

## Short note on some important issues awaiting solution in the telecom sector

- a. **Spectrum for Industrial 5G:** Captive Industrial cellular 4G/5G networks are gaining traction globally to support Industry 4.0. With captive 4G/5G cellular networks, Innovative digital transformation is already driving the smart factories of many developed countries. Industrial and enterprise 4G/5G cellular networks – also referred to as NPNs (Non-Public Networks) have rapidly gained popularity in recent years due to privacy, security, reliability, and performance advantages over public cellular mobile networks to replace hardwired connections that are traditionally used in the Industrial environments. Most industrial countries, who want to promote their manufacturing activities to Industry 4.0, have already licensed captive cellular networks and reserved necessary frequency spectrum needed to operate these networks. LTE and 5G-based private cellular networks **are available** in many different shapes and sizes, including isolated end-to-end NPNs in industrial and enterprise settings. Despite the somewhat differing views on market definition, **one thing is clear – private LTE and 5G networks are continuing their upward trajectory with deployments targeting a multitude of use cases across various industries, ranging from dedicated connectivity in factories, warehouses, mines, power plants, substations, offshore wind farms, oil and gas facilities, construction sites, maritime ports, airports, hospitals, office buildings and university campuses.** For India to promote “make in India” and “Atamirbhar Bharat”, we cannot afford to remain behind the industrialized nations. While Mobile Operators are doing a great job for connecting the unconnected and reaching out to all consumers, it is necessary for the Government to consider direct assignment of Spectrum to Industries and enterprises. We therefore call upon the government to urgently reserve spectrum in 4.9 GHz band (and also in other bands) for direct assignment to Industries and enterprise captive users.
- b. **Methodology of spectrum assignment for Satellite services :** The use of satellite communication services has been rapidly increasing over the years, and with the ever-growing demand for high-speed internet and wireless services, the allocation of satellite spectrum has become a crucial issue. In the case of satellite spectrum, the decision on how to allocate the spectrum has been a topic of debate. An administrative assignment methodology is the appropriate approach for satellite spectrum, assignment. This approach is universally followed by all countries as it enables efficient spectrum allocation. The administrative assignment of satellite spectrum is consistent with international best practices. This approach has been adopted by all countries worldwide. The assignment of

- c. spectrum for satellite services and the associated orbital resources is governed by international treaties and agreements, established by the International Telecommunication Union (ITU), so coordination at a global level has to be followed as per the Radio Regulations (RRs) issued by ITU. Satellite systems have a predefined range of frequencies, filed with the ITU and follow long and rigorous process of notification and registration into MIFR, so cannot be subsequently pick and choose depending on the outcome of the spectrum assignment of a market.
- d. **Delicensing the new innovation band in 6GHz:** Most countries around the world have already delicensed the Lower 6GHz (5925-6425 MHz) band for WiFi, India is still debating the issue. This band offers significant advantages in terms of wider bandwidth and reduced interference compared to lower frequency bands. Wi-Fi 6E, which operates in the 6 GHz band, allows for faster data transmission and better support for multiple devices simultaneously. On the other hand, 5G networks are also eyeing the 6 GHz band to enhance their capacity and improve network performance for various applications, including augmented reality and 4K video streaming. With the FCC in USA already deciding and allocating the entire 6GHz band ( both upper and Lower) for unlicensed use and China still pushing for 5G in the upper band, the issue becomes one of the classic spectrum management issues of the decade. 6 GHz is delicensed in over 60 countries all over the world today with many more on the verge of adoption of the same. While USA, Canada, Brazil, Saudi Arabia, South Korea etc have delicensed both the upper and lower 6 GHz band for unlicensed use, the EU (29 countries) , UK, Russian Federation, Japan, UK, Australia, Hong Kong, Qatar, South Africa, UAE, New Zealand, have already delicensed the lower half of 6 GHz. I call upon the Government to urgently delicense the lower 6Ghz band.