Use Case Physical Trial Proposal

# Document Control

| Change History |
| --- |
| Version | Status | Date | Author / Editor | Details of Change*(brief detailed summary of all updates/changes)* |
| 1 | Live | 27/2/24 | M Smith | Version 1 Approved by the Delivery Board  |
| 2 | Live | 26/3/24 | M Smith | Version 2 Approved by the Delivery Board. Increased pass rate and  |

# Document Purpose and Application Process

The purpose of this document is to capture enough information about proposed Use Cases to enable a formal appraisal. The document will support the funding consideration and will be incorporated into the Grant Funding Agreement subject to approval. The application may be informed by the results of desktop assessments undertaken as a result of a successful Use Case Concept Proposal or may be submitted in isolation where the Use Case proposal is sufficiently developed.

Proposals can be submitted at any time to matt.smith@shropshire.gov.uk and appraisals will be conducted within 1 week of submission.

Appraisals will be conducted by the RSPAWIR Programme Management Office, Technical Design Authority and Sector Specific Working Group Lead.

Applicants may be asked to withdraw and resubmit their proposal based on the appraisal and in the event that additional information is required to form a recommendation. The clock will stop while additional information is gathered by the applicant.

Proposals that achieve a score of 75 or more and which do not obtain a “fail” mark in any section will be recommended for approval subject to budget.

The funding available is finite and ringfenced by sector.

Decisions on funding approval will be taken by the RSPAWIR Senior Responsible Owner following recommendation by the RSPAWIR Delivery Board and those decisions are final.

Unsuccessful Proposals are free to amend their Use Case and re-apply at any time.

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| **General Section**  |
| 1. Lead Organisation Name*If successful, this is the organisation through which the funding will be provided, which will employ any staff related to the proposal and procure any external services or equipment. It will be responsible for the Use Case through a Grant Funding Agreement with Shropshire Council and will be accountable for any deliverables therein.* |
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| 2. Company Number or Local Authority Reference |
|  |
| 3. Main Contact Name  |
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| 4. Main Contact @ and Telephone Number |
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| 5. To which Sector does this application relate? |
| [ ]  Water[ ]  Rural[ ]  Public Sector [ ]  Other Use Cases from ‘other’ sectors are not eligible for the RSPAWIR, however, they may be shared with other Innovation Regions subject to the applicant’s agreement |
| 6. May any other partner organisations benefit financially from the Use Case?*Please list all that are likely to benefit as it is understood at this stage of the proposal* |
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| 7. Are any other partner organisations otherwise involved in the proposal? |
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| Relevance Score applied by WGL.Score 5 - More than 3 Partners are involved. These Partners are embedded in the sector, are likely to add credibility to the Use Case and amplify the dissemination activity.Score 4 – 2 or 3 Partners are involved. These Partners are embedded in the sector, are likely to add credibility to the Use Case and amplify the dissemination activity.Score 3 - Only one Partner is involved and / or the partners are not from within the sector which may undermine the Use Case’s prospects of resonating with the sector.Score 0 - No Partners are involved.  |
| 8. Provide a Use Case Title and a brief explanation of the problem or opportunity this Use Case proposal is seeking to address and a high-level description of the Advanced Wireless Solution.*Please try to limit this response to c. 300 Words.**Consider phrasing as follows “Build a proof-of-concept system that:**•Tests if it is technically possible to ...* *•Validates that such system can be built and maintained …**•Supports commercial viability and wider adoption by …”* |
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| 9. How does this Use Case Proposal align to the RSP Vision and Objectives? |
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| **Technical Section** |
| 10. Which Advanced Wireless Technology does the Use Case proposal seek utilise? |
| [ ]  5G (Private Network)[ ]  5G (Commercial Network)[ ]  4G/LTE[ ]  Wi-Fi/Bluetooth/Zigbee[ ]  Satellite | [ ]  LoRoWAN[ ]  IoT Networks[ ]  FWA[ ]  Wireless Sensor Network[ ]  Others, e.g., V2X, UWB, Edge/Cloud etc. |
| Not Scored. However, the TDA may seek to challenge the relevance of the selected technology.The TDA should review whether the selection is the most appropriate given the needs of the Use Case and considering its impact on the potential for wider adoption in terms of affordability and availability. |
| 11. Has a location or locations been identified already? |
| [ ]  No [ ]  Yes  | If yes, please provide details |
|  |
| What permissions, if any, will be obtained to deliver the Use Case and how quickly can these be achieved? |
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| Deliverability Score applied by PMO.Score 5 - Can be deployed rapidly without risk to the RSPAWIR Programme.Score 3 - Some permissions may present a risk to delivery.Score 0 - Site Not Identified. |
| 12. If a location or some/all locations have not yet been selected, how will they be identified and what permissions will be required to deliver the Use Case? |
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| Deliverability Score applied by PMO only when the score for Q11 is zero.Score 3 - Can be deployed rapidly without risk to the RSPAWIR Programme.Score 1 - Some permissions may present a risk to delivery. |
| 13. Please outline the Technical Specification for the proposed Use Case*This should include the minimum infrastructure requirement necessary to prove the Use Case.*  |
| Connectivity*Include spectrum and whether the service is already available or needs to be developed.**Identify the network / connectivity requirements from application servers to existing infrastructure or the internet taking into account any existing servers.**Connectivity requirement between end devices on 5G / or another network e.g., Robot 1 needs to communicate to AGV1 Machine to network only.**Solution Latency requirement e.g., <100ms**Solution Bandwidth requirement UL and DL e.g.,12:5 Mbps* |  |
| Hardware / Devices *Will these be fixed or mobile?**Include links to model specifications if available and whether some or all of this equipment is already available to the Use Case or needs to be procured* |  |
| Software*Include software-defined platform, network monitoring and management tools, site survey, analytics, AI/ML etc.**State whether new human interfaces – voice recognition, AR/VR, conformable screens, neural interfaces will be used and explain the interoperability between hardware and software.* |  |
| Topology*Include a solution diagram and explain the physical configuration of the design and how this accounts for the requirements or limitations of the connectivity and hardware.* |  |
| Functionality*Explain how the hardware and software will operate via the connectivity and across the topology to deliver the Use Case.**Include licenses, hosting and support parameters (including whether these will be local or remote).*  |  |
| Security*Explain any measures that will be adopted to ensure the solution will be secure.**Consider the potential data management aspects (as in the following row), explain any measures on confidentiality/integrity/availability in guiding or proceeding with data security implementations.* |  |
| Data*Describe what data will be generated and how this will be tested and processed in line with GDPR if and where relevant.**Explain who will retain the IPR for any data generated and how it might be presented to a wider audience.* |  |
| Technical Score applied by TDA.The TDA may consult relevant technology partner specialists who may, thereafter, need to collaborate directly with the programme and/or the chosen ecosystem partners to provide further application benchmarking information. The TDAs advice and appraisal should focus on delivering the most affordable and scalable solution to increase the chances of widescale market adoption. Score 20 - The technology is already in situ and operational at the Use Case location. It is technically capable of supporting the Use Case as described.Score 20 - The technology is already in situ and operational in other locations or contexts. It is technically capable of supporting the Use Case as described.Score 16 - The technology/s as described have never been applied in this context before. There are risks, but it should be capable of supporting the Use Case.Score 10 - The technology/s as described should be capable of supporting the Use Case with some minor amendments (summarise the amendments and provide an explanation).Score 5 - The technology/s as described will only be capable of supporting the Use Case with some major amendments (summarise the amendments and provide an explanation).Fail - The technology is incapable of supporting the Use Case as described (provide an explanation why).The TDA should also provide commentary and suggestions for any improvements or optional alternatives. |
| 14. What is innovative about the proposed Use Case?*The innovation could reside in the approach to the Use Case or the Sector, Market or Setting application rather than the technical specification.* |
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| 15. What Technology Readiness Level best describes the technical solution proposed?  |
| [ ]  TRL 1 – basic principles observed.[ ]  TRL 2 – technology concept formulated.[ ]  TRL 3 – experimental proof of concept.[ ]  TRL 4 – technology validated in lab.[ ]  TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies).[ ]  TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies).[ ]  TRL 7 – system prototype demonstration in operational environment.[ ]  TRL 8 – system complete and qualified.[ ]  TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space. |
| 16. Please explain the justification for selection*This could include referencing similar deployments* |
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| Technical Score applied by TDA.The TDA will assess the TRL proposed and apply a Pass / Fail score with proposals not aligning to TRL 6-9 receiving a Fail. |

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| **Deployment Section** |
| 17. Assuming a funding decision is achieved within 2 weeks, what key milestones are necessary to achieve before the Use Case will become Operational and how long is it anticipated each Milestone will take to achieve? |
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| --- | --- | --- | --- |
| Milestone | Description  | Dependencies | Time to Achieve from previous milestone |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

*Please add as many Milestone rows as are necessary or, if you have the capability, refer to and attach a Gannt Chart to include milestones and deliverables.* |
| Deliverability Score applied by PMO and TDA.Score 10 - Can be deployed rapidly without risk to the RSPAWIR Programme.Score 6 - Some milestone dependencies may present a risk to delivery, but it is likely that the Use Case can be deployed without risk to the RSPAWIR Programme.Score 2 - The Use Case may not be operational in time to deliver results.Fail. The Use Case is unlikely to be operational in time to deliver results. |
| 18. Please outline any risks or issues that may impact on the successful deployment and operation of the Use Case and how these will be managed.This should include any procurement risks relating to the cost and / or availability of any specified equipment. |
|  |
| Deliverability Score applied by PMO and TDA (noting the relationship between Q17 & Q18).Score 5 - Can be deployed rapidly without risk to the RSPAWIR Programme.Score 3 - Some risks or issues may prevent the Use Case from being successfully delivered but these are manageable.Score 1 - The Use Case may not be operational in time to deliver results due to some major risks or issues.Fail. The Use Case is unlikely to be operational in time to deliver results due to excessive risks or issues that appear to be unmanageable. |

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| **Impact Section** |
| 19. What might the Use Case prove in terms of efficiency gains, cost or resource reductions and profitability? |
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| Relevance Score applied by WGL.Score 5 – The potential learning and impact of the Use Case would have wide-reaching implications for the sector.Score 3 - The potential learning and impact of the Use Case would resonate with a narrow range of interests in the sector.Fail - The potential learning and impact of the Use Case is unlikely to resonate with other interests in the sector. |
| 20. Are competitor / collaborator organizations undertaking any projects that may impact on or enhance the value and / or uniqueness of this project. |
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| Relevance Score applied by WGL and TDA (also considering the response to Q14 In the assessment)Score 5 - This project is unique.Score 5 - There are multiple of related initiatives taking place with synergies to the Use Case and which will add value to the learning.Score 3 - There is one related initiative taking place with synergies to the Use Case and which will add value to the learning.Score 0 - There are related initiatives taking place which appear to duplicate the Use Case and may detract from its impact. |
| 21. Assuming the impacts described in Q.19 are proven by the Use Case, will it be sustainable in its own right and what is the scope for wider adoption in the market?  |
|  |
| Relevance Score applied by WGL.Score 5 - The Use Case will be sustained commercially. It will be simple to replicate and is likely to be adopted more widely across the sector.Score 5 - The Use Case is time bound and doesn’t need to be sustained but, if successful, it will be simple to replicate and is likely to be adopted more widely across the sector.Score 3 - There is no clear path to sustainability for the Use Case given the costs or resources involved but other sector interests may begin to adopt the technology in different contexts as a result.Score 1 - The Use Case appears to be unsustainable given the costs or resources involved and those conditions also risk wider adoption.Fail - The Use Case is clearly unsustainable given the costs or resources involved and those conditions will mean wider adoption is not a realistic outcome. |
| 22. Please complete the expected benefits table below*In terms of Bespoke KPIs, consider the following.* * *Impacts on efficiency, costs, revenues or yields relating to the use case application and include a baseline where possible.*
* *Any training that will be required and if so, by how many people and whether any qualifications will be attained by Use Case participants.*
* *Any standards that will be developed as a result of the Use Case*
* *Any Patents that will be submitted as a result of the Use Case*
* *Research Outputs*
* *Special communications activities*
* *Number of Masters/PHD graduates offered opportunities to work on the Use Case*
* *Any spin offs that are likely; and*
* *Any collaborations with or between academic institutions or*
* *Any integration with external Big Data and AI activities.*
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| **5GIR Benefit ID** | **5GIR Objective** | **Benefit Name** | **Benefit Description** | **Measure** | **Use Case Proposal** |
| 5GIR 1 | Accelerate commercial investment | Alternative funding generated by the project | This includes any alternative funding generated by the project, and could include private funding or local authority budgets etc. | £ |  |
| 5GIR 2 | Drive economic growth | Firms from key sectors in the region who engage with the project | Number of firms from key sectors (public services, rural industries, advanced manufacturing, transport and logistics, creative industries, other) in the region who engage with the project. This could include attending workshops or dissemination events put on by the project. Please specify the companies, which sector they are part of and how they have engaged. | Number of companies |  |
| 5GIR 3 | Foster the emergent 5G ecosystem | Individual Use Cases | This should state at least 1 but total the full number of applications being deployed | Number of Use Cases |  |
| 5GIR 4 | Foster the emergent 5G ecosystem | Improved Connectivity | Measure of improved connectivity | Number of new private networks deployed |  |
| 5GIR 5 | Drive economic growth | Additional employment | Additional employment per use case deployed from each project | Number of new jobs |  |
| 5GIR 6 | Foster the emergent 5G ecosystem | Dissemination events | Number of dissemination events (e.g., workshops, demonstration days, presenting at conferences). Please give detail on the number of each type of event and who attended/engaged in the events | Number of events |  |
| 5GIR 7 | Foster the emergent 5G ecosystem | Networks continuing operation | Number of networks expected to continue operation at the end of the programme. | Number of networks |  |

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| Use Case Bespoke KPI | Description | Measure | Baseline  | Target |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

*Please add as many Bespoke KPI rows as are necessary to fully capture the likely impact of the Use Case.* |
| Benefits scored by PMO and WGL.Score 15 – Significant benefits will be accrued in more than 3 5GIR categories and Bespoke KPIs are included which will resonate with other sector actors.Score 10 – Significant benefits will be accrued in more than 1 5GIR category and Bespoke KPIs are included which will resonate with other sector actors.Score 5 – Significant benefits will be accrued in 1 5GIR category and Bespoke KPIs are included which will resonate with other sector actors.Score 2 – No or minimal benefits will be accrued in the 5GIR categories but Bespoke KPIs are included which will resonate with other sector actors.Score 0 - No or minimal benefits will be accrued in the 5GIR categories and if any Bespoke KPIs are included, they may not resonate with other sector actors.Fail - No or minimal benefits will be accrued in the 5GIR categories and any Bespoke KPIs that are included will not resonate with other sector actors |
| 23. To fully prove the Use Case, over what period and from when must the Use Case become Operational? |
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| Deliverability Score applied by PMO and WGL.Score 5 - Can be deployed in enough time to ensure the Use Case can be successfully delivered.Score 3 – There is a risk that the Use Case may not be operational in time to yield sufficient results.Score 1 - The Use Case may only deliver initial results before the end of the RSPAWIR programme ends. Fail - The Use Case is unlikely to be operational in time to deliver any meaningful results. |
| 24. Will the successful delivery of the Use Case move the technology or its application closer to market adoption?*Explain how a successful trial might lead towards wider adoption of viable products that are commercially sustainable (without grant funding) including how the 5G / AWC solution would be utilised within the business environment and what commercialization benefits it could bring.* |
|  |
| Relevance Score applied by WGL and TDAScore 5 - A successful trial will clearly move the Use Case closer to Market Adoption and this will be measurable against the TRL.Score 5 - A successful trial will clearly move the Use Case closer to Market Adoption and this will be measurable by the proof of viability and traceable through the sector.Score 3 - It is unclear how a successful trial will move the Use Case closer to Market Adoption despite the proof of viability, but it may be traceable.Fail - It is unclear how a successful trial will move the Use Case closer to Market Adoption. |

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| **Resources & Funding Section**Please refer to the list of ineligible cost items below when completing this section. |
| 25. Staffing - Project Management *What resources are in place to manage the Use Case. Are they FTE or PT and does the Post or Posts already exist? If they don’t exist, how will they be recruited and by when? If they do exist, what will happen to their post holders existing responsibilities.**Please also justify the level of project management resources in relation to the day-to-day operation of the Use Case* |
|  |
| Resources Score applied by PMO.Score 5 - The degree of resources is sufficient.Score 3 - The degree of resources is low but should be manageable. Fail - The degree of resources is insufficient in relation to the scale of the Use Case.Fail - The degree of resources aligned to the activity and requiring funding is in excess of the requirements of the Use Case as described. |
| 26. Staffing - Project Management Costs*Please only complete this section where salaries are being funded by the RSPAWIR. If the posts already exist and are not being charged to the Use Case, please explain how they are funded and to what value.**Include the fundable salary costs per role and the period over which the post/s will be funded.**Note: Existing externally funded posts are ineligible for RSPAWIR funding. If any posts are already funding, this must be disclosed.* |
|  |
| Resources Score applied by PMO.Score 10 - Existing salaries are not being charged and can be considered as matched funding.Score 5 - The salaries appear commensurate with the roles and will be clearly attributable to the Use Case Activities Score 3 - The salaries appear commensurate with the roles. There are risks that the RSPAWIR funding may be used to fund activities outside of the Use Case, but these have been addressed.Score 1 - The salaries do not appear commensurate with the roles and have not been justified but they will be clearly attributable to the Use Case Activities.Fail - The salaries appear commensurate with the roles. However, there are risks that the RSPAWIR funding may be used to fund activities outside of the Use Case and these have not been addressed. |
| 27. Please provide an overarching figure and justification for any On-Costs included in the project budget.  |
|  |
| Resources Score applied by PMO.Score 5 - The degree of On-Costs are well justified and commensurate with the project.Score 3 - The degree of On-Costs are not well justified but are commensurate with the project.Fail - The degree of on-costs are not well justified and are not commensurate with the project. |
| 28. Please itemise any equipment costs and explain how they have been estimated |
|  |
| Resources Score applied by TDA.Score 5 - There are no equipment costs included as no new equipment is required.Score 5 - The equipment costs are well researched and in line with expectations.Score 3 - The equipment costs are not well researched but are in line with expectations.Score 1 - The equipment costs are not well researched but are likely to be reduced through market testing.Fail - The equipment costs are not well researched and are likely to escalate significantly.Fail – The equipment costs do not relate to the technical solution as specified in Q13. |
| 29. Please itemise any software costs and explain how they have been estimated |
|  |
| Resources Score applied by TDA.Score 5 - There are no software costs included as no new software is required.Score 5 - The software costs are well researched and in line with expectations.Score 3 - The software costs are not well researched but are in line with expectations.Score 1 - The software costs are not well researched but are likely to be reduced through market testing.Fail - The software costs are not well researched and are likely to escalate significantly.Fail - The software costs do not relate to the technical solution as specified in Q13. |
| 30. Please itemise any licence and rental costs and explain how they have been estimated  |
|  |
| Resources Score applied by TDA.Score 5 - There are no licence and/or rental costs included as they are not required.Score 5 - The licence and rental costs are well researched and in line with expectations.Score 3 - The licence and rental costs are not well researched but are in line with expectations.Score 1 - The licence and rental costs are not well researched but are likely to be reduced through market testing.Fail - The licence and rental costs are not well researched and are likely to escalate significantly.Fail - The licence and rental costs do not relate to the technical solution as specified in Q13. |
| Total Cost | £ |
| Value of any Match Funding in relation to any of the above costs. *Please note this is not a formal requirement and is not scored.* | £ |
| Total requested from the RSPAWIR | £ |

**Ineligible Expenditure**

The following costs are not Eligible Expenditure:

1. Payments that support lobbying or activity intended to influence or attempt to influence Parliament, Government or political parties, or attempting to influence the awarding or renewal of contracts and grants or attempting to influence legislative or regulatory action.

2. Using grant funding to petition for additional funding.

3. Input VAT reclaimable from HMRC.

4. Payments for activities of a political or exclusively religious nature.

5. Goods or services where there is a statutory duty to provide them.

6. Payments reimbursed or to be reimbursed by other public or private sector grants.

7. Contributions in kind (i.e. a contribution in goods or services, as opposed to money).

8. Depreciation, amortisation or impairment of fixed assets.

9. Interest payments (including service charge payments for finance leases).

10. Gifts to individuals.

11. Entertaining (entertaining for this purpose means anything that would be a taxable benefit to the person being entertained, according to current UK tax regulations).

12. Statutory fines, criminal fines or penalties.

13. Use in respect of costs reimbursed or to be reimbursed by funding from any other source.

14. Use to cover interest payments (including service charge payments for finance leases).

15. Products or services provided by High Risk Vendors, as defined by NCSC advice on the use of equipment from high risk vendors in UK telecoms networks. The Authority understands that, in the case of Mobile Network Operators with existing HRV equipment in their networks, these networks may reasonably be used to provide network services. However, Grant must not be used to buy additional equipment or services from HRVs.

16. Any procurement, commercial, business development or supply chain activity with any Russian and Belarusian entity through onward granting, supplier or subcontractor arrangements. This includes any goods or services originating from a Russian or Belarusian source.