

2019



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# CURRENT AFFAIRS

**SCIENCE & TECHNOLOGY**

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BusinessLine



## **1. India - Qatar Joint Maritime Exercise**

### **Why in News?**

The inaugural edition of the Bilateral Maritime Exercise Za'ir-Al-Bahr (Roar of the Sea) was conducted from 17 - 21 November 2019 between the Indian Navy and Qatari Emiri Naval Forces in Doha, Qatar.

- Za'ir-Al-Bahr 2019 would strengthen the robust defence co-operation between the two countries, specially in the fight against terrorism, maritime piracy and maritime security.
- It will also enhance interoperability between the two navies.

### **Za'ir-Al-Bahr 2019**

- **Indian Navy Guided Missile Stealth Frigate INS Trikand and Patrol Aircraft P8-I** will participate in the exercise.
  - INS Trikand is one of the frontline frigates of the Indian Navy equipped with a versatile range of weapons and sensors. It is a part of the Indian Navy's Western Fleet.
  - The P8-I Maritime Patrol Aircraft incorporates the latest technology for Maritime Surveillance.
- The Exercise will include a three-day Harbour Phase and two days Sea Phase.
  - The Harbour Phase will include a seminar, professional interaction, official visits, sports fixtures along with social and cultural events.
  - The Sea Phase will include a Tactical Maritime Exercise involving the domains of Surface Action, Air Defence, Maritime Surveillance and Interdiction Operation and anti-terrorism.

## **2. Space Internet**

### **Why in News?**

SpaceX, the world's leading private company in space technology, has launched 60 satellites into **low earth orbit** under the **Starlink network**.

### **Starlink Network**

- The Starlink network is one of several ongoing efforts to start beaming data signals for internet from space.
- The project is intended to eventually evolve into a constellation of nearly 12,000 internet beaming satellites.
- The aim is to provide low-cost and reliable space-based Internet services to the world.

### **Significance**

- Currently, about 4 billion people, more than half the world's population, do not have access to reliable Internet networks.

- This is because the traditional ways to deliver the Internet- fibre-optic cables or wireless networks- cannot take it everywhere on Earth.
- In many remote areas, or places with difficult terrain, it is not feasible or viable to set up cables or mobile towers.
- Signals from satellites in space can overcome this obstacle easily.
- Starlink network could move internet data about 50% faster than is physically possible with current fibre optic cables.

### Space Internet

- Space-based Internet systems have, in fact, been in use for several years now but only for a small number of users.
- In space-based networks, data requests travel from the user to the satellite, and are then directed to data centres on the ground. The results then make the same journey in the reverse direction.
- Most of the existing systems use satellites in **geostationary orbit**.
  - Using geostationary orbit, satellites can cover a large part of the Earth. It is also easier to link to them.
  - However, there is a time lag, called latency, between a user seeking data, and the server sending that data.
- In the past geostationary orbits were used, now satellites are being launched in **Low Earth Orbits (LEO)**.
  - A satellite in the lower orbit, 200-2,000 km from the Earth's surface, can bring the time lag down to 20-30 milliseconds, roughly the time it takes for terrestrial systems to transfer data.
  - However, owing to their lower height, their signals cover a relatively small area. As a result, many more satellites are needed in order to reach signals to every part of the planet.

### Concerns over the Project

- Increased space debris.
- Increased risk of collisions.
- Concern of astronomers that these constellations of space Internet satellites will make it difficult to observe other space objects, and to detect their signals.
- Astronomers and scientists have also complained about increased “light-pollution”.
  - It was a reference to light reflected from the man-made satellites that can interfere with- and be mistaken for- light coming from other heavenly bodies.

### 3. Global Cybercrime

#### Why in News?

India has supported Russia-led Global Cybercrime Resolution in the United Nations. The resolution is in direct opposition to the **Budapest Convention**.

- The Russian proposal aims to create a committee to convene in August 2020 in New York to establish a new treaty through which nation-states can coordinate and share data to prevent cybercrime.

#### About Budapest Convention

- The Convention on Cybercrime of the Council of Europe, known as the Budapest Convention, was adopted by the Committee of Ministers of the Council of Europe in November, 2001.
  - It is an international organisation with the aim to uphold human rights, democracy and the rule of law in Europe. It is headquartered in Strasbourg, France.
- The 64 member Budapest Convention is the **sole legally binding multilateral treaty that coordinates cybercrime** investigations between nation-states and criminalises certain cybercrime conduct.
  - India is not a member of the Budapest Convention.
- It serves as a guideline for any country developing comprehensive national legislation against Cybercrime and as a framework for international cooperation between State Parties to this treaty.

#### National Cybersecurity Policy, 2013

- India released its first cyber security policy called National Cyber Security Policy in 2013.
- **Mission:**
  - To protect information and information infrastructure in cyberspace, build capabilities to prevent and respond to cyber threats, reduce vulnerabilities and minimise damage from cyber incidents through a combination of institutional structures, people, processes, technology and cooperation.
- **Strategies:**
  - Creating a secure cyber ecosystem.
  - Creating an assurance framework.
  - Encouraging Open Standards.
  - Strengthening the Regulatory framework.
  - Creating mechanisms for security threat early warning, vulnerability management and response to security threats.
  - Securing E-Governance services.
  - Protection and resilience of Critical Information Infrastructure.
  - Promotion of Research & Development in cyber security.
  - Reducing supply chain risks.
  - Creating Cyber Security Awareness.

- Initiatives such as setting-up the National Cyber Coordination Centre (NCCC), National Critical Information Infrastructure Protection Centre (NCIIPC), and creating sector specific Computer Emergency Response Teams (CERT) under CERT-In etc. were implemented under the above policy.



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