

Intelligence in the Smart Grid

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3 Questions

- What do today's smart meters look like?
- What do tomorrow's intelligent devices look like?
- How do these intelligent devices fit into the future energy system?

Decentralisation requires grid edge intelligence

Traditional power grid



Decentralised power grid



Gavin

Smart Metering: For the consumer, for the grid



- 53m meters being rolled out across GB
- 100% coverage of Great Britain
- The most secure smart meter system in the world
- Smart grid ready
- Fast, secure switching
- Prepayment ready
- Open standards-based
- 3m SMETS1 installed
- 1.3m SMETS2 installed and rising fast
- Millions of messages per day
- System stabilising and scaling



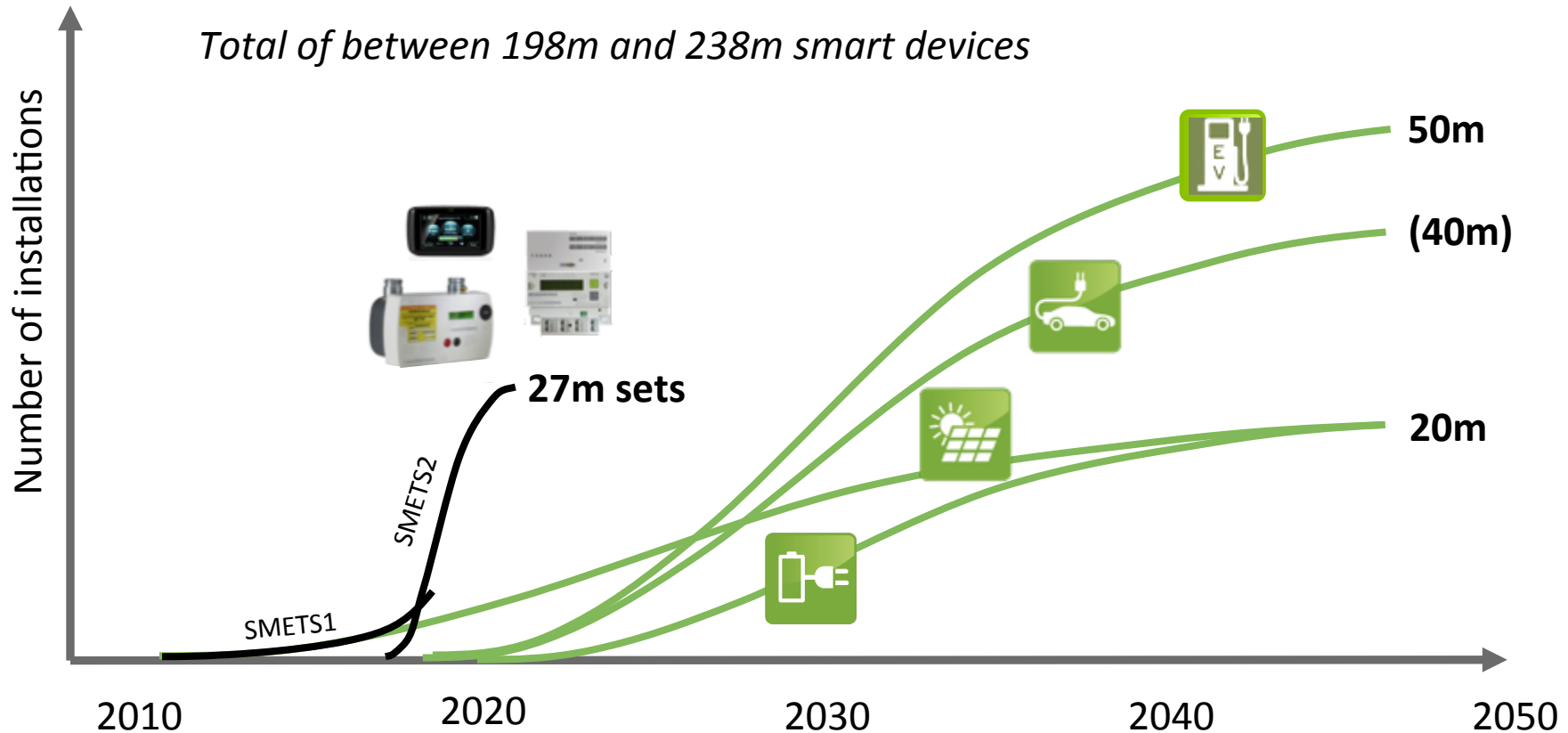
Smart charging with intelligent devices



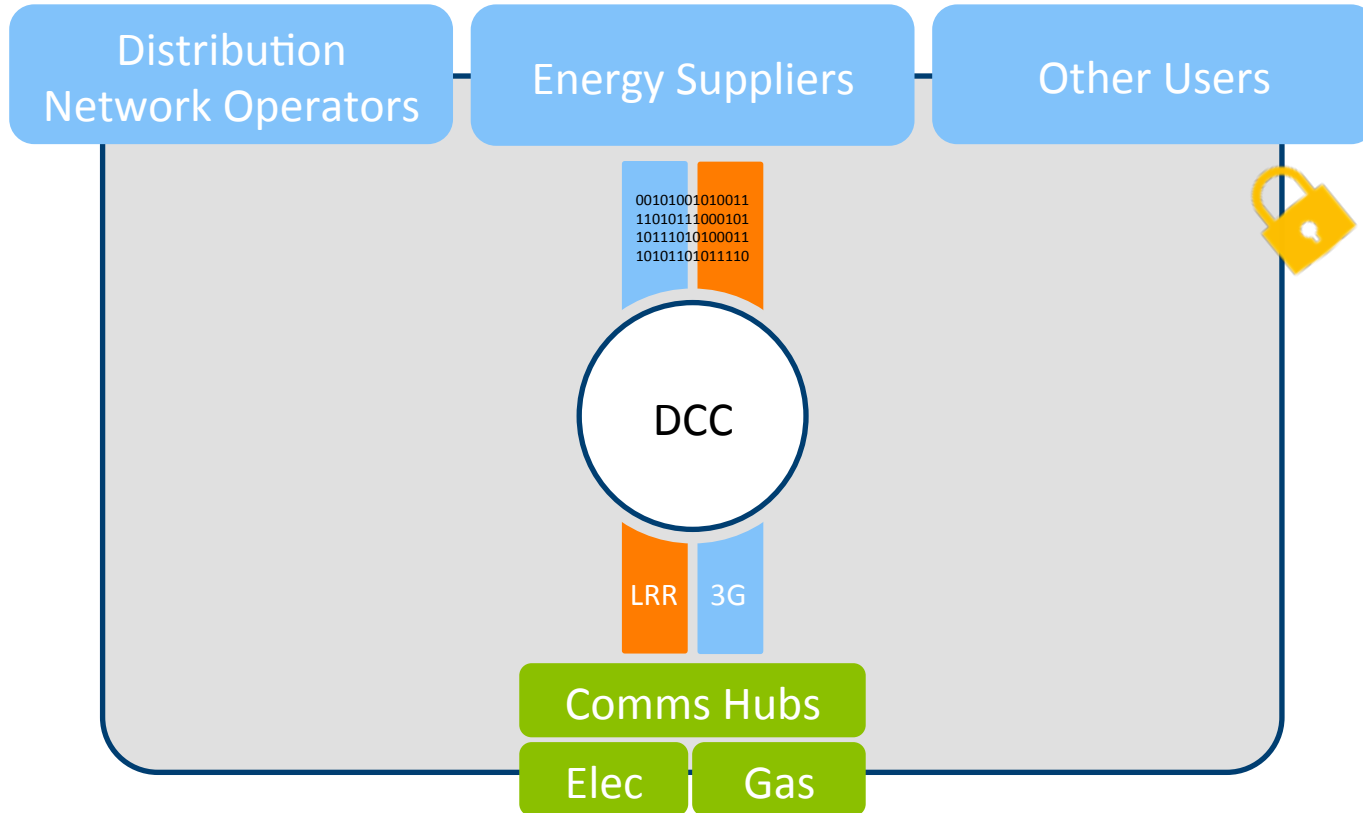
Microgeneration with intelligent devices



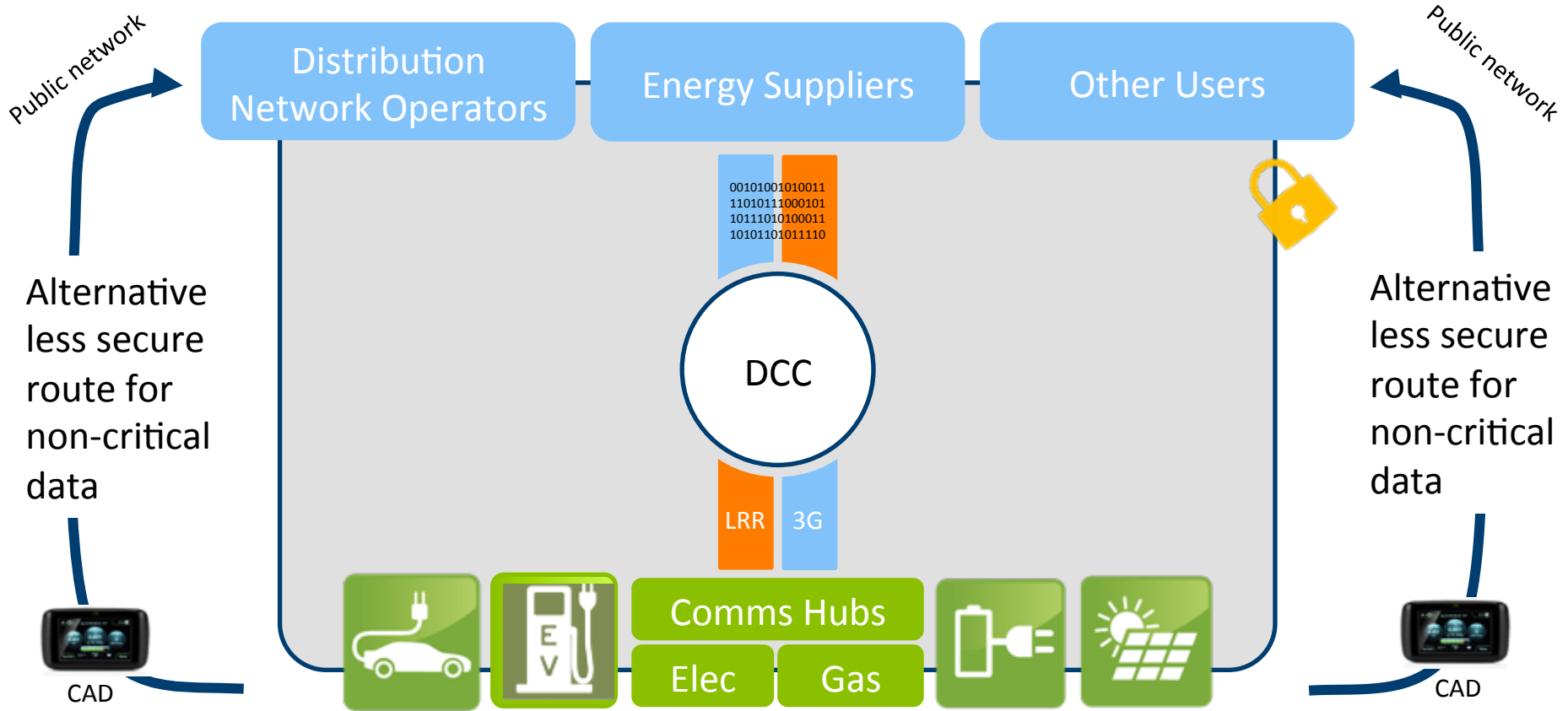
Growth of intelligent devices in the UK



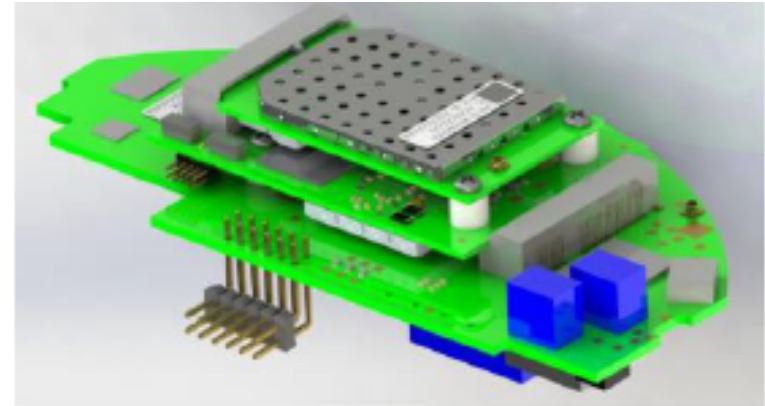
The GB Smart Meter System: SMETS2



The future energy system: Grid edge intelligence



- Smart meter 'on a chip'
- Plug-in module for secure, smart connectivity to DCC
- Integrates into EVs, smart chargers, solar PV and home batteries
- SMETS2-ready
- Cost-effective



How do we proceed?

- UK has invested in a smart meter system which is:
 - Secure
 - Capable
 - Scalable

- We need to build on this secure platform...

- ...to bring the future energy system to life