

CELTIC-NEXT

Project Proposal Pitch

13th of March, Online



STARTED:

ST-detnet enAbling Real Time Delivery

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Build the Real Time Delivery paradigm of the future

- Delivers data with the lowest possible latency ever ($\ll 1\text{ms}$) and no jitter at all
- Capitalize on Nokia Strict-Deterministic Networking (ST-DetNet) concept
- Open the doors to large scale Industry 4.0, ultra-high bandwidth communication, High Performance Computing, Quantum Computing, energy consumption reduction

- .The mission in Bell Labs Core Research is to invent game changing innovations at the edge of science in and across all network segments that define the future of communication and ensure portfolio leadership of Nokia's Business Groups.
- .Bell Labs France: about 220 researchers

Proposal Introduction



- Time is money: value over Internet is on **real time** delivery of data
- Real time is sobriety: no buffering means **energy saving**
- Data flows that need real-time delivery are deterministic
- Exploit deterministic aspect to schedule data delivery without contention nor buffering
- Leverage on Nokia Strict-Detnet 3+ years research

Service Operational Contract:
• known transmission delay
• micro- / nano-circuit (transparency)

Intent based

Strict Deterministic Networking

Packet delivery on date

Native Ethernet Optical Switching

Strict Deterministic switching

Photonic integration

Optical component design

Proposal Introduction

- .Duration 36 months
- .Outcomes:
 - .Prototype of ST-DetNet Ethernet switch with integrated optical components
 - .AI-based approach for real-time scheduling computation beyond traditional algorithms limitations
 - .Network (5 to 10 nodes) wide proof of concept of Real Time Delivery Impact: opening up vertical industry

Partners

Existing consortium from France:

- Nokia Bell Labs, France
- III-V Lab, France
- Université de Saclay/Versailles, France
- CESI, France
- You ?

Contact Info

For more information and for interest to participate please contact:



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Presentation available via:





Join Consortium Building Session

14th of March 10-10.30 CET

[join here](#)



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