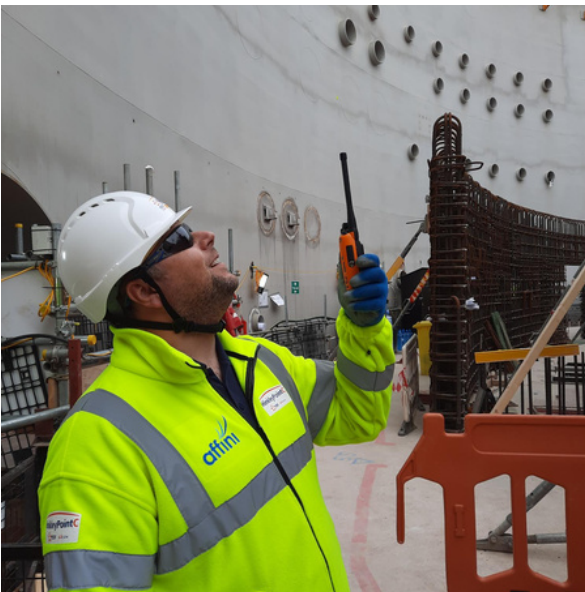


# AFFINI DELIVERS SITE-WIDE CONSTRUCTION COMMUNICATIONS SOLUTION TO NEW NUCLEAR BUILD PROJECT

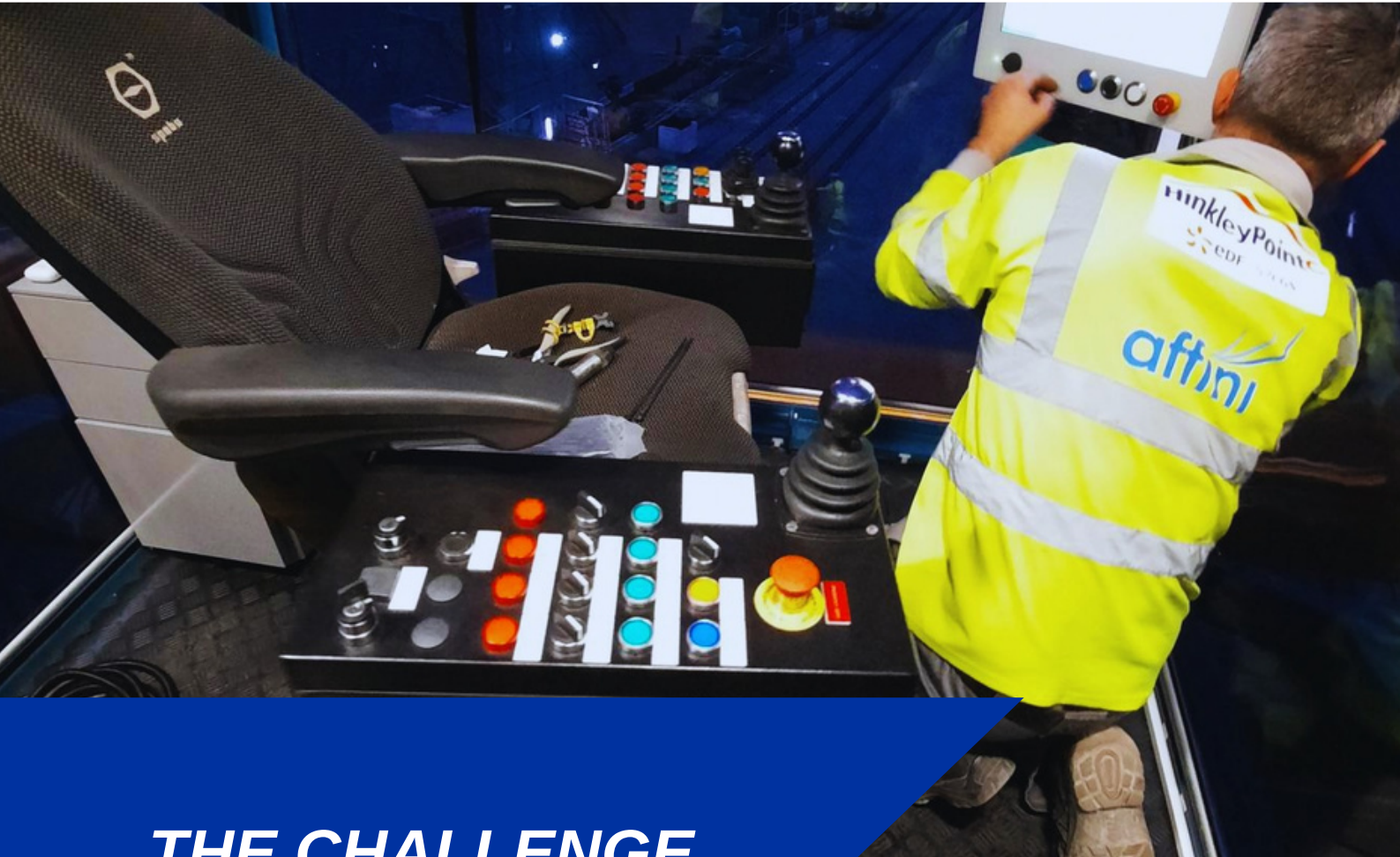
## BACKGROUND



EDF Energy is building the first of a new generation of nuclear power stations in Britain.

The two nuclear reactors will generate enough low-carbon electricity to power 6 million homes for 60 years, making a positive impact on the environment. The construction will involve thousands of workers on site and has been underway since 2017 with a planned completion in 2027.

Following Affini's successful design and deployment of a communications solution in 11.5 km of tunnel construction for a contractor at Hinkley Point C, EDF approached Affini to provide a proposal for a similar, resilient solution, to provide services over the entire site for multiple contractors involved in the Nuclear New Build project. The solution would need to be integrated into the existing tunnel network.



## THE CHALLENGE

Affini worked collaboratively with the HPC communications team to design a system that would deliver commercial benefits over and above what was currently being forecast, while at the same time delivering improvements in service and system performance. The solution would need to deliver all of the required functionality plus inventory/asset management. Affini's role was to provide a system that existing end users could transition to, without service interruption, and to deliver all of the required functionality both to existing users and the ramp up of users as construction continues through to completion.

Onsite support would be required to enable HPC to deliver the best service to all parties, supporting the construction in meeting its deadlines. Another key challenge was providing coverage for communications across the entire site, including challenging indoor and underground areas as well as in cranes and busses transporting thousands of workers to and from the work areas every day.

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Ian Carr, Affini CEO commented: “Affini is proud to be supporting HPC in this project which is strategically important for our country, delivering affordable, clean and secure energy. And we are delighted to be able to support a wide range of wireless requirements on site in addition to the Radio system, such as the deployment of a wireless data modem solution to support EDF’s SCADA network and most recently a proof of concept deployment of an Emergency Evacuation Locator (EEL) solution”.

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## SOLUTION

Affini designed, installed, and commissioned an eight channel, trunked digital mobile radio (DMR) system, distributed over two sites to provide failover resilience. The system provides site wide communications via a combined antenna system while at the same time delivering maximum capacity, cost effectively. An advanced four seat dispatch solution was also included for use by the Security Control staff.

The solution included a digital recording system which can record radio voice calls and messaging, logging and retaining the data for future play back and analysis. Ensuring that the radio system could provide comprehensive storage of information was an important requirement for HPC.

In addition to the voice recording, Affini supplied a full suite of network, radio and application monitoring and management software. This Network Management System (NMS) allowed Affini to monitor and manage both the infrastructure and end user devices, and to produce reports that would alert of any potential problems such as capacity constraints or call quality issues. The NMS also supports EDF’s security requirements for the network, as well as enabling the comprehensive suite of statistical reports that are produced and submitted to the construction’s senior stakeholders on a monthly basis. These reports include statistics such as channel occupancy, peak call time analysis and operational performance.

HPC has over 100 tower cranes on site, including the world’s largest land based crane, known affectionately as ‘Big Carl’ standing at an incredible 250m height. The tower cranes were fitted with a trunked radio mobile as well as a conventional mobile radio for communicating with slingers/bankspersons, and range of specialist accessories such as rugged foot switches and noise cancelling headsets were included in the crane solution. Mobiles were also installed in over 100 busses used to transport thousands of workers to and from the construction site every day.

Once the new infrastructure had been commissioned and all cranes and busses preinstalled, it was time to switch over the existing users to the new network. This was a painstaking task of making sure all end user device configurations, known as 'code plugs' were replicated in the infrastructure to ensure a seamless transition which was conducted out of hours.

Following transition of hand held radios, work began to 'switch over' the mobiles and commence the further rollout of devices to end users, which will be an ongoing exercise as the construction progresses and more workers are employed on site.



To be sure to deliver a world class customer service, Affini opened a Service Centre on site, where end users can drop in to collect or return radios or pick up accessories such as replacement batteries, remote speaker microphones or headsets.

Affini also deployed its Salesforce 'Service Cloud' for the management of all assets and case reporting/ management. Through Service Cloud, customers can report issues via phone or email and cases are progressed against agreed SLA entitlements dependent upon the severity of the case. Service Cloud also provides regular status updates to end users as well as detailed reporting of performance, again important in reporting to the construction's stakeholders each month.

Following the initial deployment of the system Affini continues to extend the infrastructure coverage through distributed antenna systems (DAS) and fibre fed repeaters (RF over Fibre). These coverage enhancements will be ongoing as construction progresses in order to provide communications throughout the tunnels, culverts, other confined spaces and within buildings. Confined space engineering requires specialist skills that Affini has developed over many years of working in the transport and construction sectors. The system's coverage is monitored by monthly drive and walk tests, using advanced scanning and analysing equipment, and maintained by Affini to ensure full coverage throughout the construction lifecycle.

“Affini has delivered the complete solution on plan against its original proposal and overcome several challenges along the way, not least of all a pandemic which saw many projects interrupted. Affini’s commitment to delivering on promises made and operating openly and collaboratively with HPC has been a key factor in realising the commercial and operational benefits that Affini has delivered”. Paul Jess, Service Manager, HPC Communications Division.

## BENEFITS

Affini delivers a successful deployment of a complete communications solution for HPC.

- ✓ The existing radio users were migrated to the new Affini infrastructure without any interruption to service. This involved mirroring over 800 hand held radio code plugs and upgrading over 50 cranes to the new Affini crane radio solution, which was rolled out in several stages over several months
- ✓ Since initial migration, a further 2,400 end user devices have been deployed, all of which have access to voice and data services via a single wireless network
- ✓ Affini established a Service Centre and site office at HPC, where customers regularly visit either for service of to obtain radio accessories
- ✓ The previously existing tunnel communications system supplied by Affini was successfully integrated with the new HPC Affini infrastructure, and several further expansions of coverage into newly constructed galleries have been rolled out, over DAS and RF over Fibre repeaters
- ✓ The system has been further enhanced with features such as integrated Emergency Calling and GPS location services
- ✓ All assets are tagged and managed via Affini’s Service Cloud platform which also tracks and manages all fault cases
- ✓ Asset management and SLA reports, together with infrastructure statistics are compiled and submitted to the HPC Communications team each month.
- ✓ Affini’s on site engineering presence delivers rapid response within the agreed SLA’s including interim milestone targets
- ✓ Drive and walk testing is performed routinely and coverage infills continue to be deployed
- ✓ Ongoing roll out of devices to new workers arriving on site continues, with Affini managing coordination of fleet maps, code plugs and end user training



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