GSMA 5G Case Studies

SECURE AND RESPONSIVE CONNECTIVITY FOR MANUFACTURING AND HEALTHCARE

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Operator partner: True ● **Technologies:** 5G ● **Country:** Thailand

Fast and secure 5G connectivity can help all kinds of organisations to become more efficient and effective. In Thailand, mobile operator True is exploring opportunities to use 5G to improve both manufacturing and healthcare.

For example, True and Huawei have deployed a standalone 5G network and mobile edge computing (MEC) to enable Siriraj Hospital in Bangkok to become a smart hospital. In this project, one of the key use cases is employing unmanned vehicles for logistics. A 5G self-driving car can deliver medicines and medical equipment from the pharmaceutical department to other hospital buildings. True says the combination of 5G and edge compute enables the vehicles to operate automatically or be controlled and monitored via secure, low latency connectivity.

Integrated into a hybrid public-private 5G network, the edge facility enables hospital staff to also use

5G to access the on-site data centre directly without exposing potentially sensitive data traffic to a public network. True is now working with other hospitals to deploy similar solutions in their buildings.

The Faculty of Medicine Siriraj Hospital, Mahidol University and Huawei have established a Joint Innovation Lab to incubate innovative 5G applications. In addition to unmanned vehicles, Siriraj Hospital is piloting 5G portable medical boxes, 5G medical carts and 5G smart hospital beds. It expects to incubate 30 5G medical applications in 2022. The lab is also exploring how to use 5G and artificial intelligence to improve emergency medical services, pathological diagnosis systems, treatments of non-communicable diseases, inventory management and personal health records.

ENABLING GREATER AUTOMATION

In the manufacturing sector, True has partnered with Mitsubishi and Lertvilai to demonstrate how a 5G network can support production lines. For the ongoing demonstration at Automation Park, near Bangkok, Mitsubishi set up robots and machines to manufacture products.

True is using 5G to connect the autonomous factory system (provided by Mitsubishi) to the autonomous mobile robots (AMR) provided by Lertvilai and an automated storage and retrieval system provided by Daifuku. The AMR, which are used to transport products from the demo production line to the warehouse, are successfully communicating with the factory via 5G without changes to the existing configuration. The 5G connectivity is also used to connect the Mitsubishi SCADA (supervisory control and data acquisition) system to a production line performance dashboard. For the demo, True has provided a virtual private network solution (using a private DNN - data network name – a 5G version of an APN).

The demonstration went live at the beginning of 2022. True says the connectivity is running smoothly, and the solution is now commercially available. It expects the increased automation will improve efficiency, by reducing the need for human resources.

As well as offering 5G private networks, True also provides Internet of Things, augmented reality and virtual reality (AR and VR) solutions which benefit from 5G. True says it is aiming to prove that the combination of "5G and ICT solutions can power up industry."

Having been granted a mmWave license (26GHz) in February 2020, True is now testing millimetre wave spectrum for commercial service, which can provide greater capacity, faster throughput and greater responsiveness than lower frequency bands

CULTIVATING A 5G ECOSYSTEM

True has organised three programmes to help build a 5G ecosystem and community in Thailand:

» 5G Worldtech X: an immersive tech show in Thailand showcasing over 40 use cases from over 30 local and global partners.

» 5G Tech Talk: a forum where a local and global guru from each vertical sector shares 5G trends in that industry.

» 5G Tech Sandbox: a start up pitching programme to encourage small tech companies to prepare their solution to harness 5G capabilities.

Piroon Paireepairit, Head of the 5G Working Group at True, said: "True's key agenda is to drive a new 5G ecosystem in Thailand, which will enhance the national digital transformation, as well as create new potential in the digital economy era. One of the key drivers would be the support of government agencies who could provide funding and support to pilots and develop new 5G business cases and ecosystem in various vertical industries."

ABOUT TRUE

True Corporation Plc. is Thailand's only fully-integrated, nationwide telecommunications provider and leader in convergence.

Its four core business segments are: True Mobile business under TrueMove H brand offers mobile services with the largest network coverage and encompasses the broadest frequencies, TrueOnline, the largest broadband and WiFi operator, TrueVisions, the largest nationwide pay TV operator, and True Digital Group offers a portfolio of digital services as the ultimate digital enabler in Southeast Asia.

True's major shareholders include the Charoen Pokphand Group, one of Asia's largest conglomerates, and China Mobile, the world's largest mobile telecommunications company by market capitalization.

For more information, please visit
www.truecorp.co.th