

DIGITALISATION : MAKING IT REAL!

Siemens customers gathered in the company's Irish headquarters in DCU Alpha, Glasnevin, Dublin recently where they heard from a series of industry experts on the potential of digitalisation to transform industry and society and open up new opportunities for Ireland.

Among the topics discussed were the use of data to construct better and smarter buildings, the power of digitalisation in the manufacturing industry, and how the new technology has the potential to transform power generation and distribution.

In his opening keynote presentation, Siemens CEO Gary O'Callaghan, discussed digitalisation as a growth driver. Using the analogy of an oil tanker, he explained how Siemens is changing as a company to become more agile.

"In the 70s and 80s we had the concept of the conglomerate and that was attractive to the investment community", he said. "Reliable cash flows from traditional businesses gave the conglomerate financial firepower. In last 10 years the concept has come under question and investment companies have moved away from the conglomerate. This is because conglomerates can use their scale to hide underperforming businesses. Capital is much more accessible to smaller companies now as a result."

This has led to fundamental change at Siemens which

is now more like a co-ordinated fleet of smaller, swifter and more nimble vessels as a result of its Vision 2020 strategy. "We implemented the final stage of the strategy on April 1st last", he said. "The main aim of that strategy is to give businesses within Siemens more entrepreneurial freedom to focus on the markets they serve. We have plans to grow in a range of emerging new areas including the internet of things (IoT), distributed energy, smart campuses, smart businesses, and electric mobility."

Siemens Digitalisation Lead Joan Mulvihill, explained that remaining the same is not an option for today's organisations. "It's not easy, people don't want to change, but there really is no choice."

She pointed to former video rental giant Blockbusters to illustrate her point. "Imagine if they had stepped outside themselves, imagine if they had captured the data, had looked at anywhere, anytime on any device, could they have come up with Netflix? Even the ability to be second or third in that market would have been a great outcome. There used to be 9,094 Blockbusters stores in the world. Now there is one!"

Digitalisation can not only be used to create smarter buildings but buildings which care as well. That was the message delivered by Thomas Frendo of Siemens who spoke about how Siemens is helping a 140 year old Swiss brewer to improve its fire safety systems.

"There are three pillars to create buildings that care", he said. "You make them comfortable and safe to ensure the wellbeing and protection of people and spaces within them; you make them energy and asset efficient to enhance sustainability; and you make them space and user efficient to create user centric building experiences, and improve space efficiency and equipment utilisation."

On a practical level, he explained that 55 per cent of facilities maintenance programmes are reactive or "fix it when it breaks". This leads to higher maintenance and downtime costs and unsatisfied customers. "Digitalisation and predictive maintenance analytics are changing the way buildings are managed with up to 30 per cent less maintenance, 45 per cent less downtime and 30 per cent less energy used."

Enlightened is a Californian intelligent buildings start-up which has been acquired by Siemens but retains its identity and autonomy as a separate entity. "If you regard Siemens as a flotilla of boats we are probably the jet-ski coming behind them", said Northern Europe Vice President Jamie Cameron.

The company specialises in putting sensors into buildings to make them smarter and deliver real time location services. "We can track any device as it moves around a facility using multi-functional sensors and Bluetooth beacons", he added. "The technology can see where a piece of equipment in a hospital is at any time. Do you need a free wheelchair? It will locate it."

Killarney based Straightline Energy Solutions is using data to deliver quite dramatic reductions in energy usage. The company's EscoPod system is a thermal technology for the production of hot water for manufacturing facilities.

"Our gas turbine powered hybrid heat pump system leads to savings of around 80 per cent compared to conventional methods of producing heat", said Managing Director John O'Leary. "We use a Siemens cloud-based monitoring system to monitor the performance of the EscoPod system. Using conventional systems, half the fuel purchased is being dumped because the lack of baseline data. That is quite astounding."

Dr Colin Clarke of the National Institute for Bioprocessing Research and Training (NIBRT) noted that the new technologies are affecting the pharmaceutical process itself. "NIBRT is using artificial intelligence (AI) and

data analytics to improve our understanding of the manufacturing processes in the biopharma industry with the goal of improving efficiency in drug production", he said. "Mindsphere, the Siemens cloud based open IoT platform, is being developed to apply data-based analytics solutions to real time manufacturing activities and identify potential improvements for the production of various medicines."

Florian Moebis works in business development for digital applications within Siemens Low Voltage Power Distribution. He looked at digitalisation behind the meter and in front of the meter and explained how Siemens customer Gestamp Spain is generating value from IoT in power distribution by improving energy efficiency and performance. "They have 15 factories in six countries, have saved €18 million on energy bills, reduced energy consumption by 15 per cent, and saved 14,000 tonnes of Co2."

The future energy landscape was addressed by John Turner of Siemens who gave the example of Keele University. "The university had aspirations to become the largest single, integrated electricity, gas and heat Smart Energy Network Demonstrator (SEND) and appointed Siemens to help them achieve this", he said. "It will be the first facility in Europe for at-scale living laboratory research, development and demonstration of new smart energy technologies and services in partnership with business and industry. It involves the digitalisation of 24 substations, the installation of 1500 smart meters, 500 home controllers and a 5 MW renewable integration package. This is a blueprint for other colleges to follow in future."

Other speakers on the day included Kevin Donovan of Roadstone who explained how Siemens assisted the company to achieve major savings in its quarrying activities through better use of data; Salvador Sumohano Verdeja, Head of Digitalisation for Power and Gas in Siemens GB and Ireland, who shared a vision of remote operation of power generation facilities in a future digital world; while Jan Gebhardt digitalisation and innovation lead for Siemens Region Europe Steam Power Plant business explained that collaboration is the key to successful transformation.

"When we meet a client, we do a discovery session to find out what's important to them", he said. "If we find that we don't already have a solution, we'll admit that, and we'll collaborate with them and guide them through the process of finding one."