



Support for Rural Digital Infrastructure Solutions

Service Definition

A G-Cloud 15 service from Real Wireless

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About Real Wireless

Real Wireless is the world's leading independent wireless advisory firm. Its network of experts includes engineers, physicists, economists, security advisors, business strategists and deployment specialists. Real Wireless clients benefit from a comprehensive portfolio of specialists and custom tools that analyse radio network performance, techno-economic impact and the business model implications of wireless systems. With this unmatched resource Real Wireless is able to advise the industry and all user groups, spanning businesses to governments, mobile operators, regulators and technology companies on every aspect of wireless technology.

Real Wireless has applied this unique range of technical and strategic expertise to some of the UK's biggest wireless infrastructure projects – from major stadium connectivity to shopping malls to transport systems — and has worked with operators, vendors and regulators on all forms of wireless connectivity. It has also advised governments and the European Union on the technical, social and economic implications of communications policy.

Real Wireless experts help clients to understand, select and deploy technology according to need; we deliver truly independent advice as we are not affiliated with any association, company or proprietary standard. That is why, with 5G now being deployed, Real Wireless is best placed to guide and advise businesses on the choices and opportunities next generation communications systems will bring.

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Abbreviation	Definition
2G	Second-generation mobile telephone system (or GSM)
3G	Third-generation mobile telephone system (or UMTS)
4G	Fourth-generation mobile telephone system (or LTE)
5G	Fifth-generation mobile telephone system
MNOs	Mobile Network Operators
RND	Radio Network Dimensioning

1 About the Service

The Real Wireless **Support for Rural Digital Infrastructure Solutions** service provides strategic guidance and a structure for county and city authorities and others in the eco system to accelerate the deployment of converged digital infrastructure e.g. full fibre and 4G and 5G services in rural areas. Such services can deliver economic benefits to these rural areas, services providers and citizens, since typically these areas will have poor broadband and mobile coverage.

1.1 Approach

We will work with the relevant departments in the authority and other stakeholders as appropriate. These departments could include: planning, digital infrastructure provision, digital services provision, maintenance of the built environment, IT services and other stakeholders such as asset maintainers, lighting contractors, broadband providers, cloud service providers, MNOs and neutral hosts.

We will review the fixed and 4G/5G service availability today and published plans from fixed and mobile for service improvements. We will include in this analysis LEO and MEO satellite operators covering both satellite based broadband services and Direct to Device (D2D) services.

We will then develop the key use cases looking to be supported over the next say 5 years and use these to identify the fixed and mobile services necessary to support these use cases and the benefits they deliver.

From this analysis we will develop the infrastructure options to deliver the necessary fixed and wireless services – this will look at both technical and commercial options.

We will show the various business models that can be used for converged fixed and 4G/5G services and in particular how neutral hosts and the provision of private 4G/5G networks could bring benefits when compared to the alternatives.

We can review the authority assets and other assets that could be accessed and highlight those that could be attractive to fixed network operators, mobile network operators, neutral hosts and private network operators.

Finally we will provide recommendations as to the most appropriate option(s) that should be pursued and the rationale as to why.

1.2 Deliverables

1.2.1 Workshops

We will undertake a number of workshops and stakeholder engagements with various departments within the authority. These workshops will be used to elicit key requirements, identify and prioritise key use cases and understand what barriers might prevent successful execution of the strategy. We will provide the slides used in these workshops and the notes written up following each workshop.

1.2.2 Report including conclusions and recommendations

At the end of the project we will provide a report and present the overall conclusions and outcomes. This report could include a number of different areas of analysis, if these were included in the project scope e.g. prioritised list of use cases, architecture options for a converged fixed and wireless infrastructure, the additional coverage that these options could achieve compared to today's coverage, high level costs and benefits analysis.

1.2.3 Project management

Real Wireless controls all assignments in the same structured, robust manner. Project delivery is in line with our ISO 9001:2015 certification which ensures consistency throughout our process from specification of requirements to ultimate delivery on projects of any size and scope.

We will allocate a Project Manager to the call-off who will be responsible for project deliverables and managing the project (including kick-off, progress meetings and peer reviewing deliverables together with tracking project risks, issues, actions and decisions). The Project Manager will be the primary day-to-day point of contact for the Buyer and will monitor satisfaction with our delivery, conduct and outputs.

1.2.4 Project timescales

Following receipt of your instruction to proceed with a project a kick-off meeting will be arranged to review the requirements and scope of the project in full. A project is typically delivered within six to seven months from the kick-off meeting depending on the scope.

2 About Real Wireless

Real Wireless is an expert on radio and wireless technologies including full-spectrum wireless: mobile, Wi-Fi, broadcast, satellite, radio propagation, business radio and more. Our total focus on the sector enables us to provide the practical and strategic advice required by our clients.

2.1 Our people

Our network of experts includes more than 40 engineers, physicists, economists, security advisors, business strategists and deployment specialists. Within our network we have senior-level and academic expertise and a wealth of experience in technical and commercial domains, from operator, regulator, vendor and systems integrator. Bridging the gap between the mobile communications industry and users means we can help the industry better understand and meet the needs of its customers and help users get the best from their mobile technologies to benefit business.

2.2 Proprietary tools

Real Wireless clients benefit from a comprehensive portfolio of specialist and custom tools that analyse radio network performance, techno-economic impact and the business model implications of wireless systems. They enable optimisation encompassing coverage, capacity and co-existence and can utilise data from live networks.

These tools can be applied to the investigation of urban, suburban and rural areas, 4G and 5G coverage and network performance, interference assessment, optimum site location, interference between indoor and outdoor systems, throughput variation within buildings, localised demand, and network dimensioning.

These tools are further extended with recognised models of viable revenue growth to enable the evaluation of business models. When combined with demand forecast tools, we establish a basis for significant strategic insight.

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