



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



SUSTAINABLE DEVELOPMENT GOAL 9
INDUSTRY, INNOVATION AND INFRASTRUCTURE

Industrial innovation and the achievement of the Sustainable Development Goals



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European Conference on Corporate R&D and Innovation (CONCORDi), 2019
September 26th, 2019



Agenda

- Industrial innovation, industrial development and the achievement of the SDGs:
 - From MDG's to SDG's: a cumulative learning process
 - Innovation delivering win-win-win solutions
 - Where do tensions lie?
- Addressing the tensions:
 - A call to further collective action

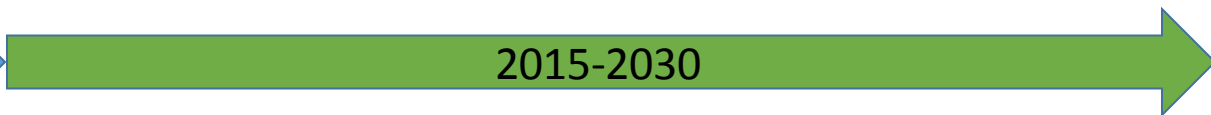
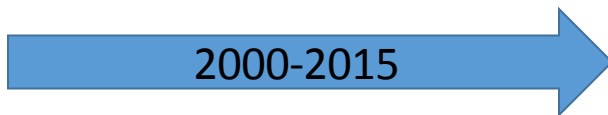




From MDG's to SDG's:

 1 ERADICATE EXTREME POVERTY AND HUNGER	 2 ACHIEVE UNIVERSAL PRIMARY EDUCATION
 3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN	 4 REDUCE CHILD MORTALITY
 5 IMPROVE MATERNAL HEALTH	 6 COMBAT HIV / AIDS, MALARIA AND OTHER DISEASES
 7 ENSURE ENVIRONMENTAL SUSTAINABILITY	 8 GLOBAL PARTNERSHIP FOR DEVELOPMENT

 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





Industrial innovation and the SDGs

- Industrial innovation and industrial development are powerful drivers of economic diversification and value addition, economic growth and sustainable development (United Nations, 2015).
- Science, technology and innovation: One of seven action areas to move forward the implementation of the ambitious post-2015 development agenda (United Nations. 2015).

“Innovation is of importance not only for increasing the wealth of nations in the narrow sense of increased prosperity, but also in the more fundamental sense of enabling people to do things which have never been done before. It enables the whole quality of life to be changed for better or for worse. It can mean not merely more of the same goods but a pattern of goods and services which has not previously existed, except in the imagination.” (Freeman and Soete, 1997)

Where do tensions lie?

1. Opportunities and the capabilities required to undertake innovation remain unevenly distributed across and within regions and countries.

- They are in scant supply where they are most in need
- Need to improve conditions for a more even distribution of capabilities across the world, to accelerate such change and to make it sustainable.

Fourth Industrial Revolution

- Concentration of intellectual property rights associated with core technologies in very few countries and firms
- Innovation \implies monopolistic power
- Great heterogeneity in the adoption of different generations of digital technologies across and within countries
- Digitalization: persistent binding constraint for advanced manufacturing

Where do tensions lie?

2. The traditional nature and trajectory of innovation.

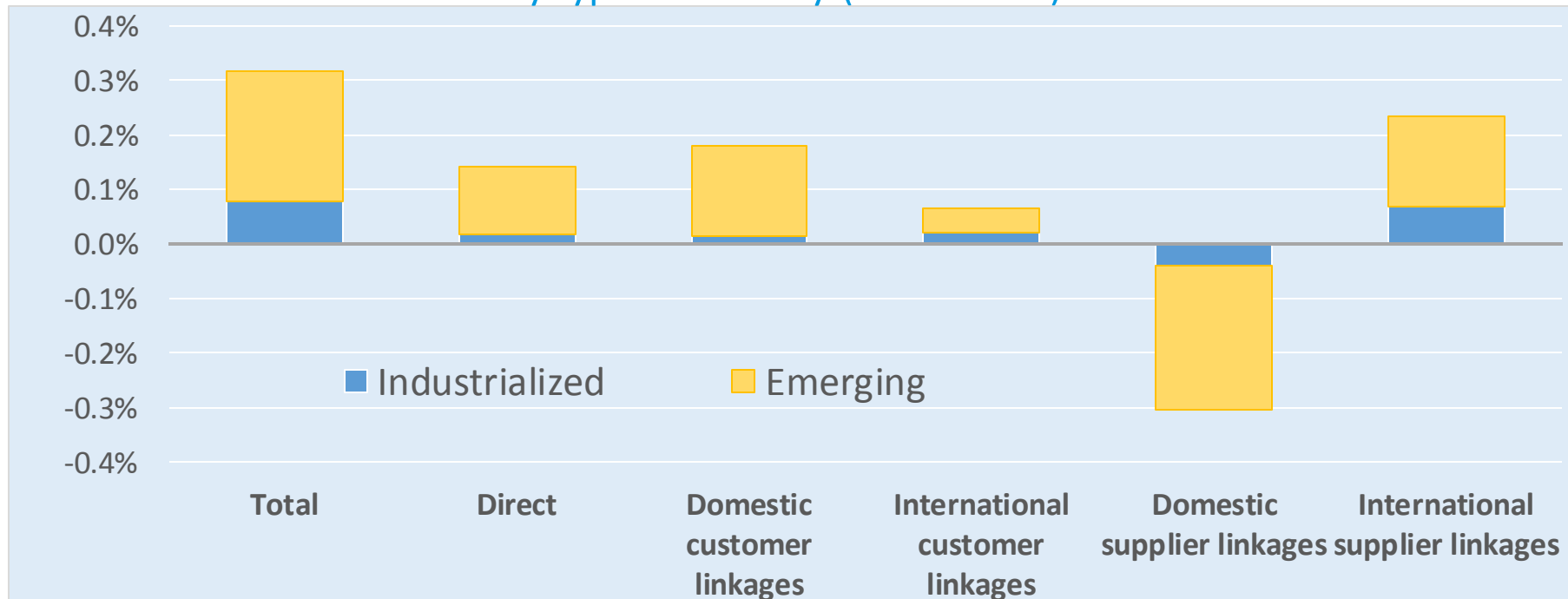
- Market forces: Innovations go to profitable ends, not necessarily to satisfy social needs
- Innovation policies:
 - ❑ Privilege technological content, high rates of return or impacts on value addition and competitiveness
 - ❑ Downplay innovations that address the needs of the poor, or that pursue largely non-economic targets

“Reaching advanced levels of inclusive and sustainable industrial development requires not only increasing incomes but also conscious efforts to sustain growth, promote social inclusiveness and move towards greener structural transformation—as well as managing the trade-offs between them.” UNIDO (2016:1)

Where do tensions lie?

3. Between productivity growth associated with rapid upgrading linked to industrial innovation and demand for labour.

Growth of jobs due to global increase in the stock of industrial robots, by type of country (2000-2014)



Source: IDR2020 (Forthcoming) UNIDO

Where do tensions lie?

Addressing employment issues linked to the 4IR:

- Foster readiness of domestic agents, notably workers and firms.
 - ❑ Assist in offsetting risks, and help to capture opportunities by creating space for new businesses, jobs and markets.
 - ❑ Support development of diagnostics, toolkits and other methodologies to assess readiness
 - ❑ Identify country, industry, firm profiles with potential to participate in and benefit from current industrial innovation.
- Learn from pilot initiatives, including through international collaboration and knowledge sharing.



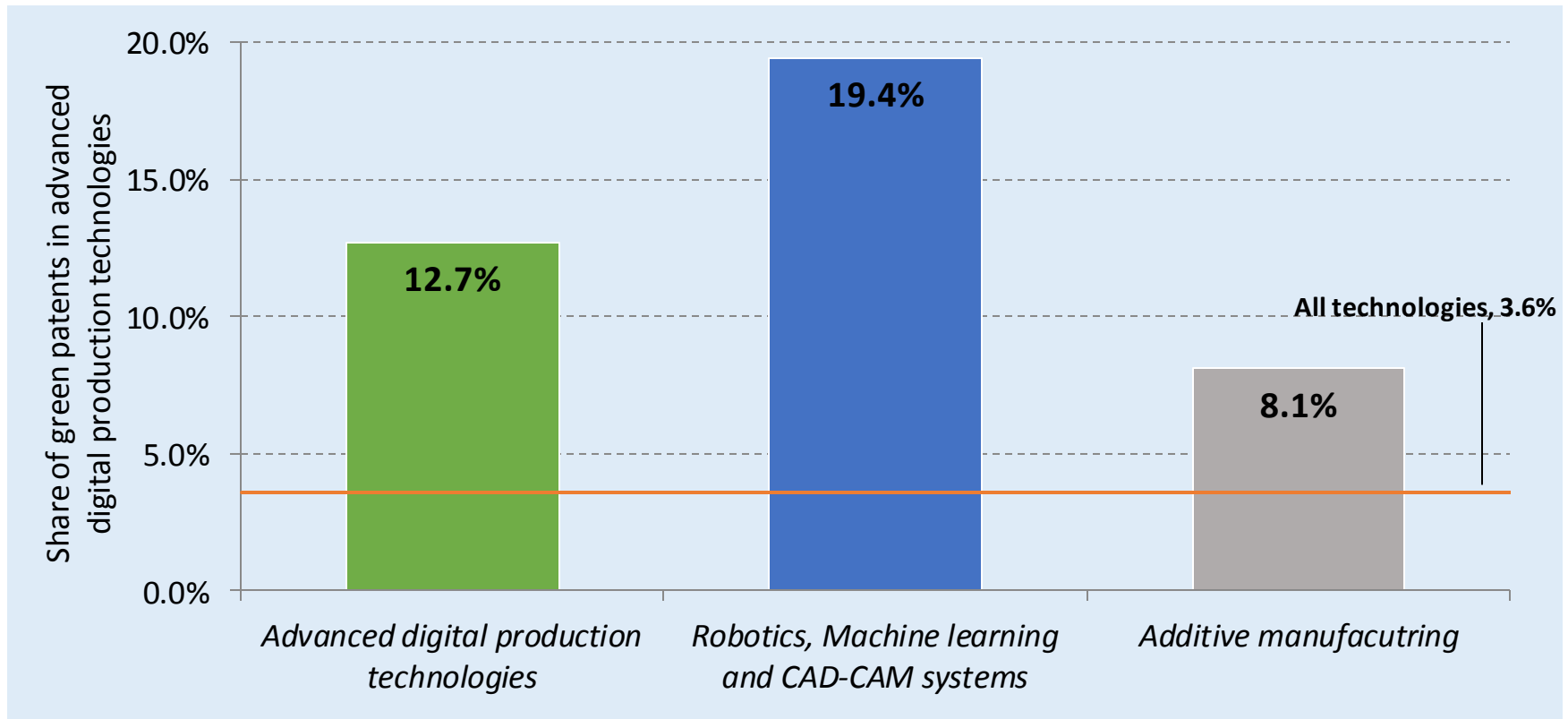
Where do tensions lie?

4. Between sustained growth and environmental sustainability.

- Disappointing balance between technological advance, industrialization and growth, and long-term environmental sustainability
- Industrialization, particularly at middle-income levels, still linked to a tendency to pollute (UNIDO 2016)
- While eco-innovation can help, market dynamics still a major barrier
- Improving the environmental sustainability of industrial activities may require adopting technologies where economic viability may not be the main decisive factor (UNIDO 2016)

Where do tensions lie?

Advanced digital production technologies have potentially positive impacts on environmental sustainability.



Source: IDR2020 (Forthcoming) UNIDO

Managing tensions: A call for enhanced international collaboration

- SDG17 prescribes collective action for the achievement of the SDGs
- UN System-wide initiatives:
 - UN Technology Facilitation Mechanisms (UN-TFM) and its different Inter-Agency Task Teams (IATTs)
 - ❑ Capacity building and knowledge sharing: Incorporate SDGs thinking in national science, technology and innovation strategies
 - ❑ But also in industrial policies and industrialization strategies
 - ❑ Identify appropriate incentives and capabilities
 - ❑ Strengthen national and international policy environments and regulatory frameworks



Thank you!

