yield Improvement**









## Technologies for Sustainable Forest and Soil Monitoring





**Technologies** to restore soil health and simplified soil testing system Soil & Advanced Soil Erosion Water prevention irrigation and analysis systems Monitoring IoT based soil and water monitoring

### **Technologies for Supporting Livelihood**





Access to distributed energy

Mini/micro grids, renewable energy, solar pumps

Environmental technologies

For clean cooking, water, sanitation, waste management

Communication

Tower signal boosters to improve connectivity

#### How can this be expanded to other Asian countries?





identifying problems and scouting for solution and finally hand holding for deployment

#### **Steps for an Organization**

Identification of the Project – Why the technology intervention is required in a project

Stakeholder Identification and Engagement - Mapping stakeholders & partner organizations& corporates and existing initiatives and programs

Creating of Technology Working Group – Pool of experts to identify and select the appropriate technologies, Develop a repository of technologies and rural projects

Problems statement and High Level Needs Assessment

Market Research Analysis – Viability Assessment and share findings with stakeholders

Technology Scouting – Identification of the technology and doing primary and, secondary research

Launch a widely publicized global INNOVATION CALL on <a href="www.globaltechinterface.com/innovationcall">www.globaltechinterface.com/innovationcall</a> - to invite companies to provide solutions. The call can be for few specific technologies or can be broad and generic.

With the help of Technology Working Group - Select solutions and identify deployment options, including local rural entrepreneurs, localization, financing

**Develop Business Case and Deploy** 

#### Benefits of the process







A time bound and structured process fulfilling the objectives of the Tech Scouter – this will reduce the ad hoc requests from technology companies that might approach directly

Identify innovations based on needs/problem statements – scouting is done globally across North America, Latin America, Europe, Africa, Asia.

Provide a defined rationale for the technology companies that apply and are keen to collaborate with Tech Scouter

GBI provides the first round of **due diligence** based on certain criteria provided by Tech Scouter, we also provide **technology benchmarking** services to **shortlist and recommend** the appropriate technologies identified.



#### Contact us

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hlingam@globalbusinessinroads.com +91 94825 29497



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Global Business Inroads
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G-03, Ground Floor,
8th Block, Koramangala, Bengaluru
560034, India







# Partner Ecosystems Accelerate Innovation

Theresa Kotanchek

**Evolved Analytics LLC** 

Theresa@evolved-analytics.com



# Purpose of innovation is to create value

<u>Research</u> is the transformation of money into knowledge. <u>Innovation</u> is the transformation of knowledge into money. Geoff Nicholson, 3M





# REAL

- Is the market real?
- Is the product real?

# WIN

- Can the product be competitive?
- Can your organization be competitive?

# WORTH

- Are the forecasted returns worth the risks?
- Does the offering make strategic sense?



# Realities Time Value of Money

- Technology Risks
- Market Risks
- Product Risks
- Regulatory Risks
- Financial Risks
- Business Model Risks

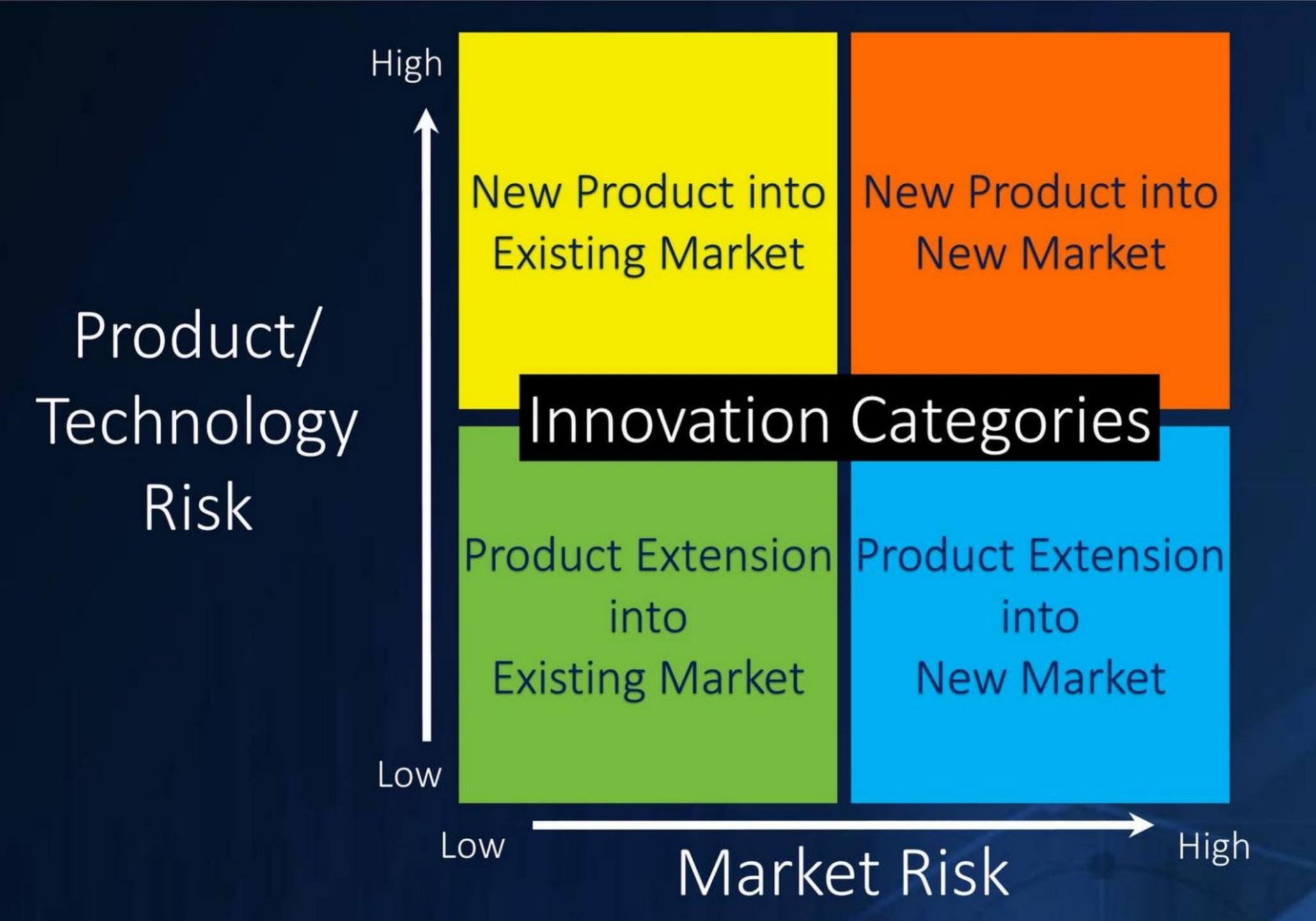


Mitigate Risks

Accelerate Growth

Maximize Profits

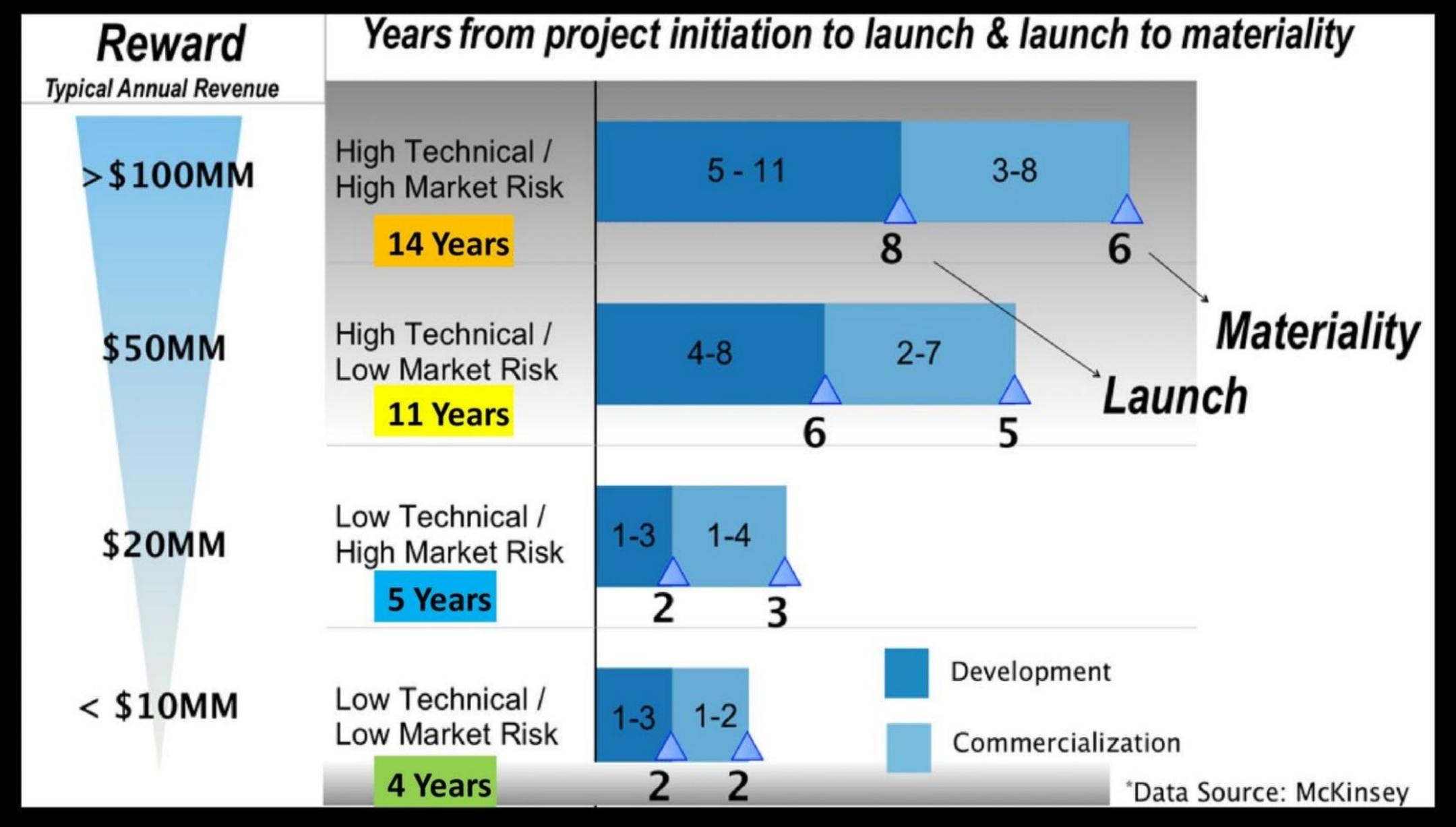






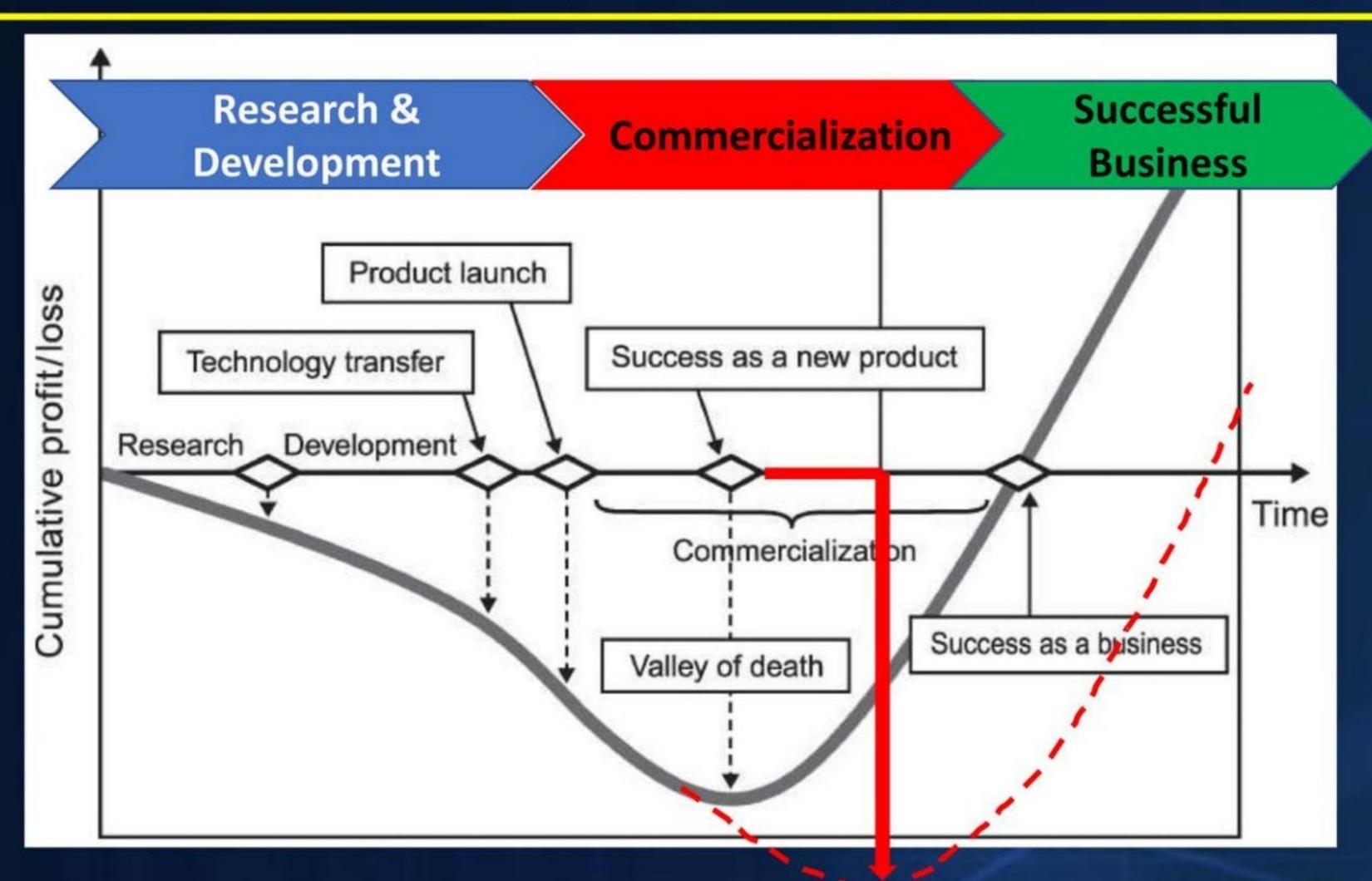
## Time Line to Commercial Launch & Materiality

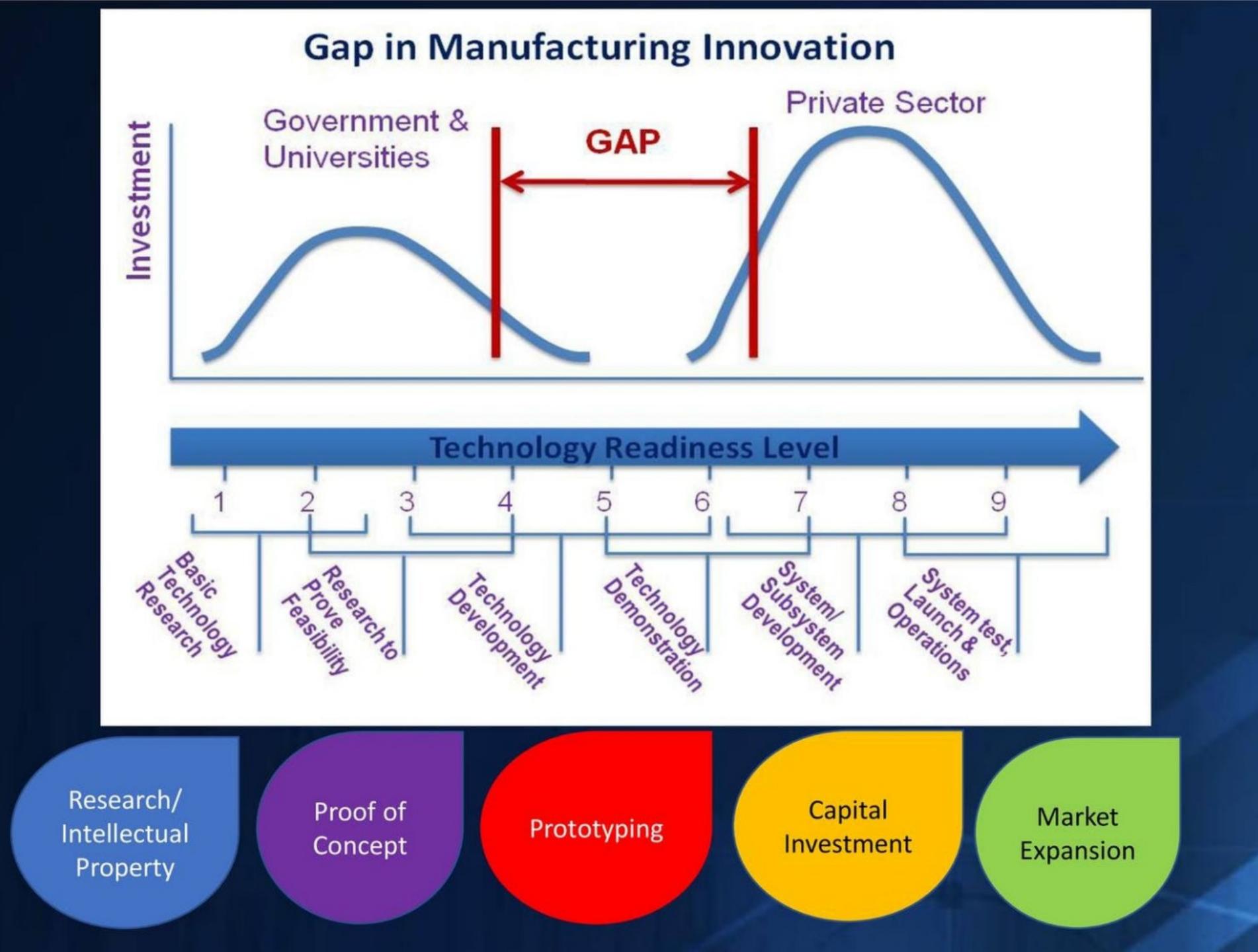






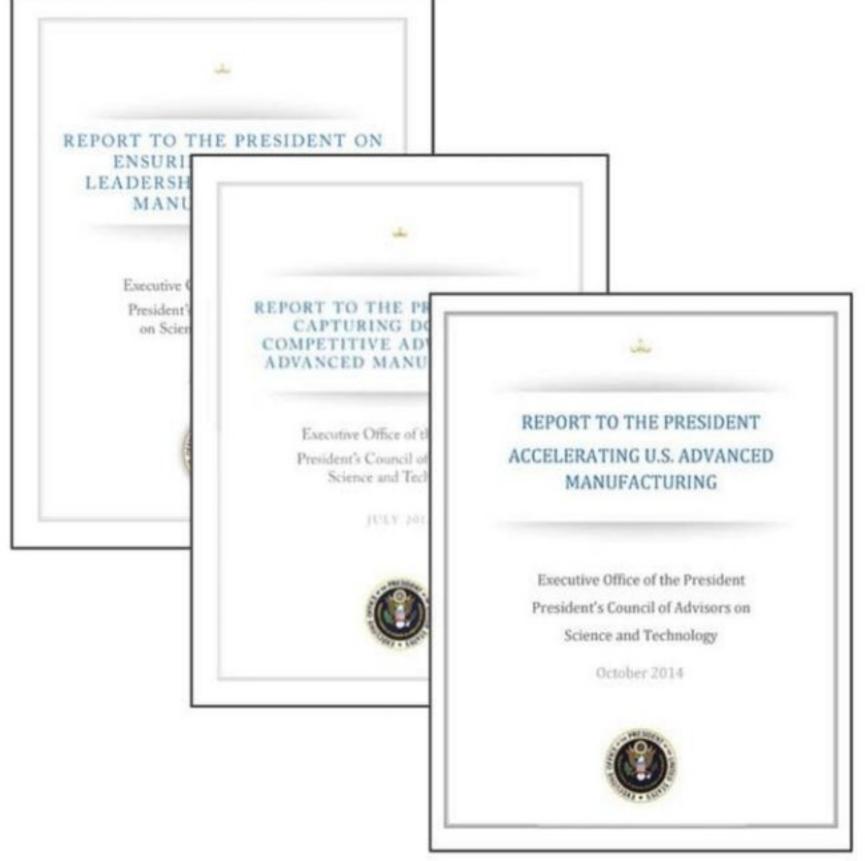
# Commercialization Delays Are Costly





# Manufacturing USA: A Public-Private Partnership

#### President's Council of Advisors on Science and Technology





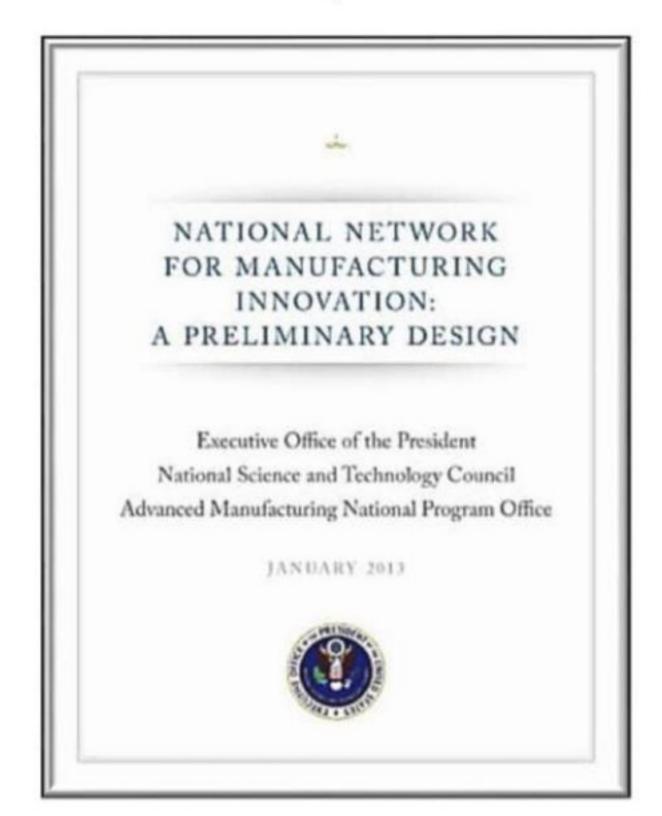


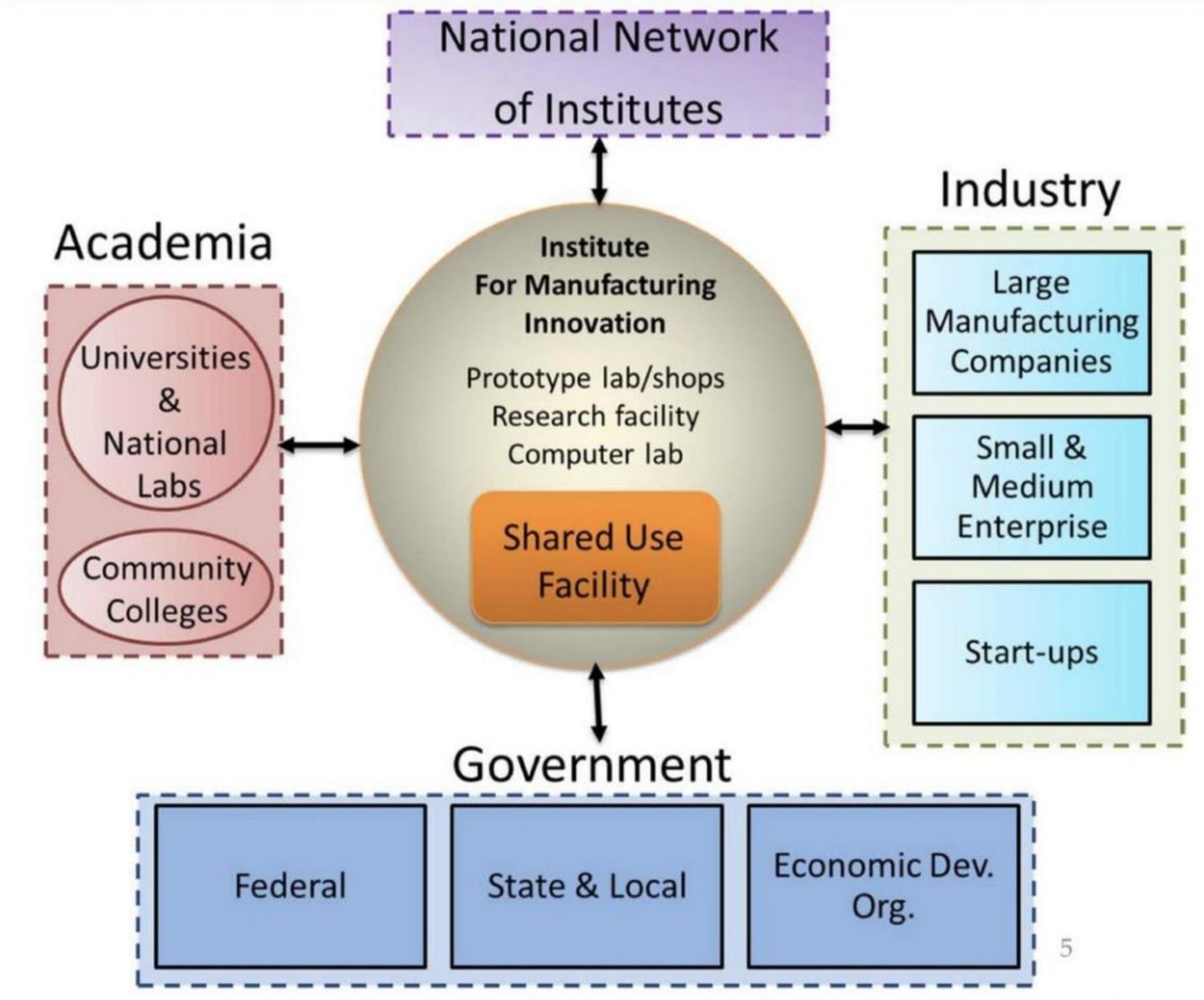
## The Institute Design

#### Creating the space for Industry & Academia to collaborate



Institute Framework
Design published
January 2013







# Manufacturing USA Network







# How Each Manufacturing USA Institute Works

- 1. Has a clear mission based on a critical industry need
- 2. Operated by industry-led consortium
- 3. Works on industry priorities & big challenges only solvable by collaboration
- 4. Creates a collaboration space for pre-competitive applied R&D
- 5. Manages a balanced portfolio of projects
- 6. Addresses education & workforce skills gaps for their technology space
- 7. Conducts topic focused workshops & applies the outcomes to real applications
- 8. Funding → Federal start-up funding PLUS ≥ 100% co-investment

# Industry Feedback on Top Ranked Innovation Institute Offerings



- 1. Networking & Collaboration Opportunities
- 2. Technology R&D Roadmaps
- 3. Updates on State of the Art Technologies
- 4. Education & Workforce Development Roadmaps
- 5. Technology Standards Roadmaps and Coordination
- 6. Use of Institute Equipment
- 7. Data Coordination and Dissemination
- 8. Member Driven R&D Projects- Shared Cost, Risk & Results (IP)
- 9. Contracted Customer R&D Projects- No Cost Share, Own IP
- 10. Creation of Region Institutes/ HUBS and Technology Ecosystems

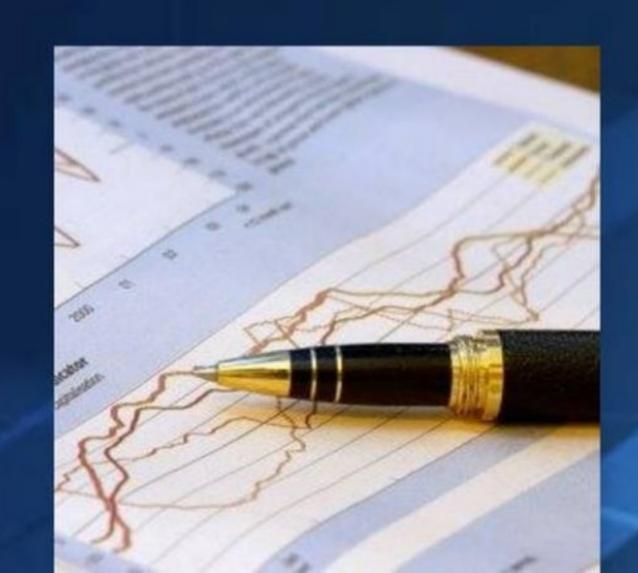


# Public-Private Partnerships Accelerate Successful Innovations

# Mitigate ...

- Market Risks
- Technology Risks
- Product Risks
- Regulatory Risks
- Supply Chain Risks
- Financial Risks





### **Accelerating Successful Innovation**



#### Define → Discover → Design → Develop → Deploy

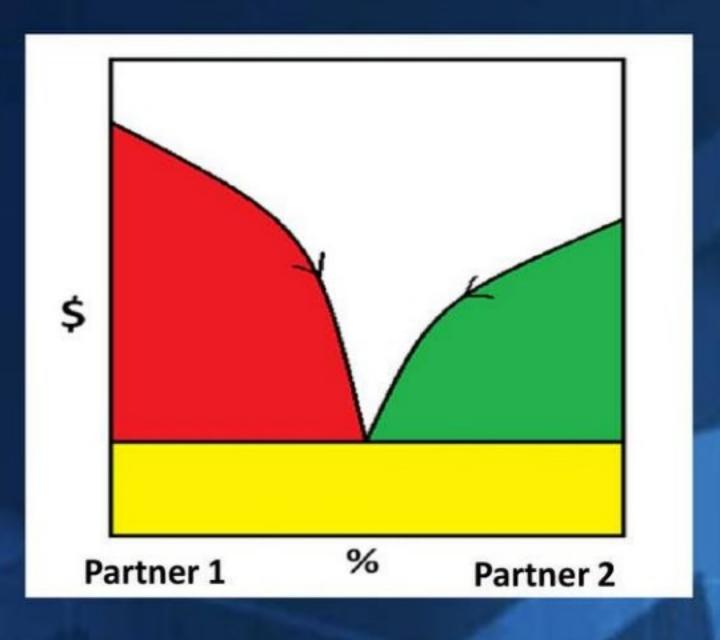
# What is Rate Limiting?



**Identify Gaps** 

- Market Knowledge
- Customer Relationships
- Channel Access
- Available Technology/ IP
- Workable Prototypes
- Raw Material Sourcing
- Rapid Testing & Validation
- Regulatory & Standards
- Engineering Design
- Viable Business Model
- Trained Workforce
- Geographic Reach
- Robust Supply Chain & Logistics

# Utilize Partnerships to Overcome







# 

Ask your questions through **menti.com** in your mobile phones

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## Ask now....



7 questions 25 upvotes

# Tell us what's your key take away from today's panel discussion?











Thank you so much for joining us today!

See you on NOVEMBER 12 for technology deployment panel discussion

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