



eltic-Plus⁺

Smart Connected World



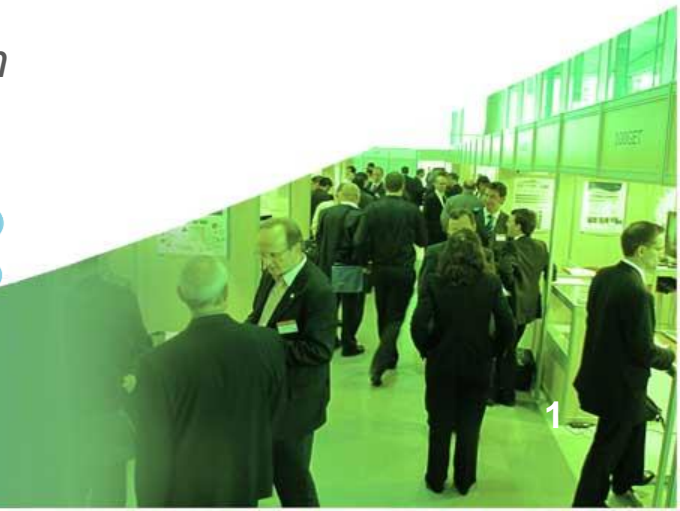
Celtic-Plus Event
Project Ideas and Networking
19st May 2017, Barcelona

Pitch of the Project Proposal

“5G + Sat BH = 5G++”

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NovelSat
Making Space in Space



Teaser

- 5G Networks are going to bring amazing new capabilities to current cellular communications
 - *More BW, higher bitrate, x100 users, IoT integration, self-management, etc*
- However some areas and systems might not be able to enjoy such benefits:
 - *Rural isolated areas, opensea oil platforms, maritime users, airplanes*
- Satellite Networks can provide the required backhauling to 5G networks and bring 5G benefits to challenging places

NovelSat develops satellite next-generation modulation

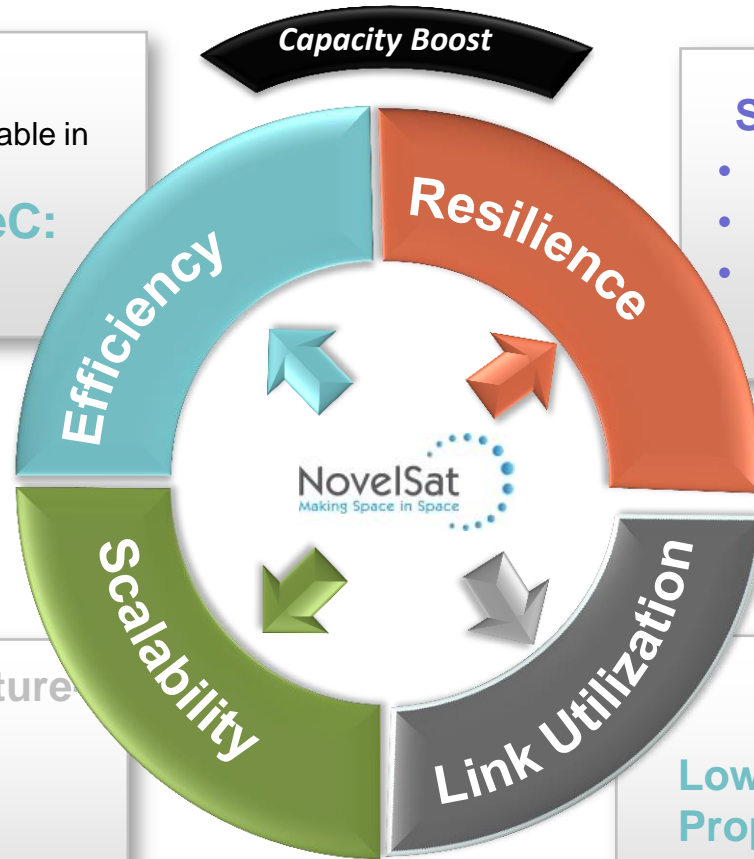
NovelSat NS3 & NS4:

Outperform any other waveform available in the Market

NovelSat SW Duet™ CeC:

Double traffic/same BW

Capacity Boost



Superior mitigation of:

- Jamming & Interference
- Weather fluctuation
- Saturation

Software Defined Architecture

SW/FPGA

Low to High data rates –

0.1- 850Mbps

Dual Channel Mode-

Broadcast & IP in a single Carrier

Low Latency
Proprietary IP Encapsulation

Organisation Profile (II)

Make More Money

- More TV Channels. Same Bandwidth.
- OR.
- More Data with Same Bandwidth

Save Money

- Same TV Channels with Less Bandwidth.
- OR.
- Same Data Rate with Less Bandwidth



Video Broadcast



Data Communications

Proposal Introduction (1)

Challenges that might be addressed:

- Convergence of 5G and Satellite Networks in different scenarios:
 1. Backhauling of 5G Hotspots in Airplanes, Oil & Gas platforms, High Speed trains, Maritime
 - Maximize BW utilization: BW on Demand
 - Increasing Resilience: Radar detection, CW detection, ACM
 - Reducing the number of transponders
 2. Content Delivery Networks (CDN):
 - Digital Rights Management: entitlement for distributed content, stronger encryption using OTA key management
 - BW optimization: using the remaining BW for additional applications (broadcast and IP traffic in a single carrier)

Expected Outcomes & Impact:

- Leverage 5G capabilities bringing 5G to challenging scenarios using Satellite Communications
- Maximizing BW utilization in Satellite Communications
- Enhancing resilience in Satellite Communications
- Convergence of 5G and Satellite networks in CDN to support IP enabled video contribution and distribution
- Supporting DRM with enhanced security in CDN

Consortium (just starting!):

- *NovelSat (Israel)*

Looking for partners with the following profile:

- *Telcom Operators (Both 5G & Satellite Operators)*
- *Digital Content Providers*
- *Industry and Academic partners researching on 5G & Satellite convergence*

Contact Info

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