Technologies & Policy for Digitalisation of Infrastructure
Focus on Tunneling

Chief Guest: Shri Nitin Gadkari, Hon'ble Union Minister for Road Transport and Highways

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ASSOCHAM with its clear vision of Nation Building ventured into issues that need Government's immediate attention. Early this year, ASSOCHAM had put forth its concrete recommendations on EPC Contract and Tunnel Engineering in India. ASSOCHAM's recommendations were considered by MoRTH consultative committee headed by the Director General Shri I K Pandey. An independent Tunnel Cell has been established within the Ministry to look into all related aspect. Zojila Tunnel contract was bidded out and has been successfully awarded recently.

Hon'ble Union Minister had emphasised on the need for advanced technology that could expedite construction works at reduced costs and monitor structural health. To take this forward ASSOCHAM conceptualized the captioned webinar, to highlight technologies and policy for digitalisation of infrastructure and identify the gaps and address them holistically. Infrastructure sector is vast. While the aspects to be discussed at webinar pertain to all type of Infrastructure, however, serious attempt is being made to refer to Digital Technologies as applicable to complete lifecycle of a Tunnel.

India is in the forefront of Technological advancement. The wealth of its skill sets in general and digital sphere are obvious to the World. The digital movement - 4IR revolution, is led by Indians World over. However, in particular for Infrastructure Industry, digital applications are at a nascent exploratory stage. The core Infrastructure teams and the digitization teams responsible for infrastructure exist as two parallel tracks. It is therefore, pertinent to change the SILO MINDSETS.

- Indian industry needs to focus upon innovations and new technology. With passage of time Infrastructure will move on from concrete and steel to include new materials which respond to their surroundings.
- New jobs and industries will thus be created while some will disappear, especially zero skill roles and those relying on repetition of tasks. Robots will become more prevalent in construction.
- With use of new technology construction will get faster, using 3D and 4D printing, and self-transforming objects which self-assemble.
- The digital economy is evolving. It includes Block chain, Data Analytics, Artificial Intelligence, 3 D Printing, IoT, Cloud computing and Robotics. The Cyber risk must be checked seriously. Government will have to scale up and invest in to protect critical infrastructure and must ensure that data is treated as a major asset.
- Infrastructure companies embedding sensors will need to ensure the highest levels of encryption and anonymisation.
- The sector will need a more agile workforce with new skills.

Benefits of Digitalisation of Infrastructure

- Digitilisation of infrastructure will result in huge cost savings to Government.
- Interpolation of data will help reduce cost for future investigations,
- Reduce cost through standardisation,
- Improve in design quality,
- Enable real-time project management,
- Reduce manipulation at any stage of project.

- Ability to access live determination of its asset.
- Government would be able to direct focused expenditure on asset management

Industry Recommendations

- The Ministry of Road Transport and Highways should support and encourage innovations. Barriers to developing and accepting innovative ideas must be challenged.
- Digital transformation must be integral to the whole infrastructure sector at every stage. Ensuring digital strategy adoption throughout the supply chain will be key to ensuring that the value of the changes is maximised.
- Regulatory systems must be ready to embrace new technologies as they emerge ready.
- Infrastructure owners and designers, regulators and policy makers will need to ensure energy systems are ready for the digital revolution.
- Infrastructure design will need to take account of climate projections and impacts as the number of sensors in the world increases exponentially, putting pressure on energy systems.
- Infrastructure sector should also be prepared to process and use huge amounts of data.
- ASSOCHAM aims to carve a new path for Design Management, Scheduling, Material management, Crew Tracking, Quality Control, Contract Management, Data Management and performance management. Requests Government to provide support through Central Policy on 'Digitalisation of Infrastructure'.
- Mandate by Government for establishing Central repository of Case studies and data, Ownership of data of course should be Govt of India.
- MoRTH may consider constituting Digitalisation- comprising of Regulators, Industry experts, academic Institutions in the area. This cell can look deeper into contractual aspects, security.

Hon'ble Union Minister Shri Nitin Gadkari acknowledged and congratulated ASSOCHAM for its contribution towards reduction of Zojila Project cost by about Rs. 4000 crores.

Government officials present:

- Shri I K Pandey Director General MoRTH
- Prof Ashutosh Sharma, Secretary Department of Science and technology
- Shri R K Pandey, Member- Technical/ Shri Manoj Kumar, Member- Projects, NHAI
- Shri Rahul Gupta Chief Engineer, Tunnel Cell MoRTH

Industry Panelists

- Prof Nem Kumar Bantia, Sr Canada Research Chair in Infrastructure Rehabilitation, University of British Comlumbia
- Md. Abdussamad Siddiqui, Director Starmass Environment, Technology Corporation Canada
- Shri Ashutosh Chandwar, Chairman, ASSOCHAM Tunneling Council
- Shri Kasturi Srinivas, Regional Director, Bentley Systems
- Shri Sudip Mazumder, CDIO of Piramal Glass & Former Dy Head Digital, L&T
- Shri Sudhir Kanvinde Executive Director IPA, Ministry of Shipping & Formerly CIO ITNL and Chief Manager Siemens Business Services, USA
- Shri B.S.Singhla CEO Gawar Constructions
- Shri H K Sahu AVP Megha Engineering & Infrastructure Ltd.