COFFEE | Coherent Optical system Field-trial
For spectral Efficiency Enhancement

Project Brief

Main objective:
- 1Tb CNIT superchannel transmission over a GÉANT infrastructure

Advanced objective:
- Refine multiuser innovative solutions for increasing spectral efficiency within the field trial

Why is the project being undertaken?
- Support the increasing creation and sharing of research data
- Drive knowledge creation, innovation and learning by connecting and empowering research and education (R&E) communities within Europe Union
- Take advantage of current GÉANT infrastructure for innovative projects
- Promote collection and sharing of knowledge about network technologies and services through cooperation and community gathering

How is it going to operate?

Time-Frequency-Packing (TFP)
- Design criterion: maximum spectral efficiency with a design constrained receiver complexity

Additional benefits:
- flexibility (adaptive code rate)
- lower electronic and optoelectronic bandwidth requirements (power consumption)

Anticipated results

- High Spectral Efficiency for Long Haul Transmission
- Multispan (1Tbit/s in 100 GHz)
- Ch. Shortening, nonlinear compensation
- Present configuration
- Optimal target
- Reduced target

Vienna – Milan, 1105 km
G.655, 15 span 2210 km with loopback configuration

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