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Consortium

11 partners

9 countries

2 universities

2 R&D centers

7 companies



Optical Circuit switched Time sensitive network Architecture for high-speed Passive optical networks and next generation Ultra-dynamic & reconfigurable central office environments

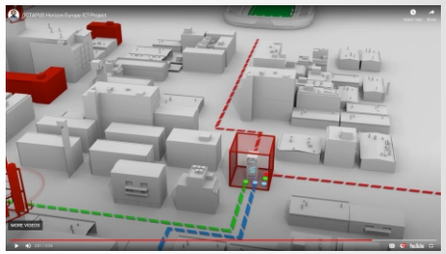
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Factsheet

Grant agreement: 101070009
Programme: HORIZON-CL4-2021-DIGITAL-EMERGING-01
Duration: 01/09/2022 – 28/02/2026 (42 Months)
Budget: Overall Cost: € 5,883,941.25
EU Contribution: € 4,789,661.00
Coordinator: Aristotle University of Thessaloniki, GR
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Dr. Marios Gatzianas,
email: mgkatzia@csd.auth.gr

OCTAPUS Video Presentation

The video presentation of the OCTAPUS project, which highlights the vision and objectives of the project can be found on YouTube.



Horizon Europe
EU Funding Programme

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Optical Circuit switched Time sensitive network Architecture for high-speed Passive optical networks and next generation Ultra-dynamic & reconfigurable central office environments



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About

Concept & Vision

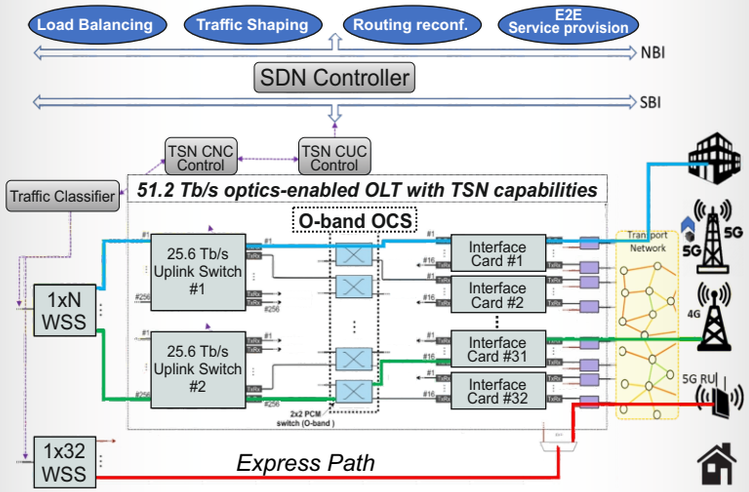
The goals of the **OCTAPUS** project:

►Increase of (switching) capacity at the Next Gen Central Office (NGCO)

►Efficient support of Disaggregated RAN (i.e. Fronthaul and TSN) and URLLC services.

►Consolidation of SDN with NGCO PHY layer

►Increase of energy efficiency



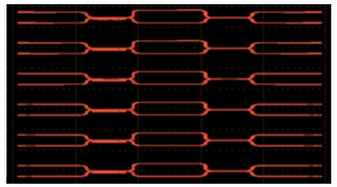
Mission & Aim

OCTAPUS aims to deliver an agile, low-cost and energy efficient PIC technology framework that will re-architect the Next Generation CO ecosystem, transparently upgrading its capacity to 51.2Tb/s and beyond, through an innovative optically-switched backplane and transceiver toolkit

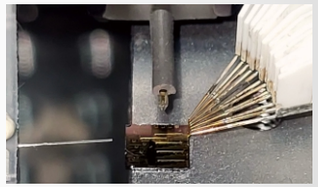
Technologies

Hardware

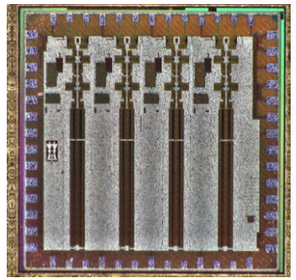
►The 1st generation of OCS PCM chips is ready for testing



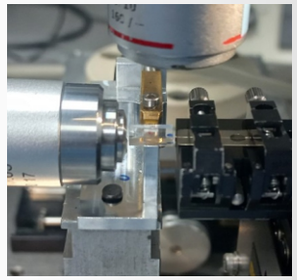
► The 1st generation of InP transceivers is characterized



►A 4-channel modulator driver has been designed, supporting 56 Gb/s NRZ.

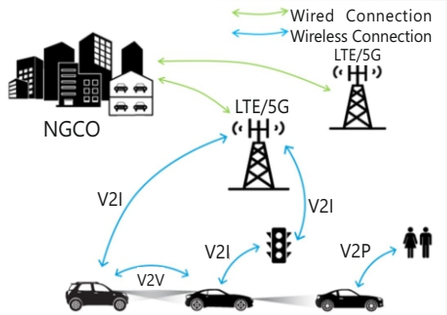


►First measurements of an array of 16 glass-based O-band / C-band diplexers



Software

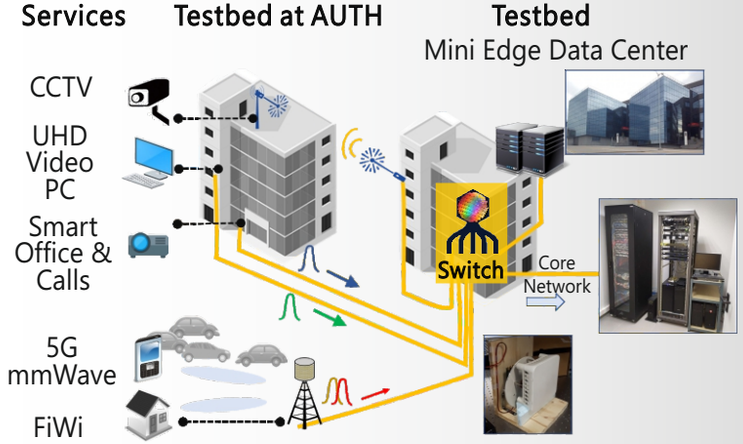
A holistic simulation framework was developed to study how vehicular traffic impacts V2X communication, focusing on delay-sensitive applications





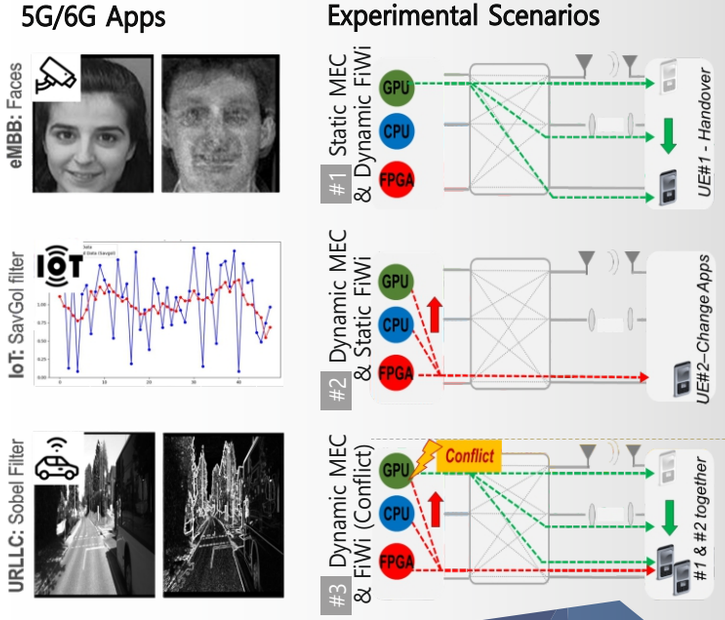
Demos

5G/6G MEC Experimental Demo-OCTAPUS



Use-Case Scenarios

Three 5G/6G applications and use-cases have been mapped to experimental testbed



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