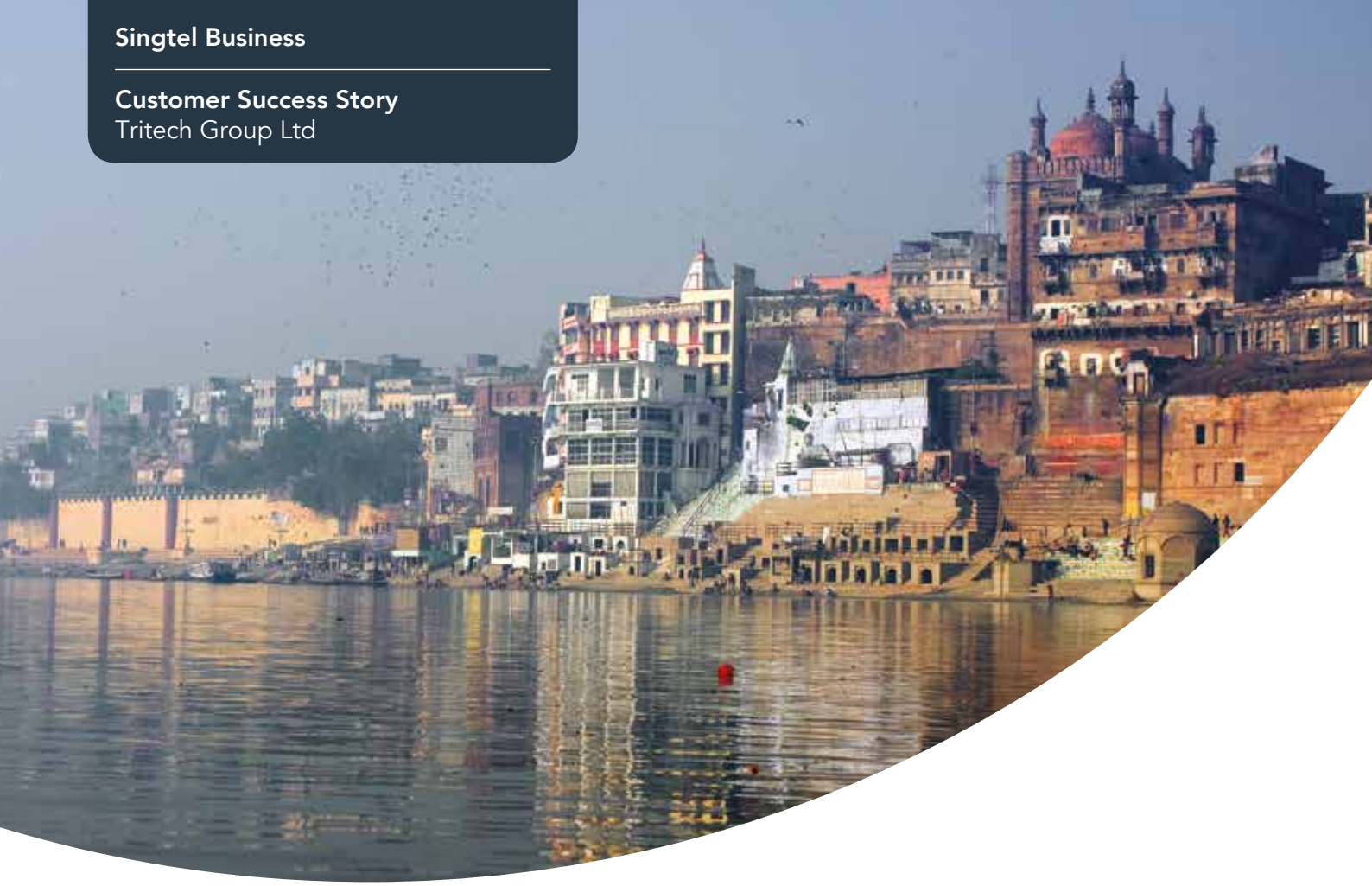
Singtel Business

Customer Success Story
Tritech Group Ltd



Tritech Group and Singtel

Making waves and saving lives with M2M technology in the Ganges River.

Executive Summary

Company name
Tritech Group Limited

Industry
Engineering and Testing Services

Business challenges
- Existing manual system of monitoring water quality in the Ganges River had limitations that hampered the effectiveness of pollution control and emergency event management
- Due to the vastness of the Ganga Basin area, an effective monitoring system might be prohibitive in terms of cost and swiftness of deployment
- Such a comprehensive and integrated solution would also require a reliable communications network provider for real-time updates, and visual monitoring of on-site situations for swift response to emergencies and possible downtime

Singtel solution
Singtel M2M SIM

Business value
- Proven track record to provide real-time M2M solutions on a reliable GSM network
- Strong partnerships with regional mobile operators, enabling cost-savings and faster to-market speed by leveraging existing platforms
- Scalability of solutions that supports future growth requirements

Singtel
Let's make everyday better

Tritech Group Limited & Singtel

Providing Real-time, Life-saving Water Quality and Disaster Forecasting Data

Since ancient times, the famous Ganges River has been treated with reverence as India's sacred river of devotion and worship. Originating from the heights of the Himalayan mountains, waters flow a staggering 2,510km stretch through the provinces of Uttar Pradesh, Bihar and West Bengal before reaching the Bay of Bengal. More than a holy river, the Ganges is also the very lifeline of the millions who live along and around its path.

Almost half of India's total irrigated area is located in the Ganga Basin, with almost four in every ten people of the country's 420 million population inhabiting the region. Over the years, accelerated urbanisation and industrialisation have led to serious degradation in water quality. Today, the Ganges is one of the five most polluted rivers in the world, causing great concern to the country as well as the world's leading health and environmental agencies.

In 2012, the Central Pollution Control Board (CPCB) of India, through an international competitive bidding process, awarded the contract of installing a real-time Water Quality Monitoring Network within the Ganga Basin to Tritech Engineering & Testing, Singapore-based leader in geotechnical instrumentation and investigation in Asia.

Ganges river map, India

Limitations of a Manual System

Previously, the CPCB assessed water quality in the Ganges River manually, monitoring rivers, lakes and ground water on a monthly and half-yearly frequency. The manual system had immense limitations as it could not give scientists a clearer understanding on day-to-day variation as well as events of episodic discharges from industrial and municipal sources of pollution.

With the company's philosophy into defining new modes of technologies and innovations, Tritech focused on developing a better system to assess the pollution levels of the Ganges River in real-time to help ensure that water quality is maintained – and to better the lives of those who depend on it.

Recognising that a strong and reliable communication network would be crucial to the success of the project, Tritech harnessed Singtel's machine-to-machine (M2M) technology to install a real-time M2M Water Quality Monitoring Network across the Ganga Basin.

Need For A Strong and Reliable Communication Network

"The intelligent and effective management of water is crucial to ensuring its sustainability for current and future generations. Real-time water quality monitoring in the Ganges River will help India's authorities formulate the necessary policies to ensure that a balance between development and quality of life is attained," explains Dr Tan Guan Hong, Business Development Director of Tritech Group.

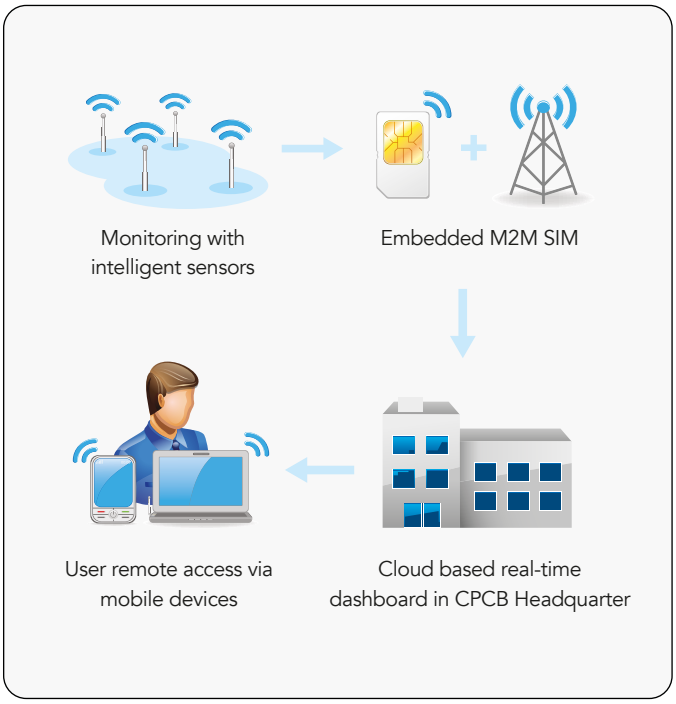
"M2M has opened up immense opportunities in technology and business with its myriad of applications to help our daily lives," Mr Dumas Chin, Vice President, Products and Emerging Technology, Group Enterprise of Singtel.

He adds, "And with our strong partnership with mobile operators in the region, enterprises and organisations do not have to re-design their product or M2M application whenever they enter a new Asian market. By utilising the same platform and environment, organisations can reduce costs, and enhance to-market speed and scalability to strengthen margins and outpace competitors. Beyond commercial applications, we are proud that Singtel M2M is used to support projects such as this to save lives."

The Solution

Key components and capabilities:

- 10 unmanned and remote monitoring stations within the Ganga Basin to provide important information to help in the pollution assessment of the river
- All remote stations are also operational in real-time and tolerant to extreme environmental conditions such as high or low temperatures, high-humidity coastal conditions and high temperature desert conditions
- Intelligent sensors attached to machines to capture information or events that are relayed over a network, eliminating the need of manual intervention by humans
- Linked to the reliable GSM network of India's Bharti Airtel, a Singtel associate company, the M2M SIM Platform is centrally managed to provide real-time diagnostics of the monitoring network
- Singtel's managed video-streaming service serves as the "eye" of the main control station, providing a real-time view of the locations
- With the real-time M2M Water Quality Monitoring Network, the control station can retrieve data from any remote station at any time



These components work together to allow Tritech to track the usage patterns and get first-hand updates in the event of any connection failure. Real-time data generated would also be visualised and used by various government agencies such as the CPCB zonal offices, State Pollution Control Boards and the Ministry of Water Resources of India.

Durable and Dependable Systems for Long-term Peace-of-Mind

On top of providing engineering support and comprehensive maintenance and calibration for the period of five years, Tritech's task was also to supply and install the hardware and software systems of the Central Receiving Station. This system would capture, process and analyse real-time data from all 10 stations, with the scalability of up to 200 stations. Each station is also rigged and will not require manual intervention for at least three years except for routine calibration and electrode replacement.

Emphasising the choice of Singtel as Tritech's ideal partner in the successful project, Dr Tan explained, "It was imperative that our M2M partner could offer fast, durable and reliable connectivity with options to meet the needs of our challenges. Singtel has also shown us that it is a dedicated and credible provider with field deployments spanning multiple industries and business segments, while continuing to be at the forefront of evolving wireless technology."

"As a company that believes in a philosophy of constant innovation and pushing the boundaries to help our customers achieve their goals, we always seek to work with best-in-class partners and solution providers. Our partnership with Singtel has given us that added credibility to this project with their proven network, and to help in the cause of improving the quality of one of the world's most important waterways."

- Dr Tan Guan Hong, Business Development Director of Tritech Group

About Singtel

Singtel is Asia's leading communications group providing a portfolio of services including voice and data solutions over fixed, wireless and Internet platforms as well as infocomm technology and pay TV. The Group has presence in Asia, Australia and Africa with over 500 million mobile customers in 25 countries, including Bangladesh, India, Indonesia, the Philippines and Thailand. It also has a vast network of offices throughout Asia Pacific, Europe and the United States.

Awards

Asia Communication Awards
Best Enterprise Service (2013) - Connectivity as a Service
Best SME Service (2013) - myBusiness

Computerworld Singapore Customer Care Award
Telecommunication Services (2008 - 2013)
Computerworld Cloud Services (2012, 2013)

Telecom Asia Awards 2012
Best Asian Telecom Carrier
Best Regional Mobile Group

MAR 2015

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