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SMART HOSPITALS SOLUTION
PRIVATE 5G CELLULAR NETWORK

Background

Digital technology is changing the way we work, opening up new opportunities for operational efficiency. Hospitals are actively embarking on digital transformation and automation journeys to achieve one or more of the benefits – improve patient treatment, enhance data security and improve capacity utilisation. To achieve these goals, many technologies need to come together and work in tandem with each other. We need a robust underlying communication infrastructure to ensure that each of these technologies provide the outcome they promise. Tata Communications Smart Hospital solution using 5G private networks provides such levels of performance as required by the digital transformation and automation solutions.

Smart Hospitals - Challenges

- **Underutilised bed capacity** - With Covid 19 increasing number of patients visiting hospitals, hospitals only have a limited amount of beds and assets. It is imperative to utilise the beds capacity optimally to increase revenue.

- **Unreliable staff communication** - Majority of hospitals world-wide are still dependent on pagers for reliable and secure connectivity for mission-critical communication as WiFi and other technologies don't meet the security and reliability expectations.

- **Lack of visibility of patient data** - Majority of hospitals capture patients' data in hard copies/paper files which is limited in nature. These hard copies must be carried by staff everywhere during doctor's visits.

- **Lack of trained doctors/surgeons** - There is a scarcity of trained human resources in advanced surgical specialties in low and middle income countries. Innovative methods are needed to educate and train people at their workplaces using collaborative technologies and networks.

- **Security of patients data** - Hospitals gather confidential medical data of ots patients which needs to be kept secure from ransomware attacks originated from internet.

Tata Communications Private 5G Proposition

Tata Communications Smart Hospitals solution is designed to deliver end-to-end flexible, robust, programmable connectivity solution based on advanced technologies like Automation, Big Data and IoT.

Features

- **Edge Computing** - Integrated with Edge Cloud to deploy industry-grade mission-critical applications

- **SASE** - Secured enterprise connectivity and data

- **MOVE platform integration** for seamless handover to public network

Value Proposition

- Seamless, low latency and highly reliable network

- Zero-touch automation and orchestration

- Zero-trust security

- Optimised TCO

- On demand scalability

- Deployed and managed using our Global footprint

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Smart Hospitals Use Cases

USE CASE	VALUE PROPOSITION	BENEFITS
Remote Learning	An IoT-based revolutionary technology where remote learning is made possible with the help of AR/VR headgears which send real time, HD video of a live surgery using low latency 5G network. They enable the receiver (medical student or trainee specialist) to get a virtual experience of being in the operation theatre	1. Well-trained surgeons Higher success rate of 2. surgeries 3. Better learning experience
Smart Wards	Smart ward solution comprises IoT enabled wards for - 1. Continuous monitoring of ward and patients using video surveillance to identify unusual activity 2. Real time tracking and collection of patient's medical data using e-health devices 3. Bed-side screens to display patient's records and enable remote check-ups	1. Higher patient turnover 2. Optimal capacity utilisation 3. Less number of incidents 4. Higher Revenue 5. Green operations
Push-to-talk Communication	1. Low latency Push-to-talk communication using reliable 5G network for hospital staff which can be used for mission-critical communication in case of emergencies 2. Directly integrated with staff's phones eliminating the need of pagers used in hospitals	1. Low emergency response time 2. Reliable connectivity 3. Low hardware cost
Digital Workplace	Office applications running on high bandwidth and low latency 5G connectivity for smooth running of daily hospital operations - 1. Edge Cloud Storage for storing comprehensive patient data securely with private network 2. High throughput Edge computing to send HD images like MRI and CT scan to doctors 3. Powerful data analytics to give valuable insights into patient's medical condition	1. Improved data security 2. Improved staff collaboration 3. 24*7 easy data accessibility

Way forward

With rapid increase in Covid pandemic, hospitals have to take their first step towards digital transformation solution. In today's era, advanced digital capability is no longer a competitive advantage, but a necessity. **Tata Communications Smart Hospitals** solution provides end-to-end cutting-edge digital transformation solution specifically tailored as per Hospitals operational requirements.

Tata Communications also leverages its long experience as a global network provider to offer single pane of glass for all network requirements for hospitals.

For more information related to Smart Hospitals solution and POCs, please email us at:
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