



The Sustainable Development Goals Report 2021

Extended Report

-Goal 9-



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

Note: The UN Statistics Division (UNSD) prepares the annual *The Sustainable Development Goals Report*, also known as the glossy report, based on storyline inputs submitted by UN international agencies in their capacity as mandated custodian agencies for the SDG indicators. However, due to space constraints, not all information received from custodian agencies is able to be included in the final glossy report. Therefore, in order to provide the general public with all information regarding the indicators, this 'Extended Report' has been prepared by UNSD. It includes all storyline contents for each indicator as provided by the custodian agencies and is unedited. For instances where the custodian agency has not submitted a storyline for an indicator, please see the custodian agency focal point information linked for further information.

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Target 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

Indicator 9.1.1: Proportion of the rural population who live within 2 km of an all-season road

In rural areas in low- and middle-income economies many people continue to lack vital access to an all-season road.

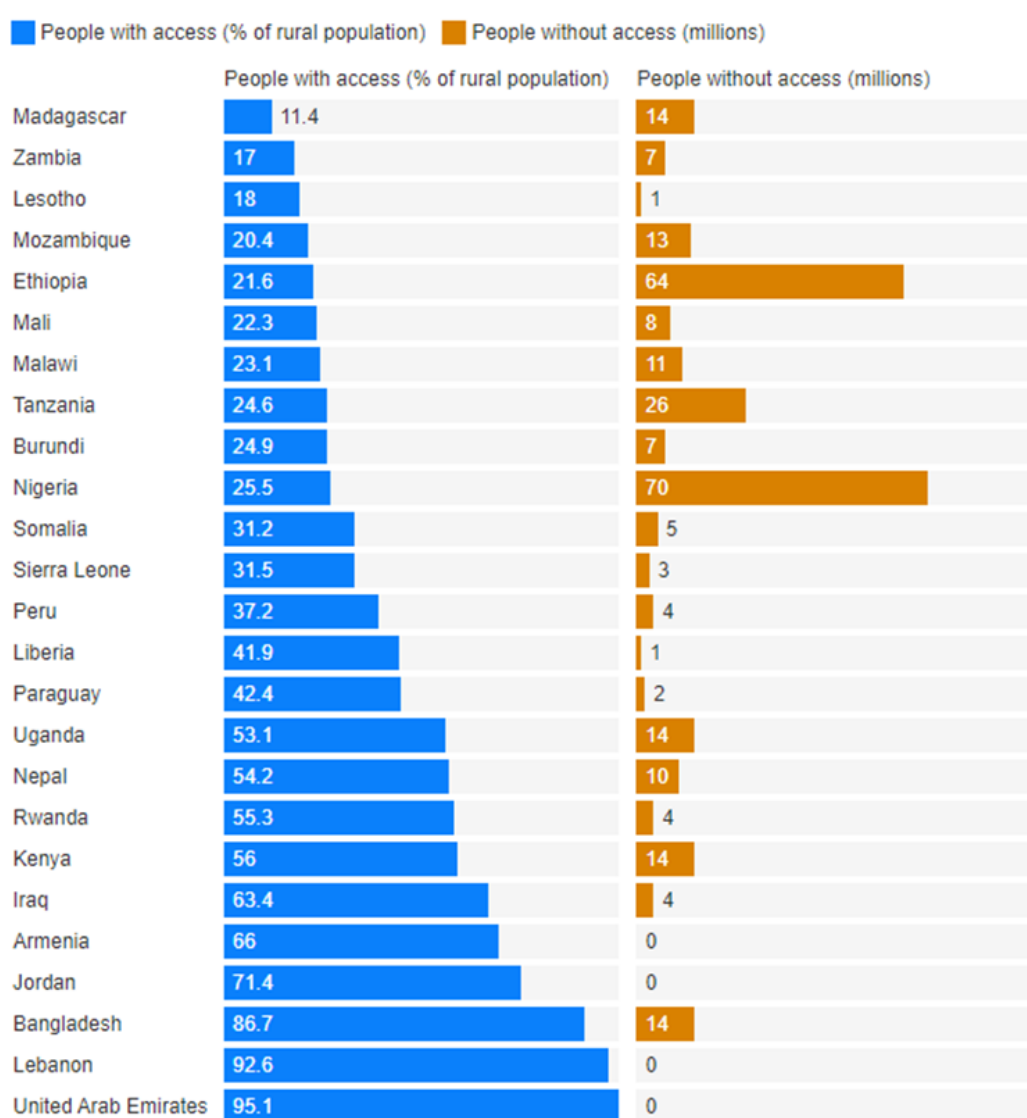
Investment in reliable, sustainable, and resilient infrastructure can provide remote populations with access to services (target 9.1). With better roads, farmers can bring produce to markets more efficiently, and families can more easily get to schools, hospitals, and other facilities. Enhancing rural road connectivity also helps in the long term by elevating agricultural productivity, business profitability, and employment.

The rural access index (RAI) (SDG indicator 9.1.1) measures the proportion of people within two kilometers of an all-season road— a reasonable walking distance of approximately 25 minutes for people’s normal economic and social purposes.

RAIs are currently available for twenty-five countries in Africa, Asia, South America, Central Asia and the Middle East, integrating spatial global population distribution data and national censuses with georeferenced road network data and other spatial datasets to measure people’s accessibility at a granular level. For road conditions, various open data and data collection tools can be used, including traditional road inventory surveys and new remote sensing technologies. Road quality or “road roughness” data can be captured through smartphone apps while driving matched with open source data such as OpenStreetMap. The most recent surveys have been conducted in Paraguay (2019), the United Arab Emirates (2019), Jordan (2018), Lebanon (2018), and Iraq (2018).

Almost 300 million rural dwellers in the countries surveyed so far lack good access to roads, of a total rural population of approximately 520 million. Access varies according to population density, degree of urbanization, and level of economic development. The RAI ranges from 95 per cent in the United Arab Emirates, 93 per cent in Lebanon, and 87 per cent in Bangladesh, to 17 per cent in Zambia and only a little over 11 per cent in Madagascar. But due to a much larger population, the number of people without access in Bangladesh (14 million) is more than twice that in Zambia (7 million). Of all the countries with available data, Nigeria and Ethiopia have the most people without access to an all-season road— 70 million and 64 million, respectively.

In Ethiopia and Nigeria more than 60 million people lack access to an all-season road



Source: World Bank • Embed this chart • Download image

Additional resources, press releases, etc. with links:

- World Bank Rural Access Index website ([Data Hub](#))
- [The Rural Access Index methodology report](#)
- [The Rural Access Index: data and resources](#)

Custodian agency(ies):

World Bank

Indicator 9.1.2: Passenger and freight volumes, by mode of transport

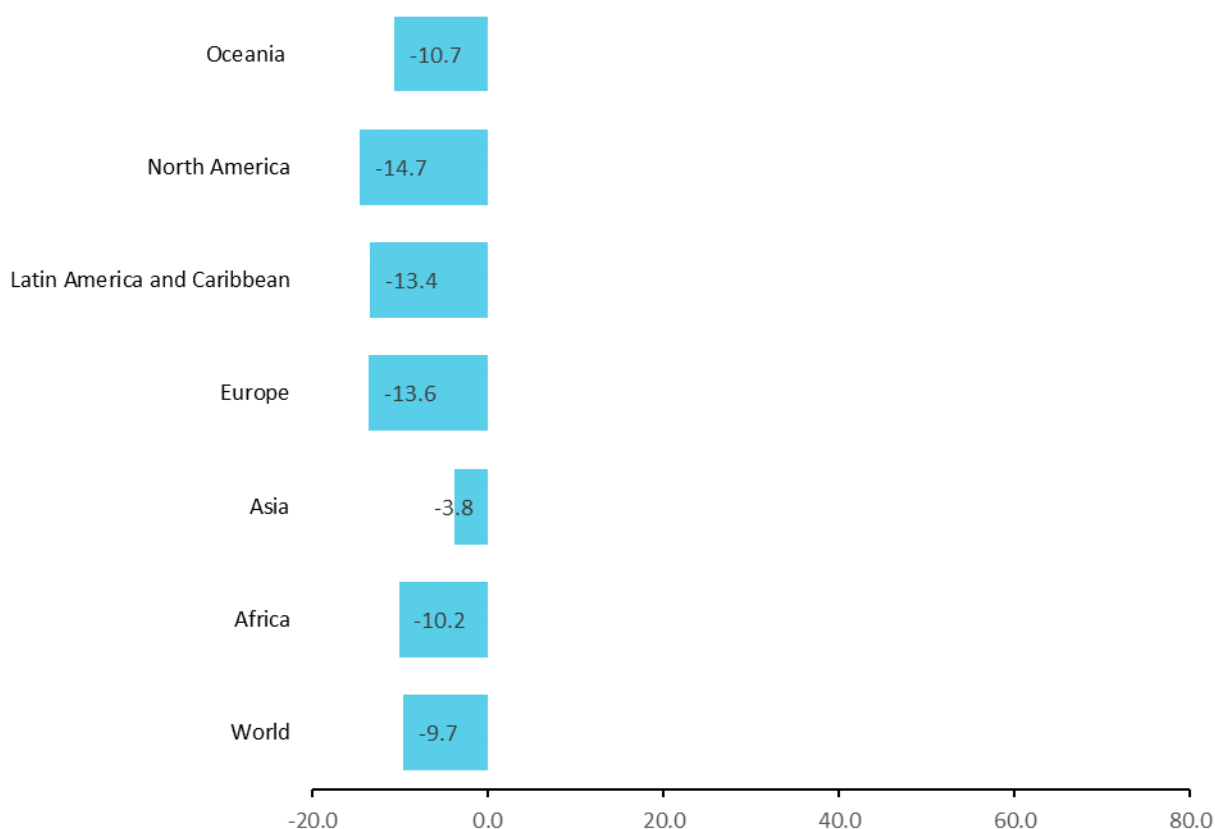
The COVID-19 pandemic will have a lasting impact on maritime transport and will heighten the sustainability and resilience-building imperative in the sector.

Reflecting lingering trade tensions and high policy uncertainty, international maritime freight volumes (goods loaded) expanded at the marginal rate 0.5 per cent in 2019, down from 2.8 per cent in 2018. In tandem, global container port traffic decelerated to 2 per cent growth, down from 5.1 per cent in 2018. The trade tensions have also caused trade patterns to shift, as the search for alternative markets and suppliers resulted in a redirection of flows away from China towards other markets, especially in South-East Asian countries. New additional tariffs introduced since 2018 are estimated to have cut the volume of maritime trade by 0.5 per cent in 2019, with the overall impact being mitigated by increased trading opportunities in alternative markets.

In 2019, developing economies accounted for 58 per cent of goods loaded and 65 per cent of goods unloaded at seaports worldwide. However, developing economies are not a homogenous group as the grouping includes countries and economies in varying stages of development and degrees of integration in the global manufacturing and trading networks. Much of the growth recorded over the past decade is largely driven by fast growing emerging developing countries, most notably China. 36.5 per cent of international maritime freight (goods loaded and unloaded) in 2019 was accounted for by Eastern and South-Eastern Asia. In comparison, sub-Saharan Africa, and Oceania (excluding Australia and New Zealand) accounted for smaller shares (3.7 per cent and 0.1 per cent, respectively). In 2019, an estimated 811.2 million twenty-foot equivalent units (TEU) were handled in container ports worldwide with more than half being concentrated in Eastern and South Eastern Asia. Together, Europe and North America ranked second in terms of container port-handling volumes (22.9 per cent) followed by Western Asia and North Africa (8.4 per cent), Latin America and the Caribbean (6.5 per cent), Central and Southern Asia (3.9 per cent), Africa (2.3 per cent) and Oceania (1.6 per cent).

It is against this backdrop that the COVID-19 pandemic sent shockwaves through supply chains, shipping and ports – not only leading to plummeting cargo volumes and significantly hitting growth prospects, but also raising existential questions about globalisation. These developments have ignited the debate over the merits of outsourcing from distant locations and the value of shorter supply chains, including nearshoring and reshoring, with less dependence on just-in-time and lean inventory models and more reliance on diversified production and manufacturing sites and suppliers. Maritime freight volumes are expected to fall by 4.1 per cent in 2020 with some vessel segments seeing larger drops in port calls and some regions being affected more than others (figure 1) others. The pandemic underscored the need to invest in risk management and emergency response preparedness in the maritime transport sector, beyond pandemics. Future-proofing the maritime supply chain, managing risks, enhancing sustainability and resilience require greater visibility of door-to-door transport operations.

Figure 1: Vessel port calls by region (percentage change 2019-2020)



Source: UNCTAD (2021 forthcoming), COVID-19 and Maritime Transport: Impact and Responses Update. Calculations based on the AIS data provided by MarineTraffic (www.marinetraffic.com). Aggregated figures are derived from the combination of AIS data and port mapping intelligence by MarineTraffic, covering ships of 5000 GT (gross tons) and above. Only arrivals have been taken into account to measure the number of port calls.

Additional resources, press releases, etc. with links:

- UNCTAD (2020). Review of Maritime Transport 2020 available at <https://unctad.org/webflyer/review-maritime-transport-2020>.
- UNCTAD (2020). Pandemic cuts global maritime trade, transforms industry, Press Release, UNCTAD/PRESS/PR/2020/030 available at <https://unctad.org/press-material/unctads-review-maritime-transport-2020-highlights-and-figures-latin-america-and>.
- UNCTAD (2020). Review of Maritime Transport 2020: highlights and figures on Africa, Press Release, UNCTAD/PRESS/PR/2020/031 available at <https://unctad.org/press-material/unctads-review-maritime-transport-2020-highlights-and-figures-africa>.
- UNCTAD (2020). Review of Maritime Transport 2020: highlights and figures on Asia and the Pacific, Press Release. UNCTAD/PRESS/PR/2020/032 available at <https://unctad.org/press-material/unctads-review-maritime-transport-2020-highlights-and-figures-asia-and-pacific>.
- UNCTAD (2020). Review of Maritime Transport 2020: highlights and figures on Latin America and the Caribbean. UNCTAD/PRESS/PR/2020/033 available at <https://unctad.org/press-material/unctads-review-maritime-transport-2020-highlights-and-figures-latin-america-and>.

- UNCTADstat data centre available at https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en
- UNCTAD (2021). COVID-19 and Maritime Transport: Impact and Responses. UNCTAD/DTL/TLB/2021/1 available at <https://unctad.org/webflyer/covid-19-and-maritime-transport-impact-and-responses>.

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ICAO, ITF-OECD

Indicator 9.1.2: Passenger and freight volumes, by mode of transport

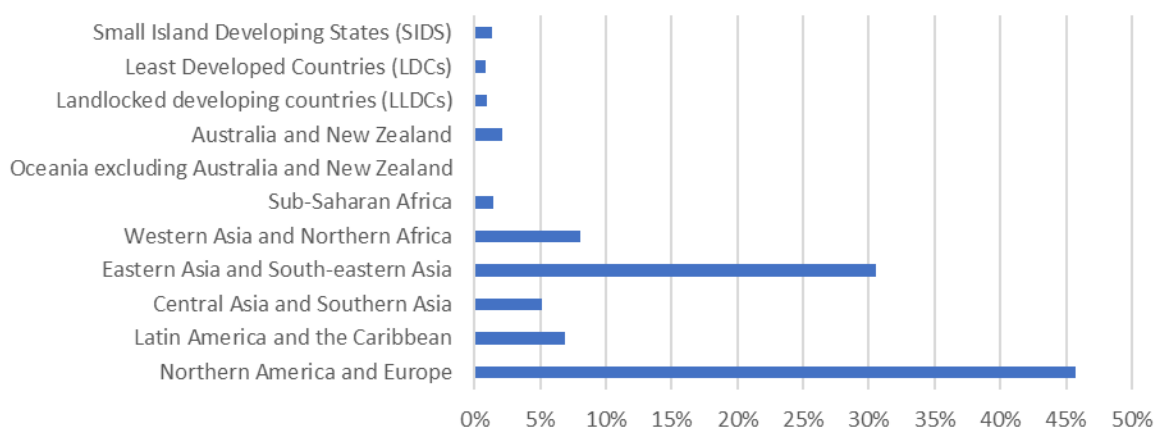
Aviation has been in its gravest moment in history with collapse in air travel demand globally. Its recovery has been vulnerable and volatile, severely hampered by the resurgence of outbreak across regions alongside stricter travel restrictions.

In 2016, the air transport industry supported 65.5 million jobs globally, and the direct and indirect global economic impact of air transport is estimated at 2.7 trillion US dollars, which is equivalent to 3.6 per cent of the world gross domestic product (GDP). In 2018, 6.8 trillion US dollars worth of goods were expected to be transported internationally by air, representing 35 per cent of world trade by value, despite representing less than 1 per cent by volume.

Air transport also plays a pivotal role for many States and represents a lifeline for LLDCs and SIDS. It facilitates their access to regions and the world by overcoming infrequent alternative transport services or poor infrastructure of other forms of transportation. During times of natural calamities air transport plays a critical role in the speedy and reliable transportation of essential supplies.

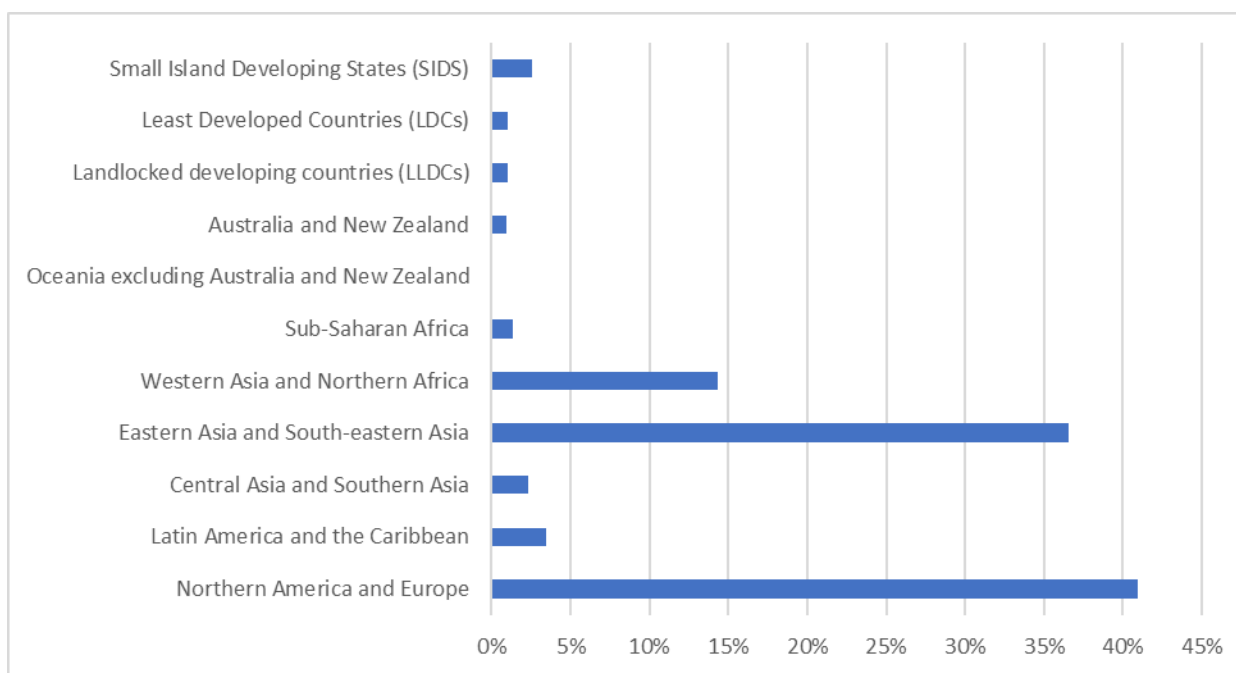
International passenger traffic suffered a dramatic 60 per cent drop over 2020, bringing air travel totals back to 2003 levels. Seat capacity fell by 50 per cent last year, passenger totals dropped by 60 per cent with just 1.8 billion passengers taking to the air during the first year of the pandemic, compared to 4.5 billion in 2019. Its numbers also point to airline financial losses of 371 billion dollars resulting from the COVID-19 impacts, with airports and air navigation services providers (ANSPs) losing a further 115 billion and 13 billion, respectively.

Figure 1: Passenger number, share by region, 2019



Source: ICAO

Figure 2: Cargo tonnes, Share by region, 2019



Source: ICAO

Additional resources, press releases, etc. with links:

- ICAO Economic Impact Analysis of COVID-19 on Civil Aviation: <https://www.icao.int/sustainability/Pages/Economic-Impacts-of-COVID-19.aspx>
- ICAO COVID-19 Air Traffic Dashboard: <https://www.icao.int/sustainability/Pages/COVID-19-Air-Traffic-Dashboard.aspx>
- ICAO Air Transport Monthly Monitor: <https://www.icao.int/sustainability/Pages/Air-Traffic-Monitor.aspx>
- ICAO Guidance on Economic and Financial Measures: <https://www.icao.int/sustainability/Pages/Economic-and-financial-measures.aspx>
- Press release: <https://www.icao.int/Newsroom/Pages/2020-passenger-totals-drop-60-percent-as-COVID19-assault-on-international-mobility-continues.aspx>

Custodian agency(ies):

ICAO, ITF-OECD

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

Indicator 9.2.1: Manufacturing value added as a proportion of GDP and per capita
Global manufacturing production has plummeted because of the pandemic crisis

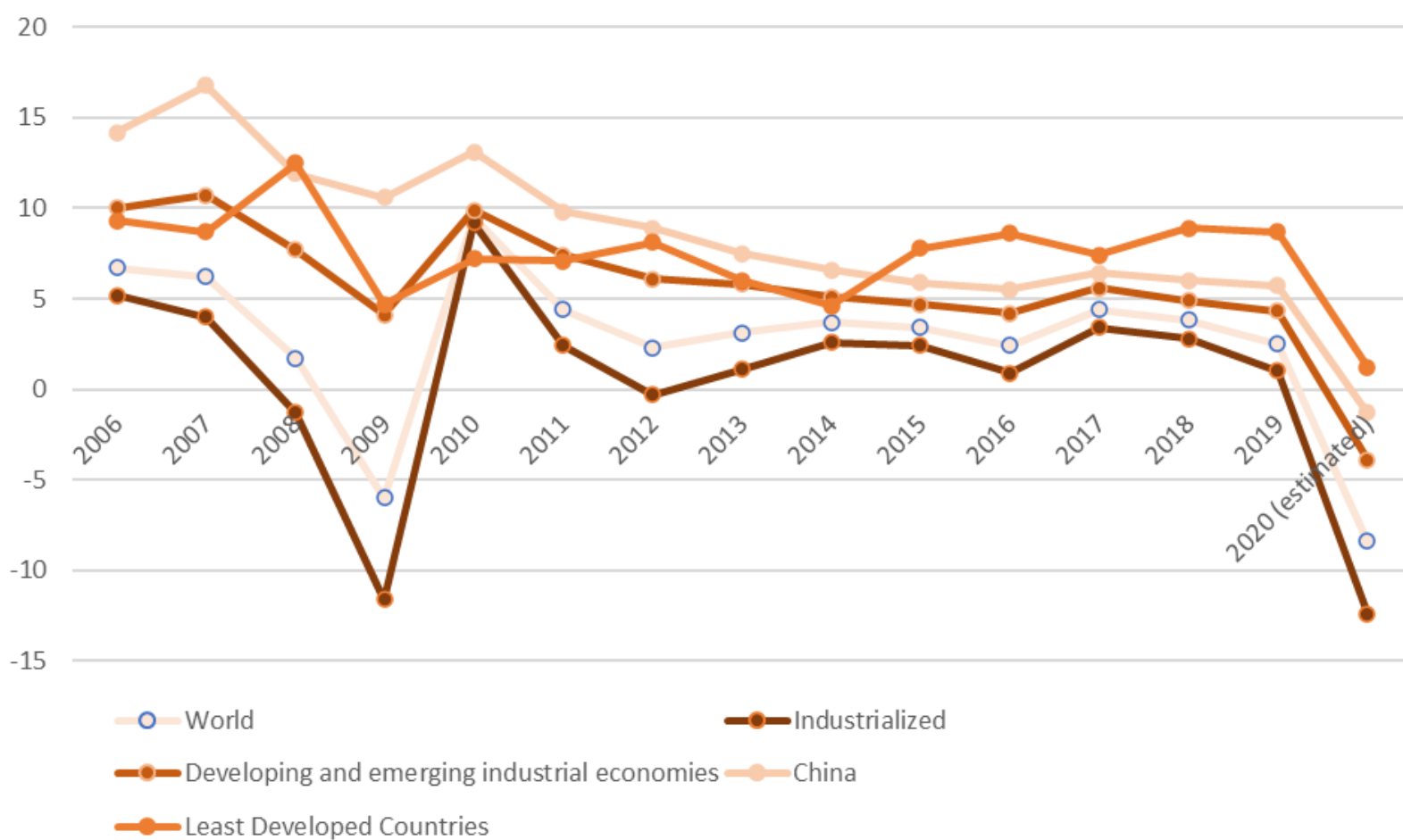
World manufacturing was already decelerating in 2019 mainly due to tariff and trade tensions between the world’s largest economies. The global outbreak of COVID-19 impacted manufacturing by disrupting global value chains and restricting the movement of people and goods, resulting in a notable drop of 6.8 per cent in manufacturing production in 2020.

The pandemic hit the manufacturing sector harder than the financial crisis of 2007-2008. The global share of manufacturing value added (MVA) in total gross domestic product (GDP) fell sharply from 16.6 per cent in 2019 to 16.0 per cent in 2020.

The impact was not the same everywhere. However, all regions experienced a downturn in the manufacturing production in 2020. When the first wave of the virus subsided, the containment measures were partially lifted and global economic activity inched back towards previous growth trends. However, new waves have continued to affect most countries. The largest regional decline in MVA is estimated for Europe and Northern America, with a fall of 13.1 per cent, followed by Latin America and the Caribbean with 12.7 per cent. The least impacted region in 2020 was Eastern and South-Eastern Asia with an estimated drop of 4.1 per cent, thanks to its successful control of the pandemic and a swift reversal to previous growth trends.

Manufacturing in the least developed countries (LDCs) is expected to grow by a negligible 1.9 per cent in 2020 compared to 8.7 per cent in 2019, helping LDCs to increase their MVA share to 12.8 per cent in 2020 from 10.1 per cent in 2010. Despite the expanding MVA share in LDCs, disparities in manufacturing productivity (measured as manufacturing value added per capita) are observed between LDCs with \$136 and Northern America and Europe with \$4,296 in 2020. LDCs face severe industrialization challenges which, together with the global decline in manufacturing production due to COVID-19, jeopardize the achievement of Target 9.2 by 2030.

Manufacturing value added growth (%)



Progress analysis: [See progress chart](#)

Additional resources, press releases, etc. with links:

- <https://www.unido.org/news/global-manufacturing-bounces-back-outlook-remains-gloomy>
- <https://www.unido.org/stories/what-industrialization-means-well-being-and-why-it-matters>

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UNIDO

Indicator 9.2.2: Manufacturing employment as a proportion of total employment

Manufacturing sector hit hard by the pandemic, with significant losses in employment and working hours

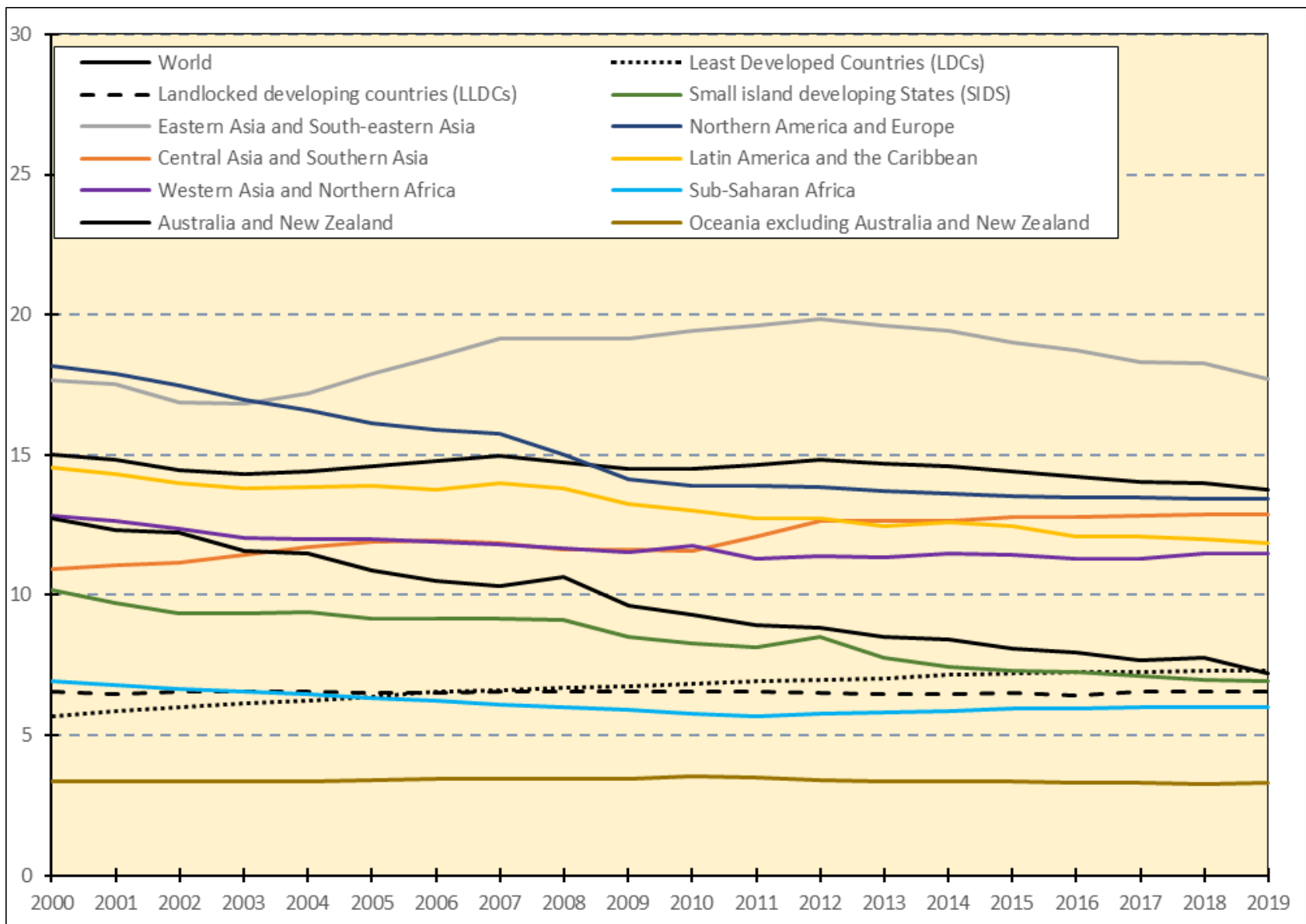
Among the main economic sectors, manufacturing is the third largest sector in the world, with some 454 million workers, encompassing 13.7 per cent of global employment in 2019. This sector has been among the hardest hit by the pandemic and the associated workplace closures and disruptions to global supply chains. Meanwhile, quarantine measures, closure of retail stores, cancelled orders and salary reductions suppressed demand in key manufacturing industries such as automobiles and textiles, clothing, leather and footwear.

Across 49 countries with available data, manufacturing employment declined by an average of 5.6 per cent in the second quarter of 2020 and 2.5 per cent in the third quarter of 2020 relative to the second and third quarters of 2019, respectively. Losses in working hours were even greater, at 11.9 per cent in the second quarter of 2020 and 4.4 per cent in the third quarter of 2020.

Prior to the onset of the pandemic, the share of manufacturing as a proportion of global employment declined slightly between 2000 and 2019, by 1.3 per cent. Meanwhile, regional variations tell their own stories. Unsurprisingly, the share of employment in manufacturing has been on the decline in high-income countries. From 2000 to 2019, the share decreased by about 5.0 per cent in Northern America and Europe and Australia and New Zealand, followed by Latin America and the Caribbean with 2.7 per cent. On the other hand, manufacturing’s employment share increased in only one region – Central Asia and Southern Asia by 2.0 per cent. In Eastern and South-Eastern Asia, there was consistent growth in manufacturing employment from 2000 until 2015, at which point it started to decline each year, resulting in no net change over the full period from 2000 to 2019. Most fast growing Asian economies have benefited from labour shifting from low productivity agricultural activities to higher productivity employment in manufacturing. As countries become richer, however, the share of manufacturing in total employment tends to decline as consumption patterns shift more toward services.

In 2019, the share of manufacturing employment was largest in Eastern South-Eastern Asia (17.7 per cent) and smallest in Oceania excluding Australia and New Zealand (3.3 per cent) and sub-Saharan Africa (6.0 per cent). Strong efforts are needed to promote decent and productive manufacturing activities, especially in sub-Saharan Africa, where agriculture remains the dominant sector. The development of the manufacturing sector is crucial to achieve decent work, productivity growth and structural transformation.

Manufacturing employment as a proportion of total employment, 2000-2019



Source: ILOSTAT, ILO modelled estimates, November 2020

Additional resources, press releases, etc. with links:

- ILO Monitor: COVID-19 and the world of work. Seventh edition https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_767028.pdf

Custodian agency(ies):

ILO, UNIDO

Target 9.3: 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

Indicator 9.3.1: Proportion of small-scale industries in total industry value added

Small-scale industries have been strongly affected by the pandemic and many continue to face existential challenges. Fiscal stimulus and expedited access to financial services in support of small- and medium-sized enterprises remains essential to enabling them to survive and prosper during and after the crisis.

According to surveys before the crisis, 33.1 per cent of small-scale entrepreneurs benefited from loans or lines of credit. However, access to financial services differ regionally. For instance, only 21.5 per cent of small-scale industries in sub-Saharan Africa received loans or lines of credit, compared with almost half in Latin America and the Caribbean.

Data on the 9.3 indicators are in general very sparse. Due to COVID-19, there has not been any progress made towards better data collection. Only a few surveys were conducted throughout 2020. Given the fact there are other interesting stories supporting Goal 9, we have decided not to highlight the target 9.3 in the 2021 glossy report.

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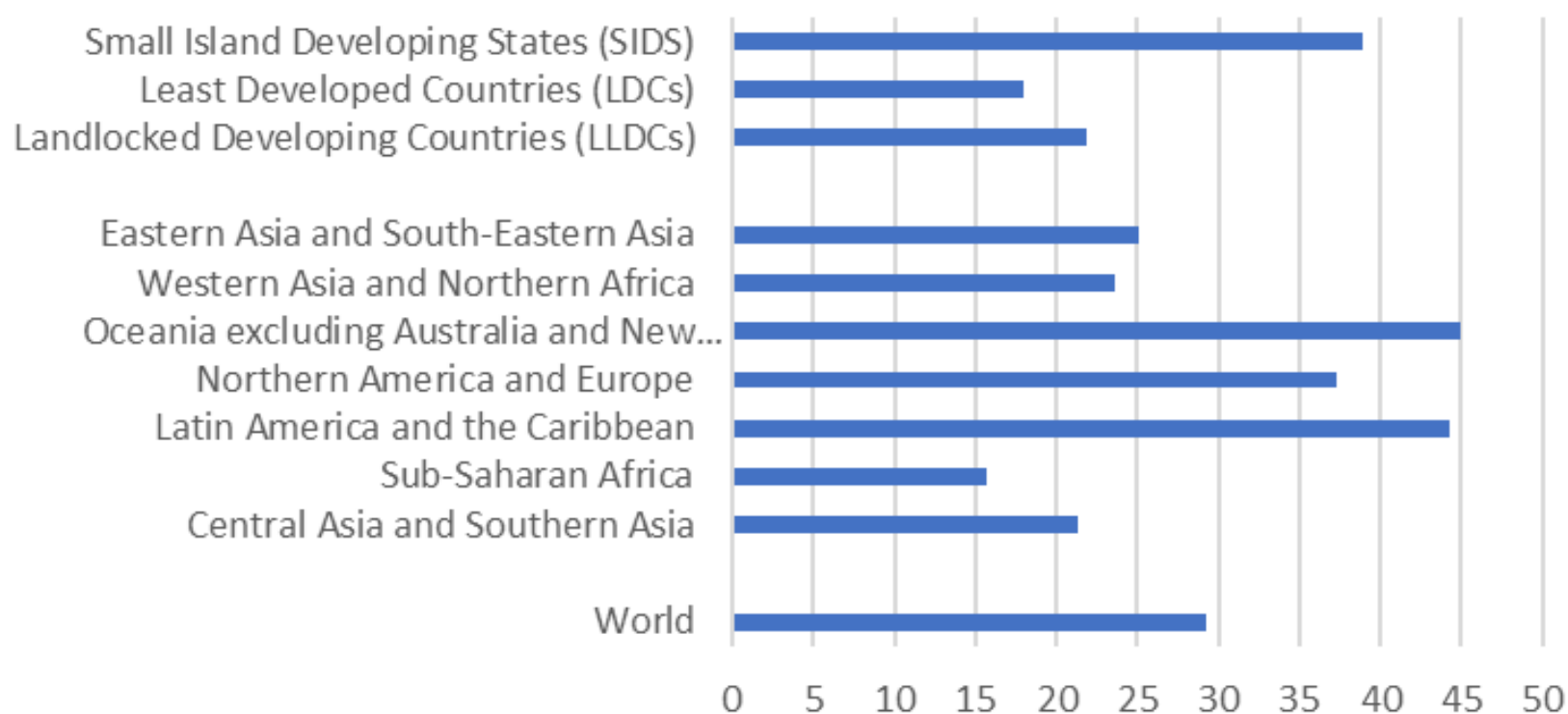
Indicator 9.3.2: Proportion of small-scale industries with a loan or line of credit

Globally, almost one in three small industrial enterprises has a loan or line of credit.

Globally, almost one in three small industrial enterprises has a loan or line of credit; this is based on establishment-level surveys that collect data on what businesses experience on a day-to-day basis. Access to credit remains uneven across countries and regions of the world. Sub-Saharan African countries and LDCs suffer the most from a lack of credit: approximately one in six small-scale industries has a loan or line of credit, well below the global average. The Latin American and Caribbean and the Oceania (excluding New Zealand and Australia) regions have the largest proportions of industry SMEs with loans: approximately 45 per cent.

The repercussions of the COVID-19 pandemic have acutely affected private sectors across the world, with smaller businesses more adversely affected. Governments around the world have responded to the pandemic with economic support measures; however, policymakers in LDCs and emerging economies have far less leverage to provide cash transfers to businesses, defer loan payments or refinance loans to more favorable terms. In a post-pandemic world, access to finance will play an essential role in an equitable recovery. To achieve the SDG 9.3 Target of increasing the access of small-scale industries to affordable credit, policymakers may need to focus on increasing financial literacy among small-scale business owners and target lending programs to underserved communities.

Chart1. Proportion of Small-Scale Industries with a Loan or Line of Credit



Source: World Bank, www.enterprisesurveys.org

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Target 9.4: 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

Indicator 9.4.1: CO2 emission per unit of value added

Severe reduction in economic activity and mobility caused an unprecedented decline of global carbon dioxide emissions

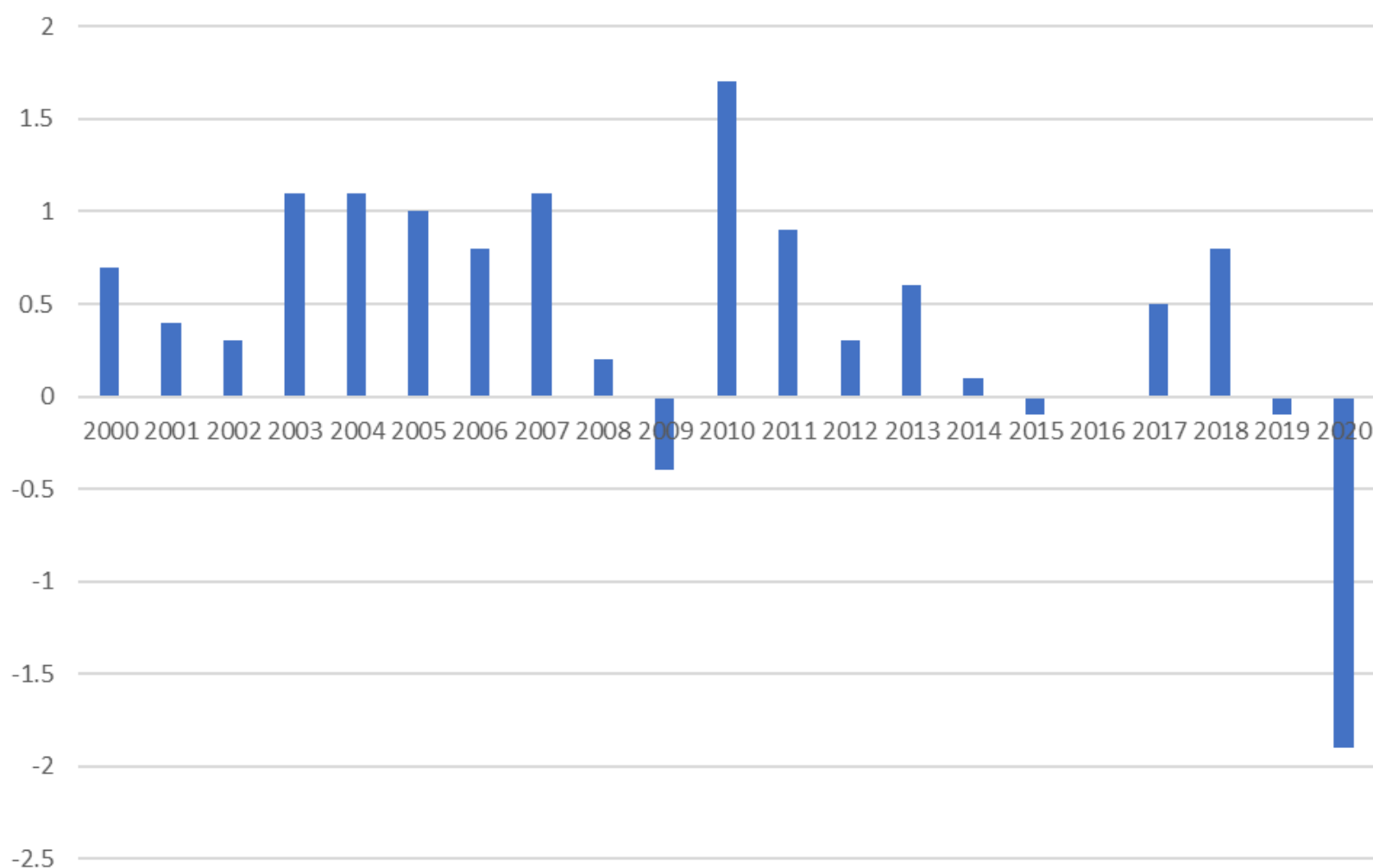
In 2018, global carbon dioxide (CO₂) emissions from fuel combustion accounted for 33.5 billion tons, which is a historical high driven by a robust growth in population and economic activity. However, a slight decline was registered in 2019, mainly due to changes in power sources in advanced economies and milder weather conditions across continents. The global manufacturing CO₂ emissions continued to decline since 2014 and accounted for 5.9 billion tons in 2018.

The intensity of carbon dioxide emissions has been falling steadily at an average annual rate of 1.4 per cent since 2000, showing a general decoupling between CO₂ emissions and gross domestic product (GDP) growth. While the intensity of manufacturing carbon dioxide emissions followed an upward trend until 2010, the decline in recent years shows an annual average rate of more than 3 per cent.

As a result of the COVID-19 pandemic and the curtailment of global economic activity and mobility, the 2020 global energy demand and the corresponding CO₂ emissions are expected to have fallen significantly. Energy demand in 2020 is set to be down year-on-year by around 4 per cent. Over the past century, only World Wars and the Great Depression have produced a larger decline. Some parts of the energy sector were hit harder than others. Oil demand is anticipated to decline by 8.6 per cent, with aviation fuel demand the worst affected segment, and coal demand by 4 per cent. Since the most carbon-intensive fuels, coal and oil, are bearing the brunt of this demand reduction, while renewables and electric vehicles were largely immune, the 5.8 per cent anticipated fall in energy-related CO₂ emissions is set to be larger than the drop in energy demand as a whole.

As after previous crises, however, the rebound in emissions may be larger than the decline, unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure.

Figure 1: Changes in global energy-related carbon dioxide emissions in billions of tonnes



Source: IEA, *Change in CO₂ emissions by fuel, 1990-2020*, IEA, Paris; <https://www.iea.org/data-and-statistics/charts/change-in-co2-emissions-by-fuel-1990-2020>

Additional resources, press releases, etc. with links:

- <https://www.iea.org/articles/global-co2-emissions-in-2019>
- <https://www.iea.org/articles/global-energy-review-co2-emissions-in-2020>
- <https://www.iea.org/reports/co2-emissions-from-fuel-combustion-overview>

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Custodian agency(ies):

UNIDO, IEA

Target 9.5: 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

Indicator 9.5.1: Research and development expenditure as a proportion of GDP

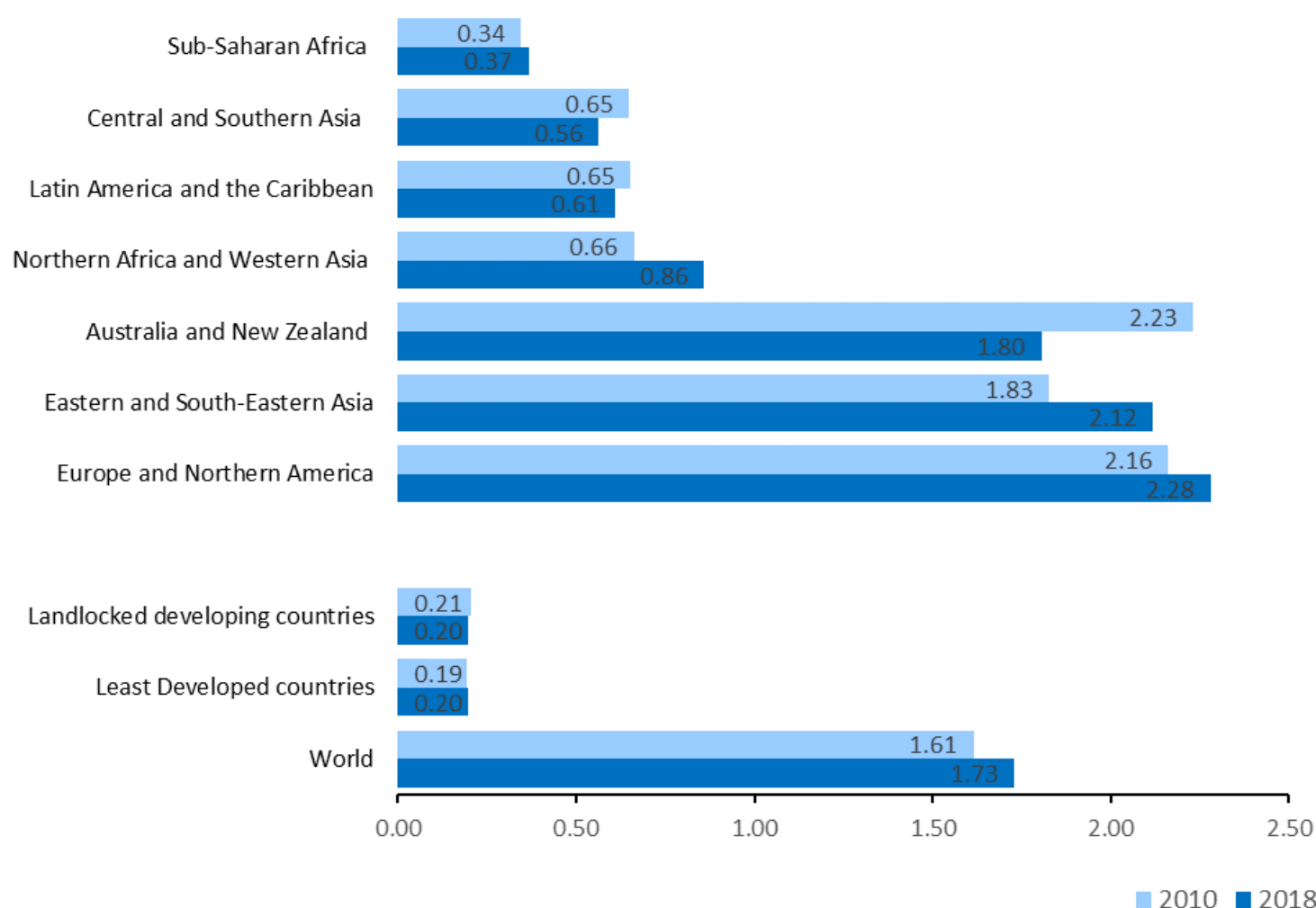
While global investments in research and development continued to grow, even more investment is needed to cope with COVID-19.

The global investment in research and development (R&D) has continued to grow at a good pace, reaching 2.2 trillion US dollars (purchasing power parity) in 2018, up from 1.4 trillion in 2010 and 742 billion in 2000. This represented an average annual growth rate of 4.4 per cent over this period when adjusted for inflation. While Europe and Northern America were leading the global investments in R&D representing a share of 47.4 per cent in 2018 (though it fell from 66.6 per cent in 2000 and 54.9 per cent in 2010), Eastern and South-Eastern Asia has been catching up by increasing its share from 22.6 per cent in 2000 and 32.2 per cent in 2010 to 40.6 per cent in 2018, experiencing the highest average annual growth rate of 7.9 per cent for that period.

Relatively, the proportion of global gross domestic product (GDP) invested in R&D has increased from 1.51 per cent in 2000 and 1.61 per cent in 2010 to 1.73 per cent in 2018. However, this hides a wide difference between the various regions of the world. Europe and Northern America, and Eastern and South-Eastern Asia stood at 2.28 and 2.12 per cent respectively in 2018, which was above the world average of 1.73 per cent. Most of the developing regions fell short of the world average, for instance, ranging from 0.37 per cent in sub-Saharan Africa to 0.86 per cent in Northern Africa and Western Asia. For LDCs and LLDCs, the average was even lower at 0.20 per cent.

Such disparities call for the continued need for strong policy commitments towards increased financing for R&D, especially in developing economies. In addition, worldwide, with the COVID-19 crisis, the importance of increased investment in R&D has never been more apparent with the collaborative efforts globally to provide solutions to the crisis, more importantly in the rapid development of vaccines.

Research and development expenditure as a proportion of GDP, 2010 and 2018 (percentage)



Progress analysis: [See progress chart](#)

Additional resources, press releases, etc. with links:

- <http://data.uis.unesco.org/index.aspx?queryid=3684>
- <http://uis.unesco.org/en/news/new-uis-data-sdg-9-5-research-and-development-rd>

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Indicator 9.5.2: Researchers (in full-time equivalent) per million inhabitants

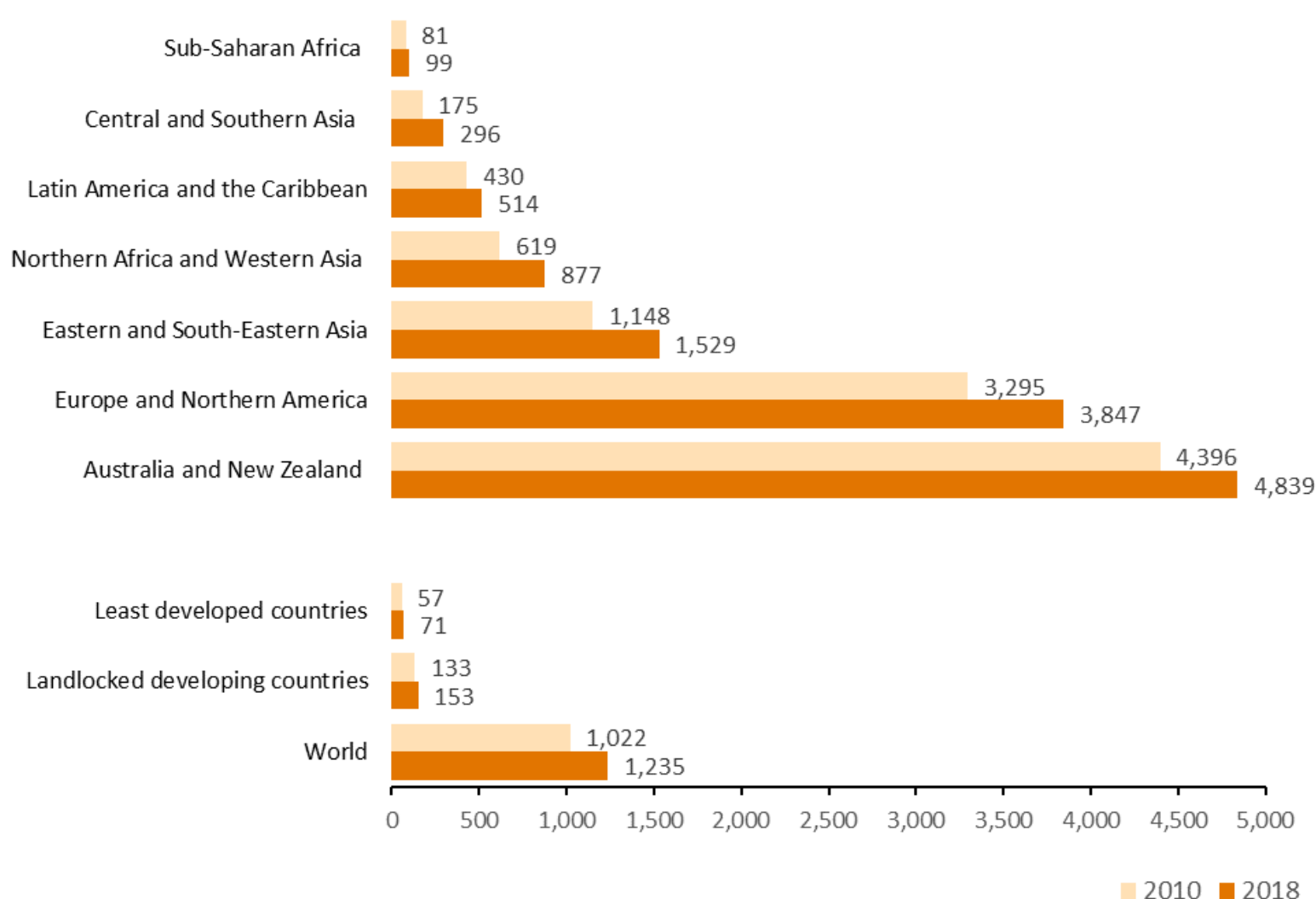
Despite continued progress in recent years amid numerous disparities, substantial increase in research personnel is critical in finding solutions to mitigate public health crisis.

Collectively, the number of researchers worldwide has leaped from 4.9 million in 2000 and 7.1 million in 2010 to 9.4 million in 2018, representing an average annual growth rate of 3.7 per cent. In relative terms, globally, the number of researchers per million inhabitants shifted from 801 in 2000 and 1,022 in 2010 to 1,235 in 2018. The regional situation regarding researchers per million inhabitants also showed a wide disparity across the regions, following a similar pattern as in the case of investment in research and development (R&D) – SDG indicator 9.5.1- due to the fact that a large proportion of R&D expenditure represented the wages and salaries of researchers. In Europe and Northern America, this was far more than the world average, having 3,847 researchers per million inhabitants in 2018, while it was as low as 99 in sub-Saharan Africa.

Among the significant gaps between regions on the volume of researchers per million inhabitants, globally, women accounted only 30.5 per cent of total researchers in 2018 (based on headcounts), which also displayed wide variations across regions. While Latin America and the Caribbean reached the highest share of female researchers, at 44.9 per cent in 2018, the share fell to 23.1 per cent and 21.3 per cent in Southern Asia and Eastern Asia respectively.

On one hand, these disparities at the overall level call for continued need for firm policy commitments towards substantial increase in the number of research personnel, especially in developing economies, while on the other hand there is a need to address the under-representation of women in the research profession irrespective of the development stage of different regions. Further, closing these gaps will be critical to providing an enabling environment towards the development of vaccines, drugs and related services to cope with COVID-19 and other public health crises.

Researchers (in full-time equivalent) per million inhabitants, 2010 and 2018 (per 1,000,000 population)



Additional resources, press releases, etc. with links:

- <http://data.uis.unesco.org/index.aspx?queryid=3685>
- <http://uis.unesco.org/en/news/new-uis-data-sdg-9-5-research-and-development-rd>

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Target 9.a: 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

Indicator 9.a.1: Total official international support (official development assistance plus other official flows) to infrastructure

Total official flows for economic infrastructure in developing countries reached USD 63.6 billion in 2019, and has been constantly on the rise since 2010 growing by 39.6% in real terms. Within this total, the main sectors assisted were transport (USD 21.3 billion) and the banking and financial services sector (USD 15.3 billion).

[Custodian agency\(ies\):](#)

OECD

Target 9.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

Indicator 9.b.1: Proportion of medium and high-tech industry value added in total value added

Medium and high-technology products are driving the manufacturing recovery after the production slump

The structural transition within manufacturing is best reflected in the shift of industries towards more technologically complex products. Medium and high-technology products continue to dominate manufacturing production in industrialized economies. However, developing regions, led by China, are catching up quickly. In 2018, the share of medium and high-technology manufacturing in total manufacturing was 49.0 per cent in developed regions and 41.4 per cent in developing regions, compared to only 8.9 per cent in least developed countries.

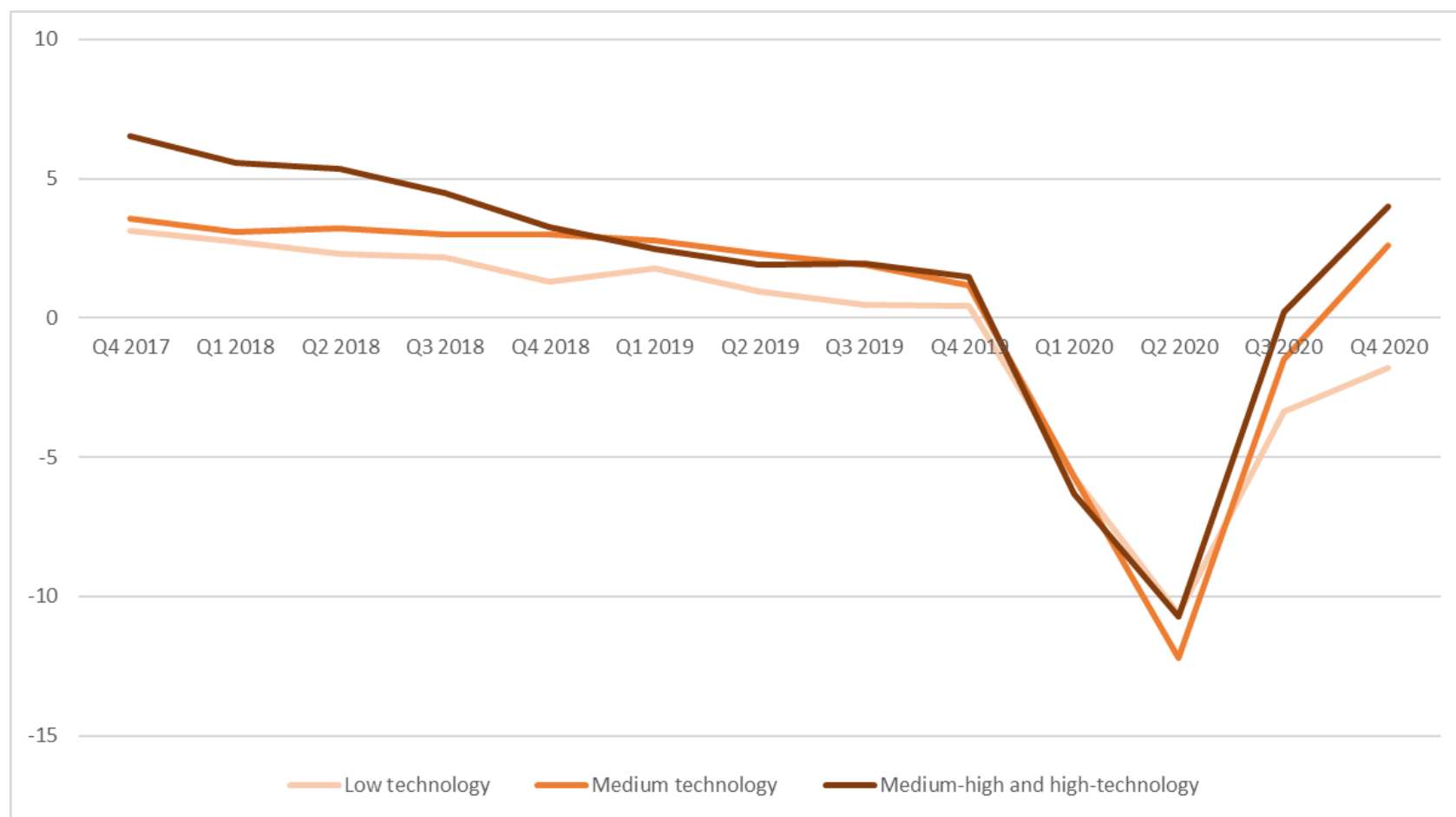
World manufacturing production already registered an overall slowdown in 2019, which has been further exacerbated by the economic crisis triggered by COVID-19. In the first half of 2020, the economic slump was severe but expected given the lockdowns imposed around the world to contain the virus. In the third and fourth quarter of 2020, most economies showed signs of recovery, albeit with an unclear future, as various industrialized countries are facing new waves of coronavirus from October 2020 onwards.

The COVID-19 pandemic has hit the manufacturing sector hard, as workers stay at home, factories close, and global supply chains grind to a halt. Quarantine measures, closure of retail stores, cancelled orders and salary reductions are suppressing demand in key industries such as automobiles, textiles and wearing apparel. On the other hand, many medium and high-technology industries, showed stronger signs of recovery from the crisis compared to industries with lower technological intensity.

Although the production of electrical equipment and computer electronics was highly affected due to the disruption of supply chains, the global shift towards working from home and ecommerce retailing resulted in surging demand in these products. Both industries experienced a significant rebound in the last quarter of 2020, growing by 8.8 per cent and 7.5 per cent (compared to the same quarter in 2019) respectively, driven particularly by a strong recovery in Eastern and South-Eastern Asia.

The global pharmaceutical production continued to keep moderate growth rates for all quarters in 2020.

Growth of global manufacturing production by technology intensity (y-o-y growth in %)



Source: UNIDO QIIP Database 2021

Additional resources, press releases, etc. with links:

- <https://www.unido.org/news/global-manufacturing-bounces-back-outlook-remains-gloomy>

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UNIDO

Target 9.c: 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

Indicator 9.c.1: Proportion of population covered by a mobile network, by technology

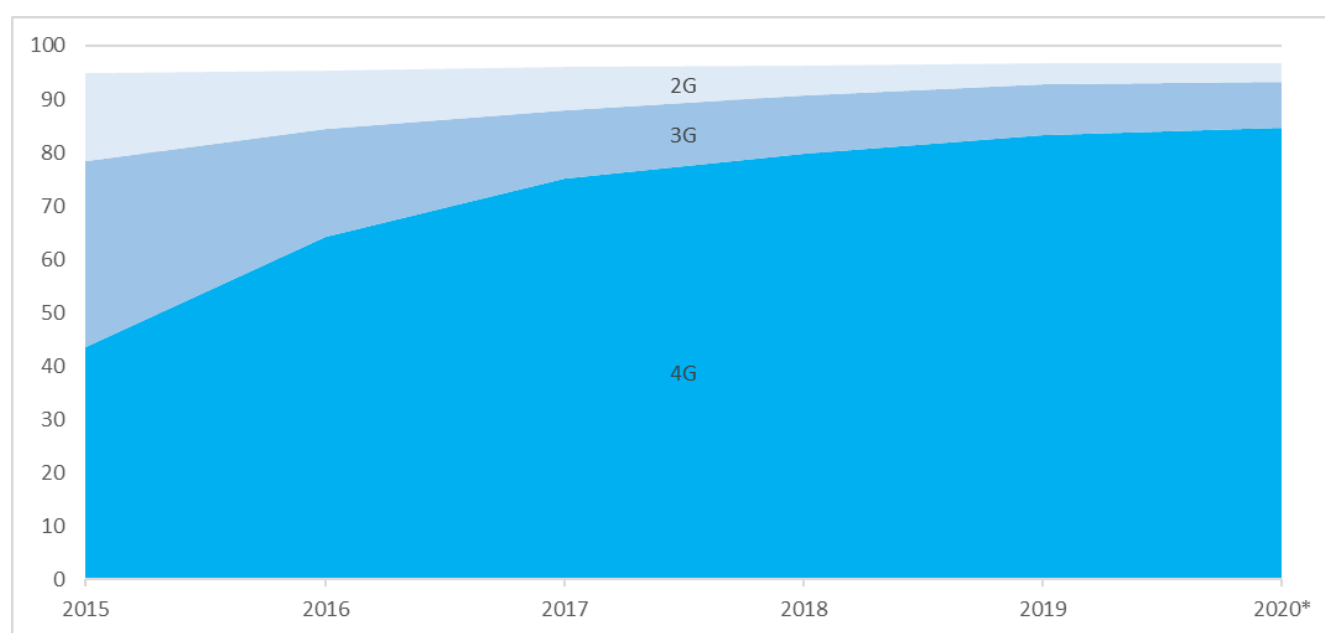
Rollout of mobile-broadband networks slowing down in 2020

The rollout of mobile-broadband networks has been slowing down in 2020. Globally, almost 85 per cent of the population was covered by a 4G network at the end of 2020. Between 2015 and 2020, 4G network coverage increased two-fold globally. However, annual growth has been slowing down gradually since 2017, and the coverage in 2020 was only 1.3 percentage points higher than in 2019.

To some extent this slowdown reflects a natural trend as large parts of the world are covered already, and covering the remaining parts are more difficult and less profitable for operators, but COVID-19 certainly contributed to this slow down as well, as budgets were redirected to health care and the physical work to lay down the infrastructure was suspended in many countries.

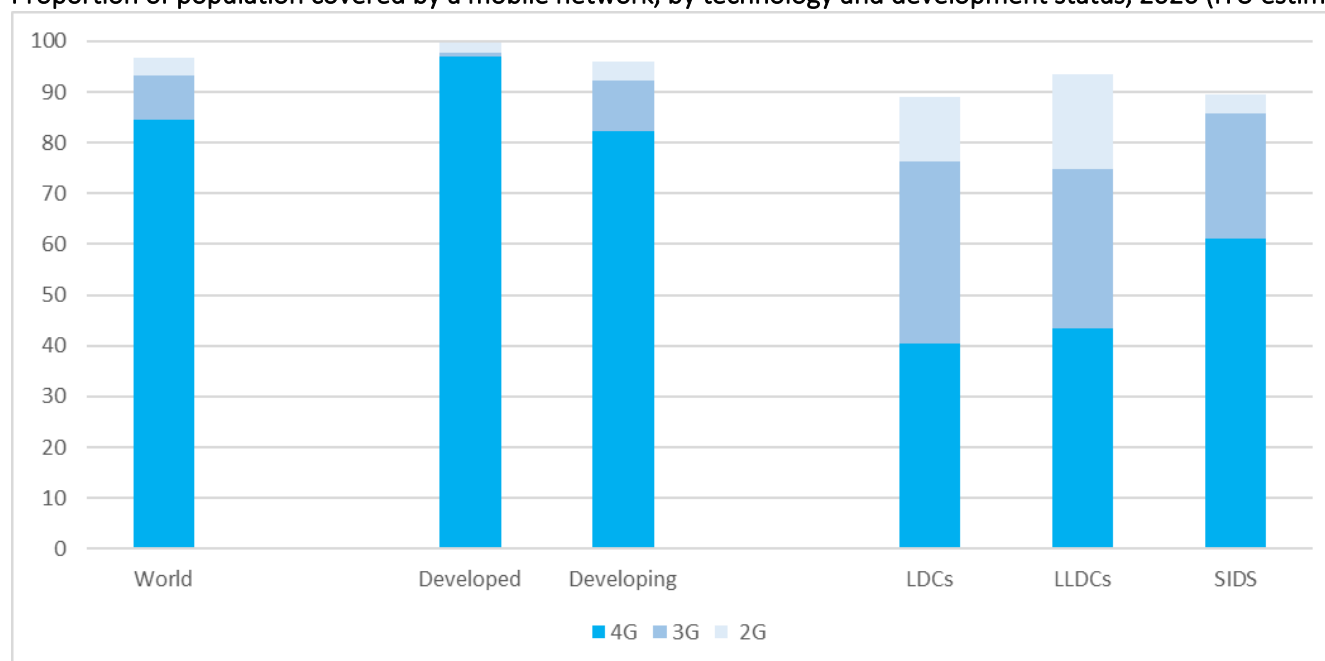
Ninety-three per cent of the world population had access to a mobile-broadband network (3G or above) in 2020, less than half a percentage point higher than a year earlier. However, about a quarter of the population in LDCs and LLDCs, and about 15 per cent of the SIDS population do not have access to a mobile-broadband network, coming short of Target 9.c to significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in LDCs by 2020.

Proportion of population covered by a mobile network, by technology



Source: ITU; *ITU estimate

Proportion of population covered by a mobile network, by technology and development status, 2020 (ITU estimate)



Source: ITU

Progress analysis: [See progress chart](#)

Additional resources, press releases, etc. with links:

- Measuring digital development: Facts and figures 2020: <https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>

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