
Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: TERAPOD - Terahertz based Ultra-High Bandwidth Wireless Access Networks

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Re: n/a

Abstract: The TERAPOD project aims to investigate and demonstrate the feasibility of ultra high bandwidth wireless access networks operating in the Terahertz (THz) band. The proposed TERAPOD THz communication system will be developed, driven by end user usage scenario requirements and will be demonstrated within a first adopter operational setting of a Data Centre. In this presentation, we define the full communications stack approach that will be taken in TERAPOD, highlighting the specific challenges and aimed innovations that are targeted.

Purpose: Information of the IG THz

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TERAPOD

Terahertz based Ultra High Bandwidth Wireless Access Networks



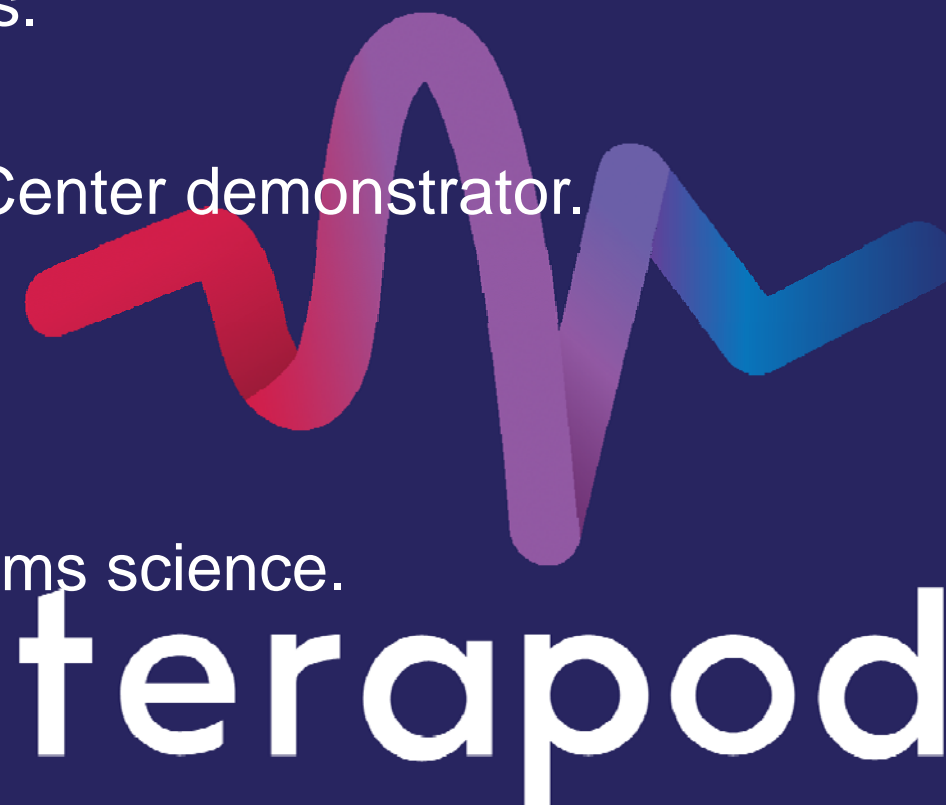
To investigate and demonstrate the feasibility of ultra high bandwidth wireless access networks operating in the Terahertz (THz) band.



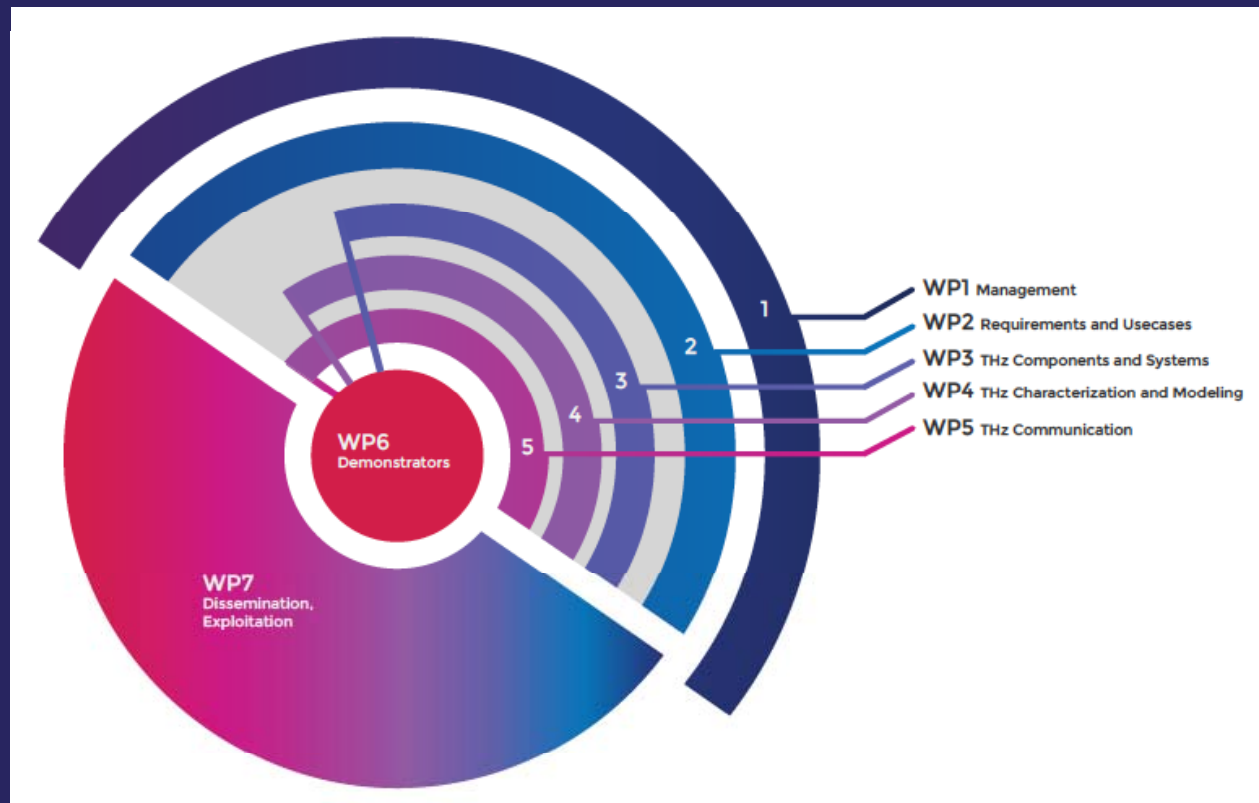
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TERAPOD Objectives

- Advance the Technology Readiness Level of THz communication devices and systems.
- Fully integrated 'first adopter' Data Center demonstrator.
- Regulation and Standardisation.
- Promote THz communications systems science.

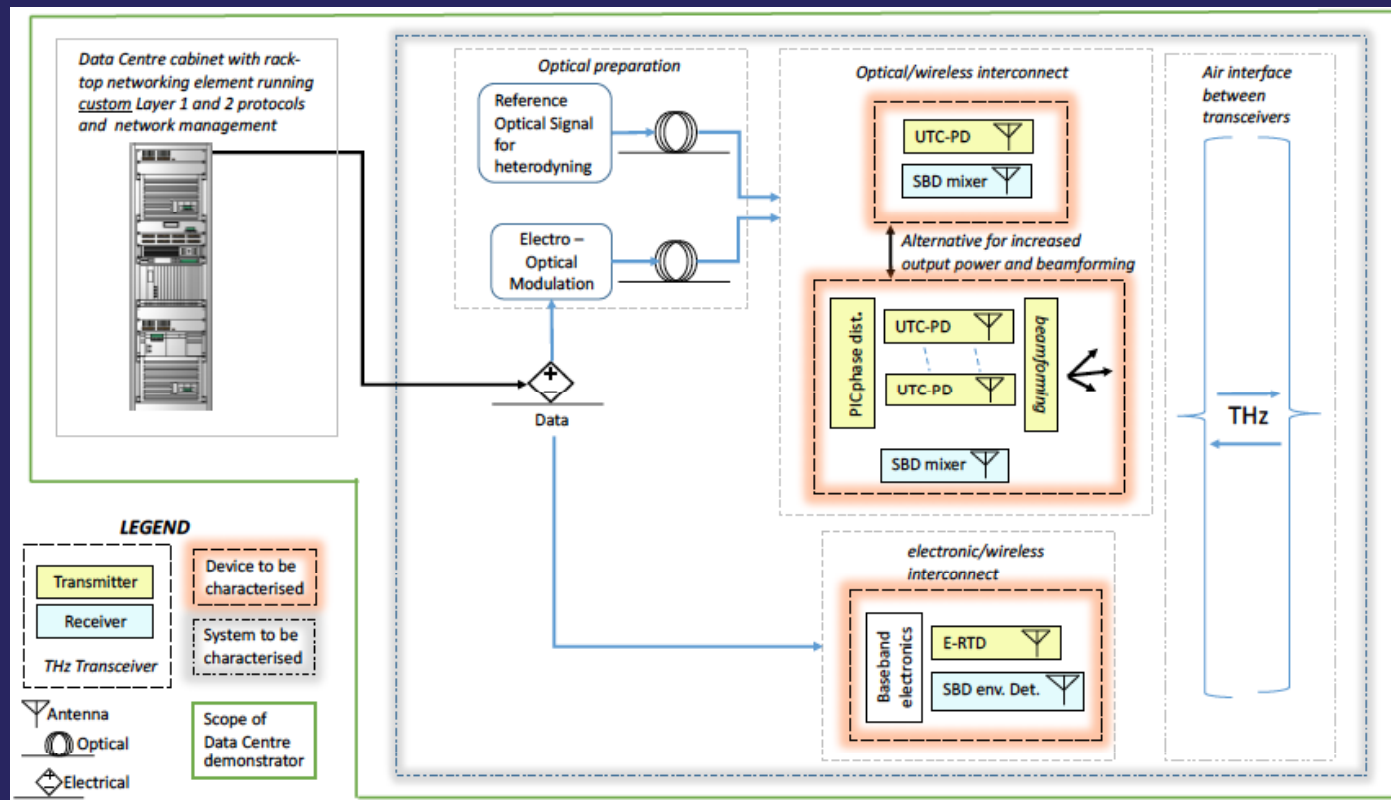


Work Packages



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Approach



Technology Innovations for demonstration

- Reliable, high efficiency and high-power THz RTD sources
- Low-barrier diodes for operation as THz mixer
- Power combination of multiple THz sources
- Novel measurement and characterisation techniques for THz devices
- Novel substrate integrated THz antennas
- PHY and MAC layer THz communications protocols targeting various Use Cases



Project Details

Coordinator: Dr. Alan Davy (Waterford Institute of Technology)

11 Partners (UK, Germany, Ireland, Spain, Portugal, Germany)

€3.4M

3 Years from 1st Sept 2017.

www.terapod-project.eu

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