Catalyzing Innovation

Bringing NTN to Automotive, IoT, and Beyond

Arpad IOZSA
Lasting Software

Agenda

Landscape

Where we are, why it matters

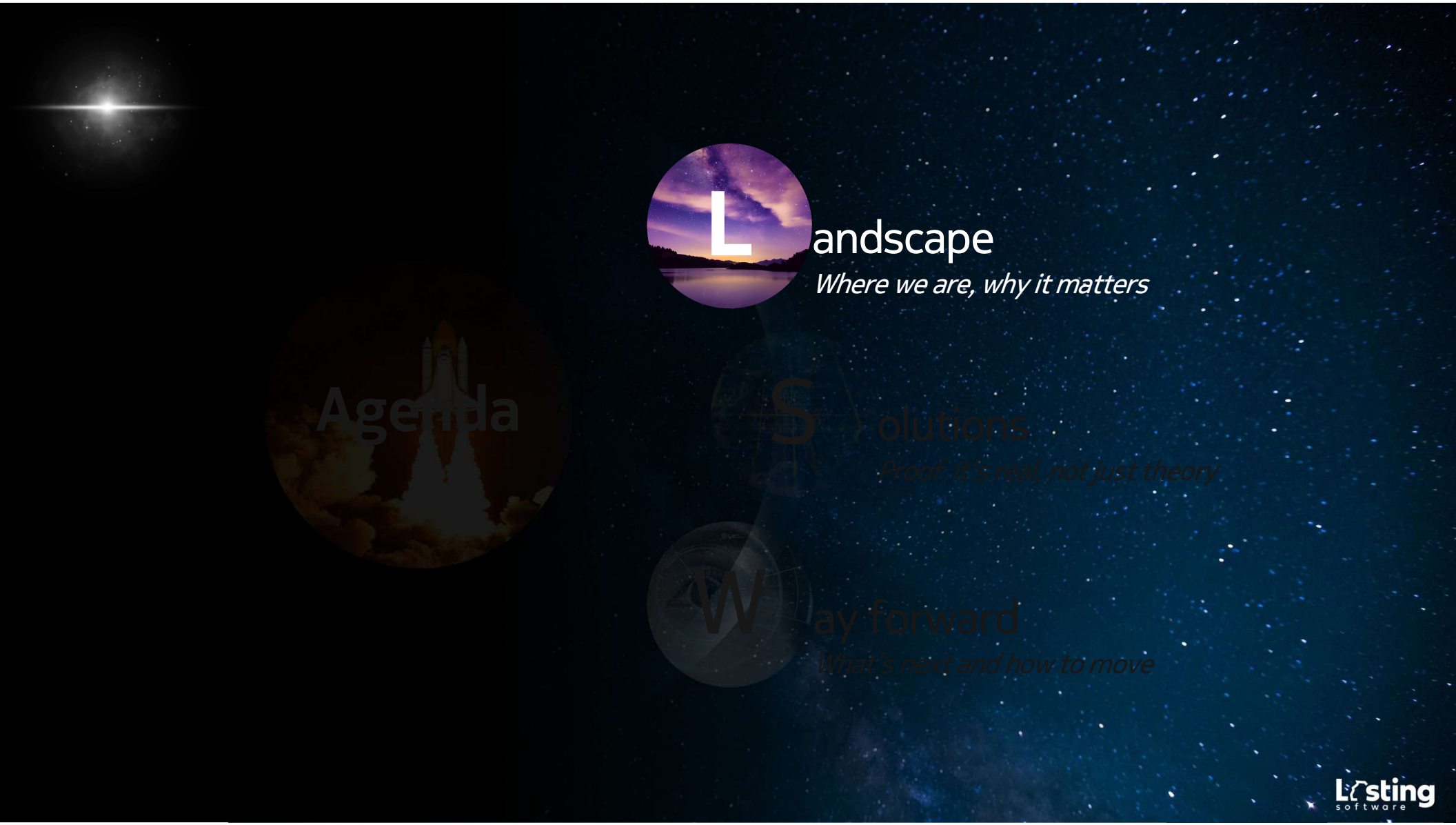
Solutions

Proof it's real, not just theory

Way forward

What's next and how to move

Listing software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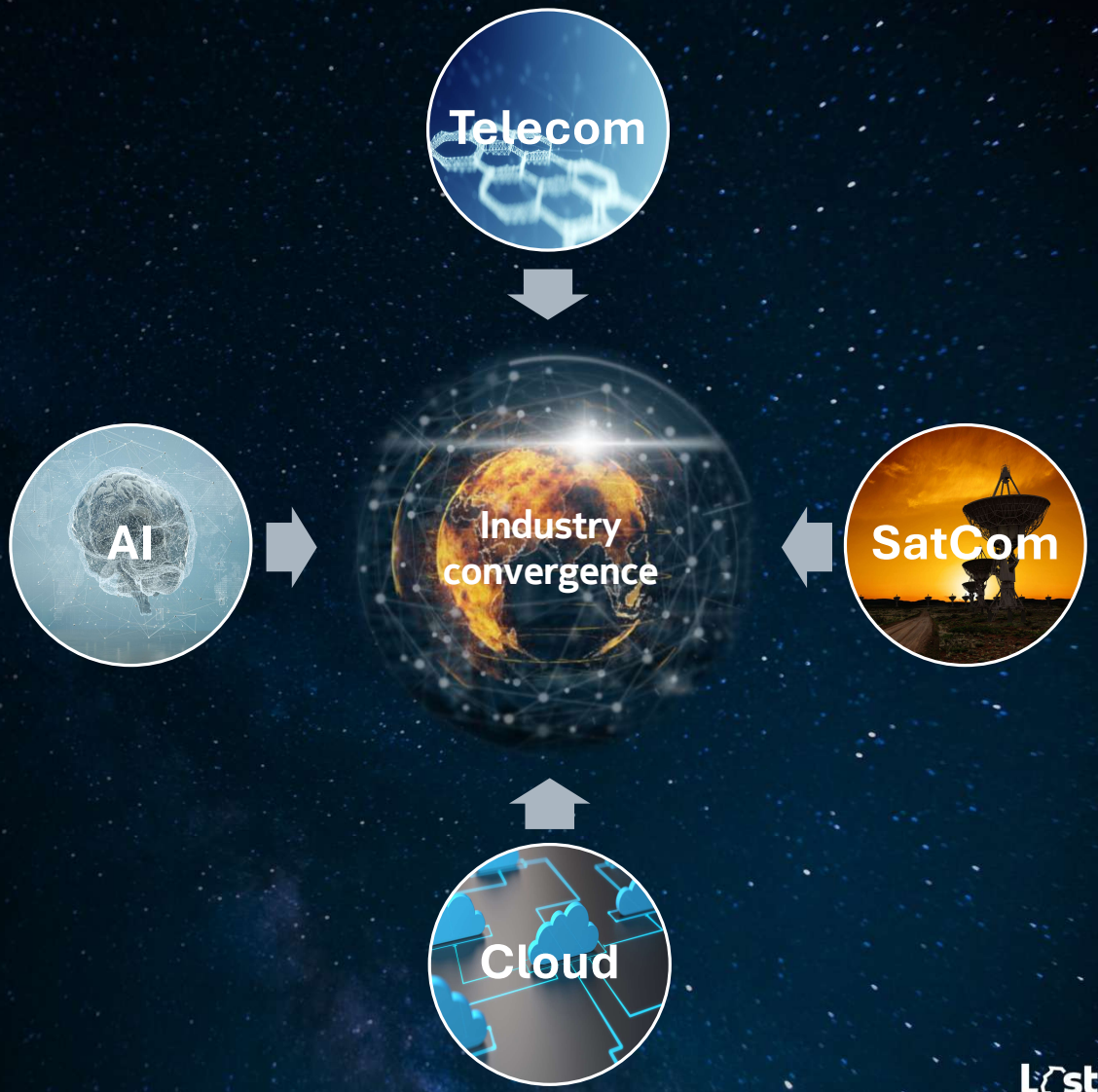
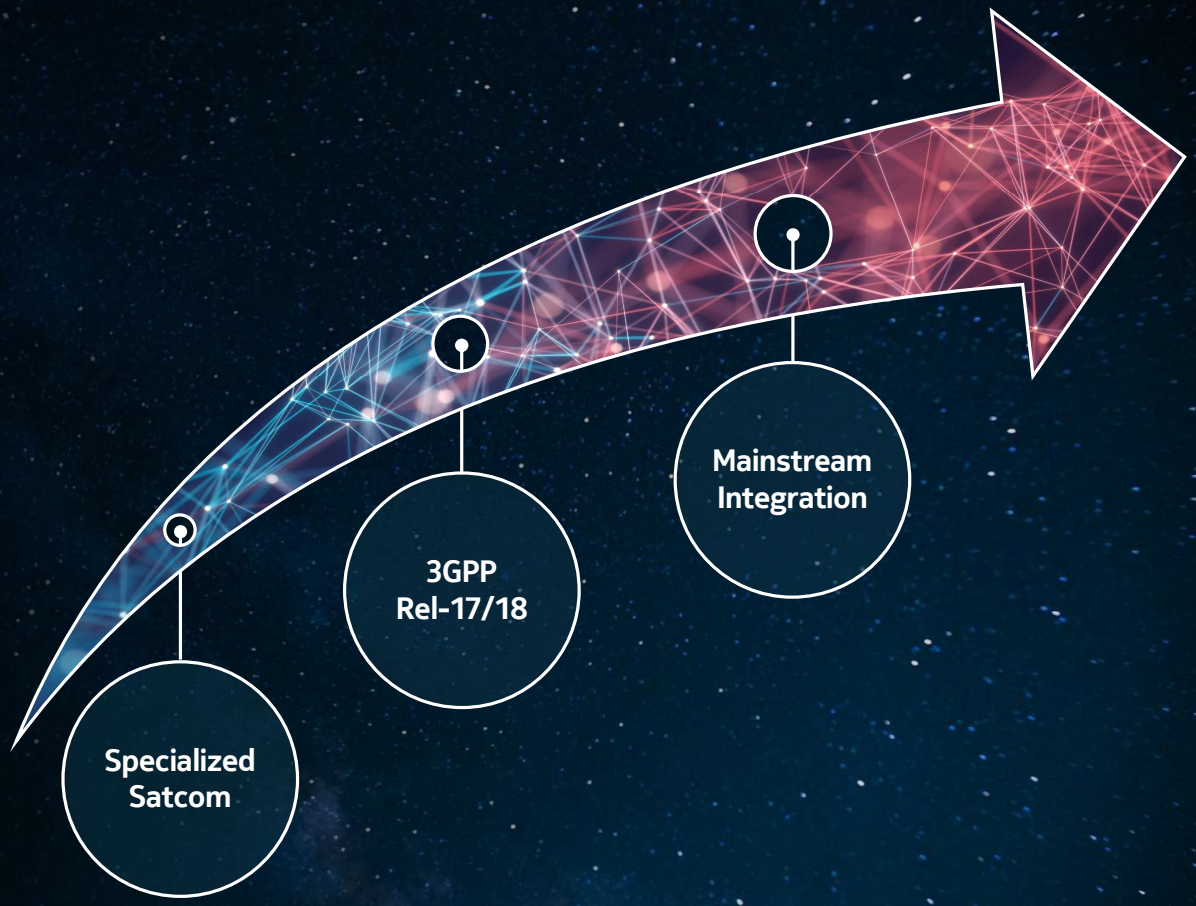
NTN
is no longer a niche

... it is becoming a
foundational enabler



Where NTN Stands Today

Starting from legacy, **3GPP** is not just expanding terrestrial capabilities, it is **redefining** what's possible when **space and ground converge**



Listing software

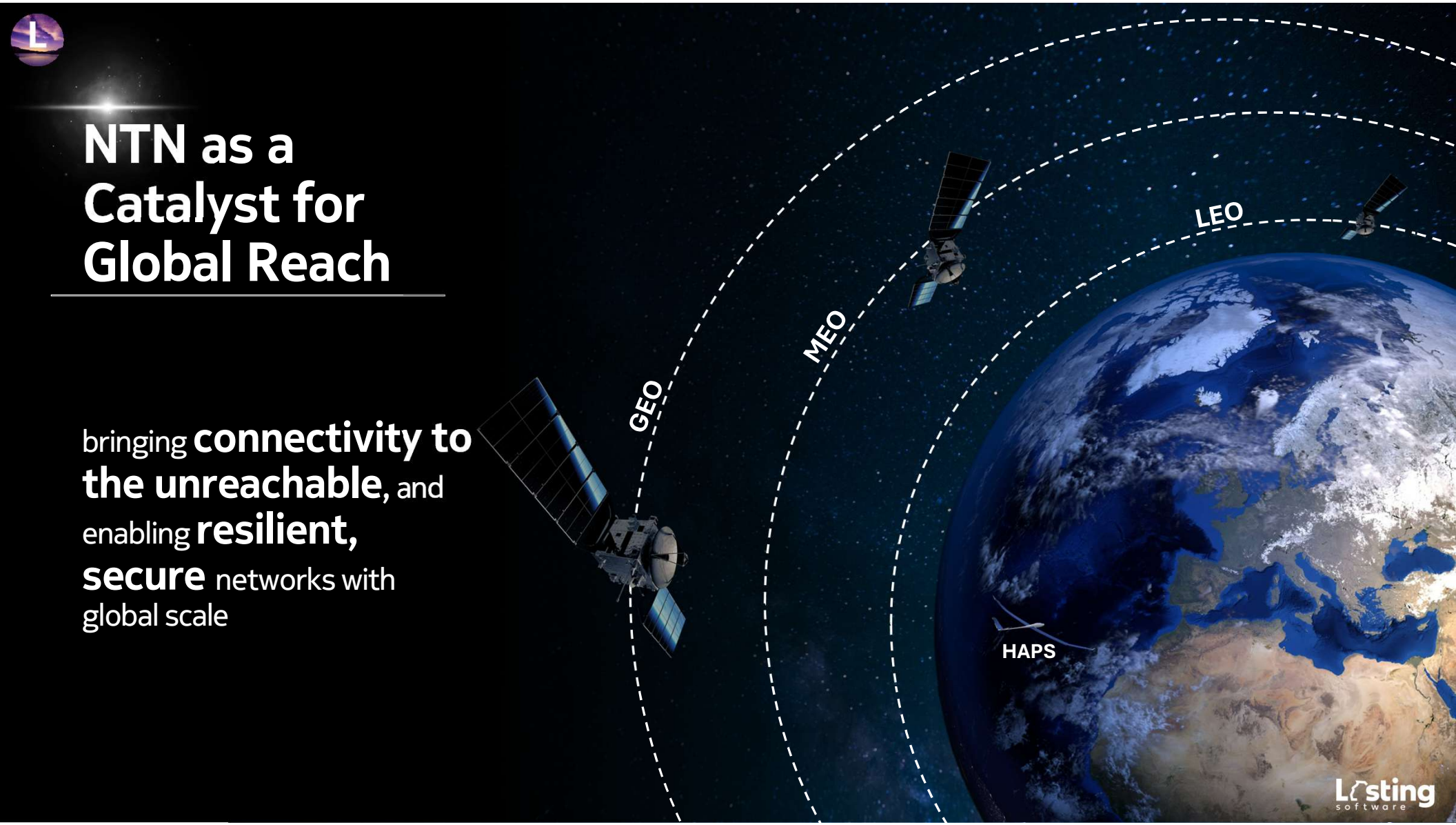
NTN is unlocking new industries

… it's not just SatCom anymore…

NTN is enabling new verticals — **automotive, IoT, V2X** and **defense**

NTN as a Catalyst for Global Reach

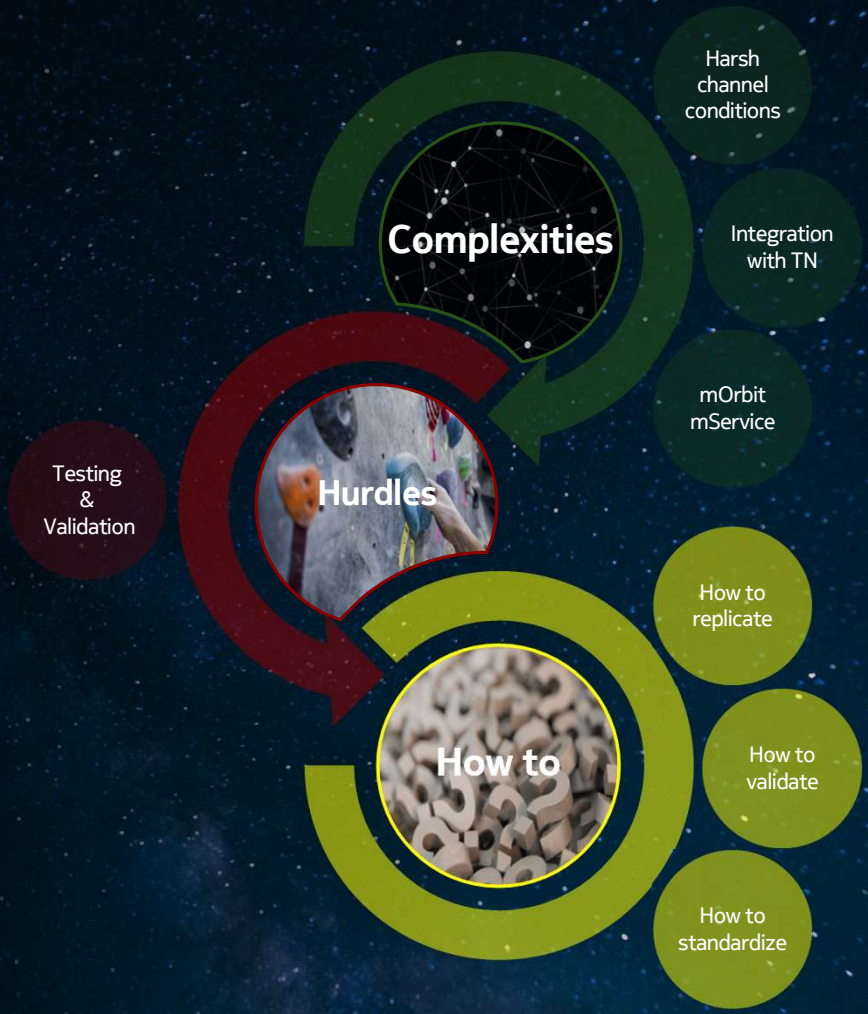
bringing **connectivity to the unreachable**, and enabling **resilient, secure** networks with global scale



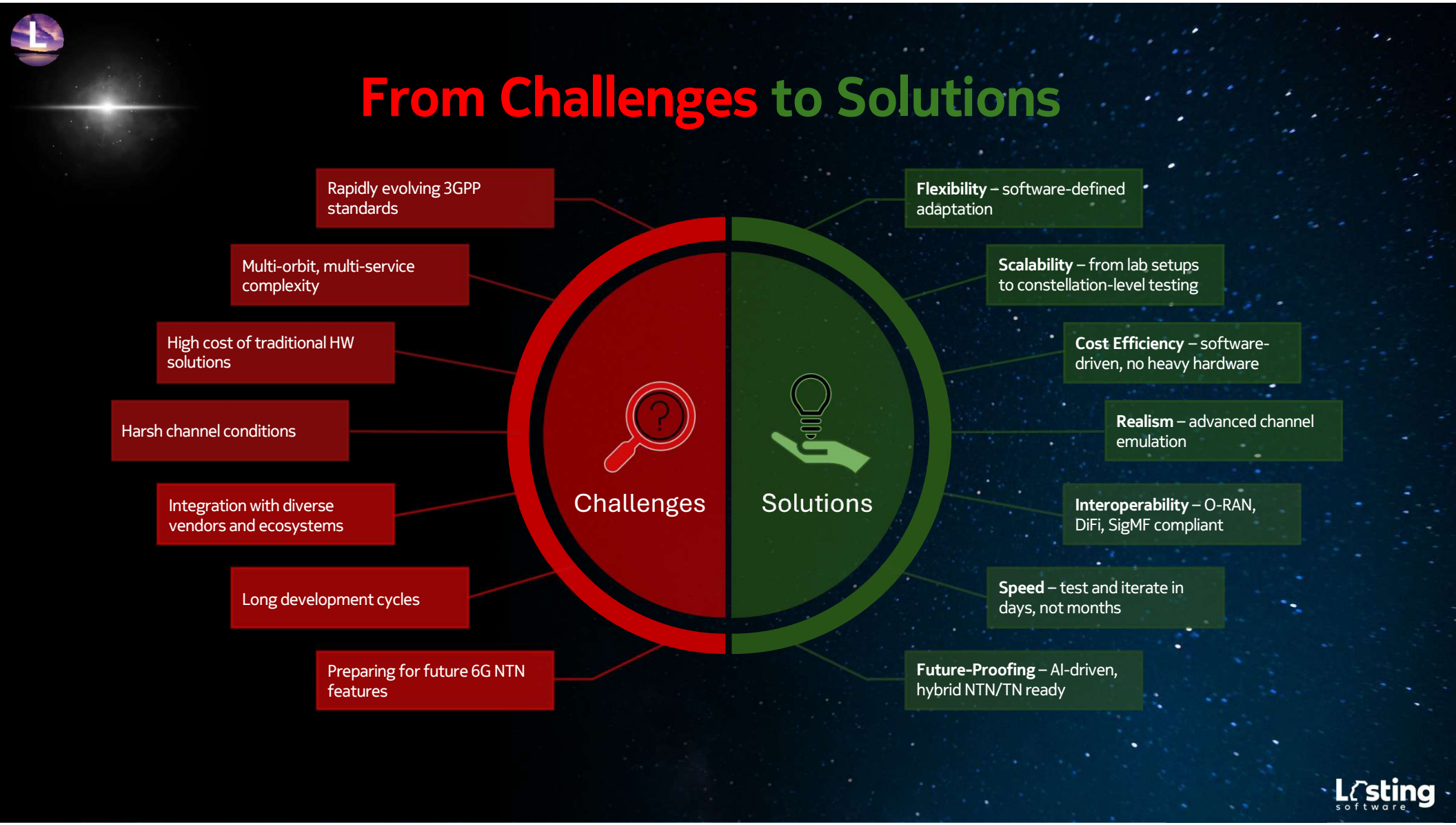
NTN's promise comes with unique challenges

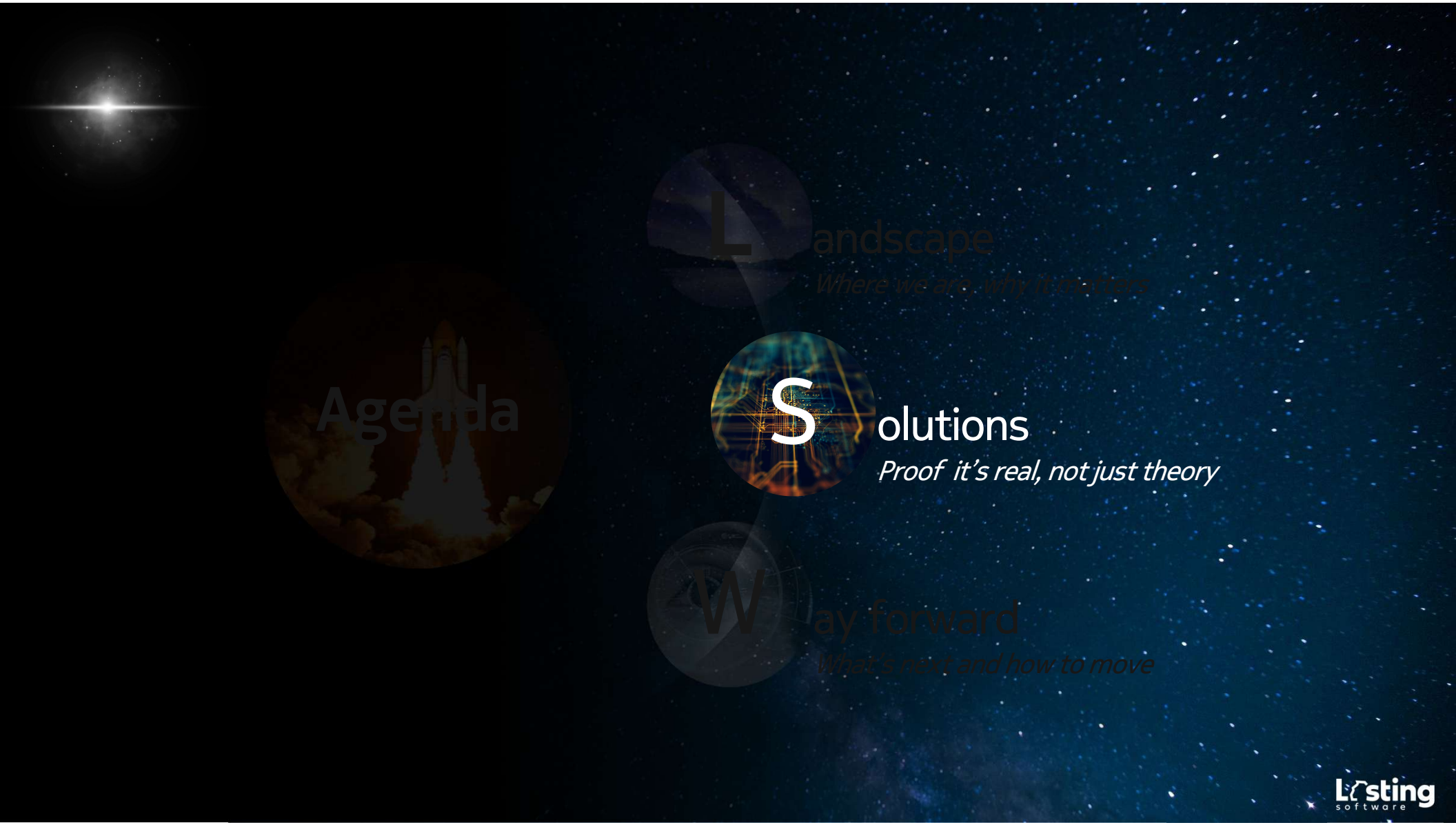
… NTN is exciting because it **extends 5G/6G coverage** globally

… but **physics doesn't bend**…



From Challenges to Solutions

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Where To Begin

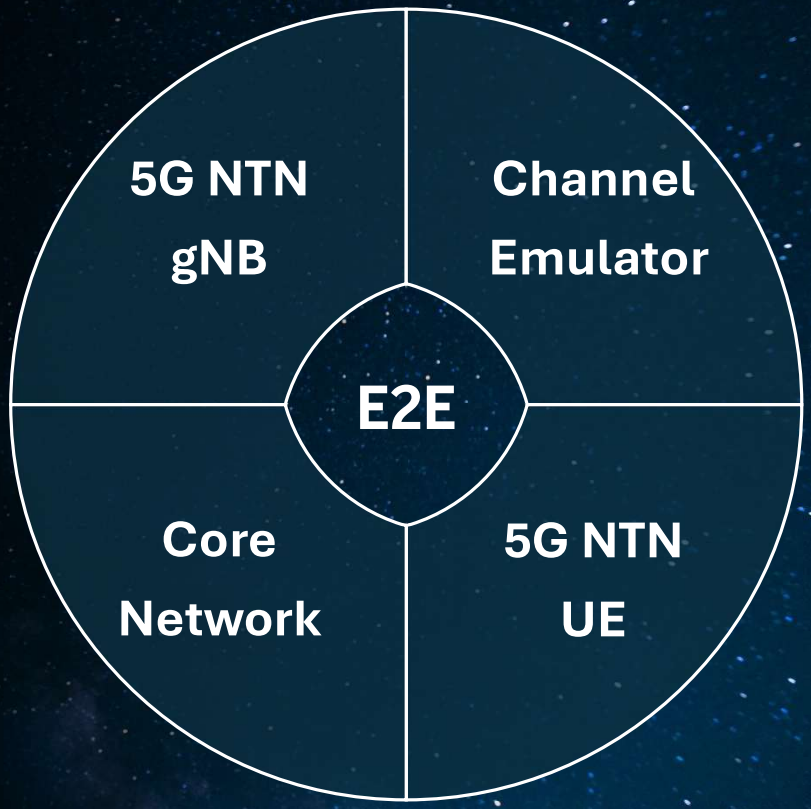
UE / gNB simulation or integration

5G Core (Open-source or commercial)

channel emulator (delay, Doppler, impairments)

orchestration, routing, monitoring

real satellite parameters (TLE, orbits)



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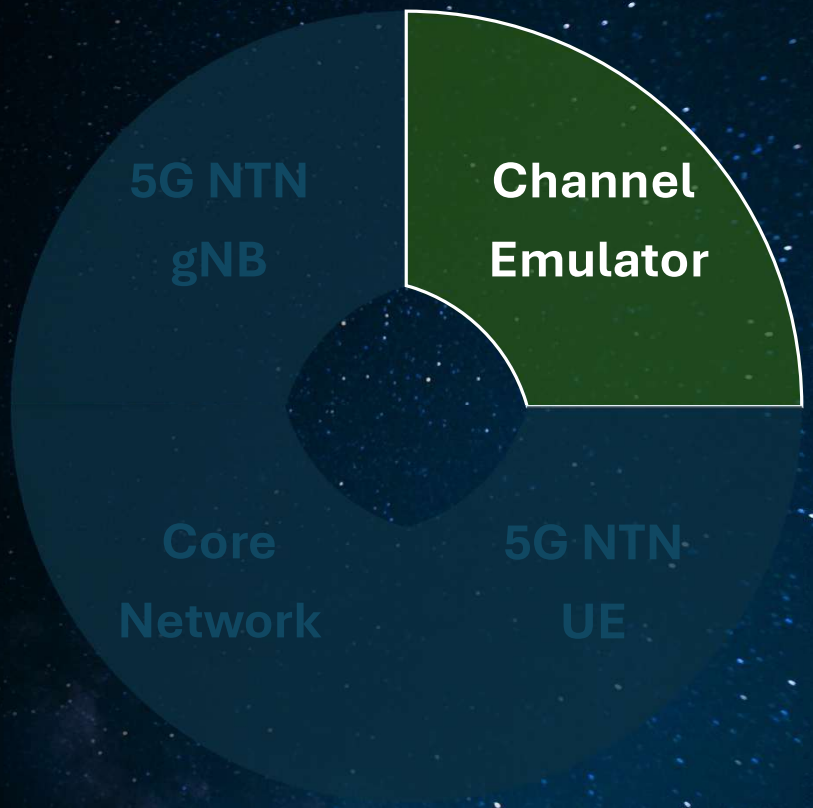
Testing NTN in the Lab, Before the Sky

…starting with…

celeos



Listing software

Built for 5G/6G NTN
Designed for precision
Compliant by design

built for NTN from the ground up

real-time, scalable, software-defined

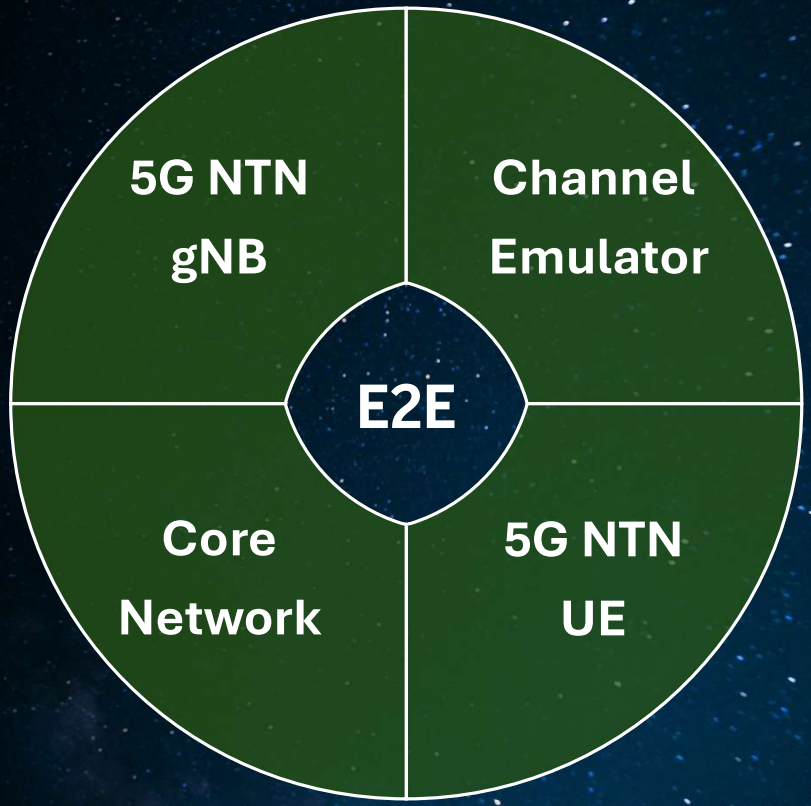
delay, Doppler, SNR, fading, multi-orbit

Listing software

From Emulator to End-to-End Testbeds

…expanding with…

flex 5G NTN space



Lesting software

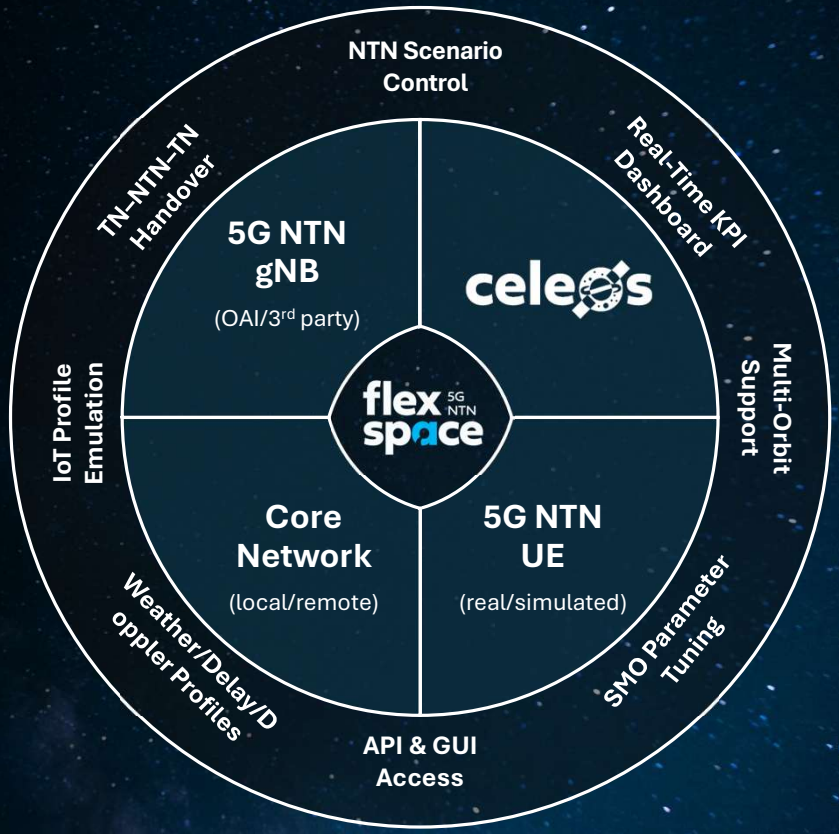
Built for 5G/6G NTN
Accelerating NTN innovation
From lab to constellation

lab-grade realism for NTN testing

modular, **scalable**, and **flexible**

full **control**, full **transparency**

tailored for **all environments**

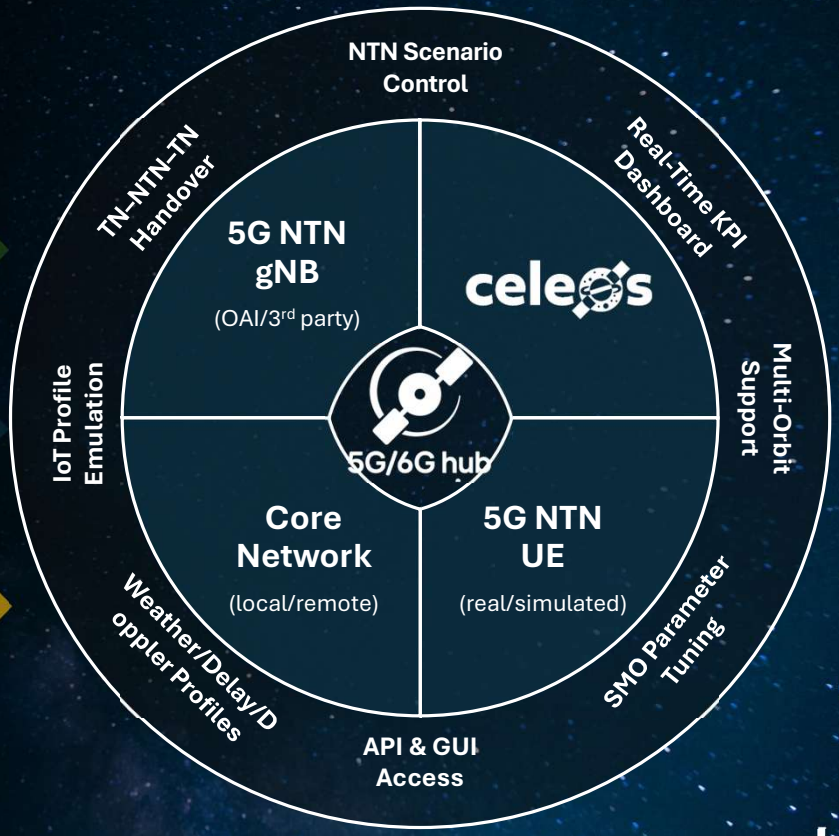


Collaboration at the Core

…expanding it further with…

First of its kind
Innovation and collaboration
Driving NTN

- Coverage Map Simulator
- Maps and navigation database
- External Satellite Channel Simulator
- C-V2X
- NB-IoT



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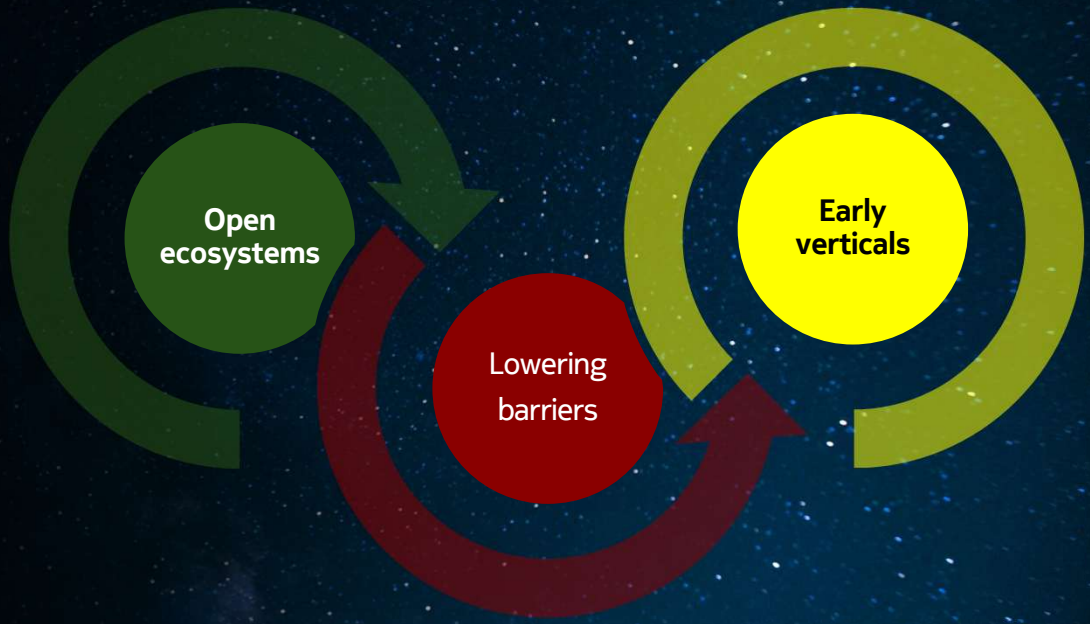
Today
Catalyzing Innovation

…NTN can already **unlock value** through openness and by lowering entry barriers

first verticals where NTN makes sense: **automotive**, **IoT**, **V2X**



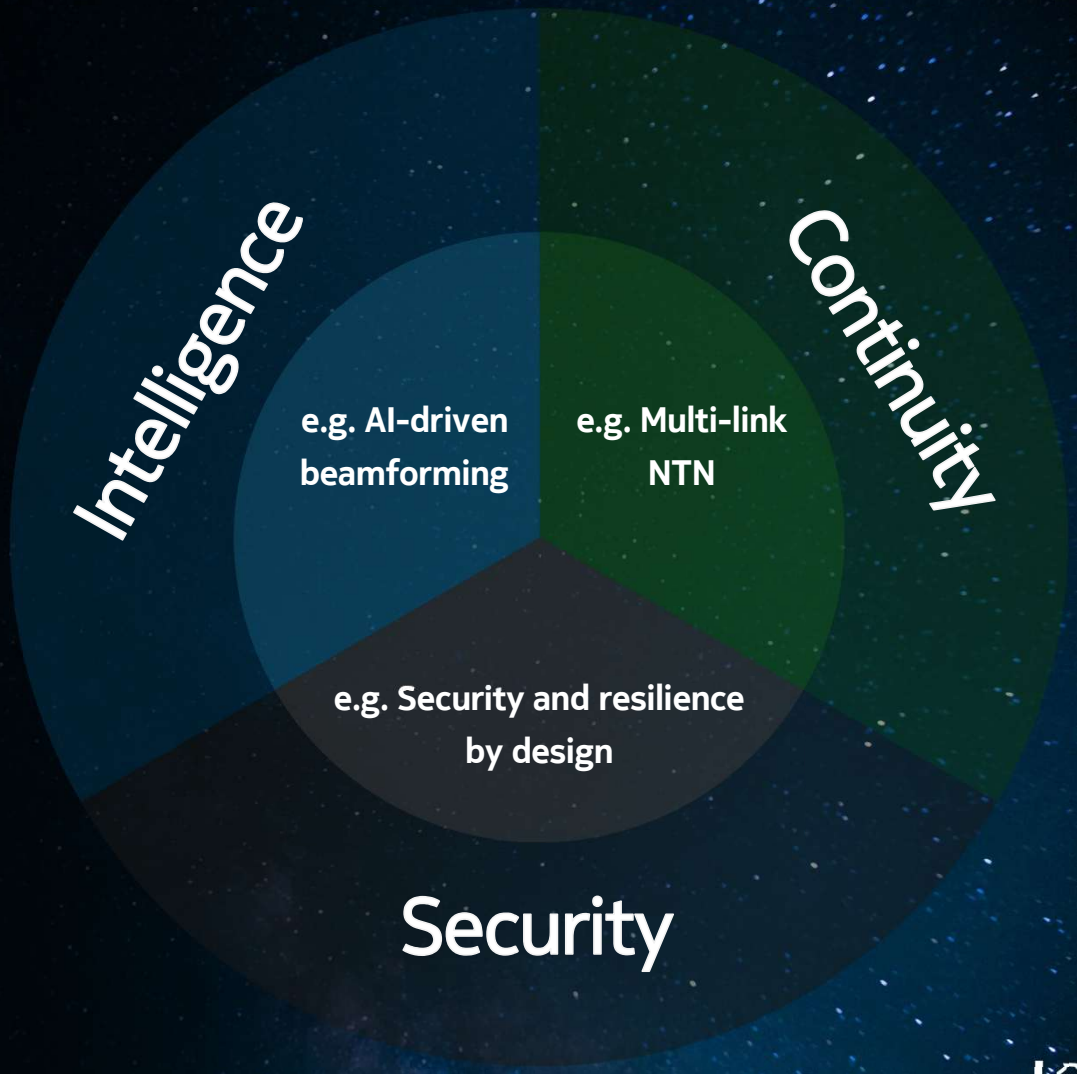
Tomorrow Advancing to 6G

… the next wave will **push NTN further**

AI-driven beamforming

multi-orbit continuity

secure-by-design links that prepare us for 6G



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Lasting Software's role in this journey

Building the testbeds and tools that make NTN real

Bridging research, standardization, and deployment

Supporting both today's needs and tomorrow's 6G evolution

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