# Open Networks Ecosystem Competition: Application Guidance

## Contents

# Overview

The Department for Science, Innovation and Technology (DSIT) is leading the Government's approach to driving telecoms innovation, ensuring more secure and resilient networks and a more diverse and competitive supply chain. This work was previously led by the former Department for Digital, Culture, Media and Sport.

DSIT is inviting applications into a £80m fund to support the development of open network solutions within the following technology themes:

- High Demand Density (HDD) Use Cases/Demonstrations
- RAN Intelligent Controller (RIC) and other RAN Software
- Processors, Radio Frequency (RF), and other RAN Hardware

This Competition Guidance sets out key elements of this fund and the information applicants will need in order to apply.

## Competition Timeline and Events

For this competition the application window is open for 10 weeks and the key milestones are outlined below.

| Event | Date/Deadline |
|---|---|
| Competition opens | 14th March 2023 |
| Launch/briefing event | 27th March 2023 |
| DSIT Subsidy Control Teach-in | 17th April 2023 |
| DSIT Commercial and Finance Teach-in | 19th April 2023 |
| Clarification questions receipt deadline | 17th May 2023 |
| Competition closes | 11:59pm 23rd May 2023 |
| Successful applicants notified | Late June 2023 |
| Grant funding period. (Subject to successful applicants' satisfactory completion of pre-grant requirements and commercial agreements) | Estimated start: September 2023 - End date: 31 March 2025 |

## Who Can Apply

This competition is open to applications from consortia with two or more members. All funded activity must take place in the UK and any organisations seeking funding must be UK-registered. Individual organisations are allowed to apply as part of more than one consortia application.

## How To Apply

Please read this Competition Guidance, complete the Application Form and submit all required documents via the Find a Grant site.

## Funding

There is up to **£80 million of grant funding** available from the Department for Science, Innovation and Technology in this competition (for eligible costs in FY23/24 and FY24/25). Grants ranging from **£1 million to £10 million** will be made available to individual projects.

## Grant Funding Period

The start date for DSIT funding is subject to satisfactory completion of set up and pre-grant requirements, DSIT due diligence and signing a Grant Funding Agreement.

For planning purposes, please note that DSIT expects to enter into a Grant Funding Agreement with successful applicants 8-10 weeks from notification of award. DSIT funding must end by 31st March 2025.

# Section 1: Policy and Programme Context

## 1.1 Policy Context

Mobile digital connectivity plays an increasingly important role in the lives and economic prosperity of UK citizens, businesses and public services and is a part of the UK's critical national infrastructure. The [Telecoms Supply Chain Review](#) highlighted the risks associated with a narrow telecoms supply chain and the importance of innovation and competition in telecoms infrastructure design to a secure and resilient UK. However, significant consolidation in recent years means that the UK's mobile infrastructure is supplied entirely by just three vendors and following the [Government's decision to remove Huawei](#) from the UK's 5G networks by 2027, the UK will now become dependent on just two major equipment vendors - Nokia and Ericsson - to supply its critical networks.

DSIT is leading the Government's approach to ensuring a more diverse and competitive supply chain to address the long-term risks to national security and resilience caused by ongoing consolidation. This approach is set out in the [Diversification Strategy](#), which outlines the range of complementary measures we are taking forward, including investing in R&D through the £250m [Open Networks Research and Development Fund](#). This aims to help the market reduce the UK's reliance on a small number of suppliers so that we are less exposed when network vulnerabilities manifest.

The Government has always been clear that supply chain consolidation is a global issue requiring a global solution, so international cooperation is an important pillar to this work. The UK has pursued a wide range of bilateral and multilateral initiatives to build consensus on the need for greater supply chain diversity and to create opportunities for like-minded governments, industry, academia, and other stakeholders to cooperate on the challenges and opportunities this work presents.

This grant competition is also supporting the development of a wider telecoms ecosystem in the UK. The Open Networks Research and Development Fund and associated policy levers are being deployed to drive future telecoms capability in the UK, including Open RAN 5G technologies. Our work on Open RAN deployment and development will contribute to the UK government's aim to create a well-established skills pipeline for a workforce to support the UK's wireless infrastructure and broader future telecoms needs.

We believe that addressing these risks is crucial to the long-term prosperity of the UK through facilitating the growing role of the digital economy that relies on high quality, secure infrastructure to drive growth and supporting the UK's position as a scientific and technological superpower.

## 1.2 Programme Context

The Government is taking steps in other areas to limit the role of high risk vendors and raise technical and operational standards in telecoms networks. However, while crucial to improving the overall security of our networks, they do not address the UK's reliance on a small number of infrastructure suppliers. That is why it is necessary to invest in addressing the underlying technology of our networks and strive to make that technology more open and interoperable while maintaining or enhancing security and reliability.

Open RAN is a prominent example of how the industry can work together on facilitating more open and interoperable technology through developing internationally agreed standards. However, the Open Networks R&D Fund is open to all alternative ways of designing,

developing and managing telecoms infrastructure that depart from the single vendor proprietary solutions that have become commonplace.

The Open Networks Research and Development Fund is focused on investment and collaboration to accelerate the development of the underlying technology that address the market failures that jeopardise the UK's ability to achieve its objectives. It aligns with the strategic intent of the overall Diversification Strategy and aims to contribute toward policy outcomes.

The programme has the following R&D objectives:

- **Accelerate open-interface products and solutions** - ensuring they are truly interoperable, performant and sustainable - to support our long term vision for a more open and innovative telecoms market.
- **Incentivise and derisk accelerated deployment in the UK** - to encourage and accelerate network operators to adopt and deploy open network solutions.
- **Develop an internationally recognised UK telecoms ecosystem** positioning the UK as a leading global market and focal point for research into open network technology.

Prior to the creation of DSIT, DCMS invested in multiple projects, led by the private sector, targeting all aspects of Open RAN technology. These include the portfolio of FRANC projects, the UK/Republic of Korea joint R&D, the university-led Future Open Networks Research Projects and laboratories including the UK Telecoms Lab (UKTL) and SmartRAN Open Network Interoperability Centre (SONIC Labs). Further details about these projects can be found at the links provided.

# Section 2: Competition Outline

## 2.1 Competition Context

DSIT is supporting open and interoperable networks through the Open Networks Research and Development Fund and this competition represents the next significant investment as part of the programme. The projects funded through this competition will use developing technologies in innovative products and services to improve the readiness and availability of interoperable network products and services and demonstrate openness in live environments.

DSIT has engaged extensively with organisations across the telecoms ecosystem and identified three areas of focus to accelerate deployments and narrow performance parity gaps.

1. High Demand Density Use Cases/Demonstrations

2. RIC and other RAN Software Automation

3. Processors, RF, and other RAN Hardware

DSIT's aim is to ensure that these investments complement the existing portfolio of projects (Section 1.2). Funded projects will drive the adoption of Open RAN and related technologies by Mobile Network Operators (MNOs) and private network operators, and enable diversity in the UK's telecoms networks.

## 2.2 Competition Objectives

DSIT is offering funding to develop a range of software and hardware products that will enable enhanced development and adoption of open and interoperable technology; as well as funding for demonstrations of Open RAN technologies in high demand density environments. We expect all projects to adopt and support the advancement of our Open RAN principles.

Projects applying to this competition are expected to address **one or more** of the competition objectives set out below.

- **Develop, demonstrate and test approaches to optimising Open RAN network performance in High Demand Density (HDD) environments.**
- **Develop open and interoperable software, including RIC technologies.**
- **Develop hardware solutions for open interface infrastructure and/or reduce/remove barriers to scaled market adoption.**

Applicants are permitted to propose projects which cover more than one objective within their application (i.e. one application addressing multiple technology themes).

DSIT will take a portfolio approach in determining which applications to fund to ensure that we have a balance of projects which support the competition objectives.

## 2.3 Technology Themes and Suggested Outputs

### 2.3.1 High Demand Density Use Cases/Demonstration

**Background**

High Demand Density (HDD) environments, such as dense urban areas, airports, sports venues and major public events (where large numbers of users are connected at the same time in a relatively small area), represent some of the most challenging environments for the performance of any network.

Technically, HDD environments can involve stretching to the limits the capabilities of current network technologies, due to their need for high connection and data demand density, high levels of mobility between network cells and layers, radio resource efficiency, operation with high levels of interference and higher equipment performance levels.

Commercially, while HDD locations represent a small portion of network sites, they carry a significant volume of overall network traffic. This means that network performance in HDD environments entails proportionally greater levels of operational and reputational risk for network providers.

For these reasons, network operators have the highest expectations for the performance and functionality of systems and technologies used in HDD environments. And it means that equipment designed to meet the challenges of HDD environments also helps to set the pace for development of performance and features in the wider RAN market.

The goal of this funding theme is therefore to help to ensure that Open RAN equipment and

networks are in a position to meet these high expectations, and to accelerate deployment of Open RAN solutions into HDD UK networks by demonstrating the effectiveness of solutions in these environments.

## Challenge Areas

Projects funded within the HDD theme should aim to demonstrate 5G products and solutions that help network operators respond to one or more of the challenges relating to deployment of Open RAN networks in HDD areas of the UK.

Consortia should draw on their own evidence to set out which specific area(s) of challenge or opportunity relating to HDD deployment in the UK they are seeking to tackle, but these could include:

- **Performance and feature parity** - Open RAN solutions need to be competitive with traditional RAN solutions in key areas such as power efficiency, quality of experience, electromechanical performance, spectrum efficiency and throughput. Open RAN solutions must close the feature and performance gap with traditional RAN solutions such as Massive Multiple Input Multiple Output (mMIMO), carrier aggregation and radio resource management.

- **Deployment challenges** - Providers can find it challenging to achieve interoperability, and to deliver competitive  performance levels. As a result, network operators are likely to either rely on larger, proven vendors or rely on non-scaled vendors to develop and demonstrate products that meet their technical requirements.

- **Managing mobility** - HDD areas, such as railways and city centres, are often characterised by a large number of users on the move, increasing the number of handovers required between cell sites. This can place pressure on networks in areas such as handover management between base stations; load-balancing through multiple network layers; and management of handovers between small cells and macro cells.

- **Network security, reliability and resilience** - All telecoms solutions need to be secure and decrease the risk of data leaks or cyber-attacks on the networks. The disaggregation of the RAN into multiple components is seen by some as opening up the RAN to security vulnerabilities by introducing a greater attack surface.

- **Systems Integration and interoperability** - Maintaining full interoperability and integration between components from different suppliers in a single architecture with seamless mobility will become both more complex and more important with the adoption of Open RAN. For example, vendors have highlighted that standardisation of open interfaces could be key to driving development and adoption of Massive Multiple Input Multiple Output Open RAN solutions.

- **Commercial challenges -** Open RAN solutions used in HDD environments need to demonstrate comparable Total Cost of Ownership (TCO) to traditional vendor solutions. Some vendors have also highlighted the need for innovation in commercial models that support Open RAN use cases in HDD environments, for example shared indoor or outdoor hosting.

**Features of HDD environments**

HDD environments represent the most challenging environments for the technical performance of RAN elements and systems, and typically involve areas in which there is most stress on mobile networks.

Occurring in dense urban areas as well as locations such as airports, sports venues and major public events, HDD environments are typically characterised by:

- **user density**: a high number of active network users within a defined geographical area;
- **traffic density**: a high data transfer volume per square metre, typically driven by use of data-hungry services such as video streaming or social networks posting;
- **data transfer rates**: high peak or average data transfer rates (downlink and/or uplink), driven by network congestion or intensity of network usage.
- **high levels of mobility** with large volumes of handover between adjacent cells, layers and frequency bands.

Not all HDD environments are the same, however, and the ways in which particular environments put stresses on mobile networks can vary according to use case (see Table 1 below).

| HDD Traffic Case | Downlink PS Data | Uplink PS Data | User Density | Simultaneous Users/Devices | Heavy Usage |
|---|---|---|---|---|---|
| Airports | ✓ | | | ✓ | |
| Stadiums and Arenas | | ✓ | ✓ | ✓ | ✓ |
| Train and Subway Stations | | ✓ | | ✓ | |
| Music Festivals | ✓ | ✓ | ✓ | ✓ | ✓ |
| Other Spontaneous Public Events | ✓ | | ✓ | ✓ | |
| Dense Urban/Urban Areas | ✓ | | | ✓ | ✓ |

*Table 1 - Features of high-demand density environments*

These characteristics of HDD areas can be seen as creating specific technical requirements for network components in areas such as:

- **RAN architecture**: for example, consideration of single and multiple MNOs, virtualised and hybrid topologies and RAN sharing (MORAN and MOCN); and usage of macro cells, small cells, neutral hosts and private networks;
- **Hardware and software (CU, DU and RU)** to support power efficiency, backhaul connectivity, synchronisation and operating conditions, scalability, availability, interfaces and connectivity. These can include antenna design, wide radio bandwidths and multi band support, RF power, modulation modes, and interfaces such as Xn, X2.

- **Performance,** including OSS (e.g., format, alarm, reliability, capacity) and KPIs (e.g., packet loss and drop rate, PDCP data volume measurements, handover measurements)
- **RAN features** such as deployment options, mobility, throughput, capacity, QoS and voice services, latency and energy efficiency requirements;
- **RAN Intelligent Controller (RIC) and Service Management Orchestration (SMO)**. RIC platform functions can include open APIs, xApps, rApps and FCAPS, while use cases can include mMIMO optimisation, traffic steering and traffic load balancing. SMO can cover slicing, fault management, performance management and analytics.

**Essential Outputs**

- **Demonstration of Open RAN equipment in a realistic environment, showing Open RAN HDD performance.** The deployment environment must be designed to help projects explore one or more of the key challenges faced by a public-facing mobile network in an HDD setting. These challenge areas could include, but are not limited to, the areas illustrated above. Deployment environments could include a MNO-led public network or other environments which offer reasonable proxies for the performance of specific elements of public networks, such as neutral host, fixed wireless access or private networks, provided these exhibit features in line with those set out in the box above.

- **Testing, evaluation and optimisation of the performance of the deployed network**. Performance of the deployed Open RAN network must be evaluated and benchmarked against performance levels of proprietary networks.

- **Sharing of lessons learned.** Communication of the results of your deployment in a way that enables wider industry learnings, and which is able to inform future decisions around use of Open RAN equipment in HDD environments by network operators, or which helps to remove wider barriers to Open RAN adoption.

**Intended Outcomes**

- **Development of innovative approaches to the design and deployment of Open RAN components and networks in HDD environments**, which help to address and close performance gaps (actual or perceived) between open and proprietary networks in these settings. Demonstrating comparable or enhanced levels of performance wherever possible.

- **Increased network operator confidence** in the performance of Open RAN equipment in HDD environments, leading to higher levels of open network deployments.

## 2.3.2 RIC and other RAN Software Automation

**Background**

Interchangeability of software solutions is integral to Open RAN architecture. As such, having a common API (Application Programming Interface), operating system, or something

analogous to an 'app store' from which MNOs could deploy software solutions and applications onto COTS (Commercial Off The Shelf) hardware will be critical.

**Through extensive stakeholder engagement and consultation we have identified investing in the development of an Open and Interoperable Near-Real-Time ("Near RT") or Real-Time RIC platform and associated xApps as a priority, as it has been highlighted by numerous organisations across the telecoms supply chain as key to the success of diversification and the adoption of Open RAN.**

While Open RAN does not necessarily need a RIC to function, by introducing third party AI/ML capabilities to Open RAN via a RIC, the RIC enables autonomous software innovations. These innovations can make Open RAN a significantly more attractive basis for operators to build new networks or replace those that currently use equipment from high risk vendors by enabling automation and optimisation.

The below is an indicative list of use cases for xApps which applicants may wish to target:

- Energy reduction;
- Advanced traffic steering;
- RAN slicing management;
- mMIMO management;
- Automation in the context of Private 5G;
- Dynamically sharing radio resources across multiple services (e.g. neutral host, private/public network coexistence);
- Interference mitigation;
- Coordination of heterogeneous networks (hetnets, particularly multi-vendor hetnets); and
- AI/ML features to provide value added features like predictive maintenance and capacity planning.

**Applicants should note that we will welcome applications that involve activities which develop other software areas (such as a Non-RT RIC and rApps) which can contribute to the intended outcomes below.**

## Potential Outputs

This theme defines outputs which are specific to Real Time RIC technology. If applications propose software projects in areas other than the Real Time RIC then outputs can be defined in the project application, but should be broadly similar to the outputs highlighted below.

- A neutral Near-Real-Time or Real-Time RIC platform to develop new xApps which are themselves open and interoperable.

- Open and interoperable xApps which can run on the neutral platform above.

- IP which supports advancements in open-access and interoperable Open RAN Software, including RIC technologies.

## Intended Outcomes

- Improved openness and interoperability of Open RAN software, including Near-Real-Time or Real-Time RIC technologies and apps.

- Greater engagement between the telecoms and software communities in the UK.

- Improved engagement among public or private network operators with the technology developed in the project.

Consortia should also support the UK's ambition to play a leading role in development and adoption of cutting edge technology and business models. We expect consortia targeting this theme to be working on product development at stages prior to the demonstrations described in the HDD theme but are open to proposals that include elements of both, or all, themes

## 2.3.3 Processors, RF, and other RAN Hardware

### Background

While Open RAN provides opportunity and impetus to re-think how networks are delivered through increasing use of virtualisation and cloud services, there are elements that will always remain as hardware. This theme sets out the priority hardware areas we have identified.

In order to help deliver the Programme's objectives, we will invest in project consortia seeking to accelerate development of performant open interface RAN hardware, such as analogue RF and antenna components, RF chips, and baseband processing solutions.

Through engagement with stakeholders and early insight from existing projects we have defined the main areas of hardware infrastructure. Our priorities within this theme are those that are critical to viable commercial open solutions but that are currently underdeveloped relative to traditional RAN. These areas of hardware infrastructure can be considered in three categories spanning the array of processors and other components required to make the RAN perform to commercial expectations. These categories are based on the functionality of the task performed within them as we are technology agnostic as to the best way to perform these tasks.

### Challenge Areas

We invite proposals to be solution-led by the market and we welcome a broad array of approaches to tackle the barriers in these areas and deliver our stated objectives, outputs and outcomes. These are often areas where traditional RAN solutions have a technical advantage, or other incumbency advantage or the barrier does not exist for them due to the nature of proprietary infrastructure.

**1) Baseband Units -** Layer 1/PHY Processing

Open RAN infrastructure presents the opportunity to transition to a virtualised RAN Layer 1/PHY compute solution running on Commercial Off the Shelf (COTS) servers, which have become heavily commoditised and readily available from a wide range of vendors due to their widespread use in other industries. In practice, however, in order to achieve viable performance, hardware acceleration in some form has proved essential. The current commercial landscape offers few options and development work has seen a widespread reliance on one existing platform with limited commercial viability. This trend has the potential to create a new bottleneck and/or single vendor dependency, reproducing risks

associated with the traditional RAN market and risks undermining some of the benefits of open networks. Proprietary solutions use custom in-house developed Application Specific Integrated Circuits (ASICs), the development cost of which can be recouped through in-life service contracts. Open solutions face a disadvantage in this respect and face challenges around interoperability and the need to catch-up with generations of performance improvements. Our aim is to support projects developing commercially viable, software supported, and performance/efficiency competitive alternatives that would help reduce the risks outlined above.

**2) Radio Function -** Analogue/Digital conversion

Analogue to digital conversion, and vice-versa, is the process of converting signals from the radio signals into data to be processed and sent to the network core and the reverse process of converting data into radio signals to be transmitted. It is handled by specialist chips in a RAN and may be integrated with other aspects of the radio front-end. This represents another crucial group of components that an Open RAN solution needs in order to compete with a proprietary one. Open solutions face a similar structural disadvantage to the one outlined above where traditional vendors have generations of designs to base products on to refine performance and efficiency, and an in-life service model to subsidise development and manufacturing. These components are crucial to the overall competitiveness and TCO of an open solution compared to a traditional proprietary one but require further development in order to achieve market competitiveness. In an Open RAN these components may work differently and this may potentially be achieved through integrating them with other components or virtualising them in software.

**3) Analogue RF Components and Antennas -** Other Radio Frequency Components (Signal filtering & Amplification, Power Management)

A consistent issue with Open RAN is the maturity of infrastructure equipment and parity with existing traditional RAN solutions. Improving the performance of open hardware through R&D and reducing this gap in capability is a key part of creating the conditions for adoption at scale. Radio frequency components, technologies such as receiver front-ends, power amplifiers, and power management will often be a limiting factor and critical enabler for the performance and total costs of overall solutions. Some of these components may rely on compound semiconductors to achieve high performance and efficiency rather than silicon and a different set of supply chain and development challenges. Compound semiconductors is a technology area in which the UK has existing expertise and leadership so proposals should seek to leverage that wherever possible to help unlock additional economic benefits, as well as benefiting the competitiveness of Open RAN solutions by improving the performance of RF equipment, increasing energy efficiency and reducing TCO.

## Potential Outputs

This theme defines a number of outputs which are specific to different parts of hardware in the RAN. The relevant outputs should be highlighted in the application.

- BBU open software compatible with alternative (non x86) architectures.

- Solutions are benchmarked on performance, power efficiency, VfM, and more, against incumbent vendors to ensure commercial competitiveness.

- Investment is in non-x86 architecture solutions to avoid lock-in and increase the likelihood of routes to commercialisation.

- Demonstrable integration of open RU and DU.

- Open RAN technologies, components, subsystems and products with market competitive power efficiency and performance.

**Intended Outcomes**

- Improved openness as outlined in the government's Open RAN Principles.

- Solutions are aligned with the global Open RAN market.

- Increased availability of open source BBU software.

- Lower the barrier to entry for new vendors.

- Open RAN products and solutions which are as performant or better than proprietary solutions.

**Whilst we have identified the areas above as our priority, we welcome applications which target other hardware areas but still contribute to these outcomes.**

Consortia should also support the UK's ambition to play a leading role in development and adoption of cutting edge technology and business models. We expect consortia targeting this theme to be working on product development at stages prior to the demonstrations described in the HDD theme but are open to proposals that include elements of both, or all, themes.

## 2.4 Security Requirements

Proposed solutions should adhere as closely as possible to the principles and requirements set out in the [NCSC guidance for Vendor Security Assessment](#).

Applicants should consider potential threats and increased attack surfaces that could be exposed through the adoption of open and generic technologies in telecoms networks. Nascent standards and specifications, virtualisation, new open interfaces, use of generic hardware and Free and Open-Source Software (FOSS) and increased automation pose both security threats and opportunities. Applicants should describe a thorough security expectation of their products in relation to these component technologies where relevant and how they intend to manage the consortium's security posture during the project lifecycle.

Secure by design and secure by default principles and good practice are required for all projects, DSIT reserves the right to fail projects if their security approach is not deemed sufficient by assessors. Applicants should make a convincing case, where relevant, for how their security practices will excel throughout development, deployment and operation, including any security standards, frameworks and processes that are already incorporated into their product management processes. Successful applicants will be required to develop and present a detailed consortium security strategy during the course of the project.

We consider the Open RAN security challenge to be one of the key issues that needs to be addressed and believe that the UK is well situated to provide innovative solutions that will build operator confidence in the security of the technologies. There is a huge opportunity for innovation in this space and we see this as an opportunity that we expect projects to engage with.

## 2.5 Standards and Intellectual Property

### 2.5.1 Standards

Technical standards (agreed or established technical descriptions of ideas, products or ways of doing things) can encourage greater transparency and interoperability, enabling worldwide adoption of technologies and network equipment.

The complexity of global standards development can hinder the participation of innovators and SMEs. Development of these technical standards takes place over a number of years, but participation in development, or consideration of how project outputs might mature to address live standards issues, can be a valuable part of R&D activity and will help maximise the long term impact of public funding.

The government wants to improve UK representation in telecoms standards activities and shape standards development. Having UK firms advance standards that support interoperability and security will further DSIT's strategic aims, by establishing the industry viability of interoperable network components and building up a recognition of the UK's domestic telecoms ecosystem.

Projects awarded funding under this competition should therefore support standards development where relevant, ensuring that knowledge, lessons learned and intellectual property generated through R&D contribute to activity in global standards bodies, driving up UK industry's representation and pursuing shared aims on interoperability, security etc.

Applications should demonstrate consideration of how, where possible, their work can contribute to standards activities in their initial applications, identifying relevant technical standards and Standards Development Organisation (SDO[1]) workstreams.

Successful applicants will be the beneficiary of advice and assistance from DSIT, to include:
● Advice on relevant SDO working/technical study groups that projects may wish to engage with.
● Signposting to relevant information sources, including linkages with other HMG-supported networks/standards groupings, ad hoc support via consultation with DSIT and consultants, as well as through standalone events e.g. technical workshops.

### 2.5.2 Commercialisation and Intellectual Property

Commercialisation of R&D outputs plays an important facilitation role in driving forwards the Government's diversification objectives for the telecoms sector. HMG is keen to see viable research outputs translated into formalised IP where possible, and sees this as a key mechanism for developing a strong and well regarded domestic telecoms sector that is able in due course to influence the development of global standards.

Applicants should be willing to offer licences for any Intellectual Property Rights (IPR) to other and future DSIT projects on terms consistent with Section 14 of the Grant Funding Agreement if their project is successful and results in the generation of patents. Where IPR has been included in a standard then the Fair, Reasonable, And Non-Discriminatory (FRAND) rules appropriate to the SDO publishing the standard will apply in the interpretation of FRAND regime.

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[1]Note that we embrace a wide view of SDOs here, in that it is any open and transparent organisation that is widely seen as being an SDO. For practical purposes here we regard 3GPP as an SDO.

The Grant Funding Agreement outlines requirements for treatment of research outcomes.

Projects submitted under this competition are expected to demonstrate their initial plans for resultant IP, including:

- How they would develop plans for commercialising and/or formalising IPR for research outputs such that they are used for the benefit of the UK (with reference to DSIT Diversification objectives), that they are disseminated to the telecoms R&D ecosystem, and potentially furthered through collaboration agreements (see draft GFA clauses 14.7-8). This could include explanations of how the plans reflect the [Trusted Research principles](#) outlined by the Centre for the Protection of National Infrastructure (CPNI).
- Assessing the commercial viability of research outputs throughout the lifetime of the project.
- Engaging with government-sponsored research translation, spin out, and commercialisation efforts.

## 2.6 Funding

### 2.6.1 Funding Source & Amount

There is up to **£80 million of funding** available from the Department for Science, Innovation and Technology (DSIT) Open Networks R&D Fund in this competition.

DSIT will make available grant funding ranging from **£1m to £10m** to individual projects taking place over a period of up to **18 months**, with the funding start date subject to the timing of completion of pre-grant requirements, ending in **March 2025**. This funding will be allocated to projects that produce outputs across one or more of the three themes outlined in Section 2.

Funding will be allocated to each of the two financial years (FY23/24 and FY24/25). Unless DSIT provides prior written approval, which can be withheld or conditioned at DSIT's absolute discretion, projects cannot carry forward unused grant funding allocated to the first financial year (FY23/24) to the second financial year (FY24/25). DSIT will expect professional financial management of successful projects, including forecasting and change control for cost changes.

### 2.6.2 Subsidy Control

Now that the UK Subsidy Control Act 2022[2] (SCA) is fully in force, DSIT intends to use the Research, Development and Innovation Streamlined Subsidy Route. Applying organisations should familiarise themselves with the [Research, Development and Innovation Streamlined Route Guidance (publishing.service.gov.uk)](#) issued by BEIS in January[3]

This guidance lays out the general expectations, allowable expenditure and details on restrictions under the SCA. This is based around the closeness of R&D to a marketable

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[2] [Subsidy Control Act 2022](#)
[3][https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf)

product, as well as requirements for collaboration, differential funding proportions for different sized businesses, and an overall cap on any single supplier receiving subsidy of more than £3m.

Within these taxonomies, DSIT expects funded R&D projects to be **experimental development with effective collaboration[4]**. If the requirements within the Streamlined Subsidy Route are followed, the maximum funded rates towards your eligible project costs under subsidy control rules if you are an organisation receiving direct grant funding from DSIT is set out in the table below:

| Size of business | Definition used by DSIT[5] | Maximum subsidy level under subsidy control rules |
|---|---|---|
| Small | Small is up to 50 employees and annual turnover no greater than £10.2 million and/or an annual balance sheet total not exceeding £5.1 million | 60% |
| Medium | Medium is up to 249 employees and annual turnover no greater than £36 million and/or an annual balance sheet total not exceeding £18 million. | 50% |
| Large | Large business in this context means any enterprise which is not an SME. | 40% |

Applicants will be required to provide a breakdown of costs in their application, which should clearly demonstrate compliance with the funding rates and eligible costs as set out in the General Guidance for Applicants.

Applicants are also required to obtain their own independent subsidy control legal advice, which should assess how the project complies with the subsidy control approach as described (as per the Supplementary Information table in the Application Form). Successful applicants will need to commit to sharing that advice with DSIT and its professional advisers as part of the project mobilisation stage. We withhold the right to disqualify projects if it is not provided in a timely manner.

Applicants should refer to the more detailed information on the funding amounts and proportions that can be found in the Research, Development and Innovation Streamlined Route Guidance (publishing.service.gov.uk),  in particular on the involvement of public sector organisations and research organisations.

## 2.6.3 Project Set Up and Grant Funding Agreement

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[4] All terms are defined in the Research, Development and Innovation Streamlined Route Guidance (publishing.service.gov.uk), Section 14 See in particular sections 14.16 and 14.21.
[5]As set out in the Companies Act 2006, amended by The Companies, Partnerships and Groups (Accounts and Reports) Regulations 20151. Under the Companies Act 2006 paragraphs 465 to 467.

Applicants must be prepared to set up quickly upon being notified of a successful outcome from this competition.

**Applicants should give careful consideration to their management and resourcing of this work, to be completed before the start of grant funding.** Good leadership by the lead applicant and timely, complete inputs from all partners, including finance, commercial and legal specialists, are necessary to meet the pre-grant requirements and sign a Grant Funding Agreement (GFA). We expect projects to complete all requirements and be ready to sign a GFA within 10 weeks of notification and as such, expect funded work to start in September 2023.

Successful applicants (the Project Lead and all consortium members) must provide planning, finance, commercial and subsidy control information to DSIT, as specified in the GFA. For example: a cashflow forecast for the duration of the project; responses to DSIT finance and commercial questions; project description, plan, milestones and deliverables for the GFA; grant claims values and schedule; a draft collaboration agreement which all partners are ready to sign (the GFA includes a template); legal advice on project's approach to compliance with state subsidy regulation; (if applicable) evidence of Ofcom authorisation to use spectrum required for the project; management, governance and data protection information.

Projects must also declare they have understood and accepted the terms of the grant funding agreement when submitting their application. The GFA is provided on the competition's webpage. **The terms and conditions set out in the GFA are non-negotiable. DSIT recommends that you review the GFA with your legal advisors and raise any queries you may have before submitting your application.**

DSIT will not award grant funding to organisations that are an 'ailing or insolvent economic actor[6]'. DSIT therefore requires all organisations to undergo financial viability and eligibility checks as part of project set up.

## 2.6.4 Eligible cost and funding allocations

Eligible costs are those that projects incur in carrying out work for which grant funding may be claimed - including the costs of labour, overheads, materials, subcontracts and T&S among others. These eligible costs are intended to cover all activities directly associated with carrying out the project. Please see the Research, Development and Innovation Streamlined Route Guidance (publishing.service.gov.uk) guidance for full details and explanation. Sample evidence of these costs being incurred will be required as part of the grant claims process.

Universities apply through the JES (see the competition webpage for guidance) - this allows recovery on a full economic cost basis. The subsidy level is dependent upon the type and size of the applying organisation, details are given in the Research, Development and Innovation Streamlined Route Guidance (publishing.service.gov.uk) guidance, but this may be up to 100% subsidy

**Costs incurred during application and in reaching grant funding agreement are not Recoverable.**

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[6] Please refer to the Subsidy Control Act 2022, Sections 19-26
https://www.legislation.gov.uk/ukpga/2022/23/enacted

The applicant(s) selected at the end of this competition will need to follow the process and criteria that will be set out in a DSIT grant funding agreement to access funding for individual activities (the draft Grant Funding Agreement is available on the competition webpage).

Within your proposal, there must be a Project Lead who will be the accountable body and recipient of any DSIT grant awarded. They will also be responsible for managing the distribution of DSIT funds to any consortium partners. Please note that grant funding is paid quarterly and in arrears.

The following criteria apply to the distribution of funds amongst organisations forming a consortium:

- Total subcontracting cost is limited to 30% of the total project costs - a clear case must be made as to why subcontractors are not key project partners and why it is not possible for the work to be conducted by a project partner. Subcontracted organisations do not need to be based in the UK, however we would require evidence that the bulk of their activities would take place in the UK.

- There is a 30% threshold for research and public sector organisations per project. I.e. if one research or public sector organisation was involved in a single grant project then the maximum total eligible project costs is 30%.  If more than one research and public sector organisation is involved in a grant project, the threshold remains at 30% of total eligible project costs.

- No single organisation within a project consortium can receive more than £3,000,000 in subsidy award in this competition.

- No single organisation can receive more than 70% of the total eligible project costs.

# Section 3: Eligibility Criteria

## 3.1 Eligible Applicants

Consortia must demonstrate clearly in their application how they meet all the eligibility criteria set out in this section.

To apply for funding, all consortium members must:

1) Be a UK registered business, research and knowledge-dissemination organisation, charity, public sector organisation or research and technology organisation (RTO).
2) Carry out their project work within the UK.
3) Intend to exploit the results of their project from or within the UK.

Existing projects funded by the Open Networks Research and Development Fund may apply to this competition. (Activities already funded or undertaken are not eligible[7]).

**High risk vendors (HRVs)** are not permitted to participate in consortia as a consortium partner or be suppliers to projects. See the NCSC advice on the use of equipment from high risk vendors in UK telecoms networks for more information. Public funds must not be used to pay for any HRV products or services through the competition. We understand that in the case of Mobile Network Operators (MNOs) for example, with pre-existing HRV equipment in their networks, these networks may reasonably be used as part of testbeds.

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[7] All grant recipients must consider the impacts of cumulation of subsidies -  as set out in the Research, Development and Innovation Streamlined Subsidy Scheme (Section 8). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128056/research-development-innovation-streamlined-route.pdf

## 3.2 Roles

You should specify the following roles in your proposal, as applicable:

| Organisation Role | Definition | Consortia responsibilities |
|---|---|---|
| Project Lead | For all projects we expect that this will be a commercial entity.<br><br>The proposal should make it clear why the project lead is the most appropriate organisation to lead the project.<br><br>The project lead must be an organisation that is **receiving grant funding** from DSIT as part of this competition.<br><br>The project lead will be the single point of contact for DSIT - and accountable for all aspects of delivery. This responsibility cannot be delegated to any other organisations. | ● Managing the consortium.<br>● Distributing the funds to partners.<br>● Communicating and collaborating with DSIT.<br>● Reporting to DSIT.<br>● Ensuring provision by the whole consortium of all the relevant inputs and information prior to GFA to complete pre-GFA requirements.<br>● Subsidy control compliance for themselves and partners.<br>● Financial management and reporting for the duration of the project. |
| Project Partner | Any organisation participating in your project **receiving grant funding** from DSIT or any other public sector source. | ● Providing all necessary inputs and information prior to GFA.<br>● Subsidy control compliance for themselves.<br>● Delivering project outputs for which they are responsible.<br>● Communicating with the project lead.<br>● Providing relevant information to project lead for reporting, financial management and grants claims purposes. |
| Project Participants | Any other organisations participating in the project **not receiving grant funding** from DSIT or any other public sector source.<br><br>These organisations may be identified at the proposal stage, or could be added to the project at a later date. | ● Communicating with the Project Lead.<br>● Providing relevant information to Project Lead for reporting purposes. |
| Key Consortium Suppliers | These are known key suppliers, if any, who are providing products and/or services that delivery will rely on. They will not be involved in consortium governance. | |

## 3.3 Proposing Consortium

Applying consortia must meet the following criteria:

- There must be a lead organisation that demonstrates that it can act as the accountable body, has the capability, and is able to manage the delivery of the project across the consortium with clear project governance and leadership.
- To be considered a consortium, at least two organisations must be requesting grant funding from DSIT.
- The consortium shows evidence of private sector partnership, including strong industry representation.
- The consortium should demonstrate that it can meet the funding requirements as outlined in the "Subsidy Control" section above.
- The consortium demonstrates committed support from individuals with decision-making and budgetary responsibility from each member organisation.

## 3.4 Spectrum

The consortium must have access to the spectrum and network capabilities required to deliver the project, or have a clear plan to acquire or build them in a timely manner. This may be in the form of an agreement with an existing network provider, or through the deployment of new network infrastructure, in addition to any required connections to existing or third-party infrastructure. Spectrum may be commercially licensed, by using an Ofcom Innovation and Trial Licence or by making use of Ofcom's local licensing approach to provide localised access to spectrum bands that can support mobile technology.

# Section 4. Further General Guidelines

## 4.1 Benefits Monitoring

We expect projects to focus particularly on the measurable benefits that could arise from their work, rather than just running demonstrations. In your answers to the questions in Section B, we expect to see quantitative estimates of these benefits, how they will be measured and evidenced throughout and after the projects, including timescales. We expect these benefits to be 'SMART' and show the relationship between deliverables and what impacts they will have.

Once the grant funding period has commenced, applicants will be required to agree benefits metrics as well as meet the dissemination requirements in Section 4.3, focusing on the outcomes and process to monitor and report these to the Department. At a project level, applicants will propose metrics to be agreed with the Department, as well as recording a set of metrics mandated for all projects.

A key area for reporting will be lessons learnt and the knowledge dissemination activities undertaken by the project. Projects will report quarterly to DSIT on any lessons arising and their progress towards achieving expected monetizable and non-monetizable benefits, and will form part of the deliverables that the project is expected to achieve in order to access grant funding. It is important to note that the Department expects the project to appoint someone that is responsible for capturing the benefits along with reporting and allocating specific time to undertake this work.

In addition, project partners will be expected to participate in occasional Programme evaluation activities, e.g. surveys and interviews of grant recipients, which will be conducted

by DSIT or a third party acting on its behalf to assess the outcomes of the Open Networks Ecosystem Competition and its constituent projects. Evaluation activities are expected to be undertaken both during and after the lifetime of the project.

## 4.2 Collaboration

Collaboration is the inter-working with other publicly funded projects, participation through UKTIN channels and the wider ecosystem, on topics of shared interest. The aim is that by combining the efforts and knowledge base, producing tangible and useful outputs that can be shared and demonstrated, the collaboration activities will help to foster the UK and international ecosystems. DSIT will monitor collaboration between projects, facilitate partnerships and support these efforts where relevant.

Projects will be expected to look for opportunities to collaborate with other ecosystem participants and other DSIT activities, on topics of shared interest. This is a requirement of funding. This includes international collaboration or information sharing with like-minded non-UK companies or stakeholders around the world. DSIT can support this international outreach and engagement.

All projects must also sign up to the **Programme Participation Agreement** with DSIT as part of the application process. This outlines how members of the telecoms ecosystem should collaborate, share knowledge and join-up.

## 4.3 Dissemination

Communicating the findings and stories from projects will be a key responsibility of consortia that receive DSIT funding. The dissemination of shared learning throughout the global ecosystem is an integral part of the Programme and will be considered throughout the application process. Working with DSIT and ecosystem partners, projects will be expected to plan, support and deliver communications activities to ensure the benefits of the project are demonstrated and shared as widely as possible with the Open RAN ecosystem. Such activities should lead to the production of tangible outputs such as published reports and active participation in international workshops, panel discussions, conferences and other events.

## 4.4 Consortia Forming Support

In addition to running a briefing event to support potential applicants, DSIT is working with UKTIN to support consortia forming.

A number of companies at the ONE briefing event will be invited to provide short presentations on who they are, their aims and what kind of partnership they are looking for. Following the competition briefing event, videos of these presentations will be hosted on the UKTIN website for applicants to watch, along with details of how to get in touch with those organisations. Organisations will also be able to provide pitch videos subsequently. Please contact enquiries@uktin.net if you wish to take up this opportunity.

Companies wanting direct and confidential advice including introductions to potential partners can contact the UKTIN specialist service at this email: specialistguidance@uktin.net. UKTIN advisors will provide assistance where they can.

# Section 5. How to Apply

## 5.1 What to Complete

You must submit your application (with all of the required documents) via the [Find a Grant site](#) by **11:59pm 23rd May 2023**.

You will receive an email acknowledgement of your submission.

Universities will apply through the JES (see [Guidance for applicants applying via JE-S system](#))

The Project Lead must submit the following **mandatory documents**:

1. Your **Application Form**, with all questions answered, within the word count, plus any allowed appendices. You must also complete the Supplementary Information section, including:
   a. **A Finance Summary** table, and
   b. the **Confirmation of Grant Agreement Terms** table.
2. **Project Commercial Form** (for each partner, including the Project Lead) covering all proposed costs. These should cover the full grant term. These documents are used to understand how you have estimated your costs - see Section 2.6.4 for information on eligible costs.
3. **Two Years of Latest Accounts** (in .pdf format) for the Project Lead and each Consortium Partner.
4. **A Project Plan,** as per the requirement in Question C1 of the application form.
5. **A Risk Register,** as per the requirement in Question C3 of the application form.
6. **Intellectual Property Plan,** as per the requirement in Question B3 of the application form.
7. A table outlining the **Finance and Commercial roles** for all organisations looking to receive funding, as per the requirement in Question C4.
8. A **Work Package Cost Breakdown** and **Spend Profile by Month**, as per the requirements in Question D1.

## 5.2 How to Submit your Application

You must submit your application, with all required documents, via the [Find a Grant site](#).

You will receive an email acknowledgement of your submission. We strongly advise submitting well in advance of the deadline (i.e. days before) as there is always a risk that IT issues prevent you submitting promptly (e.g. issues sending large files).

## 5.3 Application Format

You must only use the application form and templates provided with the exception of documents which are required as annexes where no template is provided, but specific guidance is written into the question (such as the Delivery Plan, Risk Register and Intellectual Property Plan).

The application form and templates contain specific fields. It is important that you complete each field and submit a fully completed form. Incomplete forms may be considered ineligible and not sent for assessment.

DSIT reserves the right to ask for additional clarifications and correction following the submission deadline.

The application form and templates must not be altered, converted or submitted as a different file type.

Additional information submitted at the request of DSIT must meet any timing, format and length requirements we may specify at the time.

While the maximum word limit is fixed, when evaluating your responses we value brevity, and use of the full word limit is not a necessity.

Tables will not be included in this word limit but should only be used where necessary.

Hyperlinks referencing further information may be included to inform more detailed understanding post-selection, but will be disregarded during the assessment of applications.

Your response should provide sufficient evidence to support any assertions made and state any underlying principles or assumptions.

# Section 6. Application and Assessment

## 6.1 Application Structure

The structure for applications is as follows:

- Consortium Name
- Consortium Lead Organisation
- Consortium Lead Contact Name
- Consortium Lead Contact Email
- The main technology theme(s) being addressed in this application (outlined in Section 2.3 of the competition guidance)
- Name(s) of additional organisation(s) forming part of this application
- Confirmation for  DSIT to publish consortium partner list (organisation names only)

## 6.2 Evaluated Questions

Responses will be evaluated using the general weighting scheme set out in the following table. Supporting questions, detailed marking and associated reasoning are set out in subsequent sections.

| Section | Weighting |
|---|---|
| A. Project description, objectives and outcomes | 35% |
| B. Outcome sustainability, benefits and route to market | 25% |
| C. Project delivery | 25% |
| D. Financial | 15% |
| E. Additional Funding Activities | Not scored (optional) |

In evaluating your responses we value brevity and the maximum word limit is fixed, but please give sufficient evidence to support your bid. Tables will not be included in this word limit but should be only used where necessary. Additional diagrams should not be provided unless requested. **Content beyond the word limits will not be provided to assessors.**

Your response should provide sufficient **evidence** to support any assertions made and state any underlying principles or assumptions. You should not include commercial sales messages about products or services being proposed.

## 6.3 Public Description

To comply with government practice on openness and transparency of public funded activities, DSIT has to publish information relating to funded projects. Please provide a short description of your proposal in a way that will be understandable to the general public. We will publish this information for all bids, including those not awarded funding, so do not include any commercially confidential information, e.g. intellectual property or patent details.

We would also like to publish the partners involved in your proposal and the public description of the project, but this is not mandatory. Please confirm in the application form to indicate if you are happy for these to be published as well.

## Section A. Project description, objectives and outcomes (35%)

A good response to this section will provide a clear and compelling description conveying understanding of the nature, scale and value of the proposed project, and why the proposed consortium is well placed to deliver it. It should address the following three questions.

**A1: Describe the project's strategic aims, highlighting which Open RAN challenge(s) you plan to address. Including references to relevant competition objectives - 15% - 1000 words (Triage Question)**

- State, in simple terms, what you will deliver in your project.

- Describe the main motivation for the project and the challenges the project will address. Your description must address the relevant technology theme(s) priorities in Section 2.3.

- How will your solution impact the global and UK markets for Open RAN? How will it be differentiated from competing products or solutions?

**A2: Describe, in technical terms, the system architecture and major technological components and innovations of the project including diagram(s). This includes contributions to relevant telecoms standards. - 15% - 1250 words (Triage Question)**

- If relevant, also explain how the proposed project is likely to advance telecoms standards (with references to Section 2.5.1). If not, explain why. Outline how the project will address technical standards and/or support development of standards which facilitate open and interoperable technologies in line with DSIT objectives?

  - Outline how your project will contribute to the UK's telecoms standards objectives. If relevant, outline how research activities and outputs can contribute to influencing international technical standards setting and/or the development of standards facilitating open and interoperable technologies.

  - Identify which standards-setting organisations (e.g. SDOs) you will seek to engage with, and which working groups are you likely to target, and why they are most appropriate.

  - Describe how you might continue to assess relevant standards activity and possible contribution of the project or participants to standards, throughout the lifetime of the project.

**A3: Describe your approach to the project's telecoms and cyber security? - 5% - 600 words**

- Describe how you will ensure your implemented solutions are safe and secure conforming to best practice.

- Identify who in your consortium is responsible for different aspects of telecoms and cyber security.

- Set out what technical functionality is built into your system to appropriately manage and monitor telecoms and cyber security.

Topics for consideration when describing your project's approach to telecoms and cyber security:

- Adopting and working toward secure by default and secure by design in all delivered products and end-to-end systems.

- Actively running security testing with reliable metrics that show the quality of the security testing, reliability of their projects when under test, and the security of the transmissions seen on various interfaces.

- Performing regular audits of equipment, processes and policies testing.

- Limiting the use of vendors whose goods or services could be considered as presenting a high security risk.

- Increasing the security of virtualised and distributed network functions.

- Ensuring network operation, management and monitoring is secure, in particular between equipment of different vendors.

- Ensuring software integrity checking, update and patch management is in place.

- Supporting cooperation and information sharing between UK and global organisations around secure network design, attacks, vulnerabilities and security mitigations for Open RAN solutions.

## Section B. Outcome sustainability, benefits and route to market (25%)

A good response to this section will provide a clear explanation of the project's outcomes and outputs. It should address the following three questions.

**B1: Describe the project's measurable outcomes. Please specify the project's measurable monetisable and non-monetisable benefits or explain how you will determine these as part of your project - 12.5% - 1000 word limit**

- How the project will deliver and measure benefits, and which they will be contributing to. These might include:

  - Reducing the cost barrier for development and deployment of Open RAN technologies, products and services.
  - Accelerating Open RAN technology maturity. You may wish to refer to technology readiness levels (TRLs)
  - Developing and exploring new business models and applications, and potential benefits to businesses, including productivity improvements.
  - Supporting the development of the local economy, including the growth of local businesses, particularly SMEs.
  - Contribution to the development of Open RAN skills and capabilities within the UK.

- Describe how you will identify and prove the impacts and lessons learned of your project.

- Describe what the measurable impacts of your project will be by the end of the funding period

**B2: Describe how the project will contribute to developing the UK's capabilities in the Open RAN environment - 7.5% - 750 word limit**
- Highlight the key outputs of your project and how these will deliver against the challenges and/or use cases you have identified related to the UK market.

- Describe how you intend to factor in the expected availability of the network components and services featured in your proposals.

**B3: Describe your vision for the development and funding of outputs beyond the completion of your project - 5% - 500 words**

- Describe how the project outputs will deliver value beyond the grant funding period, including commercialisation plans or scale up beyond the scope of the project funding.

- Describe your approach to the dissemination of lessons learned and project outcomes (through collaboration with UKTIN and other channels).

- Provide an Intellectual Property Plan (as an annex) explaining what ambitions your project has to patent and retain IP resulting from your work, with reference to Section 2.5.2. This must be no longer than two pages.

- Describe how this project will affect your longer term roadmap for new products and/or services. Briefly outline any follow-on projects or future improvement opportunities currently envisaged.


## Section C: Project Delivery (25%)

A good response will provide evidence that the project proposal is credible and that there is a robust approach to progressing and controlling the project, which is suitable and proportionate for the scope and the funding levels sought.

**C1: Provide a project plan - 10% - 750 word limit**

- Describe how the project will be delivered.

- Identify key milestones and deliverables, including grant payment milestones.

- Outline key work packages and associated activities.

- Demonstrate that the project has the available resources to deliver the activities in the time available.

- Describe your mobilisation plan, from being notified of success to grant funding agreement. The key requirements for this stage of work are described in Section 2.6.3.

- Provide a clear, easily readable, high level gantt chart (as an annex), including an outline of the critical path for the project 'end to end' - from project set up to project closure by March 2025.


**C2: How will the project be managed and decisions made? 5% - 500 word limit**

- Describe your proposed project management processes and governance structures.

- Describe the roles and responsibilities, skills and experience of all partners that are relevant to the approach you will be taking.

- Describe how your consortium will deliver this project and how the organisations involved will achieve more working together than if they were working individually.

- Explain why the Project Lead is best placed to undertake this role.

- Describe the details of any vital external parties, including sub-contractors, who you will need to work with to successfully carry out the project.

**C3: Describe the most significant risks to the successful delivery of the project and how they will be managed - 5% - 500 word limit**

- Identify the key internal and external dependencies, support or engagement that is required. For example: product development; supply of goods / services; investment or legal agreements or consents that need to be put in place to enable the works to be undertaken. Indicate what is agreed at the time of submission, and what is still to be agreed.

- Provide a risk register (as an annex) which identifies and describes the main risks and uncertainties of the project with risks and mitigations scored by likelihood and impact.

**C4: Provide details of the Project Lead's financial management of the project and their approach to providing regular, up-to-date expenditure forecasts to DSIT - 5% - 500 word limit**

- Demonstrate how the Project Lead will fulfil its responsibility to ensure that evidence of eligible expenditure, for example all invoices and timesheets for participants, are made available to DSIT on request.

- Describe how the Project Lead will provide accurate forecasts for the whole consortium and ensure timely finance input from partners, including providing an updated cash flow profile forecast template with each grant claim and/or change request once the project is in life.

- Outline any delegations and organisational policies that will ensure appropriate spend control and manage risks associated with fraud, risk and error.

- Set out how you will mitigate any risks to delayed expenditure within a financial year and between financial years (running 1 April to 31 March).

- Provide a finance and commercial roles table (as an annex). This should be completed **for the Project Lead and all consortium members that will receive funding** from DSIT.

| Requires recruitment (yes/no)? | Position title | Proposed finance responsibilities on this project | Proposed commercial responsibilities on the project | Relevant experience | Relevant qualifications | % of their working time committed to this project |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |

**Section D: Financial (15%)**

A good response to this section will provide a clear overview and explanation of the costs of the programme and confidence in financial management and control of the project.

**D1: Identify the major cost components and explain how these represent value for money - 7.5% - 500 words (work package cost breakdown and spend profile by month required as annexes)**

- Provide a narrative description summarising what each project participant will be delivering based on the project plan in your answer to question C1 and the costs associated. Include a description of the contributions in kind from each project participant.

- Provide a cost breakdown of forecast expenditure on the project. Explain how the costs have been calculated.

- Describe what network and any other infrastructure will be used in the project (if any), and how it will be sourced.

- Describe which legal entities will own any assets which are paid for by grant funding.

- Describe any subcontractor costs and why they are critical to the project and are not grant receiving consortium members.

- Provide an annex identifying the following:

  - The estimated project cost for each work package. Make clear the level of contribution from each project participant for each work package and the level of grant funding requested from DSIT.

  - The spend profile by month, linking it to milestones and deliverables as needed. This should be fully consistent with the dates you have specified in the project plan.

**D2: Explain how you will ensure value for money through your sourcing approach and supply chain - 5% - 500 words**

- Explain your sourcing approach.

- Confirm that the grant amount requested includes any irrecoverable VAT, all fees and charges, and appropriate allowance has been made for any price inflation during the project period.

**D3: Explain whether this project could go ahead without public funding and if so the difference public funding would make. Why are you not able to wholly fund the project from your own or other private-sector funding? 2.5% - 400 words**

- Detail how the funding you require will allow you to undertake the project in terms of time to market and any other relevant factors, where you would otherwise be unable to.

- Tell us whether the project could go ahead in any form without government funding, and if so, what difference would government funding make? Explain why this contribution would be beneficial to the consortia members involved in

the project, as well as the UK taxpayer (in terms of economic, social, environmental and other impacts).

- Describe any direct follow-on funding from project partners. This should include any post-project research and development, further trialling and capital spending commitments by the project partners.

**Section E: Additional Activities [optional, not scored]**

**E1: Assuming that your project is successful, please outline at a high level any enhancements to your project that you would consider should additional funding and/or time be made available. This should include estimated costs for additional activities - 750 words**

This could include:

- An expansion of project scope.

- An extension to the project looking to make progress on higher TRLs from the 'basic' bid, e.g. adding a testbed and trial phase.

- Completing additional work aimed at particular themes such as security, international and standards.

As part of feedback for successful applicants, DSIT will give an indication of whether it considers the inputs to this section of the application to be appropriate. In the instance that it does - options for extension will be agreed after the GFA is signed.

This option may be exercised at the authority's discretion following further development of the proposal/s through the grant change control process. Applicants should be cognisant of maximum subsidy rates in the [Research, Development and Innovation Streamlined Subsidy Route guidance](#) (which cover both core and additional activities)[8].

## 6.4 Supplementary Information and Confirmation of Grant Agreement Terms

Information provided as part of this table will be used to aid understanding of the assessed responses. **Completion of this table is a mandatory requirement**.

| Ref | Question/Request | Applicant Response |
|-----|------------------|--------------------|
| 1 | Please complete the finance summary table for your proposed delivery plans | Complete the table in the Application Form |
| 2 | Please confirm that your consortium has reviewed and understands the Subsidy Control regime under which you intend to receive grant funding, and that your application complies with said rules.<br><br>To note: Successful applicants will be required | Please state: 'Yes' or 'No' and which regime you intend to use |

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8

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128060/research-development-innovation-streamlined-route-guidance.pdf

| | | |
|---|---|---|
| | to provide a breakdown of their expenses with accompanying legal sign off to confirm their compliance with Subsidy Control principles as part of the Grant Funding Agreement process | |
| 3 | Has the project obtained a legal opinion regarding Subsidy Control, that this application would constitute allowable subsidy? | Please state: 'Yes' or 'No'. If 'No', state when this would be expected to occur. |
| 4 | Has the financial contribution of each partner to the project been signed-off at an appropriate level within their organisation? | For each organisation please state: 'Yes' or 'No'. If No, when would this be expected to occur? |
| 5 | Can you confirm that your application conforms to the HMG High Risk Vendor (HRV) policy outlined in guidance? | Please state: 'Yes' or 'No' |
| 6 | Please confirm that the grant amount requested from DSIT includes any irrecoverable VAT, all fees and charges, and appropriate allowance has been made for any price inflation during the grant claim period. | [Enter 'Confirmed'] |
| 7 | Please confirm that the Project Lead has accepted the terms and conditions in the draft grant funding agreement provided.<br><br>We expect the Project Lead to sign the agreement after notification of a successful application and to ensure satisfactory completion of DSIT pre-grant consortium set-up requirements and information for DSIT due diligence. DSIT reserves the right to rescind offers of funding, for example if this is delayed.<br><br>The terms and conditions set out in the GFA are non-negotiable and are available on the gov.uk competition website. We recommend that you review this with your legal advisors and raise any queries you may have with DSIT before submitting your application. | [Enter 'Confirmed'] |
| 8 | Please confirm that the Project Lead has reviewed and accepted the Collaboration Agreement template.<br><br>If your consortium is planning to deviate from this template, please let us know the nature of any changes you would propose in your application. | [Enter 'Confirmed'] |
| 9 | Do you require radio spectrum to carry out your project? If yes, what spectrum do you require and have you yet secured it? | Please state: 'Yes' or 'No' If not, please explain why not, and how you intend to secure this spectrum prior to the project |

| | | commencing |
|---|---|---|
| 10 | Please confirm whether partners have provided a letter of support or commitment to the project?<br><br>Please submit a copy of letters as a PDF. | [Enter 'Confirmed' and partner name] |
| 11 | Please identify your pre-grant mobilisation team including the Senior Responsible Owner (SRO) and Project Manager. | Please state who will be resourced for these roles |
| 12 | Please provide the name and email address for the lead contacts from each of your consortium partners. | [Enter the names and email addresses for each organisation's lead contact] |

# 6.5 Assessment Process

**1 - Sift**
Initial eligibility checks will be undertaken on all applications against the objectives, funding and eligibility requirements in the application guidance. If an application passes the sift it will progress to evaluation. If an application does not pass the sift, we will notify the Consortium Lead with an explanation as to why. Only applications that meet the eligibility requirements of the competition will be assessed.

**2 - Triage**
All applications passing the sift will be evaluated and moderated beginning with a triaging process in which they will be assessed based on questions A1 and A2 before a full assessment of applications will be completed. Applicants must reach the minimum threshold for evaluation to proceed.

**3 - Application Assessment**
The assessment panel will review and score all applications that passed the triage stage. They will then hold a number of moderation meetings and decide which projects to recommend for grant funding award. DSIT will take a portfolio approach in determining which projects to fund ensuring that we have a variety of successful applications within the funding envelope.

**4 - Clarification Questions**
If DSIT has points of clarification, we will write to the lead applicant to seek clarification. We will not be adjusting scores based on responses, we will only score the original application, but may require clarification before making our funding decision.

**5 - Competition Outcome Notification**
The outcome of the competition will then be shared with all applicants. DSIT may elect to identify reserve applicants, in case the preferred applicant(s) is/are unable to meet pre-grant requirements and complete a funding agreement with DSIT on a timely basis.

DSIT guidance on project set up will be issued to successful applicants.

Feedback for applicants will be available on request to all applications that have been fully evaluated (once the competition has closed). It is the responsibility of the lead to request and communicate the feedback to the rest of the consortium, if applicable. No additional feedback can be provided.

## 6.6 Scoring

**1-7 Scoring Range:**

Individual responses to each question will be scored in line with the following scheme. The assessors will score your answers to these questions. Each question will be given a score 1-7:

- **1 -** Serious concerns: for example, does not meet requirements, and/or raises serious concerns.
- **2 -** Some concerns: for example, meets some requirements but with gaps and/or some concerns
- **3 -** Moderate confidence: for example, meets most/all requirements, but lacks sufficient detail in some areas.
- **4 -** Adequate confidence: for example, meets most/all requirements and provides a response that demonstrates a good understanding of the requirements.
- **5 -** Good confidence: for example, meets most/all requirements and provides a response that demonstrates a good understanding of the requirements.
- **6 -** Very good confidence: for example, meets all requirements and provides a detailed response that also exceeds expectations in some areas and/or demonstrates a strong understanding of the requirements.
- **7 -** Outstandingly good confidence: for example, meets all requirements and exceptional detail that exceeds expectations in many areas and demonstrates excellent understanding of the requirements.

Scores for each question will be weighted by the amount indicated against each question. Your application's total score will be the sum of the weighted scores.

## 6.7 Quality Threshold

All applications passing the sift will be evaluated and moderated beginning with a triaging process in which they will be assessed based on questions **A1** and **A2**, before completion of the full assessment of applications. Applicants receiving a median score below 4 will be deemed ineligible for funding. Successful applications will then be scored against the scoring scale and then ranked based on total score.

Following evaluation of the applications and moderation of scores, any application with an unweighted median score of 1 (serious concerns) against any individual competition question, including where an error has been made by the applicant, will not be considered for grant funding.

All remaining applications with a median evaluation score against all competition questions (i.e. the weighted score across all competition questions) of 4 and above will be considered for shortlisting (Step 2). Following this, the assessment panel will hold a series of moderation sessions to establish which proposals should be recommended for grant funding.

DSIT also reserves the right to consider applications for shortlisting that do not meet the threshold above in the following cases:

If an application fails to meet the threshold in Step 2 by a narrow margin as a result of the range of scoring by individual assessors being of significant variance from the average score for one or more competition questions for that application ("an outlier"). The application may be considered for shortlisting following a review of the outlier assessor's comments and approach if the outlier score may reasonably be eliminated and the average assessment score that is recalculated falls within the threshold above.

If there is a significantly higher volume of applications meeting the thresholds in respect of grant funding available, DSIT may raise the threshold that applies to Step 2 for the consideration of shortlisting.

# Section 7: Additional Documents & Information

## 7.1 Additional Documents

The following additional documents are available on the Open Networks Ecosystem Competition Gov.uk page.

- Application Form
- Project Commercial Form
- Draft Grant Funding Agreement
- General Guidance for Grant Applicants
- Guidance for Academics applying via the Je-S System
- Programme Participation Agreement
- Supplementary Information: Software Theme
- Supplementary Information: Hardware Theme
- Q&A Log

Should you have any queries, please contact us at **ONP.enquiries@dcms.gov.uk**. Please note that the deadline for clarification questions is 17 May 2023.

Your question and respective answer will be aggregated, anonymised and added to a public Q&A document unless commercially sensitive.

## 7.2 Notices

We reserve the right to undertake a detailed financial and technical appraisal of each applicant and their proposal, and for this process to continue up to the award of any grant funding. Any such appraisal will be conducted in line with government policy at the time of assessment. Further appraisal may continue if required through the duration of the grant funding period.

No representation, warranty or undertaking, express or implied, is or will be given by DSIT or any of its agents or advisers with respect to the information contained in the competition material, including with respect to its accuracy or completeness.

Information provided in response to this document, including personal information, may be published or disclosed in accordance with access to information regimes, primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 and UK GDPR2.

If you want the information that you provide to be treated confidentially, please be aware that, in accordance with FOIA, public sector organisations are required to comply with a statutory code of practice which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you wish that information to be treated confidentially. If we receive a request for disclosure of that information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances.

DSIT will process your personal data in accordance with DPA and GDPR and, in the majority of circumstances, this will mean that your personal data will not be disclosed to third parties.

All applicants are solely responsible for all their costs and expenses incurred in connection with this selection process at all stages. Under no circumstances will DSIT be liable for any costs or expenses borne by or on behalf of the applicant or any party associated with this selection process.

We reserve the right to cancel the competition at any point. We will accept no liability for any losses caused by any cancellation of this competition nor any decision not to award grant funding as a result of the competition.

At any time prior to the deadline for receipt of proposals, we reserve the right to amend, add to or withdraw all or any part of the competition material at any time during the competition. Any such amendments, additions, or removals will be notified identified in the documentation on the competition webpage.

Answers must be in English. Applicants should note that where any supplementary documents are not published in English, certified translations into English must be provided with the proposal (if applicable).

Proposals should remain valid for a period of 120 days from the competition closing date. A proposal valid for a shorter period may be rejected.

Unitil the competition has completed, applicants must not inform anyone outside of their proposed consortium, even approximately, what their total proposal costs are, or will be. Furthermore, applicants must not try to obtain any information about anyone else's proposal or potential proposal.

We reserve the right to discuss, for the purpose of clarification, any aspect of a proposal with the relevant applicant prior to the award of grant funding. We reserve the right to contact applicants for programme evaluation purposes after the award of grant funding, even if they are unsuccessful.

Department for Science, Innovation and Technology