NAVIGATING DIGITAL TRANSFORMATION TOWARDS 50 YEARS & BEYOND:
COLLABORATION & INNOVATION

PNG ICT CLUSTER
The Silicon Valley of the Pacific

THE PNG DIGITAL ICT CLUSTER
SHARING INNOVATION, CREATING OUR FUTURE

BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

1975

WINIFRED KULA - PRESIDENT PNG DIGITAL ICT CLUSTER
AND FOUNDER ENOVAX SOLUTIONS

In this Presentation

This is the Agenda

Introduction and Background

Emerging Technology

Change and Innovation

The world has changed, and only those that have kept pace with that change can succeed in difficult environments

Change and Innovation

Change is often very hard, but embracing the idea that change is constant can be a helpful perspective for adapting to the ever-changing world around us.

- **Defining Change by type**

- External Changes: Inflation, Climate Change, Geo-politics, Legislation, Disruptive Technology, Cybersecurity
- Internal Organisation Change
- Crisis and Risk Management: Ukraine War, Covid-19, Ransomware
- Cultural Change and Employee engagement

- **Defining Change by magnitude**

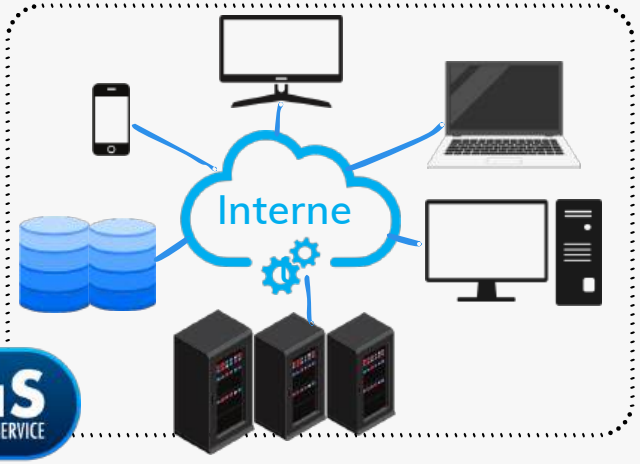
Incremental change	• Continuous Improvement • Operational Changes • Product or Service Improvement • Cost reduction initatives • Policy and Procedure Improvements
Tranformative change	• Digital Transformation • Mergers and Acquisitions • Large-scale technology adoption

Globally, countries are making their tech sector's a security priority (cybersecurity) and using economic innovative legislation to preserve and capture technological advantage, impact on tech supply chains

Some Technology Trends Addressed by GovTech Stack

Commercialisation of IT / Mobility - Smart Phones

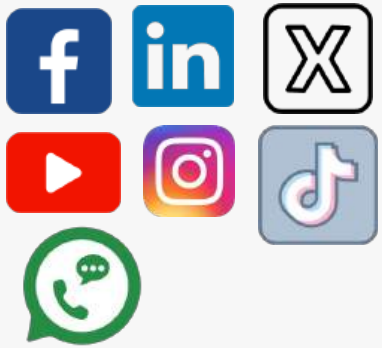
Cloud computing



SaaS
SOFTWARE AS A SERVICE

Artificial Intelligence and Machine Learning

Social Media



Database and Server Technology / Data Centers

Digital ID, Digital Wallet, Digital Payments

BPaaS

Business Process As A Service

Big DATA, Data Analytics, AI

5 GENERATIONS WORKING SIDE BY SIDE IN 2025

TRADITIONALISTS
BORN 1900- 1944
Great depression
World War II
Disciplined
Vaccines

BOOMERS
BORN 1945-1964
Baby Boomers
Experimental
Innovators
Personal Computers

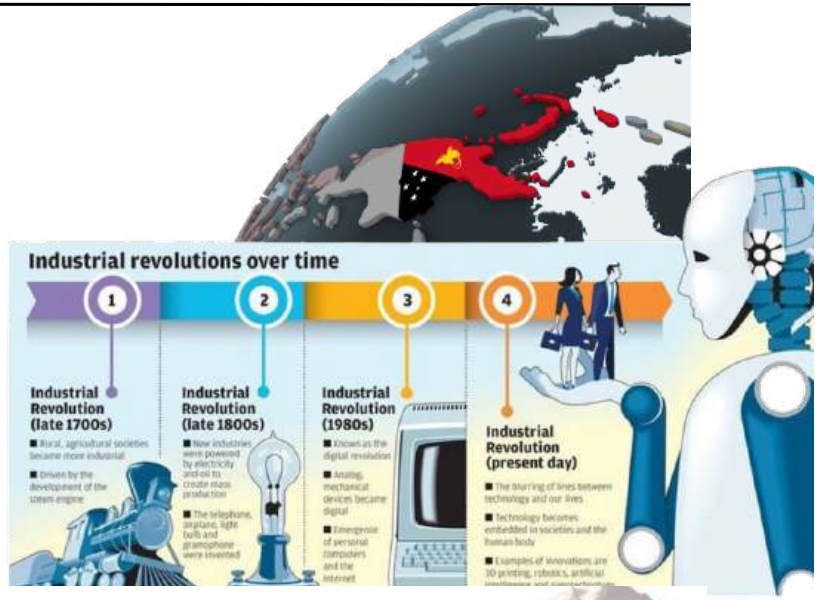
GEN X
BORN 1965-1980
TV Generation

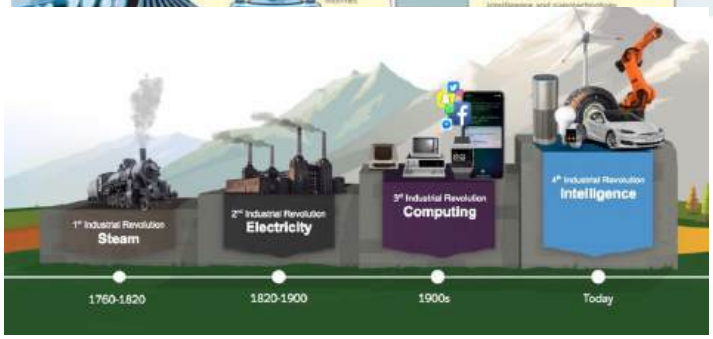
MILLENNIAL
BORN 1981-1996
The Last to Grow Up Offline
Older Millennials

BORN 1996-1997
Digital Natives
Younger Millennial

GEN Z
BORN 1997-2005
The First Connected Kids
Older Gen Z

BORN 2006 -2024
Younger Gen Z





As technology becomes embedded in almost every aspect of our lives

THE OPPORTUNITY

- As pioneer computer science graduates from UniTech, there was no established and sustainable platform for local innovation and creativity for local university graduates. (Whilst Universities mandated for research and teaching, there was no commercialisation happening in ICT.)
- The difference of value creation for a digital STEM (ICT) entrepreneur and a small business is not distinct in the PNG business ecosystem. Therefore, access to finance is difficult and entrepreneurs continue to struggle to get traction and translate ideas to marketable products and services.
- The Global technology sector particular digital ICT, is growing at twice the rate of the global economy, with much of the growth in startups.
- Digital ICT start-ups cover all sectors of the economy including agriculture, health, education, financial services, and manufacturing.
- Some of these digital entrepreneurs draw on strong **digital ecosystems**, accessing support networks, and a wealth of nearby knowledge, funds, skills and expertise.
- The uptake of Digital ICT can be initiated and driven by Women
- **Young entrepreneurs have already become the driving force of job creation, in particular where ecosystems have been shaped by large companies and other "bridge makers" that help translate ideas to marketable products and services.**

ABOUT PNG DIGITAL ICT CLUSTTER

Overview

- Initiated in 2014 by Regional Project “Clusters inthe Pacific”
- Co-founded by Priscilla Kevin and Winifred Kula
- Established in March 2018 as a Not-for-Profit Organisation, membership-driven association; Founding Members Kumulsoft, Minsoft, In4net, eNova-X (to name as few)
- ICT Cluster is a high-tech innovation cluster to drive inclusive innovation and entrepreneurship for its SME and MSME members
- **Unique platform for innovation between business, university and public authorities**

Vision

By 2030, smart ICT use in economic life and social organisation will be a source of prosperity for PNG

Mission

To contribute to the recognition of the PNG Digital ICT Cluster as one of the most attractive clusters in the Pacific. PNG to be the home of many start-ups and global technology companies, and attract Direct Foreign Investment for global industry leaders

OUR VALUES - ALTRUISM & INNOVATION | TEAM WORK | INTEGRITY | PROFESSIONALISM | RESPECT |

ABOUT PNG DIGITAL ICT CLUSTTER

Membership

- Startups, SME and MSME
- Large Companies
- Proactive and co-operative public depts/agencies
- Academia
- Investors

Service Offerices

- Collaborative Innovation (Projects)
- SME Accelerator
- Business Program
- Networking (Annual Business Conference - TechInnovate)

Figure 1 – The Innovation Ecosystem: Doyle, E 2018, *Call a Business Angel – Practical Advice for Startups, SMEs and Innovators*

Former Director for Oil Search / Santos and Australia

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ABOUT PNG DIGITAL ICT CLUSTTER

Milestones

2014
- Incepted through EU Regional Project through PIPSO and PNG Chamber of Commerce & Business Council
- Project handover to ICT Cluster Volunteers
- Facilitate first Entreprenuship Training with ABV

2017
- Patron leadership support is established
- Soft Launch of PNG Digital ICT Cluster

2018
- 1st TechInnovate Conference
- Launched establishment of PNG Digital ICT Cluster and
- 1st Physical Space for Cluster City lab at Badili, Port Moresby
- Facilitate launchpad for young digital ICT entrepreneurs for APEC

2019
- 2nd TechInnovate Conference
- 1st BRIDGES at UPNG (Software Engineering) with Nara Institute of Science and Technology, Japan

2020
- 1st Hackathon "HACK4CHANGE" for Industry
- Software Engineering Academy with SwitchMaven

2021
- 3rd TechInnovate Conference
- Partnership with Catalyst Group (Former DEFINE Initative)

2022
- Partnership with Uot (Signed MOU)
- DEFINE Skills Project in Port Moresby

2023
- Strategic Partnership with DICT (Signed MOU)

2024
- 1st Hackathon "HACK4CHANGE" for Academia

2025

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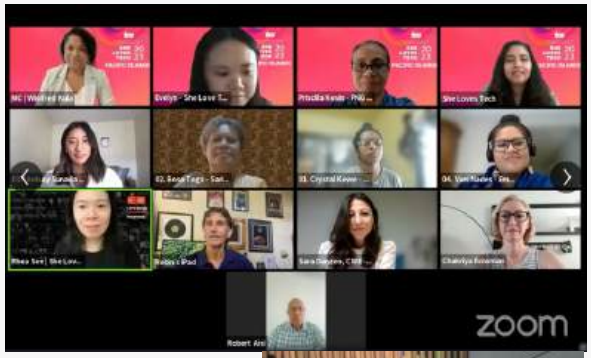
HACK4CHANGE

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HACK4CHANGE

HACK4CHANGE

#HACK4CHANGE2020
BI-ANNUAL HACKATHON ICT CHALLENGE
ICT CLUSTER
KUMUL
Digicel
GIST



NATIONAL ICT CLUSTER

kina bank
TechInnovate



PORT MORESBY I PAPUA NEW GUINEA

GIST APEC CATALYST PITCH COMPETITION
LA SERENA, CHILE


MOU STRATEGIC FRAMEWORK FOR CO-OPERATION & COLLABORATION

- **Promote Good Governance and Communities of Practice:**
- **Establish and Operate the National ICT Incubation Center:**
- **Commitment to Developing and Improving Standards for Information Data and Software:**
- **Promote and Encourage Better Digital Services that are Accessible and User-Friendly:**
- **Encourage and Promote Programs to Build Digital Capacity and Skills:**

BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

THE ROLE OF AI CENTERS IN INNOVATION

WHAT IS AN AI CENTER?

- A hub for reseach, development and application of AI technologies
- Facilitates collaboration between academia, government and business

KEY FUNCTIONS OF AN AI CENTER

- AI Research & Development: Focus on deep learning, NLP and generative AI
- Startup Incubation & Industry Collaboration: Supporting AI-driven startups
- Skills Development & Talent Pipeline: Supporting AI-driven startups

REAL-WORLD IMPACT OF AI CENTERS

- Case study or examples of country/region leveraging AI centre for economic growth
- How AI Centers can be used for Indigenous innovation and digital upskilling in developing economies

BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

THE ROLE OF AI CENTERS IN INNOVATION AT UNIVERSITIES

THAILAND

JAPAN

BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

BLOCKCHAIN AS THE FOUNDATION FOR TRUST & SECURITY

WHAT IS BLOCKCHAIN AND WHY DOES IT MATTER?

- Definition: A decentralised ledger technology ensuring transparency and security
- Key Feature: Immutability, decentralisation, smart contracts and transparency

USE CASES OF BLOCKCHAIN IN AI & DIGITAL TRANSFORMATION

- Supply Chain: Tracking authenticity and provenance of goods
- Financial Services: Secure and transparent transactions, cross-border payments
- Identity & Data Protection: Secure digital identities, reducing fraud
- AI Ethics & Bias Mitigation: Using blockchain to audit AI decision-making

Challenges & Opportunities

- Regulatory concerns and barriers
- Need for interoperatbility between AI and blockchain
- Roles of government and private sector in fostering trust and innovation

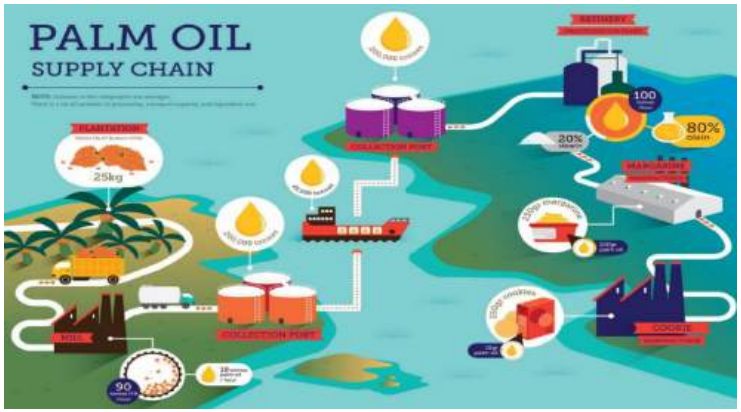
BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

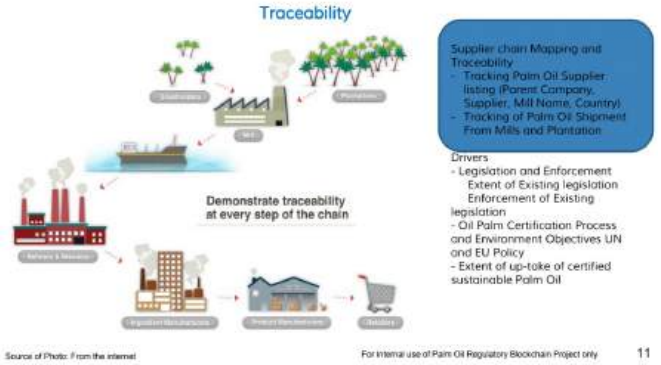
THE ROLE OF BLOCKCHAIN CENTERS IN INNOVATION AT UNIVERSITIES

APEC - AUSTRALIA (RMIT)

CASE STUDY

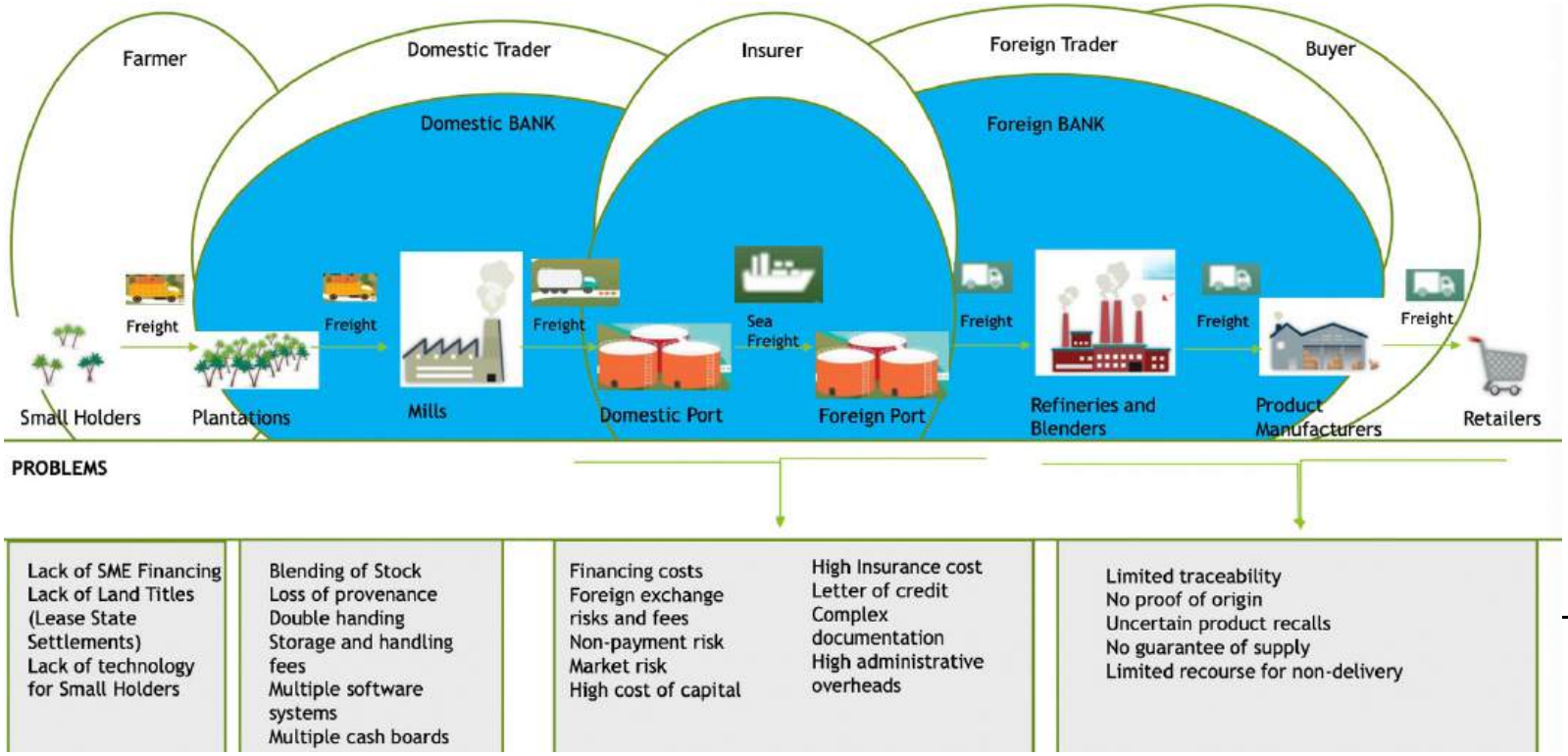
BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT





BIGDATA, AI AND BLOCKCHAIN FOR NATIONAL DEVELOPMENT

CURRENT SUPPLY CHAIN PROCESS IN OIL PALM INDUSTRY



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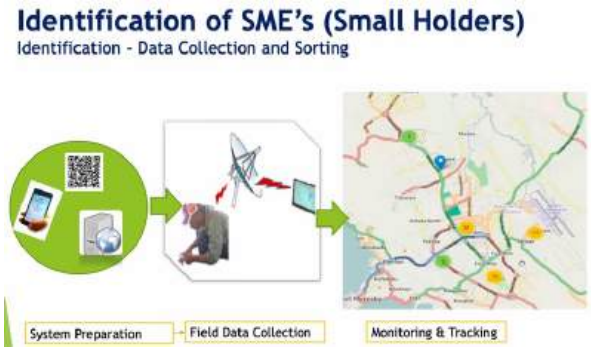
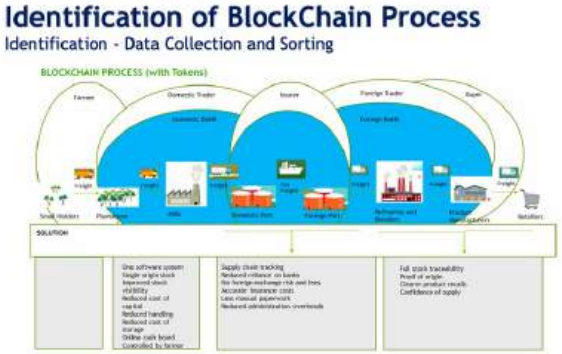
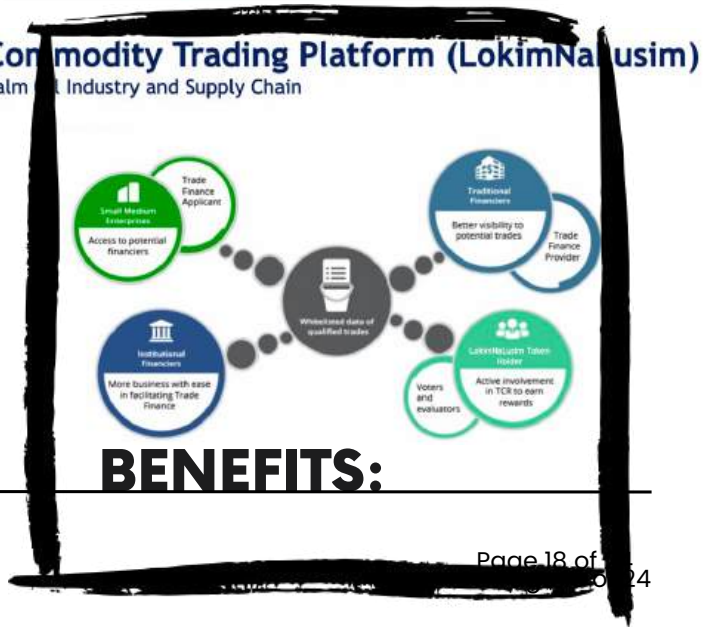




BLOCKCHAIN SOLUTION DESIGN



BENEFITS:

PNG DIGITAL ICT CLUSTERS INCUBATION AND INNOVATION CENTERS

CLUSTER CITY LAB

Foster local entrepreneurship

Support PNG students and entrepreneurs in developing tech startups

Promote Research and Development

Assist in turning local research into market-ready solutions

Strengthen Industry and Academia Linkage

Build partnerships between universities, industry and government

KEY COMPONENTS OF EFFECTIVE INCUBATORS

Infrastructure and facilities

Office space, co-working areas, meeting rooms

Support Services

Mentorship, workshops, networking events.

Technology and Resources

Access to cutting-edge tools, software, and equipment

Funding and Investments

Seed funding, grant opportunities, investor connection

BENEFITS TO UNIVERSITIES

CLUSTER CITY LAB

Boost Reputation

Enhances the university's profile as a hub for innovation

Attracts Talent

Draws high-quality students and faculty interested in entrepreneurship

Strengthen Industry Linkage

Creates opportunities for industry partnerships and collaborations

Drives Economic Development

Contributes to local and regional economic growth through successful startups.

KEY CHALLENGES AND PROPOSED SOLUTIONS

Funding and Resources

Diversify funding sources, establish strong partnerships

Scaling Programs

Develop a scalable model, focus on sustainability

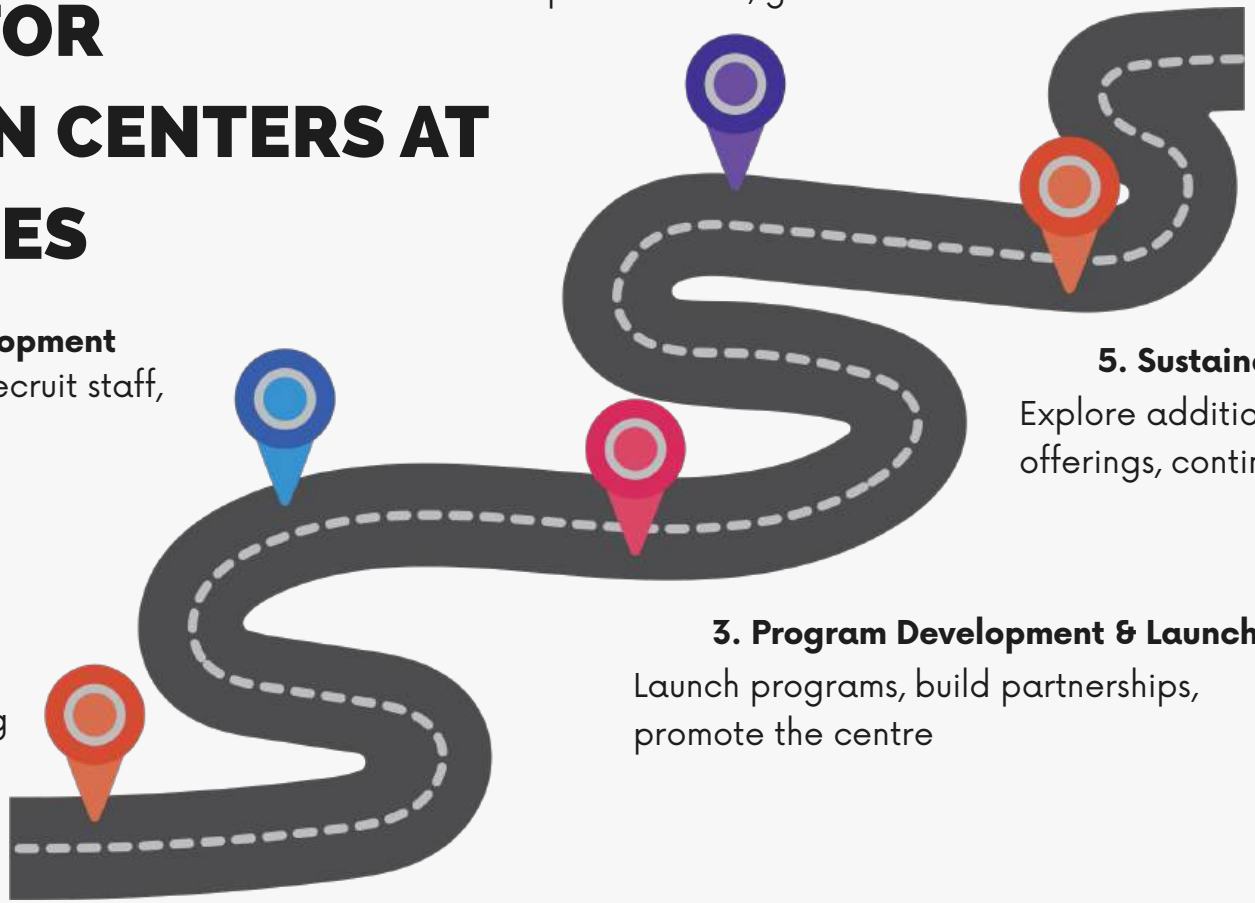
Industry Collaboration

Build and maintain strong industry relationships, align with industry needs

IMPLEMENTATION ROADMAP FOR INCUBATION CENTERS AT UNIVERSITIES

4. Operations & Management

Manage programs, monitor performance, gather feedback.



2. Design & Development

Set up infrastructure, recruit staff, develop policies

5. Sustainability and Growth

Explore additional funding, expand offerings, continuous improvement.

1. Planning & Strategy

Define goals, engage stakeholders, secure funding

3. Program Development & Launch

Launch programs, build partnerships, promote the centre