



UKTIN

The journey so far

REFLECTING ON ONE YEAR OF UKTIN SERVICES

UKTIN

THE PARTNERS

DELIVERY PARTNERS



Digital Catapult is the UK authority on advanced digital technology, accelerating the adoption of new and emerging digital technologies to drive regional, national and international growth and opportunity across the UK economy.



Cambridge Wireless is the leading international community for companies involved in the research, development and application of wireless infrastructure and mobile, internet, semiconductor and software technologies.



The University of Bristol is at the cutting edge of global research, with a reputation for innovation in UKTIN relevant areas such as telecommunication and networks (5G & 6G); cryptography and information security; robotics & autonomy; data science & AI/ML; energy & climate change.



WM5G is an innovation and digital acceleration company that is using the case studies and learnings from the 5G Testbed and Trials Programme to benefit organisations primarily in the connectivity, transport, manufacturing and healthcare sectors.

ASSOCIATE PARTNERS



The **Satellite Applications Catapult** is an independent innovation and technology company, created by Innovate UK to drive economic growth through the exploitation of space. It works with businesses and organisations of all sizes to realise their potential from space infrastructure and its applications.



Compound Semiconductor Applications (CSA) Catapult is the UK's authority on compound semiconductor applications and commercialisation, established by Innovate UK to help the UK become a global leader in compound semiconductors.

THE JOURNEY SO FAR

Joe Butler, Chair, UKTIN Project Board



Since the launch of the UK Telecoms Innovation Network in April 2023, much has been accomplished. The network and expertise now mobilised is already delivering significant benefit and is set to be a valuable resource to the industry and policy makers looking ahead.

When we designed UKTIN we didn't want to simply create a platform for interaction and communication for the telecommunication sector ecosystem. Connecting the ecosystem is vitally important, but on its own is insufficient. We also wanted to provide a number of services to the sector, and support the development of a longer term view and evidence base in support of industry and policy makers.

The statistics and articles in this publication speak for themselves. UKTIN services are delivering real-world impact. We are active with all nations and regions of the UK, and across all elements of the telecommunication sector.

“WE HAVE CREATED SOMETHING NEW IN TERMS OF PARTICIPATION AND ALIGNMENT”

We have established a set of working groups, processes and structures with wide ranging participation from the senior experts in the sector. Over 400 people are directly involved in UKTIN and all are committed to the success of the sector, from independent experts to the Advisory Board. We are hugely grateful to all those participants who have given up their time. Thank you!

We have made a difference to hundreds of businesses around the UK, helping them in their ambitions to scale, win investment and

government funding, find partners and contacts, and to navigate the landscape - catalysing relationships which would not otherwise have formed.

UKTIN is also addressing the demand-side. Here we are looking to accelerate the tangible, real-life effects that advanced connectivity can have on citizens, public services and industries. And address challenges that are often about commercial barriers, cultural inertia and institutional silos.

Pulling all this together over the last year has been a significant effort on behalf of many.

We have created something new: in terms of participation and alignment. It has already produced a coordinated body of work, some published and some to be published over the next weeks and months. Now mobilised and looking ahead, UKTIN offers the potential to be a powerful voice and operational network which can bring coherence to the activities and needs of the UK telecoms sector. 2024 promises a year of further change and we will continue to listen to your insights and inputs for UKTIN to be a key voice for the UK telecommunication sector.

Not already signed up to UKTIN? Scan here →





A JOURNEY INTO THE UNKNOWN

MAPPING THE UK'S TELECOM ECOSYSTEM

Dimitra Simeonidou, UKTIN Lead for UK Research Capability

I like to think of our work at UKTIN as offering a front door for the telecoms sector.

That could be for a university researcher or incubator project trying to figure out real-world applications (and find funding) for their hunch or invention, a small business owner in an adjacent space seeking out new applications (and markets) for their tech, an overseas student trying to figure out how they can get a foot into the UK's buzzy telecoms space, or an international company looking to invest in the amazing research capabilities of the UK.

Ultimately — and this may be a lofty goal, but one I believe to be worth stretching for — we want to make telecoms the easiest sector to navigate in the UK.

When we started this project, that goal seemed close to unattainable,

given the complex nature of the industry. Anyone approaching from the outside would be forgiven for feeling like a blimp left floating adrift in space. So it's fitting that our solution to this challenge has itself involved a journey into the unknown.

It was back at the turn of 2023 that my brilliant team first proposed the idea of using a large language model to help us map the UK's telecom ecosystem. It feels strange to say now, but taking this approach to developing our own proprietary solution felt like a huge risk. At the time, the technology was still largely unproven. Effective, autonomous chatbots were still mainly the domain of science fiction and customer service, and big bids made on applying the technology to search were fraught with uncertainty.

The potential, however, was too much to ignore.

We didn't want to just dig out a data lake for the uninitiated to flounder in. And so we set about figuring out how to combine large language models with semantic search to surface the most useful, up-to-date information for anyone wanting to explore — and understand — the UK telco sector.

If you'll allow me to dig into the weeds for a moment, I think it's important to explain how our discovery tool uses AI to not just navigate our UK telecoms database but to create and curate it too.

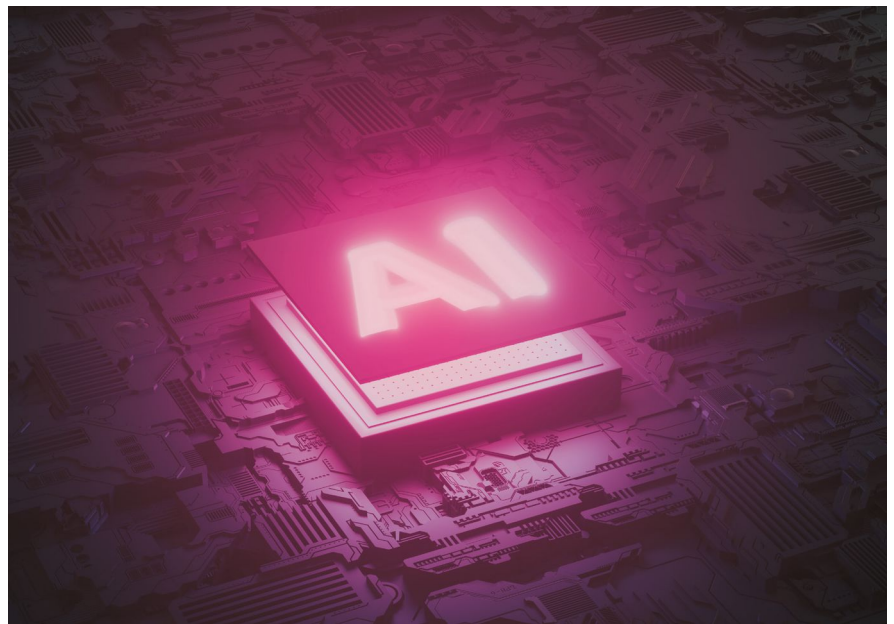
Firstly, the tool continuously scans existing datasets that we have identified as useful to our users (such as the UKRI and UK Patent Office databases) and mirrors updates to those collections as they are made. This means our database benefits from continuous renewal and is always providing the most up-to-date information.

Secondly, our tool uses an AI embedding algorithm to return more informed search results. We use a vector database and apply semantic search which means the engine is drawing connections between things that are adjacent to the information being searched for, and returning those results to the user. This makes for a system that is far more intuitive and rewarding to use: it can be used to make conversational searches in plain English, rather than requiring either highly specific (the name of a funding prize, for instance) or overly broad terms (just searching 'funding' might return an irrelevant deluge).

If all this sounds very complex, that's because it is. I've struggled to understand it myself at times. So, just as crucial as collating and curating the information presented to users is presenting it in a clear and coherent fashion. Our discovery tool can generate tables, charts, and heatmaps to enhance the overall user experience, making complex data more comprehensible — and providing

language models are no different, but thanks to the team's diligence we have been able to account for many of the common issues experienced by those developing AI search tools.

earlier this year to demo the tool. Alex Davies, a senior analyst at Rethink Technology Research, was one of the inquisitive attendees to give it a go at the show and afterwards described the tool as "a tangible example of an actually



Our tool's meticulous design focuses on minimising hallucinations (when a large language model generates false information), and ensuring the generation of valid information

useful chat service. Instead of battling customer service menus, **the UKTIN tool looks like an incredibly useful portal to locate information** that is otherwise really quite disparate.”

“OUR DATABASE BENEFITS FROM CONTINUOUS RENEWAL AND IS ALWAYS PROVIDING THE MOST UP-TO-DATE INFORMATION”

more and better information than a traditional method of database search could give.

Taking a risk on a new technology isn't just a black and white case of win or lose. There's always the very real possibility — even when it looks like everything has gone right — of unforeseen consequences. As academics, we understand that unforeseen consequences are in fact an inevitability. AI and large

by relying solely on data from selected sources. To further enhance transparency — and in line with rigorous academic tradition — the tool provides references and web links, allowing users to verify and explore the presented data in its original source.

And it works. Having already wowed UKTIN colleagues, University of Bristol representatives were on the UKTIN stand at MWC in Barcelona

Locating information that is otherwise disparate? Sounds like a good description for the challenge we've been faced with in uniting our fragmented UK telecoms sector. So we must be on the right track.

WHAT'S COMING NEXT

- Demo at the UKTIN Ecosystem Conference, May 2024
- Release of Discovery toolkit for June 2024

Scan to access our discovery toolkit, a curated collection of free-to-use data resources to support you in understanding capabilities and identifying the different players in UK telecoms



SUPPLIER SPECIALIST GUIDANCE

UKTIN'S TELCO CONCIERGE SERVICE

Roger Hinkson, UKTIN Senior Specialist Adviser

If anything has become clear over the past twelve months, it's that navigating the telecoms industry is far from linear, exacerbated by the continuing convergence of IT and telco in the enterprise arena. For me and my colleagues who make up UKTIN's Supplier Specialist Guidance Service team, this means that mapping our ecosystem and arming our members for success is a complex undertaking. At its core, however, our aim is a simple one: to catalyse new relationships that will contribute to the future of our sector. This comes with a lot of responsibility and we don't take it lightly.

Our core services fall under four main pillars (with some overlap, as you might expect): we're a signpost for testbeds, expertise, and facilities; we offer business support; we provide funding advice; and — a growing element of our practice — we forge connections beyond UK borders, providing international advisory support for companies looking to enter the UK.

Over the past 12 months, we've conducted more than 600 unique dialogues and fielded over 360 requests for our services, including matchmaking between suppliers and other players within the telecoms industry. We have helped put together dream teams. Of the 19 winning consortia in



the Department for Science, Innovation, and Technology's £88 million Open Networks Ecosystem Competition, we provided matchmaking and support services to 13 entrants. Matchmaking typically involves directing start-ups and SMEs to the sector's bigger players with gaps to plug, but it goes in the other direction too: the likes of Cisco, BT, and Virgin Media O2 all have corporate venture and innovation arms that have welcomed our insights on what's next.

Signposting entrepreneurs and innovators towards the funding they need to get ideas off the ground is a vital part of what we do. Funds don't just come from competitions, so we keep

tabs on grant calls — filtering and highlighting relevant opportunities, and publishing them on the UKTIN website. To date, we've advertised more than 40 funding calls on the UKTIN site, and the page remains one of the most visited on the site.

“SIGNPOSTING ENTREPRENEURS AND INNOVATORS TOWARDS THE FUNDING THEY NEED TO GET IDEAS OFF THE GROUND”

When international organisations or companies based abroad want help navigating the UK's complex telecoms sector, UKTIN has become a reliable interlocutor. For example we have engaged with a

company providing 5G solutions and a large telco operator, both from the Nordics. Each has looked to UKTIN for help with developing necessary business and industry connections, and in setting up operations, all with future investment in R&D in the UK in mind.

“WHILE WE’RE BUSY JOINING THE DOTS, THE TELECOMS UNIVERSE IS EXPANDING”

Elsewhere, UKTIN is in discussion with Business Finland, the trade and investment arm of the Finnish government, on how UKTIN can support a select number of Finnish telecoms companies to set up and do business in the UK.

Many of our interactions are virtual — but a great deal have taken place in person, at events dotted around

the country. On top of UKTIN’s own events, we’ve crossed halls, pressed the flesh, and forged new connections at Connected North and Connected Britain, as well as ECOC in Glasgow, TOP (Telecommunications, Optical and Photonics) conference, the 6G Symposium, and plenty more. Add MWC to the mix in February, where we engaged with well over 150 contacts, and our step counts have sailed into the stratosphere!

Getting out of the mobile telecoms echo chamber has been key, and the broad church that we’ve managed to establish is reflective of the wider landscape of our modern sector. We’ve been able to impress upon those working in fixed photonics, semiconductors and space tech — as well as systems and application areas.

The fragmentation challenge isn’t one that’s going to be solved overnight. We are operating

at pace, having hundreds of dialogues, and making the right connections — connections which, hopefully, will make a difference to the shape and long-term sustainability of our industry.

While we’re busy joining the dots, the telecoms universe is expanding. The addition of adjacent technologies like quantum and AI will only add more complexity to our ecosystem, and the Supplier Specialist Guidance Service will need to continue to grow and adapt in order to meet that demand.

Over the next 12 months, we expect to continue raising the profile of our service across the whole sector. As our work progresses we’ll be able to develop relationships further both within individual organisations, and across the industry and ecosystem as a whole. Our sector will be better for it.

TESTIMONIAL

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The expertise and insights from the UKTIN team played a crucial role in our success, enabling us to connect with diverse UK entities that would have been challenging without their support. The introductions we received facilitated strategic decision-making and resulted in positive outcomes for Spry Fox Networks. The collaborative approach and dedication of UKTIN have unquestionably made a significant impact on our business journey.

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Steven Ballantyne, Director, Spry Fox Networks

WHAT’S COMING NEXT

- Outreach campaigns in South Korea and Japan to raise awareness of the opportunities in UK telecoms
- Further Investor Briefing events to raise the profile of telecoms as an exciting field for investment, and connect companies raising funds with investors

Scan to book an appointment with our Supplier Specialist Guidance Service team →





CONVENING AND ENGAGING THE ECOSYSTEM

SPOTLIGHT ON UKTIN EVENTS

A key part of UKTIN's role is to inform and connect the telecoms ecosystem, and our events programme does exactly that. Now in full flow, our events have enabled us to bring together industry and academia, plucky start-ups and established international players, and government, to share research findings, gather ecosystem inputs, showcase initiatives and projects, and facilitate ever-valuable networking. Our presence at industry events — from Wales Tech Week and Connected North to TOP, ECOC and MWC — has helped us reach key audiences outside of our immediate network and been a valuable way to engage all aspects of the telecoms ecosystem, as well as champion cross-sector themes such as skills.





The end goal is to spark the magic that only in-person connection and interaction can bring. Having engaged in over 50 events and welcomed over 550 people to UKTIN events in the last 12 months, we're off to a great start.



“

A very informative and thought-provoking event, well organised and with very high-quality knowledgeable speakers and attendees.

Attendee at the Unleashing AI in Telecoms event, February 2024

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SUPPORTING OUR TELCO INNOVATORS

NAVIGATING THE PATH TO INVESTMENT AND COMMERCIALISATION

Chris Pett, UKTIN Innovation & Investment Trainer

Something that a lot of people easily forget about running a start-up is the isolation it entails. And the scattered layout of the telecoms sector — like ice sheets split adrift — can make it feel like an especially daunting space to approach alone. Our innovation support programme exists not only to close the gaps between industry and innovation, but to mitigate this sense of isolation and enable potential new entrants to the market to thrive.

“WE’RE ABLE TO GIVE START-UPS AND SMES INFORMATION ABOUT THE REALITIES OF RAISING CAPITAL”

At the core of our small business support have been the Innovation and Investment Workouts. Crucially, these two day sprints have been based on the support of real-world examples from the telecoms sector. We sit down with start-ups who’ve been through the process successfully — companies like AccelerComm, a spin-out from the University of Southampton who raised a Series B round in spring of last year, and Weaver Labs, whose blockchain-based network management tool has attracted government funding

and partner trials — and we record interviews, scour their data, and generally have a good pick at their brains for what’s worked when it comes to business model and investment strategy. This then provides us with course content that will be relevant to others aiming to take a similar path.

This approach has been particularly important for our Investment Support. When we ran the first investor readiness course in June of last year, we found that data for telecoms and telecoms-adjacent investment doesn’t map to typical tech investment in the UK in terms of who invests, how much, at what stages money goes in, and where it comes from. If you’re reading the Financial Times or looking at generic tech industry research and thinking that you know what’s happening in telecoms investment then you’re completely wrong. In fact, there isn’t really very good data anywhere on this. UKTIN partner, WM5G, has done a fantastic job of bringing together what available investment data there is for the telecoms sector, revealing in the process that much of it is very outdated — all the way back to pre-COVID times in some cases.

Funding streams for telecoms — reflective of the industry at large



— are fragmented and disparate. There’s a huge spread, with little centre of gravity. Through our Investment Workouts we’re able to give start-ups and SMEs information about the realities of raising capital — in telecoms — which they just can’t get anywhere else. **We put them in the room with people who have either done it already, or are looking to invest.** Earlier this year, we took things a step further and commissioned PitchBook to evaluate the state of play in telecoms investment over the last 10 years, so that we can draw out more concrete insights about what raising money in telecoms actually looks like today.

In many ways, start-up investment in telecoms is akin to deep tech: it requires patient capital, a good

understanding of the technology, and a long-term vision for the value of your offering. One of our imperatives is to encourage SMEs, as they form, to understand the value of standards-making in their businesses — a habit which has fallen away from smaller telecoms players in recent years. There can be enormous value in having your IP embedded in an essential technological standard, since anybody implementing the standard is required to pay a royalty to patent holders. And while the list of essential patent holders is very large, and the likelihood of earning significant royalties directly from a patent of this kind is not hugely likely, patent ownership can massively improve valuations for potential investors, partners, or acquirers. **These longer plays are not always front-of-mind for start-ups and SMEs — typically stretched for time and resources as they are. It's precisely in areas like this that support from UKTIN can be especially helpful.**

By the end of March 2024, 30 founders had completed the Innovation Workouts and 29 had completed the Investment Workout. **More than 200 companies are engaging with the online UKTIN Innovation Platform.** Satisfaction scores are high across the board, and we're beginning to gather real, tangible success stories, like Cambridge-based Ethicronics, which, since completing the Innovation Workout last summer, has obtained funding to grow a team of four full-time staff and secured a £400,000 project based on the roadmap established during the Workout.

Case studies like these, in turn, will feed back into the shape of our programme. As we're responding to the changing needs of our ecosystem, we've deliberately taken an iterative approach from the very start. And as our sector continues

“WE'RE BEGINNING TO GATHER REAL, TANGIBLE SUCCESS STORIES”

to attract more ambitious founders from adjacent spheres — for example, from cybersecurity, quantum, space, and AI — we will be well placed to steer them through the complex, sometimes disjointed corridors of the UK telco space.

It's with this in mind and to make the training as accessible to as many founders as possible, that we've decided to transition the support from two-day programmes to a blended learning model. Both strands of support will be delivered online using a mix

of self-paced learning enabling you to decide when and where to engage with the digital course content and short live sessions with the trainers, mentors, and a group of peer companies.

We've also re-positioned them slightly. The Innovation Workout has been rebranded as 'Commercialisation through Partnerships'. The telecoms industry is constantly evolving. There are opportunities for a wide range of technologies to shape its future; however, translating innovation into commercial offerings can be challenging, and you can't do it alone. **You need academic and corporate partners, proof of concept pilots, testbeds, grants, investment, and so much more. We recognise that this is where we can add real value** by facilitating those partnerships. The Investment Workout is now Investment Support - and does what it says on the tin - the content hasn't changed, it's now just much more accessible.

TESTIMONIAL

The work that UKTIN is doing for the SMEs in the telecoms sector is vital: it gives a voice to start-ups and young businesses that are innovating in the space, and provides the support they need to take their first steps in the right direction. I wish something like this was available five years ago when we were starting out with Weaver Labs. The telecoms industry is at a turning point, and — with continued support — UKTIN can ensure that SMEs are part of that change.

Maria Lema, CEO & Founder, Weaver Labs

Scan to learn more about our small business support programme. —>



UKTIN IN NUMBERS

Over the past 12 months

6,492

Registered individuals

2,893

Registered organisations

BUILDING FUTURE CAPABILITY

Number of Expert and Strategic Working Groups

12

People involved in Expert and Strategic Working Groups

173

ADOPTION

5

Number of adoption working groups

79

Number of people involved in adoption groups

68

Individuals in Clusters Forum

SUPPORTING INNOVATION

211

Companies registered on the Innovation Platform

59

Individuals who have attended workouts

CONNECTING THE ECOSYSTEM

Interactions with the Supplier Specialist Guidance Service

673

ONE competition projects supported in consortium creation by UKTIN

13
OUT OF
19

SETTING THE SECTOR UP FOR SUCCESS

112

Individuals in Talent Advisory Group

MAPPING THE ECOSYSTEM

Number of projects in our vector database

150,000



FUTURE CAPABILITY WORKING GROUPS

EXPLORING THE FUTURE OF UK TELECOMS R&D

Kostas Katsaros, UKTIN Strategic Engagement

The rich complexity of the sector and speed of change mean ensuring collaboration across the various subdomains of our sector — in optical, wireless, space communications for example — remains a challenge. The UK has enormous strengths in the sector, in industry and academia alike, and maximising these strengths is more important in the face of global and economic challenges to maintain a position of leadership.

“THE UK HAS ENORMOUS STRENGTHS IN THE SECTOR, IN INDUSTRY AND ACADEMIA ALIKE ”

With a shared strategy, and clear, cohesive roadmap for building future capabilities over the next 5-10 years, we firmly believe that the UK telecoms sector will reap the rewards of its full potential. This belief is at the core of UKTIN's being. And we know that, like

any good piece of infrastructure, whatever we build here must be built to last.

Following an open call for members and chairs put out last February, **we have assembled nine expert working groups totalling 138 members, comprising experts in their fields — professors, patent holders, industry C suites, and new talents — from across the telecoms ecosystem in the UK.** More than 65% of these experts come directly from industry, with members from start-ups and large corporates, while the remainder arrive from academia and the public sector. The volume, the expertise and the active engagement of the members — all of whom give their time on a voluntary basis — is testament to the desire and need for such an undertaking.

So far, these groups have penned and published Future Capability Papers covering wireless,

AI, security, non-terrestrial networking and network management, which include more than 60 recommendations for potential interventions. Industry and academic perspectives are covered in equal measure, with analyses of market conditions, the regulatory space, skills requirements, R&D capabilities, and technology-specific queries pertaining to each focus area. **Production of these independent and impartial reports has been iterative and consultative,** with the Wireless Networking, AI, Security and NTN Groups, for example, hosting events to test-run and share their findings — before refining them in later drafts and gathering recommendations for future papers. Forthcoming reports focused on semiconductors, optics and core networking are currently under review, and will be published by the end of Summer.

The Future Capability papers are written with a focus on the sector's needs and opportunities, enabling them to be understood and be acted on. The contents of the papers feed directly into regular reviews with the Department for Science, Innovation and Technology, and **recommendations are presented in a way that makes sense to both the telecommunication sector and policymakers alike.**

Industry leaders, academics and taxpayers benefit from government interventions which are well grounded in evidence; this is our opportunity to make a significant contribution by harnessing, in a systematic way, the collective intelligence and insights of the ecosystem.

The UKTIN working groups are structured around specific areas of expertise — wireless, semiconductors, optics, AI, and so on — and funnel up, through industry and academia, to a single, strategic group that we're calling the Future Capabilities Strategic Forum. This umbrella forum is positioned to provide

an overall vision of the strengths, weaknesses, and future potential of UK telecoms as a whole.

The UKTIN groups work on a long-term view, aiming to inform strategic objectives for the UK based on predictions for the next 5-10 years, from 2025-2035 — and how and where the UK could grow its capabilities to address the realities of 2035 and beyond.

Encouragingly, we are already beginning to see common recommendations for supporting the sector emerging from the different Future Capability Papers. This bodes well for supporting a future roadmap which is not only cohesive but actionable and achievable. This will be crucial to continuing to address the fragmentation that can hamper the telecoms sector. The first stage of achieving this goal is almost complete, with the publication of the initial Future Capability Papers. These stage one reports will be revisited over the course of the next 12 months for a second release in early 2025, which will work to a more specific focus on

the technical R&D roadmap and requirement for building new capabilities in the UK. The focus will shift from past and present states of play, to future opportunities.

UKTIN's expert working groups provide a voice of the telecoms ecosystem. But they do more than just talk. What we are already finding is that the working groups are producing outputs that go well beyond the scope of their initial briefs: for example producing historical accounts of the development of the telecoms sector and its component technologies, covering the past three decades in a way that hasn't been done before.

By the close of this pivotal project in March 2025, the UKTIN working groups will have supported the co-creation of a shared telecoms roadmap for the UK for the next 5-10 years — one in which industry, academia, and government, pulling in the same direction, might all have a stake in. As a result we'll all have the chance of a bright UK telecoms future to believe in.



WHAT'S COMING NEXT

- The remaining Future Capability Papers to be published by the end of Summer 2024
- Strategic groups will review the papers and publish their cross-theme recommendations
- The Expert Working Groups will commence and ultimately publish their second papers, adopting a more future-focused view

Scan to read the Future Capability Papers published so far and their recommendations →



SECURING THE FUTURE

ONE CONNECTION AT A TIME

Lesley Holt, UKTIN Lead for Skills & Regionality



It's a little under a year since UKTIN launched its Talent programme aimed at illuminating the state of the sector's talent pipeline, convening key players, and encouraging collaboration to boost further diversity in engineering roles.

We uncovered impressive track records: **the UK telecoms sector has attracted a wealth of talent over the past 20 years and today employs around 200,000 people of which approximately 10,000 are involved in R&D.** And areas for improvement.

Not surprisingly, engineering roles are the backbone of the sector but there are challenges around an ageing workforce – around 60% of telecoms engineers are over the age of 50 – and low diversity – women make up only 19% of the entire UK telecoms workforce.

In addition, the sector needs to recruit new skills with a particular focus on software, cyber security, cloud and AI as telcos evolve into 'TechCos'.

The sector is undeniably committed to boosting diversity and attracting new talent but faces a number of barriers – starting with the lack of awareness amongst young people of opportunities in the sector and how to access them through degrees, training and/or apprenticeships.

So we set off to explore how we could help, plugging in across the sector from career beginners to those handing the ladder down. **Through our work, we've gained a deep understanding of the challenges faced by employers, trainers, and educators across the ecosystem.** And how we can surmount those difficulties together.

Over the past 11 months, UKTIN's bright pink banners have been a regular fixture at careers fairs across the UK. We've met with more than 3,000 ambitious youngsters embarking on a new journey, and have supported the Institute of Telecoms Professionals to develop a telecoms career framework – tracking roles and publishing information sheets to begin, for the first time, to map out what a career in telecoms really looks like. We are working closely with DSIT, Ofcom and techUK on a national Women in Telecoms initiative, and have sponsored this year's National Careers Week, an initiative which, despite its name, will involve activities throughout the year, including a virtual careers fair where we're providing school-age children with information on the impact of our sector, as well as opportunities, pathways, and testimonials from a diverse group of early-career individuals. **Our bespoke toolkit of ambassador videos, information guides, and social media content – as well as the Telco Talent section on UKTIN's website – help those on the frontlines to engage with the next generation of telecoms professionals.**

We're helping to raise awareness and reposition the sector – which was among the first challenges we identified back in our early discovery phase. For example a media partnership with The Guardian offered first-person accounts to address and overcome

some common perceptions (and misconceptions) about our industry. More than 12,000 people visited the content on the Guardian site, with dwell times scoring significantly higher than average.

“WE’RE HELPING TO RAISE AWARENESS OF THE INDUSTRY AMONGST YOUNG PEOPLE”

Underpinning everything has been our Talent Advisory Group, which numbers more than 100 engaged players from throughout the telecoms sector and beyond, each bringing their individual expertise and experience to bear on this common mission — and kickstarting conversations and connections that we’ve seen go on outside of the group’s immediate confines.

Each milestone along the way has come with its own epiphanies. We’re in the business of learning and development, after all. With this, the programme has developed iteratively; **every conversation with an employer, trainer, or educator operating across or adjacent to the telecoms ecosystem has deepened our understanding of the challenges faced in attracting the best and brightest to our space.**

While UKTIN’s Talent programme has focused on steering bright minds to our sector, UKTIN’s Clusters Forum has provided a gravitational grounding both for new talent and our ecosystem’s existing networks.

First rolled out in March 2023, the Clusters Forum provides a platform

to facilitate communications between the wider UKTIN programme and organisations of any size that have a keen interest in the UK telecoms sector and the benefits advanced connectivity brings.

The Forum is open to all, and now includes more than 65 engaged individuals from 35 different organisations spanning the full length and breadth of both the UK and our telecoms ecosystem — bringing together voices from local authorities, SMEs, non-profits, and large enterprises alike.

This forum for telecoms excellence has allowed us to connect, highlight, and share learnings from work being done across the UK: from Connecting Cambridgeshire’s use of council assets for telecoms in the east of England, to developing a private network for public services in Liverpool, transforming a 5G testbed to a fully-fledged innovation ecosystem in Dorset, or sharing insights from the 5G Innovation Regions projects.

By bringing together place-based organisations into one group, we’re shrinking not just geographical distances but best practices too and — crucially — creating real-life connections across our network which will continue far into the future, ensuring the long-term sustainability of our sector.

Highlighting this important work does more than simply celebrate it. In a fragmented industry, these efforts act like signposts and open up newcomers to UKTIN’s broad directory of other services. The Talent and Clusters programmes are just one part of the mix that feeds, symbiotically, into UKTIN’s Supplier Specialist Guidance Service and Innovation Platform, helping to forge new connections and bridge the gaps that threaten to hold our sector back.

As with everything UKTIN does, our outreach serves to convene and convey the diverse strengths (and plug the gaps) of the UK telecoms ecosystem — all under one big, pink banner.

TESTIMONIAL

“I had a great time at the UKTIN workshop and I enjoyed learning about a sector I had not previously considered working in. I learned how important the telecommunications industry was in the development of our world today [...] and about the limitless opportunities available in this sector.

Major Gahir, student at Joseph Chamberlain College, Birmingham

Scan to read more about UKTIN’s work to build skills and capabilities →



DRIVING MASS ADOPTION OF ADVANCED CONNECTIVITY

A BIG CHALLENGE — BUT A VITAL ONE

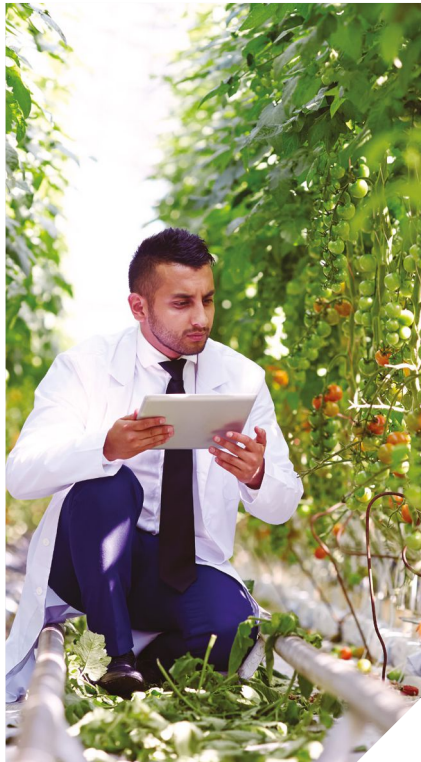
Robert Driver, UKTIN Lead for Adoption

To butcher a bit of Shakespeare: it is easier to know how, than to do. Often — and especially when it comes to technology — the idea is the easy bit. Progressing to adoption is where it gets really tricky.

Our job at UKTIN's adoption team involves bridging the chasm that lies between R&D, testbeds and trials, and the tangible, real-life effects that advanced connectivity can have on citizens, public services and industry. Successful trials have proven the potential for scaled adoption of advanced wireless technologies in vertical sectors – including manufacturing and agriculture – and public services – such as health and transport – to deliver billions in economic and social benefits. However, adoption is challenging in the current macro-economic environment and there are specific demand- and supply-side barriers that need to be overcome, ranging from awareness, skills and business case development to design, sourcing, deployment, finance and operations.

The end goal is economic growth, with improved productivity and better public services.

Accelerating wider commercial investment in advanced connectivity is how we'll get there — but we need to demonstrate



demand first. **We're guided by pragmatism, and by learning directly from people who've been there, done it and seen the impacts for themselves.** We aim to provide a forum for these voices on what works, what doesn't — and what just might.

The UKTIN adoption programme began in earnest in July 2023. We started by recruiting five working groups tasked with identifying and illustrating the problems — and potential solutions — that exist in places and distinct sectors. The groups span manufacturing, health and social care, transport and logistics, and agricultural

technology, as well as a regionally focused group. All are led by people working within each sector and with relevant expertise. We are, as always, grateful for the contributions being made.

Our outputs are organised into three complementary strands.

Firstly, we produce adoption toolkits. These are developed by our sector-specific working groups, and involve compiling practical examples of deployments from the UK or further afield that are already up, running, and proving their worth — be that in terms of cost savings, positive social impact, or both. Each toolkit contains real-world case studies, providing solutions to specific, practical concerns, like how to create a compelling investment case, or how to encourage the use of the technology once it's been deployed. The first case studies in these toolkits were published in May.

Secondly, we have created communication hubs for each adoption area. These are live on the UKTIN website and, in simple terms, translate the benefits of advanced connectivity for our selected sectors into language that end users (or sceptical procurement managers) can understand and apply to the challenges at hand.

The telecoms sector has never been particularly good at explaining its achievements or impact, and this has, in part at least, contributed to the challenge of moving from trials to scale deployments.

“THE END GOAL IS ECONOMIC GROWTH WITH IMPROVED PRODUCTIVITY AND BETTER PUBLIC SERVICES”

Finally, we want our work to be able to contribute to policy-making. To this end, we publish market engagement reports which are tailored to deliver insights lifted directly from real-world deployments, so that regulators and lawmakers can have as clear an understanding as possible of the barriers to and opportunities associated with adoption of advanced connectivity solutions.

We are working closely with the Department for Science Innovation and Technology. Under the government’s UK Wireless Infrastructure Strategy, 10 consortia have received £36 million in funding to encourage 5G uptake in industry and the public sector. It’s crucial for mass adoption that these projects can feed into one another, and into future deployments. But there remains a risk that they exist, instead, as islands. So UKTIN has pulled together representatives from each of these 10 consortia into our Regions working group, in order to pass on their progress across the whole country.

In the specific case of telecoms and high speed connectivity, successful mass adoption requires

what we call ‘stackability’ — or the ability to stack up enough use cases to justify the capex on wireless infrastructure. With the possible exception of a lighthouse, you wouldn’t put up miles of pylons to prove the use of a single light bulb. The same applies to high-speed networks. At the same time, the market can’t simply be relied upon to dictate where deployment happens. To do so is to risk leaving more sparsely populated regions behind. This is not something that can be tolerated when it comes to public services that, increasingly, are run on a backbone of connectivity.

The barriers here are only partially about the technology itself,

indeed that can sometimes be the most straightforward element! There is the need to develop complex business cases, based on multiple use cases. There is the challenge of cultural inertia and institutional silos, the problems of sourcing funding and suppliers, as well as the complexities of procurement, and the practical issues of deployment and sustainability at scale. The role of an innovation network is invaluable in disseminating best practice and fostering partnerships and relationships that otherwise simply would not happen.

Ultimately, we are led by adoption success stories. Places like Sunderland, one of many exemplars, have developed a strong approach to the delivery of services. The city has made use of government funding to deploy autonomous vehicles at the Nissan manufacturing plant and is now working to deliver 5G to attendees at the iconic Stadium of Light, as well as partnering with

private sector providers to run a large neutral host network across the whole city. This blend of work done independently, through government funded initiatives, and in private sector partnerships provides something that every region can learn from. It’s exactly the sort of thing that we can feed into UKTIN toolkits and market reports. We want other regions to be able to replicate these successes — without having to repeat all the missteps along the way that are an inevitable part of any deployment process.

Ours is an anti-hype approach.

UKTIN is not aiming to be a marketing engine for advanced connectivity solutions; we want to help reveal the hard work of providing practical and pragmatic advice and tools, based on the real-world challenges encountered by people deploying solutions, at scale, for the benefit of their organisations and communities. This, in my view at least, is where the real magic happens.

WHAT’S COMING NEXT

- Further development of our adoption toolkits, with extended case studies
- Participation and editorial partner in the ITN Business programme, Digital Britain, helping to bring the practical story of how to deploy advanced connectivity to a mainstream audience
- Adoption-focused events, to bring together the demand and supply sides of the ecosystem

Scan here to view our adoption hubs and toolkits →



EVENTS

WHAT'S HAPPENING?

Hear and engage with the UKTIN team at these events over the coming months

UPCOMING UKTIN EVENTS

30 MAY	UK TELECOMS INNOVATION ECOSYSTEM CONFERENCE	LONDON
FROM MAY	TRANSFORMING TELECOMS: COMMERCIALISATION THROUGH PARTNERSHIPS	
FROM JUNE	TRANSFORMING TELECOMS: INVESTMENT SUPPORT	
10 SEP	INVESTOR BRIEFING	CAMBRIDGE

OTHER EVENTS

17 JUN	SMART INTERNET LAB CONFERENCE	BRISTOL
19-20 JUN	MOVE 2024	LONDON
27 JUN	CW TEC 2024	CAMBRIDGE
9-13 SEP	CAMBRIDGE TECH WEEK	CAMBRIDGE
11-12 SEP	CONNECTED BRITAIN	LONDON

Review all the details of upcoming telecoms events here →



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Sign up today at uktin.net





GOVERNMENT UPDATE

BOLSTERING THE FUTURE TELECOMS MISSION

Earlier this year, the Government announced further details for the UK's £70 million Future Telecoms Technology Missions Fund Programme.

This Programme is funded and delivered through the UKRI Technology Missions Fund and supports Future Telecoms as one of the UK's five critical technologies identified in DSIT's Science and Technology framework. 16 UK projects will take a share of £22 million to forward the development and commercialisation of cutting-edge tech solutions, laying the groundwork for the networks of the future. The further £8 million of funding will be used across a series of smaller targeted competitions in the Future Telecoms space.

Meanwhile, £40 million will provide funding for three existing Future Telecoms Research Hubs - led by Imperial College London, Oxford, and Cambridge Universities - alongside a dedicated national infrastructure for future telecoms testing and development linked to the UK National Dark Fibre Facility. This facility will support research in 6G,

developing new architectures and networks for end-to-end connectivity, embedding AI and computing and developing wireless access systems such as cell-free networks and optical wireless integration.

Hear more about the Future Telecoms Programme →



INVESTMENT GUIDE

As many readers will be aware, DSIT, among other things, sets policies to promote investment, protect national security, grow the UK telecoms ecosystem, and run innovative programmes for the next generation of telecoms technology.

DSIT supports Research, Development and Innovation in the telecoms space.

To find out more and read the recently published guide scan here →



SPECTRUM SANDBOXES WINNERS ANNOUNCED

In April, DSIT announced the three winners of the Spectrum Sandbox competition.

Each Sandbox project will test the sharing of spectrum in Ofcom-licensed Sandbox environments to indicate how regulation could be improved to maximise the use of this scarce resource and the benefits to the economy.

THE THREE SANDBOXES WILL BE LED BY:

- Real Wireless
- University of Durham
- Queen Mary University of London

The Spectrum Sandbox seeks to further the aims set out in the Government's Spectrum Statement and Ofcom's Spectrum Roadmap and will allow the industry to undertake:

- Practical measurements of real wireless networks and testing new spectrum-sharing solutions to establish opportunities for more intensive sharing without harmful interference.
- System simulations and modelling to extend the applicability of the measurements and other data sources to other sharing parameters and scenarios, larger-scale network scenarios and differing spectrum management techniques.
- Analysis of economic benefits and costs taking account of the learnings from practical measurements and simulations. A discussion of options for potential regulatory mechanisms and tools that maximise the benefits of shared and hybrid licencing approaches in a spectrum band.

[Learn more about the Spectrum Sandbox projects here](#) →



REFLECTIONS FROM THE FUTURE RAN (FRANC) PROJECTS

FRANC was the first intervention DSIT announced from the Open Networks Programme in 2021.

These 14 projects have been working to support the goals of the Government's 5G Supply Chain Diversification Strategy by helping to incentivise the industry to create new products and services to unlock the full potential of Open RAN.

These projects have enabled a wide range of organisations to focus on developing technical solutions such as:

- Radio transmitters
- Signal processing equipment
- Power management systems
- Software to support open interface architectures

The projects spread across the UK, including Glasgow, Cardiff, Cambridge, Newcastle, Newport, Slough and Ebbw Vale - building on the existing industrial strength of these regions, while further developing an engineering base with a new set of skills.

The projects are coming to a close this year, but their final reports will be published over the coming months on UKTIN alongside case studies to give an insight into these projects' findings and impacts.

[Scan here to learn more](#) →





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