



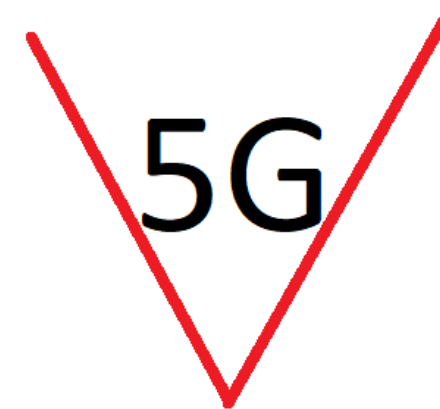
CELTIC-NEXT Event

20th June 2019, Valencia



Pitch of the Project Proposal

5G Vehicles



John Cosmas, Brunel University
john.cosmas@brunel.ac.uk

Visible Light and mmWave for Trains/Planes/Cars



1 slide:

What is the main benefit of the idea/proposal? Based on existing home 5G network

What makes the added value? 5G within Vehicles and with Infrastructure

Why should I participate in the project? Need for

Train/Plane/Car infrastructure integrator

TrainStation/Airport/Road Infrastructure operator

VLC/mmWave component manufacturer

Smart Phone manufacturer

Light system manufacturer

5G Core Network Provider

Organisation Profile

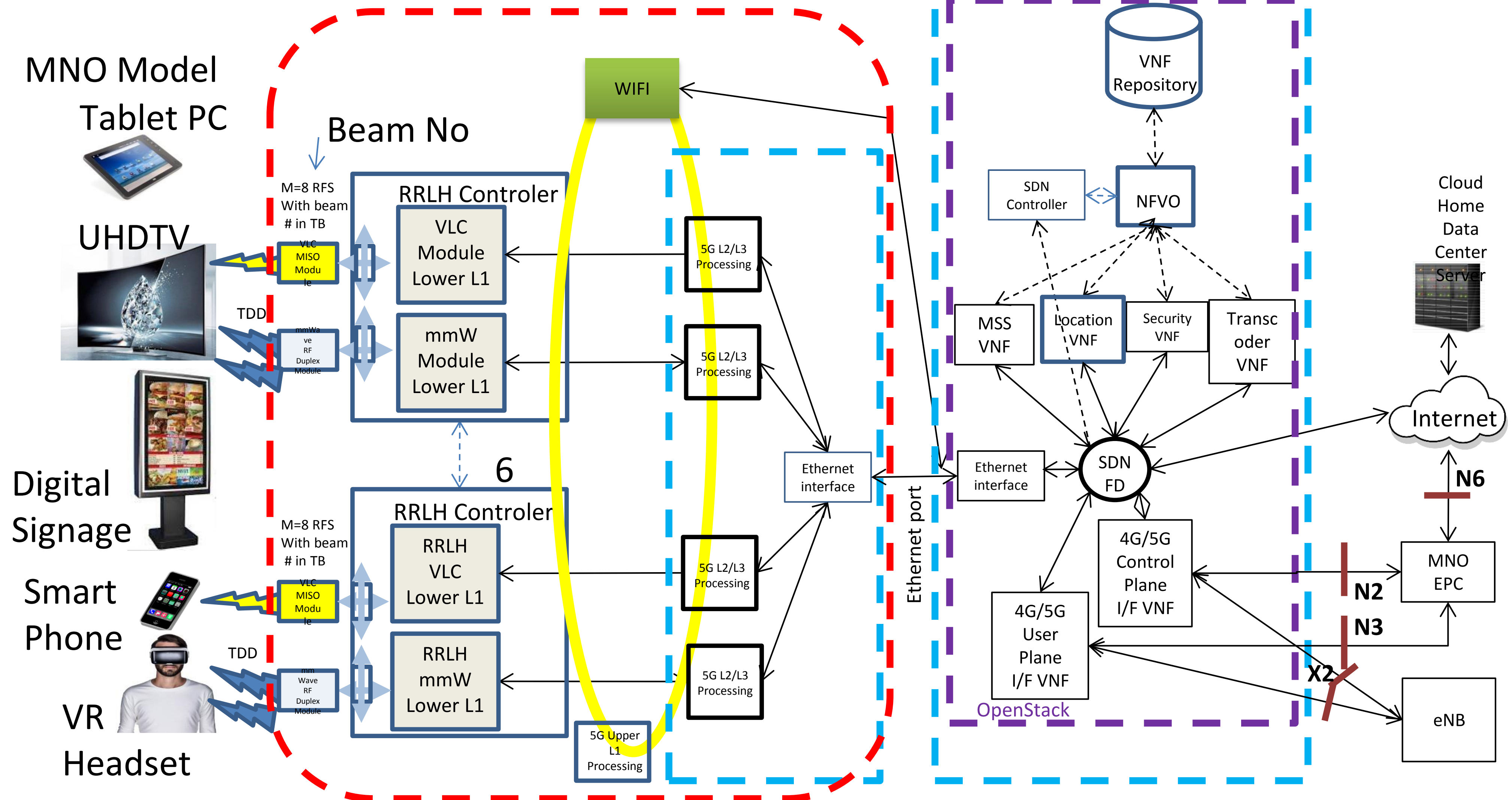


Viavi Solutions, Test Equipment manufacturer - 5G Physical Layer solution provider

University of Leicester, Electronic Engineering Department – 5G L1/L2 Protocol Layer Development

Brunel University, Electronic Engineering Department - L3 Protocol, NFV/SDN and /Application Layer Development

Proposal Introduction (1)



Proposal Introduction (2)

- **expected outcomes**

- **Moving wireless backhaul (P2P) optimized for train**

- Backhaul link : mmWave (Giga bps level)
- Inside vehicle: 5G small cell using 40/60 GHz or VLC

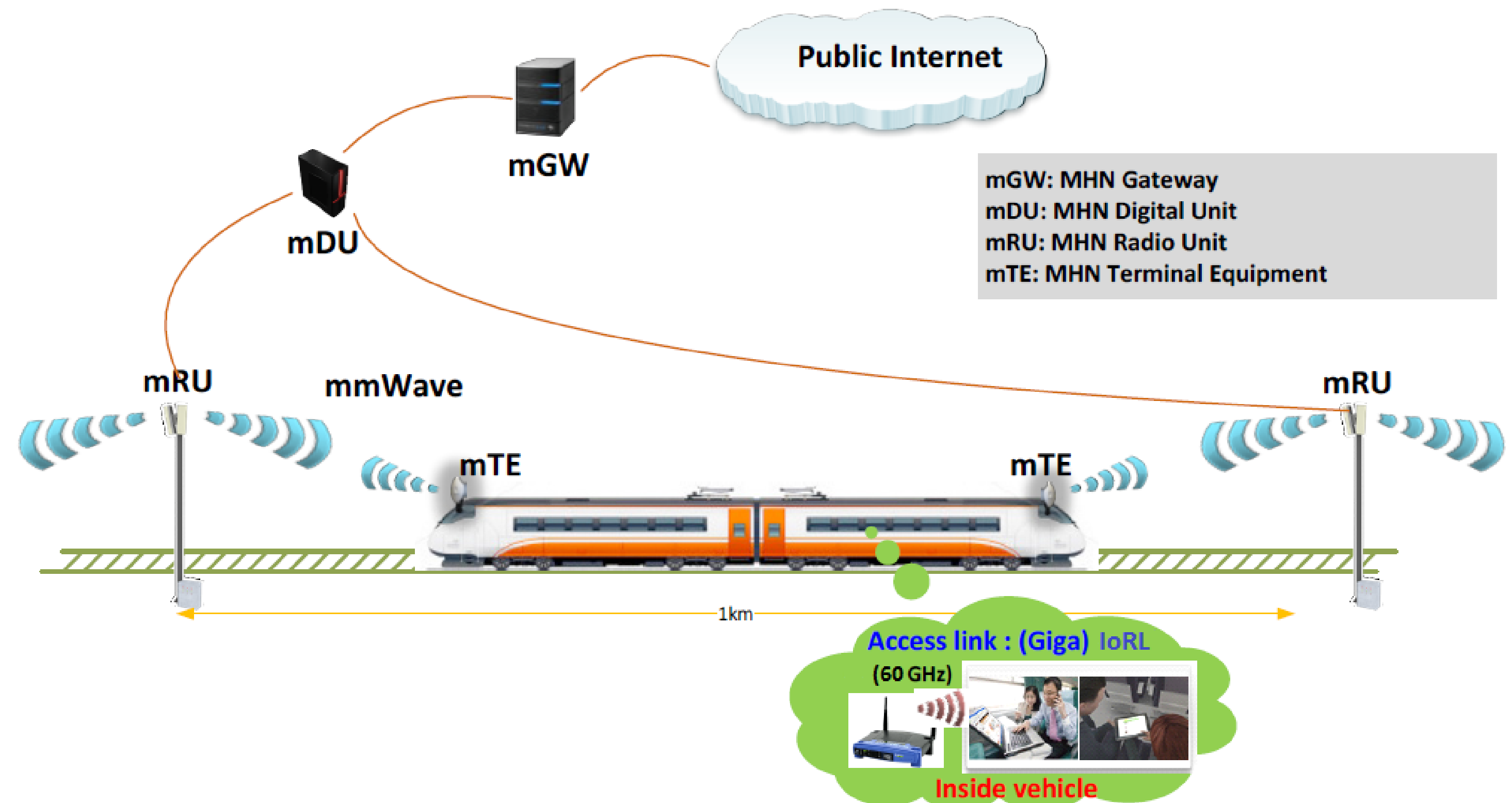
- **Motivation impacts**

- Provide ultra-high data rate to users on board train through intra-carriage IoRL

- **Schedule typical project duration 36 month**

- Year 1: Design
- Year 2: Implementation
- Year 3: Demonstration

expected outcome: for trains, planes or cars



15 August 2019

Partners



Existing consortium

Viavi Solutions - 5G Physical Layer solution provider

University of Leicester – 5G L1/L2 Protocol Layer Development

Brunel University - NFV/SDN and /Application Layer Development

Fraunhofer – mmWave modules

Runel – Scalable 5G Layer 1

ISEP – Visible Light modules

Zodiac – Aircraft Systems provider

Involved countries: Uk, France, Germany, Israel,

Expertise, profiles and types of partners you are looking for:

Train/Plane/Car infrastructure integrator

TrainStation/Airport/Road Infrastructure operator

VLC/mmWave component manufacturer

Smart Phone manufacturer

Light system manufacturer

5G Core Network Provider

Contact Info

For more information and for interest to participate please contact:

John Cosmas
john.cosmas@brunel.ac.uk
Tel: 07908 151859
Brunel University



Presentation available via:

email application