



Infoshare: Backscattering based sensing technologies

Equipment and Use Cases

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GÉANT GN5-2-WP6T1-FS

Infoshare

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Public (PU)

GN5-2

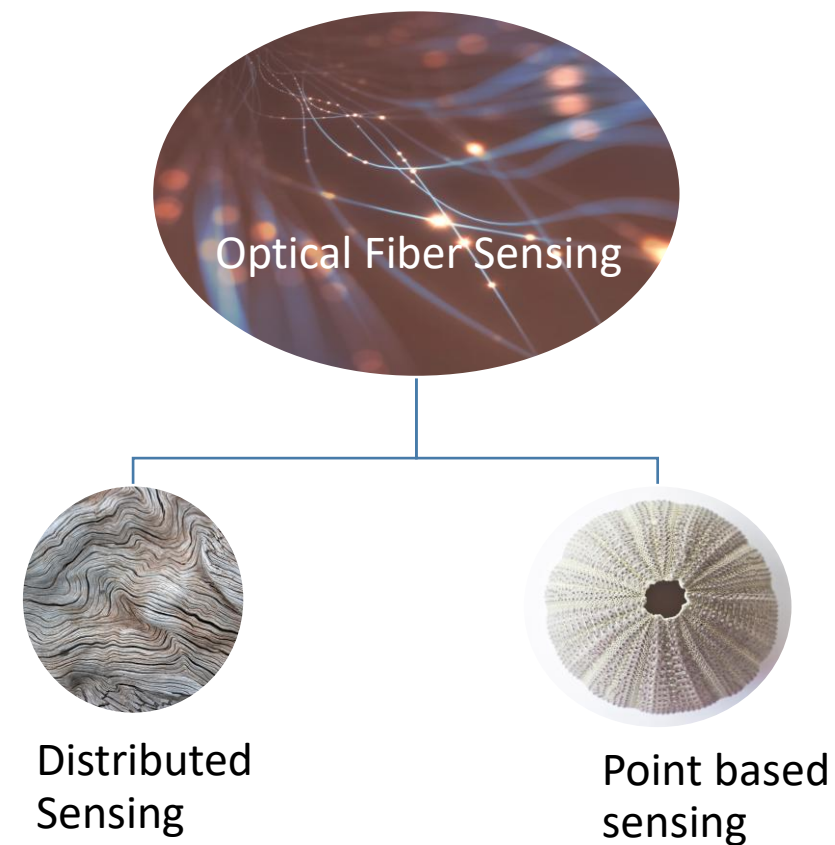
Agenda

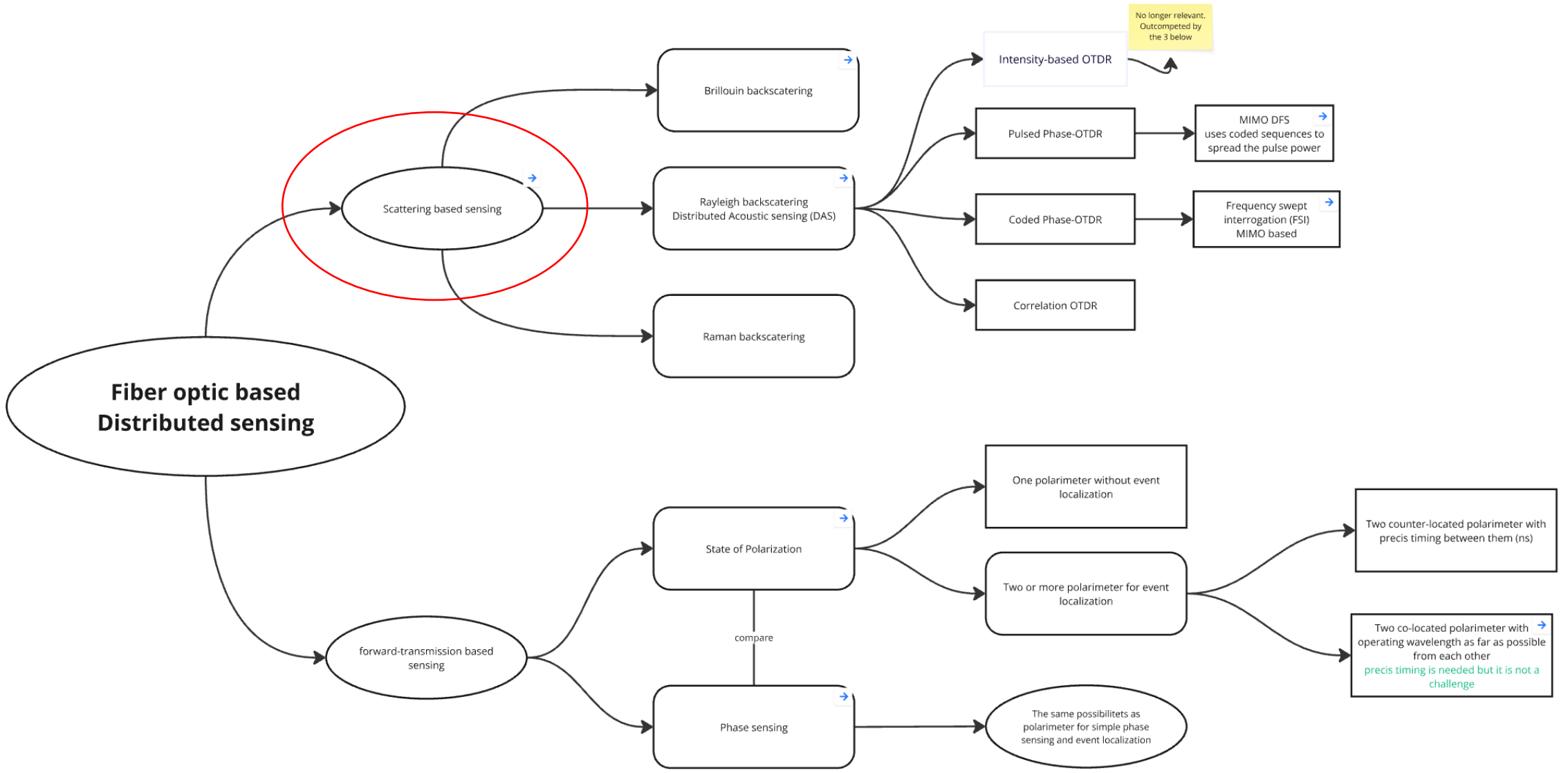


- 14:05 → 14:30 FEBUS Optics
 - Alex Chedid (PhD, DAS Product Lead),
Pierre Clément (PhD, DSTS Product
Lead), Victor Servette (Business
Manager Europe)
- 14:30 → 14:55 Alcatel Submarine
Networks Norway¶
 - Jan Kristoffer Brenne (R&D Manager)
- 14:55 → 15:20 fibrisTerre Systems¶
 - Nils Nöther (Director)
- 15:20 → 15:45 Aragon Photonics Lab
 - Javier Preciado (R&D Team lead)
- 15:45 → 16:00 Q&A

Optical Fiber sensing

- Point based sensing: discrete sensors measuring at pre-determined points (exist for decades)
 - A widely used device for that is “Fiber Bragg Grating”
 - Smart cables (new submarine cables with integrated sensing devices)
- Distributed sensing utilizes the optical fiber to enable simultaneous measurements at multiple locations along the fiber
 - widely based on Scattering properties of the light
 - State Of Polarization
 - Phase Interferometry





A graphic consisting of two thick, curved lines that cross each other. The top line is dark blue and the bottom line is red. They form a shape reminiscent of a stylized infinity symbol or a speech bubble.

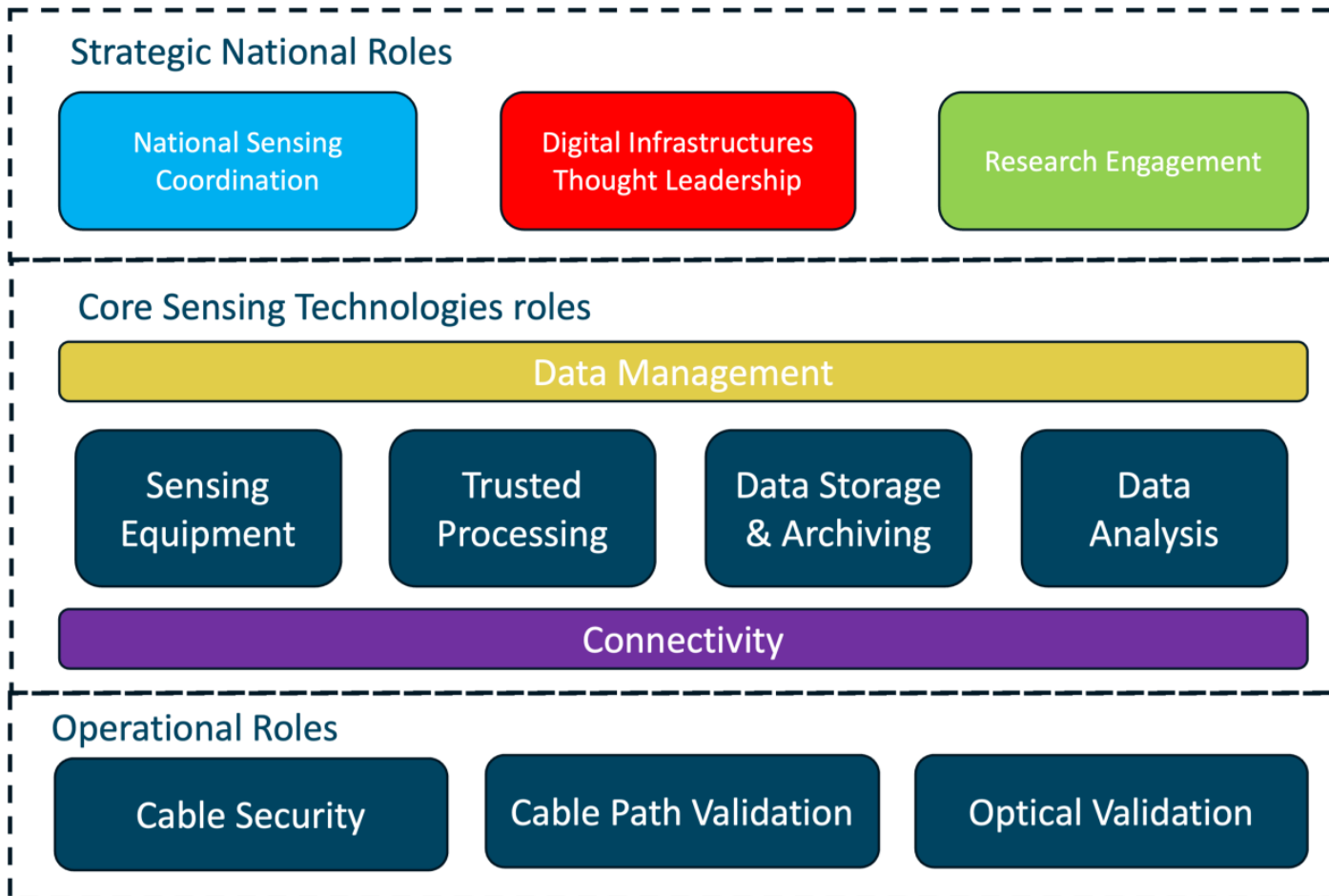
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WP6 T1 Fibre Sensing

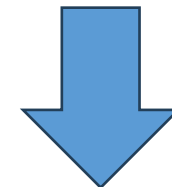
Ensuring NRENs are in a position to support this new field



2024 – 6 European NRENs



June 2025 – 16 European NRENs

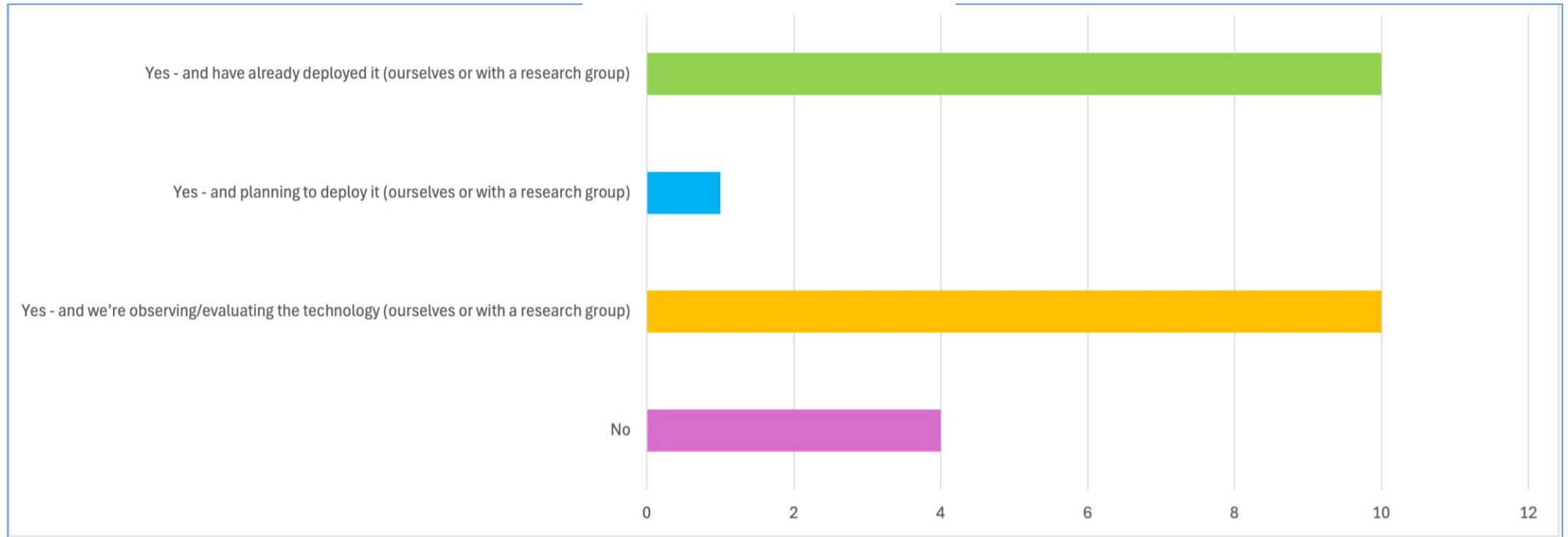


Now?

GN5-2 WP6 T1 Fibre Sensing

- 25 NRENs responded
 - 21 interested in fiber sensing
 - 4 not interested in fiber sensing
 - 2 are interested but didn't respond to the survey
- Main interest is in infrastructure monitoring
 - Fault detection
 - Tampering detection
 - Improve proactive response

NREN interest in fibre sensing





Thank You

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