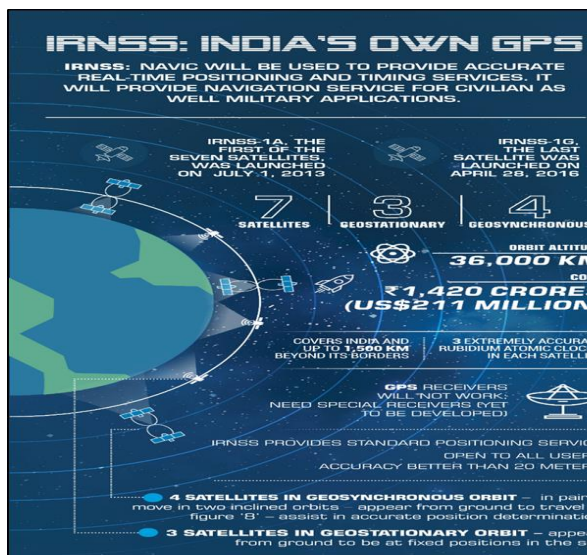


ISRO TO BOOST NAVIC, WIDEN USER BASE OF LOCATION SYSTEM

In News:

- On the side-lines of the India Space Congress, the Indian Space Research Organisation (ISRO) recently revealed its plans to expand the reach of NavIC (Navigation with Indian Constellation) beyond India and not to a limited territory around India.
- ISRO is also working on a series of NavIC improvements to encourage more people to install and use it.

NavIC (Navigation with Indian Constellation):



- NavIC, also known as the Indian Regional Navigation Satellite System (IRNSS), is an independent stand-alone indigenous navigation satellite system developed by the Indian Space Research Organisation (ISRO).
- NAVIC was approved in 2006 and was expected to be completed by 2011, but only become operational in 2018.
- NavIC, which consists of 7 satellites, covering

the whole of India's landmass and up to 1,500 km from its boundaries, is conceived with the aim of removing dependence on foreign satellite systems for navigation, particularly for "strategic sectors."

- Currently, NavIC's application in India is limited in -
 - Public vehicle tracking,
 - For providing emergency warning alerts to fishermen venturing into the deep sea where there is no terrestrial network connectivity and
 - For tracking and providing information related to natural disasters.
- The next step India is pushing for is to include it in smartphones.

- According to **India's draft satellite navigation policy 2021**, the government will work toward "expanding the coverage from regional to global" to ensure the availability of NavIC signals in any part of the world.

Competitors:

- **GPS:** The main difference between GPS (caters to users across the globe and its satellites circle the earth twice a day) and NavIC (currently for use in India and adjacent areas) is the **serviceable area** covered by these systems.
- **Others:**
 - Like GPS, there are three more navigation systems that have global coverage - Galileo from the European Union, Russia-owned GLONASS and China's Beidou.
 - QZSS, operated by Japan, is another regional navigation system covering the Asia-Oceania region, with a focus on Japan.

News Summary:

India Space Congress (ISC) 2022:

- The SatCom Industry Association (SIAIndia) is organising a three-day ISC 2022 in New Delhi.
- The theme of ISC 2022 is '**Leveraging Space to Power Next-Gen Communication & Businesses**'.
- ISC 2022 is **supported** by the ISRO, Ministry of Defence, Niti Aayog, In-Space, NewSpace India Ltd (NSIL) and the Department of Telecommunication.
- To foster the growing interest in deep space tech startups in India, ISC 2022 announced a number of initiatives to showcase excellence.
 - By engaging with '**iDEX 75 Space Challenges**' which was announced by PM Modi during the Defence Expo, Microsoft will extend Founders Hub benefits to the 15 shortlisted startups.
 - As part of the Founders Hub program, Microsoft provides founders with free resources to help overcome the challenges startups face.

The NavIC will undergo following significant changes in the near future:

- **Adding the L1 band into NavIC:** Currently NavIC is only compatible with the L5 and S bands and hasn't easily penetrated into the civilian sector.

- L1 bandwidth is part of the GPS and is the most used for civilian navigational use.
 - **Increasing the safety of the signals:** There are two types of codes - Long Code and Short Code. NavIC currently only offers short codes. This must become Long Code for the strategic sector's use, to prevent the signal from being compromised.
 - **5 new satellites to replace decommissioned NavIC satellites:** To be launched in the coming months, the new launches (medium earth orbit (MEO) satellites) will make NavIC truly “global” like GPS.
 - Currently, NavIC satellites orbit earth in a geostationary or geosynchronous (GEO) orbit, about 36,000 km from earth.
 - MEO orbits occupy a space between GEO and Low Earth Orbit (LEO).
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ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)

Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman recently attended the 7th Annual Meeting of the Board of Governors of AIIB via video conference.



About

- The theme of this year's Annual Meeting was “Sustainable Infrastructure Toward a Connected World”.
 - **What is AIIB?** AIIB is a multilateral development bank that aims to improve economic and social outcomes in Asia.
 - **Headquarters:** Beijing, China.
 - **Board of Governors:** All powers of the Bank are vested in our Board of Governors, which is the **highest decision-making body under our Articles of Agreement.**
 - **Membership:** AIIB has 105 members. China is the AIIB's largest shareholder with a 26.5% voting share. India is the second-largest, with 7.5%, followed by Russia, which has a 5.97% voting share.
 - **India is a Founding Member** of AIIB. India also has the largest project portfolio within AIIB.
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BLUE FLAG BEACHES

Two Indian beaches, Minicoy Thundi beach and Kadmat beach, located in Lakshadweep, have received the International eco-label 'Blue Flag'.



About:

- With the new additions, the number of beaches certified under the Blue Flag Certification is **twelve**.
- **The other Indian beaches in the blue list are** Shivrajpur-Gujarat, Ghoghla-Diu, Kasarkod and Padubidri-Karnataka, Kappad-Kerala, Rushikonda- Andhra Pradesh, Golden-Odisha, Radhanagar- Andaman and Nicobar, Kovalam in Tamil Nadu and Eden in Puducherry beaches.

Blue Flag' certification

- The Blue Flag programme was **started in France in 1985 and in areas out of Europe in 2001**. It promotes sustainable development in freshwater and marine areas through **four main criteria**: water quality, environmental management, environmental education and safety.
- It can be obtained by a **beach, marina, or sustainable boating tourism operator**, and serves as an eco-label.
- The certification is awarded by the **Denmark-based non-profit Foundation for Environmental Education (FEE)**. It is awarded annually to beaches and marinas in FEE member countries.
- **Forty-eight countries** currently participate in the program, and 5042 beaches, marinas, and boats have this certification.

GM MUSTARD



Genetic Engineering Appraisal Committee (GEAC) recently approved commercial cultivation of genetically modified mustard variety DMH (Dhara Mustard Hybrid)-11.

About:

- The approval will make GM mustard **only the second approved transgenic crop in India after Bt cotton**, and the first such food crop that can be commercially cultivated by farmers. The GEAC approval is **valid for the next four years**.
- Though the GEAC had cleared the proposal in 2017, the Ministry had vetoed it and suggested that the GEAC hold more studies on the GM crop. The recommendation will now again go for the approval of the Environment Ministry.

Hybrid mustard

- Hybridisation involves **crossing two genetically dissimilar plant varieties** that can even be from the same species. The first-generation (F1) offspring from such crosses tend to have higher yields than what either parent can individually give.
- Scientists at Delhi University's Centre for Genetic Manipulation of Crop Plants (CGMCP) have developed the hybrid mustard DMH-11 containing two alien genes isolated from a **soil bacterium called Bacillus amyloliquefaciens**.
- The CGMCP scientists have deployed the **barnase-barstar GM technology** to create a robust and viable hybridisation system in mustard. This system was used to develop DMH-11 by **crossing a popular Indian mustard variety 'Varuna' (the barnase line) with an East European 'Early Heera-2' mutant (barstar)**.
- DMH-11 is claimed to have shown an **average 28% yield increase over Varuna**.

Significance

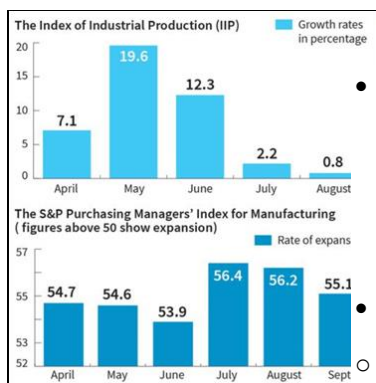
- The move is seen as giving a boost to cultivation of mustard and eventually **reducing the country's edible oils import bills**.
- India had to **import edible oil worth nearly \$19 billion in 2021-22**. Though mustard is cultivated in India in around seven million hectares of land, **the per hectare yield of current variety is very low at 1-1.2 tonnes per hectare compared to the global average of around 2.3-3 tonnes**.

[THE FM'S CALL FOR INDUSTRIAL INVESTMENT](#)

In News:

- Last month, Union Finance Minister Shri Nirmala Sitharaman **asked captains of industry what was holding them back from investing in manufacturing.**
- She likened industry to Lord Hanuman from the Ramayana by stating that industry did not realise its own strength and that it should forge ahead with confidence.

Present Scenario:



- In the GDP figures for the April-June 2022 quarter, **gross fixed capital formation (GFCF)** at 2011-12 prices rose 9.6% to ₹12.77 lakh crore, from ₹11.66 lakh crore in Q1 of FY20, which was the pre-pandemic period.

• **Gross Fixed Capital Formation –**

○ Gross fixed Capital Formation (GFCF) **represents investment demand within the economy.**

- As per RBI, GFCF refers to the mixture of gross additions to fixed assets (i.e., fixed capital formation) and changes in stocks throughout the enumeration amount.
 - Fixed asset refers to the development, machinery, and equipment.
- **GFCF isn't a measure of total investment**, because only the worth of net additions to fixed assets is measured, and every one variety of monetary assets, further as stocks of inventories and other operational prices are excluded.
- Private final consumption expenditure, an essential pillar of India's economy, climbed 26% year-on-year for the June quarter.
 - However, the ₹22.08 lakh crore of private spending in April-June 2022 was a significant ₹54,000 crore, or 2.4%, less than that spent in the preceding quarter.
- **Private Final Consumption Expenditure –**
 - Private final consumption expenditure is defined as expenditure on goods and services for the direct satisfaction of individual needs.

- Whereas government consumption expenditure includes goods and services produced by government, as well as purchases of goods and services by government that are supplied to households.

What is the consumer sentiment?

- Private companies invest when they are able to estimate profits, and that comes from demand.
- The Centre for Monitoring Indian Economy's (CMIE) consumer sentiment index is still below pre-pandemic levels but is far higher than what was seen 12-18 months ago.
- Manufacturing firms recorded a sequential uptick in new orders while infrastructure firms displayed optimism on the overall business situation, turnover and employment.
- Capacity utilisation is now much better than what it was during the pandemic when it had slipped to 67-68%.
- Capacity utilization refers to **the manufacturing and production capabilities that are being utilized by a nation or enterprise at any given.**

What is Index for Industrial Performance?

- The Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy in a stipulated period of time.
- It is a composite indicator of the general level of industrial activity in the economy.
- IIP is compiled and published monthly by the National Statistical Organization (NSO), Ministry of Statistics and Programme Implementation.
- IIP measures the performance of the economy on the basis of eight core industries, with 2011-12 as base year.

ASEAN-INDIA MINISTERIAL MEETING

7th ASEAN-India Ministerial Meeting held on Agro-Forestry under the co-chairmanship of Union Agriculture Minister.

About:

- In the meeting, the progress in implementation of various programs and activities under the **Medium Term Action**





CROSS & CLIMB ROHTAK



Plan of ASEAN-India Cooperation (Year 2021-2025) was reviewed.

- The meeting also welcomed the **30th anniversary of ASEAN-India relations.**

The Association of Southeast Asian Nations (ASEAN)

- It was established on 8 August 1967 in Bangkok, Thailand, with the signing of the **ASEAN Declaration (Bangkok Declaration)** by the **Founding Fathers of ASEAN:** Indonesia, Malaysia, Philippines, Singapore and Thailand.
 - Brunei Darussalam joined ASEAN in 1984, followed by Viet Nam in 1995, Lao PDR and Myanmar in 1997, and Cambodia in 1999, making up what is today the **ten Member States of ASEAN.**
 - India's relationship with ASEAN has emerged as a key cornerstone of our foreign policy. The relationship has evolved from the 'Look East Policy' enunciated in early 1990s which led **India to become a Sectoral Partner of ASEAN in 1992, a Dialogue Partner in 1996 and a Summit-level Partner in 2002.**
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