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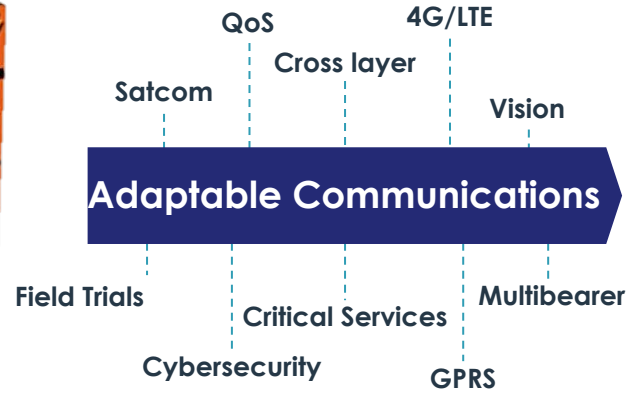
Lorraine **DURIEUX**

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**Achieve
Remote Supervision
& Control through
Adaptable
Communications.**

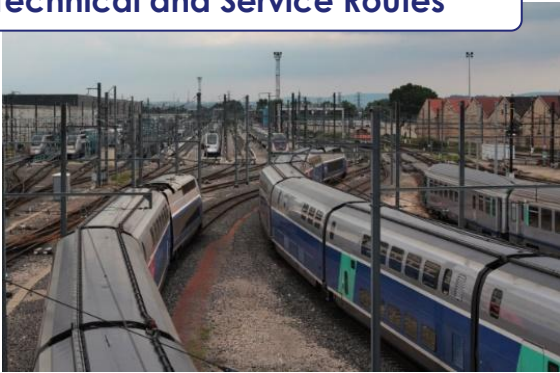
From ambition to reality



We made it come true !

Towards the future of Railways

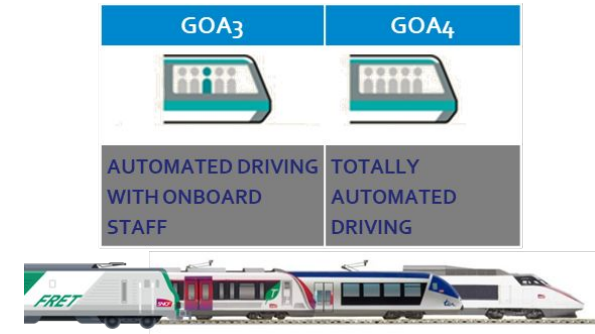
Technical and Service Routes



Freight Service Tracks



ATO fallback mode



Remote Supervision & Control is key to the digitalisation of Railways operations.

Paving the way to Remote Supervision & Control

TC-Rail

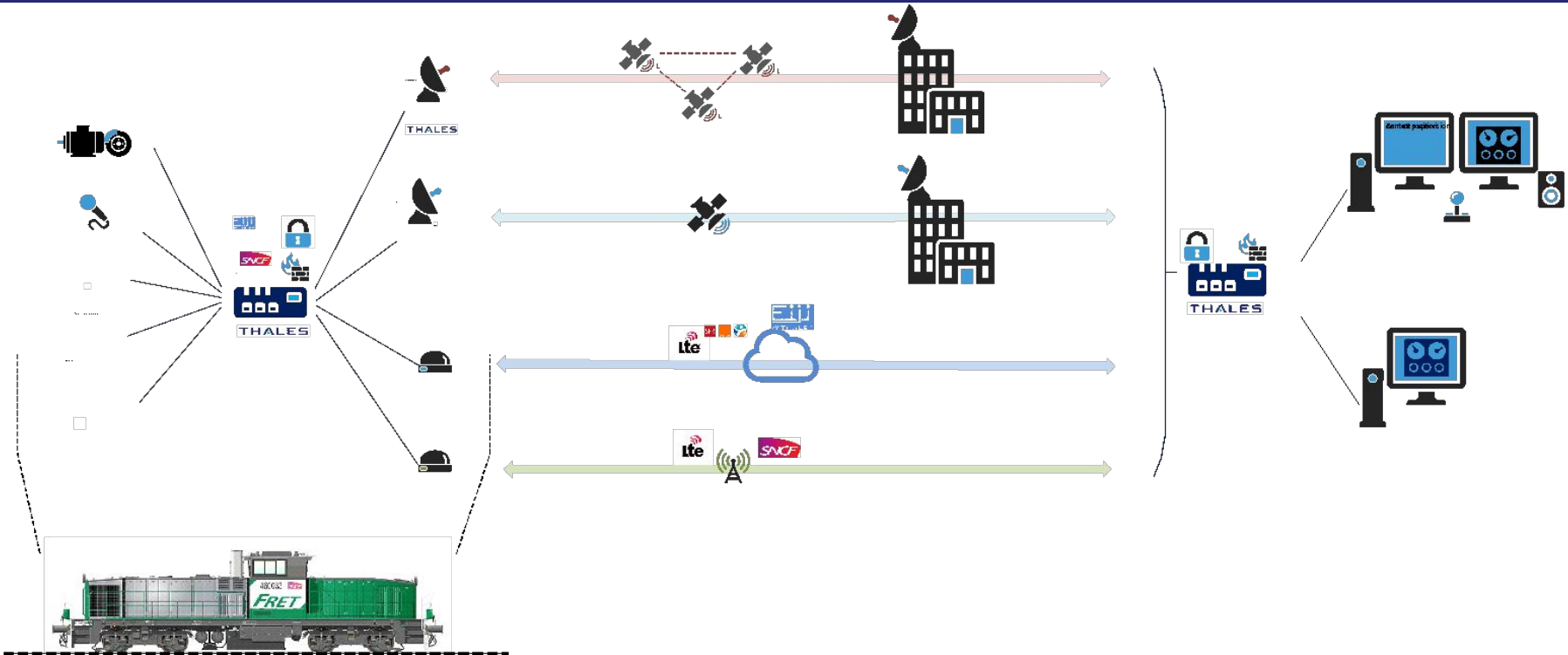
THALES
Building a future we can all trust

Operate a freight convoy from a remote site, with globally at least equivalent safety level to the one obtained with a driver in the cab.



Thales validated Adaptable Communications relying on terrestrial and satellite technologies for secured Remote Supervision & Control.

From the architecture ...



A Remote Supervision & Control system operating on a full-featured train-to-ground Adaptable Communications system.

...to real-life field trials.

- Private LTE & public LTE on a main rail track (up to 70km)
- Public LTE & GEO Satcom on a single rail track
- LEO Satcom on rail service track



3 Remote Supervision & Control demonstration environments
over 15+ field trials campaigns.

Successful remote control of a freight train on a commercial line

- 65km/h on private & public 4G/LTE
- 15km/h on Satcom LEO
- ~10km/h over GPRS



Adaptable Communications, smart bearer management & communication/application cross-layer signalling are fully relevant for operational Remote Supervision & Control.

Looking forward...

- Service-driven adaptable communications
- 3D Networks for ubiquitous service availability
- Dynamic Public / Private connectivity



**Thales' Adaptable Communications solutions:
cutting-edge enablers for Railways digitalised services.**

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THANK YOU

ANY QUESTIONS
PLEASE CONTACT US



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