Electricity Transmission

Innovation Annual Summary 2025/26

nationalgrid

Welcome to our interactive Innovation Annual Summary

Look out for this symbol for the interactive content throughout the document.

If you experience any difficulty viewing the interactivity, **click here** for the online version.

Who we are and what we do

National Grid Electricity Transmission (NGET) owns and maintains the high voltage electricity transmission network in England and Wales.

Every time a phone is plugged in, or a switch is turned on, we've played a part, connecting you to the electricity you need.

We take electricity generated across England and Wales, including from wind farms and nuclear power stations, and transport it through our network, consisting of more than 7,000 kilometres of overhead line, 700 kilometres of underground cable and over 300 substations, on to the distribution system, so it reaches homes and businesses.

We're investing in the network, connecting more and more low-carbon electricity – it's a crucial role and pivitol in delivering the UK's clean energy transition ambitions into reality.

Welcome to our Innovation Annual Summary 2025/26

In December 2025, Ofgem published its final determination of the allowances we'll receive for innovation during RIIO-T3. We'll receive a total of £117.5 million of NIA funding, compared to £49.3 million for the RIIO-T2 period.

This significant increase highlights not just the scale of the work that lies ahead as we transform the energy landscape, but also the confidence the Regulator has placed in us to deliver, based on our RIIO-T2 performance.

Over the past year, we continued to spend more on innovation, conclude more projects that have now been deployed into our business, and worked with an increasing number of partners – across different industries and areas of expertise.

As we look ahead, it's a time of change – with significant scaling of our work, and higher expectations than ever before of the value innovation can bring.

To help us meet these expectations, we've been growing our team, boosting its capabilities and making changes to the way we work.

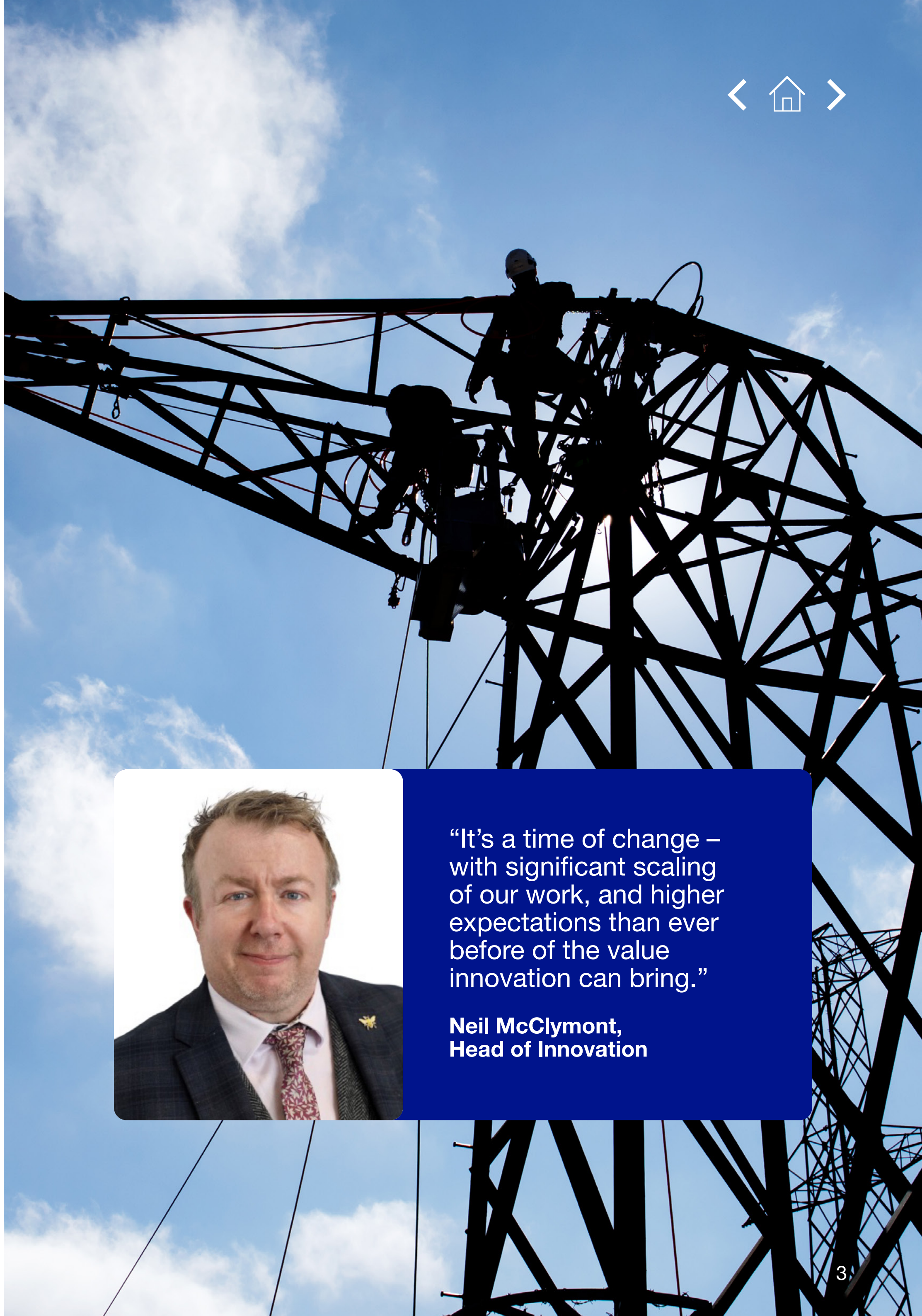
This includes a new way of prioritising projects by assessing their feasibility against benefits and how quickly the innovation can be deployed – which will help us make better, quicker decisions.

I'm confident that we're well placed to deliver during the ambitious period that lies ahead.

Neil McClymont,
Head of Innovation

£117.5m

NIA funding for RIIO-T3, compared to £49.3m for the RIIO-T2 period.



"It's a time of change – with significant scaling of our work, and higher expectations than ever before of the value innovation can bring."

Neil McClymont,
Head of Innovation

The challenges ahead

As we move into RIIO-T3, we're being asked to deliver more infrastructure, faster and more efficiently, while maintaining the highest standards of safety, reliability and sustainability.

For RIIO-T3, innovation is focused on deployment, impact and pace. This is reinforced by the creation of the Energy Networks Innovation Taskforce (ENIT) – an Ofgem-led group that sets the big, shared challenges Britain's energy networks must focus on, with a clear, mission-driven approach.

This means aligning our innovation plans with ENIT's system-wide goals, working more closely with other networks and the NESO, and showing how our ideas can scale across the whole country. The RIIO-T2 projects we've set out in this year's Annual Summary already align largely with some of the ENIT missions – we've highlighted the ones relevant to transmission to the right, together with where you can read about them in this Summary.

Furthermore, the Innovation Delivery Incentive (IDI) in RIIO-T3 rewards networks for putting innovation into practice and delivering measurable benefits. It assesses how well we use innovation to speed up delivery, improve engineering and design, strengthen supply chains and contracting, manage outages more effectively, collaborate across the system, and build a stronger shared innovation culture.

Examples of how we're already working towards the ENIT challenges:

ENIT mission	NGET projects	Page
Eliminating outages	DEsign for Live Line Technology Acceleration (DELLTA)	13
Connect in months not years	DC Flex	14
	Optimise Fault Infeed	15
Faster, cheaper build and maintenance	Low-carbon STrategic REplacement with Additive Manufacturing (L-STREAM)	16
	Use of Innovative Materials and Construction Techniques in the Substation Environment to Accelerate Transition to Net-Zero	17
	Digital whole life carbon assessment (DgWLCA)	18
	Condition Assessment of Long Interconnected Cable Systems (CALICS)	19

The challenges ahead (continued)

Our Innovation Strategy

Our Innovation Strategy, published in 2025, guides how the innovation work we do to support the energy system transition will meet the challenges ahead, while providing benefits for consumers, customers and our industry.

The strategy demonstrates how we'll deliver these benefits, moving beyond proving concepts to rolling out solutions on the network that create real value. It places greater emphasis on our innovation focus areas of collaborative working, implementation, and tracking how our innovations perform once they become business as usual.

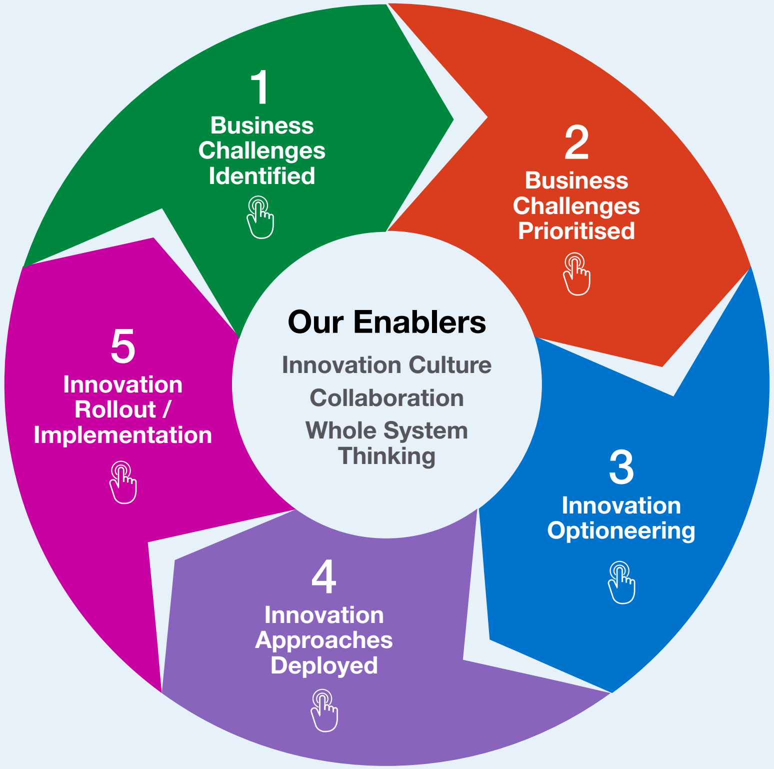
Our four focus areas

Our Innovation Strategy sets out four focus areas, each with specific outcomes.

- Build the Future Network
- Accelerate Customer Connections
- Enhance Sustainability
- Improve Resilience

How we'll innovate

Find out more by hovering over each segment within our strategy model.



"For RIIO-T3, the huge increase in infrastructure build and maintenance work means we need to innovate more and with an expectation that we'll deliver greater value."

Gary Stockdale,
Net Zero Innovation Manager, NGET

Our innovation in numbers

NIA Projects

105
RIIO-T2 NIA live projects

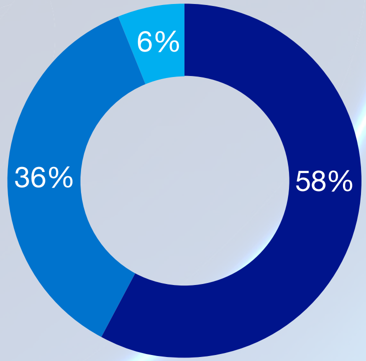
13
NIA projects registered in 2025/26

£19.3m
spend on NIA projects in 2025/26

£25m
forecast spend on NIA projects in 2026/27

92
collaborators, including suppliers, partners and supporters

22
FTEs working on NIA innovation projects



Distribution of Technology Readiness Level (TRL) by volume of NIA projects in RIIO-T2

- Research (TRL 2-3)
- Development (TRL 4-6)
- Demonstration (TRL 7-8)

NIC Projects

2 ongoing NIC projects

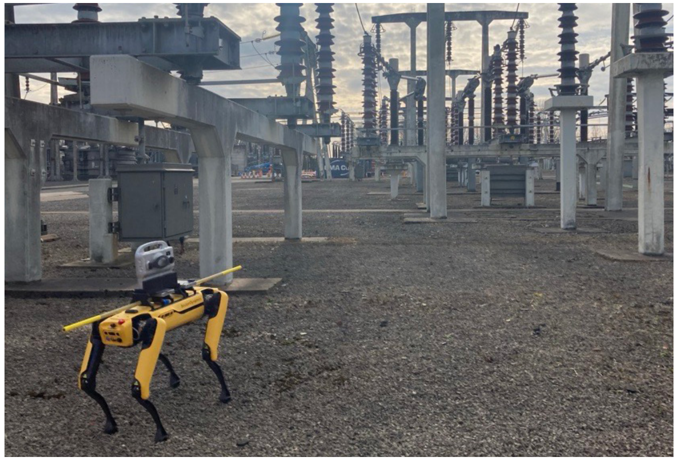
SIF Projects

1 SIF-led Alpha project registered in 2025/26

2 SIF-led Discovery projects registered in 2025/26

1 SIF-led Beta project worked on

Portfolio overview



Our NIA projects

Our NIA projects are delivering ambitious innovations that will help us achieve our energy transition targets. They're clearly aligned to the outcomes we've set out in our Innovation Strategy.

During 2025/26, we increased our portfolio by registering 13 new projects, spending a total of £19.3 million on NIA projects. Our total number of projects is now 105 and of these, 13 are being led by other networks.

In addition to business as usual deployments we have already implemented from our T1 and T2 NIA portfolio, we've deployed further innovations into our operations during 2025/26.

Click to read more about our **innovation deployment** on **page 11**

Strategic Innovation Funding

Through Strategic Innovation Funding (SIF), we progressed three projects that were granted SIF funding of £732,961 during 2025/26.

We were given the green light to progress SwitchTwin and FoSMo to the first Discovery phase. While one of our projects, DELLTA, advanced to the Alpha phase of funding.

Our SF_6 Whole Life Strategy project progressed into the Beta phase during 2025/26. We began developing and demonstrating practical solutions to reduce and ultimately eliminate SF_6 from the transmission network. This has included live trials such as deployment of wireless gas monitoring sensors, enhanced leakage detection and forecasting tools, and development of a retrofill feasibility study and low-carbon disposal methods. We also advanced the wider whole life strategy, combining technical, economic and regulatory insights to inform future network decision-making and support the route to an SF_6-free electricity system.

Click to read more about our **SIF projects** on **page 20**

Our NIC projects

Our Deeside and RICA projects are two significant areas of work that have continued from RIIO-T1 and throughout RIIO-T2.

For Retrofit Insulated Cross Arms (RICA), we're currently considering the feasibility of moving this innovation project to business as usual. You can read more about this on page 22.

Our Deeside Centre for Innovation (DCI) continues to offer its facilities as a test ground for important innovation projects that don't require high voltage. DCI has hosted trials for projects involving weathering steel and a drone-led monitoring system, as well as visits to showcase its facilities to partners.

Click to read more about **DCI** on **page 21**

Implementation and rollout

We've deployed innovation projects from T1 and T2, with more set to follow during T3. Funding has helped us drive innovation on the UK transmission system, mainly relating to achieving the energy system transition.

To date, we've showcased and deployed leading innovations and new approaches that create value for consumers and accelerate progress to a clean energy transition. Standout benefits captured across the T2 period include:

Constraint cost savings

Dynamic line rating (DLR) and smart wires are adding up to 8% circuit capacity and 2GW north-south flow. These innovations, funded by business as usual and innovation funding, are cutting congestion and constraint costs, delivering £221 million in consumer savings over a three-year period.

Up to

8%

circuit capacity added

Environmental impact

Our SF_6 innovation work has led to 50 SF_6 leak sealings across nine sites and the first UK use of a SF_6-free gas mixture – avoiding £6 million in costs and 15,000 tonnes in CO_2 emissions. Our solutions have been adopted by other networks.

15,000

tonnes in CO_2 emissions avoided

£63,000

in annual savings

Operational efficiency

We've achieved £63,000 in annual savings through beyond-line-of-sight drone flights and AI-driven image processing, enabling faster, safer inspections. This innovation work is now business as usual, influencing Civil Aviation Authority rules and improving asset health through AI steelwork assessments.

Network intelligence and resilience

Digital tools like Moata are supporting construction decarbonisation, while our severe weather risk tool is improving outage preparedness. We've also introduced new technology that's repairing leaking transformers within two days, compared to two months. All this is reducing downtime and outage requirements, which will become increasingly important as we rapidly expand the network with the adoption of Ultra-High-Voltage Direct Current (UHVDC) infrastructure.

Working with others

Collaboration is a crucial part of the way we work, and central to how we'll achieve our ambitious objectives. We work with other organisations through:

- **Industry working groups and memberships** – including the Electric Power Research Institute (EPRI), CIGRE, the Infrastructure Industry Innovation Partnership (i3P), the Institute of Electrical and Electronics Engineers (IEEE), the Energy Innovation Centre (EIC) and the Energy Networks Association (ENA). These allow us access to learning from the rest of the world and unlock opportunities for fast-follow which we're exploring.
- **University partnerships** – this year we've boosted the number of universities we partner with on our formal framework from six to 10, in readiness for RIIO-T3. They include researchers, analysts and academics from Cardiff, Edinburgh, Exeter, Manchester, Southampton and Strathclyde universities – and now, in addition, Bath, Birmingham, Liverpool and Warwick universities. Beyond this framework, we also work with other universities.
- **Calls for innovation** – promoting our engineering challenges, seeking ideas and innovative solutions from prospective partners.
- **Leading Edge Only partnership** – helping generate innovative ideas from the innovation community.
- **ENA Basecamp** – an opportunity for networks and innovators to engage and address specific challenges.
- **EIC** – partnering with the EIC, whose wide-ranging stakeholder base helps bring us closer to small and medium-sized enterprises (SMEs) and gives us the opportunity to collaborate with networks. Our partnership includes working with EIC on calls for innovation.

By engaging more widely with the innovation community, we're now working with more businesses than ever, nearly half of which are SMEs. Over the RIIO-T2 period, we worked with 92 supplier partners.

Collaborative innovation projects

We work closely with other organisations during our innovation projects. Here are some examples, where collaboration is playing a crucial role in delivering value for consumers and customers.

FoSMo

Collaboration is the defining feature of our SIF-funded Foundation Source Model (FoSMo) project, which is developing shared AI models for asset monitoring across UK energy networks. It's a cross-industry partnership, bringing together multiple network operators across Transmission and Distribution, and working with external partner Keen AI on AI model development. The collaborative approach will help reduce cost, improve insight and accelerate innovation across the grid.

DELLTA

Our Alpha phase SIF-funded project DELLTA (DEsign for Live Line Technology Acceleration) seeks to enable maintenance and repairs on high voltage (HV) assets without requiring network outages. We invited representatives from other transmission and distribution network operators, academic partners and suppliers to a live working demonstration. This provided an opportunity for them to review findings and help shape future phases of the project. Click here to watch the video.

iCARE

Our iCARE (Intercompatible CAble REpair) NIA-funded project has seen us work closely with both the University of Manchester and high voltage cable accessory manufacturer Pfisterer. This collaborative project will help us create an intercompatible repair system, so we can minimise downtime, optimise asset lifecycles and maintain a highly secure transmission network. This is a novel approach – working with both academics and OEMs on the same project, which increases our opportunity for scaling and deployment into business as usual.

Boosting internal engagement

We've increased our engagement with our teams throughout NGET.

We're encouraging them to share challenges, ideas and existing innovation work that could qualify, and to get involved in trials, pilots and deployments.

The aim is to turn good ideas into real improvements that help the whole system work faster, smarter and more efficiently.

Dissemination and engagement

During 2025/26, we were involved in a wide range of hybrid and virtual events, providing us with the flexibility to reach ever-wider audiences and meet them in ways that best suit their needs. Events we attended, or helped shape and deliver, included:

- Utility Week Live
- The Energy Innovation Summit 2025
- Innovation Zero 2025
- International Symposium on High Voltage Engineering (ISH) Conference 2025
- UHVNet 2025
- National Grid Innovation Day Boston.

The last two years have seen us disseminate across approximately 50 events.

At some events we've been joined by the partners we're working with on specific innovation projects, so they can provide their perspective and expert knowledge when talking to stakeholders about the work we're doing together and how we're supporting the drive to deliver the energy transition.

Our dissemination activities are providing value through the uptake of our innovations by other organisations. For example, our SF_6 sealing innovation has been trialled by other TOs and is being used by a distribution company.

We welcome ideas, feedback and your views on how we engage with you. If you'd like to get in touch, you can find our contact details on the **final page** of this report.

Our innovations

Case studies

Find out more by clicking on each case study below.

Improve Resilience

- Analysis of the Thermal Influence of Cable Surroundings (AnTICS)
- DEsign for Live Line Technology Acceleration (DELLTA)

Enhance Sustainability

- Low-carbon STrategic REplacement with Additive Manufacturing (L-STREAM)
- Use of Innovative Materials and Construction Techniques in the Substation Environment to Accelerate Transition to Net-Zero
- Digital whole life carbon Assessment (DgWLCA)

Accelerate Customer Connections

- DC Flex/Project FLARE
- Optimise Fault Infeed

Build the Future Network

- Condition Assessment of Long Interconnected Cable Systems (CALICS)

Funding through the NIA

Using cable data to improve engineering decisions and network resilience

Project name:
Analysis of the Thermal Influence of Cable Surroundings (AnTICS)

Project number:
NIA2_NGET0042

Focus area:
Improve Resilience

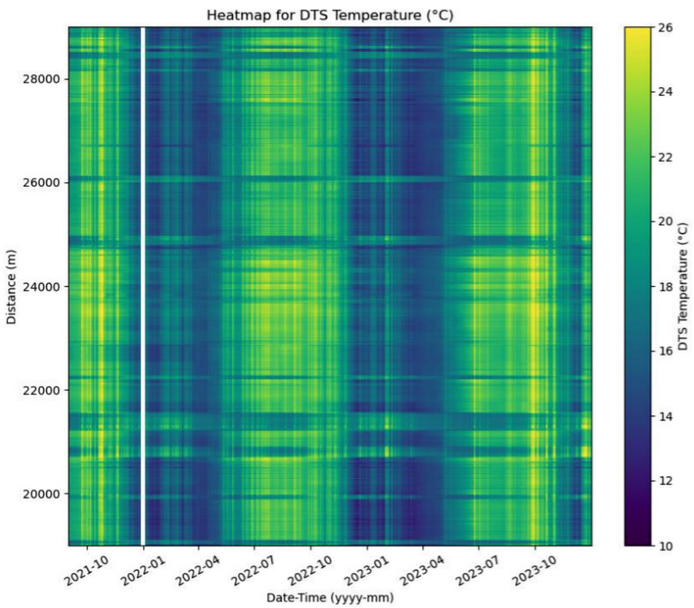
"AnTICS enables smarter decisions across construction, operations and maintenance by transforming cable data into actionable insight."

Hamid Shahrouzi,
Lead Innovation Engineer

Project overview

Our AnTICS project is unlocking greater value from the vast amounts of temperature data we collect from high-voltage underground and subsea cables, replacing assumptions with evidence.

We've developed a digital analytics platform that helps us better understand how the environment around cables affects their performance. This could improve how cable systems are designed, operated and maintained, supporting a more reliable and efficient electricity network.



DTS temperature heatmap

The problem – and the solution

The amount of electricity a cable can carry depends on how well heat can dissipate into the surrounding soil or seabed. However, these environmental conditions can be difficult to measure precisely, meaning cable systems are often designed based on worst-case assumptions.

Our cable network already generates huge amounts of data, but it had previously only been used for basic monitoring and alarms. As part of the project, we created a digital platform capable of analysing billions of data points from cable systems, including the 422-kilometre Western Link interconnector.

This joined-up solution combines engineering knowledge, environmental analysis and machine learning to find thermal hotspots, detect changing conditions and give engineers a clearer picture of how cables behave in real conditions.

Key benefits

Without AnTICS, future cable projects would continue to be designed using cautious assumptions, increasing costs and making it harder to get the most from existing infrastructure.

With the platform in place, early estimates suggest it could reduce the cost of designing and installing subsea cable systems by around £5-20 million on a typical offshore cable project. AnTICS' full value will compound over time as it's used on repeated offshore projects.

Stakeholder engagement

The project brought together specialists from across our business, including asset operations and lifecycle engineering teams and marine geotechnical engineers. We also collaborated with the University of Southampton, drawing on its expertise in geology, oceanography, electrical engineering and analytics. Western Link operational teams have been trialling AnTICS and providing feedback to support further development.

£5-20m potential saving per typical offshore cable project

Reintroducing live working for the first time in a generation

Project name:
DEsign for Live Line Technology Acceleration (DELLTA)

Project number:
10166260

Focus area:
Improve Resilience

"Using innovative equipment and techniques, alongside the highest safety standards, live working could help to reduce circuit curtailment, improve network resilience and support the rapid pace of grid reinforcement."

Prem Ranjan, Senior Innovation Engineer

"As our organisational culture has evolved, reintroducing live working presents new challenges. By clearly demonstrating what we've achieved so far, we can evidence its safety, build stakeholder confidence, and embed live working as a business-as-usual practice."

Chris Land, OHL Specialist Access and New Technology Engineer

Project overview

Project DELLTA is exploring how maintenance and repairs could be carried out on high voltage electricity infrastructure without switching off the power. While this is business as usual in some countries, it hasn't been utilised on the UK transmission network for more than 25 years.

Reintroducing live working could have a major impact on how infrastructure upgrades, including maintenance, are delivered in the future. It would reduce disruption, improve network resilience and help us upgrade the grid faster to support the energy transition.

The problem – and the solution

As demand for electricity grows and more renewables connect to the grid, it's increasingly important to keep as much power flowing through the network as possible. But maintenance on transmission lines currently requires power to be switched off. These outages are difficult to schedule, expensive and disruptive.

DELLTA has been exploring whether innovative tools, equipment and working methods could allow some work to be carried out safely while lines stay live.

To mark the end of the project's Alpha phase, the team demonstrated how a suspension insulator could be replaced safely using the live working methods and equipment developed during the project. A proposed Beta phase would further develop the approach and explore how it could become part of our day-to-day operations.

Key benefits

By reducing the need to switch off power lines, live working would cut costs and maintain transmission capacity during a period of rapid grid reinforcement.

The project could improve the delivery of maintenance and upgrades, while minimising the impact on customers and the surrounding environment. Avoiding an outage typically saves around £170,000 a day.

Stakeholder engagement

The project brought together teams across National Grid alongside partners including Frazer-Nash Consultancy and the University of Manchester. More than 40 representatives from transmission and utility companies joined us for the live demonstration.

Find out more about DELLTA by watching this video.

£170,000
saved per day when an outage is avoided

An overhead line operative working at height

Testing flexible data centre demand to accelerate connections

Project name:
DC Flex/Project FLARE

Focus area:
Accelerate Customer Connections

"High-performance data centres don't have to place additional strain on the grid. With our partners, we've shown they can be connected and managed while flexing their power up or down in real time to support the whole system. This approach will enable us to connect significant new demand more quickly and help to lower network charges for customers over time."

Helen Lawley-Adams,
Lead Innovation Engineer

Project overview

As demand for AI, cloud computing and digital services grows, so too does the need for reliable electricity connections to support new data centre development.

This presents an opportunity for National Grid. Data centres are a new customer type for us, with different operating needs and expectations, and the potential to create new demand on the network. Demand from data centres could reach more than 6GW by 2030 – enough to power 15 million homes for a year – so understanding where that demand may appear, how it behaves and how it could be managed is key.

Our DC Connect project, delivered in collaboration with TNEI Group and with input from data centre operators and NESO, created a longer-term view of data centre demand in the UK. Its work helps us to understand where data centres may connect, what their requirements are and what supporting factors are needed for their growth.

We are now exploring how flexible demand could help connect large new data centre loads more quickly and make better use of existing network capacity. Through our involvement in EPRI's DC Flex initiative and our own Project FLARE, we are testing how data centres can move from being treated as fixed and always-on demand to more flexible assets.

The problem – and the solution

In many cases, large new loads are looking to connect in places where network capacity is constrained, while the development of AI Growth Zones is expected to accelerate demand for data centre connections.

National Grid is a member of EPRI's DC Flex initiative, which brings together data centre operators, technology providers, researchers and policymakers to understand how flexible digital infrastructure demand could integrate with the future grid. At the centre of the initiative is the MOSAIC framework, which aims to address 'time to power' challenges for large network loads, including data centres.

In December 2025, we took part in a live trial of AI technology that adjusted the power usage of data centres in real time. The trial reduced electricity demand from 96 AI clusters by more than a third in under a minute, without disrupting critical workloads. This showed how data centres could flex their demand up or down to ease constraints and support the system, rather than simply adding to peak demand.

Project FLARE, which stands for Flexibility for Large Assets to Rapidly Energise, builds directly on this learning. Delivered in partnership with EPRI, the project will assess how flexible usage could unlock additional network capacity and reduce connection times for large demand customers.

Key benefits

This work could help us connect significant new demand more quickly.

If data centres can flex their demand at the right moments, they may be able to ease constraints, reduce pressure on the system and create new options for connecting large loads.

The projects are also helping us understand a rapidly growing customer segment. Combined, they are helping us to build a clearer picture of how data centres operate and how their connection requirements may evolve.

For consumers, the potential benefits include UK economic growth, a more efficient use of network capacity, faster connection of economically important digital infrastructure and, over time, lower network costs if flexibility can reduce or defer the need for reinforcement.

Stakeholder engagement

Collaboration is central to this work. DC Connect involved TNEI Group and data centre operators to develop a more detailed view of future data centre demand and connection needs.

Our involvement in EPRI's DC Flex initiative connects us with a broad ecosystem of data centre operators, technology providers, researchers and policymakers who are working together to understand how flexible digital infrastructure can support the future grid.

Project FLARE will continue this by working closely with data centre operators and wider stakeholders to understand whether flexibility is practical and desirable in their operations.

Back to our innovations

Developing a better way to manage fault levels

Project name:
Optimise Fault Infeed

Project number:
NIA2_NGET0053

Focus area:
Accelerate Customer Connections

"This project is important in terms of preventing an over-built system. By finding a suitable operational technique to manage fault levels, we can minimise network reinforcement requirements, resulting in significant cost savings."

Jonathan Hunte,
Lead Innovation Engineer

Project overview

Our Optimise Fault Infeed project has developed a promising way of controlling how much fault current inverter-based generators feed into the system. If successful, it could replace traditional costly approaches with a fault level management method that's fit for the future.

The problem – and the solution

As more wind, solar and battery sites connect to the grid, the amount of fault current they inject during faults is pushing parts of the network beyond their maximum fault-level capability. Traditional fixes – splitting substations or reinforcing them – are costly, slow and increasingly unsuitable for a system dominated by inverter-based generation. Without a new approach, high fault levels will continue to delay connections, increase operational risk and drive billions of pounds of reinforcement.

We're developing a method of controlling how much fault current inverter-based generators feed into the system. This adjusts fault infeed from inverter-based generators based on their power output – a targeted way to limit rising fault levels without major reinforcement. Simulations to date have shown promise for this control method.

Key benefits

If successful, this innovation could significantly reduce the need for substation upgrades, ease connection constraints and lower operational costs. The potential system-wide benefit is substantial, with an estimated saving of £73 million per feasible site across Great Britain.

Stakeholder engagement

A crucial aspect of this project has involved engaging with NESO, the ENA and other TOs. This has included considering the limitations of the current Grid Code's standard that governs how to calculate short-circuit fault currents. The existing standard, created for the synchronous grid of the past, is less suitable for a system dominated by inverter-based generation. The working group's report and recommendations are set to be published during 2026.

£73m potential saving per feasible site across GB

Our Optimise Fault Infeed project will potentially reduce the need for substation upgrades

Harnessing additive manufacturing to replace asset components

Project name:
Low-carbon STrategic REplacement with Additive Manufacturing (L-STREAM)

Project number:
NIA2_NGET0084

Focus area:
Enhance Sustainability

"Additive manufacturing offers a wide range of benefits including flexible component design, rapid tooling and shorter lead times."

Kerri Hayes, Innovation Engineer

Project overview

Our L-STREAM project is exploring the use of additive manufacturing (AM) to produce replacements for legacy components and bespoke specialised parts with comparable or superior electrical performance.

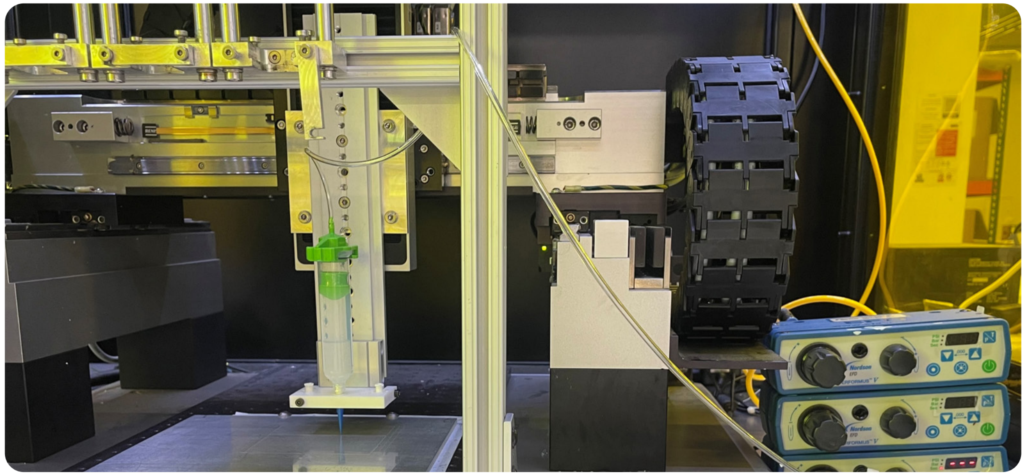
AM has a strong track record in high-performance engineering sectors. GE Aerospace has produced more than 100,000 flight-certified 3D printed components that have accumulated more than 10 million flight hours. Former Formula One team Alfa Romeo Sauber successfully integrated over 300 AM parts into a single race car. Despite these precedents, equivalent performance data for AM components in high voltage power network applications remains limited.

The problem – and the solution

Many transmission assets are ageing, and in some cases there are no strategic spare parts available if they fail. Designs and component information for older equipment are often not digitised, making replacement even harder.

Traditional manufacturing methods like moulding and casting only become cost-effective at very large volumes, but the power industry needs small quantities of highly specialised parts – leading to long lead times, high costs and growing obsolescence risks.

Our L-STREAM project will assess 3D printing options to determine whether AM components can match or exceed the strength, safety and durability required under the Electricity at Work Act.



Additive manufacturing has huge potential for producing replacements for legacy components and specialised parts

50% of spare parts were found by a major utility to be 3D printable with existing technology

Key benefits

If successful, AM could extend the life of legacy assets, reduce waste, cut Scope 3 emissions, shorten lead times, lower costs and avoid unnecessary capital replacement – all while improving network resilience and supporting environmental goals.

Stakeholder engagement

The work, led jointly by the Universities of Manchester and Southampton, includes reviewing existing uses of AM within the high voltage fields, assessing the printability of commercially available electrical-grade polymers and their limits under electrical stress, and conducting accelerated ageing tests to understand long-term performance of dielectric insulators.

We've shortlisted electrical-grade silicone rubbers suitable for accelerated ageing tests, comparing performance to conventionally formed parts. Results from our university partners will be combined to build a full picture of how AM and thermal ageing influence the performance of the selected materials. We expect to conclude the project towards the end of 2026.

Testing begins on carbon-saving construction materials

Project name:
Use of Innovative Materials and Construction Techniques in the Substation Environment to Accelerate Transition to Net-Zero

Project number:
NIA2_NGET0045

Focus area:
Enhance Sustainability

"The two materials being tested have been chosen because this is not about a one-off trial, but about solutions that we can use for a long period of time."

Dr Muhammad Shaban, Lead Innovation Engineer

Project overview

This project is examining the use of low-carbon materials to reduce carbon emissions associated with construction activities.

The problem – and the solution

We want to ensure we're making the right asset investment decisions for future generations and tapping into innovative materials and construction techniques that improve construction speed and asset lifespan, while reducing carbon emissions.

In previous years, we identified multiple techniques and materials that could be viable. Now, we've been able to reduce our findings to a shortlist and proceed to long-term testing and monitoring.

The two materials that have progressed to the trial phase are graphene-enhanced concrete and weathering steel for structures. We selected them following extensive discovery based on cost, emissions and supply chain opportunities.

The focus in the last year has been identifying suppliers, approving design drawings and planning the trials that will scale from the research and development done so far.

Key benefits

The testing of graphene-enhanced concrete relates to new challenges published by Ofgem that push for construction in the sector to be 50% faster and 20% cheaper.

Traditional concrete takes 28 days to cure and reach standard compressive strength. The graphene-enhanced concrete increases strength and can reduce curing time by up to 50%. It also reduces the construction emissions based on the mix. The results of the curing time will be known quickly, but the long-term strength of the material will be monitored over years.

Weathering steel aims to address the risk of corrosion to NGET structures. The current steel used has an operational lifespan of 50 years, while weathering steel has an anticipated lifespan of more than 100 years.

Weathering steel structures have been installed for long-term testing at our Deeside Centre for Innovation (DCI), where visual inspections will be carried out for bi-metallic corrosion. The main focus is on corrosion and whether weathering steel can withstand the conditions found in difficult environments in England and Wales.

Stakeholder engagement

We partnered with the National Graphene Institute at the University of Manchester, which will be supplying the graphene for the concrete mix and supporting with ongoing testing requirements.

50%

improvement in curing time of graphene-enhanced concrete

Long-term testing of weathering steel is underway at Deeside Centre for Innovation

Digital tool provides comprehensive carbon assessment

Project name:
Digital whole life carbon assessment (DgWLCA)

Project number:
NIA2_NGET0071

Focus area:
Enhance Sustainability

"The data captured in Moata helps us and our partners to make informed decisions to reduce our carbon emissions."

Dr Muhammad Shaban, Lead Innovation Engineer

Project overview

By developing a customised digital whole life carbon assessment tool, Moata, we can now better measure and manage our carbon reduction efforts. The new tool will support whole life carbon assessments, standardising the approach for the supply chain and helping achieve external accreditation to the PAS 2080 international standard – demonstrating our ability to manage carbon and infrastructure in the built environment to high standards.

The problem – and the solution

We needed a tool that could provide a universal method of tracking whole life carbon, instead of only capital emissions. Standardising the approach – and moving away from the existing carbon interface tool (CIT), which lived in bloated and complex spreadsheets – would create a single source of truth for our decarbonisation activities and provide clear data to make informed decisions to reduce carbon emissions across the full supply chain.

The solution was to customise a tool offered by global engineering and development consultancy Mott MacDonald. There was no comparable use case in the UK energy sector. This meant that we worked closely with the supplier to create bespoke changes so that it could be used by our supply chain. We completed a trial with selected suppliers and introduced multi-user editing, which meant that designs were more easily shareable among organisations.

After the three-month trial, we introduced further modifications and rolled out the tool to 40 suppliers working on major infrastructure projects, including Balfour Beatty and Murphy. The tool is now part of business as usual and used widely.

Key benefits

Moata has made carbon data analysis quicker for teams and removed time-consuming tasks, including making the data we submit to Ofgem more comprehensive and of a higher quality. Moata also satisfied one of the main requirements needed to achieve PAS 2080 accreditation.

And perhaps most importantly, Moata's widespread use will support our commitments to reduce emissions as part of the NGET Environmental Action Plan.

Stakeholder engagement

This project involved Mott MacDonald working closely with our sustainability teams, as well as digital and IT teams. It also involved 40 supply chain partners who are able to access and input to Moata, deliver feedback and contribute to the whole life carbon assessment data capture. Industry recognition has arrived as NGET and Mott MacDonald won the 2025 Utility Week Carbon Reduction Award for Moata.

40
supply chain partners are using Moata to track whole life carbon data

Winning the Carbon Reduction Award at Utility Week 2025 for our Moata tool deployment

Supporting tomorrow's world with smarter subsea cable monitoring

Project name:
Condition Assessment of Long Interconnected Cable Systems (CALICS)

Project number:
NIA2_NGET0050

Focus area:
Build the Future Network

"CALICS transforms subsea cable monitoring from less than 100km at cable ends to full-length visibility across thousands of kilometres, enabling effective and proactive cable management."

Hamid Shahrouzi,
Lead Innovation Engineer

Project overview

CALICS is redefining subsea cable monitoring and tackling the limits of traditional sensing.

By delivering high-resolution, long-range visibility of cable health – especially at critical joints – it enables earlier fault detection and smarter asset decisions. The project is building the foundations for resilient, data-driven transmission networks, reducing failure risk and supporting a more reliable, net-zero-ready electricity transmission system.

The problem – and the solution

Monitoring subsea cables is critical, but difficult. Existing distributed temperature sensing (DTS) systems give limited visibility and struggle to detect issues across very long cable routes.

When faults happen, the consequences are significant. Repairs can take months, specialist repair vessels cost around £100,000 a day and a single cable failure can cost tens of millions of pounds while affecting the stability of the network.

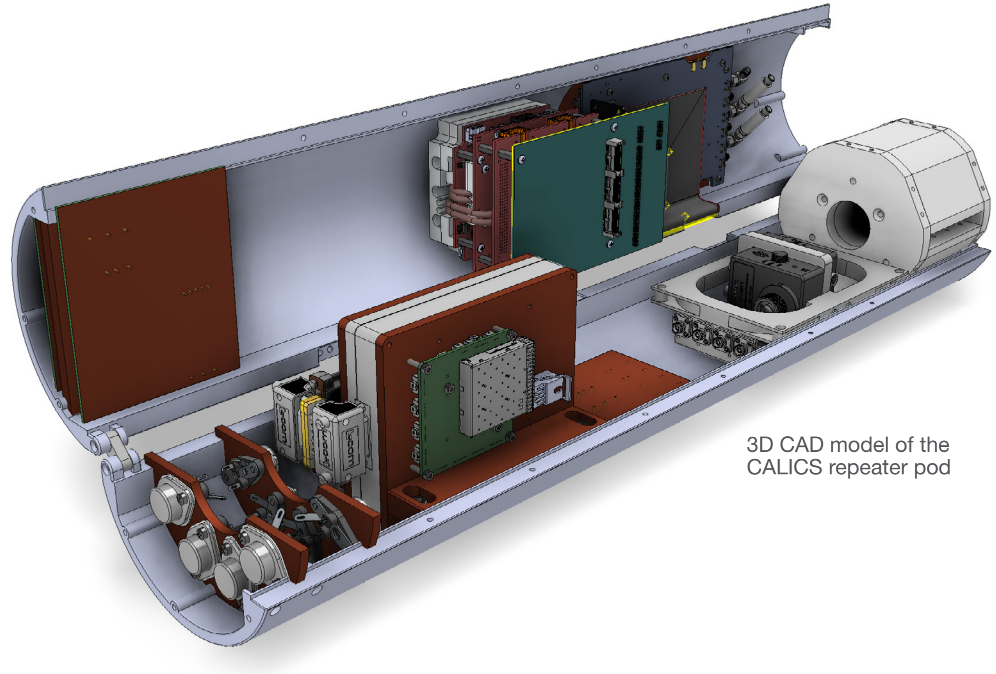
CALICS is investigating a new approach to subsea cable monitoring by combining advanced fibre optic technology with edge computing to improve data quality and provide more accurate results over much longer distances.

Key benefits

By improving the visibility of cable condition monitoring, CALICS could help reduce operational, maintenance and repair costs, while improving the resilience of the network.

Finding issues earlier helps us fix problems before they become more serious, reduces the risk of major failures and helps infrastructure perform better and last longer. The future network will depend more heavily on long-distance subsea cables, and CALICS will help us monitor and manage these assets more effectively, even at a huge scale.

£40-80m potential cost of a single subsea cable failure



3D CAD model of the CALICS repeater pod

Stakeholder engagement

The project involved cable specialists, asset managers and lifecycle engineering teams from across our business. Insights from CALICS are already helping shape future condition monitoring projects. Meanwhile, we're exploring opportunities for further work to build on our findings and extend the technology across the network.

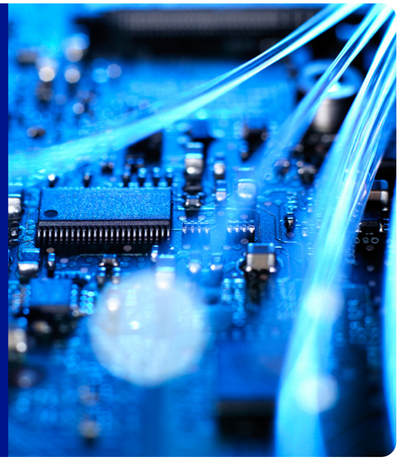
Our Strategic Innovation Funding (SIF) projects

We progressed three projects that were granted SIF funding of £732,961 during 2025/26. We were given the green light to progress SwitchTwin and FoSMo to the first Discovery phase, while one of our projects – DELLTA (read more on pages 9 and 13) – advanced to the Alpha phase of funding. Our SF_6 Whole Life Strategy project continues to progress within the Beta phase.

Find out more about our SIF portfolio by hovering over the icon for each project.

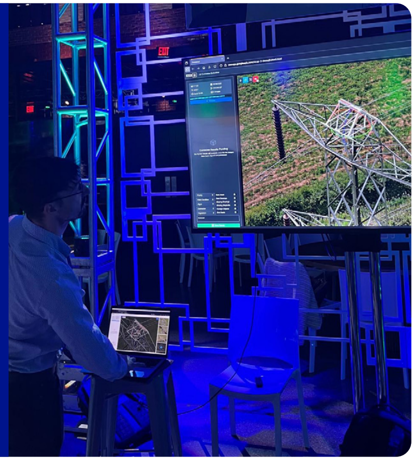
SF_6 Whole Life Beta Project

SwitchTwin Discovery project



DELLTA Discovery and Alpha projects

FoSMo Discovery project



Funding through SIF

For RIIO-T2, Ofgem replaced its Network Innovation Competition (NIC) with the Strategic Innovation Fund (SIF), with £450 million available for GB networks over the five-year regulatory period out to 2026.

Network companies must comply with the SIF Governance Document, and their applications for funding should respond to the innovation challenges published by Ofgem. Each of these challenge descriptions defines the problem, success criteria, funding available and any other requirements.

Projects are funded progressively in three phases: Discovery, Alpha and Beta, to ensure focus on the right areas and minimise risk. The aim is to help the projects to develop rapidly, react to change and maximise their potential to transform the energy system.

For RIIO-T3, the SIF provides up to £500 million for network innovation between April 2026 and March 2031. The fund is centred on five innovation challenges, developed by the Energy Networks Innovation Taskforce (ENIT) and endorsed by Ofgem, focused on accelerating connections, building and maintaining infrastructure faster, enabling flexible energy use, eliminating outages and delivering decentralised system balancing.

Deeside Centre for Innovation (DCI)

In 2015, we secured £12 million in funding through Ofgem's annual Electricity Network Innovation Competition (NIC), to create the Off-grid Substation Environment for the Acceleration of Innovation Technologies (OSEAIT) project.

We combined this with an additional £31 million of National Grid investment to convert a decommissioned substation into a unique research and innovation facility – the Deeside Centre for Innovation (DCI).

Progress during 2025/26

As the high voltage testing facility approaches completion, teams are now entering the critical testing and commissioning phase. This will make sure that when the switch is finally thrown, the facility will be fully primed to deliver up to 600kV and 6,000A with precision, reliability and uncompromising safety standards.

Behind the scenes, our Test and Development Engineers are driving innovation forward, designing and delivering bespoke solutions that push new technologies to their limits. This capability will position the facility at the forefront of high-power testing, enabling the next generation of assets and innovations to be rigorously validated in a world-class environment.

Weathering steel

Weathering steel is a low-alloy steel that includes small amounts of copper, chromium and nickel, enabling it to form a protective patina that resists further corrosion. A trial is assessing how well this material performs in a substation environment, focusing on its durability and the development of that patina. Over the coming years, the structures will be inspected annually to confirm even patina formation and good overall condition, with extra attention to joints, crevices and areas where water may collect.

LiDAR and drone mapping mission

A drone-led monitoring system is transforming how substations are inspected, using airborne sensors to spot early signs of equipment failure. By detecting hidden electrical faults from above, it replaces slower manual checks and pinpoints issues with far greater accuracy. Trials at Deeside show drones can reliably locate faults, while Light Detection and Ranging (LiDAR) scanning is creating detailed digital site models. The long-term aim is a virtual library of substations, enabling remote planning and smarter, more automated inspections.

Engagement

The DCI team has run a focused programme of high-impact visits, showing partners what its facilities can do and building a strong pipeline of innovation projects. These visits have highlighted the centre's role in speeding up low-carbon solutions. As energisation approaches, the DCI is well placed to turn these opportunities into real-world projects that deliver system-wide value.

Did you know?

Retrofit Insulated Cross Arms (RICA)

Our Retrofit Insulated Cross Arms (RICA) project is a Network Innovation Competition (NIC) project. It aims to find innovative ways to deliver network capacity – providing increased value for money to consumers and accelerating the drive towards a low-carbon future.

Insulated cross arms replace the standard metallic cross arms from which insulators and conductors are attached and suspended. They enable network owners to upgrade the voltage rating on their existing towers from 275kV to 400kV, which has the potential to increase transmission capacity by more than 40%.

The project provides a pathway for Britain's first full-scale implementation of RICA technology, by mitigating technology risks and accelerating its adoption onto the network.

Using RICA could decrease emissions through avoiding the use of steel and concrete required for new overhead line (OHL) builds, potentially delivering a 39kt reduction of net carbon emissions by 2050.

Benefits

RICA can provide new network capacity without the need for new-build OHLs. This leads to shorter project timeframes, reducing constraint costs earlier (saving £180 million annually) and enabling faster connection of renewable generation. The capability to operate at higher voltages also means lower losses and associated emissions.

Wider benefits include reduced customer impact due to lower construction volumes and better visual amenity of towers compared to new-build alternatives.

RICA progress

We've continued RICA development work at our Eakring Global Technical Training Centre of Excellence. This has included developing procedures such as installation for tension towers. Although there is a robust RICA solution for suspension towers, which comprise 76% of the L3 and L66 tower family, the remaining tension towers are more challenging. We've now developed three remedial options for tension towers, which will need to be selected on a scheme-by-scheme basis.

The extensive work we've conducted on the procedural and design documentation for the RICA project will be a valuable tool for future deployments – notably during the scheme optioneering phase of network development.

The deployment of RICA will put additional loads on both foundations and towers. We've worked with project teams to identify and conduct remedial foundation works for existing network OHL towers, which will support the investment case with robust financial data and forecasts.

During 2025/26, we showcased RICA at Innovation Zero in London and at the Energy Innovation Summit in Glasgow, providing an opportunity to highlight its benefits to stakeholders.

The project team is now preparing its close-out report, which we expect to conclude later in 2026. Meanwhile, we're continuing long-term testing at our Deeside Centre for Innovation (DCI) and considering how RICA will progress to business as usual – including its potential deployment beyond the existing L3 and L66 transmission tower families.

Jimmy Deas,
Senior Innovation Engineer

"We're entering an exciting phase for RICA, where we are looking at the feasibility of moving from an innovation project to business as usual, as well as the potential of deployment on a network overhead line."

Live NIA project portfolio

NGET Led		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA2_NGET0001	Impedance Scan Methods	Cardiff University, ESO
NIA2_NGET0002	Role and value of electrolysers in low-carbon GB energy system	I C Consultants, ESO, NGGT
NIA2_NGET0003	Retrofitting Oil Source Heat Recovery to Transformers	Therma-Mech Ltd, The University of Manchester, SSE Energy Solutions
NIA2_NGET0004	Centralised PAC	UK Grid Solutions Limited
NIA2_NGET0005	Environmental Risk and Assurance (ERA)	Frazer-Nash Consultancy, University of Liverpool, Previsico Limited, Energy Innovation Centre Limited (EIC)
NIA2_NGET0006	Non-invasive In-situ Monitoring and Interpretation of SF_6 Alternatives in GIS Equipment	The University of Manchester
NIA2_NGET0007	EPRI Research Collaboration on Electric & Magnetic Fields Health & Safety (P60) 2021-25	EPRI
NIA2_NGET0008	EPRI Substations (P37) and Analytics (P34) 2021-2025	EPRI
NIA2_NGET0009	Visual Inspection and Condition Assessment Platform for OHL Steelwork (VICAP)	Keen AI, Sees.ai
NIA2_NGET0010	Non-intrusive Tower Foundation Inspections using UGW (NITFI)	The Welding Institute Ltd (TWI)
NIA2_NGET0011	Alternative Approaches to Tower Painting Preparation	Hive Composites Ltd
NIA2_NGET0012	EPRI Research Collaboration on Underground Transmission (P36) 2021-2025	EPRI
NIA2_NGET0013	Overhead Line Sagging Monitoring Using 5G Signals	University of Warwick
NIA2_NGET0014	Secure Edge Platform	Capula Ltd
NIA2_NGET0015	Fibre Health Monitoring	EXFO Europe Limited, ADVA Optical Networking Ltd
NIA2_NGET0016	Novel methods for sealing SF_6 leaks	Rawwater Applied Technology Limited, The University of Manchester, Cardiff University, SPEN, SSEN Transmission, EIC
NIA2_NGET0017	System value from V2G peak reduction in future scenarios based on strategic transport and energy demand modelling	Frontier Economics, Imperial College London, University of Warwick
NIA2_NGET0018	Autonomous Aerial, Thermal Inspections of Substations	Frazer-Nash Consultancy, HeroTech8
NIA2_NGET0019	Aerial E-field Inspection System for Live Overhead Transmission Assets	The University of Manchester
NIA2_NGET0020	Co-Simulation	Manitoba Hydro International, SPEN, SSEN, NGESO

Live NIA project portfolio continued

NGET Led		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA2_NGET0021	New online tools for Assessment of Bushing Condition	Doble PowerTest
NIA2_NGET0022	Switch Oil Markers	The University of Manchester, Mynas Limited
NIA2_NGET0023	Cable Alternative Cooling Technologies for Underground Systems (CACTUS)	University of Southampton
NIA2_NGET0024	Insulating Dielectrics: Esters & Alternative Liquids	University of Southampton
NIA2_NGET0025	Wide Area Control Framework	Siemens Public Limited Company
NIA2_NGET0026	Energy water nexus	Energy Systems Catapult, PSC
NIA2_NGET027	Enhance Power Flow Control Capability of GB Network	University of Exeter, ESO
NIA2_NGET0028	Identification and quantification of C4F7N gas arcing by-products and their implication for GIS operation	Cardiff University
NIA2_NGET0029	Silicone Oil Markers Investigation (SOMI)	EA Technology
NIA2_NGET0030	Voltage Interaction and Thermal Dynamics of Tertiary Connection	The University of Manchester
NIA2_NGET0031	Understanding the Whole System Impacts of Nuclear Co-Generation on Electricity Transmission Infrastructure	ESC, ESO
NIA2_NGET0032	Swarfless Cut Isolation System for SF_6 Outages and Repairs (SCISSORs)	NLB Engineering
NIA2_NGET0033	DELIVER: Digital-Twin Enabled Innovation for Energy Network Restoration	Arup
NIA2_NGET0034	VoltXpanse: Ultra high voltage onshore energy highway	Ove Arup and Partners Limited, The University of Manchester, SPEN, SSEN, HVDC centre
NIA2_NGET0035	Green Heat for Local Communities (GHLC)	Arup, SGN
NIA2_NGET0036	Grid forming modelling and stability	Cardiff University, ESO
NIA2_NGET0037	Optimum Wide Area Power Flow Control Solutions	Smart Wires
NIA2_NGET0038	Network Intelligence through Probabilistic Risk Assessment Methodology (NIPRAM) to improve electricity system restoration	Aerospace Technical Services, NGED, UKPN
NIA2_NGET0039	Characterisation and Optimisation of Battery Banks in Substations (COBBS)	Cardiff University
NIA2_NGET0040	Surge Arrestors Health Assessment by Monitoring Partial Discharge (SAHARA)	EA Technology, The University of Manchester
NIA2_NGET0041	Wet Weather Data for OHL Noise Predictions	Met Office

Live NIA project portfolio continued

NGET Led		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA2_NGET0042	Analysis of the Thermal Influence of Cable Surroundings (AnTICs)	University of Southampton, Ørsted
NIA2_NGET0043	Aerial inspections of OHLs from Beyond Visual Line of Sight (BVLOS)	Sees.ai
NIA2_NGET0044	Improving the determination of safety and induced effects in earthing systems	Cardiff University
NIA2_NGET0045	Use of Innovative Materials and Construction Techniques in the Substation Environment to Accelerate Transition to Net-Zero	Kelvin Construction Company Limited
NIA2_NGET0046	CrystalClear - Lifecycle Analysis of SF_6 Alternative Technologies and Crystal Formation Impacts	The University of Manchester, EPRI
NIA2_NGET0047	Cable Oil DEcontamination by BaCteria (CODEC)	BioNRec
NIA2_NGET0048	Visual Inspection and Condition Assessment Platform for OHL Steelwork 2 (VICAP 2)	DScience Ltd (Trading as Keen AI)
NIA2_NGET0049	Sprayed Metal for Effecting Leaking Transformer Repairs (SMELTeR)	Rawwater Engineering Company Limited
NIA2_NGET0050	Condition Assessment of Long Interconnected Cable Systems (CALICS)	University of Southampton, Ørsted
NIA2_NGET0051	Interaction of Megawatt e-Trucks with Transmission System (I-MeTTS)	Cardiff University, NGED, ESO
NIA2_NGET0052	Detailed Analysis of Transformer Ageing Mechanisms for Intelligent Estimation of Reliability - DATAMInER	The University of Manchester, University of Southampton
NIA2_NGET0053	Optimise Fault Infeed	ESO, SPEN
NIA2_NGET0054	Electricity Transmission Heat Effects, Resilience Measures to Manage Asset Lifecycles (THERMAL)	TNEI Services Limited, Frazer-Nash Consultancy, University of Edinburgh, SSEN-T, NGED
NIA2_NGET0055	Knowledge Elicitation of Risks to Assets Under LightNing Impulse Conditions (KERAUnIC)	University of Bath, NGED
NIA2_NGET0056	BRIDGES - Building a Resilient and Intelligent Dynamic Grid Enhancement System	GE Vernova
NIA2_NGET0057	Understanding the impact of Electromagnetic Fields from Interconnectors (BLUEFIN)	University of Southampton, SSE
NIA2_NGET0058	HVDC Assets Life Cycle Assessment (HVDC - LCA)	DNV Services UK Limited, SPEN, SSEN
NIA2_NGET0059	Anticipating Gas Insulation Leaks from Electrical assets – AGILE	Elimpus Limited, University of Strathclyde, EPRI
NIA2_NGET0060	Robot, AI and Drone Enhanced Detection of Discharge (RAIDEDD)	Cardiff University, Chronos Technology Limited, University of Strathclyde, Elimpus Limited

Live NIA project portfolio continued

NGET Led		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA2_NGET0061	Tunnel power cables earthing, safety and protection under electromagnetic transient voltages and currents (TunCab)	Cardiff University
NIA2_NGET0062	Compact Substation (CoSub)	Cardiff University
NIA2_NGET0063	intercompatible CAble REpair (iCARE)	The University of Manchester
NIA2_NGET0064	New Aspects of Trading to Understand Risks to the Environment (NATURE)	EIC
NIA2_NGET0065	High Security Control and Protection System	Admeritia GMBH, Capula Ltd, Schweitzer Engineering Laboratories, Siemens Plc
NIA2_NGET0066	Use Case & Market Development of Superconducting Technologies	Frazer-Nash Consultancy
NIA2_NGET0067	Investigating Coastal and Estuarine Climate Risks on Electricity Asset Management (ICECREAM)	EIC
NIA2_NGET0068	AIDPS: Assessing the Impacts of DC Components from Power Electronic Devices and Geomagnetically Induced Currents	University of Birmingham
NIA2_NGET0069	Sustainable Drainage Systems (SuDS) for Hydrocarbons	Arup Ltd
NIA2_NGET0070	EcoBuild 3D: Sustainable Substation Foundations	Hyperion Robotics
NIA2_NGET0071	Digital whole life carbon assessment (DgWLCA)	Mott MacDonald
NIA2_NGET0072	Evolution of VSC HVDC Control	The University of Manchester
NIA2_NGET0073	Graphene Enhanced Maturity Site Trials and Optimal Network Evaluation (GEMSTONE)	Frazer-Nash Consultancy
NIA2_NGET0074	CODA: Coordinated design and control of multi-infeed HVDC integrated power systems	Cardiff University
NIA2_NGET0075	Framework for Risk Analysis and Modelling of Events (FRAME I)	Baringa Partners LLP
NIA2_NGET0076	Thermal Analysis and Consequences of Thermosyphon Installations on Cable (TACTICS)	University of Southampton
NIA2_NGET0077	intercompatible CAble REpair (iCARE) 2	The University of Manchester
NIA2_NGET0078	Earth Friendly Concrete Trials – Tunnel Linings	HMJV
NIA2_NGET0079	Fibre Health Monitoring Phase 2	Adtran Networks SE
NIA2_NGET0080	Visual Inspection and Condition Assessment Platform (VICAP3) - Bar by Bar	DScience Ltd (Trading as Keen AI)

Live NIA project portfolio continued

NGET Led		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA2_NGET0084	Low-carbon STrategic REplacement with Additive Manufacturing (L-STREAM)	The University of Manchester
NIA2_NGET0085	Track to Zero	University of Leeds
NIA2_NGET0087	UAV-based Remote Hyperspectral Imaging for Condition Assessment (URHICA)	Nottingham Trent University
NIA2_NGET0089	Suitability Assessment of Type Testing Procedures against SF_6-free Switchgear (SATPaSS)	University of Liverpool
NIA2_NGET0090	Engineering Automation with IEC61850 BAPs	Condis Ltd
NIA2_NGET0091	Growing Renewable Engineering solutions by exploring New Polymer Rebars (GREEN)	Kelvin Construction Company Limited
NIA2_NGET0092	DCConnect	TNEI Services Limited
NIA2_NGET0094	Graphene based solutions for sealing new GIS using SF_6 alternatives	The University of Manchester
NIA2_NGET0095	Transformer ReStart (TReS)	EPRI
NIA2_NGET0096	Equity in Network Capacity through Education and Energy Support Solutions (EQUINET)	Energy Innovation Centre Limited
NIA2_NGET0098	Framework for Risk Analysis and Modelling of Events (FRAME II)	Baringa Partners LLP
NIA2_NGET0099	Improved Role Based Access Control for Intelligent Devices	Energy Innovation Centre Limited

Live NIA project portfolio continued

RIIO-T2 Collaborative Projects		
Project Ref.	**Name**	**Collaborators (includes suppliers, partners and supporters)**
NIA_CAD0088	Digital Exclusion	Led by Cadent. Partner: Frazer-Nash Consultancy, Energy Innovation Centre
NIA_NGGT0175	5G – The art of the possible	Led by National Gas Transmission. Partner: Digital Catapult
NIA_SPEN_0064	Cyber Security for Active and Flexible Energy Networks (Cyber-SAFEN)	Led by SPEN. Partner: University of Manchester
NIA_SHET_0039	OHL Foundation Uplift	Led by SPEN
NIA_NGGT0184	Gas and electricity transmission infrastructure outlook	Led by National Gas Transmission. Partner: Guidehouse
NIA_SHET_0035	TOTEM (Transmission Owner Tools for EMT Modelling) Extension	Led by SPEN. Partner: Manitoba Hydro International Limited
NIA_SPEN_0084	Transformer Research Consortium – Phase 5: Future-proof Transformers in a Digital Twinning and Net-Zero World	The University of Manchester, EPRI, SGB-SMIT, Shell, Weidmann
NIA_SPEN_0090	Cyber Risk Impact Awareness System Tool (Cyber - RIAST)	Led by SPEN. Partner: University of Manchester
NIA_NGN_458	OpenMaps	Led by NGN. Partner: EIC
NIA2_NGESO081	Virtual Energy System Data Sharing Infrastructure (DSI) Pilot	Led by NESO
NIA_NGN_492	Rethinking Communication For Digital Exclusion	Led by NGN. Partner: EIC
NPG_NIA_052	Supporting Warm Spaces	Led by NPG. Partner: EIC
NIA_SHET_0056	TOTEM 3 Project	Led by SPEN. Partner: Manitoba Hydro International Limited

SIF project portfolio

RIIO-T2 Strategic Innovation Funding	
Project Ref.	**Name**
10027601	SCADENT - Super Conductor Applications for Dense Energy Transmission
10037761	SCADENT - SuperConductor Applications for Dense Energy Transmission
10027585	Eye in the Sky - Application of satellite data to improve grid resilience
10037439	Eye in the Sky – Utilising satellite data to improve grid resilience
10027503	SEGIL - Sustainable Electrical Gas Insulated Lines
10061159	SCOHL
10061033	Whole Energy System Resilience Vulnerability Assessment (WELLNESS)
10084557	Whole Energy System Resilience Vulnerability Assessment (WELLNESS)
11061098	SF_6 Whole Life Strategy
10084569	SF_6 Whole Life Strategy
10117736	SF_6 Whole Life Strategy Beta
10103531	HIRE - Hybrid Network Improvement and Reliability Enhancement
10128658	Assessment of Superconducting Technologies for Standards Development
10131011	LookNortH2
10145555	DEsign for Live Line Technology Acceleration (DELLTA)
10166260	DEsign for Live Line Technology Acceleration (DELLTA)
10179172	SwitchTwin
10168330	Foundation Source Model (FoSMo)

Contact us

We'd really like to hear from you – our communities, consumers, customers, employees, investors and stakeholders.

We want to make sure we're focusing on the right areas and delivering the right results.

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