



2022 Sustainable Development Transformation **FORUM**

Accelerating the recovery from the COVID-19 pandemic and the full implementation of the 2030 Agenda for Sustainable Development at all levels



25 – 28 October 2022 | Incheon City, Republic of Korea



Department of
Economic and
Social Affairs



UNOSD
UNITED NATIONS OFFICE FOR
SUSTAINABLE DEVELOPMENT



Ministry of Environment



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FOUNDATION



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25-28 October 2022, Incheon, Korea

Penal on
***“SDG 9 – Resilient Infrastructure, Inclusive
and Sustainable Industrialization, and
Innovation”***

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My Focus

**“Forth Industrial Revolution (4IR):
Pathway to Achieve Inclusive and
Sustained industrialisation in the
LDCs?”**

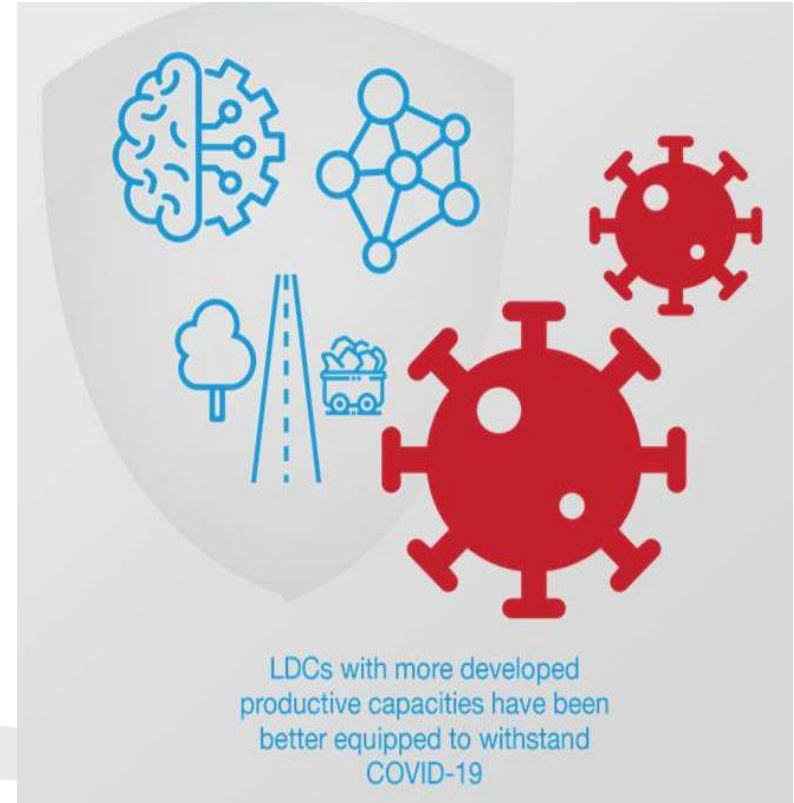
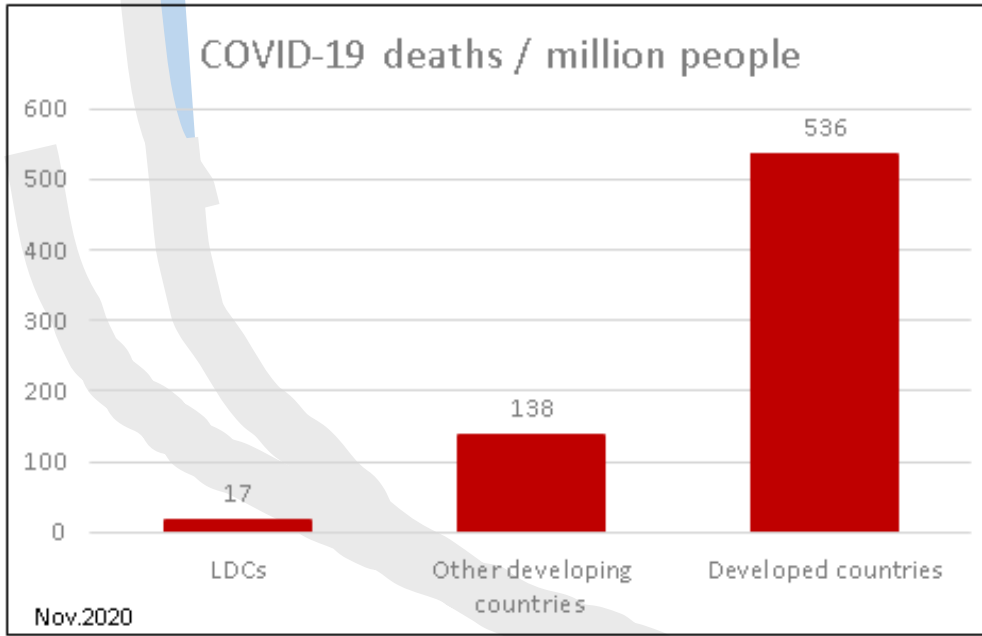
Framing



- ❑ The key SDG principle of “Leaving No One Behind” also applies at the higher aggregate level, such as countries
- ❑ Sustainable economy of scale (i.e., industrialisation) is a necessary first step toward achieving the 2030 Agenda
- ❑ Critical role of “productive capacities” in the improved efficiency and effectiveness (higher performance standard) and implementation of SDGs and
- ❑ State of the art of technologies, including advanced digital production (ADP), should be mobilised for the LDCs to support provision of new products, services and circularity and to create new values
- ❑ A comprehensive re-configuration of the productive ecosystem in the LDCs necessary

Why LDCs?

(2021, 1.08 billion pop, 1,770 USD per capita, unemployment rate 5.6%, Souce: WB Data)



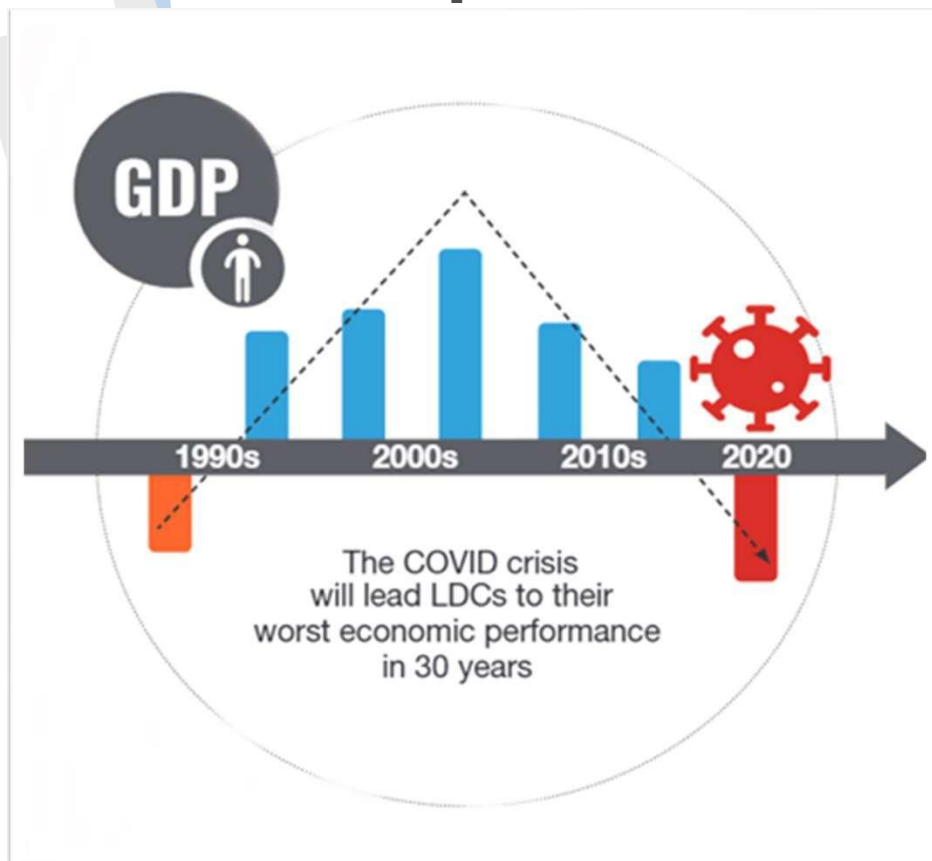
Health impact of the COVID-19 pandemic on LDCs has been less serious

(Source: UNCTAD LDCR 2020)

- Senegal - rapid / cheap COVID-19 testing kit
- Bangladesh - PPE production

Why LDCs? (2)

- ❑ Severe economic & social impacts



(Source: UNCTAD LDCR 2020)

- ❑ 377 million people (2020)



- ❑ >4 years of progress being erased (2022)

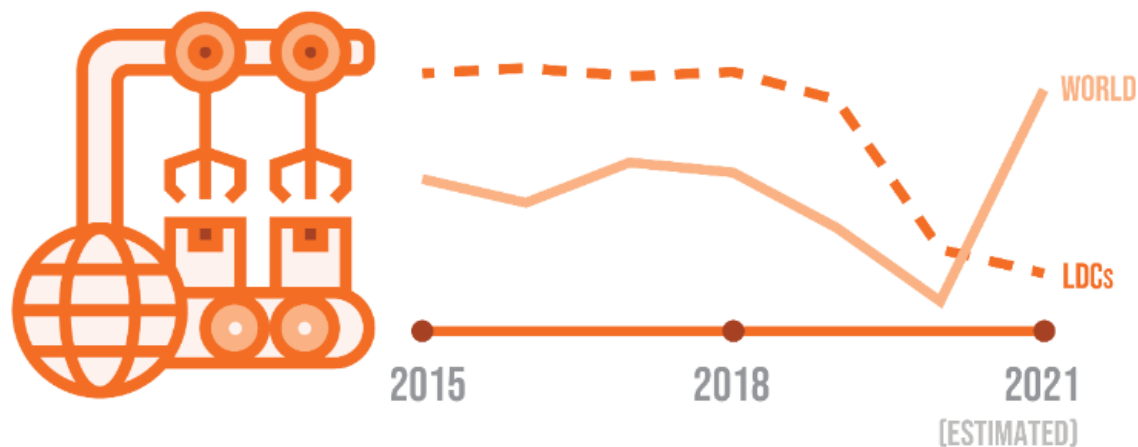
De-industrialisation?

GLOBAL MANUFACTURING

HAS REBOUNDED FROM THE PANDEMIC

BUT LDCs ARE LEFT BEHIND

MANUFACTURING GROWTH



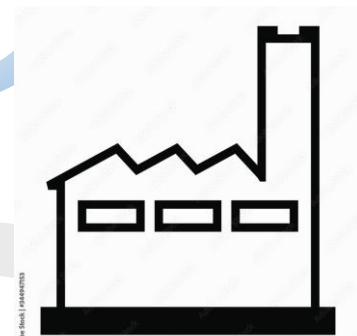
(Source: The SDR 2022,
<https://sdgs.un.org/goals/goal9>)

Strengthening of Productive Capacities in the LDCs: An Imperative



- ❑ **What are productive capacities?**
 - ❖ Productive resources (including human)
 - ❖ Entrepreneurial capabilities
 - ❖ Production linkages (supply and value chains)

- ❑ **Different stages of capacities & economy**
 - ❖ Factor driven
 - ❖ Efficiency driven
 - ❖ Innovation driven

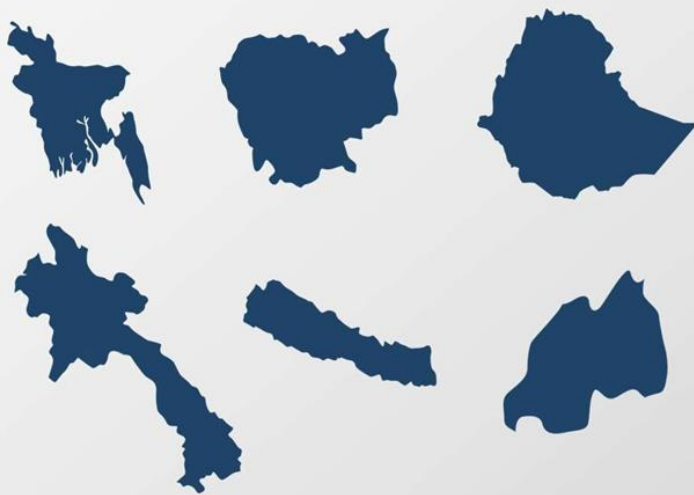


<https://stock.adobe.com/>

Success Story

□ Since 2000 a few LDC countries have managed their economic transformation successfully.

e.g. Bangladesh, Cambodia, Ethiopia, Myanmar, Lao PDR, Nepal, Rwanda



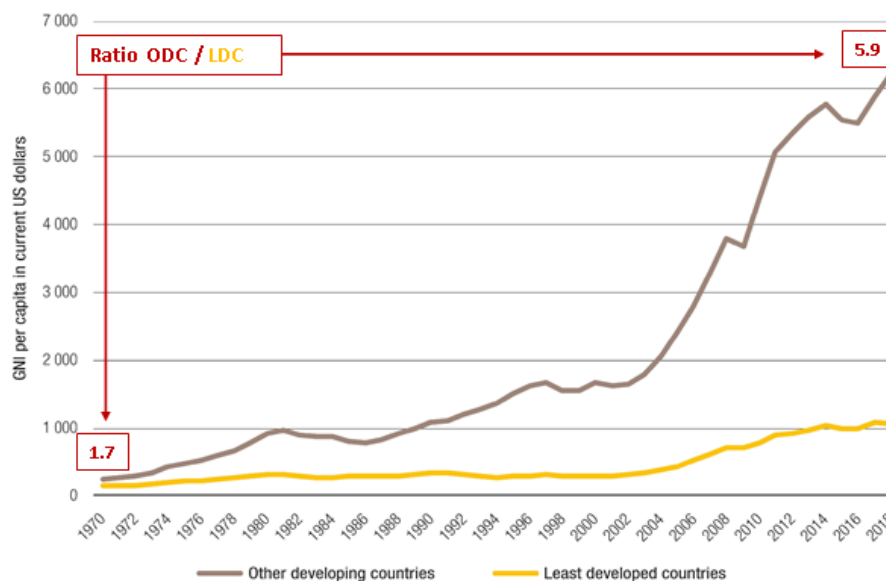
- ↗ industry
- ↗ modern service sectors
- ↗ ↗ labour productivity



Most of LDCs..

- ❑ Low productivity sectors predominate, such as traditional agriculture and traditional services. In turn, they
 - ❖ hold down the standard of living (UNCTAD, 2020 LDCR)
 - ❖ Constrain the country's financial capacity to engage in the SDG transition

GNI per capita gap of least developed countries in comparison to other developing countries, average in current US dollars



(Source: UNCTAD LDCR 2020)

4IR contributes to Target 9.2



- **Target 9.2**, Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

4IR and ADP



- ❑ **Fourth Industrial Revolution (4IR) = digital transformation of the value creation processes of agricultural production, manufacturing and services at different levels.**
- ❑ **ADP technologies are at the core of smart factories and new production ecosystems that combine hardware (3D printing, robotics, drone), software (AI, ML, data analytics) and connectivity (IOT, cloud computing) in addition to energy generation and storage.**

International Consensus for Rapid Adoption



- ❑ 2019 **Abu Dhabi Declaration** adopted at the 18th General Conference of UNIDO
- ❑ “New technologies associated with 4IR, with both transformative and disruptive potential, offer great opportunities **to advance inclusive economic growth, reduce inequality and contribute to Sustainable Development**, resilience and human well-being, to address climate change and safeguard the environment in the framework of a circular economy as one of the means to achieve sustainable development” (Clause 11).

Digital Technologies as Potential Accelerators?



- ❑ Digital technologies could make it possible for LDCs to leapfrog development stages by shortening the learning curve. Some examples in Tanzania (drones and medicine), Tanzania (ICT for drug store inventory management)
- ❑ Policy challenge: Prioritising SDG 9 that will increase production capacities and productivity gains while support social and environmental objectives

Digital Technologies as Potential Accelerators? -2



Digital technologies will strongly influence the development of future productive capacities



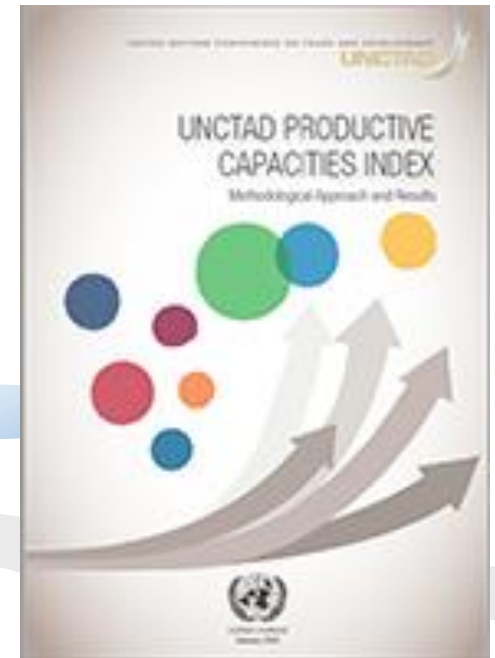
By an large, LDC's hopes to leapfrog did not happen – mobile use increased, but producers' (firms and farms) adoption of ADTs "insipient"

(Source: Rolf Traeger, 2021, Launching of LDCR)

PCI



- UNCTAD has developed a Productive Capacity Index (PCI, <https://unctad.org/topic/least-developed-countries/productive-capacities-index>) - first comprehensive attempt to measure productive capacities **in all economies** and construct a multidimensional index that can provide country-specific insights and diagnostics of productive capacity development.



Weaknesses of PC in LDCs (UNCTAD, 2020 LDCR, based on PCI)



Policy Dilemmas



Incremental transformation vs Discontinuous transformation?

Push for digitalisation – winners and losers?

Youth engagement and participation – STEM + Entrepreneurial capacities versus older workforce

S&T poverty (availability, access, human capital, demands) vs other societal needs



(Forbes
Sep 19, 2013,
11:07am EDT)

Good Practices

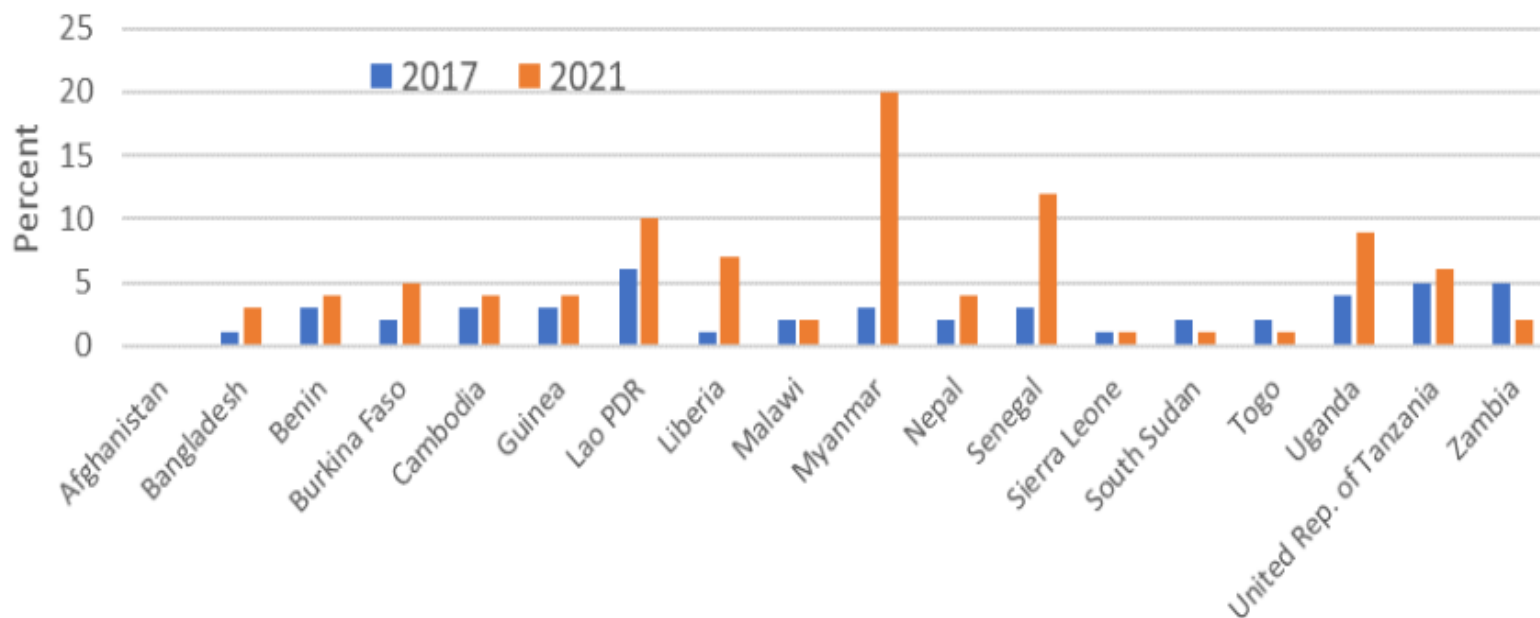


- ❑ Cape Verde – youth skill development coupled with mentoring and business incubation in digital economy
- ❑ Business facilitation – M-PESA, non bank banking service
- ❑ Innovative business models & cooperative platforms
- ❑ Targeting women and girls



E-commerce and Supply Side of the Trade

Figure 1: Share of people aged 15+ who used a mobile phone or the internet to buy something online, selected LDCs, 2017 and 2021



<https://www.un.org/technologybank/news/ldc-insight-4-strengthening-digital-capacities-least-developed-countries-even-more-urgent-post>

Partnerships for Technology Transfer



- ❑ **Target 17.6**, Enhance North-South, South-South and triangular regional and international cooperation on **access to science, technology and innovation and enhance knowledge sharing** on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a **global technology facilitation mechanism**
- ❑ **Target 17.8**, Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

Partnerships for Technology Transfer



- ❑ **Target 17.16**, Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries
- ❑ The elephant in the room, “IPRs” and the role of World Intellectual Property Organisation (WIPO)

4IR contributes to Target 9.2



- **Target 9.2**, Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries



UNIDO 4IR THEORY OF CHANGE 2022-2030

SUSTAINABLE DEVELOPMENT GOALS



MAKING THE 4IR WORK FOR ALL

UNIDO EXPERTISE

4IR INTERVENTION FOR POST-COVID RECOVERY

Mainstream approach

WOMEN, YOUTH, ELDERLY CITIZENS AND LEAVE NO ONE BEHIND

Contextual Intervention

LDCs, MICs, SIDS, SSTIC, ECONOMIC TRANSITION & REGIONAL DIFFERENCES

Interconnected focus areas

SMART MANUFACTURING
Resilient Manufacturing, Mining, Mobility

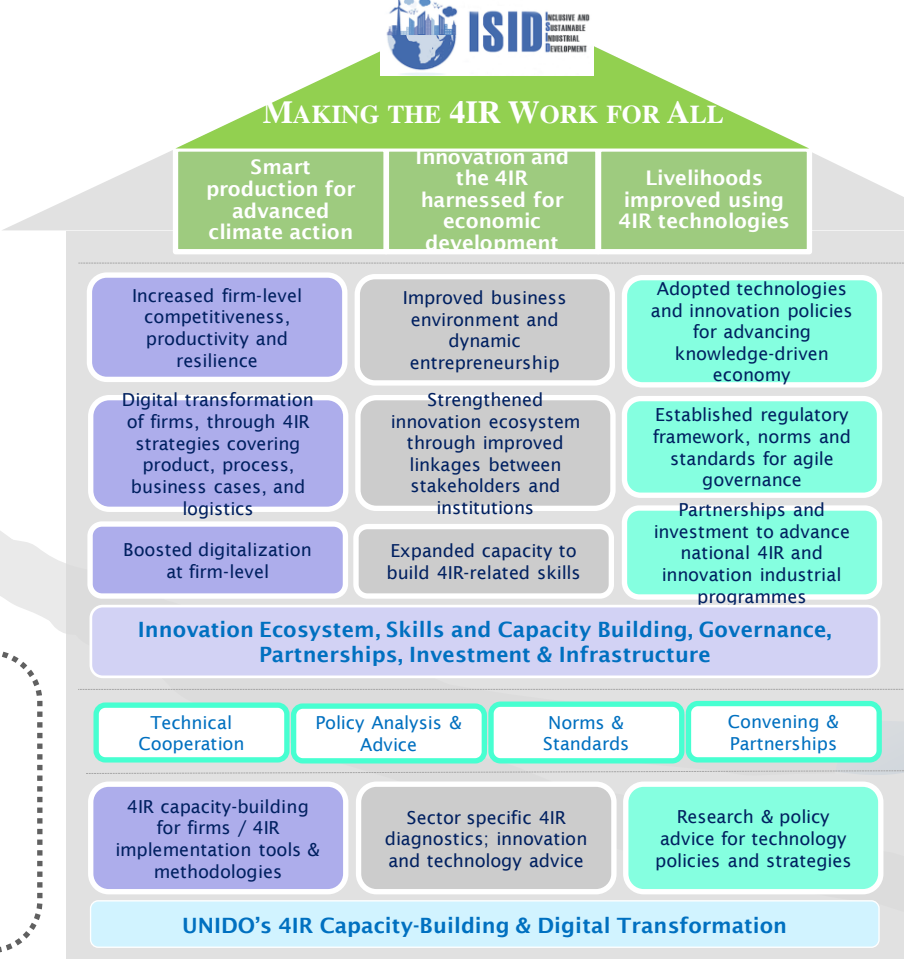
SMART CLIMATE & CIRCULAR ECONOMY
Environmental Technologies

SMART ENERGY
Energy Efficient Technologies

SMART AGRI-FOOD
Sustainable Agribusiness

4IR Strategy 2022-2030: Results

- = RESULT 0. (UNIDO) Internal capacity on technologies and digital transformation are strengthened
- = RESULT 1. (MICRO) Innovative, inclusive and sustainable businesses through technologies
- = RESULT 2. (MESO) Technology and innovation industrial ecosystems strengthened
- = RESULT 3. (MACRO) Capacity to design innovation policies incorporating tech. enhanced



Impact dimensions
We influence indirectly

Outcomes
We influence directly
(Sequential progress where MICRO, MESO and MACRO are combined depending of the Member State context)

Outputs
UNIDO delivers

Inputs
UNIDO provides

EXTERNAL FACTORS

Global political and financial commitment for the 2030 Agenda and SDGs

Macroeconomic and regulatory stability

Stakeholders engagement in 4IR strategies and policies

Access to basic levels of 4IR infrastructure

Access to basic skills and education

Member States and donors are supportive of 4IR programmatic approach across functions

