



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



SUSTAINABLE DEVELOPMENT GOAL 9
INDUSTRY, INNOVATION AND INFRASTRUCTURE

Innovations and Inclusive MSME Growth

Global Symposium on the role of MSMEs in
achieving the SDGs

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Global context and innovation

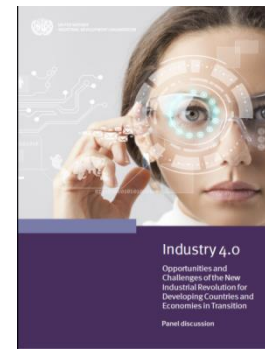
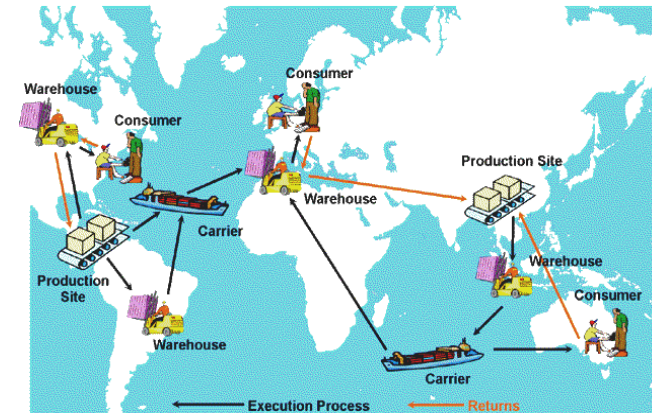
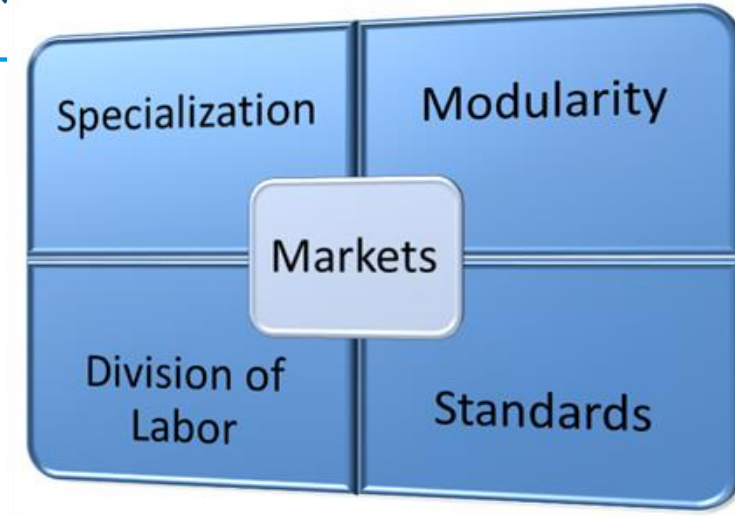
❑ **GVC/GIN=Global innovation Networks**

❑ **Industry 4.0/4IR**

❑ *GVC mediated trade accounts for around 70 - 80% trade in tasks*

❑ *GIN: leveraging distributed knowledge base*

❑ *Industry 4.0 causing structural changes in GVCs and GINs, triggering new wave of DoL and reinforcing technological progress*



Industry 4.0

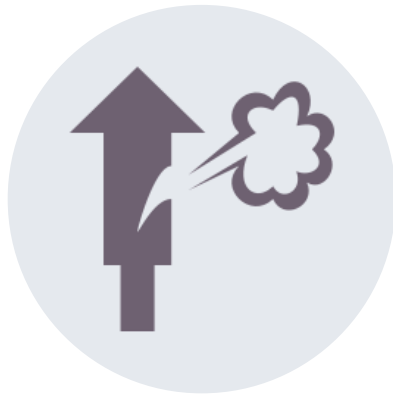
Opportunities and Challenges of the New Industrial Revolution for Developing Countries and Economies in Transition

Panel discussion

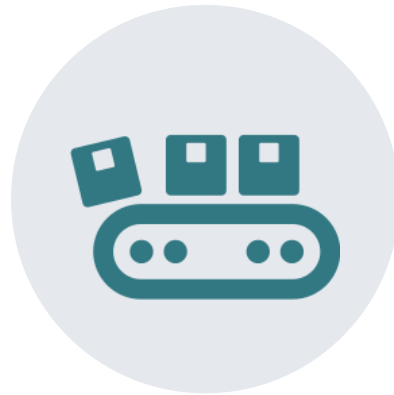
Digital trade platform for trade Facilitation
Global impact investment: for SDGs



Industrial Revolutions



18TH CENTURY
MECHANIZATION
Steam and Water
Power



19TH CENTURY
MASS PRODUCTION
Electrical power
Conveyor belt



20TH CENTURY
ELECTRONIC
AUTOMATION
Computer; NC; PLC



TODAY
SMART AUTOMATION
CYBER PHYSICAL SYSTEMS
Internet of Things
CYBER-PHYSICAL SYSTEMS

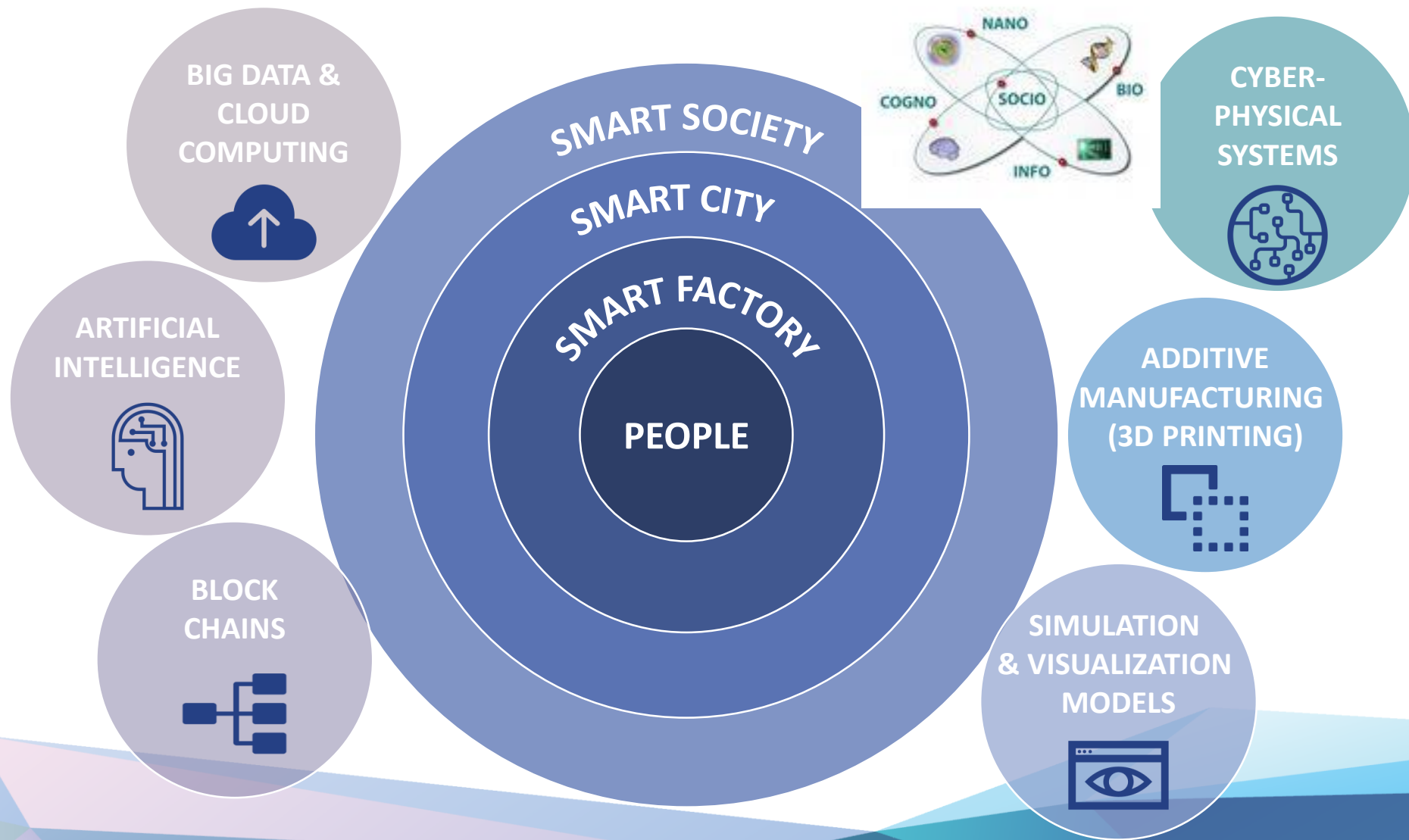
Economies of Scale

Economies of Scope

Individual Production



Drivers of new industrial revolution





Everything gets smart

Smart phones

Smart Homes

Smart Cars

Smart Factories

Market
Pull

Technology
Push





Opportunities and challenges of Industry 4.0



Increasing competitiveness





Industry 4.0 and structural change

- ❑ *New wave of DoL and reinforcing technological progress in GVCs and GINs*
- ❑ *Structural adjustments needed at the national and international level to address various gaps in:*
 - *Infrastructure*
 - *Technology and knowledge*
 - *Skills*
 - *Institutions*
 - *Governance*
 - *Government capabilities*
 - *Digital business ecosystems*
 - *National and regional systems of innovation*



Opportunities for SMEs:

Digital platforms

- E-commerce
- Digital free trade zones

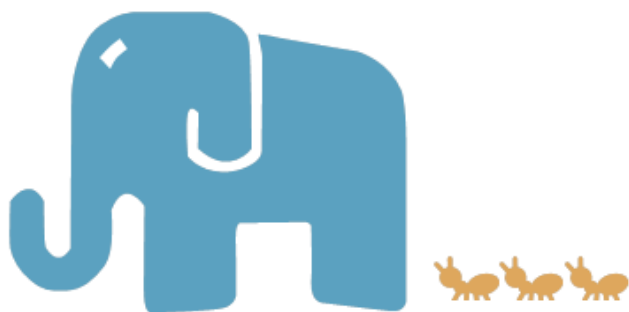


Facilitating:

- ✓ **Access global market directly avoiding middleman**
- ✓ **Better access to information and cross-border investment.**
- ✓ **Innovation and learning through GVC/GINs**

Digital economy for inclusiveness and collective efficiency

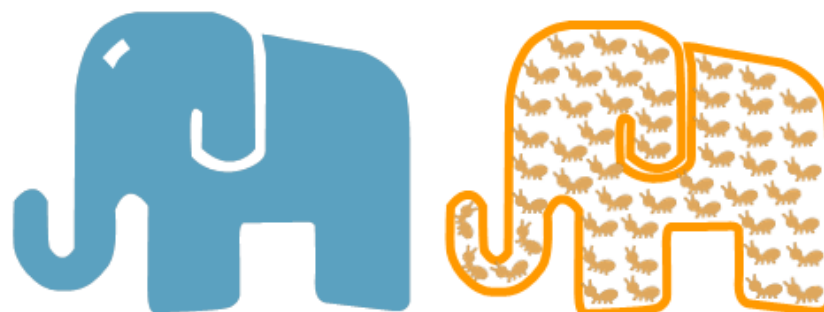
Industry 4.0 for large companies vs for MSMEs



Large company

MSME

MSMEs, empowered by platforms, speed up globalization and leapfrog



Large company

MSMEs

- SMEs can internationalize and become micro multinationals
- Plugging into GVC/GIN even from remote areas



Challenges for SMEs

- Lack of I4.0 skills (STEM)
- Lack of access to modern ICT infrastructure (broadband internet, reliable wireless connections, 5G, and other modern ICT infrastructure)
- Lack of supportive business environment to support continuous innovation and learning



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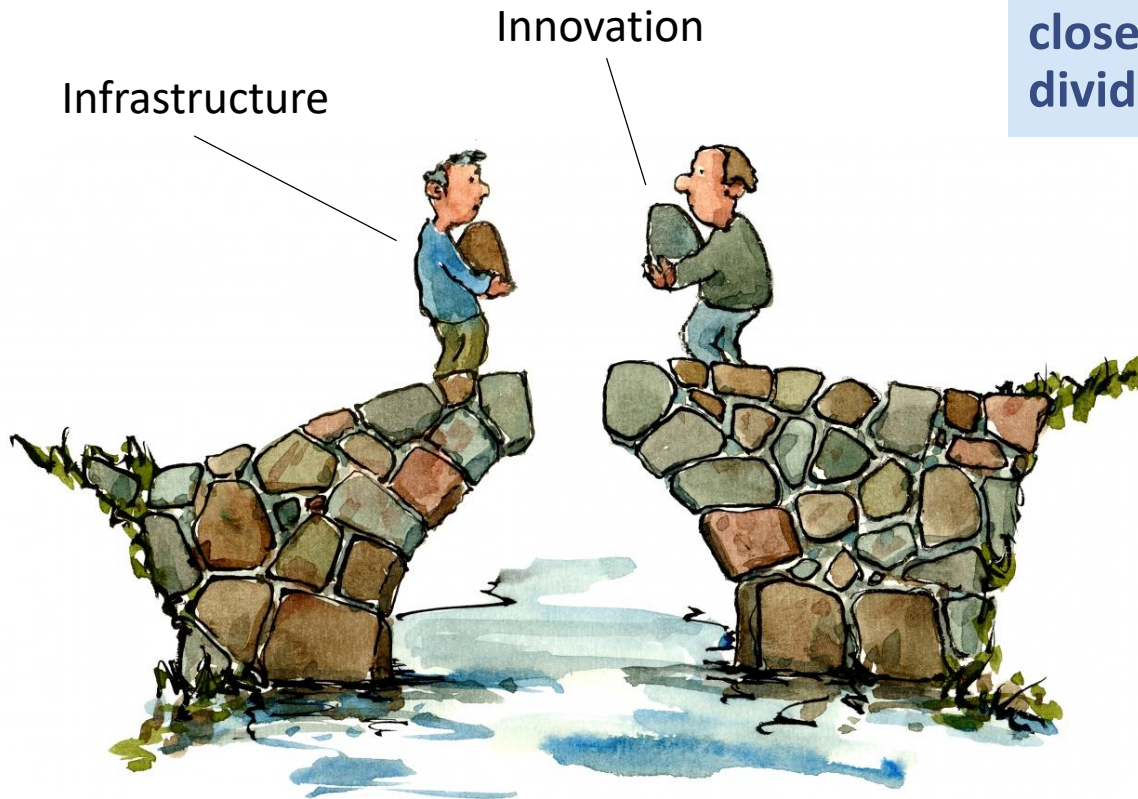


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INDUSTRY, INNOVATION AND INFRASTRUCTURE

Bridging the Gap

Empowering SMEs to innovate in digital economy

Innovation and infrastructure to close the technology gap and digital divide.

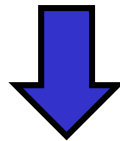




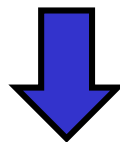
Country response: Special industrial policy instruments

In the I4.0 setting of mass customization:

Countries compete based on their local assets, history, culture, talent pool and interactive learning processes by SMEs/clusters, in collaboration with business development service providers



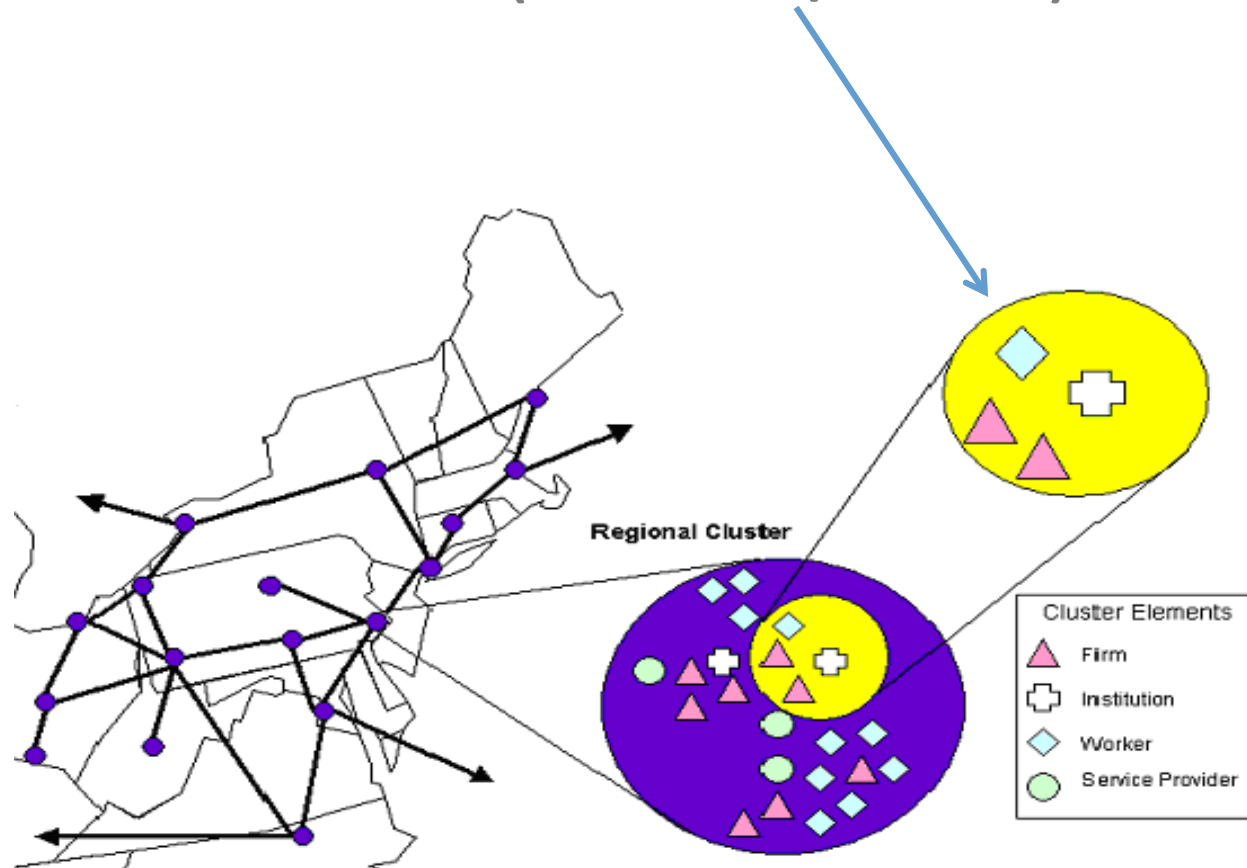
New generation of industrial parks/zones/ regional innovation system (RIS) as organizational structures with potential to mobilize local assets and SMEs for achieving innovation-driven growth



Smart specialization models for diversification

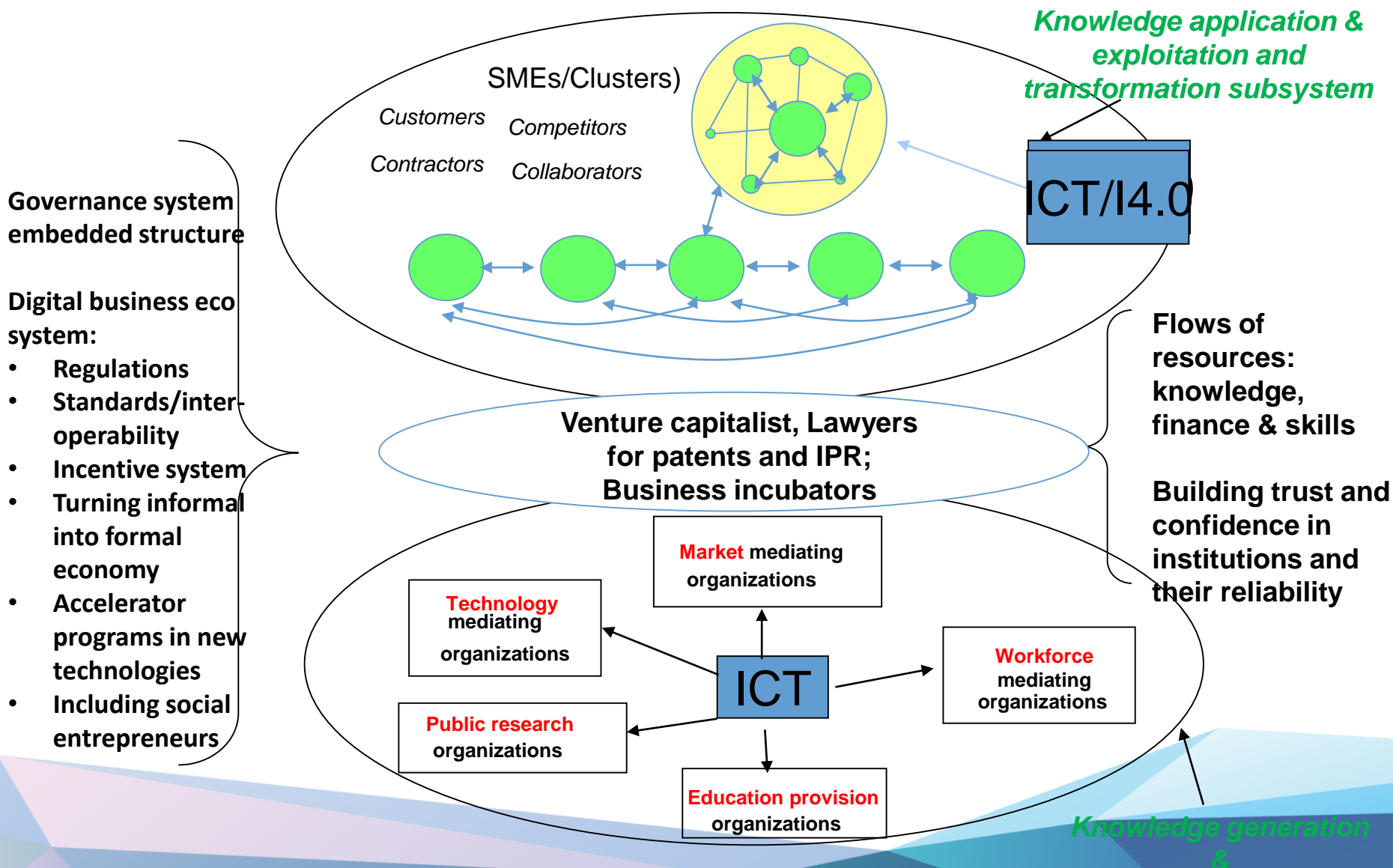
Parks, clusters and regional innovation systems

Industrial park may host one or more clusters
(horizontal / vertical).





Building regional innovation systems and clusters





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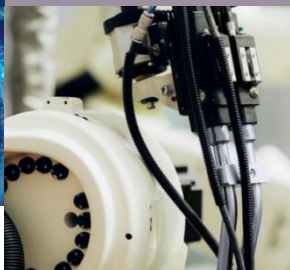
UNIDO holistic approach

Enhancing economic competitiveness: UNIDO holistic approach

Improving
Business
Environment



Industrial
Modernization
& SME
Clustering



Mobilizing
Responsible
Investment &
frontier
technologies



Boosting
Innovation



Promoting
Quality &
Standards



Facilitating
Trade





UNIDO's flagship programmes

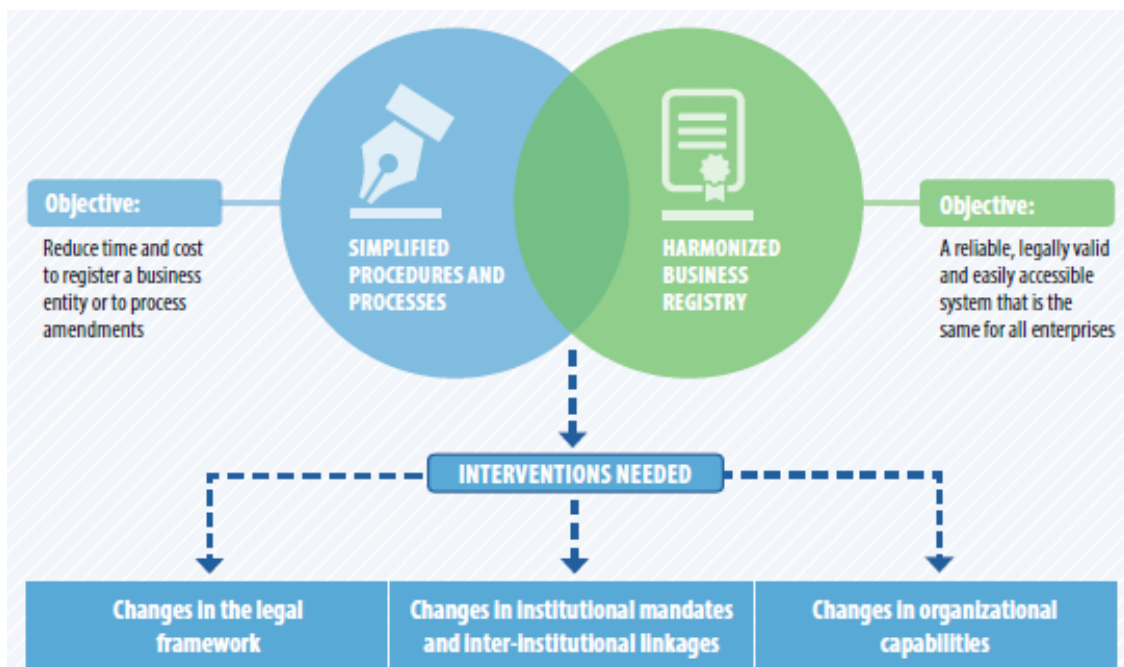
Improving Business Environment

Business registration and single point of registration

- Capacity building of governments on business environment reforms (legal, institutional, and regulatory conditions; institutional arrangements)
- Advisory services on quality and investment policies; quality infrastructure development; technology uptake



Strategies to formalize MSMEs - business registration



The importance of business registration for inclusive and sustainable growth

- Simplification of procedures /regulations
- Incentives pragmas
- BE refor

Benefits:

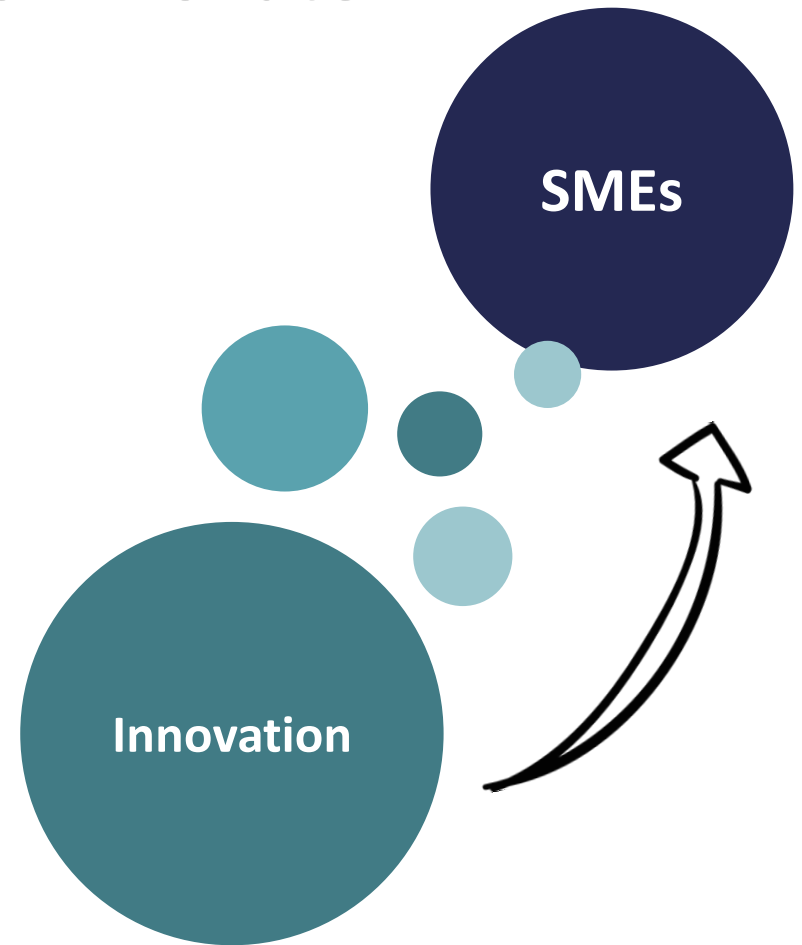
- provides certainty of who is lawfully representing a business, and is essential for the legal validity of contracts, thus reducing the risks and costs of business partnerships
- provides proof of formal establishment as precondition for accessing business support incentives, for participating in calls for offers and participating in cross-border trade
- facilitates the protection of the rights of workers; provides the basis for tax collecting and broadening the tax base; is important for statistical purposes and source of information for other fields, such as social security, land registries



Empower SMEs/MSMEs to innovate

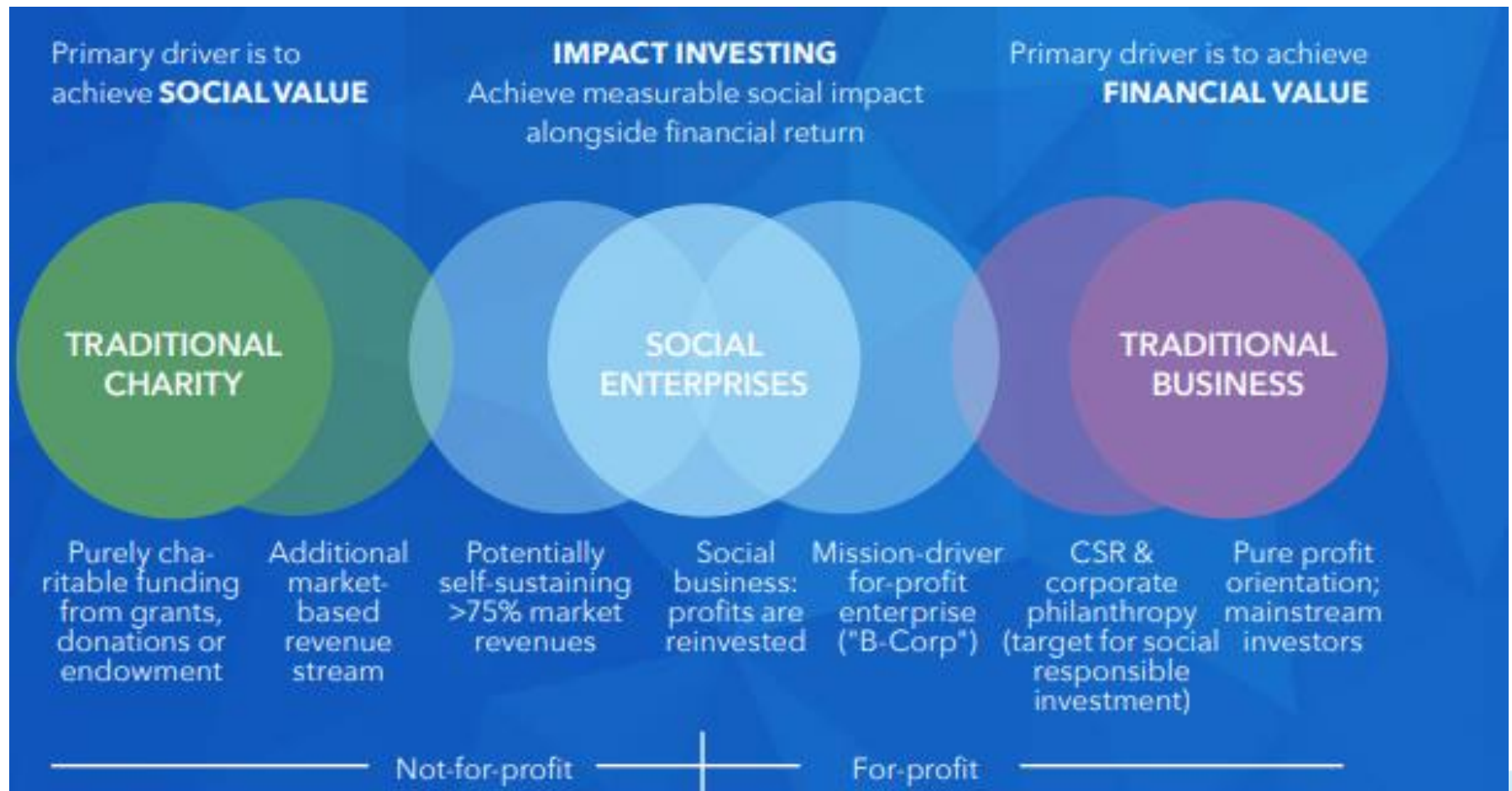
UNIDO guide for innovation management systems in MSMEs

- Based on the **standard ISO 50501: Innovation Management System (IMS)**, which is to be published during the second half of 2018





Business environment for the 4th Sector



Source: adapted from EVPA, 2010.



Business environment for social enterprises – UNIDO support

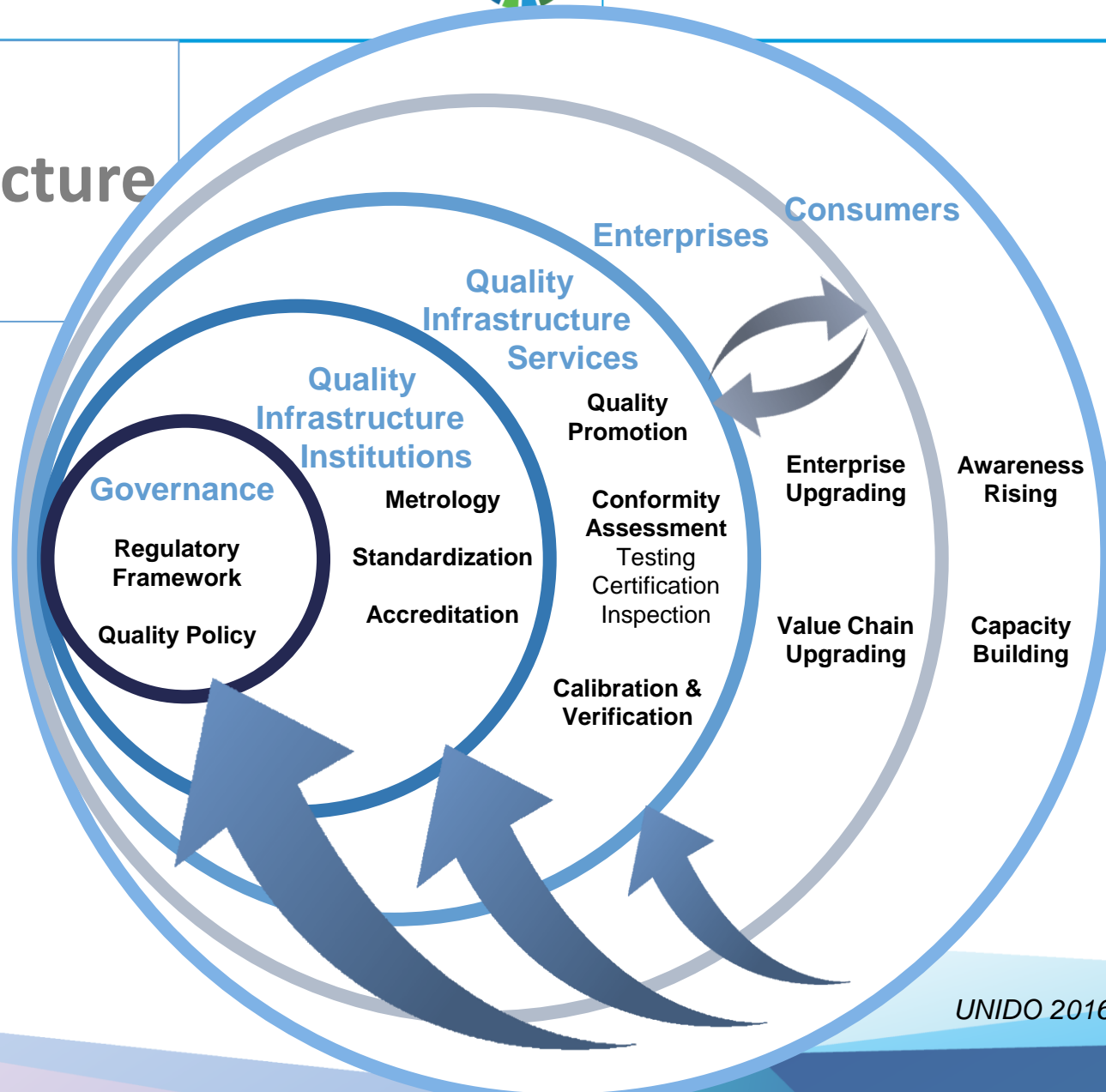
- Mapping SE
- BE **reforms** for SE
- Strengthen **business membership organizations (BMOs)** to effectively communicate the concerns of social businesses to policymakers
- Enable **public-private dialogue**
- Linkages with impact investment
- Provision of entrepreneurship training and mentoring programmes



Strengthening Quality Infrastructure Systems

**Systemic
approach**

**in line with
private
sector needs**





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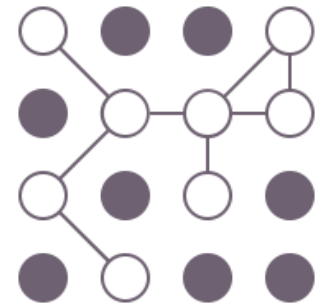
○ *UNIDO ITPO Network*: Promotion of investment and technology transfer





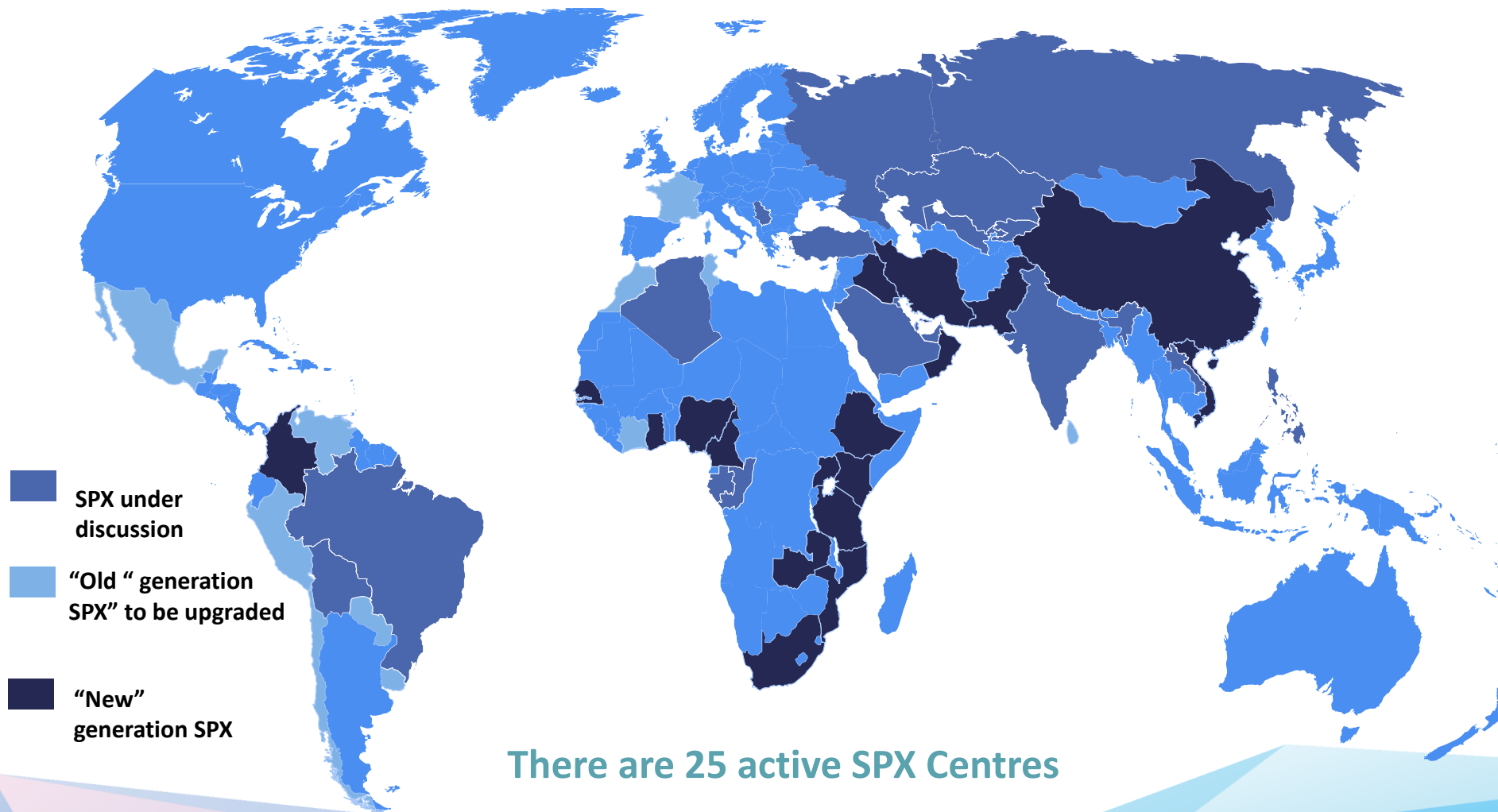
Networking: UNIDO SPX Centres

- **Subcontracting and Partnership Exchanges (SPXs)**
- **Linking large investors to local suppliers**
- **> than 20 SPX Centres worldwide are currently operational**
- SPX toolkit comprises a **profiling methodology**, a benchmarking **methodology** and an **SPX Management Information System (MIS)**
- The SPX database currently comprises around **7,000 firm** profiles and around 500 firm benchmarks



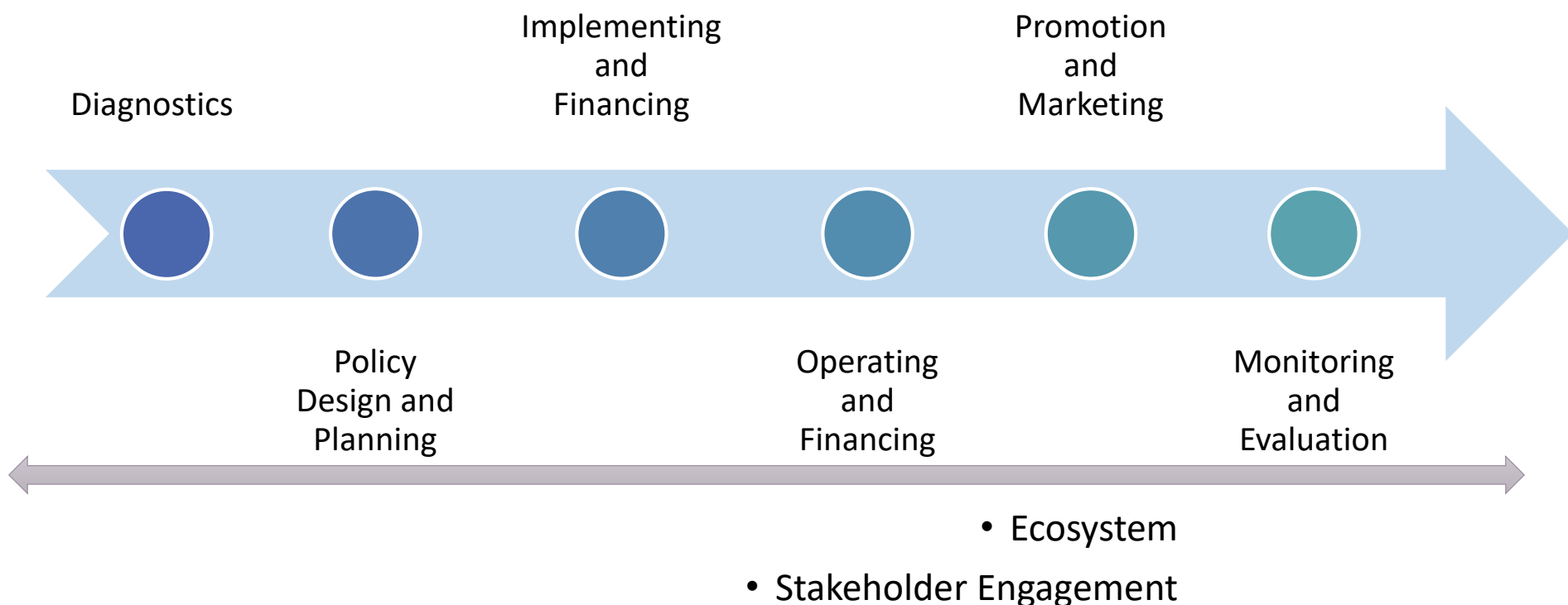


SPX Network



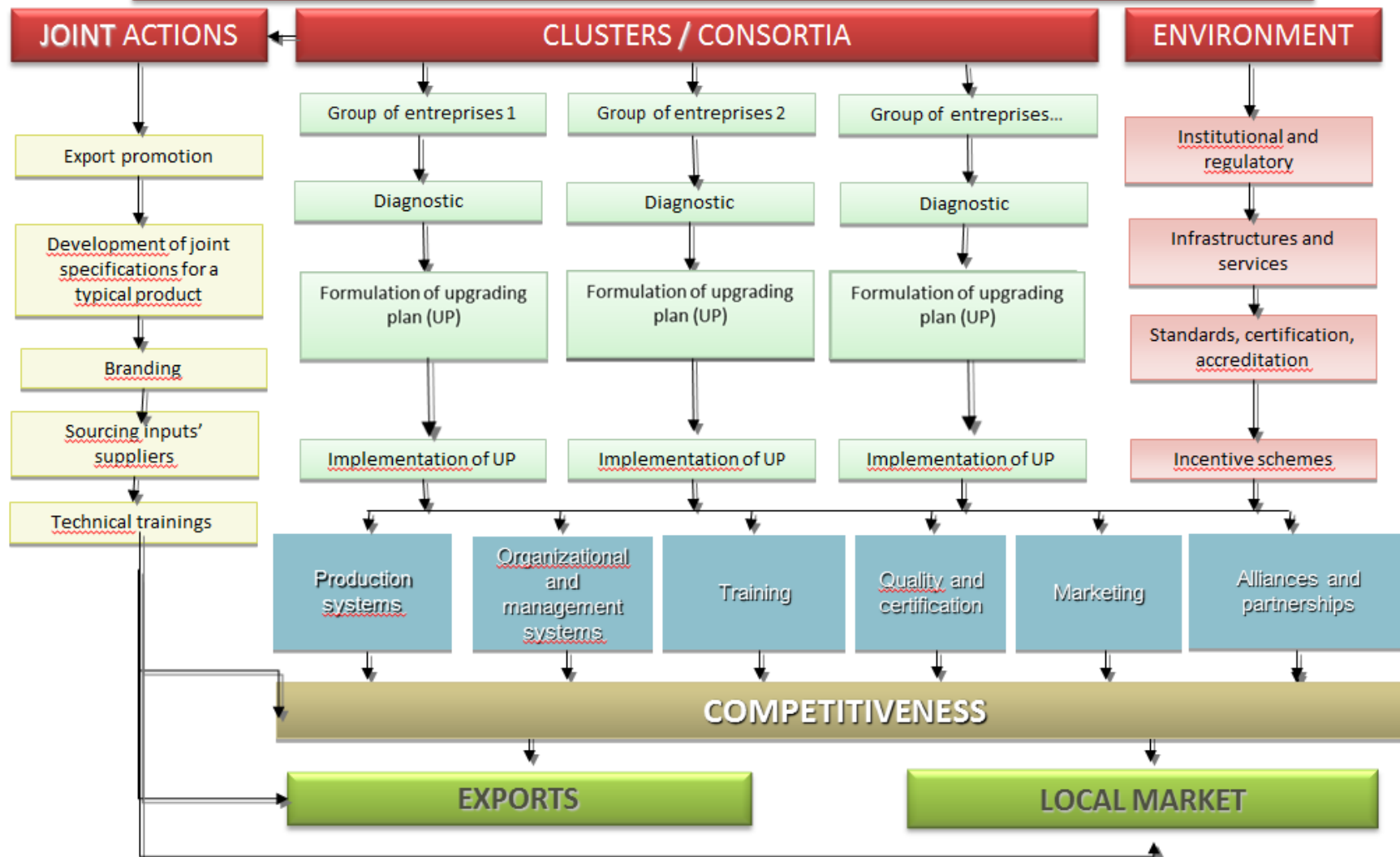


Development of smart industrial parks/zones/cities/areas of innovation



References: UNIDO, World Bank, US Aid, OECD, FEMOZA material

UPGRADING THROUGH CLUSTER AND SME CONSORTIA





Industry 4.0 Programme

- Digital knowledge platform on technology solutions for industrial sectors; smart cities; new innovative business models; best practices
- Policy advice on mainstreaming national and regional systems of innovation
- Support for STI strategies and policies
- Standards and interoperability in Industry 4.0
- Training and skills building
- Convening for awareness building



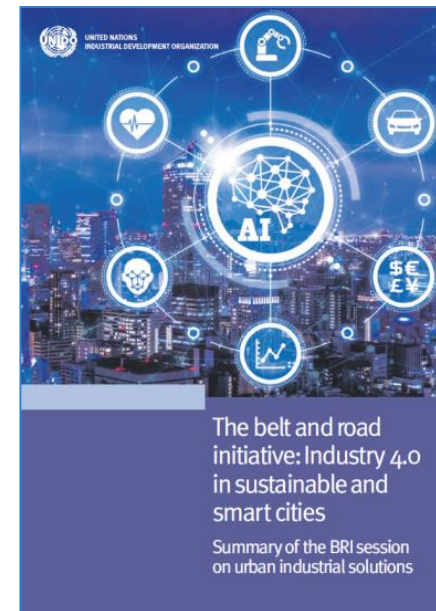
Industry 4.0

Knowledge platforms

Technical cooperation projects on I4.0 technology uptake

Digital business ecosystem building

Partnership building for start up programmes





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THANK YOU.



TRADE
INVESTMENT
INNOVATION