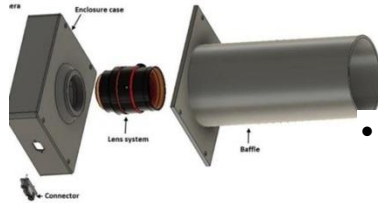


STARBERRY-SENSE

Researchers at the Indian Institute of Astrophysics (IIA) have developed a low-cost star sensor for astronomy and small CubeSat class satellite missions.



About Starberry-Sense:

- The star sensor Starberry-Sense can help **small CubeSat class satellite missions** find their orientation in space.
- Any satellite needs to know where it is pointed in space, and the instrument used for this purpose is called a star sensor.
- The position of stars in the sky is fixed relative to each other and can be used as a **stable reference frame** to calculate the **orientation of a satellite in orbit**.
- **Features of Starberry-Sense**
 - The brain of the instrument is a **single-board Linux computer called Raspberry Pi**, which is widely used among electronics hobby enthusiasts.
 - Based on commercial/off-the-shelf components, this star sensor costs **less than 10% of those available in the market**.
 - It is ready for launch on the **PS4-Orbital Platform by ISRO** and can be used for **CubeSats** and other **small satellite missions** in the future.
 - The star sensor has successfully undergone the **vibration and thermal vacuum** test that qualifies it for a space launch and operations, and these tests were conducted in-house at the environmental test facility located at the CREST Campus of IIA in Hosakote.

What are CubeSats?

- CubeSats are a class of **research spacecraft** called nano satellites.
- CubeSats are built to standard dimensions (Units or “U”) of 10 cm x 10 cm x 10 cm.
- They typically **weigh less than 1.33 kg** (3 lbs) per U.

ADVANCED TOWED ARTILLERY GUN SYSTEMS (ATAGS)

Recently, the Defence Acquisition Council headed by the Union defence minister gave its approval for Acceptance of Necessity (AoN) for the procurement of 307 ATAGS.



About Advanced Towed Artillery Systems:

- It is a large calibre gun system which has high precision.
- This gun system has the capability to be programmed and fire Long Range Guided Munitions.
- It has the capabilities like an automatic ammunition handling system which can fire six successive rounds and can fire in Zone 7, and also has a **self-propelled mode**.
- It also has the **shoot and scoot capability** and is also the first of its kind gun which is capable of achieving the **shortest minimum range at a high angle**.
- These guns can be deployed in **high-altitude regions** along the Line of Actual Control (LAC) in eastern Ladakh
- This gun is developed by the **Defence Research and Development Organisation (DRDO)** and the production partners of these ATAGS are two private sector companies – Pune-based **Bharat Forge** and **Tata Advanced Systems**.

NAMDAPHA TIGER RESERVE

Recently, a tiger spotted in the Namdapha Tiger Reserve after an eight-year gap could have helped uncover timber ‘depots’ deep inside India’s easternmost tiger reserve.



About Namdapha Tiger Reserve:

- Namdapha Tiger Reserve is located in the Changlang district of **Arunachal Pradesh**.
- Namdapha is the name of a river which originates from Daphabum and meets the Noa-Dehing river.
- This river flows right across in a **North-South direction** of the National Park and hence the name Namdapha has been given.

- This protected area is wedged between the **Dapha Bum ridge of Mishmi Hills**, of North Eastern Himalayas and the **Patkai Ranges**.
- **Flora:** Evergreen Forests, Moist deciduous forests, sub-tropical forests, Temperate Forests and Alpine.
- **Fauna:** Earthworms, Butterflies & Moths, Amphibians, Reptiles etc.

GUN LICENSING

Recently, the Punjab government has cancelled 813 gun licenses in the state to clamp down on the “gun culture”.



Why in news?

- In 2022, the Punjab government ordered a complete ban on the public display of weapons and songs glorifying violence.
- The order also called for a review of all licenses issued within 3 months and barred the issuance of new licenses for the next 3 months, except in extraordinary circumstances.

What are the acts related to arms in India?

- **The Indian Arms Act of 1959** was passed after India attained independence.
- It scrapped the erstwhile Act of 1878, passed by the British that restricted Indians from possessing firearms.
- The act was amended in 2019 decreasing the number of licensed firearms allowed per person.
- **Conditions under the act**
 - No one can acquire, possess or carry any firearms in India without a license.
 - The Act bars one person from carrying **more than one firearm**.
 - It prevents persons of unsound mind or those out on bond from getting such a license.
 - **Validity:** The validity of a firearm license was **increased from 3 years to 5 years (2019 amendment)**.

What are the types of Licenses?

- **Non- prohibited bore (NPB):** Indian citizens aged 21 years and above are eligible to get Non-Prohibited Bore (NPB) guns and these are **issued by the state governments**.

- **Prohibited bore (PB):** Prohibited Bore guns can only be issued to defence personnel or persons facing imminent threats to life and these are issued by the **Central Government or Ministry of Home Affairs.**
-

PM MITRA: TAMIL NADU, KARNATAKA, AMONG 7 STATES TO GET TEXTILE PARKS

Why in News?

- The Centre has selected sites in Tamil Nadu, Telangana, Karnataka, Maharashtra, Gujarat, MP and UP to set up new textile parks, a year and a half after the PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme was announced.

What is the PM Mega Integrated Textile Regions and Apparel (PM MITRA) Scheme?

- **The Ministry of Textiles** has launched (2021) the scheme to strengthen the Indian textile industry by way of
 - Enabling scale of operations,
 - Reducing logistics cost by housing entire value chain at one location,
 - Attracting investment,
 - Generating employment and augment export potential.
- The Scheme has a budget outlay of **4445 Crore** including administrative expenses of Rs 30 crore over 7-year period up to 2027-28.
- The scheme will develop **an integrated large scale and modern industrial infrastructure facility (parks)** for total value-chain (spinning, weaving, processing, printing, etc) of the textile industry.
- **These parks** are envisaged to be **located at sites which have inherent strengths** for the textile industry to flourish and have necessary linkages to succeed.
- The scheme envisages to leverage the **Public Private Partnership (PPP) model** for fast paced implementation in a time-bound manner.

- PM MITRA mega textile parks will boost the textiles sector in line with **5F** (Farm to Fibre to Factory to Fashion to Foreign) vision.

All-in-one parks

The PM Mega Integrated Textile Regions and Apparel (PM MITR) scheme was announced in October 2021

- The parks will come up by 2026-27
- The total outlay for the project is ₹4,445 crore, though the initial allocation in the 2023-24 Budget is only ₹200 crore
- States have offered to provide at least 1,000 acres, says Minister Goyal



- Spinning, weaving, processing/ dyeing, printing and garment manufacturing will be done at one location
- Effort is to reduce logistic cost of textile industry and make it global competitive

How will these Parks be set up under the PM MITRA Scheme?

- These parks will be set up **on the basis of proposals received from State Governments** having ready availability of contiguous and encumbrance-free land parcels of **minimum 1000 acres**.
- The State Government will transfer land to the **Special Purpose Vehicle (SPV)**, which will be a **legal entity** (with 51% equity shareholding of State and 49% of Central Government).
- The selection of PM MITRA Park sites will be done in a two stage (Selection of Sites, Development of the Park) selection process on **Challenge Method**.
 - The "Challenge Method" is a type of selection process that is often used in competitions and challenges to determine the best candidate or solution.
 - In the context of the PM MITRA Park sites, the challenge method involves a two-stage process.
 - Interested parties first submit their proposals for the development of the park sites.
 - Then a select number of proposals are chosen to move on to the second stage.
 - During the second stage, the selected proposals may be given specific challenges or tasks to complete in order to further demonstrate the feasibility and effectiveness of their proposal.
 - At the end of the challenge method process, the proposal that best meets the criteria and objectives of the PM MITRA Park sites project will be selected for implementation.

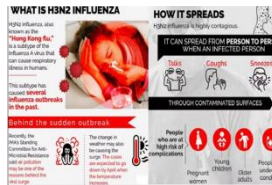
FLU CASES RISING IN INDIA

Why in news?

- The Centre last week reviewed the rise in cases of influenza, and states have been readying hospitals for a possible spike in infections.
- The Union Health Ministry has confirmed a death each in Haryana and Karnataka due to the H3N2 subtype of the flu virus this month.

What is the H3N2 Virus?

- Influenza viruses, which cause the infectious disease known as flu, are of four different types: A, B, C and D.
- Influenza A is further classified into different subtypes and one of them is the H3N2.



• Is H3N2 a new sub-type of influenza?

- No, it is one of the sub-types of the influenza virus that has been known to cause seasonal infections. In fact, H3N2 caused a flu pandemic back in 1968.
- In India, this sub-type was detected in 1996 and has since caused outbreaks too.
- The only difference this year is that the disease seems to be a little more severe.

News Summary: Flu cases rising in India

Why is there an increase in flu cases?

- **Flu season**
 - Officials and experts said the current spike is because, first, this is the flu season as the season changes.
 - India usually sees two flu peaks every year — between January and March and, post-monsoon, between August and October.
- **Lower immunity**
 - Fewer flu infections during the pandemic has resulted in a large reservoir of people with lower immunity.
 - The two pandemic years, 2020 and 2021, reported only 2,752 and 778 cases of the flu respectively.
 - Every year there is a subclinical spread of influenza and people acquire some immunity to it.
 - But during the pandemic, people masked up, stayed away from crowded areas, avoided gatherings, and this spread could not occur. Hence, there is an increase this year.
- **Changing nature of flu virus**
 - The flu virus is prone to changing its structure. This means that we see an increase in flu cases usually every other year.
- **Availability of flu shot**

- India's burden of conditions like diabetes and heart disease — which are risk factors for severe disease — is huge even among the young.
- The yearly flu shot is not readily available in government set-ups, and its uptake is not high.

Have Covid-19 cases spiked as well?

- At least two states, Gujarat and Maharashtra, have reported a new sub-variant of the novel coronavirus, XBB.1.16.
- However, very few genome sequences are available, and not much is known about the sub-variant yet.
- Researchers have said that although there seems to be a growth advantage — seeing as it is replacing previously dominant variants — whether it could lead to surge/severe cases is not known.
- Hospitals are still reporting Covid-19 cases with upper respiratory tract symptoms and fever, similar to what is seen with the flu.
- The Centre has written to six states — Tamil Nadu, Telangana, Kerala, Karnataka, Gujarat, and Maharashtra — asking them to carry out:
 - adequate and proactive testing,
 - monitor new and emerging clusters of infections,
 - keep an eye on influenza like illnesses (ILI) coming to health facilities, and
 - send samples of international travellers, sentinel sites, and clusters for genomic sequencing.

[INTERNATIONAL CRIMINAL COURT ISSUES ARREST WARRANT AGAINST VLADIMIR PUTIN](#)

Why in news?

- The International Criminal Court (ICC) has issued an **arrest warrant** for Russian President Putin for war crimes because of his alleged involvement in abductions of children from Ukraine.
- The arrest warrant for Mr. Putin, a sitting head of state of a U.N. Security Council member, is an unprecedented step for the ICC.

What is the International Criminal Court (ICC)?

- About

- It is a permanent court to prosecute serious international crimes committed by individuals.
- It tries crimes such as genocide, war crimes, crimes against humanity, and aggression.
- The court was established to fight global impunity and bring to justice criminals under international law, regardless of their rank or stature.
- It is different from the United Nations' International Court of Justice, also at The Hague.
- **HQ**
 - The Hague, The Netherlands
- **Statute**
 - Before the ICC became functional in 2002, its founding treaty was adopted by the UN General Assembly in 1998 in Rome, Italy, thereby making it the Rome Statute.
- **Membership**
 - To become a member of the ICC or State party to the Rome Statute, countries have to sign the statute and ratify it under their respective legislatures.
 - 123 countries are currently members of the ICC, with African countries making up the largest bloc.
 - Notably, countries including India, China, Iraq, North Korea and Turkey never signed the Rome Statute.
 - Others including the US, Russia, Israel and Syria signed, but never ratified it.
- **How does the ICC function?**
- **Judges & Prosecutors**
 - The court carries out its investigations through the Office of the Prosecutor and has 18 judges.
 - Both the judges and prosecutors hold non-renewable nine-year terms.
- **Process**
 - There are pre-trial, trial, and appellate benches in the ICC.
 - The prosecutor conducts a preliminary examination in a matter, before seeking permission from pre-trial judges to open a full investigation.
 - The initial examination must conclude that the crimes in question are of sufficient gravity.
- **Ways to open investigations**
 - The prosecutor can open an investigation in three ways:

- when a case is referred by a member country in its own territory;
- when a case is referred by the UN Security Council; and
- when the prosecutor takes up a case on his own (proprio motu).
- Non-member states can also be investigated in three ways:
 - if alleged crimes were perpetrated by non-members in member states,
 - if the non-members accept the court's jurisdiction, or
 - when the Security Council authorises it.

Criticisms of the ICC

• Pace of investigation and judgements

- After 19 years of being active, the court has convicted 10 persons accused in a small number of cases and acquitted four individuals.
- Hence, some experts question whether the time, efforts and financial resources invested in the court by member countries is worth the outcome.
 - The court's annual budget for 2021 was over \$160 million.

• Afraid to take actions against Western powers

- This was pointed out first, when the court denied permission to start an investigation into Afghanistan in 2019, and second, when the current prosecutor wanted to restart the investigation after the Taliban takeover.

• Bias against African countries

- Barring recent years, the court, since its formation, largely took up investigations into alleged crimes committed in African countries.
- All of the nearly 30 cases currently in the trial stage before the court are from African countries.
 - The African Union in 2016 had endorsed a proposal led by Kenya for a mass withdrawal from the Rome Statute.
 - The vote on this proposal, however, was symbolic.