CELTIC-NEXT
Proposers Day
23rd of February 2021, Online via WebEx

Pitch of the Project Proposal

Modular Array Antenna

Mayank, Celestial Space Technologies
mayank@celestialspacetechnologies.com
Teaser

Idea
• R&D of modular Array Antenna technology
• Stand-alone active antenna tile
• Variable antenna size

Value
• Multiple frequencies
• Addressing different applications across various industries
• Deployment onto curved surfaces
• Extending size based on demand

Participation
• The broad application opportunities
• Innovation potential for various industries
• Along entire value chain

Modular Array Antenna, Mayank, Celestial Space Technologies, mayank@celestialspacetechnologies.com
Organisation Profile

Corporate
• Commercial SME
• Located in Germany (GmbH) and Luxembourg (s.a.r.l)
• Founded in 2020 and 2021

Development
• ICT hardware with high innovation potential
• Focus on satellite communication
• Small satellite s-band patch antenna on market
• SDR based communication system in development

Projects
• In-orbit demonstration mission scheduled for September 2021
• ESA BIC Bavaria
• Fit 4 Start #10 Space in Luxembourg
Proposal

Introduction

Starting point
S-band patch antenna

Payload system for small satellites

R&D target
Patch antenna know-how transfer into tile development

Innovation
Interface technology of tiles

Modular antenna, with variable size

Vision
Enabling clean space by cataloging mm-size debris

Small satellite array atenna
Use Cases

Satellite
- Small satellite antenna in space
- Ground station antenna
- Tracking mega constellations

Mobility
- Realization of high data traffic
- Maps, traffic, weather, road hazard information, and software updates

Infrastructure
- 5G base stations
- Smart city applications
- Wireless backhaul
- Connectivity for devices

Modular Array Antenna, Mayank, Celestial Space Technologies, mayank@celestialspacetechnologies.com
Proposal

Introduction

Impact
• Modular antennas for any application across various industries
• More flexible antennas regarding mechanical, electrical and performance controls

Demonstration
• Pilot project with potential customer
• In-orbit demonstration of 1st ever active Phased Array Antenna for small satellites

Roadmap
• Software antenna design (sept-2021)
• Fabrication of hardware (end-2021)
• Modular feature demonstration (aug-2022)
• Modular array antenna test (end-2022)
• Pilot project demonstration (mid-2023)
• Product launch (end-2023)

Deliverables
• Finished product (modular tile)
• Development and test reports

Modular Array Antenna, Mayank, Celestial Space Technologies, mayank@celestialspacetechnologies.com
Partners

Value chain

Component provider
↓
System integrator
↓
System operator
↓
Service provider
↓
End user

We are looking for partners concerning

Engineering support
• Antenna and RF engineering support
• Signal processing and communication protocols

Demonstration
• Pilot project planning

Value-added services
• Processing satellite data to provide downstream services

Customer/user segment
• Defining product requirements
• verifying the product-market-fit
• pilot project planning

Modular Array Antenna, Mayank, Celestial Space Technologies, mayank@celestialspacetechnologies.com
For more information and for interest to participate please contact:

Mayank, Celestial Space Technologies
mayank@celestialspacetechnologies.com
+49 152 2 68 16 08 1
https://celestialspacetechnologies.com/

Presentation available via:
25 Febr. 13.00 CET
Join the follow-up Telco

Join meeting

Join by meeting number
Meeting number (access code): 181 929 6035
Meeting password: NQpmfkkb738

Join by phone
+49-6925511-4400 Germany toll
Global call-in numbers

Can't join the meeting?

www.celticnext.eu office@celticnext.eu