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Policy Brief

Different models to research the Next Generation ICT Infrastructure

EU Model

- EU framework: Collaborative research 70% funded for industry and 100% for academia
  - Consortium confidential and public documents
- National research: partial funding by regional governments
  - Mostly consortium confidential
- Competitors join in flagship projects for research on architectures, use cases, pre-competitive technology
- Separation of competitors in smaller focused projects with complementary partners
  - Shared foreground IPR and access rights to background

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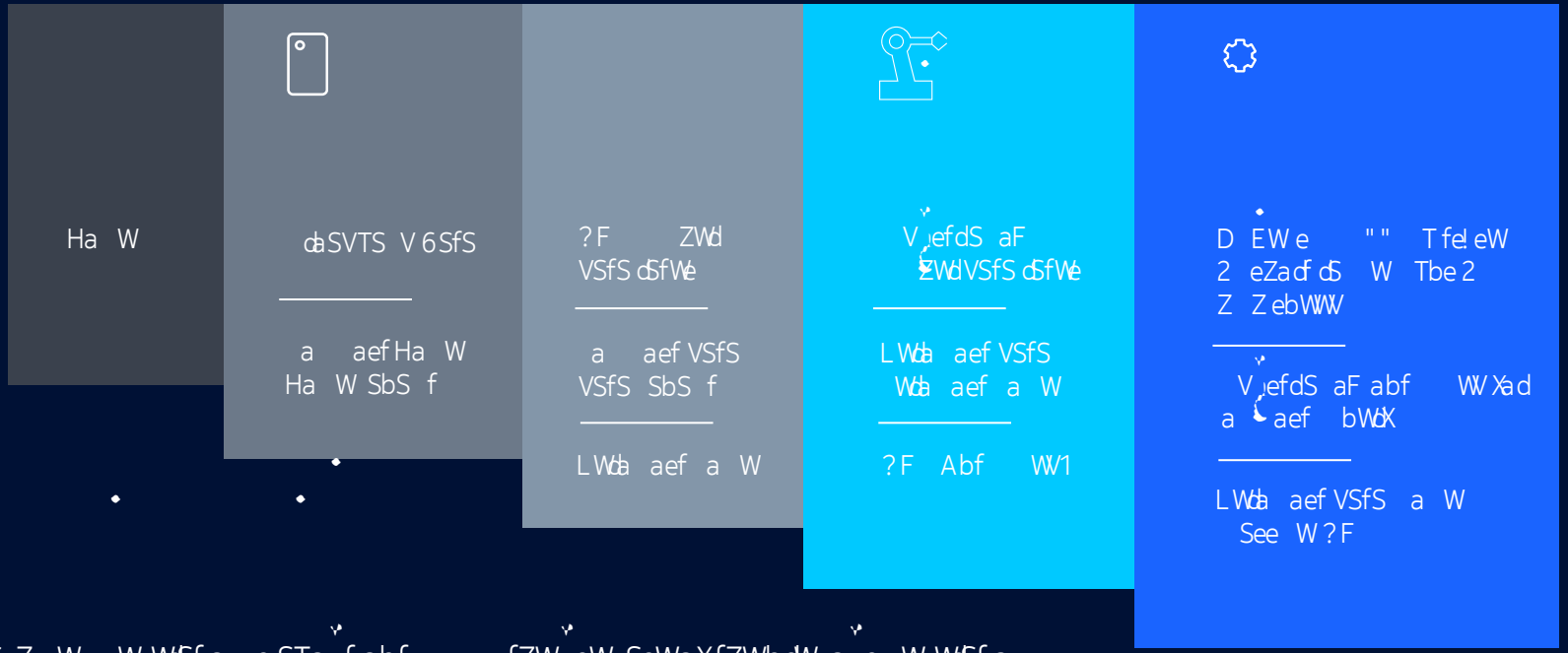

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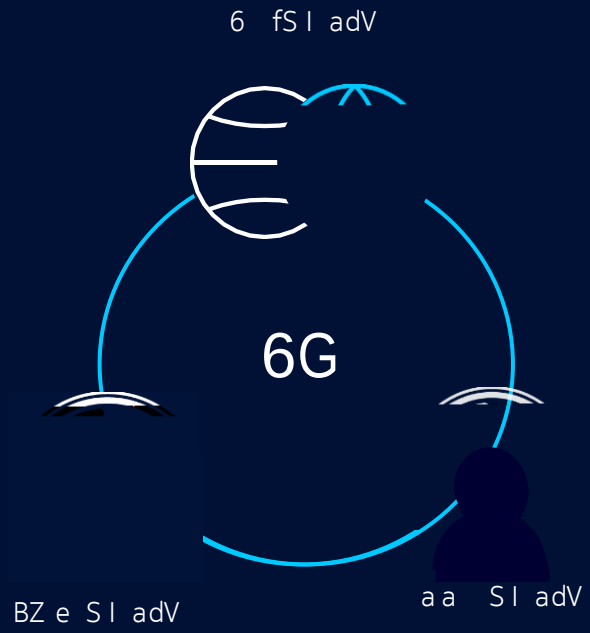

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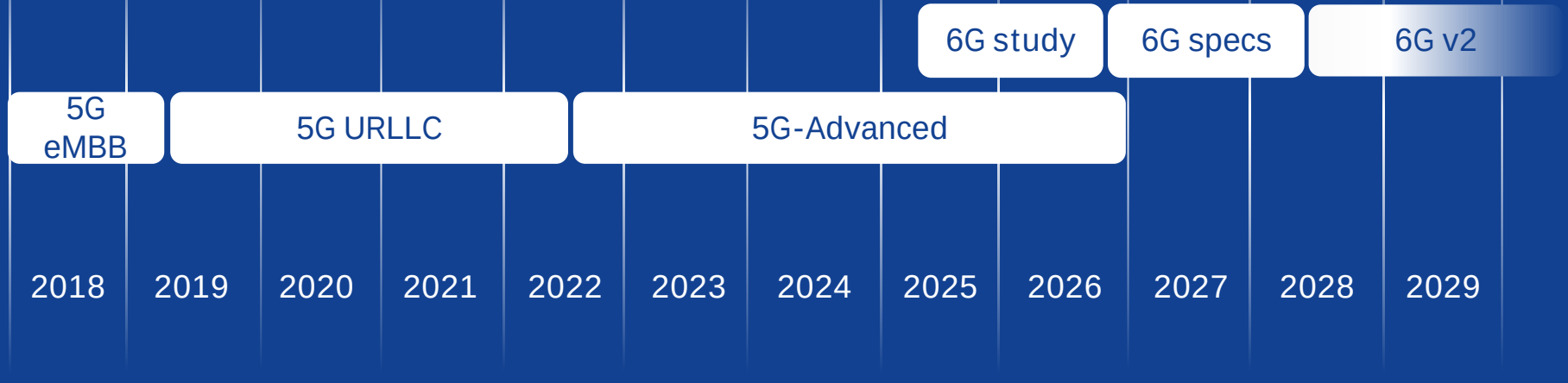

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Increased geo-political tension

Increased importance of ICT as asset for national security and economic competitiveness

Major government 6G research investment

Geo-Politics

Proposal from Korea to Deploy 2028

IMT2030 timeline also appears accelerated

5G timeline was faster than 4G

Accelerated Timeline

Industry is increasing activities in 6G space

Series of 6G Use case white papers

Kick-off of joint research alliances in different regions

Leadership

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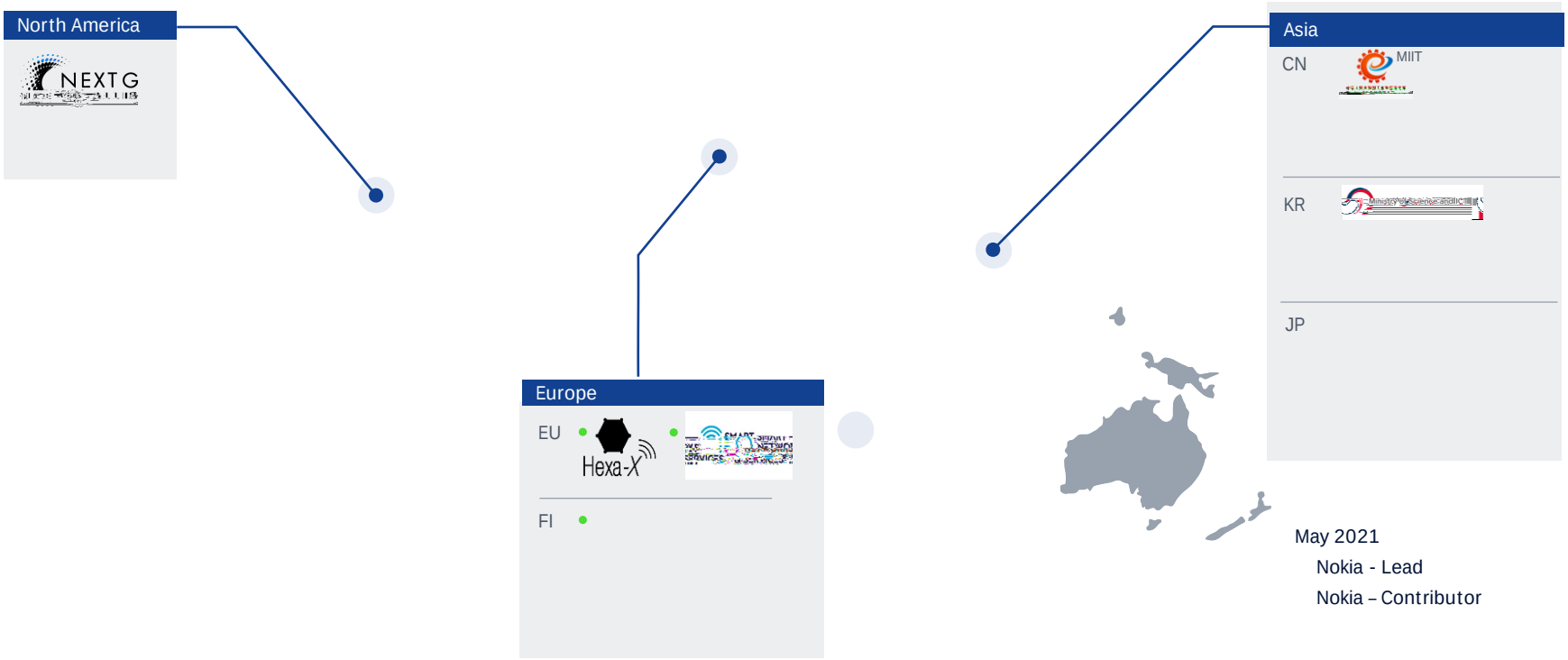
North America
NEXT G
Europe
EU
Hexa-X
FI
Asia
CN
MIIT
KR
JP
May 2021
Nokia - Lead
Nokia – Contributor

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5GPPP Key facts & figures

Contractual Arrangement signed on Dec 17, 2013

First discussions and pre-definition in 2012-2013

100% funding for non-for-profit (incl. academia) and 70% for industry.

5GIA co-
projects funded by the member states and in kind contributions by the industry.

Global collaborations

7 MoUs between 5G IA and peer associations that lead research in Americas (e.g., PAWR NSF), China, Japan, South Korea, Brazil, India and Canada

Examples past projects

5G METIS: 2012-2015 -
Flagship project that laid the foundation for 5G (Pre 5GPPP)

5G Car: 2017-2029 -
Research project addressing specific challenge (5GPPP Phase 2)

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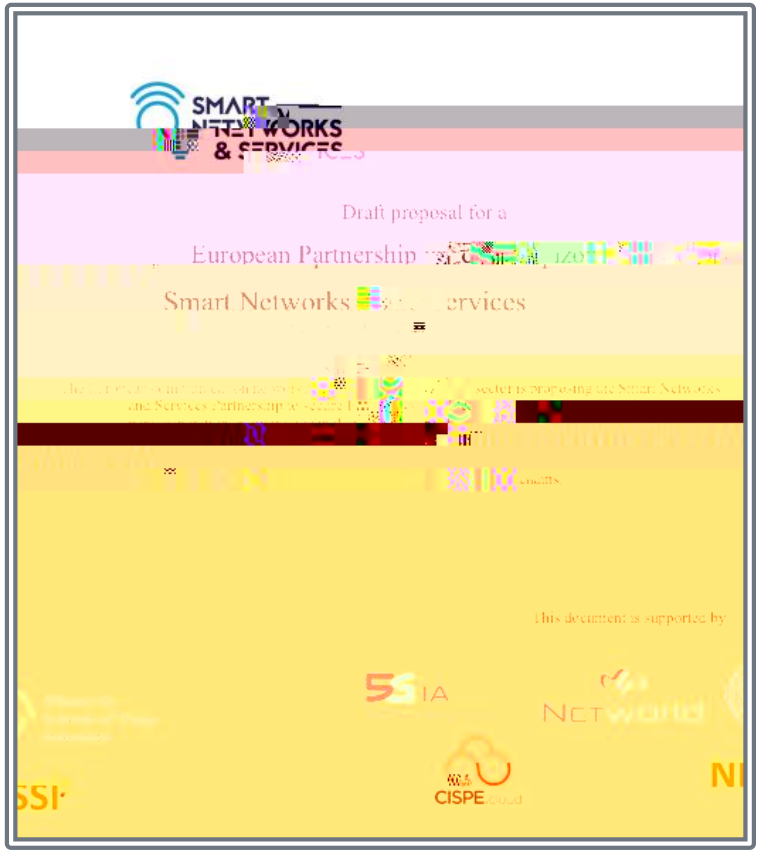
Smart Networks And Services Partnership



- Broader scope than 5G PPP
- Supported by broader communities
- More than 1000 organisations
- Includes; Industry, SMEs and Research Community (R&D centers and universities)

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Source: SNS proposal. June 30, 2020, https://ec.europa.eu/info/sites/info/files/research_and_innovation/funding/documents/ec_rtd_he-partnership_smart-networks-services.pdf

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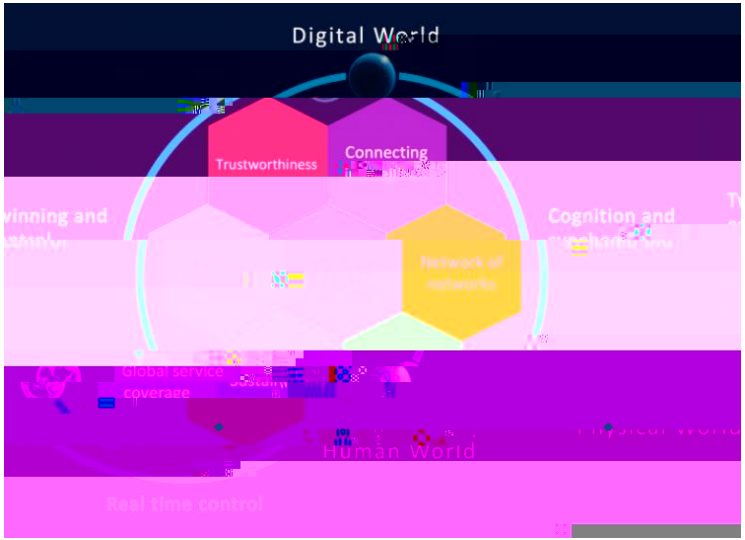
Hexa-X is a flagship research initiative from the European Commission, with strong participation of major industry and academia stakeholders in Europe, to develop the foundation and contribute to industry consensus leading beyond 5G to 6G.

The focus is on structuring, framing, and developing technology for connectivity needs in the 2030 timeframe, as a first step towards realizing 6G.

It aims to develop key technology enablers in the areas of

- fundamentally new radio access technologies at high frequencies and high-resolution localization and sensing;
- connected intelligence though AI-driven air interface and governance for future networks, and
- 6G architectural enablers for network disaggregation and dynamic dependability.

Hexa-X vision on 6G and research challenges



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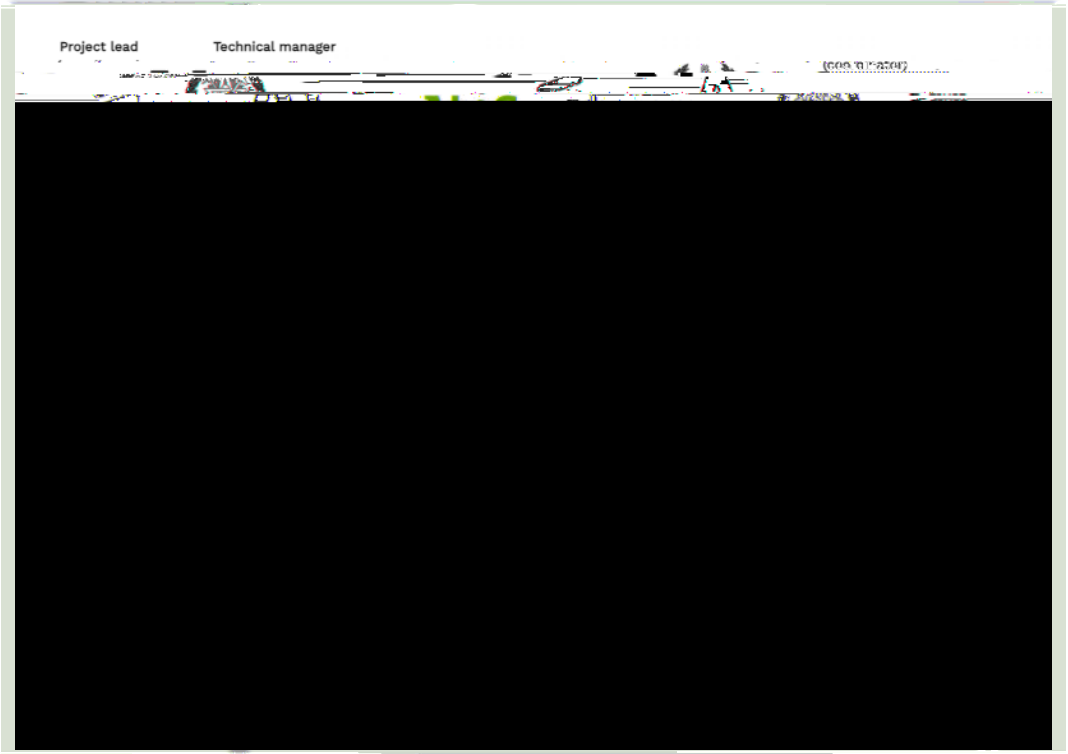
The stakeholders represent the full value-chain of future connectivity solutions ranging from network vendors, communication service providers, verticals, and technology providers, as well as the most prominent European communications research institutes.



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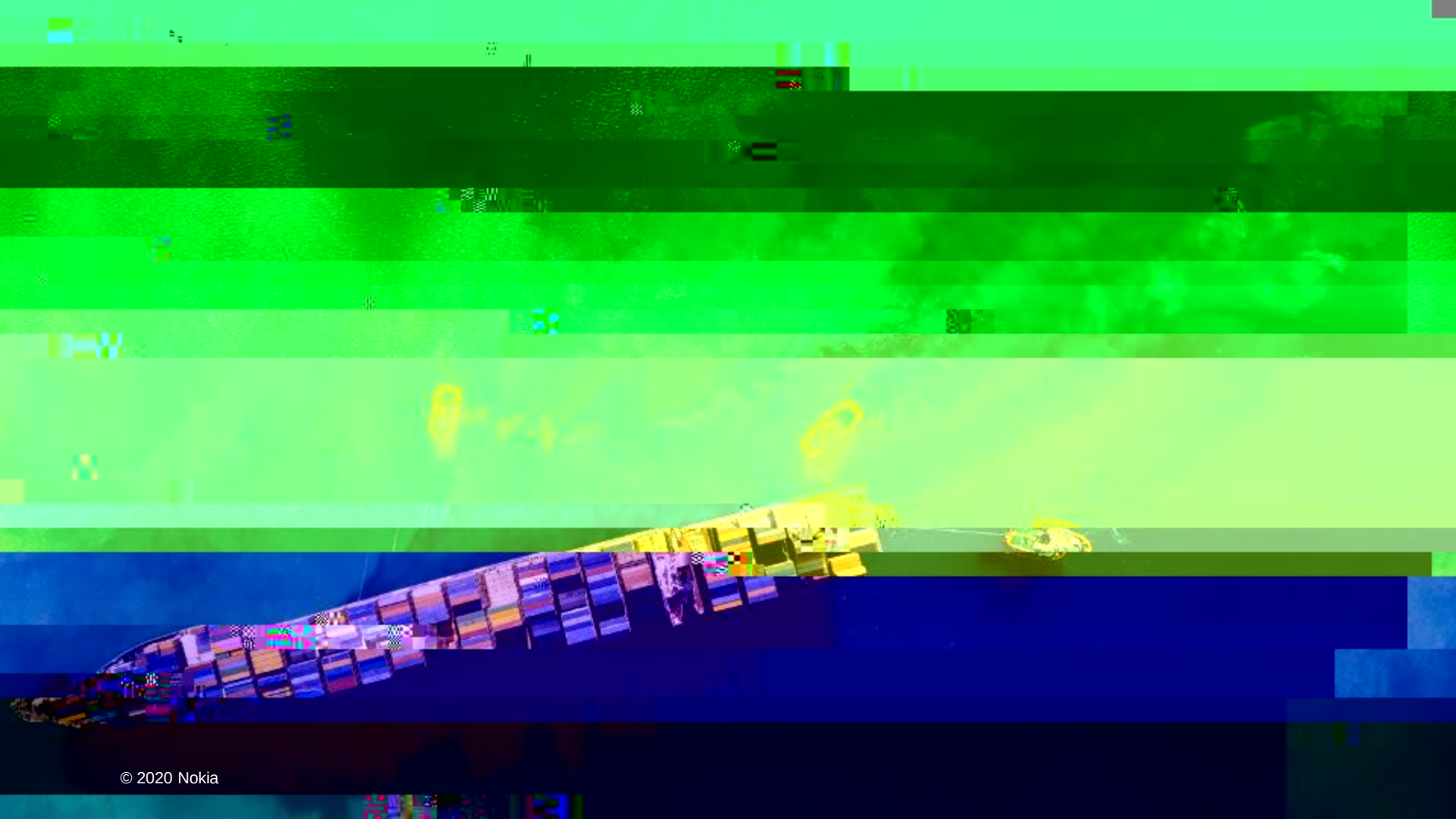

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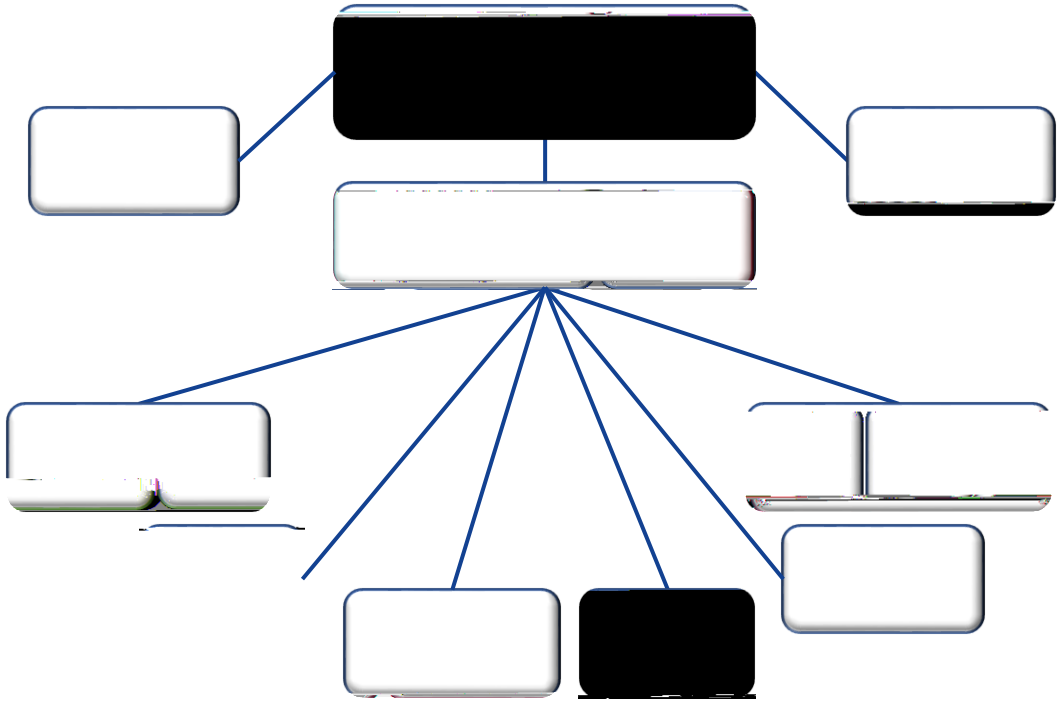
Next G Alliance Mission and Vision

NextG Alliance Structure



Contribution-driven, pre-consensus building forum

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RINGS Partners Working Group

Goal:

- Create an eminent US research community on Next Generation networks
- Enable meaningful sharing and collaboration
- Facilitate co-ordination to benefit all parties