5G Cal Overview Including SASMI

5G CAL CONNECTED AUTOMATED LOGISTICS

£4.9m 5G Create Project

- 5G Infrastructure
- 5G CAL system
- Teleoperation
- Autonomous Mule
- Autonomous 40 tonne HGV
- Telecoms and Cyber Security

A catalyst to develop a UK CAL testbed in the NE!

NORTH EAST AUTOMOTIVE ALLIANCE
CATAPULT Connected Places
Coventry University
Newcastle University
perform green
STREETDRONE
Sunderland City Council

SUPPORTED BY

NISSAN
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ZENZIC SELF-DRIVING REVOLUTION
Department for Culture Media & Sport
Fergusons Transport
TERBERG DTS UK
Department for Transport

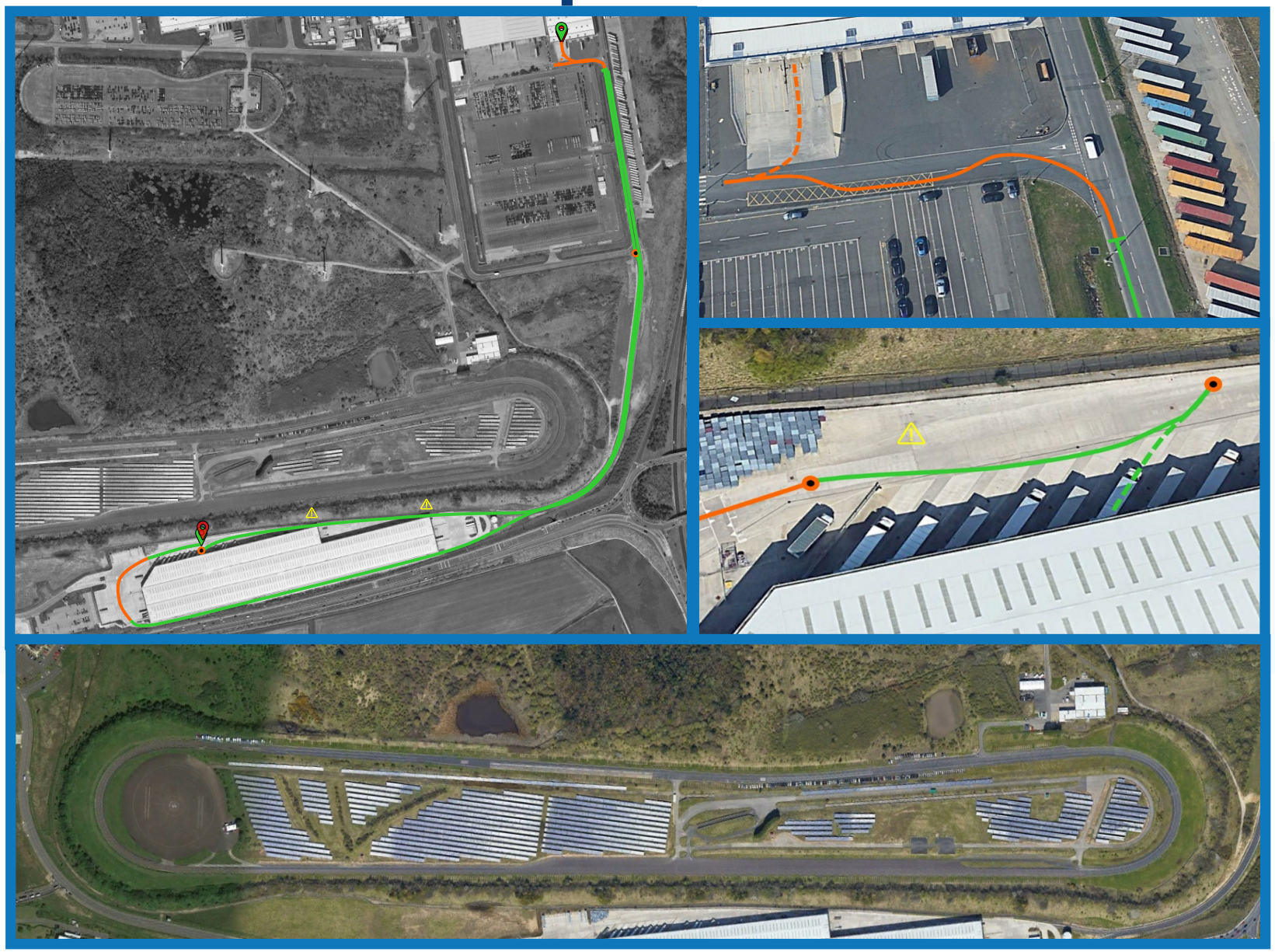
5G CAL - Overview

- The initiative will take 5G enabled connected and automated logistics solutions out of the testbed into an operational manufacturing environment.
- The 5G CAL project is led by the North East Automotive Alliance and backed by the Department for Digital, Culture, Media & Sport and eleven regional public and private funders.
- The £4.9million project will look at 5G's ability to boost productivity through a proof of concept in the use of autonomous 40-tonne truck at the Nissan factory in Sunderland and provide findings for future uses of 5G CAL across the country.
- The 5G CAL initiative will demonstrate how 5G can drive forwards the deployment of Connected Autonomous Vehicles, with focus on remote/teleoperation
- The 5G CAL initiative will establish a technology subset that makes commercial deployments of autonomous vehicles in logistics a viable means to increase efficiency in the near term.
- 5G CAL will hold operational and functional safety paramount, with learning around how open-source autonomous driving can lower barriers to entry

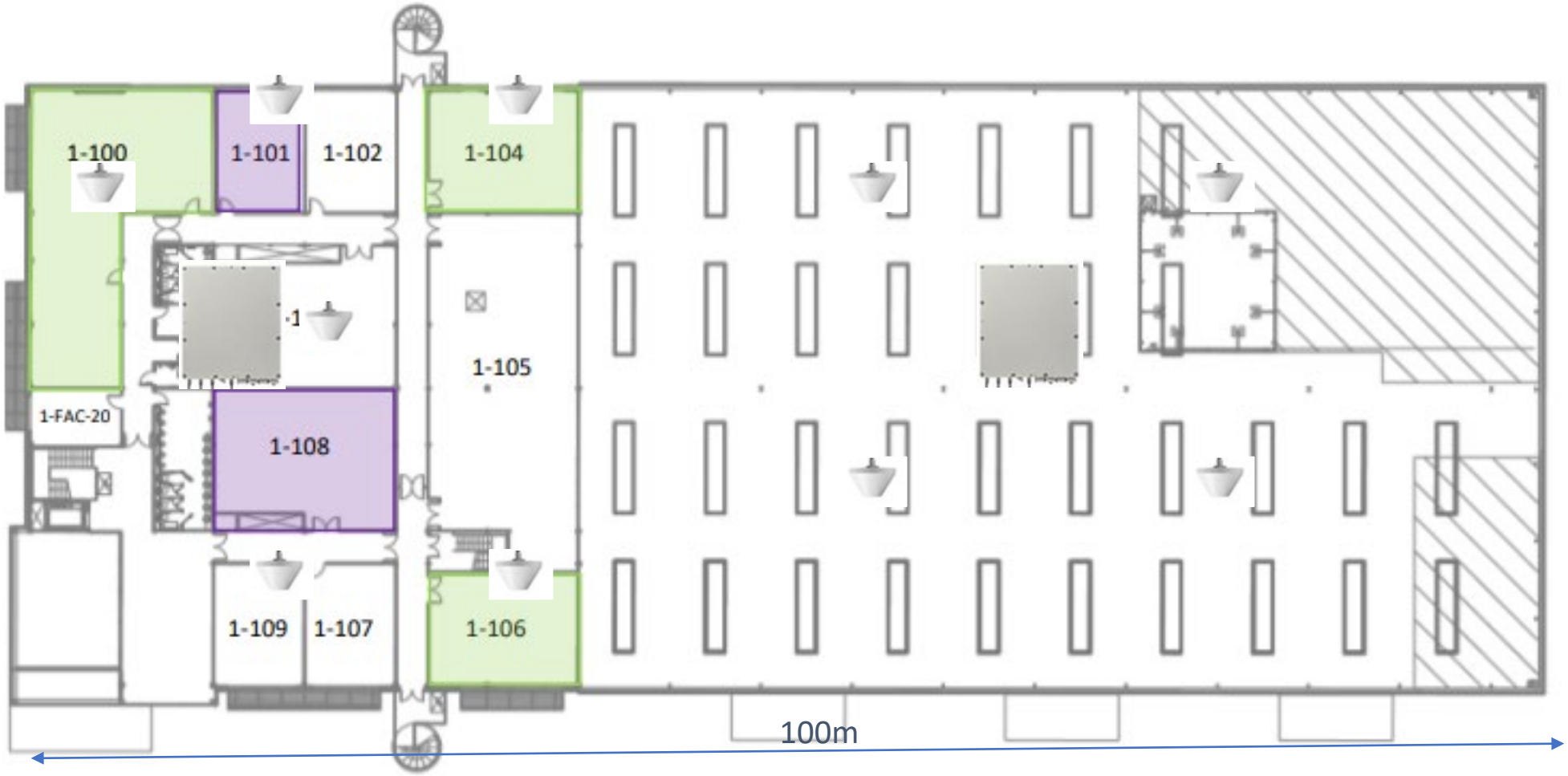
Technical Update

- Taking sensor Information from the EV – combining with route information to trigger alarms
    - ‘failures be identified – sensors on brakes etc.
    - Alarm relayed to teleoperator who can remotely ‘drive’ the vehicle
    - Traveling from Vantec loading bay to Nissan loading bay
  - Performance expect at>500Mbps Down Link 180Mbps Uplink 10Gbps Backhaul Sub 4MS (per channel)
  - HGV to infrastructure – coordinating with external sensors / actuators to trigger alarms
    - Initially linking to teleoperator
    - Control of Traffic Lights etc
  - Use Case 4 Driving the Electric Revolution leading use case development

Workstream Updates – Autonomous



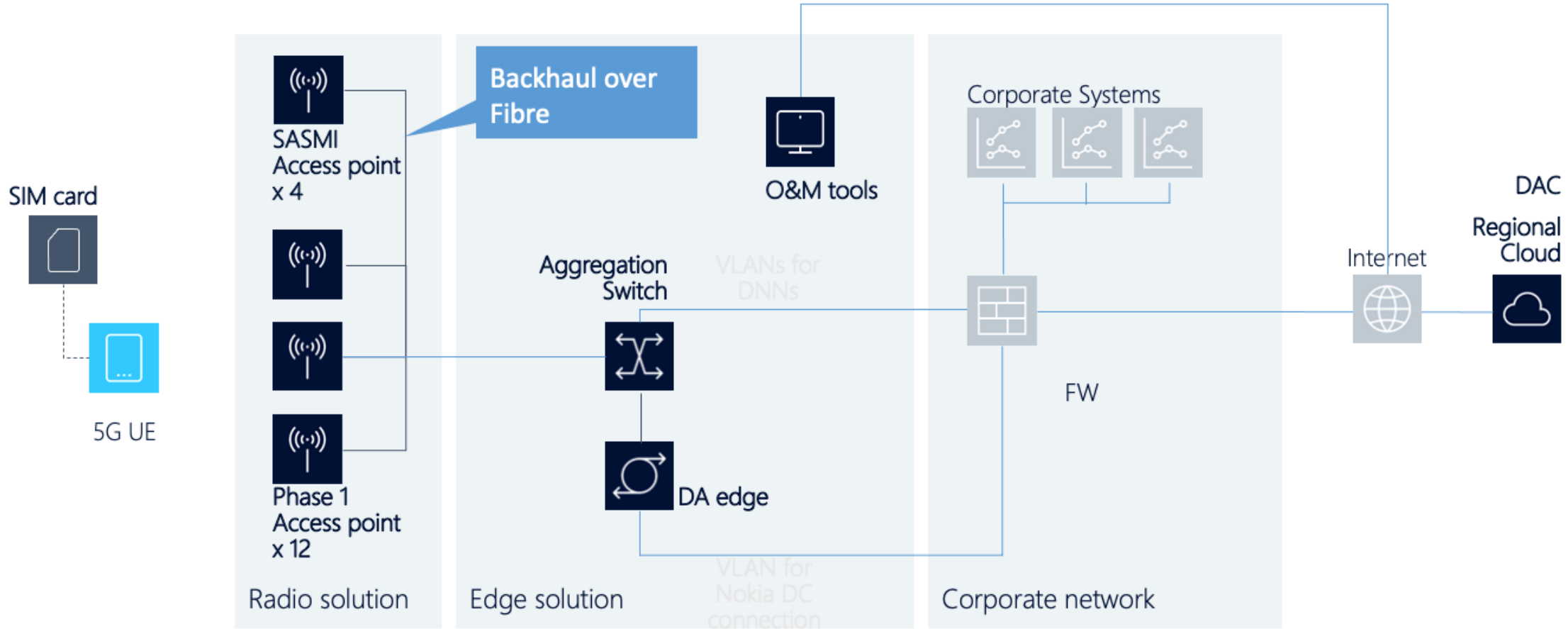
DER 1st Floor – Use Case 4 x 2 RRH and 10 Antenna locations for Driving the Electric Revolution Newcastle University and NEAA



NOKIA

HLD for SASMI

Fiber link between SASMI & 5G CAL Network Connecting in at Test Track



Thank you!

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