S3 WIRELESS ICT PARTNERSHIP

Project idea

- Develop, implement, test, demonstrate new technologies that are explicitly tailored to improving cellular coverage/connectivity in rural and remote regions

- Project based on (selected ideas from) recently submitted and rejected EU H2020-ICT-52 proposal "Building Broadband Bridges" (with stakeholders from three regions in S3 wireless ICT partnership)

- Address scenarios and regimes where characterized by
  - ***absence of a reliable, ubiquitous electricity grid***. Low reliability or grid penetration renders high costs of new network deployments, that prohibits full rural connectivity;
  - ***absence of a reliable, ubiquitous high-capacity data backhaul.*** Low penetration of fibre or unreliable, fixed Internet infrastructure poses severe backhaul challenges for the deployment of new base stations.

Project goals

"Develop adaptive, energy-aware technologies and network-operation models that, when properly integrated, enable beyond-5G, full-coverage, rural mobile networks of urban quality, based on terrestrial architectures that incorporate ultra-large-cell base stations on one hand, and local energy-autonomous rural network nodes on the other."

Technology and innovation directions tailored to rural scenarios:

- Energy-harvesting, energy-autonomous base station technologies
- High-tower, high-power, and large-antenna base station technologies
- Edge-cashing and edge-computing technologies
- Business models, operator models, regulatory models for rural regime

What we need is…

- Engagement and innovations from large and small companies

- Engagement from regional stakeholders

- A collective unifying need description across the participating regions

- A common agreed set of technologies to be developed, tested and demonstrated