



## SDG 9: Industry, Innovation & Infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation



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### An Overview

Infrastructure – transport, irrigation, energy and information and communication technology – are crucial to achieving sustainable development and empowering communities. It is a source of income generation (SDG 1 & SDG 8), allows for rapid and sustained improvements in living standards (SDG 3), can increase connections between people (SDG 11) and provides the technological solutions to environmentally sound industrialisation (SDG 13,14 &15).

Manufacturing is an important driver of economic development and employment. . Every job in manufacturing creates 2.2 jobs in other sectors. The global share of manufacturing value added in GDP increased from 15.2% in 2005 to 16.3% in 2017, driven by the fast growth of manufacturing in Asia. At the current time, however, manufacturing value added per capita in the least developed countries is only US\$100 compared to over US\$4,500 in Europe and Northern America. For many African countries, particularly the lower-income countries, the existent constraints regarding infrastructure affect firm productivity by around 40%.

Small and medium-sized enterprises that engage in industrial processing and manufacturing are the most critical for the early stages of industrialisation and are typically the largest job creators. They make up over 90% of business worldwide and account for between 50-60%of employment. Least developed countries have immense potential for industrialisation in food and beverages (SDG 2), with good prospects for sustained employment generation and higher productivity. However, in developing countries, only 30% of agricultural production currently undergoes industrial processing, compared with 98% in high-income countries.

Although industrial growth can deliver multiple benefits it is important that it is done so without being detrimentally to the environment (SDG 14 & SDG 15) and with minimised carbon emissions (SDG 13). Emissions have decreased over the past decade in many countries but the pace of decline has not been even around the world.

### SDG 9 Keywords

This list is comprised of the Scopus queries generated by Elsevier in order to identify research that supports SDG 9, as part of the assessment undertaken by the global THE Impact League.

industrial growth	industrial diversification	infrastructural development	infrastructural investment
public infrastructure	resilient infrastructure	transborder infrastructure	public infrastructures
resilient infrastructures	industrial emissions and mitigation	industrial waste management / treatment	traffic congestion
microenterprise	small /medium enterprise	small / medium entrepreneur	value chain management
broadband access and developing countries	manufacturing innovation	manufacturing investment	sustainable transportation
accessible / inclusive transportation	transportation services	inclusive transportation	R&D investment
green products	sustainable manufacturing	cradle to cradle and industry	closed loop supply chain
Industrial and innovation	process innovation	product innovation	inclusive innovation

### SDG 9 Targets & Indicators

Consider if your research could support a specific target in order to maximise impact.

TARGETS		INDICATORS	
9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1	Proportion of the rural population who live within 2 km of an all-season road
		9.1.2	Passenger and freight volumes, by mode of transport

<b>9.2</b>	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	<b>9.2.1</b>	Manufacturing value added as a proportion of GDP and per capita
		<b>9.2.2</b>	Manufacturing employment as a proportion of total employment
<b>9.3</b>	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	<b>9.3.1</b>	Proportion of small-scale industries in total industry value added
		<b>9.3.2</b>	Proportion of small-scale industries with a loan or line of credit
<b>9.4</b>	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	<b>9.4.1</b>	CO2 emission per unit of value added
<b>9.5</b>	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	<b>9.5.1</b>	Research and development expenditure as a proportion of GDP
		<b>9.5.2</b>	Researchers (in full-time equivalent) per million inhabitants
<b>9.A</b>	Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	<b>9.A.1</b>	Total official international support (official development assistance plus other official flows) to infrastructure
<b>9.B</b>	Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	<b>9.B.1</b>	Proportion of medium and high-tech industry value added in total value added
<b>9.C</b>	Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	<b>9.C.1</b>	Proportion of population covered by a mobile network, by technology

### Useful Links

- [SG's Strategy on New Technologies](#)
- [UN Development Programme](#)
- [UN Environment Programme](#)
- [UN Habitat](#)
- [UN Office for Disaster Risk Reduction](#)
- [UN Industrial Development Organization](#)
- [How industrial development matters to the well-being of the population](#)
- [Industrial Development Report of UNIDO](#)
- [International Telecommunication Union](#)
- [UN Office for Project Services](#)
- [International Civil Aviation Organization](#)