



SysEng (Singapore) Pte Ltd and Singtel

SysEng Satisfies Mission-Critical Customer Requirements with Enhanced Visibility, Increased Control and Effective Maintenance - brought about by Singtel Machine-to-Machine.

The Singapore skyline has been transformed in recent years - with new landmarks such as the Marina Bay Sands, the Marina Reservoir bounded by the Marina Barrage, the Helix Bridge and more – dotting the vista. Little did one know that Machine-to-Machine (M2M) communications, which enables the flow of data between wirelessly-connected devices, has been widely utilised in the construction and maintenance of these new landmarks. The company instrumental in implementing the M2M-empowered remote real-time monitoring systems for these infrastructural development projects is SysEng (Singapore) Pte Ltd.

Established in 1994, SysEng is a specialist System Engineering company focused on Factory Test and Automation system, and Remote Real-Time Monitoring Systems. These systems are developed based on M2M technologies, wireless communication, Internet and Smart sensors. Wholly owned by the listed Tritech Group Ltd, SysEng is a founding member of

Executive Summary

Company name

SysEng (Singapore) Pte Ltd

Industry

System Engineering

Business challenges

- Extensive time spent on troubleshooting to ensure 24x7 coverage
- Real-time capturing and monitoring of water level data in short intervals 24x7 would be labour intensive
- Effective use of manpower for equipment maintenance
- Laborious provisioning and decommissioning of SIM cards in large-scale M2M implementations across myriad projects
- SIM cards inventory management is tedious

Business value

- Comprehensive international mobile coverage to help business delivering M2M implementations
- Flexible pricing scheme to meet business requirements that offers economies of scale and scalability to grow
- One-stop web portal gives enhanced visibility in the diagnostics and management of inventory of SIM cards
- Good quality data is now captured round-the-clock (while optimising manpower) to ensure timely report and diagnostics
- Diagnostics tool allows pre-emptive troubleshooting and effective fortnightly maintenance to be carried out, hence reducing overall maintenance costs
- Data gathered helps to support mission-critical decisionmaking processes such as infrastructural changes
- Enables remote provisioning of SIM cards without manual tracking which gained time and save cost



Let's make everyday better

SysEng (Singapore) Pte Ltd & Singtel

the M2M consortium, Singapore Industrial Automation Association (SIAA).

Helming SysEng is Dr Tan Guan Hong, a leading evangelist in the field of M2M technologies, who also serves as the President of the SIAA. Sharing his passion for M2M, Dr Tan said,

“ From as early as 2000, before M2M has been coined, we have been involved in the knowledge-sharing efforts of M2M across the world. Considering the proliferation of wireless and internet communications, we knew that M2M communications is key in helping businesses automate business processes, increase operational efficiencies, gain cost savings and enhance service levels in the near future. ”

Partnering Singtel M2M for Industry-Leading Coverage, Flexibility, Scalability and Reliable Cloud Infrastructure

SysEng wanted to be ready for the connected future by being early adopters of the technology. “This way, when our customers see the need for it, we are ready to demonstrate how M2M technologies can help to meet their business needs and objectives,” explained Dr Tan. With more customers turning to SysEng for its M2M expertise, the business scaled to a certain level where it became crucial to partner with a reliable infrastructure provider. “Coverage is key to ensure effective M2M implementations. This is especially critical as the majority of our monitoring is done outdoor and always outside buildings. As our business expands, we cannot afford to waste time on tedious troubleshooting to ensure 24x7 coverage. Infrastructure should be a given. Leveraging Singtel’s comprehensive international mobile coverage helps us focus on delivering successful M2M implementations,” explained Dr Tan.

Sharing other reasons for selecting Singtel M2M, Dr Tan said, “Singtel M2M’s flexible pricing scheme offers economies of scale and scalability to grow with our requirements. Its one-stop web portal gives us enhanced visibility in the diagnostics and management of our inventory of SIM cards. More importantly, Singtel also provides us end-to-end services via its Infrastructure-as-a-Service (IaaS) cloud computing offering.”

Powered by a global SIM card providing international mobile coverage with leading connectivity and network quality, Singtel M2M offers real-time visibility as well as control over costs and M2M-enabled equipment. Its one-stop web portal offers a comprehensive suite of management capabilities ranging from automation, real-time diagnostics to custom alerts, which enable businesses to manage M2M deployments cost-effectively.

Enhanced Capabilities to Support Mission-Critical Customer Requirements

SysEng has been commissioned by the Public Utilities Board (PUB), Singapore to support its environmental monitoring projects. These range from Reservoir Qualities Profiling where remote monitoring systems are installed in the middle of reservoirs to monitor water quality, to Real-Time Water- Level Monitoring via remote monitors installed on the side of drains for flood control.

Explaining the mission-critical nature of these projects, Dr Tan said, “In Singapore’s tropical climate, water levels can rise drastically in just 10 minutes. Effective monitoring requires real-time capturing and monitoring of water level data in short intervals, 24x7. Just imagine if there is no M2M? Managing these data captured via the remote monitors placed in multiple drains across Singapore would mean assigning at least three personnel, working in three shifts and having them move constantly back and forth the various locations to manually record the water levels every 10 minutes.”

“ With Singtel M2M, these data are now captured round-the-clock, with all water quality, water level and meteorological data sent via Mobile Data connection to Singtel Cloud Servers. “With Singtel M2M’s comprehensive coverage, we can now ensure timely reporting and fulfill customers’ requirements for 24x7 monitoring,” beamed Dr Tan. ”

Ensured Timely Diagnostics and Effective Maintenance

SysEng’s remote monitoring systems, such as its Automated Profiler Platforms that are used to measure vertical columns of water qualities profile, are anchored at designated sites in

reservoirs across Singapore. Due to safety and security issues, maintaining these equipment means pre-arranging for a permit, before SysEng's staff can access these equipment via a boat. Maintenance work can range from changing an equipment part to the cleansing of equipment sensors to ensure accurate capture of data.

"With Singtel M2M's one-stop web portal adding value to the eco-system of our diagnostics system, we are now more situation-aware when troubleshooting. Prior to going on-site for maintenance, we now know exactly what the issue is. This helps us optimise manpower management by assigning the staff with the right skillset to resolve the issue," said Dr Tan.

He added, "With Singtel M2M's powerful diagnostics, customer support tools and automated alerts, we can now conduct pre-emptive troubleshooting and effective fortnightly maintenance of our remote monitoring systems. This reduces overall maintenance costs, while ensuring that good quality data are captured to support customers' mission-critical decision-making processes." As a result, SysEng is now more proactive in anticipating potential problems before they arise - a key factor in ensuring that they fulfill customer service level agreements.



Gained Time and Cost Savings with Effective Web-Based Inventory Management

Accurately provisioning and decommissioning SIM cards deployed in large-scale M2M implementations across myriad projects can be tedious. Each SIM card comes with a unique IMEI number, which needs to be assigned and tagged to specific equipment.

"Using Singtel M2M's easy-to-use SIM-provisioning management feature, we can now remotely provision SIM cards to specific projects without manual tracking, thus enabling faster deployment. The management of misplaced

cards is also much easier now. Unlike previously where missing SIMs had to be absorbed as cost, we now have the capability to remotely disable the lost cards and protect SysEng from any unexpected data charges. Overall, we now have better visibility, real-time control and monitoring over our inventory of SIM cards," said Dr Tan.

Enhanced Competitiveness by Delivering Value Via Good Quality Data

With good quality data obtained from SysEng's remote monitoring systems, customers such as the PUB, are empowered with accurate data to support their immediate and medium-term requirements. Accurate water-level data helps to trigger mission-critical public announcements regarding flood alerts. In the longer run, these data are critical to verify predictive models and facilitate accurate and timely decisions on costly infrastructural changes, such as whether to widen a certain drain.

In Dr Tan's opinion, the effectiveness and value of a M2M system boils down to the usefulness of the data delivered. He said, "Recognising this, we made a game-changing move by having our customers pay only for good quality data received, not working systems. While this places stringent demands on our business, it raises the playing field and sharpens our competitive advantage. Partnering with Singtel M2M further bolsters our confidence and competitive positioning.

Looking Ahead

As SysEng looks ahead to capture the regional M2M marketplace, Dr Tan regards Singtel as a strategic co-associate that offers valuable co-marketing mileage to strengthen its conquest. He said, "Leveraging Singtel's partnership with mobile operators in the region and the same platform we are familiar with, we look forward to cost savings and faster time-to-market to leapfrog the competition. Trusting Singtel to 'take care' of the infrastructure, this helps us minimise risks as we venture out to realise our growth roadmap."



Dr Tan Guan Hong
President of the SIAA

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

Telecom Asia Awards 2012

Best Asian Telecom Carrier
Best Regional Mobile Group

Computerworld Singapore Customer Care Award

Telecommunication Services (2008 - 2013)
Computerworld Cloud Services (2012, 2013)

