

04 APRIL 2019

South Korea first to roll out 5G services, beating U.S. and China

In News:

South Korea will become the first country to commercially launch fifth-generation (5G) services as it rolls out the latest wireless technology with Samsung Electronics' new 5G-enabled smart phone Galaxy S10.

About 5G

- 5G is the fifth generation mobile network.
- It's a unified platform which is much more capable than previous mobile services with more capacity, lower latency, faster data delivery rate and better utilisation of spectrum.
- The standards for the usage of 5G are defined and driven by 3rd Generation Partnership Project (3GPP).

Timeline: Evolution from 1G to 5G

- 1G: Launched in the 1980s. Analog radio signals and supported only voice calls.
- 2G: Launched in the 1990s. Uses digital radio signals and supported both voice and data transmission with a BandWidth(BW) of 64 Kbps.
- 3G: Launched in the 2000s. With a speed of 1 Mbps to 2 Mbps it has the ability to transmit telephone signal including digitised voice, video calls and conferencing.
- 4G: With a peak speed of 100 Mbps-1 Gbps it also enables 3D virtual reality.
- 5G: with a speed of more than 1Gbps, it is capable of connecting entire world without limits.

Salient features

Capability: 5G will provide much faster mobile broadband service as compared to the previous versions and will provide support to previous services like mission critical communication and the massive Internet Of things(IoT).

Speed: With peak delivering rate of up to 20 Gbps and an average of 100Mbps, it will be much faster as compared to its predecessors.

Capacity: There will be up to 100 x increase in traffic capacity and network efficiency.

Spectrum usage: Will provide better usage for every bit of spectrum, from low bands below 1 GHz to high bands.

Latency: It's expected to have lower latency with better instantaneous, real-time access of the data.

The 5G, like 4G LTE, also uses Orthogonal Frequency Division Multiplexing(OFDM) but the new 5G NR(New Radio)air interface will enhance OFDM and provide better flexibility in data delivery.

Applications Of 5G technology

High-Speed mobile network: 5G will revolutionize the mobile experience with supercharged wireless network. Compared to conventional mobile transmission technologies, voice and high-speed

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data can be simultaneously transferred efficiently in 5G

Entertainment and multimedia: 5G can provide 120 frames per second, high resolution and higher dynamic range video streaming without interruption. Audiovisual experience will be rewritten after the implementation of the latest technologies powered by 5G wireless. Augmented Reality and virtual Reality services will be better experienced over 5G.

Internet of Things: IoT applications collect huge amount of data from millions of devices and sensors and thus requires an efficient network for data collection, processing, transmission, control and real-time analytics which 5G network is a better candidate.

Smart cities : Smart city application like traffic management, instant weather update, local area broadcasting, energy management, smart power grid, smart lighting of street, water resource management, crowd management, emergency response etc can use a reliable 5G wireless network for its functioning.

Smart farming: 5G technology will be used for agriculture and smart farming in the future. Using smart RFID sensors and GPS technology, farmers can track the location of livestock and manage them easily. Smart sensors can be used for irrigation control, access control and energy management.

Mission critical applications: Like telemedicine services, remote control of critical infrastructure and vehicles. It has the potential to transform industries with highly reliable, low latency link.

High-Level 5G India 2020 forum

Government has constituted High-Level 5G India 2020 Forum with three Secretaries of key Ministries/Departments Telecom, Meity and DST, and also comprising renowned experts. The primary aims of the forum are:

- Early deployment of 5G in India.
- A globally competitive product development and manufacturing ecosystem targeting 50% of India market and 10% of global market over next 5 to 7 years.

Opening collegium to RTI will destroy judicial independence: Attorney General

In News:

Opening up the correspondence of the Supreme Court's collegium and its workings to the Right to Information (RTI) regime would destroy judicial independence.

In Brief:

Collegium System:

- The Supreme Court Collegium is the panel of judges vested with the responsibility of appointments and elevations of Chief Justices and judges of the Supreme Court and high courts of the country.
- The Collegium for the appointment of Judges of Supreme Court is headed by the Chief Justice of India and comprises of the four other senior-most judges of the Supreme Court.
- The decisions of the collegium are made through voting and the majority view prevails in case of difference of opinion.

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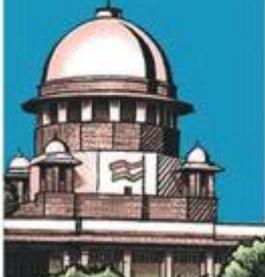


Constitutional Provisions for the Appointment of Judges

The constitution of India provides for the following provisions for the appointment of judges:

* Article 124(2) of the Indian Constitution provides that the Judges of the Supreme Court are appointed by the President after consultation with such number of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose.

* Article 217 of the Indian Constitution states that the Judge of a High Court shall be appointed by the President consultation with the Chief Justice of India, the Governor of the State, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.



Lens on Collegium
The events which led to the RTI on confidential communication between the SC and the Centre

- Activist Subhash Chandra Agarwal files an RTI seeking the correspondence between the SC Collegium and the Centre on the appointment of Justices H.L. Dattu, A.K. Ganguly and R.M. Lodha superseding Justices A.P. Shah, A.K. Patnaik and V.K. Gupta. Justices Dattu and Lodha later became Chief Justices
- SC refuses. The case comes to the Central Information Commission (CIC), which rules in favour of Agarwal in 2009 and dismisses SC's argument that judiciary should be free from "intrusions by strangers..."
- SC appeals in the Delhi HC against the CIC verdict. The HC dismisses the appeal
- In January 2010, a three-judge HC Bench of Justice A.P. Shah (now retired) upholds HC decision
- In November 2010, SC appeals to itself.

An SC Bench led by Justice B. Sudarshan Reddy (now retired) refers the appeal to a three-judge Bench

- In August 2016, a three-judge Bench refers the appeal to a **Constitution Bench**
- If the Constitution Bench upholds the CIC order of 2009, the ordinary citizen would be empowered to seek confidential details of all judicial appointments and transfers, thus opening a "Judicial Pandora's Box"

How Collegium came into existence?

The system of appointment and transfer of judges by collegium has evolved through judgments of the Supreme Court, and not by an act of the Parliament or by a provision of the Constitution, which are famously referred as Three-Judge Case.

- In the First Judges Case of 1980, the Supreme Court had declared that there was no need to provide primacy for the opinion of the Chief Justice of India while recommending a candidate to the President.
- This judgment was over-ruled in 1993 when the nine-judge bench ruled in favour of granting primacy to the Chief Justice of India in appointing the key members of the top judicial brass. This is referred to as second judge case.
- Things were clarified in the third judge case which was the Presidential reference to the Supreme Court on what the term "consultation", implies which the President was required to do with judges before selecting a judge, referred to in the Constitution. In reply, SC laid down nine guidelines for the functioning of the

As a result in the process of appointment of Judges to the High Courts and Supreme Courts, the role of the President is reduced to the ceremonial participant. The attempt by the central government to constitute the National Judicial Appointments Commission through constitutional amendment act as per the recommendations of the Justice MN Venkatachaliah Commission was also quashed by the Supreme Court as unconstitutional.

Collegium vs NJAC:

Right to Information Act 2005

- This law was passed by Parliament on 15 June 2005 and came fully into force on 12 October 2005.
- It mandates timely response to citizen requests for government information by various public authorities under Central Government as

Note



well as the State Governments.

- The law imposes penalty for wilful default by government officials.
- Citizens can ask for anything that government can disclose to Parliament.
- Objectives of RTI are to empower citizens (as right to information is fundamental right of the citizens under Article 19), promote transparency and accountability in working of Government, check corruption and make our democracy work for the people in real sense.
- Public authorities defined under this law are required to reply expeditiously or within thirty days of the request.
- The law also mandates every public authority to computerise their records for wide dissemination and proactively certain categories of information so that citizens need minimum recourse to request for information formally.

Note:

- Information that can prejudicially impact internal security, relations with foreign countries, intellectual property rights, breach of parliamentary privilege and impedes investigations cannot be shared with public under RTI.
- Cabinet papers are exempted from RTI until decision has been implemented.
- However, discussions within Cabinet are never disclosed under RTI.
- Non-Resident Indians (NRI) cannot file Right to Information (RTI) applications to seek governance-related information from Central government departments.
- Only citizens of India have the right to seek information under the provisions of RTI Act, 2005 and NRIs are not eligible to file RTI applications.

LAWMAKERS AND THE CONTENTIOUS LAW

THE TWO SYSTEMS AT LOGGERHEADS

Here's a look at the Collegium and the NJAC systems and a comparison between the two in relation to the powers vested with them and their functioning

COLLEGIUM SYSTEM

Original provision

Under Article 124(2) and Article 217(1) of the Constitution, SC/HC judges have to be appointed by the President after "consultation" with the CJ. Govt was not bound by the CJ's recommendation.

Judicial takeover

In 1993, SC introduced the collegium system taking over primacy in appointments of SC&HC judges.

CJ's primacy

In 1998, a nine-judge Constitution bench ruled that "consultation" must be effective and the CJ's opinion shall have primacy

Composition

Under the collegium system, a panel of top five SC judges appointed judges in secrecy

Veto power

Government could return collegium's recommendation. But if a recommendation was sent again, government was bound by it.

NJAC SYSTEM

Constitutional amendment

NJAC was established by the Constitution (99th Amendment) Act, 2014, giving some say to executive in judges' appointment

NJAC Act

Parliament also passed the National Judicial Appointments Commission Act, 2014 to regulate procedure to be followed by NJAC that replaced collegium system

Implementation

The 99th Constitutional Amendment Act and NJAC came into force from April 13, 2015. But it could not take off as the CJ refused to join until petitions against the new system were decided

Composition

CJ, 2 seniormost SC judges, Union law minister, and two eminent persons

Veto power

NJAC not to recommend person if any two members did not agree.

Bleaching hits world's southernmost coral reef

In news:



The corals off Lord Howe Island, some 600 km offshore from Sydney were affected by elevated temperatures this summer, despite escaping severe bleaching that damaged the Great Barrier Reef in 2016 and 2017.

Scientists found severe bleaching of up to 90% at Lord

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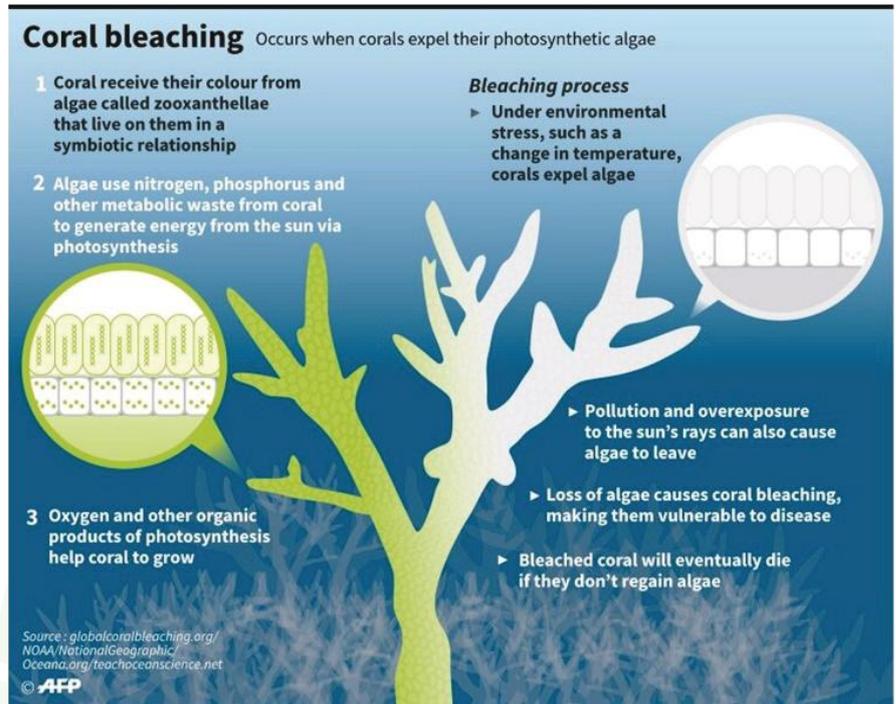
Howe's inshore, shallow lagoon reefs.

Increasing baseline temperatures caused by climate change, and local factors such as elevated temperatures in the area this summer, caused the bleaching to occur.

Conditions for growth of coral reefs:

1. Temperature of sea water - 200C – 300C
2. Sediment free water
3. Salinity
4. Existence of submarine platforms

The western margins of the continents mostly lack coral reefs because of the presence of cold ocean currents.



Coral bleaching:

Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour.

Corals can recover if the water temperature drops and the algae are able to recolonise them.

State of Global Air 2019

The report was published by Health Effects Institute (HEI) in cooperation with the Institute of Health Metrics and Evaluation (IHME) at the University of Washington, the University of British Columbia, and the University of Texas, Austin.

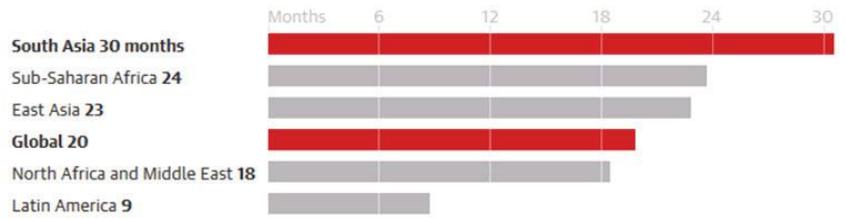
Highlights of the report:

- The current high level of air pollution has shortened the average lifespan of a South Asian child by two-and-a-half years while globally the reduction stands at 20 months.
- Exposure to outdoor and indoor air pollution contributed to over 1.2 million deaths in India in 2017. Air pollution was responsible for more deaths than many better-known risk factors such as malnutrition, alcohol abuse and physical inactivity.
- China and India together were responsible for over half of the total global attributable deaths.
- In India, air pollution is the third-highest cause of death among all health risks, ranking just above smoking.
- Long-term exposure to outdoor and indoor air pollution contributed to nearly 5 million deaths from stroke, diabetes, heart attack, lung cancer, and chronic lung disease in 2017.
- Out of these, 3 million deaths are directly attributed to PM2.5, half of which

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are from India and China together. The South Asian region — Bangladesh, India, Nepal and Pakistan — led the world as the most polluted, with over 1.5 million air-pollution related deaths according to the report.



World Health Organization:

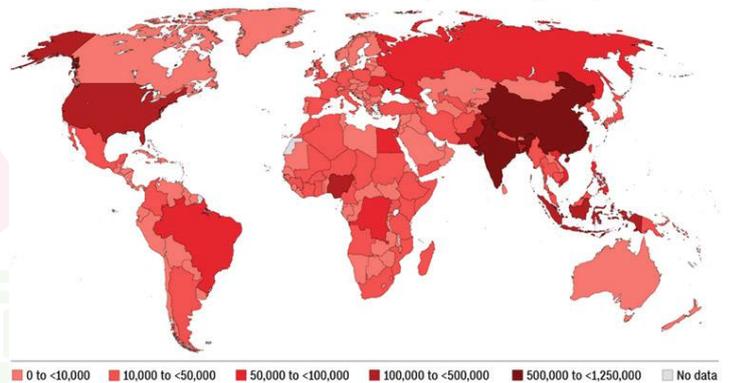
- Exposures to toxic air both indoors and out kills some 600,000 children under the age of 15 each year.
- It found that children are often more vulnerable to the impact of air pollution since they breath more rapidly than adults, and thus absorb more pollutants at a time when their brains and bodies are still developing.
- Every day, 93 per cent of children under the age of 15 breath dangerously polluted air.

Steps taken by India:

- Pradhan Mantri Ujjwala Yojana
- Accelerated Bharat Stage 6/VI clean vehicle standards
- National Clean Air Programme.

In India, 60% of the population still uses solid fuels. In Bangladesh the number rises to 79%.

Number of deaths attributable to air pollution (2017)



National investment and infrastructure fund

Why in news?

Recently NIIF joined hands with Roadis (an European private investor) to set up a platform to invest \$2 billion in road projects in India.

About NIIF:

•National Investment and Infrastructure Fund (NIIF) is India’s first sovereign wealth fund that was set up by the Government of India in February 2015.



• It was created to maximize economic impact mainly through infrastructure investment in commercially viable projects, both Greenfield and

Note



Brownfield.

- The Governing Council of NIIF is chaired by Union Finance Minister.
- NIIF has been registered with Securities and Exchange Board of India as a Category II Alternate Investment Fund.
- It has targeted corpus of Rs 40,000 crore to be raised over the years — 49% of it will be funded by government and remaining 51% will be raised from domestic and global investors, including international pension funds, sovereign wealth funds, and multilateral/bilateral investors.
- As of April 2019, the NIIF manages funds of over US\$ 3.4 billion

U.S. State Department approves sale of 24 MH-60R copters worth \$2.6 bn to India

Why in News?

The United States Department of State has approved the sale of 24 MH-60R multi-mission helicopters to India under its Foreign Military Sales (FMS) program. The value of the potential is \$2.6 billion, as per a statement released by the Defence Security Cooperation Agency (DSCA), the body that administers the FMS program. The principal contractor for the deal will be Lockheed Martin.

In Brief:

The DSCA submitted its certification notifying Congress of the possible sale, kicking off a 30-day notification period. Congress is not required to approve or disapprove the potential sale. If it simply takes no action for the 30-day period, the sale moves forward

What is it for India?

The proposed sale will provide India the capability to undertake anti-surface and anti-submarine warfare missions.

1. The proposed sale will provide India the capability to perform anti-surface and anti-submarine warfare missions along with the ability to perform secondary missions, including vertical replenishment, search and rescue, and communications relay.
2. India will use the enhanced capability as a deterrent to regional threats and to strengthen its homeland defence.

Note :In the case of India and most other non-NATO countries, Congress must be notified for sale of Major Defence Equipment (MDE) of \$14 million and above, defence articles and services of \$50 million and above and design and construction services of \$200 million and above.

Associated requests

1. Along with the hardware requested by the Indian government, there were requests for personnel training and training equipment, U.S. government contractor engineering, logistics and technical support services.

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How does it benefit USA?

1. This proposed sale will support the foreign policy and national security of the United States by helping to strengthen the U.S.-Indian strategic relationship and to improve the security of a major defensive partner, which continues to be an important force for political stability, peace, and economic progress in the Indo-Pacific and South Asia region.
2. India was granted the unique Major Defence Partner (MDP) designation in 2016 by the Obama administration — a step towards India accessing U.S. military technology at a level on a par with those of the U.S.'s closest allies.
3. India was then given Strategic Trade Authorisation-1 (STA-1) status by the U.S., the third Asian country after South Korea and Japan (and 37th country globally) to acquire it. This was to further facilitate the transfer of technology in the defence and space sectors.

Communications agreement

1. India also signed the Communications Compatibility and Security Agreement (COMCASA) agreement with the U.S., providing a legal basis for the U.S. to transfer secure communication equipment to India, increasing military equipment interoperability and real time data sharing.

Why the sales now?

1. The sale comes on the heels of a few weeks of heightened tensions between India and Pakistan that began with an attack on an Indian security convoy in Pulwama, Jammu and Kashmir, on February 14, claiming the lives of 40 CRPF personnel.

Once the process passes through the notification period without any hitches, the U.S. government will respond to India with a Letter of Offer and Acceptance (LoA).

The LoA usually expires in 60 days (extendible), before which the purchaser, India in this case, needs to make an initial deposit, failing which the offer expires.

PRELIMS TIT BITS

Abdelaziz bouteflika

The Algerian President AbdelazizBouteflika resigned on April 2, 2019 following months long mass protests. He is Algerian politician and served as the President of Algeria from 1999 until 2019.

Zuzana caputova

She was recently elected as the first Women President of Slovakia.

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