How to Write Winning Grants Proposals

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Agenda

- **Requirements of a Good S&T Proposal**
- Writing Good Business Model
- Design and Development Requirements for Commertializable Research

Requirement of Good S&T Research Proposal

Outcome of the session:

Identify a Challenge

- Write: Cool and Catchy Title with Key Words that Solves National Need
- Tell about key local/national problem in one sentence and why a solution is required
- State key contributions for (society, government, industry), precisely and in the best possible way that importance is highlighted.
- Provide short implementation details and key deliverable, especially improvements against conventional systems.
- Highlight if you are already have contributions (Patent, Prototype, Start-up).

Ministry of IT & Telecom
DIGITAL PAKISTAN

Ignite
NATIONAL TECHNOLOGY FUND

Challenge-driven Innovation Fund (CIF)

Powered by Ignite

CALL FOR PROPOSALS

Ignite was established with the goal of supporting breakthrough technologies and game-changing innovations in key enabling technologies with the potential to scale up and become market leaders.

The Challenge-driven Innovation Fund aims to stimulate collaborative interdisciplinary research within the strategic priority areas of relevance to present or future Pakistan-based industry and society. The objective is to ask the innovators to help solve the problems facing the country. A consortium of (applicants from) universities, industry and/or research organizations will be eligible to submit research proposals. Project participation from industry, public authorities or other relevant organizations will be considered a merit.

PRIORITY THEMES

- Transport & Smart Mobility
- Health & Well-being
- Smart Cities & Communities
- Digital Industry
- Climate Change & Environment
- Education & Learning
- Digital Life
- Connectivity & Interoperability
- ICT- enabled Agriculture
- Smart Energy
- Safety, Security & Reliability

EVALUATION PROCESS

Grant awards will be made through an open, rigorous, transparent, competitive and merit-based process consistent with international standards for funding research and innovation projects.

DURATION ▸ 2 – 3 years

ANTICIPATED FUNDING ▸ Starting from **Rs. 10 million** per project

Proposals must be submitted online on the prescribed form, available on website
https://ignite.org.pk/CIF

Last date to submit the project outline is
August 7, 2022

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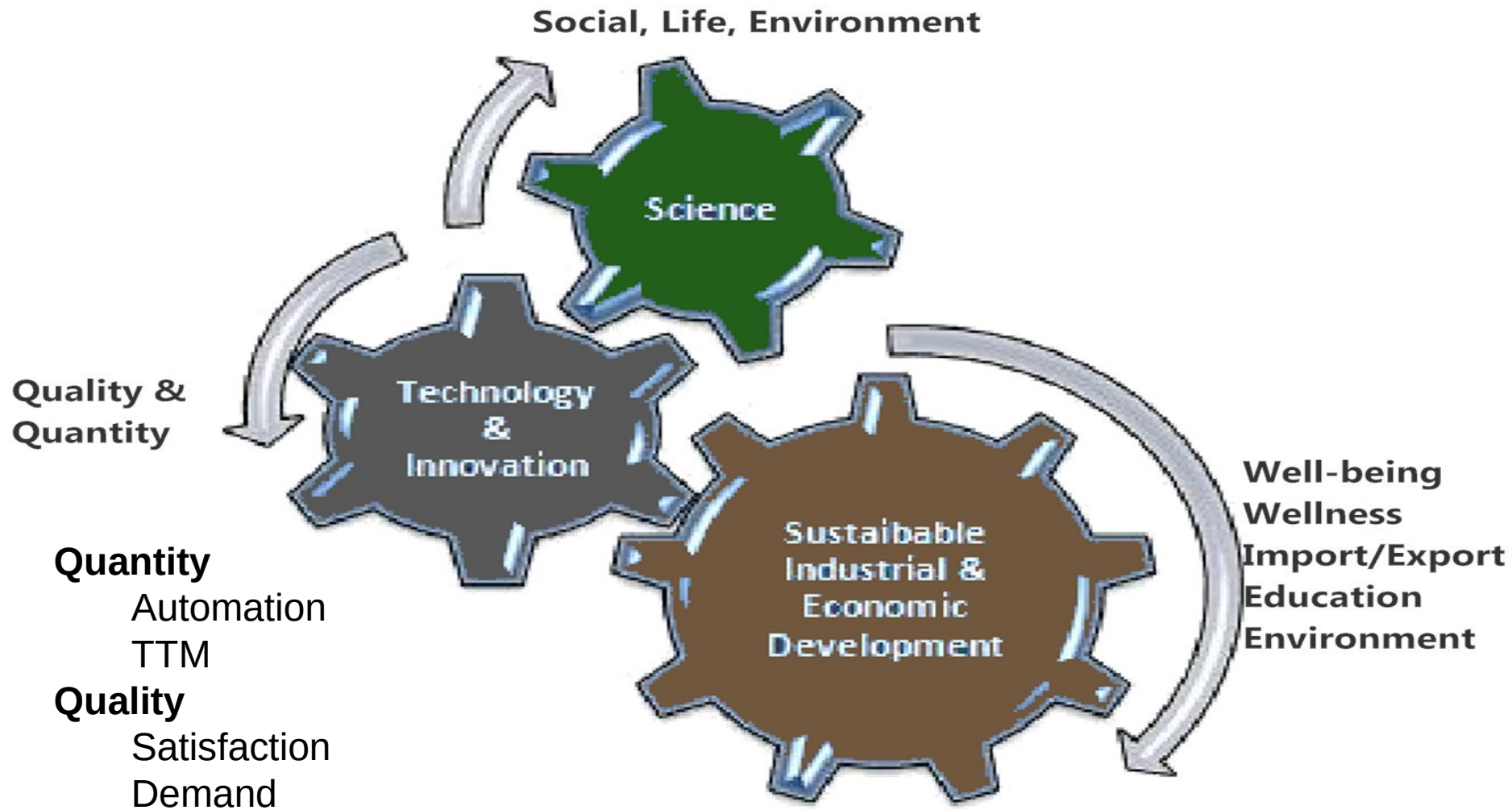
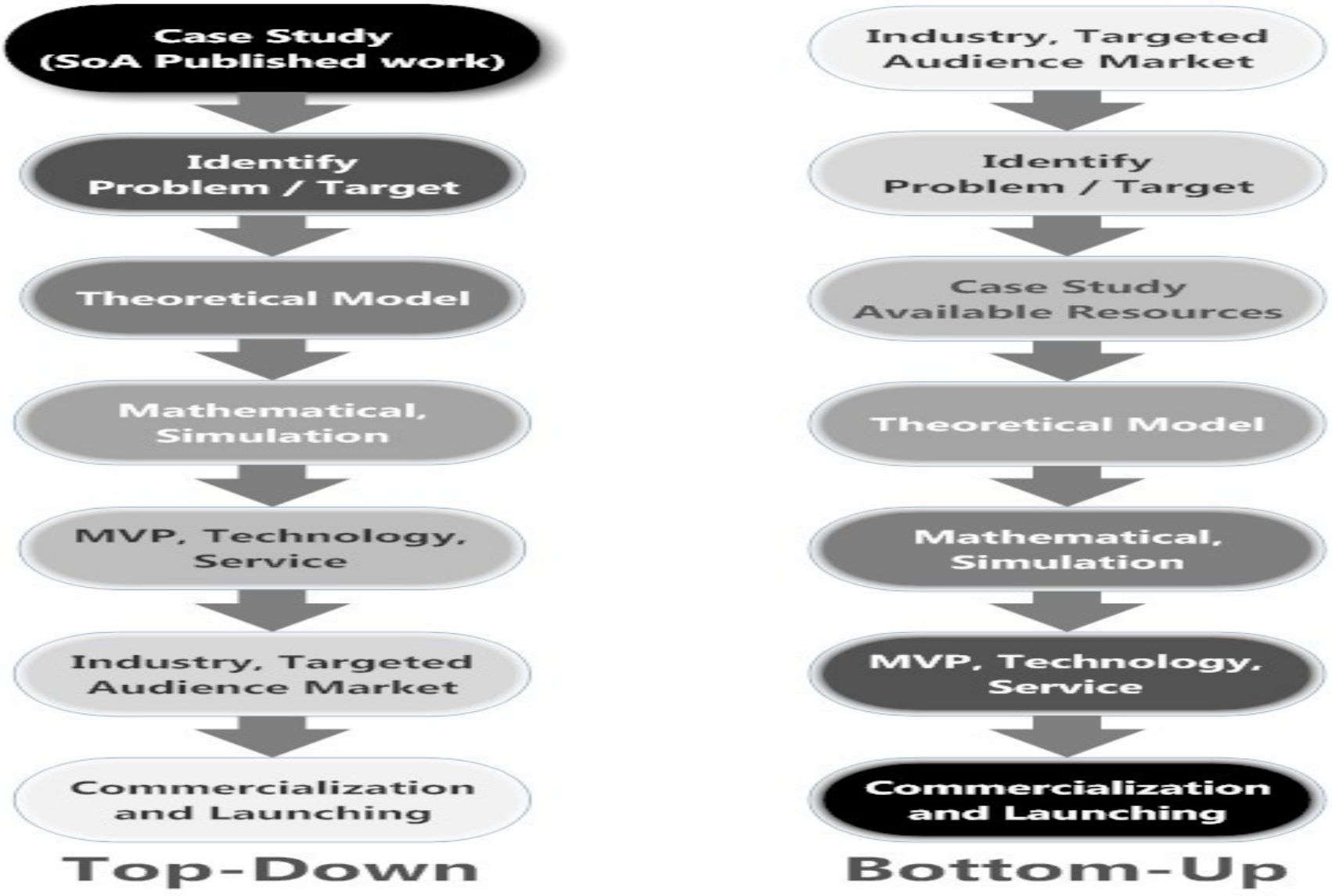
Importance of Technology



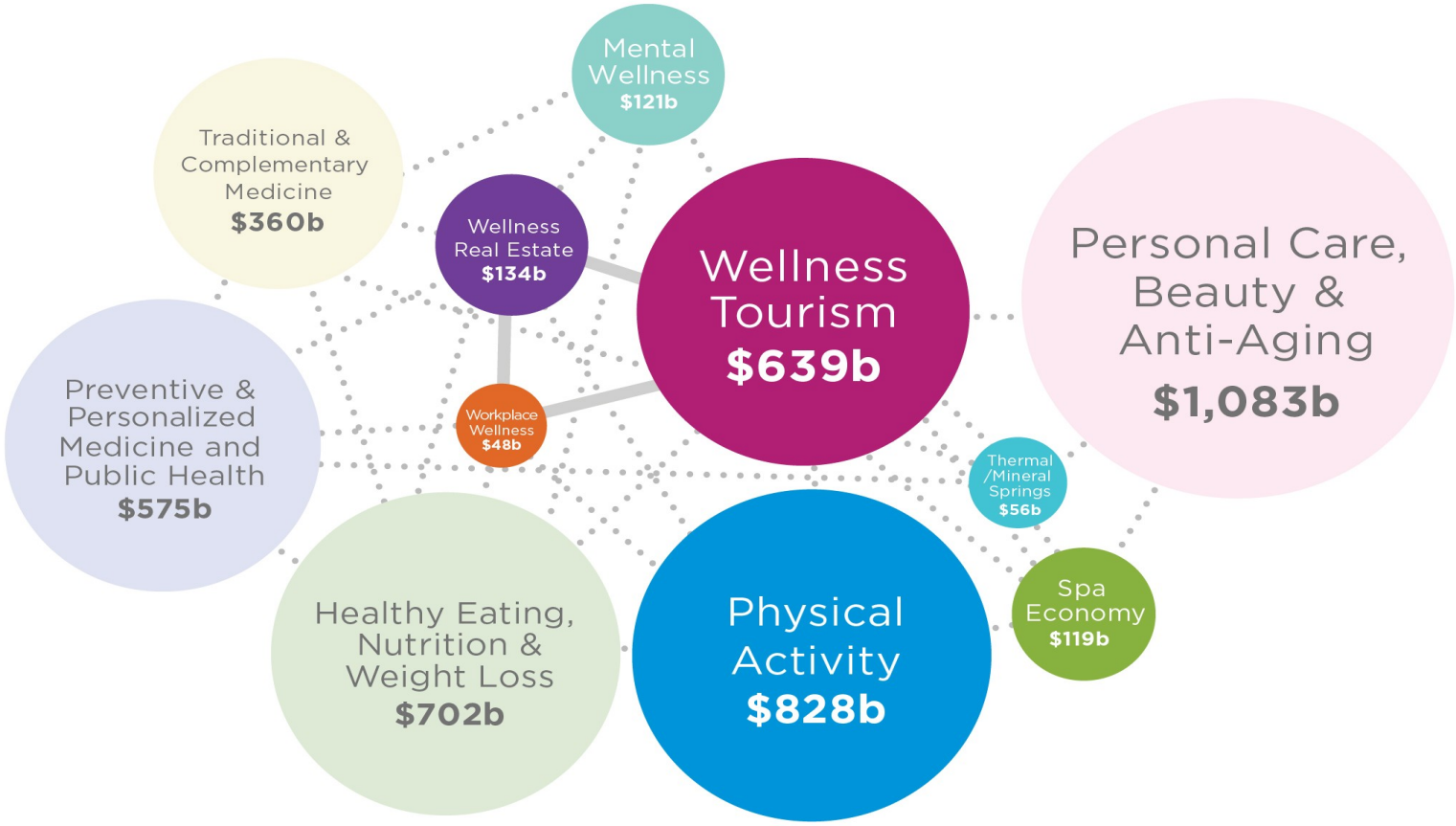
Quantity
- Automation
- TTM

Quality
- Satisfaction
- Demand

Design Approach



GLOBAL WELLNESS ECONOMY:
$4.5 Trillion Market



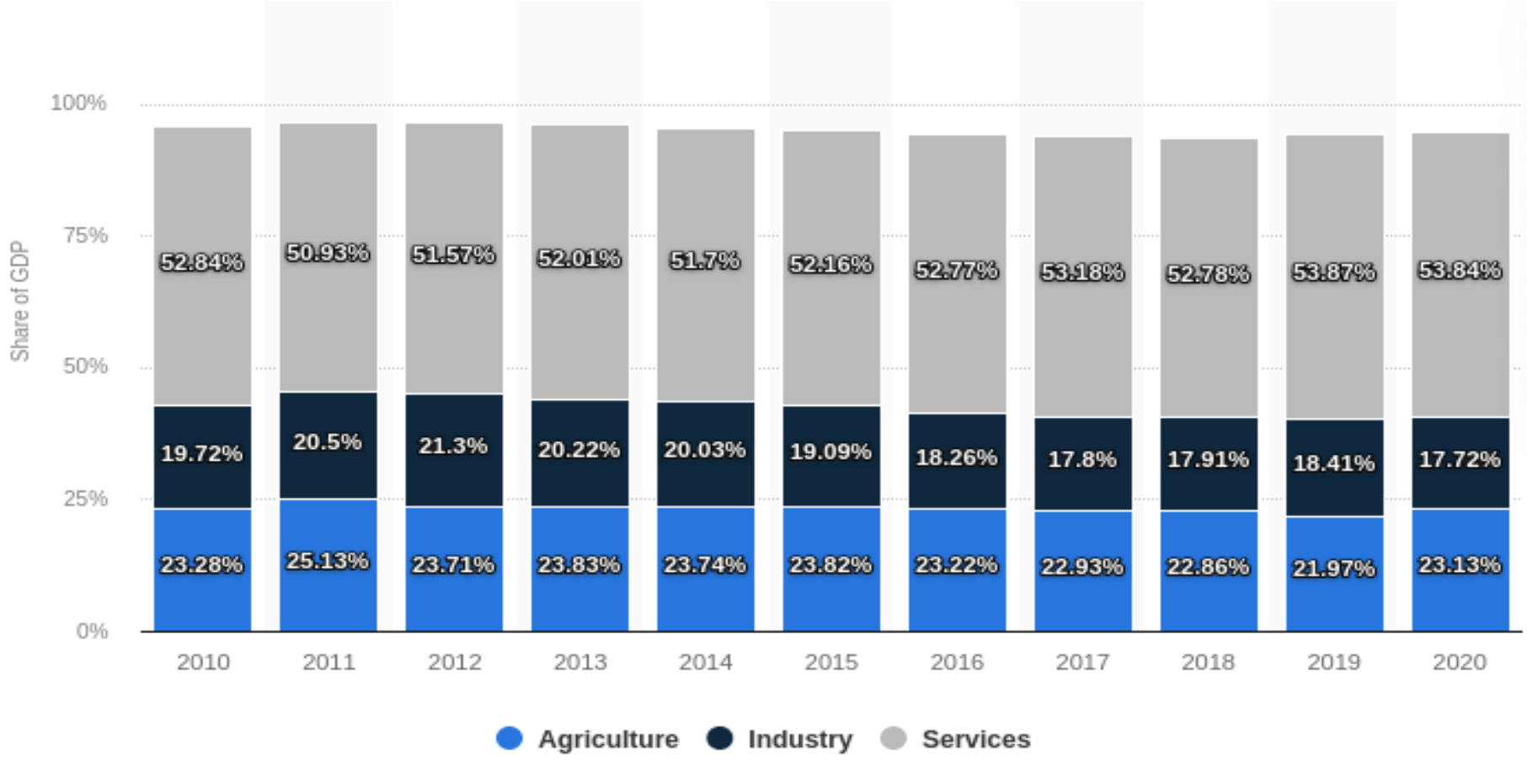
Note: Figure for Mental Wellness is for 2019; figure for Physical Activity is for 2018; figures for all other sectors are for 2017. Numbers do not add to total due to overlap in segments. Dark colored bubbles are the sectors for which GWI conducts in-depth, country-level primary research. Light colored bubbles are sectors for which GWI aggregates global estimates only, drawing from secondary sources.

Source: Global Wellness Institute

GLOBAL WELLNESS INSTITUTE™
EMPOWERING WELLNESS WORLDWIDE

Pakistan: Distribution of Gross Domestic Product (GDP)

Pakistan GDP 263.7$ billion 2020



Project Complete Cycle

Available Knowledge & Information

Collect Information Rationale

Challenge Identification Solution

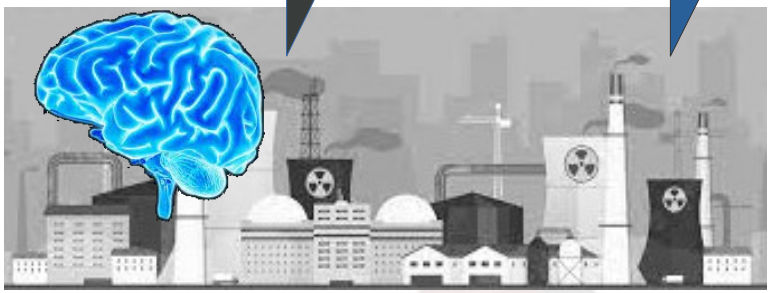
Funding/Grant Investment

Advanced Knowledge

Technology

Start-up

Industrial Investment



Funding Vs Investment

Knowledge

Plan

Long Term

Reporting

For scholars

Usage

Ready

Now

Revenue

For community

First

Second

Same time talk differently

Funding for Applied Research

Funding for what?

Funding when?

Funding by whom?

Funding by who?

Funding from where?

Funding Agencies

International

National

Government Bodies

Ministry of IT & Telecom
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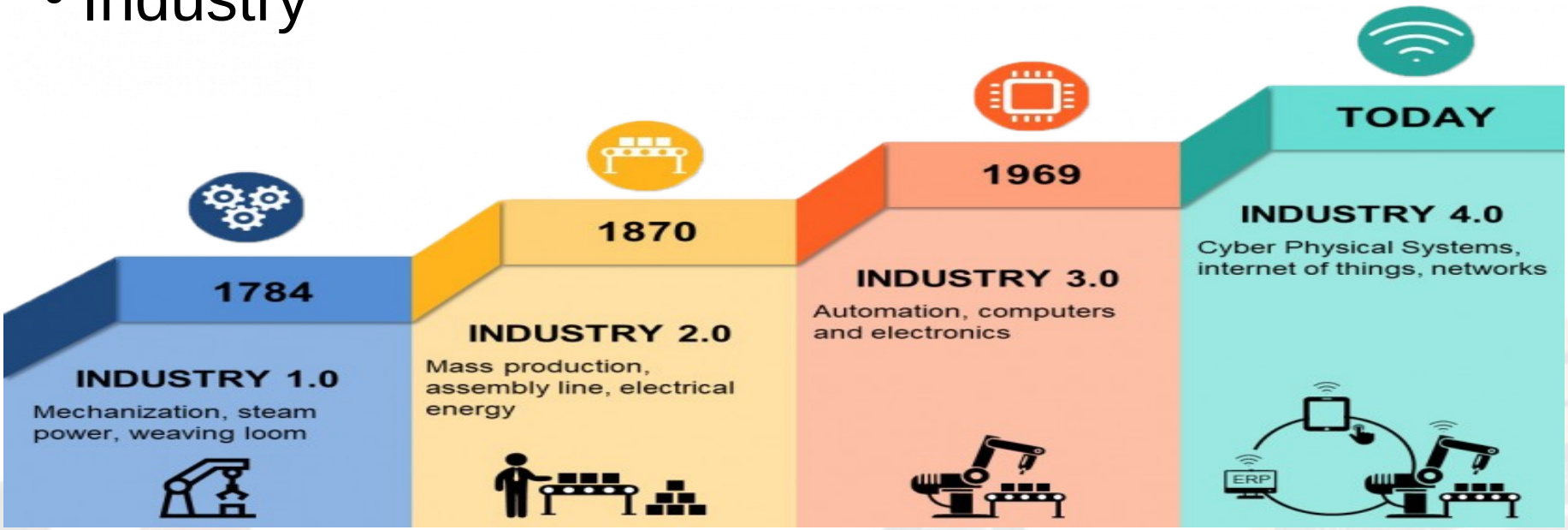
SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

How to Identify Challenge

Linkage with Targeted Audience.

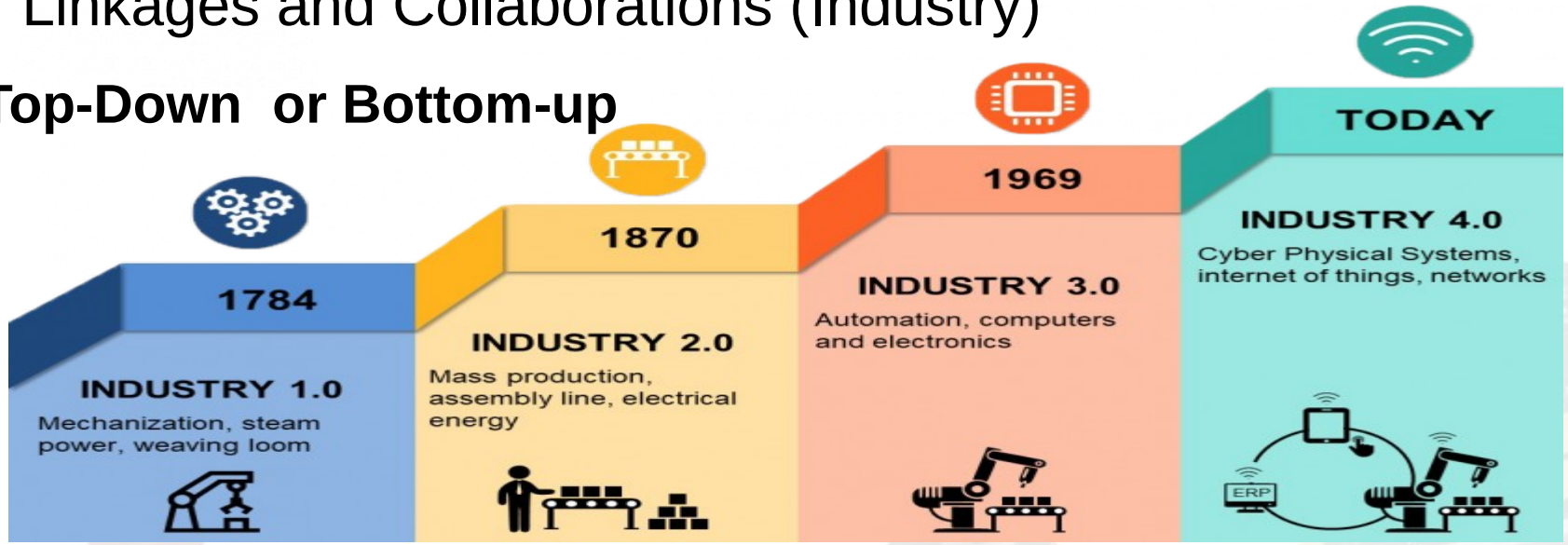
- Healthcare
- Education
- Industry



Most Important: Successful Funding Proposal

- Case Study
- Survey
- Visits and Meeting (Gather Information/Data)
- Lab Test/Experiment
- Linkages and Collaborations (Industry)

Top-Down or Bottom-up



Project Rationale

Identifies need of the project (product or service) and offer valuable solutions.

Challenge

- Nature
- Cause
- Affects
- Phenomenon
- Criterion

Target

- Sciences
- Domain
- Community
- Economy
- Demographic

Key Parameters

Challenge	**Competitors, Services**	**Solution**
Targeted Customer	Local, International, Price, Features, Qualities, Functionalities	**Impact, Economy, Export, Power**
Effects: Societal, Environmental, Economy, Industry (Numbers)	Users, Usability, Accessibility, Functionality, etc	**Demographic, Health, Social etc.**

Create: Idea Suggest Solution

Theoretical Model/Algorithm

Mathematical Model/Formula

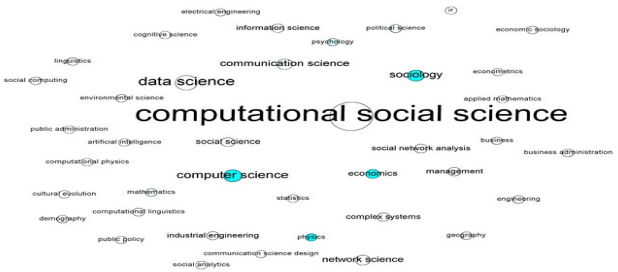
Simulation Model/Program

Product (Prototype) (MVP)

Process (Service)

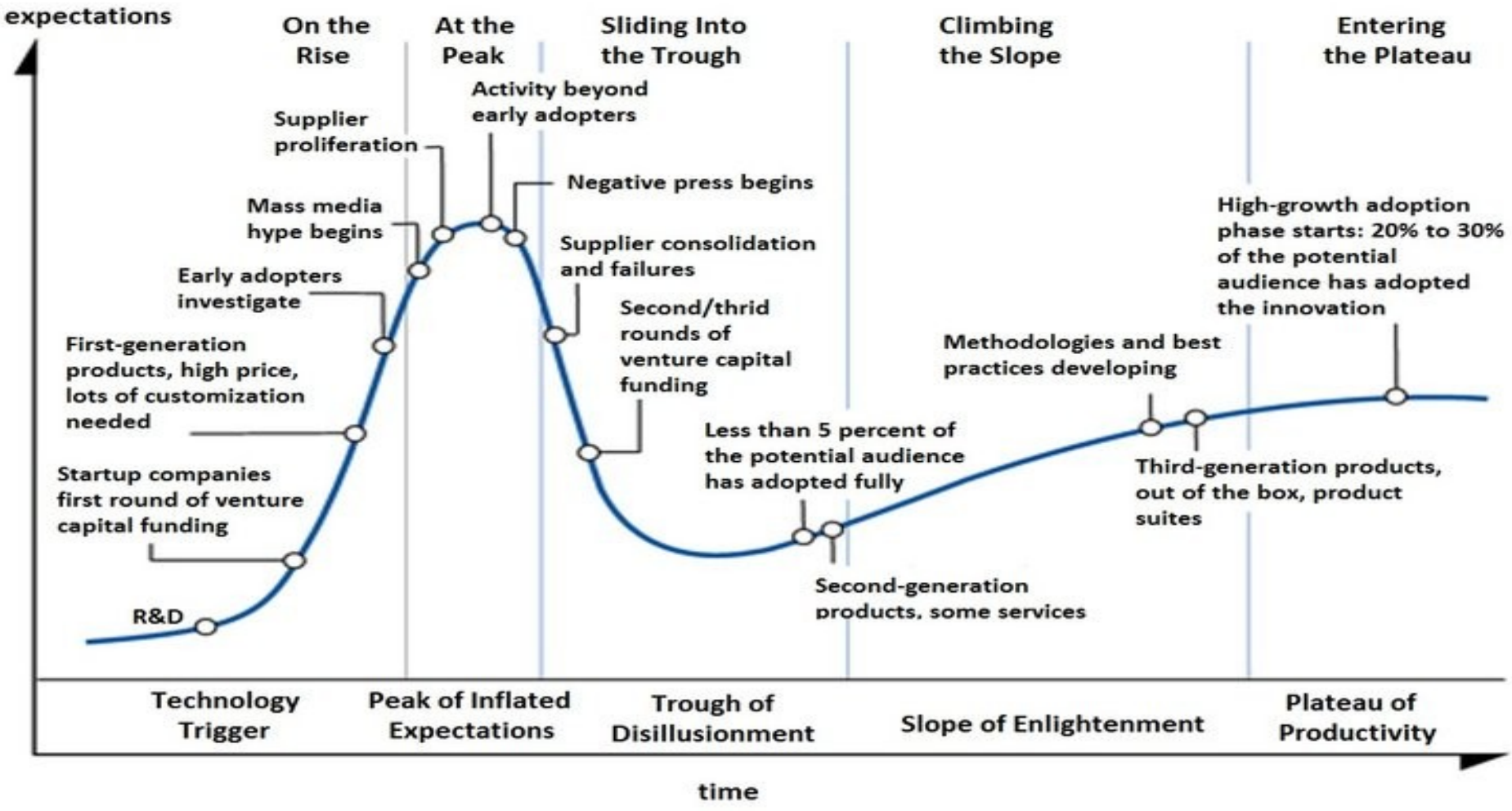
Define

- **Objectives**
- **Deliverable**

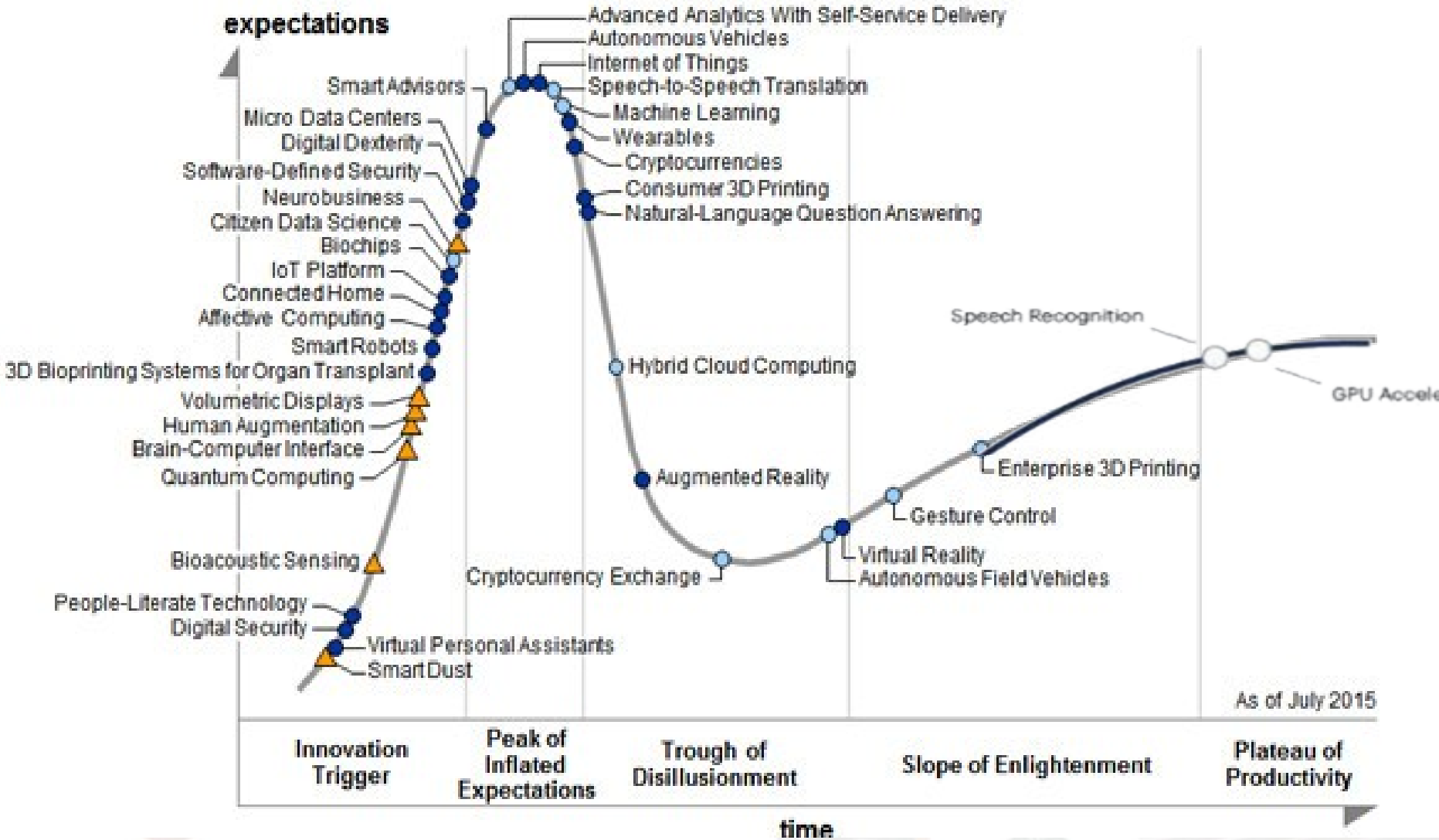


Must have Impact
Novel & Unique
Simple & Needed
Available in the Market

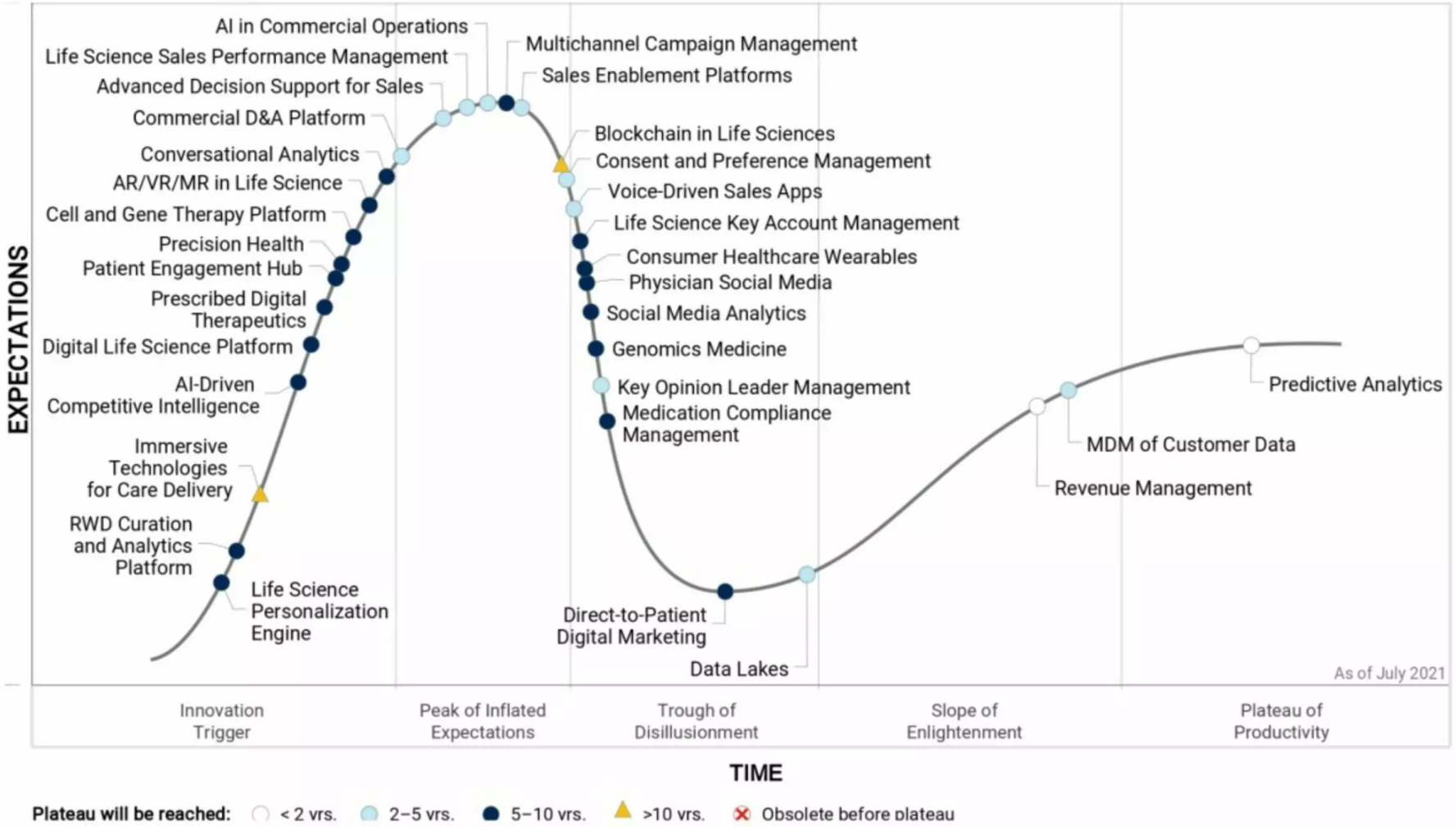
Trends Hype Curve



Trends and Hype Cycle



Hype Cycle for Life Science Commercial Operations, 2021



Source: Gartner (July 2021)

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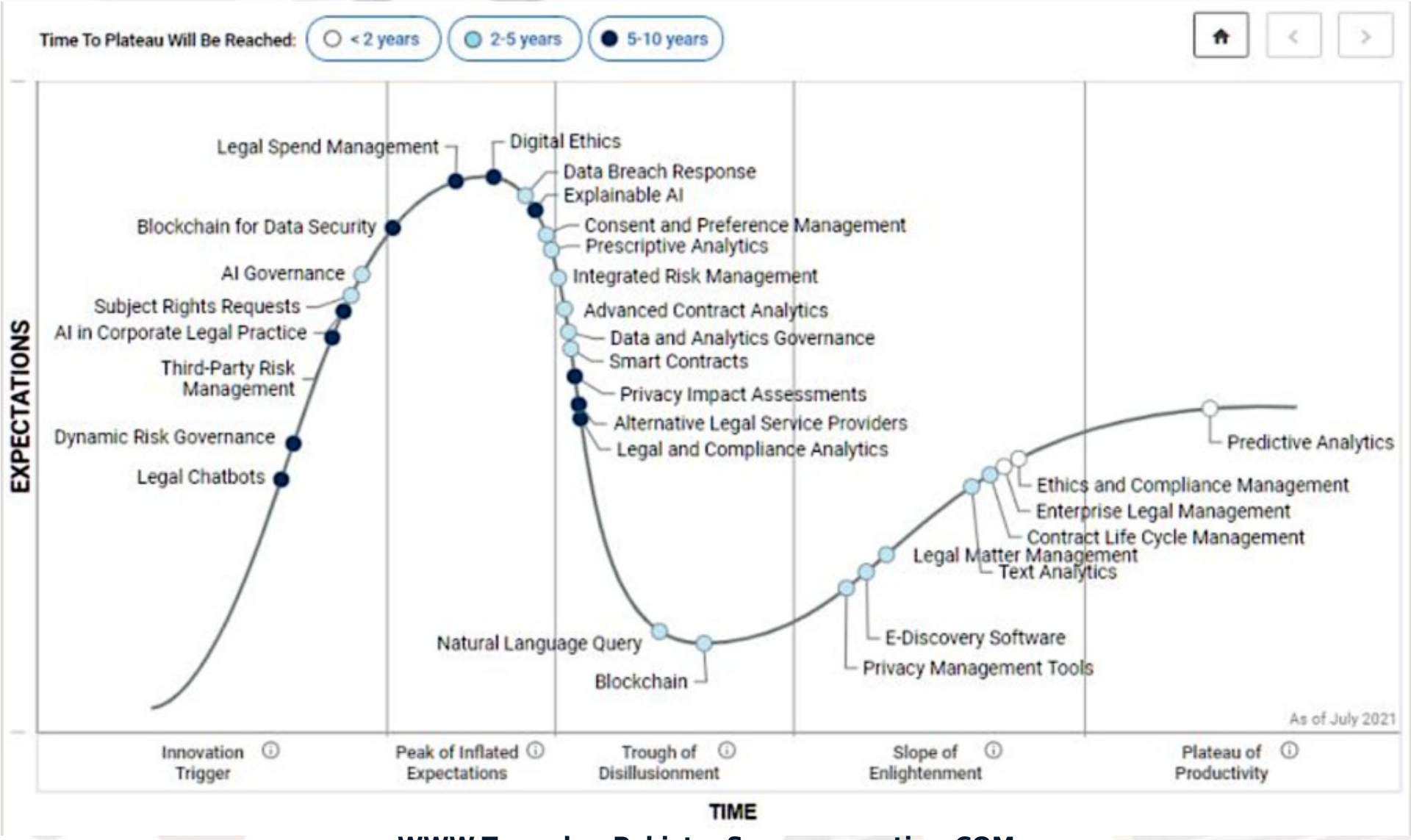
Source: Gartner (July 2021)

Legal Tech Hype Cycle



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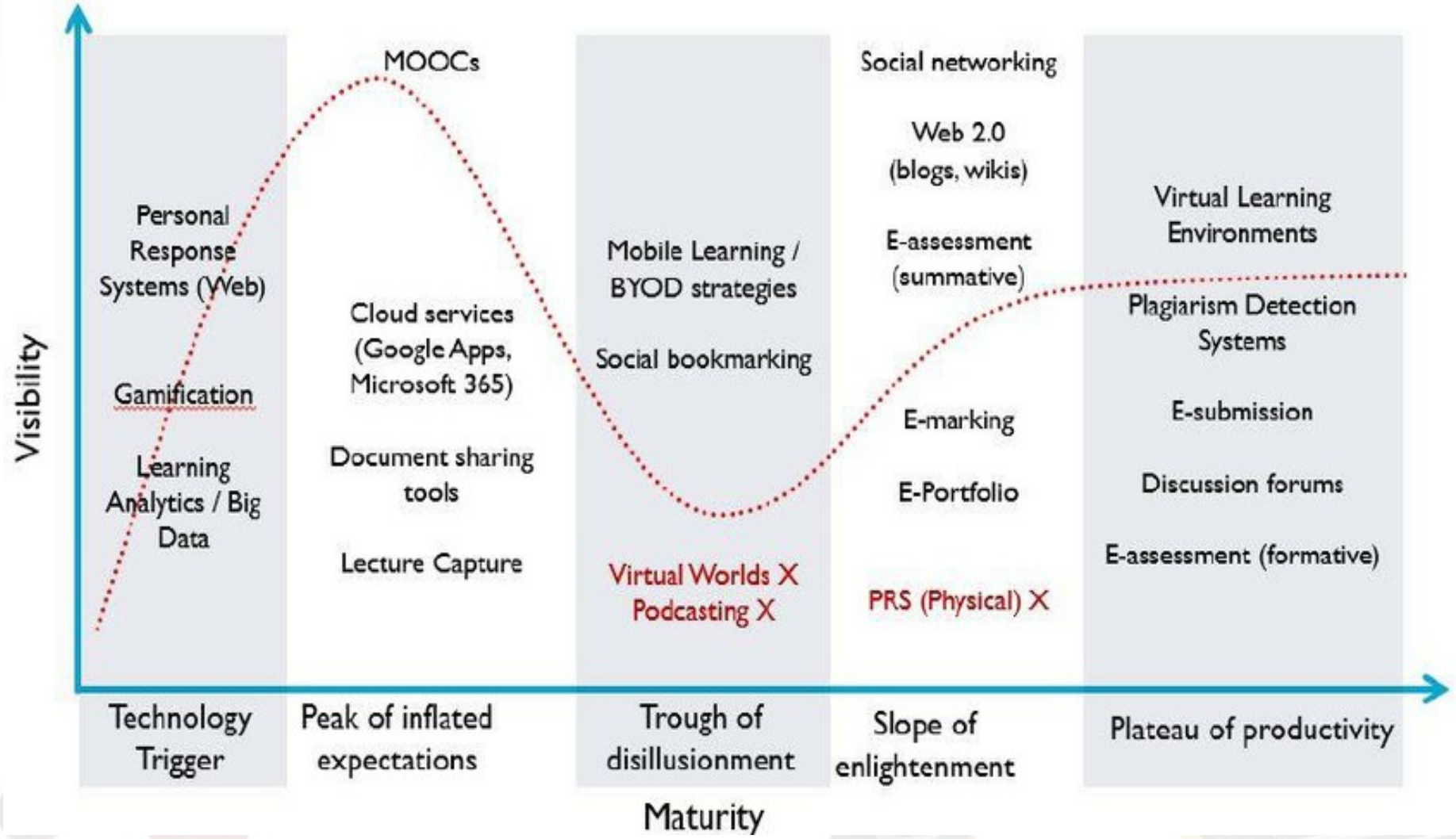
Education System



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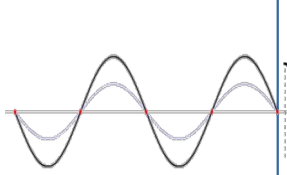
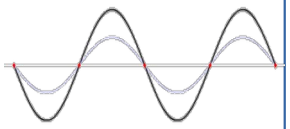
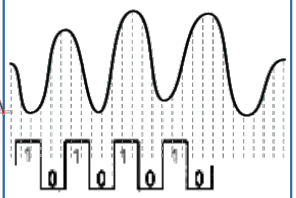
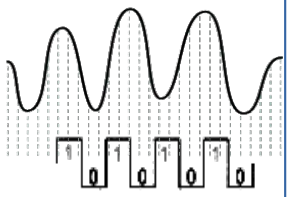
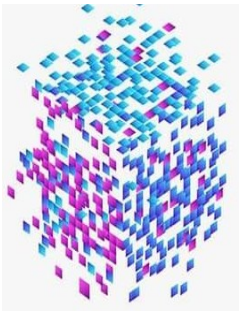
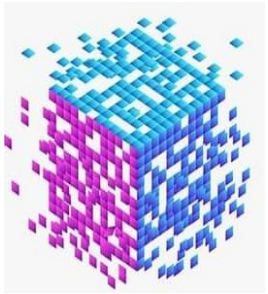
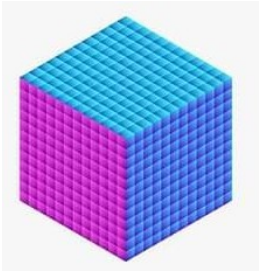
- Clear Title having problem, method, solution and content key words that **Solves National Need**

Echo System:

Information – Mechanism – Design - Marketing

Users Sensors	Storage	BigData	Analytic Simulate	Decisions Controls
 	 			

Example

Title: Development of High Performance Computing Machine for Big Data Application

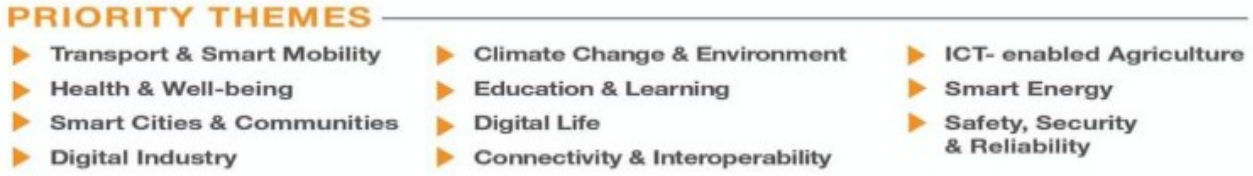
Product Being Developed	Pakistan Custom Tarrif (PCT) No for product	World Market Size	Pakistan Market Size	Pakistan Import/Export Volume	No of industries engaged in this product/idea	Product Price	Business-Business or Business to Consumer
Supercomputing Platform for Data Sciences	8471.4120	81.43 Billion US$ 11.1% CAGR	76.3 Million US $	1.9 Billion US $	2	2.5 PKR Million	B2B and B2C

Problem Identification Table

	National / Int'l Market Size	Export, Import, Jobs, Usage etc.	Number of Manufacturing / Processing Industry	Product Price Market Sale Price, Manufacturing Price, R&D Cost
Name Types				
Numbers				
Impact				

Data Collection

	Problem	Data	Classification Label, Information	Targeted Features
Type				
Numbers				

Project Title:	
Duration:	
Budget Required (PKR)	
Organization Name	
Organization Address	
Principal Investigator (PI) Information	Name
	Position/Title
	Department
	Tel. # (Office/Mobile)
	Email
	CNIC/Passport No.
Name the Thematic Area(s)	

II. PROJECT DESCRIPTION

Targeted Challenge

What is the targeted challenge to be addressed scientifically? (Not more than 250 words)

Pakistan is a country of 243.2 million people, where 39.1% of the population is urban and 60.9% is rural [4]. Per capita income is very low and health-care is an ignored domain. Till 2020, there were 245,987 registered doctors, 27,360 registered dentists, 116,659 registered nurses, 1,282 public hospitals, 12,894 healthcare centers [5], 144 medical degree awarding

Review of State of the Art

What are the major approaches used to address the challenge? Explain how various sets of activities are combined to solve the problem? (Not more than 750 words)

Major Competencies

How do you consider yourself to be the best one to solve the mentioned challenge? (Not more than 250 words)

Teams Profile

Please give a brief summary of the relevant research experience utilized in the domain that has the societal impact. Also, mention your 5 most recent research papers/patents/reports (Max 500 Words)

Socioeconomic Impact

If the research challenge is successfully answered, please offer a detailed summary of how the socio-economic/national impact will be realized in the next 2-3 years (Max 300 Words)

III. ACADEMIC & INDUSTRIAL COLLABORATORS INFORMATION

List all primary collaborators such as the principal investigator, researchers, and industry stakeholders who will be a part of the proposed project. There is a need to notify them before the submission of Project Outline.

Academic Collaborators (National Level)	
Name	Highest Degree Obtained
Position/Title	Department
Male/Female	Organization
Mobile/Tel No.	Email
Details of Expertise	
Academic Collaborators (International Level)	
Name	Highest Degree Obtained
Position/Title	Department
Male/Female	Organization
Mobile/Tel No.	Email
Citizenship	Country
Details of Expertise	
Industrial Collaborators (National Level)	
Name	Highest Degree Obtained
Position/Title	Department
Male/Female	Organization
Mobile/Tel No.	Email
Details of Expertise	
Industrial Collaborators (International Level)	
Name	Highest Degree Obtained
Position/Title	Department
Male/Female	Organization
Citizenship	Country
Mobile/Tel No.	Email
Details of Expertise	
Individual Consultancy (National/International Level)	
Name	Highest Degree Obtained
Position/Title	Department
Male/Female	Organization
Citizenship	Country
Mobile/Tel No.	Email
Details of Expertise	

IV. CURRICULUM VITAE

Updated CVs are requested from the collaborators that contain the following details (not more than 2 pages):

- Full name and Position/Title
- Complete address of the Organization
- Relevant Professional Training/ Certifications
- List of Experiences in chronological order
- Recent relevant up to 5 publications in Harvard style
- Previous projects won (title, duration, amount, and status only)
- Previous collaborations (title, duration, amount, and status only)