



SDG 9

Industry, Innovation and Infrastructure

The aim of SDG 9 is to develop quality, reliable, sustainable and resilient infrastructure, support economic development and human well-being, facilitate sustainable and resilient infrastructure development with a focus on affordable and equitable access for all and to promote inclusive and sustainable industrialization among many targets. Investment in infrastructure sectors including transport, irrigation, energy and more, is vital to ensure sustainable development of many countries.

Progression in business regulatory environment has ensured India's improved position in Ease of Doing Business rankings. The upgraded infrastructure and new initiative like Dedicated Freight Corridor, Dedicated Industrial Corridor etc. have been instrumental in the sustainable industrialization. The measures taken towards innovations led significant progress of the country in the Global Innovation index.

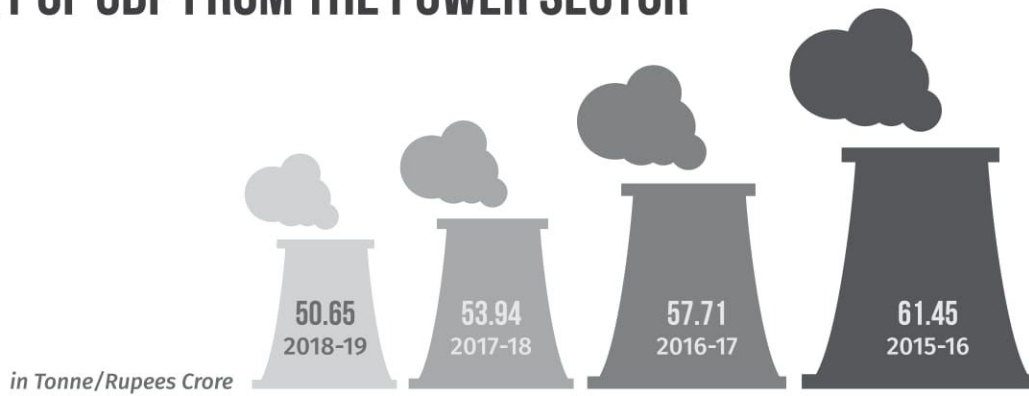
This Goal has 8 targets to measure its progress. A total of 16 indicators have been identified at national level to measure and monitor the progress of these targets.

SUSTAINABLE DEVELOPMENT GOALS



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

STEADY REDUCTION IN CO₂ EMISSIONS PER UNIT OF GDP FROM THE POWER SECTOR

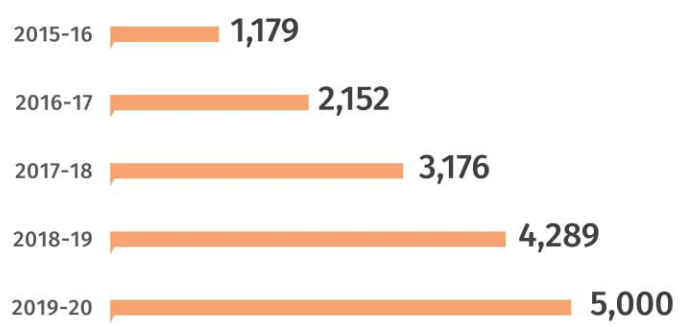


255 ↑
RESEARCHERS
IN 2017-18
PER MILLION POPULATION COMPARED
TO 218 PER MILLION IN 2015-16

54.29% ↑
OF THE POPULATION
SUBSCRIBED TO INTERNET
IN 2019-20 INCREASED FROM
26.98% IN 2015-16

BROADBAND SUBSCRIBERS

SUBSTANTIAL INCREASE IN THE NUMBER OF USERS



per 10,000 persons

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation						
SL	NATIONAL INDICATOR	VALUE OF THE INDICATOR				
Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all						
1	9.1.1: Proportion of the rural population who live within 2 km of an all-season road <i>Source: MIS, NSS, MoSPI / Periodicity: 3 years</i>	Under compilation				
2	9.1.2: Passenger and freight volumes, by mode of transport <i>Source: (1) Railway Board is data source for passenger movement and freight volumes by Railways (2) Research Wing of Ministry of Road Transport and Highway is data source for passenger movement and freight volumes by Roads (3) Ministry of Civil Aviation is data source for passenger movement and freight volumes by air / Periodicity: Annual</i>	Year	Road Transport (billion passenger km / freight in billion tonnes km)	Scheduled Indian Airlines (passenger in million / cargo in million tonnes)		Indian Railways (passenger in million / freight in million tonnes)
				Domestic	International	
		2015-16	15,428 / 2027.40	85.20 / 0.62	18.63 / 0.25	8107 / 6,55,605
		2016-17	17,832 / 2260.20	103.75 / 0.64	20.81 / 0.29	8,116 / 6,20,858
		2017-18	-- / --	123.32 / 0.70	23.80 / 0.37	8,286 / 6,93,281
		2018-19	-- / --	140.33 / 0.76	25.90 / 0.38	8,439 / 7,38,923
		2019-20	-- / --	141.20 / 0.73	22.72 / 0.22	8,086 / 7,08,034
		2020-21	-- / --	30.04 / 0.31	0.94 / 0.02	-- / --
3	9.1.3: Gross Capital Formation by industry of use, (in Rs. crore) <i>Source: NAD, NSO, MoSPI / Periodicity: Annual</i>	Year	Current		Constant	
		2015-16	42,19,570		37,31,740	
		2016-17	44,76,754		39,10,207	
		2017-18	50,53,181		42,89,515	
		2018-19	58,30,943		47,48,844	
		2019-20	60,45,754		48,88,802	
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						
1	9.2.1: Percentage Share of GVA in Manufacturing to Total GVA <i>Source: National Accounts Division, NSO, MoSPI Periodicity: Annual</i>	Year	Value			
		2015-16	17.1			
		2016-17	16.7			
		2017-18	16.6			
		2018-19	16.3			
		2019-20	14.7			
2	9.2.2: Manufacturing employment as a proportion of total employment <i>Source: PLFS, National Sample Survey, NSO, MoSPI / Periodicity: Annual</i>	Year	Value			
		2017-18	12.13			
		2018-19	12.07			
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						
1	9.3.1: Share of household sector in total industry value added <i>Source: National Accounts Division, NSO, MoSPI / Periodicity: Annual</i>	Year	Value			
		2015-16	43.70			
		2016-17	43.71			
		2017-18	44.07			
		2018-19	43.95			
		2019-20	44.30			

2	9.3.2: Percentage of credit flow to MSME as a percentage of Total Adjusted Net Bank Credit <i>Source: Ministry of Micro, Small and Medium Enterprises / Periodicity: Annual</i>	Year	Value
		2015-16	18.18
		2016-17	17.29
		2017-18	16.84
		2018-19	17.32
		2019-20	16.39
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			
1	9.4.1: Total CO ₂ emissions of power sector per unit of GDP (in Tonne/Rupees Crore) <i>Source: CEA, Ministry of Power / Periodicity: Annual</i>	Year	Value
		2015-16	61.45
		2016-17	57.71
		2017-18	53.94
		2018-19	50.65
2	9.4.2: Energy use intensity of manufacturing value added, (Tonne of Oil Equivalent/000' rupees) <i>Source: ESD, MoSPI / Periodicity: Annual</i>	Year	Value
		2016-17	0.0094
		2017-18	0.0088
		2018-19	0.0086
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			
1	9.5.1: Percentage share of government spending on IPP (Research and Development) to total GDP, (in percentage) <i>Source: National Accounts Division, NSO, MoSPI / Periodicity: Annual</i>	Year	Value
		2015-16	0.10
		2016-17	0.11
		2017-18	0.10
		2018-19	0.09
		2019-20	0.09
2	9.5.2: Researchers (in full time equivalent) per million population <i>Source: Ministry of Science and Technology / Periodicity: Annual</i>	Year	Value
		2015-16	218
		2017-18	255
3	9.5.3: Total number of patents issued (granted), (similar to Indicator 8.2.2 and 8.3.2) <i>Source: Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry / Periodicity: Annual</i>	Year	Value
		2015-16	6,326
		2016-17	9,847
		2017-18	13,045
		2018-19	15,283
		2019-20	24,936
		2020-21	23,407
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			
National Indicator is under development			
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			
1	9.b.1: Share of IPP in total Gross Fixed Capital Formation <i>Source: NAD, NSO, MoSPI / Periodicity: Annual</i>	Year	Value
		2015-16	12.26
		2016-17	13.55
		2017-18	11.69
		2018-19	11.53
		2019-20	13.03



2	9.b.2: Share of GVA of Information and Computer related activities in total GVA <i>Source: NAD, NSO, MoSPI / Periodicity: Annual</i>	Year	Current	Constant
		2015-16	4.17	4.54
		2016-17	4.45	4.90
		2017-18	4.26	4.76
		2018-19	4.49	5.02
		2019-20	4.71	5.35
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				
1	9.c.1: Number of Internet Subscriptions as percentage of total population <i>Source: Department of Telecommunications, Ministry of Communications / Periodicity: Annual</i>	Year	Value	
		2015-16	26.98	
		2016-17	32.86	
		2017-18	38.02	
		2018-19	48.48	
		2019-20	54.29	
2	9.c.2: Number of broadband subscribers per 10,000 persons <i>Source: Department of Telecommunications, Ministry of Communications / Periodicity: Annual</i>	Year	Value	
		2015-16	1,179	
		2016-17	2,152	
		2017-18	3,176	
		2018-19	4,289	
		2019-20	5,000	

SDG 9 Metadata: National Indicator 9.1.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Target	9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
Indicator	9.1.2: Passenger and freight volumes, by mode of transport
Data Source Ministry	Ministry of Railway Ministry of Road Transport and Highways Ministry of Civil Aviation
Department/Division	
Description of Indicator	This indicator consisting of three components of mode of transport i.e. Railways, Air and Road as these are three basic elements of transport system and contribute largely to Indian transport system: 1) Passenger movement and freight volumes by Railways 2) Passenger movement and freight volumes by Roads 3) Passenger movement and freight volumes by Scheduled Indian Airlines
Computation	-
Unit of measurement	Road Transport (Passengers - Billion Passenger Km / Freight - Billion Tonnes Km) Scheduled Indian Airlines (Passenger - Million / Cargos - Million Tonnes) Indian Railways (Passenger - Million / Freight - Million Tonnes)
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	
Mapping with Global Indicator	Partial match with GIF 9.1.2
References	Data is available on the websites https://data.gov.in/catalog/freight-and-passenger-movement-road-transport-and-railways ; www.indianrailways.gov.in ; http://www.dgca.nic.in ; http://morth.nic.in

SDG 9 Metadata: National Indicator 9.1.3	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Target	9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
Indicator	9.1.3: Gross Capital Formation by industry of use
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	National Accounts Division
Description of Indicator	It is the net additions to fixed assets in the economy, Change in Stocks of Inventories (CIS) and valuables during the accounting period. GCF is estimated using production approach (Commodity flow method) and expenditure approach and $GCF = GFCF + CIS + Valuables$.
Computation	Gross Capital Formation (GCF) by industry excluding valuables for the reference year
Unit of measurement	Rs. Crore
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	No match
References	Data is available on the website http://www.mospi.nic.in

SDG 9 Metadata: National Indicator 9.2.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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: Percentage Share of GVA in Manufacturing to Total GVA
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	National Accounts Division
Description of Indicator	The indicator is defined as the manufacturing Gross Value as percentage of Total Value Added (GVA) at current prices. Gross Value Added is defined as output less intermediate consumption. Gross value added is arrived by aggregating sector-wise value added. Sector-wise GVA is estimated using production/income/ expenditure approach depending upon the availability of related data.
Computation	Numerator: GVA at Basic Price in Manufacturing during reference year Denominator: GVA at basic prices during reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	No match
References	Data is available on the website http://www.mospi.nic.in

SDG 9 Metadata: National Indicator 9.2.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Target	9.2: Promote inclusive and sustainable industrialisation 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	9.2.2: Manufacturing employment as a proportion of total employment
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	
Description of Indicator	The indicator is defined as a percentage of number of workers in usual status (ps+ss) engaged in manufacturing sector out of the total number of workers in usual status (ps+ss), during the reference year.
Computation	Numerator: Number of workers in usual status (ps+ss) engaged in manufacturing sector during the reference year Denominator: Number of workers in usual status (ps+ss) during the reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	State/UT
Type of Disaggregation	
Mapping with Global Indicator	Exact match with GIF 9.2.2
References	PLFS Report is available on the website www.mospi.nic.in



SDG 9 Metadata: National Indicator 9.3.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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: Share of household sector in total industry value added, (in percentage)
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	
Description of Indicator	Gross Value Added is defined as output less intermediate consumption. Gross value added is arrived by aggregating sector-wise value added. Sector-wise GVA is estimated using production/income/ expenditure approach depending upon the availability of related data.
Computation	Numerator: GVA by Household during reference year Denominator: Total GVA during reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	No match
References	Data is available on the website www.mospi.nic.in

SDG 9 Metadata: National Indicator 9.3.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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	9.3.2: Percentage of credit flow MSME (as a percentage of Total Adjusted Net Bank Credit), (in percentage)
Data Source Ministry	Ministry of Micro, Small and Medium Enterprises
Department/Division	
Description of Indicator	The indicator is defined as Total Outstanding Credit given by Banks to Micro, Small Medium Enterprises as a percentage of total Adjusted Net Bank Credit during reference year.
Computation	Numerator: Total Outstanding Credit given by Banks to Micro, Small Medium Enterprises during reference year Denominator: Total Credit given by Banks (Adjusted Net Bank Credit) during reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	No match
References	NA

SDG 9 Metadata: National Indicator 9.4.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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: Total CO ₂ emissions of power sector per unit of GDP(in Tonne/Rupees Crore)
Data Source Ministry	Ministry of Power
Department/Division	Central Electricity Authority
Description of Indicator	The indicator refers to the amount of CO ₂ emissions generated by the power sector per unit of GDP.
Computation	Numerator: Total CO ₂ emission of power sector Denominator: GDP at current price Multiplier: Nil
Unit of measurement	Tonne/Rs. Crore
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	
Mapping with Global Indicator	No match
References	Data is available on the website http://www.cea.nic.in

SDG 9 Metadata: National Indicator 9.4.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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	9.4.2: Energy use intensity of manufacturing value added, (Tonne of Oil Equivalent /000' rupees)
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	Economic Statistics Division
Description of Indicator	The indicator is Energy Use Intensity in manufacturing sector
Computation	Numerator: Total Primary Energy used in manufacturing sector during reference year Denominator: Economic output of the manufacturing sector in terms of GVA during reference year Multiplier: 100
Unit of measurement	Tonne of Oil Equivalent/000' Rs.
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	No match
References	Data is available on the website http://mospi.gov.in



SDG 9 Metadata: National Indicator 9.5.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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: Percentage share of government spending on IPP (Research and Development) to total GDP
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	National Accounts Division
Description of Indicator	Percentage share of government spending on intellectual properties product (IPP), which is considered as research and development at current price out of GDP at current price during the reference year.
Computation	Numerator: Total expenditures on intellectual properties products during reference year Denominator: Gross Domestic Product, during the reference year Multiplier: Nil
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	Partial match with GIF 9.5.1
References	Data is available on the website http://www.mospi.gov.in

SDG 9 Metadata: National Indicator 9.5.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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	9.5.2: Researchers (in full time equivalent) per million population
Data Source Ministry	Ministry of Science and Technology
Department/Division	
Description of Indicator	This indicator is expressed in terms of researcher engaged in Research and Development (R&D) activities per million population and activities comprise institutional sector, higher education sector and industrial (public and private sector). Data includes: Major Scientific Agencies, Central Government Ministry/Department, State Government, Higher Education, Public and Private. Sector Industries and SIRO's.
Computation	Numerator: Number of researchers (in numbers) Denominator: Population during reference period (in millions) Multiplier: Nil
Unit of measurement	Per million population
Periodicity	Biennial
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	Partial match with GIF 9.5.2
References	NA

SDG 9 Metadata: National Indicator 9.b.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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: Share of IPP in total Gross Fixed Capital Formation, (in percentage)
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	National Accounts Division
Description of Indicator	Numerator is the net additions to fixed assets in the form of IPP in the economy during the accounting period. IPP asset of GFCF is estimated using expenditure approach.
Computation	Numerator: Estimate of Intellectual Property Products in GFCF during reference year Denominator: Estimate of GFCF during reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	-
References	Data is available on the website www.mospi.nic.in

SDG 9 Metadata: National Indicator 9.b.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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.2: Share of GVA of Information and Computer related activities in total GVA, (in percentage)
Data Source Ministry	Ministry of Statistics and Programme Implementation
Department/Division	National Accounts Division
Description of Indicator	The indicator is defined as the percentage share GVA of Information and Computer related activities in total GVA
Computation	Numerator: GVA of Information and Computer related activities Denominator: GVA of the total economy Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	-
Type of Disaggregation	-
Mapping with Global Indicator	-
References	Data is available on the website http://www.mospi.gov.in



SDG 9 Metadata: National Indicator 9.c.1	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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 2021
Indicator	9.c.1: Number of Internet Subscription as percentage of total population
Data Source Ministry	Ministry of Communications
Department/Division	Department of Telecommunications
Description of Indicator	The indicator is defined as the number of internet subscriptions during reference year as percentage of total population.
Computation	Numerator: Total internet subscriptions during reference year Denominator: Mid-year population during reference year Multiplier: 100
Unit of measurement	Percent
Periodicity	Annual
Level of Disaggregation	Service area
Type of Disaggregation	-
Mapping with Global Indicator	-
References	Data is available on the website https://www.trai.gov.in

SDG 9 Metadata: National Indicator 9.c.2	
Goal	9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
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 2021
Indicator	9.c.2: No. of Broadband Subscribers per 10,000 persons
Data Source Ministry	Ministry of Communications
Department/Division	Department of Telecommunications
Description of Indicator	The indicator is defined as number of broadband subscriptions during reference year per 10,000 persons.
Computation	Numerator: Number of broadband subscriptions during reference year Denominator: Mid-year population during reference year Multiplier: 10,000
Unit of measurement	Per 10,000 population
Periodicity	Annual
Level of Disaggregation	Service area
Type of Disaggregation	-
Mapping with Global Indicator	-
References	Data is available on the website https://www.trai.gov.in