



PIB, THE HINDU Newspaper and Editorial Current Affairs

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NuGen Mobility Summit 2019

Why in news?

The International Centre for Automotive Technology (ICAT) is organizing a NuGen Mobility Summit, 2019, at Manesar, NCR, from 27th to 29th November 2019.

Highlights:

- The objective of the Summit is to share new ideas, learnings, global experiences, innovations and future technology trends for faster adoption, assimilation and development of advanced automotive technologies for a smarter and greener future.
- This event will help in building a platform for bringing together all stakeholders in the automotive industry to understand global advancements in technologies.
- The Summit is being organized in association with SAENIS, SAE INDIA, SAE International, NATRiP, DIMTS, Department of Heavy Industry, Ministry of Road Transport and Highways, SIAM and ACMA.
- The event aims to bring together the automotive OEMs, professionals, researchers, academic experts, vehicle system suppliers, test equipment supplier, quality managers, product planners, component developers, SAE members and students from all over the world.
- Track demonstrations, drive-touch-feel activity and lab demonstrations on upcoming vehicle technologies like connected mobility, autonomous vehicles, electric mobility, alternate fuels, intelligent transportation system, hydrogen fuel cell, hydrogen IC

engine, vehicle dynamics, advance materials and lightweighting, end of life vehicles and recycling are uniqueness of this event.

- ICAT Centre-II is under brisk renovation to create a world-class state-of-the-art facility for organizing such significant and sizeable events for the automotive fraternity. Several kinds of tracks such as coast down track, oval track, abs track, hill track and flood track will be available for demonstrations and events.

About NATRiP Project:

- National Automotive Testing and R&D Infrastructure Project (NATRiP), the largest and one of the most significant initiatives in Automotive sector so far, represents a unique joining of hands between the Government of India, a number of State Governments and Indian Automotive Industry to create a state of the art Testing, Validation and R&D infrastructure in the country.
- The Project aims at creating core global competencies in Automotive sector in India and facilitate seamless integration of Indian Automotive industry with the world as also to position the country prominently on the global automotive map.

VISION

Create state-of-art research and testing infrastructure to drive India into the future of global automotive excellence

MISSION

NATRiP aims at setting up of seven state-of-the-art automotive testing and R&D centres across the country and thereby :

- Creating core global competencies.
- Enhancing competitive skills for product development leading to deepening of manufacturing.
- Synergizing Indias unique capabilities in Information Technology with the automotive sector.
- Facilitating seamless integration of Indian automotive industry with

the world to put India strongly on the global automotive map.

Enzyme to arrest bacteria cell growth

Why in news?

Scientists at the Centre for Cellular & Molecular Biology (CCMB) have discovered a new enzyme which helps in breaking cell walls of bacteria and hence, offers a potential for a new drug delivery route to **arrest the anti-bacterial resistance** through existing antibiotic drugs.

New Discovery:

- At a press conference, CCMB director explained that it is crucial to know how cells grow in bacteria to understand the anti-bacterial resistance to currently available antibiotics.
- Scientists all over the world are trying to understand this phenomenon been working on how **e. coli bacteria** cells function, divide and grow to understand diseases like cholera, leprosy, tuberculosis and so on for the past decade.

Blocking function:

- Other bacteria, too, have the same enzyme working on cell division as the cell wall is fundamental for bacterial growth and division.
- Therefore, by blocking this '**scissors enzyme**' from functioning, new ways to target microbes could be found, leading to a new wave of antibiotic drugs.
- In contrast, the classical antibiotic drugs target the last stage of cell synthesis to prevent cell growth like penicillin that hits the machinery that creates the cell wall a mesh-like structure of cross-linked sugars and peptides.

New combination:

- What has been found is very novel. Now the next step is to find out

the molecule of the enzyme endo-pepcidine and it has to be followed by the drug trials to unravel a new combination of drugs to replace existing antibiotics though it is difficult to forecast a time frame.

Early brain function affected in poor kids

Why in news?

Children born into poverty show key differences in early brain function, according to new research from the University of East Anglia (UEA).

Findings of the Study:

- Researchers studied the brain function of children aged between four months and four years in rural India and found that children from lower income backgrounds, where mothers also had a low level of education, had weaker brain activity and were more likely to be distracted.
- The team carried out the study in Uttar Pradesh, the highly populated region in India.
- Researchers said Each year, 250 million children in low- and middle-income countries **fail to reach their developmental potential**.
- Therefore, there is a growing need to understand the global impact of poverty on early brain and behavioural development.
- Poverty and early adversities significantly impact brain development, contributing to a vicious cycle of poverty. But few studies have looked at brain function early in development.
- Using a portable 'functional near infrared spectroscopy' (fNIRS) device, they measured the brain activity of 42 children aged between four months and four years in rural settings.
- They investigated the children's 'visual working memory' or how well they are able to store visual information and detect changes in the visual environment when they occur.
- The results of the study were compared with children from families in

Midwest America.

- The research team found that the children in India from families with low maternal education and income showed weaker brain activity and poorer distractor suppression in the left frontal cortex area of the brain that is involved in working memory.
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ISRO to launch a string of 'defence' satellites

Why in news?

Between now and early 2020, the space above India looks set to see an unprecedented rush of satellites meant solely or mainly for the country's military. ISRO plans to send up at least eight earth observation (EO) satellites of varied hues and at the rate of almost one a month.

New Satellites:

- **Communication satellite GSAT-32** is also in the offing next year to replace GSAT-6A, which was lost in a failed launch and was meant to mainly serve the ground forces.
- Until now, such defence-use satellites were spaced out over a few years; or were put up only once a year as in the case of the **Cartosat-2 series high-resolution imaging satellites**.
- **HysIS**, launched in November; **Microsat-R** in January; and **the EMISAT** sent into orbit on April 1 are all for what is called "strategic use".

DRDO payloads:

- While traditionally, payloads for ISRO's satellites come from the Space Applications Centre, the **payloads of the Microsat-R and EMISAT were from the Defence Research and Development Organisation (DRDO)**.
- Soon after EMISAT's launch, ISRO Chairman and Secretary, Department of Space, K.Sivan, announced that the next mission would be the **radar imaging satellite RISAT-2B**, followed by a **high**

resolution mapping satellite Cartosat-3.

- Both are understood to be useful militarily and seen as overdue assets.

Equal treatment:

- In a recent interaction, Dr. Sivan had told that the space agency does not distinguish how ISRO's EO satellites serve various departments and national agencies.

Advanced technology:

- **Cartosat-3 will have 30 cm resolution**, which is at a par with the world's best, according to public information already put out by ISRO.
- It means the satellite can clearly 'see' and capture images of guns, devices, objects or human movement at that scale from space.
- There are already half-a-dozen Cartosat-2 series satellites in orbit, though these possess a lower resolution capability than the upcoming Cartosat-3.
- Radar imaging satellites like India's RISAT series can provide almost an uninterrupted view of earth, day or night, rain or shine, a handy feature for the forces to detect border infiltration.
- While the RISAT-1 of 2012 is dead, RISAT-2 of 2009 (said to have been imported from Israel) still works.
- A number of foreign satellites that have been flown to space on the PSLV are also for earth observation, space situational awareness and ship monitoring, which again may be useful as military information.

India space debris may have doubled after Mission Shakti

Why in news?

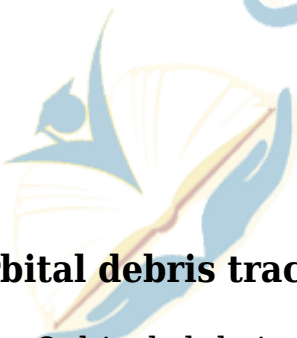
The amount of Indian space debris may have almost doubled in the aftermath of the Mission Shakti anti-satellite strike but this is still significantly less than the existing space debris generated by China, Russia and the United States.

Rise in Debris:

- Data from SPACE-TRACK.org, a public access repository maintained by the U.S. defence wing that tracks space activity, notes only 80 pieces of “space debris” attributable to India in orbit.
- This, however, doesn't include debris from **MICROSAT-R**, the DRDO satellite that was pulverised by India's anti-satellite missile.
- NASA criticised India for the test, describing it as a “terrible, terrible” thing that had endangered the International Space Station (ISS) and led to the creation of nearly 400 pieces of orbital debris.
- Some of the debris posed a risk to astronauts on board the ISS. Of the nearly 400 pieces, only 60 were being tracked and 24 of them were going above the apogee of the ISS (the farthest point from the earth of the ISS' orbit). The latter posed the maximum risk to the ISS.
- Prior to the March 27 test, for India's 80 pieces, there were 4,091 pieces of debris by the U.S., 4,025 by Russia and China's 4,038, according to SPACE-TRACK.

Kessler Syndrome:

The Kessler syndrome, proposed by the NASA scientist Donald J. Kessler in 1978, is a scenario in which the density of objects in low Earth orbit is high enough that collisions between objects could cause a cascade where each collision generates space debris that increases the likelihood of further collisions.



Orbital debris tracking:

- Orbital debris are tracked by a variety of ground-based radar and space stations.
- The speeds at which these objects between 1mm to 10 cm across hurtle through space travel makes them extremely dangerous, various studies have showed.

Fortified ISS:

- The International Space Station is among the most fortified space objects.
 - It has debris shields deployed around the crewed modules, each composed of two metal sheets, separated by about 10 cm.
 - The outer bumper shield exploits the impact energy to shatter the debris object, such that the inner back wall can withstand the resulting spray of smaller-sized fragments.
 - Between the walls, fabric with the same functionality as in bullet-proof vests is deployed.
 - This design enables the shield to buffer against debris objects up to 1 cm in size.
 - The U.S. Space Surveillance system can calculate if an object will veer too close to the ISS and if need be the station can be moved out of the orbit of the offending projectile.
 - By the end of 2012, the Station had performed more than 15 of these manoeuvres, according to the ESA.
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Pakistan could be blacklisted by FATF

Why in news?

Pakistan could be blacklisted by the Financial Action Task Force (FATF) due to lobbying by India, Pakistan Foreign Minister said as he estimated that the country could suffer \$10 billion loss annually if it remains in the watchdog's grey list.

FATF Grey list:

- In June last year, the Paris-based FATF had placed Pakistan on the **'grey list' of countries whose domestic laws are considered weak to tackle the challenges of money laundering and terrorism financing.**
- **The FATF is working to curb terrorism financing and money laundering** and has asked Pakistan to reassess the operation of banned terrorist outfits in the country.
- Pakistan is under intense international pressure to rein in terror

groups like the Jaish-e-Mohammed (JeM) after the Pulwama terror attack.

Terror financing risks:

- A group of experts from the FATF recently visited Pakistan to review whether Islamabad has made enough progress on global standards against financial crimes to warrant its exclusion from the watchdog's 'grey list'.
- During its three-day visit to Islamabad in the last week of March, a delegation of the Asia-Pacific Group (APG) on money laundering and a regional affiliate of the FATF, expressed serious reservations over insufficient physical actions on ground against banned groups to block flow of funds and activities.
- The visiting team members reportedly raised questions over specific and on-ground actions against each of the eight organisations proscribed under international requirements.
- It wanted break-up of suspected transaction report against each banned outfit and specific actions taken against each entity.
- The team members said that activities of banned organisations and non-profit organisations are still unchecked at the provincial, district and grass-roots level where they can still raise funds and hold meetings and rallies.
- The FATF noted that Pakistan had revised its terror financing risk assessment but did not demonstrate a proper understanding of the terror financing risks posed by the Islamic State group, Al-Qaeda, Jamaat-ud-Dawah (JuD), Falah-i-Insaniat (FIF), Lashkar-e-Taiba (LeT), Jaish-e-Mohammed (JeM), Haqqani Network and persons affiliated with the Taliban.

Action Plan implementation:

- Prime Minister Imran Khan's government recently banned Mumbai terror attack mastermind Hafiz Saeed-led JuD and its charity wing FIF.
- It declared JeM and five other groups "high risk". It also arrested over 100 members of the banned outfits including the son and brother of JeM chief Azhar Masood.
- The government also has taken over the control of the properties of the banned outfits including the JeM, the JuD and the FIF what it says

in accordance with the FAFT requirements and the National Action Plan.

- Ahead of the team's visit, Pakistan wrote to FATF President to appoint any other member as co-chair of the Asia-Pacific's Joint Group, in place of India, to ensure that the FATF review process is fair, unbiased and objective.
 - After obtaining Pakistan's response, the Mutual Evaluation Report will be presented in the Annual General Meeting of the APG that is likely to take place in August.
 - The APG meeting would either accept the report or suggest changes to it.
 - In case of the worst outcome, Pakistan may have to implement yet another Action Plan from October onwards.
 - The FATF's Action Plan implementation deadline is September this year.
 - The review on the implementation of the FATF Action Plan held in February did not go well, which has increased pressure on Pakistan.
 - The next FATF review would take place in June in Washington and before that Pakistan will have to show compliance on 16 points that have been agreed for May in addition to three issues that were left out in the last review.
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SC verdict could delay resolution of stressed assets

Why in news?

The prospect of recovering ₹3.8 lakh crore of stressed loans of over 70 large borrowers has become uncertain after the Supreme Court (SC) quashed the controversial February 12, 2018 circular of the Reserve Bank of India (RBI) on resolution of stressed assets.

Feb 12 Circular:

- Through a notification issued on February 12, 2018, the RBI laid down a revised framework for the resolution of stressed assets, which replaced all its earlier instructions on the subject.

- The circular introduced a new one-day default norm “As soon as there is a default in the borrower entity’s account with any lender, all lenders singly or jointly shall initiate steps to cure the default.
- The circular, which was opposed by banks as well as industry players, **directed lenders to classify a loan account as stressed and start resolution process within one day of default.**
- If banks start resolution of an asset, they have to set aside higher capital, known as **provision in banking parlance.**
- Banks were also asked to refer all loan accounts of over ₹2,000 crore for bankruptcy proceedings if resolution is not achieved in 180 days.
- Also, all the existing loan restructuring facilities like corporate debt restructuring were withdrawn and **Insolvency and Bankruptcy Code (IBC) became the only option for resolution of stressed assets.**
- Banks were required to immediately start working on a resolution plan for accounts over Rs 2,000 crore, which was to be finalised within 180 days. In case of non-implementation, lenders were required to file an insolvency application.
- The RBI said that in view of the enactment of the Insolvency and Bankruptcy Code, 2016 (IBC) under which a resolution plan is supposed to be finalised within 180 days, with a grace period of 90 days it was necessary to substitute the existing guidelines with a harmonised and simplified generic framework for resolution of stressed assets.

Impact of the Circular:

- The circular went into effect on the same day that it was issued, and all existing schemes for stressed asset resolution were withdrawn with immediate effect.
- These included the Framework for Revitalising Distressed Assets, Corporate Debt Restructuring Scheme, Flexible Structuring of Existing Long-Term Project Loans, Strategic Debt Restructuring Scheme (SDR), Change in Ownership outside SDR, and Scheme for Sustainable Structuring of Stressed Assets (S4A).
- All these schemes allowed more lenient terms of resolution than the February 12 circular, which specifically said that the resolution process must begin from day one of the default.
- The circular was ostensibly intended to stop the “**evergreening**” of

bad loans the practice of banks providing fresh loans to enable timely repayment by borrowers on existing loans.

- The RBI warned banks that not adhering to the timelines laid down in the circular, or attempting to evergreen stressed accounts, would attract stringent supervisory and enforcement actions.
- The government had earlier asked the RBI to make sector-specific relaxations in the timeline for the implementation of the circular.

SC Verdict:

- The Supreme Court Tuesday held the February 12 circular “ultra vires as a whole” essentially meaning the **RBI had gone beyond its powers** and thus “of no effect in law”.
- Several companies from the power and shipping sectors had challenged the circular, arguing that the time given by the RBI was not enough to tackle bad debt.
- Power producers, for instance, had argued that the RBI’s ‘one-size-fits-all’ approach was impractical since the sector was having to confront external factors that were beyond its control, and which made an early revival difficult for them.
- These factors included the unavailability of coal and gas, and problems arising out of the failure of state governments to honour power purchase agreements.
- Power companies had moved Allahabad High Court against the RBI circular, which had refused to grant them interim relief last August.
- Shipping and sugar sector companies had approached other High Courts against the circular.
- The Supreme Court clubbed together all these petitions. The RBI argued that the circular had been issued in the public interest, with a view to ensure the timely resolution of stressed assets.

Impact of the SC Verdict:

- Bankers and other stakeholders said resolution of stressed assets could now be delayed.
- The current SC ruling, quashing the February 12 [2018] RBI circular on NPAs may have its own merit. However, with respect to an escalation of default cases, this ruling will raise significant questions around the timely reporting and resolution under IBC the primary reason behind IBC’s enactment.

Adds to uncertainty:

- Experts believe that the development will be negative for lenders and may prolong the recovery phase for the banks.
 - It also adds to uncertainty on the existing accounts' classification, provision requirements etc.
 - The total estimated debt impact due to the circular is of ₹3.8 lakh crore across 70 large borrowers, and 92% of this debt was classified as non-performing by banks as on March 31, 2018.
 - Banks have made provisions of over 25-40% on these accounts and hence, should not impact the reported asset quality of profitability numbers.
 - However, the resolution process, which was expected to be expedited, may get delayed.
 - Bankers said they still had the option to refer an account to NCLT without referring to the circular.
 - But what happens to the cases referred to NCLT that cited the circular is uncertain.
 - The way forward, according to bankers, is that, the RBI should file a review petition with the Supreme Court, and think of an alternative mechanism for solving the issue.
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Manufacturing PMI at 6-month low

Why in news?

Manufacturing activity slowed to a six-month low of 52.6 in March due to lower levels of new orders and production, according to a private sector survey. **The Nikkei India Manufacturing Purchasing Managers' Index** came in at a lower reading in March from 54.3 in February. A reading over 50 implies expansion while one below that denotes a contraction in activity.

Improving conditions:

- Registering 52.6 in March, the Nikkei India Manufacturing Purchasing Managers' Index continued to signal improving operating conditions in the sector.
- However, falling from 54.3 in February to a six-month low, the latest figure highlighted a loss of growth momentum.
- Softer increases were registered for new orders, production, input buying and employment.
- The report said that the increase in new orders was the slowest in six months, with firms reporting that the effect of strong underlying demand, successful advertising, and the receipt of bulk orders was being curbed by competitive conditions and the upcoming elections.

Strengthening business sentiment:

- The report highlighted the fact that business sentiment strengthened to a seven-month high in March with companies predicting that marketing initiatives, capacity expansion plans and favourable public policies after the elections would support production growth over the course of the coming 12 months.
- Although global headwinds and a general slowdown in trade present some concerns for the future health of Indian manufacturers' order books, so far companies have been able to weather the storm and secure healthy inflows of new work from abroad.
- A guarded attitude towards appointing new staff dragged job creation to an eight-month low, while buying activity growth moderated amid sufficient input stocks at some companies.

What is PMI?

- PMI stands for 'Purchasing Managers' index' and is considered as an **indicator of the economic health and investor sentiments about the manufacturing sector** (there is services PMI as well).
- In a PMI data, a reading above 50 indicates economic expansion, while a reading below 50 points shows contraction of economic activities.
- The PMI is **constructed separately for manufacturing and services sector**. But the manufacturing sector holds more importance.
- The **Institute of Supply Management (ISM)** originally developed PMI and is now estimating it for the US economy.

- The ISM is a non-profit group having more than 40,000 members from the supply management and purchasing segments. Strength of the ISM's PMI is its large number of data quote.
- ISM's PMI index was based on **five major indicators**: new orders, inventory levels, production, supplier deliveries and the employment environment.
- All these indicators strategically are capable of showing the business momentum in the industrial sector of an economy.

How PMI is different from IIP?

- The popular index that measures growth in the industrial sector as far as India is concerned is the **CSO prepared Index of Industrial Production**.
- IIP shows the change in production volume in major industrial subsectors like manufacturing, mining and electricity.
- Similarly, the IIP also gives use based (capital goods, consumer goods etc) trends in industrial production. It covers broader industrial sector compared to PMI.
- But compared volume-based production indicator like the IIP, the PMI senses dynamic trends because of the variable it uses for the construction of the index.
- For example, new orders under PMI show growth oriented positive trends and not just volume of past production that can be traced in an ordinary Index of Industrial Production.
- Inventory level shows recessionary or boom trends. Employment scenario is also sentimental indicator. Hence, the PMI is more dynamic compared to a standard industrial production index.

PMI for India:

- For India, the PMI Data is published by **Japanese firm Nikkei** but compiled and constructed by **Markit Economics** (for the US, it is the ISM).
- A manufacturing PMI and a services PMI are prepared and published by the two. The Nikkei and markit economics websites say that PMI data are based on **monthly surveys** of carefully selected companies.
- The PMI is very closely watched, as it shows the investor sentiment in an economy's manufacturing sector.
- In terms of composition, we can say the **PMI is a sentiment**

tracking index.

- On the other hand, the Index of Industrial Production indicates changes in production volume or output.
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