

Global Innovation Index (GII) - UPSC Notes

The Global Innovation Index (GII) 2023 was recently released. The GII helps create an environment that evaluates innovation factors continuously.

In this article, you can read all about the Global Innovation Index, its significance, implications for India and other details for the [UPSC IAS exam](#).

Global Innovation Index, 2023

The 16th edition of the Global Innovation Index was released in September 2023. India has retained the rank of 40 in this edition.

- Switzerland has retained its spot of rank 1 for the 13th year.
- Sweden is now in the second spot followed by the United States in third. The United Kingdom is fourth and Singapore enters the top 5 at the fifth position.
- China is in the 12th place followed by Japan at number 13. China is the only middle-income country in the top 30.
- The GII listed India as among the 21 economies that outperformed for a 13th consecutive year on innovation relative to the level of development. The other countries in this club are Moldova and Vietnam.
- India, Iran, the Philippines, Türkiye, Indonesia and Vietnam are among the economies within the GII top 65 that climbed fastest in the ranking over the last decade.
- The report pointed out that the sale of electric vehicles increased from 4% in 2012 to 14% in 2022. It also said, "...electric three-wheelers are already booming in major markets such as India, where over half of its three-wheeler registrations in 2022 were electric."
- The report also acknowledged that just five economies host 80 per cent of all the world's unicorns, namely, the United States (54 percent), China (14 percent), India (6 percent), the United Kingdom (4 percent) and Germany (2 percent).

India's Performance in GII 2023

- India achieved a rank of 40 in GII 2023. This is the top spot among central and south Asian countries.
- India leads the lower middle-income group, performing strongly in every innovation pillar except for Infrastructure.
- India leads the ranking among central and south Asian economies in parameters such as Human capital and research (48), Business sophistication (57) and Knowledge and technology outputs (22).
- Strong indicators include ICT services exports (5th), Venture capital received (6th), Graduates in science and engineering (11th) and Global corporate R&D investors (13th).

Global Innovation Index, 2022

- The 15th edition of the Global Innovation Index launched globally on September 30, 2022.
- India has climbed six positions and has scored **40th rank** in the Global Innovation Index, 2022.
- India enter the top 40 for the first time and overtakes Vietnam (48th) as the top lower middle-income economy for innovation.
- The GII 2022 finds that India continues to lead the world in the ICT services exports indicator with the first rank while holding top rankings in other indicators, including Venture capital recipients' value (6th), Finance for startups and scaleups (8th), Graduates in science and engineering (11th), Labor productivity growth (12th) and Domestic industry diversification (14th).
- Only a few economies have consistently delivered peak innovation performance.
 - Switzerland, Sweden, the U.S., and the U.K. have all ranked among the top 5 in the past three years, while the **Republic of Korea joins the top 5 of the GII for the first time in 2021.**
 - The majority of the GII top 25 most innovative economies continue to be from Europe.
- New segment - **Global Innovation Tracker**
 - This new segment of GII aims to provide a perspective on global innovation performance, drawing on a select set of indicators.
- GII 2021 provides detailed innovation metrics for 132 economies.
- **Top three innovation economies by income group**
 - **High-income**
 1. Switzerland
 2. United States of America
 3. Sweden
 4. United Kingdoms
 5. Netherlands
 - **Upper middle-income**
 1. China
 2. Bulgaria
 3. Malaysia
 - **Lower middle-income**
 1. India
 2. Viet Nam
 3. Iran
 - **Low-income**
 1. Rwanda
 2. Madagaskar
 3. Ethiopia

- In 2022, the NITI Aayog, in partnership with the Confederation of Indian Industry (CII) and the World Intellectual Property Organisation (WIPO) hosted virtually, the India Launch of the GII and the Global Innovation Conclave during **September 30, 2021**.

Global Innovation Index, 2021

- The 14th edition of the Global Innovation Index was launched globally on September 20, 2021.
- India has climbed two positions and has scored **46th rank** in the Global Innovation Index, 2021.
- The GII 2021 finds that investment in innovation has shown great resilience during the COVID-19 pandemic, often reaching new peaks, but that it varies across sectors and regions.
- Only a few economies have consistently delivered peak innovation performance.
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 - **Lower middle-income**
 1. Viet Nam
 2. India
 3. Ukraine
 - **Low-income**
 1. Rwanda
 2. Tajikistan
 3. Malawi

Global Innovation Index (GII)

The GII is an index that provides detailed metrics about the **innovation performance** of 131 countries and economies all over the world.

- The index was first released in 2007 and is released annually.
- It is published by INSEAD, Cornell University, and the World Intellectual Property Organization ([WIPO](#)), along with other institutions.
- The index uses 80 indicators that take into account a wide idea of innovation including education, political environment, business sophistication, and infrastructure.
- The index is based on both objective and subjective data compiled from various sources including the World Bank, the [International Telecommunication Union \(ITU\)](#), and the International Monetary Fund.
- The GII has become an important reference for governments and businesses to measure a country's performance on innovation.

How is the Global Innovation Index calculated?

The GII is calculated by taking a simple average of the scores in two sub-indices. The sub-indices are:

1. Innovation Input Index (composed of five pillars)
2. Innovation Output Index (composed of two pillars)

Both the pillars describe an attribute of innovation each and contain up to five indicators. Their score is computed by the weighted average method.

GII 2020

The GII 2020 is the 13th edition of the index. The theme for the 2020 index is **“Who will Finance Innovation?”**

- According to GII 2020, the world's most innovative economy is Switzerland. It has been ranked number one for the last ten years.
- Sweden is at number two, followed by the USA, the UK and the Netherlands.
- Among the top ten ranks are seven European countries.
- Regional leaders topping include India, Chile, Israel, South Africa, and Singapore.
- Vietnam, China and Tanzania top their respective income groups.
- The ranking is dominated by developed countries and China is the only middle-income country to feature under 30. It has been ranked 14th for the second year in a row. China's indicators related to patents, utility models, trademarks, industrial designs, and creative goods exports are good.
- The GII has also been publishing a ranking of the world's top 100 science and technology hotspots since the last four years.
 - Tokyo-Yokohama is the top-performing hotspot in 2020, followed by Shenzhen-Hong Kong-Guangzhou, Seoul, Beijing, and San Jose-San Francisco.
 - The largest number of hotspots in the world is in the US with 25 hotspots.

- The top 100 hotspots are in 26 countries out of which six are middle-income countries. They are India, Brazil, China, Iran, Russia and Turkey.
- At rank 48, India is the third-most innovative lower-middle-income economy in the world.
- One of the findings of the report was that the money to fund innovative ventures was drying up. VC deals are in a decline across North America, Asia and Europe.
- The report also pointed out that the COVID-19 pandemic has spurred innovation in many traditional and new sectors such as tourism, retail, education and health.

The following tables give the Regional Leaders of the various groupings.

NORTH AMERICA	
Regional Rank	Country
1	USA
2	Canada

LATIN AMERICA AND THE CARIBBEAN	
Regional Rank	Country
1	Chile
2	Brazil
3	Mexico

EUROPE		
Regional Rank	Country	GII Rank
1	Switzerland	1
2	Sweden	3
3	United Kingdom	4

SUB-SAHARAN AFRICA	
Regional Rank	Country

1	South Africa
2	Botswana
3	Kenya

NORTHERN AFRICA AND WESTERN ASIA	
Regional Rank	Country
1	Israel
2	United Arab Emirates
3	Turkey

CENTRAL AND SOUTHERN ASIA	
Regional Rank	Country
<i>1</i>	<i>India</i>
2	Iran
3	Uzbekistan

SOUTHEAST ASIA, EAST ASIA, OCEANIA	
Regional Rank	Country
1	Republic of Korea
2	Singapore
3	Hong Kong, China

GII and India

As seen from the table above, India is the top country in its group, which is Central and Southern Asia.

- India is ranked 40th, six places above the previous year's rank.

- This is for the first time that India is ranked within 40th in the GII.
- India is now the first innovative lower-middle-income economy in the world.
- India ranks in the top 15 in the following indicators:
 - Government online services
 - ICT services export
 - Graduates in science and engineering
 - R&D-intensive global companies
- The report states that India has the highest innovation quality among lower-middle-income countries.
- The consistent improvement in the index rankings is owing to the immense knowledge capital, the vibrant startup ecosystem, and the amazing work done by the public and private research organizations.
- India improved the most in three pillars: Institutions (61st), business sophistication (55th), and creative outputs (64th).
- The India Innovation Index 2019 which was released by the [National Institution for Transforming India NITI Aayog](#), has been widely accepted as the major step in the direction of decentralization of innovation across all the states of India.

FAQ about Global Innovation Index GII

Q. Who topped the list of Global Innovation Index 2023?

Switzerland is the world's most innovative economy followed by Sweden, the USA, the United Kingdom (U.K.) and Singapore, according to the GII 2023.

Q. Who publishes the global innovation index?

World Intellectual Property Organisation (WIPO) publishes global innovation index. India is at the 40th position in the list of top 50 innovative countries in 2022.