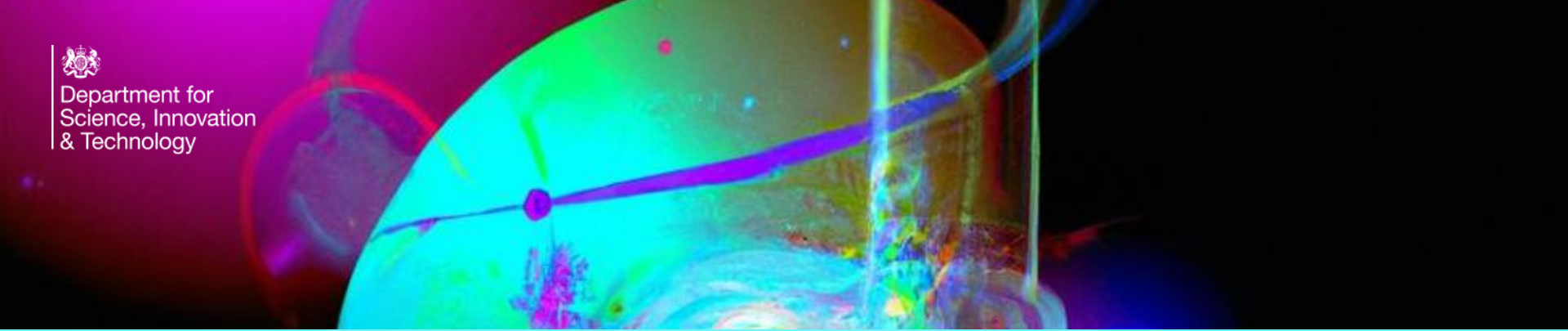

Department for Science, Innovation & Technology

Competition Briefing

Smart Infrastructure Pilots Programme

15 June 2023, 10am - 12pm

Department for Science, Innovation & Technology

AGENDA

10:00 - 10:05	**Welcome and introductions**
10:05 - 10:10	**Setting the policy context**
10:10 - 10:20	**Overview of project ambitions**
10:20 - 10:50	**Timelines, funding and application processes**
10:50 - 11:20	**Q&A**
11:20 - 11:55	**Pitching**
11:55 - 12:00	**End of event: closing remarks**

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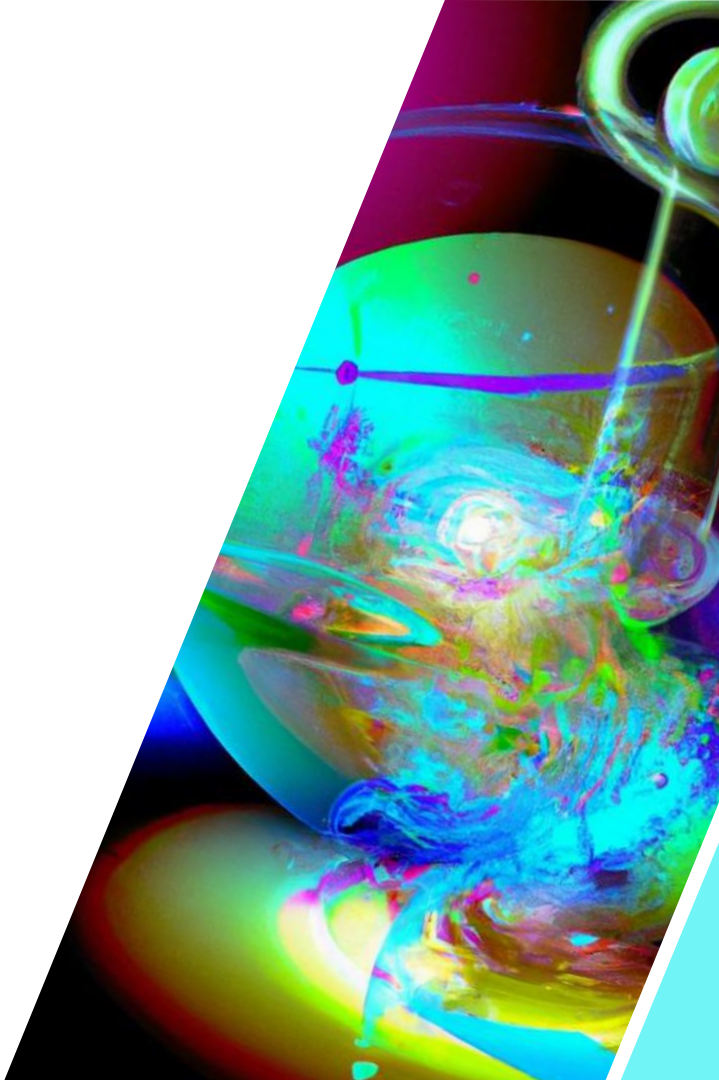
Setting the policy context



Presenter: Jamie Wzietek
Head of Connected Places Strategy, DSIT

Wireless Connectivity

The UK's telecoms networks provide the infrastructure that underpins the economy

- ➢ Help realise the ambition set out in the **Digital Strategy** to harness digital transformation to build a more inclusive, competitive and innovative digital economy, and deliver on the **Science and Technology Framework**

Advanced wireless technologies, including 5G, have the potential to unlock significant economic and social benefits for all of the UK

- ➢ Network densification is required to meet the growing demand for connectivity and new services that Standalone 5G and other advanced networks will enable - use of public sector assets is becoming increasingly important

Wireless Infrastructure Strategy - a new ambition for nationwide coverage of standalone 5G to all populated areas of the UK by 2030

- ➢ Provides a framework to ensure that people, businesses and public services across the UK are able **realise the full benefits of 5G and advanced wireless connectivity** as soon as possible.

Commitment to continuing to **address practical barriers to the deployment** of advanced wireless infrastructure to support these ambitions - including helping local authorities to facilitate network deployment

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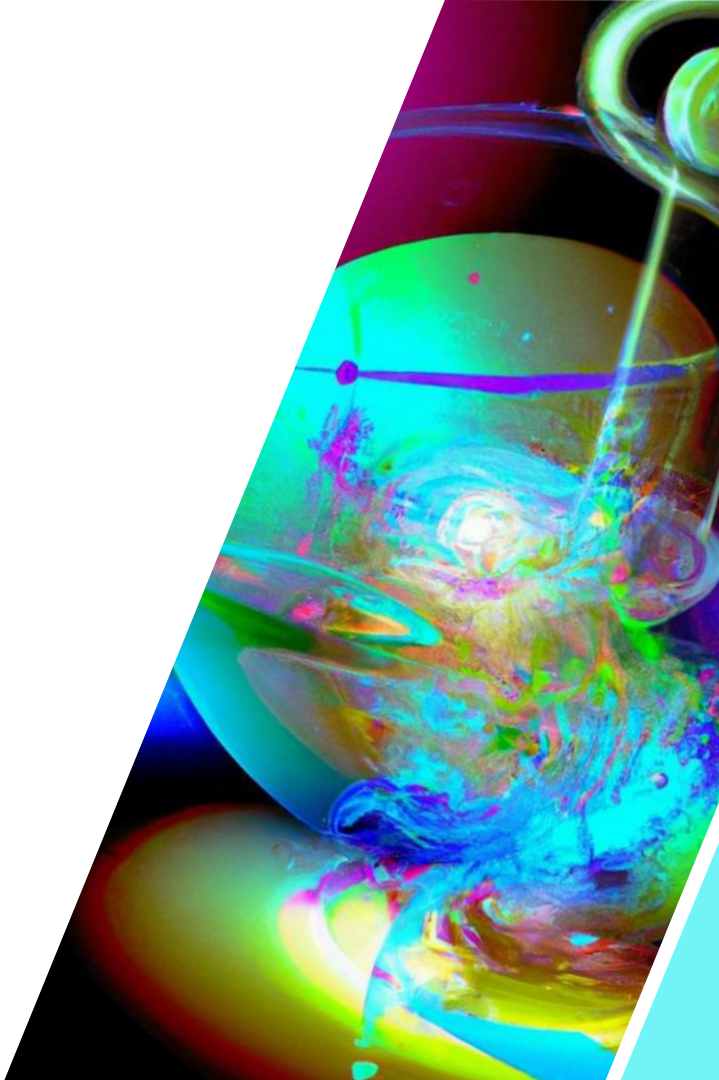
Overview of project ambitions



Presenter: Kate Greenham
Head of New Programmes, Wireless Infrastructure, DSIT

Smart Infrastructure Pilots

DSIT has secured funding from HMT's **Shared Outcomes Fund** to build upon the successes of the DCIA programme

Matched Funding is available for:

- The continuation of the Digital Asset Mapping Platform pilots in selected local authorities
- A new competition based around smart infrastructure deployment - which is what we're talking about today

Smart Infrastructure Pilots Competition

£1.5m of funding to pilot the procurement and installation of multi-purpose lamp posts, based on PAS 191 - more on that in the next slide -, in up to six local authorities. **£250,000** will be available each individual project, **to be matched by the successful bidder.**

The project will also aim to:

- Promote greater knowledge of future demand and requirements for infrastructure and services
- Produce a "best practices" code based on the lessons learned from projects' delivery

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PAS 191:2023 Multifunctional columns. Design. Specification

- The demand for greater wireless capacity and coverage will require **increased network densification**
- MNOs and other providers are increasingly looking to deploy 5G small cells on **infrastructure own or overseen by local authorities** - including lamp posts, traffic lights, signposts, CCTV columns etc.
- These assets can also help LAs meet other local needs - EV charging points or IoT sensors for traffic management or environmental monitoring
- "Smart" street infrastructure is evolving at pace - because of advancing tech and market demands - meaning more flexibility in swapping out and upgrading components
- Learnings from the Digital Connectivity Infrastructure Accelerator programme (DCIA) showed that existing standards and specs did not specifically consider this "smart" street infrastructure
- DSIT commissioned the BSI to develop **two new standards** to help LAs assess what type of smart multi-purpose columns could support their connectivity aims:
    - PAS 190 helps assess **existing** lighting and CCTV columns for multi-functional use
    - PAS 191 helps with the design and procurement of **new** smart multi-purpose columns.

- **This competition is focused on applying the PAS 191 standard to the design and procurement of new smart infrastructure for local authorities.**

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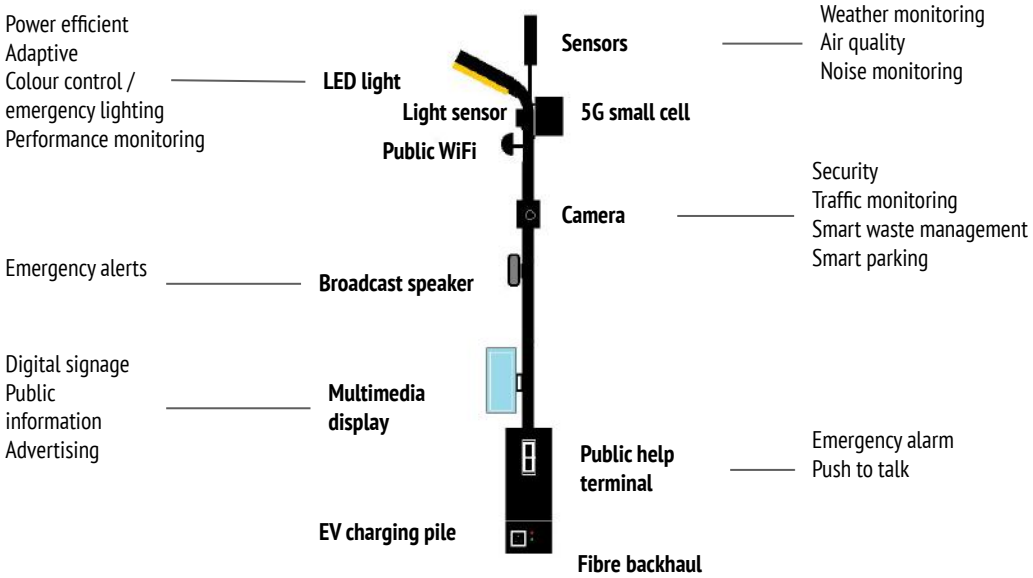
Possible applications and use cases



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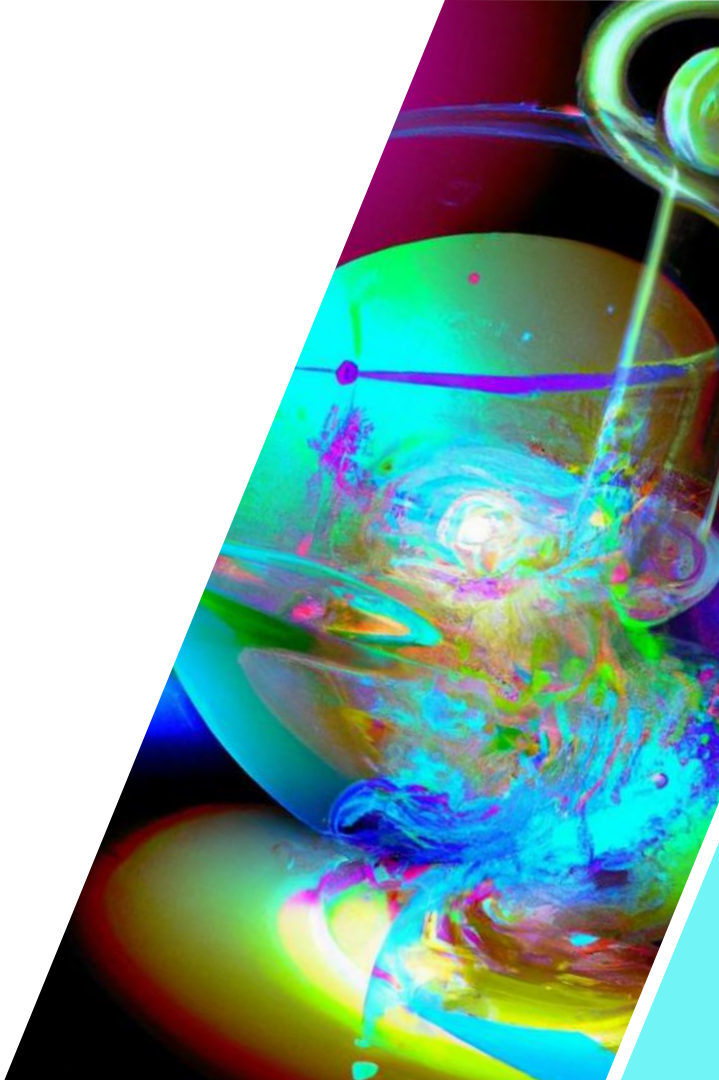
Timelines, funding and application processes



Presenter: Paul Clegg
Programme Development Lead, Future Network Programmes, DSIT

Competition Timelines

Milestones	Date
Competition launch announcement	12 June 2023
Applications deadline	7 July 2023, 11:59pm
Assessment of bids	Early July 2023
Successful applicants notified	Late July 2023
Mobilisation period	August 2023
Grant claim period	September 2023 - 31 March 2025

Funding available

There is up to **£1.5 million** in this competition for the period **up to 31 March 2025**.

- DSIT will provide grants of up to £250, 000 to each of six successful local authorities, which is to be used for the procurement of multi-purpose columns, based on the PAS 191 standard.
- Local authorities will be expected to secure equivalent funding from relevant suppliers for the cost of the use case infrastructure and the associated costs of trialling the use case on the columns.
- For LAs in England and Wales, grants will be awarded under section 31 of the Local Government Act. Where we cannot fund under the LGA, i.e. for projects from Scotland and Northern Ireland, we will fund under section 8 of the Industrial Development Act. However, we will we will aim to ensure those authorities do not incur a higher burden than those funded under the Local Government Act, in line with the New Burdens Doctrine.

Competition Application Process

The competition guidance and supporting documentation are on gov.uk. Key points to note are:

- Local authorities must submit their applications by 7 July, 11.59pm, via government's Find a Grant service
- DSIT expert assessors will then score the applications and notify all applicants of the outcome. There will be no interview process.
- All eligible and in-scope applications will receive assessor feedback upon request.
- DSIT will work with successful applicants during the mobilisation period over August, agreeing Memoranda of Understanding or Grant Funding Agreements, as relevant.
- Delivery is expected to commence in September.

Eligibility criteria - must haves

1. Applicants must be an eligible UK local authority (as defined in the guidance).
2. Applicants must confirm and demonstrate their compliance with 1:1 match funding when submitting their bid, i.e. the DSIT grant is for the procurement of multi-purpose columns. Local authorities will be expected to secure equivalent (or higher) funding from suppliers for the cost of the use case infrastructure and the associated costs of trialling the use case on the multi purpose columns. Grant awards are contingent upon demonstration that this funding is secured.
3. High risk vendors (HRVs) are not permitted to participate in projects: bidders should refer to the NCSC advice on the use of equipment from high risk vendors in UK telecoms networks. Public funds must not be used to pay for any HRV products or services through the competition. We understand that, in the case of MNOs with pre-existing HRV equipment in their networks, these networks may reasonably be used to build testbeds. However, funding must not be used to buy additional equipment or services from HRVs.
4. This competition will not fund any procurement, commercial, business development or supply chain activity with any Russian and Belarusian entity as lead, partner or subcontractor. This includes any goods or services originating from a Russian and Belarusian source.

Assessment Questions

Bids will be assessed against evidence provided in four key areas:

- Relevant experience, local partnerships and involvement in other initiatives relating to Smart Infrastructure deployment
- Capacity to work with partners in installing equipment on new multi-purpose columns
- Identifying, measuring and disseminating benefits and outcomes
- Deliverability, funding and ensuring value for money

Subsidy Control

- DSIT seeks to deliver SIPP through a "no subsidy" route to local authorities, i.e as an intra-governmental funding transfer, from DSIT to the local Authority, under the UK Subsidy Control Act 2022. This means that Public Authorities will need to ensure they are working and complying with the Act.
- Authorities receiving funding as part of this programme of work are responsible for all spend incurred which may have subsidy implications depending on their onward relationships with parties receiving funding. This approach may require the use of the Research and Development Streamlined Route by the local authority, or another compliant route. The approach proposed by local authorities should be made clear within applications for funding.
- Applicants should obtain their own independent subsidy control legal advice during delivery and, if requested to do so, commit to sharing that advice with DSIT and its professional advisers.
- If an applicant receives a subsidy in breach of the domestic subsidy control arrangements that applicant may be required to repay any subsidy received to the value of the gross grant equivalent of the subsidy, plus interest.
- Further information is available in the application guidance.

For more information

If you have any questions or would like more clarification, please contact us at the mailbox below. Your question/s and respective answer/s will be aggregated, anonymised and added to a Q&A document which will be published on gov.uk.

email: 5gadoption-enquiries@dcms.gov.uk

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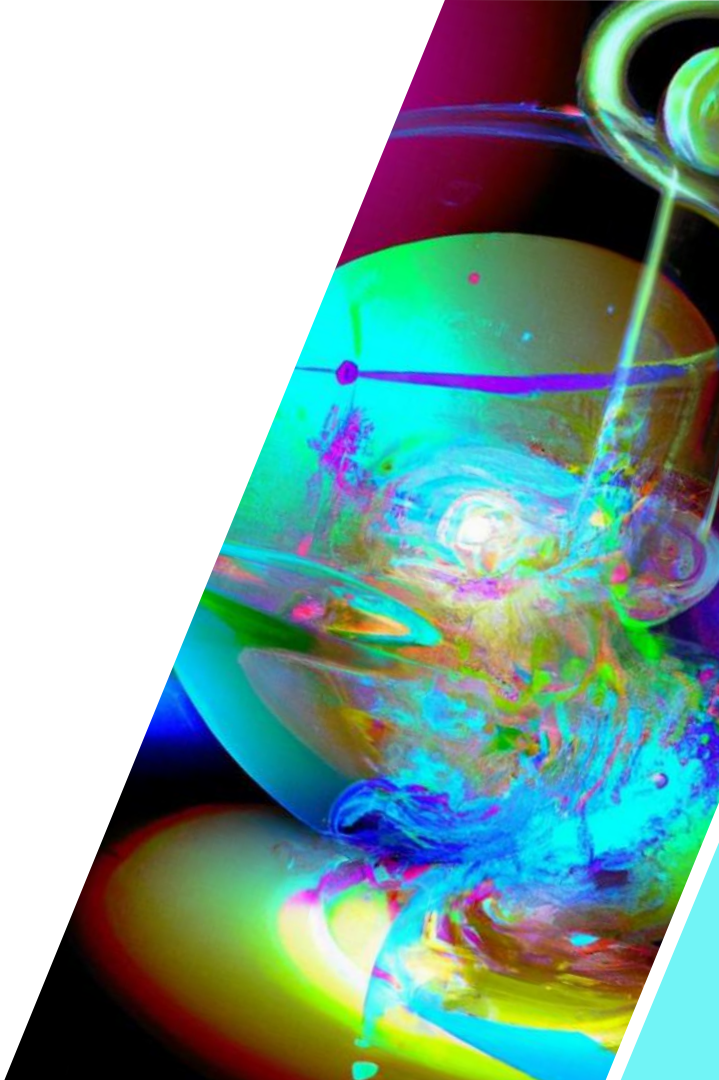
Q&A



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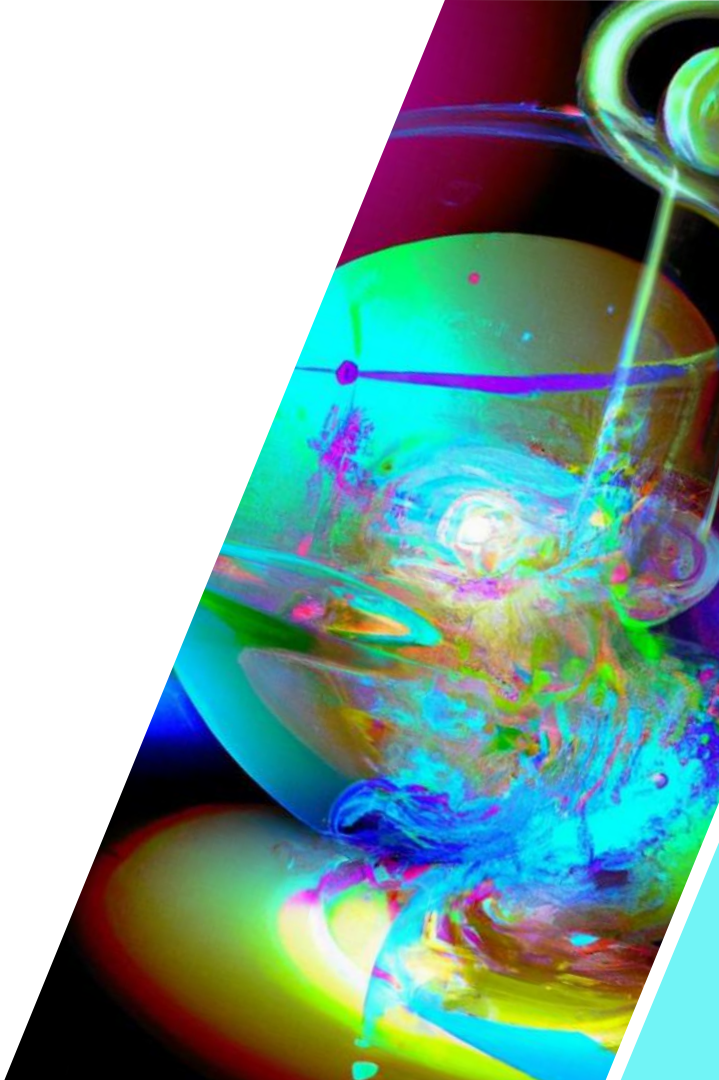
Pitching opportunity



Presenter: Alberto Iranzo
Programme Development Officer, Future Network Programmes, DSIT

Schedule

1. Pramac Generac UK
2. WISDM
3. EasyStreet
4. ONTIX
5. AWTG
6. Adtran Networks SE
7. Exponential-e Limited

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& Technology

Pramac Generac UK

Cruze Padayachee

National Business Development Manager

LOCAL TELECOMS INFRASTRUCTURE COMPETITION

PRAMAC-GENERAC UK

PRAMAC: A GENERAC COMPANY -
POWERING A SMARTER WORLD

NET SALES

~$4.6 BILLION (2022)
+42% CAGR vs 2020

MARKET CAPITALIZATION

$8 BILLION

EMPLOYEES

10.000 globally

ENGINEERS

1.000 globally

BUSINESS COUNTRIES

MORE THAN 150

SQ METER OF MANUFACT. & DISTRIBUTION

418K Sqm – 10 PLANTS

QUOTED

@ NEW YORK STOCK EXCHANGE

DECARBONISING THE TELECOM INDUSTRY

As a Group we supplied 100k+ power solutions, making us one of the biggest global suppliers for the telecom industry.

THE REALITY

Telcos face growing pressure from key stakeholders to achieve their net-zero targets

THE TECHNOLOGY

Carbon and cost- intensive infrastructure

THE SYNERGY

Support the energy transition

THE MIGRATION

Global experience in telecom power solutions

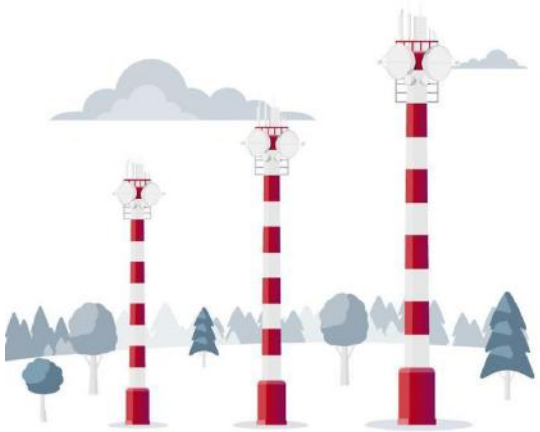
cruze.padayachee@pramac.com / +44 7771 739416

PRAMAC GENERAC

HOW WE DO IT

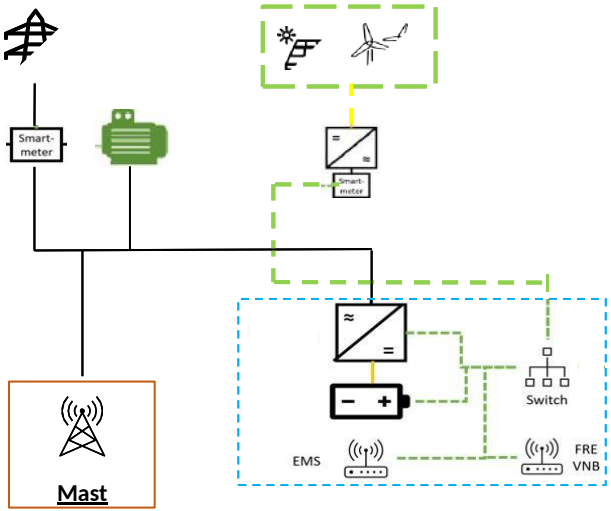
Legacy Systems

- Fossil fuel power generation

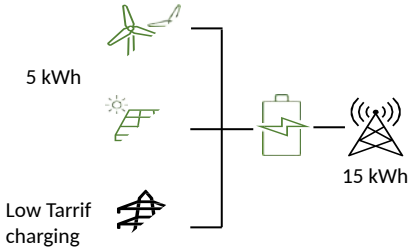


Renewable Ecosystem

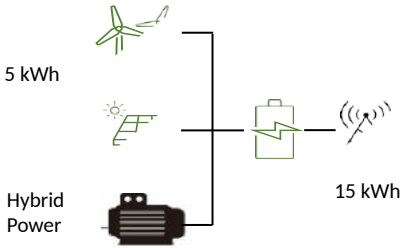
- Increase power reliability through the onsite generation and storage solutions that provide resiliency for businesses and industries



A steppingstone to Net Zero



Energy Independence



PRAMAC

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WISDM

David Burns

Chief Executive - Wireless Coverage

WISDM SMART INFRASTRUCTURE PILOTS PROGRAMME

DAVID BURNS

CEO, WIRELESS COVERAGE LTD

CHAIRMAN, UK WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION (UKWISPA)

Department for Science, Innovation & Technology

wisdm™

INVITATION TO COLLABORATE

WISDM SHOWS DETAILED WIRELESS LINE OF SIGHT COVERAGE IN REAL-TIME BY ADDRESS

ALL of GB Mapped in High-Def 3D

Ideal for Street Furniture mesh/small-cell, macro coverage, smart city, Wi-Fi, FWA and IOT

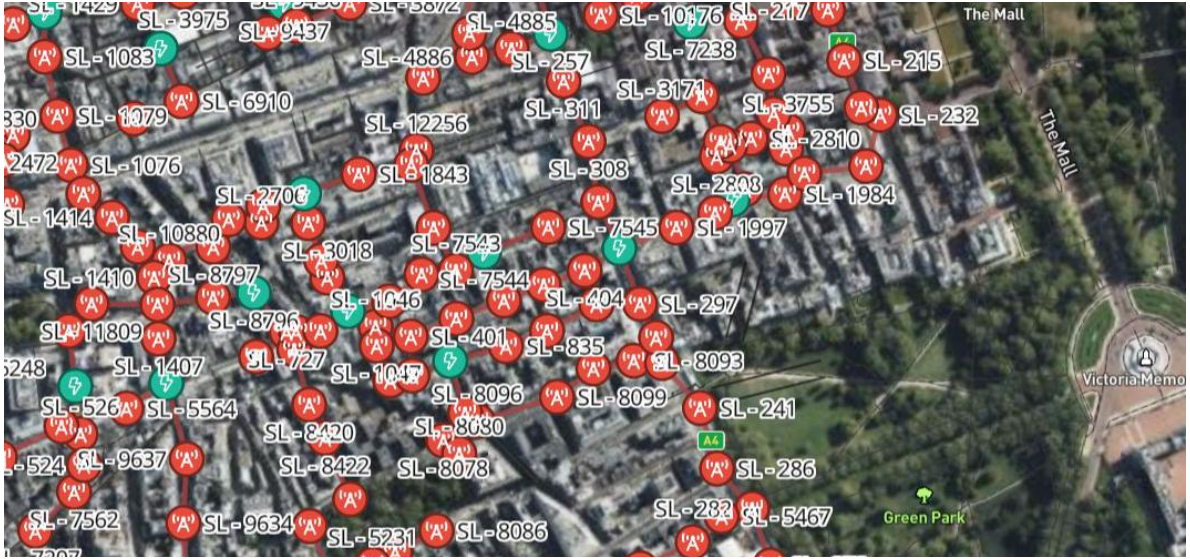
Over 2 million Street Lights Mapped, as well as thousands of km of fibre

Instantly see which Street Lights have line of sight to others as well as any other asset

mmWave and Microwave coverage in real-time by UPRN and by Area

Web-based application with full API support for integration to other systems

Fastest and most accurate wireless planning in the world, developed here in the UK using the latest in GPU accelerated computing and Deep Learning



DAVID@WISDM.AI

WORK WITH US TO MODEL YOUR TOWNS AND CITIES IN REAL-TIME FOR CELLULAR, IOT, WIFI AND FWA POTENTIAL

EXPERIMENT WITH MILLIONS OF POTENTIAL LOCATIONS SIMULTANEOUSLY TO MAKE THE MOST VALUABLE COVERAGE WITH MINIMAL INVESTMENT AND TIME

MEASURE AND REVEAL THE FINANCIAL VALUE OF YOUR ASSETS FOR TELECOMS

INTEGRATE WITH OTHER APPLICATIONS TO CREATE GENUINE ADDED VALUE

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Easystreet EMEA

Julian Welch

Managing Director

NEW RYLANDS
connecting.conversations

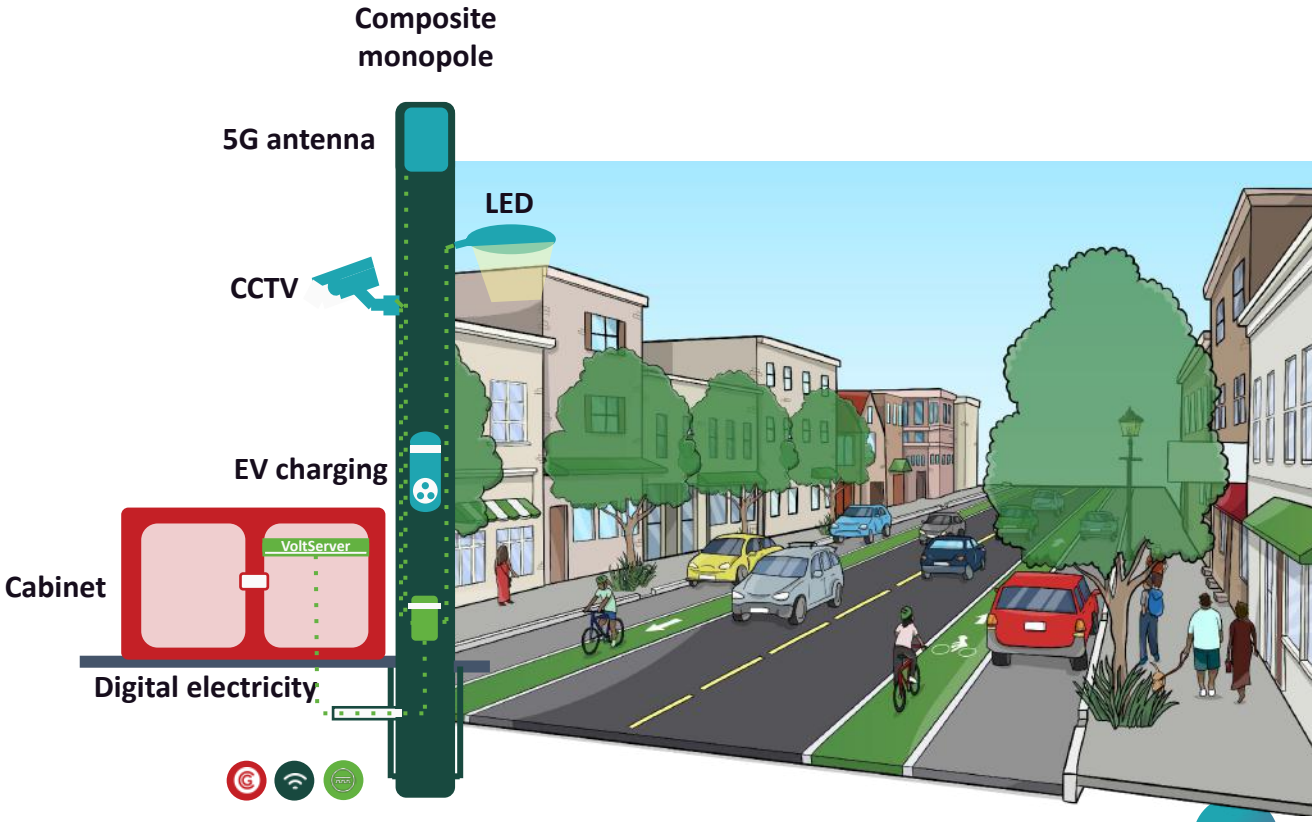
Smart Poles Introduction

Julian Welch
julian@newrylands.com

Market focus

We're focused on delivering solutions to add value to our customers, from existing product sets and building our ecosystem of partners

- **Key operating markets**
  - Small Cells
  - Smart Cities
  - FWA
  - FTTx
- **Key customers**
  - Telecom Operators
  - Deployment Partners and System Integrators



EasyStreet Systems benefits

NEW RYLANDS

MULTI-USE

5G Small Cells, FWA, IOT, WIFI

FTTx

Lighting, CCTV

EV Charging

LIGHTWEIGHT

Less than 25% the weight of traditional steel poles

Reduced CO_2 emissions

Made from lightweight composite materials

SPEED TO DEPLOYMENT

Installation quicker and cheaper

2-3 poles deployed per day

Less traffic disruption and permitting

STRENGTH

Up to 150kg and 150mph winds

Certified to EN40-7

Pultrusion process adds strength

ENVIRONMENTALLY FRIENDLY

Low carbon, longer lasting, less maintenance and less transportation

Long life span of over 50 years

Recyclable

EasyStreet SYSTEMS

EasyStreet Systems environmental credentials

NEW RYLANDS

BETTER FOR THE ENVIORNMENT

The environment should be one of the key considerations when choosing telecommunications poles. EasyStreet System composite pole is the perfect environmental solution as they are non-toxic and a giant technological leap forward from when creosote impregnated timber poles were the only option.

EASY DISPOSAL AND RECYCLING

As our composite poles are non-toxic, an environmental permit is not required for temporary or permanent storage. The recommended recycling method is to grind the pole into fragments. The fragments can be recycled through incineration and energy recovery. The burning of composite poles is an excellent source of energy production.

SUSTAINABLE

Due to their light weight, there is reduced CO2 from transportation and less energy used to deploy the poles. Composite pole manufacturing does not use as many fossil fuels as concrete and steel.

LIFE SPAN 50+ YEARS

Composite poles can last in excess of 50 years. Depending on which report you read wooden poles can last anywhere between 20-30 years, however they are susceptible to storm damage. Steel street furniture has limits to what can be deployed on them. The composite poles are much stronger and can survive in much more hostile environments.

EasyStreet SYSTEMS

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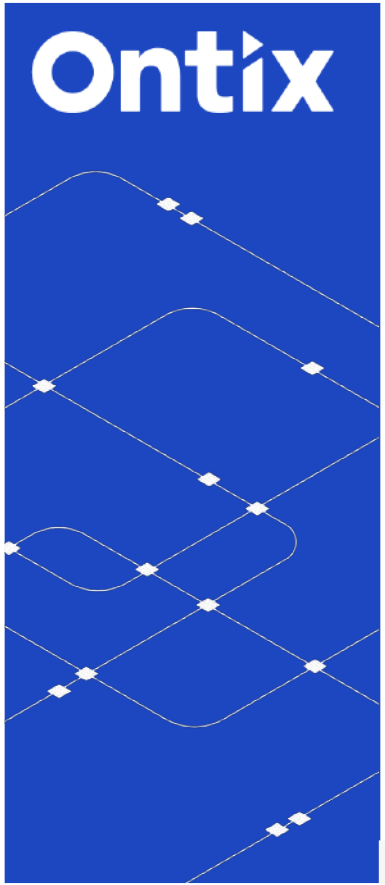
& Technology

ONTIX

Richard Williams

Director of Acquisitions

Ontix

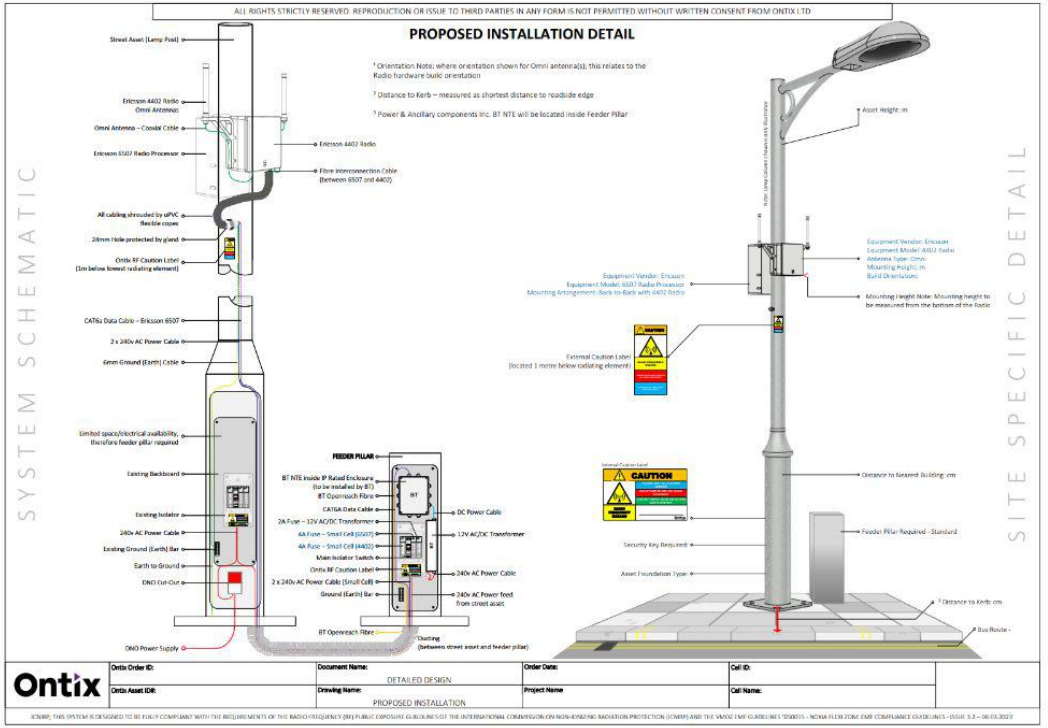


Introduction to Ontix – Your End-To-End Partner

- Ontix are a UK telecoms company that specialises in Wireless technologies
- We acquire, build, manage and maintain sites for the UKs Mobile Network Operators
- We have been working with all 4 MNOs for the past 4 years on the development and rollout of Small Cells to boost 4G / 5G cellular coverage
- We usually use Council or Privately owned street lighting or CCTV columns to mount the equipment – Small Cells, Wi-Fi, Fixed Wireless Access, IoT Sensors etc.
- We are increasingly active around the Smart City / Smart Place agenda
- The SIPP programme gives forward thinking Councils the opportunity to work with influential companies like Ontix to upgrade some of their infrastructure in order to start laying the foundations for a Smarter Tomorrow

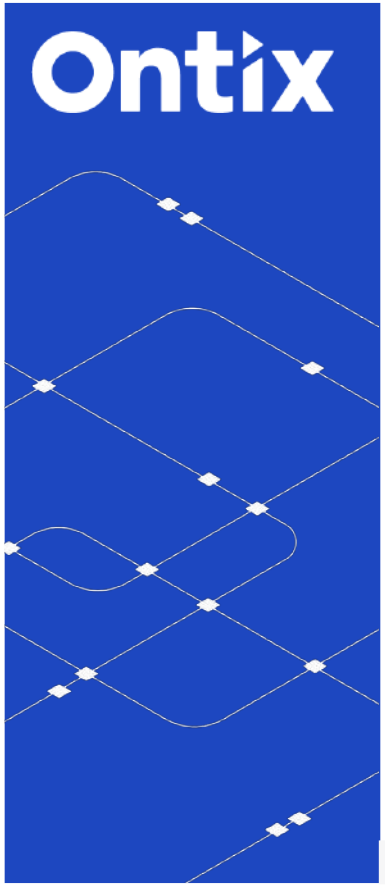
Ontix

From Design



Ontix

To Real World Builds



Please feel free to get in touch -

Richard.Williams@Ontix.co.uk

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AWTG

Tony Sceales

Chairman

Smart Infrastructure Pilots Programme

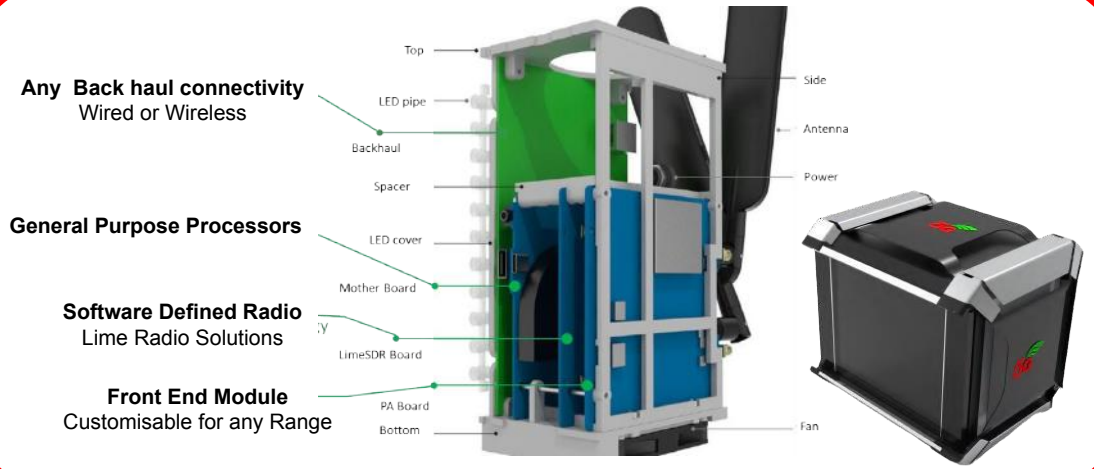
June
2023

Private & Hybrid Networks

- AWTG is a leading Network and Systems Integrator.
- Plan, design, deploy, maintain and operate indoor and outdoor private xG/WiFi/LPWan Networks
- Plan, execute and evaluate use cases
- Technical support to help SMEs adopt and exploit 5G.
- AWTG built the first 5G test bed in 2015 and the first standalone 5G network 2021.
- We have engaged deeply in central and local government co-funded innovation over more than a decade.

- Sunderland: BAI: Smart Cities
- Freshwave: Deployment and testing
- Bestway: Digital transformation of distribution business
- University of Surrey 5G Innovation Centre: 5G R&D
- Worcestershire 5G Testbed: Industry 4.0
- University of Glasgow: Urban 5G
- Scotland 5G Connect: Agritech & Rural Healthcare
- Culham (UKEA) and Millbrook Proving Ground: CAV
- Dundee City Council: e-Sports, Immersive & Tourism
- DCMS Future RAN: Flex5G Project Lead
- Qinetiq: Air to Ground
- Digital Catapult: Studios UK, Virtual Production
- S5GC: SME Adoption
- S5GC Crichton: Health care

Flex-5G Addressing Need for Radio Flexibility— Modularity and Diversification



O-RAN context

C … + D …

or

CU/DU

DU/RU

- Challenges
  - Costs as barrier to entry
  - Limited functionalities
  - Availability of equipment
  - Network scaling
- Addressed by
  - Taking our Flex-5G complete 5G SA network, and,
  - Developing O-RAN compliant interfaces between these Flex-5G network elements

Flex-5G Key Project Partners

AWTG Advanced Wireless Technology Group

Lime microsystems

vodafone

VIAVI Solutions

UNIVERSITY OF SURREY

EBTIC

COMMSCOPE®

Project Partners

Virgin media O2

Cambridgeshire County Council

زين zain

aws

Thank you

Tony Sceales, Chairman,

Email:
tony.sceales@awtg.co.uk

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Adtran Networks SE

Raymond Cassar

Regional Opportunity Development EMEA

Adtran

Adtran Solutions

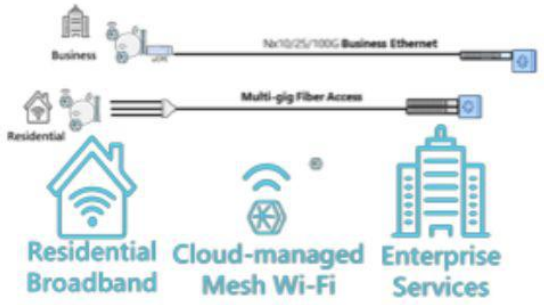
SMART connectivity

Raymond Cassar – rcassar@adva.com

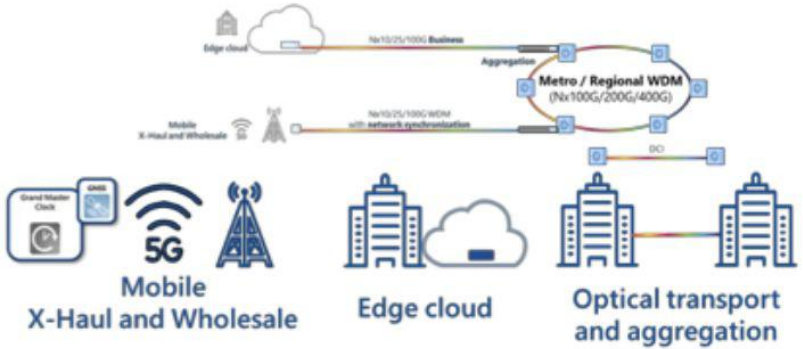
ABOUT US

Adtran Networks SE

Adtran



ADVA™



Enabling communities, connecting lives

Innovation is in everything we do

Bringing the world together

What can we offer…

- Street furniture solutions
  - Fibre broadband, Mobile, IoT, Wi-Fi and dark fibre solutions
  - Street furniture compatible from lighting columns to bollards to cabinets
  - i-Temp for -40 to +65 Degrees C environments
  - IPX rated + low maintenance
  - Security enabled
  - Low power consumption
  - Data rates from 1Gb/s to 100Gb/s
  - AC/DC or passive power options

Connect Guard™

Adtran

AND FINALLY…

Reach out to me

- UK company – York and Basingstoke sites
- Experience of DSIT projects – currently leading on 5G project and partner on other DSIT projects
- Seeking to support DSIT projects to grow UK connectivity ambitions
- Access to UK Fibre providers as they are my customer

- Email – rcassar@adva.com
- T: 07890 630739

Thank you

Adtran

Department for
Science, Innovation
& Technology

Exponential-e Limited

Stuart Smith

Local Government Lead

exponential-e
APPLIED INNOVATION

Building the Interconnected Society

Through Local Connectivity Partnerships

DCMS Smart Infrastructure Pilots Program

Our Mission

Building a better, safer and sustainable future

We connect people, processes and places to deliver **BETTER** *outcomes*

We protect critical infrastructure, systems and assets to ensure **SAFER** *data*

We transform cloud and digital platforms to drive a more **SUSTAINABLE** *future*

exponential-e APPLIED INNOVATION

https://www.exponential-e.com/public-sector

What we do

https://www.youtube.com/watch?v=VUSUioclSYs

Building Local Connectivity Partnerships

Indirect Partners

Altnets:
Gigabit fibre (passive or active) for FTTH

Channel partners:
Gigabit fibre (passive or active) for FTTP

Private Sector Partners

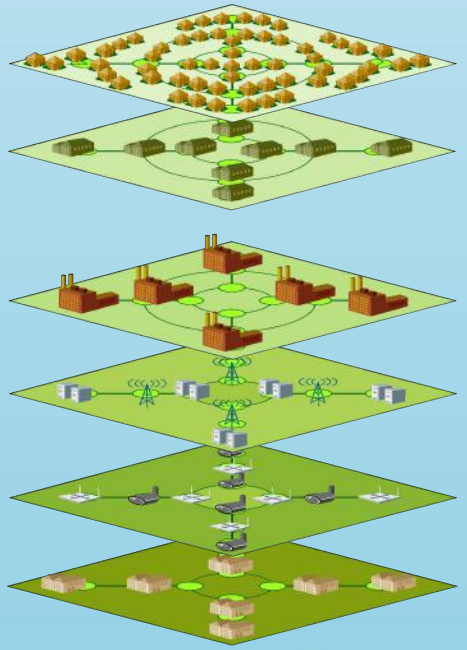
Large enterprise sector:
Gigabit, low latency fibre for business with a range of add on services

Neutral Host Mobile, Smart City & IoT:
Connectivity to base stations and small cells & open access agreements

Public Sector Partners

Public sector devices:
CCTV, traffic control, municipal WiFi, footfall counting, wayfinding

Public sector networks:
Council, schools, libraries, healthcare



exponential-e
APPLIED INNOVATION

https://www.exponential-e.com/public-sector

exponential-e
APPLIED INNOVATION

Building the Interconnected Society

Through Local Connectivity Partnerships

Stuart P Smith
Local Government Lead
Exponential-e
stuart.smith@exponential-e.com

Department for
Science, Innovation
& Technology

SSE Energy Solutions

Patrick Mitchell

Head of Smart City and Places

The following slides were shared with our team after the briefing event took place.

SSE Sentinel Optical Sensor

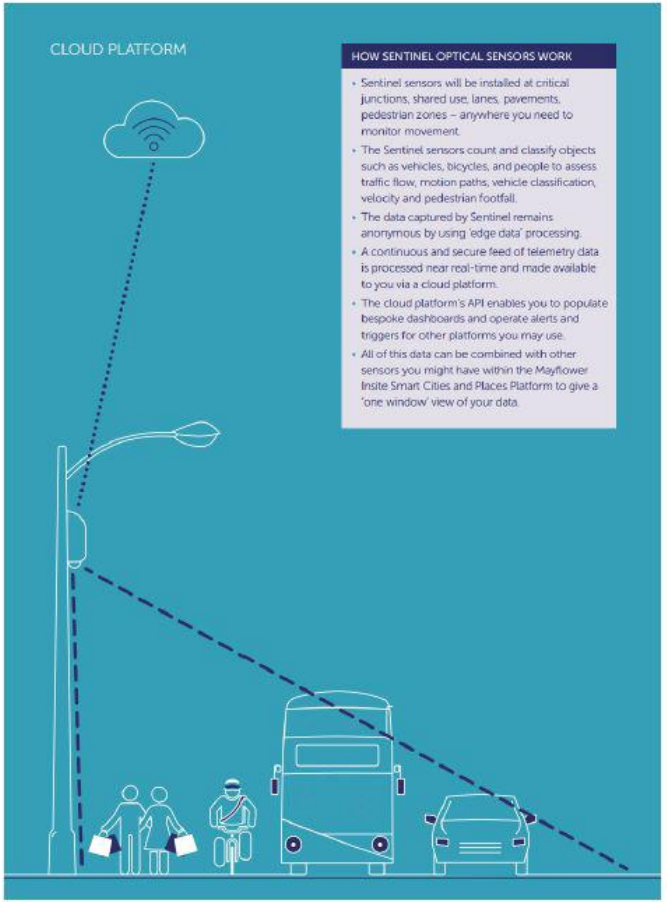
15th June 2023

sse Energy Solutions

Sentinel Optical Sensor

Sentinel is a cutting-edge smart city sensor for use on Street Lighting infrastructure

Flexible, lightweight and easy to deploy, the standalone device monitors the natural and built environment in our towns and cities using computer vision and machine learning. From tracking air quality, biodiversity and river levels to monitoring traffic flows and EV car charging usage, Sentinel places data at the heart of the smart city revolution.



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Sentinel Features

Capability and Benefits

	Capability	Benefit	Mayflower
Basic detection and data extraction	Vehicle & pedestrian classification	Classification of motorised, non-motorised and pedestrian movements.	✔
	Line crossing counts	Simple counting of entries and exits for vehicles & pedestrians.	✔
	On-demand image request	Obfuscated image request for calibration and real-time condition-checking.	✔
	Web-based dashboard	For historical data visualisation & exporting into existing reporting processes and BI systems.	✔
	All data points available via real-time API	Enables integration with transport management systems and signal control functions for smarter traffic management.	✔
	Average speeds in 'Field of View'	Automatic calculation of average speeds for vehicles within a sensor's 'Field of View'	✔
	Average journey times between sensors	Automatic calculation of average journey times for vehicles and pedestrians between points covered by separate sensors.	✔
Smart Junctions & Smart Places	Web-based geospatial ('digital twin') visualisations	Real-time 'Field of View' vehicle and pedestrian detections for 'in-the-moment' situational assessments.	✔
	Web-based aerial mapping	Lat/Long positioning and GIS aerial overlay of 'digital twin' visualisation of Motion & Flow Paths and pedestrian dwelling in the junctions and space being sensed.	✔
	Real-time alerting & signalling for all vehicle & pedestrian data points	For automatic alerting when data points exceed thresholds or drop below minimum levels. For integration with signalling and control equipment for automatic optimisation of traffic flows.	✔
Behavioural Analytics	Pedestrian & vehicular dwelling metrics	For pedestrian and vehicular volumes, densities and dwelling and crowding formation and dispersal at high-footfall venues and events or traffic hotspots.	✔
	Situational safety and risks score based on prediction of collisions in a sensing location	For real-time measure of situational risk of a junction or highway based on the likelihood of collisions. Based on open source Safety Score standard used in TESLA Assisted Driver Automation System (ADAS).	✔
	Pedestrian behavioural analytics	Human behavioural analytics in urban spaces e.g. retail settings, transport hubs e.g. anomalous behaviours, trespassing, loitering, self-harm/suicide, aggression, vandalism.	✔
	Pedestrian 'Appeal Indexing'	For measuring the attractiveness/appeal of areas of interest in the public amenity spaces e.g. retail units, pop-ups, street furniture, signage, live performances etc.	✔

Sentinel Optical Sensor is powered by Sensing Feeling's sensorCODE™ edge Visual Processing Engine (VPE) and cloud-based Analytics Engine software.

Contact us

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Science, Innovation
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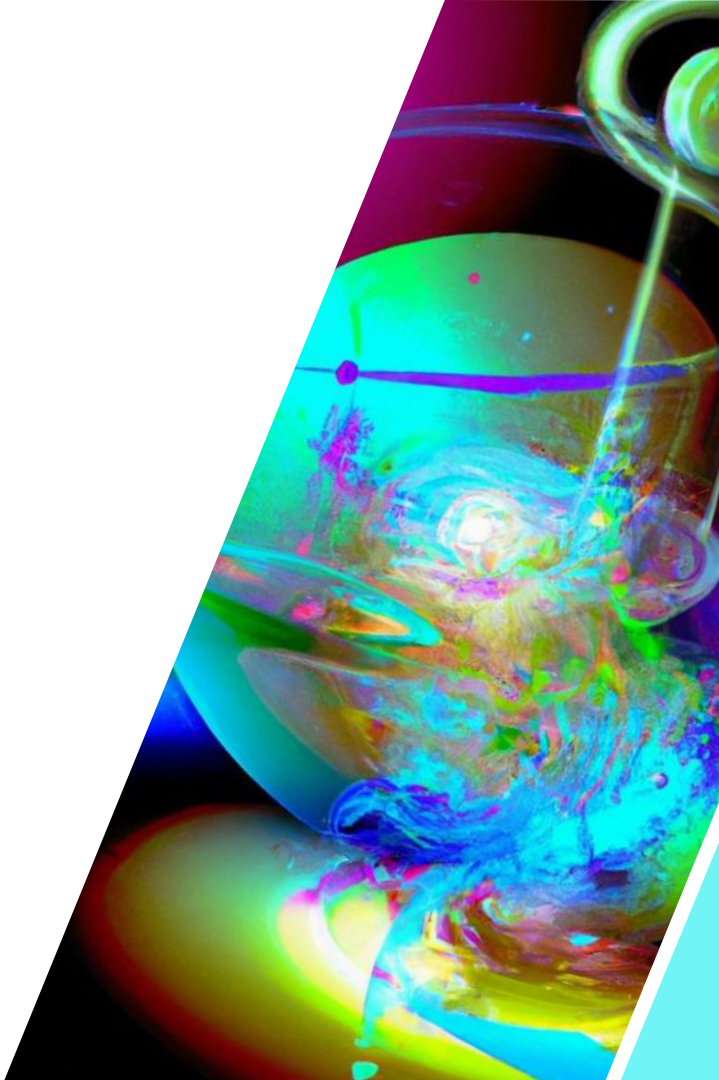
End of event: closing remarks



Presenter: Paul Clegg
Programme Development Lead, Future Network Programmes, DSIT


Department for
Science, Innovation
& Technology