

# Scope of optical networking (9.6) in TF-NGN

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**TF-NGN**

**Brussels, Jan 13<sup>th</sup>, 2005**

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# Outline

- **What subjects not...**
- **General principles...**
- **Medium term (3-5 years)...**
- **Long term (5-10 years)...**
- **Where tests can be done...**
- **Who participates...**

# What subjects not

- Things covered by GN2-JRA3 (BoD), GN2-SA1 (GEANT2) and MUPBED
- IP routing (is part of TF-NGN 9.3)
- GMPLS (is part of TF-NGN 9.4b)

# General principles/subjects

- Important for at least two NREN's
- End-to-end environment:  
(very?)long haul, WAN, MAN, LAN
- In most cases must be inter domain at the end
- Term definitions
- Concept generation
- Discussion with providers and manufacturers
- Information exchange between partners
- Testing equipment/services (outside TF-NGN 9.7)
- Discussion with international bodies, like CANARIE, Internet2, etc.

# Medium term (in 3-5 years operational)

- Interesting work/technologies not picked up by other projects (don't wait though)
- **NIL (optical amplifier technology, unrepeatered) (JRA4?)**
- **100 Gbit/s link technology**
- (?very) Long haul technologies/testing
- **CEF (Customer Enabled Fibre)**
- **Optical exchange concept**
- **Performance, accounting, and fault management and test equipment**

# Long term (in 5-10 years operational)

- **Pure optical (burst)switching/routing**
- ***Open* WDM (standards)**
- **PON (Passive Optical Networks)**
- **?Quantum cryptography (together with TF-CSIRT?)**

# Where tests can be done

- **Local/regional (NREN, university, institute, manufacturer, provider)**
- **WAN, long haul**
- **International, very long haul (between NREN's, GN2-JRA4, etc.)**
- **Intercontinental**

# Who participates

- **NREN's: which ones?**  
HEAnet, ...
- **International networks: which ones?**
- **Manufacturers and providers: which ones?**
- **Universities: which ones?**
- **Research institutes: which ones?**  
Tyndall Institute, Ireland: NIL, 160 Gbit/s 40 Gbit/s LAN, quantum key distribution/quantum cryptography

# Questions???