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Support for developing a wireless infrastructure strategy

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 developing a wireless infrastructure strategy*** service provides strategic guidance, relevant advice and develops a strategy to deploy wireless infrastructure that meets the current and future requirements of the client.

1.1 Approach

We will work with the relevant departments in your organisation and other stakeholders as appropriate. These departments could include: IT services, operations, finance, building services, site services, estate management and others as required.

We will work with your team to develop the key use cases that need to be supported over the next say 5 years and use these to identify the wireless network service requirements necessary to support these use cases and the benefits they deliver. As appropriate we would hold one or more workshops to elicit details regarding use cases, work processes to be supported and priorities. Service requirements would include coverage taking note of in building(s) and external coverage, throughput, any latency requirements, operational management of the network, likely number of connected devices – the wireless technologies could cover public or private 4G/5G mobile services, Wi-Fi, satellite communications services, IoT services, PMR, Emergency Services communications and broadcast services.

For each of the wireless services being assessed we will develop high level architectures and determine whether the infrastructure requirements for these services can be co-located in order to simplify the wireless infrastructure requirements and potentially reduce deployment complexity, timescales and costs.

From this analysis we will then develop the options for the optimal wireless infrastructure strategy to support the service requirements. These options will depend on several factors:

- the area under examination i.e. a manufacturing site, an industrial or educational campus, a town or city, a rural area, a county or a nation
- the infrastructure options being considered i.e. new or existing sites, building rooftops, street furniture such as lampposts, CCTV poles and bus stops
- the backhaul requirements and the availability of suitable backhaul services – typically fibre, ethernet or wireless

These options will be presented to the client for further discussions and we will down select the options we have developed to two for each wireless technology being assessed.

We will then develop a framework to compare the two options, this framework will include the following:

- Typical deployment characteristics and infrastructure requirements for each wireless technology being analysed
- Options as to the architecture and deployment type that could be used for each wireless service e.g. macro sites, rooftops, street works sites or small cells for public or private cellular networks
- Pro and cons for the different options for architecture and deployment
- High level comparison of costs for the two options for each wireless technology
- Analysis where we are reviewing more than one wireless technology as to how combining the infrastructure being used to be shared across two or more wireless technologies could realise benefits such as minimising urban disruption, shortening deployment timescales, reducing street clutter, reducing costs covering both capex e.g. through minimising the number of separate

deployment works required or reducing the amount of equipment required and opex e.g. using one backhaul circuit rather than several

- Overall summary and recommendations – this will be contained in a report that we will present to the client

1.2 Deliverables

A report and presentation outlining the infrastructure options to deploy the wireless services being considered providing overall recommendations and rationale.

1.3 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.

1.3.1 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.

Typically this project would typically take around 3 months for one wireless technology, adding two months for each additional wireless technology to be assessed to develop an optimal wireless infrastructure strategy.

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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