GSMA 5G Case Studies

5G BRINGS SMART MANUFACTURING TO INDONESIA

Telkomsel's IoT Smart Manufacturing solution aims to boost productivity across supply chains

TELKOMSEL'S IOT SMART MANUFACTURING SOLUTION AIMS TO BOOST PRODUCTIVITY ACROSS SUPPLY CHAINS

Operator partner: Telkomsel ● **Technologies:** 5G ● **Country:** Indonesia

Highly reliable, low latency wireless connectivity can help manufacturers move faster, paving the way for major productivity improvements. In Indonesia, mobile operator Telkomsel has developed a 5G-based solution that is designed to support automated guided vehicles, remote assistance, augmented reality (AR) and virtual reality (VR).

In June 2021, Telkomsel deployed its IoT Smart Manufacturing solution with a leading multinational manufacturing company in Batam City. The manufacturer has used the solution to equip staff with VR headsets that can help them fix faulty machinery, and to enable real-time reporting on plant operations. As a result, managers no longer need to prepare weekly reports, while worker productivity has improved by about 17%, according to Telkomsel.

"This collaboration is the first use of industrial 5G technology services in Indonesia," says Alfian Manullang, Vice President Telkomsel Internet of Things (IoT). It underlines "our commitment to present Telkomsel 5G service ecosystem by building partnerships with stakeholders, especially industry players."

Telkomsel's IoT Smart Manufacturing solution is designed to enable the customer's end-to-end supply chain to become more integrated, while enhancing production control and monitoring, execution and traceability, warehouse management and energy management. It can be used to connect processes, peoples and machines to improve efficiency, increase automation and optimization.

For example, the 5G-based solution can enable factory layouts to quickly be reconfigured for new products, while providing visibility across all operations to allow real-time decision-making, detect faults, and support safety monitoring. Telkomsel says that, on average, manufacturers anticipate the solution can deliver costs savings of about 38%.

Embedded with Telkomsel's 5G Enterprise network, the IoT Smart Manufacturing solution enables manufacturers to enhance existing or new businesses by adding data from multiple sources (such as sensors and tools), access data that can minimise errors and improve the quality of decision-making, and protect sensitive data with reliable telco-grade connectivity. It also supports remote control of machines operating in hazardous environments.

"Telkomsel IoT smart manufacturing will support a sustainable manufacturing industry by improving efficiency, productivity, and security at each operational level through accurate data analysis," explains Alfian Manullang. "By transforming to IoT smart manufacturing, production output will increase 20%, machine utilisation will increase 20%, overall equipment effectiveness also will increase 15%, as well as reducing unplanned downtime to 30%."

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> **Alfian Manullang -** Vice President Telkomsel Internet of Things (IoT)

HELPING INDONESIA HARNESS THE POTENTIAL OF 5G

Telkomsel describes 5G as a "game-changer for manufacturers", noting that the consulting firm STL Partners has estimated the benefits of 5G to the global manufacturing industry could be worth US$740 billion by 2030.

As well as providing highly reliable, low latency connectivity, 5G can also deliver the high throughput and density that manufacturers need, according to Telkomsel. "For the past four years, Telkomsel has invested significantly in building out our 5G know-how, talent development, and setting up a comprehensive set plan to bring 5G to Indonesia," says Alfian Manullang. "With 5G, we can transfer a big amount of data in real-time. 5G will facilitate advanced technology, artificial intelligence, automation and industrial IoT. 5G is expected to be one of the mainstream technologies of the future, with alternate technologies playing complementary and selective roles."

The deployment in Batam City is the first stage in the development of Telkomsel's 5G portfolio for manufacturers. It is working closely with the government, partners and associations to further build out Indonesia's digital infrastructure and support the implementation of Industry 4.0 concepts, such as greater automation, customisation and responsiveness.

Telkomsel advises mobile operators to forge partnerships with app developers and vendors to identify 5G use cases that fit specific industry opportunities "because each vertical is different with unique connectivity, latency and reliability requirements – not to mention legislative sensitivities."

In December 2021, Telkomsel and the Ministry of Industry (Kemenperin) of the Republic of Indonesia signed a memorandum of understanding and launched Indonesian Digital Industry Center 4.0 (PIDI 4.0). Telkomsel has also established a 5G Experience Centre to support the government's Making Indonesia 4.0 roadmap.

In addition to its IoT Smart Manufacturing solution, Telkomsel offers end-to-end fleet management solutions to provide real-time visibility over supply chain and logistics, as well as a smart connectivity solution. "We support Indonesia to be at the forefront of technology, facing the Industry 4.0 competition," says Alfian Manullang. "To be the first mover, we give a strong and clear signal to our ecosystem of partners."

ABOUT TELKOMSEL

Telkomsel
by Telkom Indonesia

Telkomsel is a leading digital telecommunication company that continues to open up more opportunities and possibilities by enabling digital connectivity, digital platform, and digital services developed by prioritizing the benefits of technology for all levels of society across the country.

Telkomsel has been consistently deploying 4G mobile broadband networks and developing 5G networks, as well as enriching innovative digital solutions including Mobile Gaming, Digital Entertainment, Digital Lifestyle, Mobile Financial Services, Enterprise Solutions, and Internet of Things. During its 26 years of existence, today Telkomsel has served more than 175 million customers across Indonesia supported by more than 247,000 BTS.

Further information about Telkomsel can be accessed through **telkomsel.com**.