

5G business value — a use case for Seagate



A Digital Catapult and Ericsson Industrial 5G Accelerator use case report

Industrial adoption of 5G

Digital Catapult, Ericsson and Seagate present this use case demonstrating the technical and commercial benefits of 5G for industry.

It shows how Seagate could gain an advantage over mainstream competition in the UK by working with those deploying 5G globally to solve industry challenges.

The Digital Catapult Ericsson Industrial 5G Accelerator programme

The Industrial 5G Accelerator programme is a collaboration between 5G technology leader Ericsson and Digital Catapult. The programme is designed to further the accelerated adoption of 5G by UK industry.

As a key technology set to underpin the global transition to Industry 4.0 and drive global economic growth, the Industrial 5G Accelerator is a bespoke, manufacturing-focused programme designed to accelerate the adoption of 5G within UK industries and help companies understand how 5G can transform products and services.

In 2020, Seagate and Tharsus joined as programme partners to co-develop individual use cases that evidence 5G's potential, with the aim of unlocking business efficiencies. This use case explores and presents the learnings and outcomes for partner organisation Seagate.

The smart manufacturing market is set to grow to US\$1 trillion according to a recent report from ABI Research, with 4.3 billion wireless connections predicted by 2030. Over a 5-year period, a U.K.-based warehouse operator that adopts private cellular enabled Industry 4.0 technologies could realize a 13.0% increase in gross profit margin and an operational cost saving of \$220.9 million.

5G can address a wide range of use cases, from onsite processes to connected goods. Experimentation can help reduce industries' concerns around cellular technologies for in-factory connectivity, including perceived barriers such as cost, interoperability with existing networks and security considerations. It will also enable new business models and help UK supply chains deliver new services for their customers such as improved health

and safety applications, predictive maintenance and remote asset monitoring.

The partnership creates a unique opportunity for UK industry, combining Digital Catapult's 5G expertise and work in the manufacturing sector as the UK's leading advanced digital technology innovation centre with Ericsson, one of the world's leading providers of information and communications technology.

The Digital Catapult Ericsson Industrial 5G Accelerator programme brings together:

- Challenge owners in manufacturing industry
- 5G vendors, such as Ericsson
- 5G solutions suppliers/developers

There are a series of phases, starting with the definition and selection of use cases to be supported, developed and showcased. This collaborative process leads into prototype development, which will secure internal buy-in from each partner.

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Both use case partners worked alongside Ericsson and Digital Catapult to identify smart manufacturing opportunities focusing on improvements for productivity, flexibility and connectivity in an industrial setting. 5G-powered technologies such as robotics, augmented reality (AR), condition-based monitoring, asset tracking and predictive maintenance will be used throughout the individual use cases.

Through this programme, Digital Catapult and Ericsson have explored

the individual use case to help Seagate further understand how it could leverage 5G capabilities to enhance condition-based monitoring.

Jeremy Silver, CEO, Digital Catapult, said: “We want to ensure that the best aspects of technology adoption continue post-pandemic and drive new value into our economy. Collaboration remains fundamental to successfully achieving this, and with the addition of these three leading industrial businesses, the Industrial 5G Accelerator is in prime

position to capitalise on the best of UK manufacturing skills and innovation. The road to embedding 5G fully into an industrial environment might be a long one, but this project is a big leap forward in terms of demonstrating the transformative capability of 5G for UK industry.”

The company: Seagate Technology

Seagate Technology is participating in the programme to understand the capabilities of 5G in the manufacturing environment. The company recently commissioned a report conducted by research firm IDC “Rethink Data: Put more of your data to work – from Edge to Cloud”, which reviews industry

challenges in data management and solutions. The value that a company derives from data directly affects its success. Winning businesses must have strong mass data operations. In a manufacturing environment, the 5G accelerator programme enables a greater understanding of how

5G bandwidth enables machine to machine (M2M) communications, harnessing the value of data and enabling future collaborative robotics, AI and edge resources. Seagate Technology is a world leader in data storage and management solutions for over 40 years.

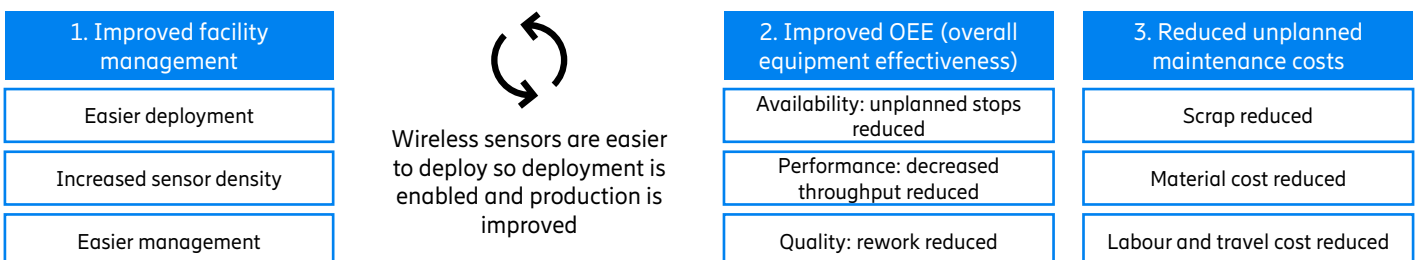
The challenge

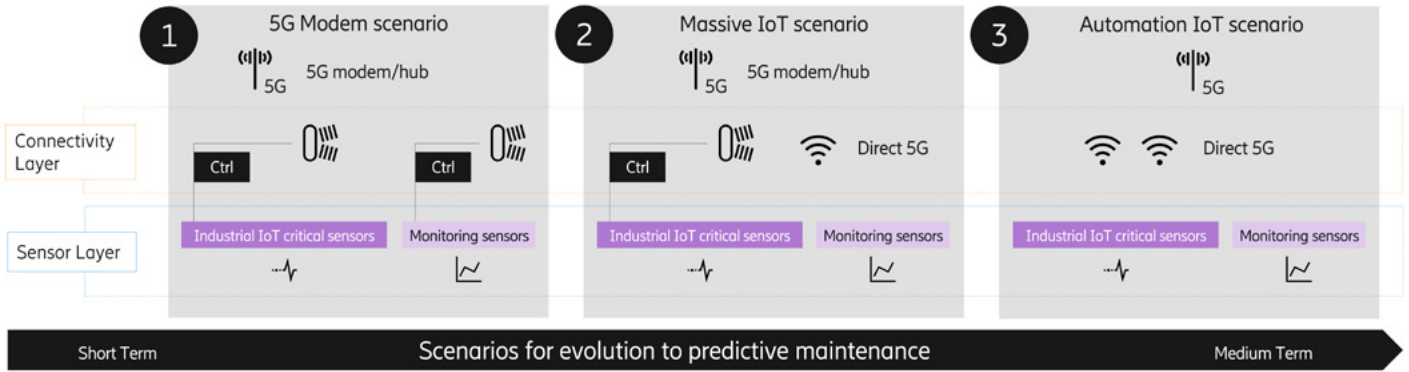
With the company’s leading HDD technology roadmap, Seagate’s Springtown plant in Northern Ireland produces more than 100 million recording heads per year, which are manufactured on 200mm AITiC wafers, subsequently diced into individual recording heads. Efficiently maintaining this rate of production requires extremely clean, smoothly operating factory parts as well as holistic tracking of machine performance.

Deploying a 5G private network in the Springtown facility would enable the condition-based monitoring of critical facility and plant infrastructure as well as failure prediction for critical manufacturing machines. In addition to this, the deployment of wireless sensors (detecting changes in temperature, pressure, vibration, and so on) would be supported more easily and inexpensively. This high density of sensors would ensure that machine performance is monitored holistically

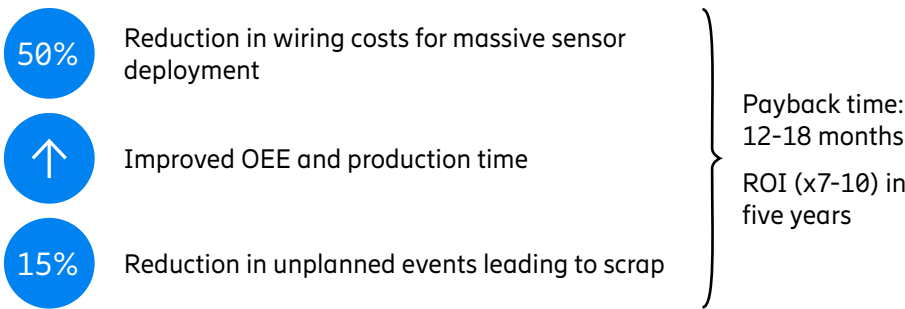
to improve tool matching, thereby increasing throughput and productivity.

The added functionality of machine failure prediction would reduce the amount of scrap and reworking currently seen, contributing to the enhanced productivity.





To explore this potential, Digital Catapult’s 5G expertise in manufacturing, Ericsson’s telecommunications experience, industry reference figures, and operational and financial indicators provided by Seagate were used to create the benefit model shown below:



Additional use cases supported by a 5G private network could also be deployed, such as 5G-enabled automated guided vehicles (AGVs) and augmented reality for maintenance tasks and training.

Ericsson enables communications service providers to capture the full value of connectivity. The company’s portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency, and find new revenue streams. Ericsson’s investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.