



**NETWORLD  
EUROPE**

**Strategic Research and Innovation Agenda Webinar  
12-13 January 2023**

## **INTRODUCTION**

Ari Pouttu

*SRIA Webinar, 12-13 January 2023*

# Content

1. SRIA purpose
2. Visions for Future Communications Summit
3. Proposal for Format
4. Annex Structure and Editors
5. Timeline
6. Community
7. Other activities

- <https://www.networldeurope.eu/sria-and-whitepapers/>
  - SRIA: Strategic Research and Innovation Agenda
    - Needs to be organized independently from EU, from independent society organizations
    - SRIA technically supports the **Smart Networks and Services (SNS)** Joint Undertaking
    - EU derives the technical content of work programme (that is the future projects' content) from here
    - Updated ~2-3 years
  - SRIA has multiple outcomes
    - The SNS negotiation includes a spec of technical challenges to be covered under the scope of that funding
    - A priority list, and potential funding areas, is derived from here
    - EC has confirmed that will extract other challenges from the SRIA, and fund them outside the SNS framework
    - **Multiple entities** use the SRIA as a floodlight into potential research areas.

## Visions for Future Communications Summit – 1st editors meeting

- Started Nov 21, Visions for Future Communications Summit
  - Mix of invited and open presentations
- Moved to the Network World Europe Expert Group
  - Managed by Ari Pouttu and Jyrki Huusko
  - Structured and divided in several working groups,
  - open participation under guidance of group leaders

## SRIA = White Paper + Technology Annex

- White paper style condensed version (for larger audience)
  - EU policies, Drivers, SDGs, Societal challenges, roadmaps,...
  - Two pagers on technology chapters (with expected metrics)
  - We can offer communication specialist and graphical designer to do the pictures, layouts etc.
- Technical annex (to support the work programme preparation)
  - The agreed technology domain chapters ~ 10 chapters
  - Agreed format for all chapters
  - Publication platform: NE web pages

# SRIA = WHITEPAPER + TECHNICAL ANNEX



Strategic Research and Innovation  
Agenda 2022  
Networld Europe

Technical Annex

## Milestones

- Editor groups organised Feb 15
- 1st Draft of SRIA
- 2nd draft of SRIA
- Harmonisation
- Release for Consultation
- Consultation results
- Final SRIA release

## Realised

- Jun 15
- Oct 1
- October 31
- November 23
- December 6
- December 13

## Table of Contents

1. Introduction and scope .....	05
2. ICT impact in society .....	07
3. EU and EC policies .....	09
4. The Smart Networks and Services Partnership .....	15
5. MS Initiatives .....	17
6. 6G vision .....	21
7. Technical challenges .....	25
7.1. System level aspects .....	25
7.2. System architecture .....	27
7.3. Software Technologies for Telecommunications .....	29
7.4. Security .....	30
7.5. Radio Technologies .....	32
7.6. Optical Networks .....	35
7.7. Non-terrestrial networks .....	37
7.8. Devices and Components .....	39
7.9. Future Emerging Technologies .....	41
8. Timeplan and deltas .....	43
8.1. System, Architecture and Software .....	43
8.2. Security .....	45
8.3. Radio and NTN .....	46
8.4. Optical .....	50
8.5. Devices and Components .....	51
9. Conclusion .....	53
10. References .....	55

### Editors:

Rui Luis Aguiar, Instituto de Telecomunicações, Steering Board Chair of NetworldEurope  
Didier Bourse, Nokia, Chair of Workprogram Design Team for 6G Infrastructure Association  
Artur Hecker, Huawei, Chair of Vision Group of 6G Infrastructure Association  
Jyrki Huusko, VTT, Vice-Chair of Expert Group of NetworldEurope  
Ari Pouttu, University of Oulu, Chair of Expert Group of NetworldEurope

### Graphic design & layout:

Sallamaari Syrjä, University of Oulu

This SRIA, based on the previous document from 2020 (SRIA 2020), has been developed with the effort and contributions from hundreds of experts across Europe, in a long and cooperative process, that benefited as well from contributions from different associations. The full list of technical editors and contributors is included inside the annex.



- A substantial document (302 pages) covering the following area
  - System services description – Hasso-Platner Institute
    - New network services and overall system tradeoffs that need to be considered for the future, posing the stage for technology development
  - System and Network Architecture – Artur Hecker, Huawei
    - analyzing the evolution of systems towards dynamically composed, multi-stakeholder environments, with an increasing softwarization and intelligence of the whole system, and the accompanying challenges
  - Network and Service Security – Emmanuel Dotaro, Thales
    - discussing the paths on the increasingly relevant aspects of security in our infrastructure
  - Software technologies for telecommunications – Josef Urban, Nokia
    - addressing the software related challenges of the ongoing network softwarization, the increasing system complexity, and the enabling of adaptive and customized services.

- Radio Technology and Signal Processing – Wen Xu, Huawei
  - where the challenges and potential solutions perceived for the future wireless (and mostly cellular) communications are discussed
- Optical Networks (and System Components) – Raul Munoz, CTTC
  - a critical component of the backbone (amongst other potentialities) and its perceived evolution is detailed in this chapter
- Non-Terrestrial Networks and System Components– Alessandro Vanelli-Coralli
  - discusses the upcoming closer integration of 3D networks into the overall communication system
- Devices and Components for 2030 – André Bourdoux, Imec
  - tackles the unavoidable challenges at the fundamental element level, which will constrain and limit all system developments
- Future and Emerging Technologies – Anastasius Tasos Gavras, Eurescom
  - discussing promising technologies that may bring structural changes across all the current communication concepts. Some of these technologies are already being researched, but have not yet a clear path (if ever) to the transformational impact it is expected by their wide adoption.

- Overall, this SRIA has been the result of the work of a set more than 150 volunteers, coming from more than 85 entities.
- The Network World Europe community is in debt to all for their selfless efforts.
- The full list of technical editors and contributors is included in the last chapter of the annex. The editors wish to apologize if someone is missing from the list. Let us know and we'll add you to the list of contributors.
- SRIA webinar is planned for January 12-13, 2023

**SRIA 2022**

**GLIMPSE ON CONTENT**

**13.12.2022**



NETWORLD  
EUROPE

**THANK YOU FOR YOUR ATTENTION**

[networldeurope.eu](http://networldeurope.eu)