

# Satellite and Terrestrial Access for Distributed, Ubiquitous and Smart Telecommunications



## **Project Overview**

Full name: Satellite and Terrestrial Access for Distributed,
Ubiquitous and Smart Telecommunications
Stream: A-01-02 Ubiquitous Radio Access
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#### **The Consortium**







#### PROJECT AMBITION



Design, develop and demonstrate a deeper integration of TN and NTN: Deliver a fully integrated 5G-NTN autonomous system with novel self-adapting end-to-end connectivity models for enabling ubiquitous radio access.

## **Project Objectives**



- Study, design, a **5G-based satellite network**, implementing onboard processing and storage capabilities towards effective networking and mobile computing in the sky.
- Define, design **data-driven management system components**, building on AI/ML based solutions for resource allocation and service provision in highly dynamic integrated hybrid networks.
- Design, implement, and demonstrate **E2E services over a fully integrated TN-NTN** advanced network architecture with regenerative space nodes.
- Contribute to the development of a **European Research and Technology roadmap** to ensure strategic positioning and global competitiveness of Europe in integrated TN-NTN communications.

#### KEY TECHNOLOGIES



- Regenerative payloads for GEO and NGSO systems
- Unified radio interface for cost-effective converged TN/NTN multi-tenant networks
- Softwarised self-organised network
   architecture
- E2E AI-Driven Network Design

## **Project Methodology**



- System engineering approach based on the Vee-model with multiple increments:
  - From gNB on ground towards full gNB onboard NTN nodes
  - Concept, System, and System Element Level



#### **TRL 5 Planned Demonstration**









# **FGSNS**



...& more!







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5G-STARDUST project has received funding from the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101096573.