



Report on Resilience First - Intel Webinar 24 July 2020

‘Energy and Power: Using new technologies to build complex structures’

Key-note Speaker:

Brian Fegan, Construction Manager (Hinckley Point C), Balfour Beatty

Innovation Speakers:

Philippe Vie, Vice President | Energy, Utilities and Chemicals Sector Head, Capgemini

Gary Carroll, Founder, Episensor

Jordan Appleson, CEO, Hark

Chair:

Ian Butcher, Oil & Gas, Energy & Water Utilities Account Executive, Intel

Key Messages

- The demands arising from the pandemic, in addition to power demands from a variety of recent disruptions, have highlighted the importance of having efficient, responsive, clean-energy power supplies as far as possible.
- A combination of new digital and existing deep technology can drive transformative change in energy, from building nuclear reactors and renewable assets to managing office and supermarket energy use. New sensing and inspection technology can facilitate remote working during social distancing and drive the development of smarter energy grids to deliver affordable, cleaner energy for the future.
- Green recovery packages will accelerate the adoption of new technology that to help meet the challenges set for energy infrastructure by decentralised generation and storage of energy.
- The Hinkley Point C nuclear power station will provide around a fifth of UK power once on stream. New technologies have centred on the introduction of paperless quality control, 3D and 4D modelling of complex structures, and the use of laser and drone measurement of build specifications. These have all helped to make cost savings by reducing the length of any delays.
- In the future, energy will be defined by its final use e.g. charging, lighting, heating, driving, etc.
- In the transition to the ‘new normal’ after the pandemic, utilities must revisit their strategies and will need to account for more price volatility. Utilities must also anticipate

short-, medium- and long-term load curve shifts and evaluate change intensity. There will be an acceleration of digitization across the industry.

- Digital technology alone will not produce any significant breakthroughs but will do so in collaboration with deep technologies. A combination of deep and digital technologies can leverage important gaps with green recovery packages accelerating this process. Deep technologies include the use of renewables, carbon capture, utilisation and storage, nuclear, storage and flexibility, smart grids, hydrogen, and superconductivity. Digital technologies will include IoT, Cloud/SAAS, and AI / RPA. The line between data-enabled services and energy assets such as equipment and infrastructure are blurring. (Capgemini)
- There is an energy revolution occurring. Change is being driven by low-cost renewables and low-cost, lithium batteries. This is causing electricity generation and storage to become decentralised. While energy consumption is increasing, energy costs are reducing, and electricity distribution systems will be put under pressure with the additional load and intermittency from renewables. There is a platform that makes it easier to deliver sensor data directly to the Cloud so our partners can focus on building valuable, industrial IoT solutions. (Episensor)
- People are now more remote, so remote visibility and control of core assets are becoming increasingly important. During lockdown, supermarket building use has changed significantly. Automated remote sensing allows our industrial IoT software platform to monitor change in energy use and tell the building what to do. (Hark)
- There has also been a complete shift in the use of office buildings with a vastly reduced energy need. Energy analytics and industrial IoT software can help with a range of power-drawing assets in, for instance, retail premises, thereby providing greater control over increasing costs. Such software can also help with smart building deployments. (Hark)

The speakers answered a series of questions from the participating audience.

The full video recording can be found [here](#) and slides used [here](#).

Contacts:

Speakers' Biographies

Brian Fegan

I am Brian, a Construction Manager for Balfour Beatty Major Projects. I look after a large team of people who are responsible for building the key part of the Hinkley Point C cooling water system. These structures are known as Heads.

A little about my background, I love a large complex civil engineering project, for the past few years I have been working on the Hinkley Point C contract with Balfour Beatty and previous to this I worked on a number of landmark schemes for other Tier 1 contractors including Tottenham Court Road Station Upgrade, Kings Cross Station Redevelopment. During this time, I have also achieved Chartered Civil Engineer status, which I am particularly proud of.

I am drawn to projects which are challenging, whether this be technical or logistical type challenges. My previous projects have allowed me to be involved in ground-breaking bridge launches and awe-inspiring architecture. I have also spent a design placement with a bridge

design consultancy which has given me a useful grounding into the design of reinforced concrete and steel structures.

What I enjoy the most is the responsibility of leading a team to deliver a goal. Whether that is delivering a project for Balfour Beatty at work, or running the football team afterwards!

Philippe Vie (philippe.vie@capgemini.com)

Philippe Vié is the Global Energy, Utilities and Chemicals Sector Leader at Capgemini, and has been in the industry for over 25 years leading transformation projects globally. As global leader, Philippe is responsible for shaping Capgemini's EUC portfolio, and selling and delivering end to end transformation engagements for top utility and energy companies.

Gary Carroll (gary.carroll@episensor.com)

Gary Carroll has had a long and successful career in business and engineering having founded and lead six high-tech ventures. Gary's career focus has been the application of electronics systems to industry. His latest venture, EpiSensor, has become a leading player in the Industrial Internet of Things (IIoT) market. EpiSensor delivers Industrial automation solutions in an innovative way using the latest wireless technology and cloud computing to achieve a consumer grade user experience while meeting the gold standard of ruggedness, accuracy, reliability and security of traditional industrial automation solutions. EpiSensor's products are delivered to global leaders worldwide.

Jordan Appleson (jordan@harksys.com)

Jordan Appleson has spent the last 10 years finding solutions to problems using Software and Hardware expertise. Prior to founding Hark in 2016, he worked on a cloud-based real-time marketing performance data analysis and processing system.

Ian Butcher

Ian is a 16-year veteran of Intel Corporation with a background in business process and operational efficiency. He recently spent time working with businesses to bring digitization to the forefront of their strategic thinking to improve business resilience. Ian is now working closely with the Oil & Gas, Energy and Water Utility companies on digitization strategies and technology adoption.