WHP Telecoms Challenges For Rural Deployment Rural Spectrum Use Case

18 October 2021





Rural Deployment – The Challenges

Physical Access

- The last 5% i.e. the most remote locations
- Islands off islands
- Resources and logistics

Land Ownership

- Complex multi party agreements
- E.g. crofting sites in Scotland

The Electronic Communications Code

- To speed up and reduce cost of deployment
- More open and constructive discussion
- Total cost of ownership has gone through the roof (temporary?)

Local Authority Planning

- Applying National guidance at a local level
- Still too arbitrary development should prevail where planning argument is won
- Finding local champions
- Pixels vs Premises the justification challenge

Backhaul

- Fibre Distance and cost
- Microwave Distance and geography

Power To Site

- DNO Connections Capacity, distance and cost
- Off Grid Solutions Improving with challenges



Rural Deployment – Key Drivers

Experience

• Let experience drive every aspect of crafting the most appropriate solution for every site

Innovation

• Innovation by itself is not the solution

Engagement

• Involve as many relevant stakeholders as possible as early as possible

Communication

Keep all stakeholders informed at every stage



Agri Tech Use Cases – Market Engagement

Industry & Regulation

Industry and regulatory bodies pushing for **progress and innovation**

Universities, Colleges, Estates, Farmers

Currently in a state of "quasi-autonomy". Investment in machinery that works autonomously continues at pace. Innovative solutions require resilient and robust networks **now** to move to full autonomy.

Farmers already investing millions of pounds in machinery with funding available for investment in private networks to support full autonomy.

Equipment Manufacturers and MNOs

Radio solutions arriving for 5G. MNO Investment in macro and small cells networks focused on urban areas.

Spectrum

- Support for wider area (rural)/higher capacity private networks.
- Agile spectrum exchange real time visibility of spectrum by geography/availability.
- Spectrum sharing.
- Use it or lose it clauses.



Agri Tech Opportunity



	and the second
MAIN BUILDINGS/TEACHING Main Building (Reception)	Agricultural Centre for Sustainable Energy ACSES Pilot Plant
Aspire Centre (Short Courses & Conferences Reception)	SystemsA-Block Teaching Rooms
North West Rulidian	
Skills Training Centre	B-Block Teaching Rooms Frank Parkinson Farm Edu
Regional Food Academy	Centre / Frontier Crops Ce
The Weston Building	3 Veterinary Education Cent
Destace tests F. Desfeesinged	SPORTS AND LEISURE
Postgreduate & Professional Development Centre	All-weather Sports Pitch
Jubilee Adams	(35) Main Rugby Pitch
Agricultural Engineering Innovation Centre	36 Rugby/Gaelic Football Pitc
Applied Engineering Facilities	37 Rugby/Training Pitch
Princess Margaret Building - Science Laboratories	38 Harris Football Pitch 39 Barryard Football Pitches
Elizabeth Creak Laboratories	Main Bar and Welly Inn
Foulkes Crowther Building (TG/ TF)	41 Sports Hall
Bamford Library and Engineering Design Centre	A Multi-gym
	43 Squesh Courts
Feccende (Student Centre)	Outdoor Swimming Pool
Queen Mother Hall (QMH)	45 Multi-use Games Area MU
Veterinery Services Centre	Cricket Pitch
Jean Jackson Entomology Building	Bowling Green
Companion Animal House	

	FARM
g	Erm Seminar Room
Č.	O Pig Unit
	💷 Beef and Sheep Unit
acetion Centre	5 Dairy Call Hutches
itre	52 Farm Records and Information
	5 Dairy Unit
	C Youngstock Building
	55 Agri-EPI Precision Deiry
ch	Commercial Poultry
	OTHER FACILITIES
	Deultry Broiler Research
0	O Poultry Climate Research
	C-Block (Linden Hell GP Surgery
	Crop & Environment Research Centre (CERC) / Jean Jackson Glasshouse
	Estates Department
	Laundry Building
UGA	Porters' Lodge
	Energy Centre, Biomass Boller and CHP
	Off-Road Demonstration Track

Agri Tech Test Site

Agri Tech Hub



Agri Tech Opportunity



Hands free Farm Ya

St Peter's Church of England Controlled...-

St Peter's Church, Edgmond

Edgmon



Agri Tech Opportunity – Predicted Coverage



