

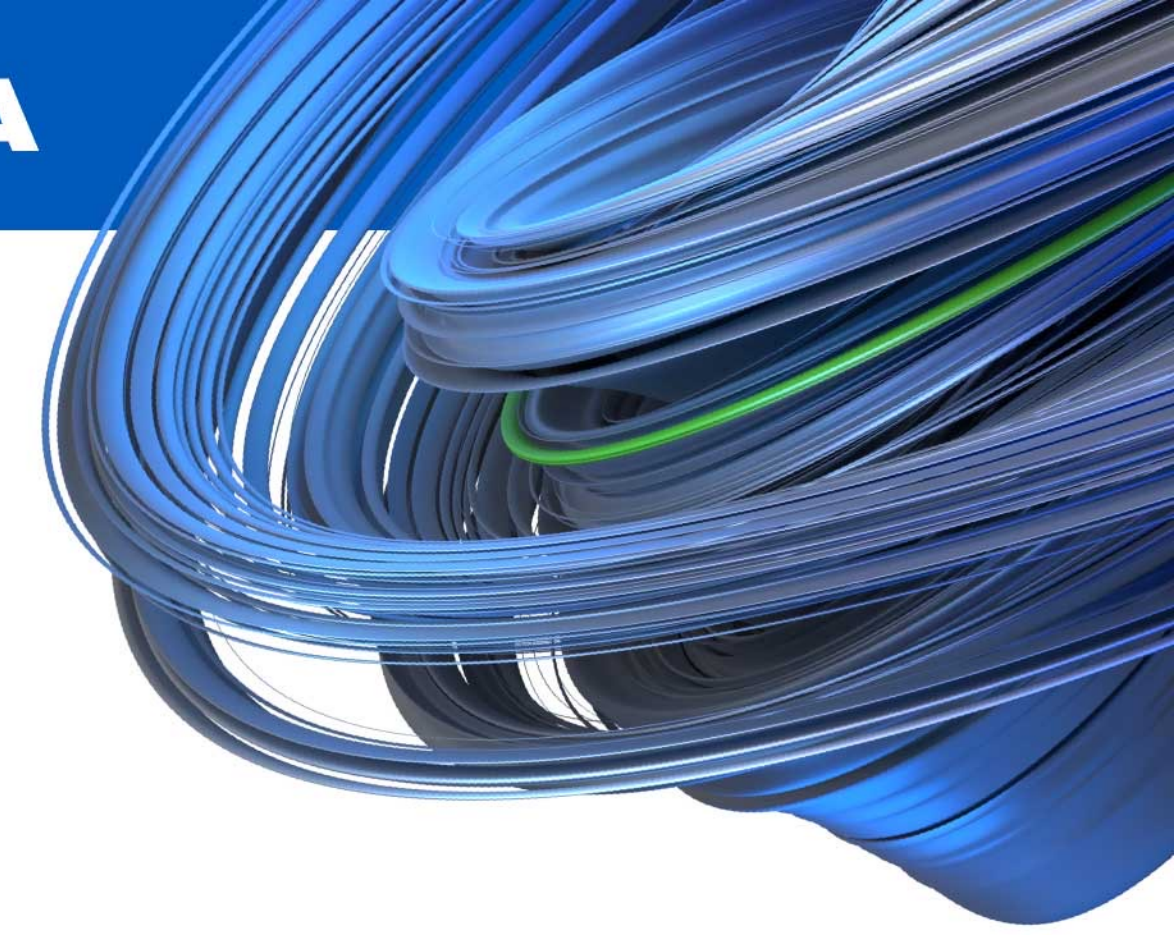
**PICs
for
Alternative Computing Discourses**

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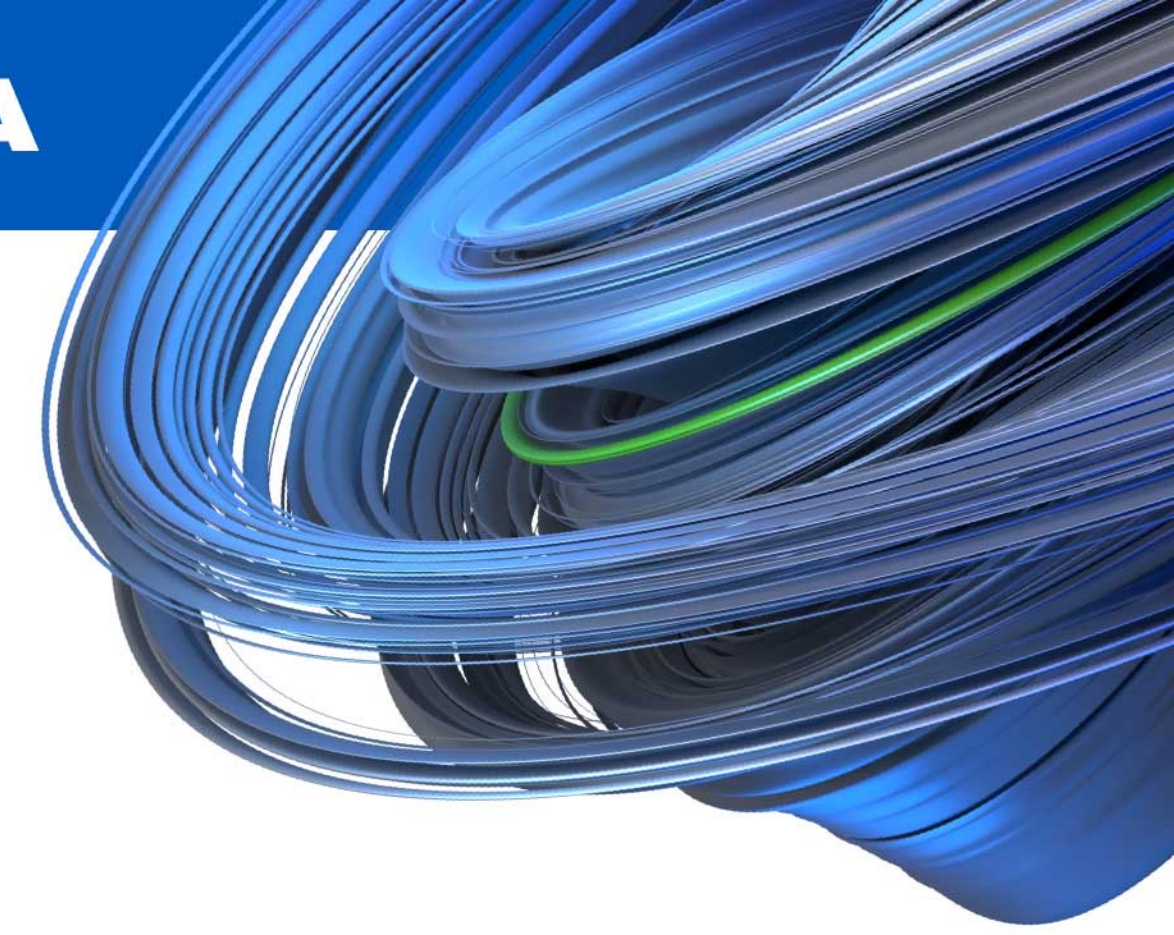
Agenda

- Contextual Rationality
- Alternative Computing Paradigms
- Integrated Photonics – PICs
- Quantum Photonics – Few propositions for PICs
- Our efforts and opportunity for Europe



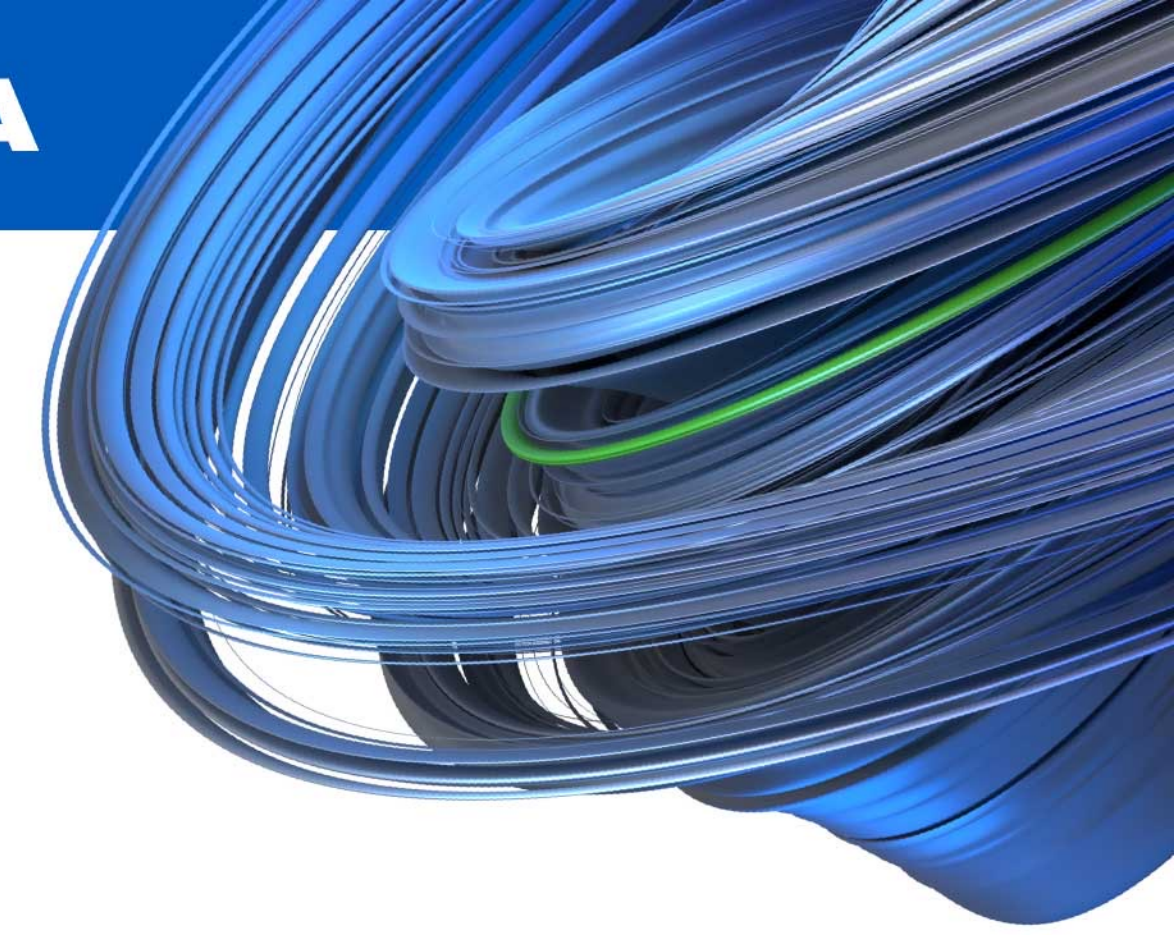
Contextual Rationality

- ‘Beyond Moore’ or ‘More Moore’
- Data Centrism – Surveillance Capitalism/Control Societies
- 4th Industrial revolution – Technological determinism
- Geo- political situation – Anti globalisation
- Rhizomic explorations



Alternative computing paradigms

- Emergence of alternative technologies
 - Photonics - Quantum - Neuromorphic computing
- Progressing towards Infinite Computing
- Photonics arrived in communications space and progressing towards computing
- Quantum : The ultimate computing paradigm ?
- Quantum Photonics – the future?



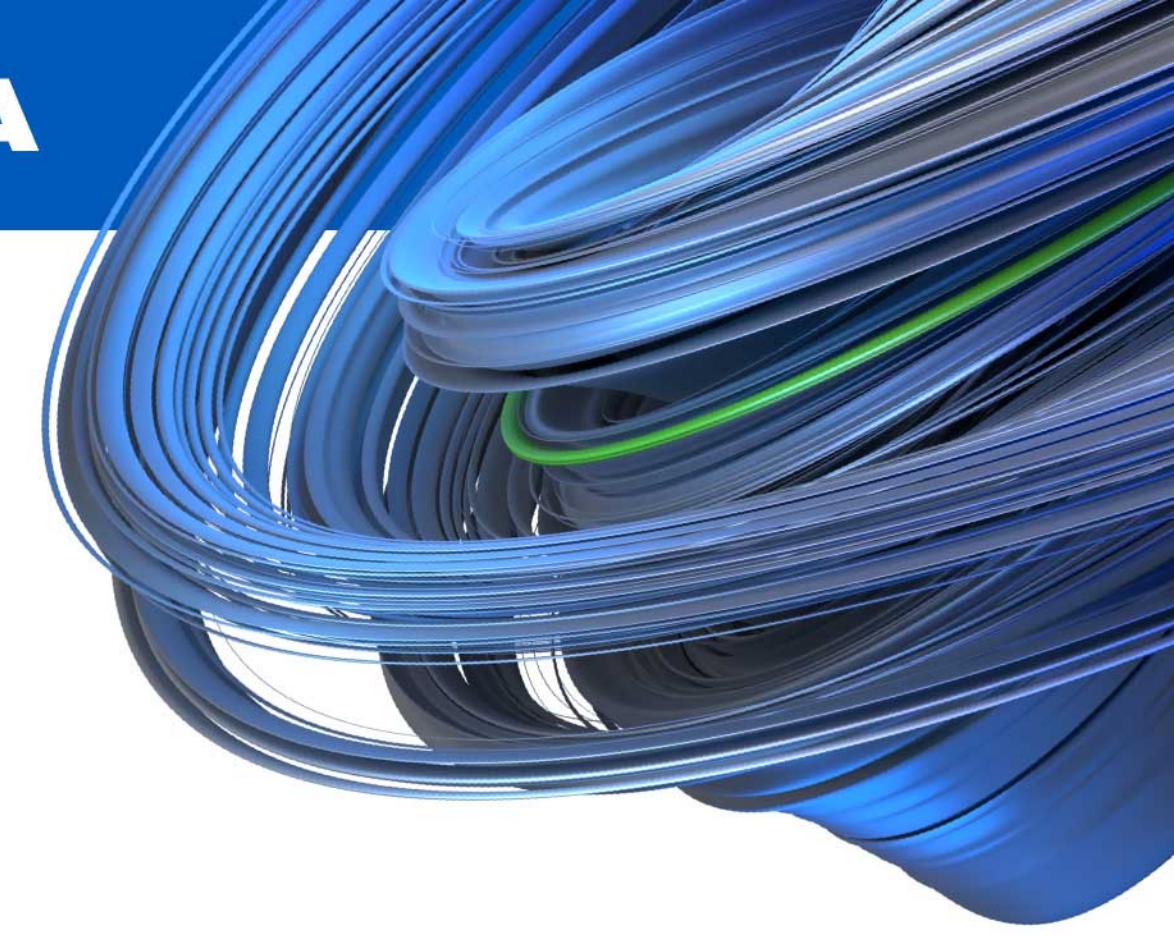
Integrated Photonics - PICs

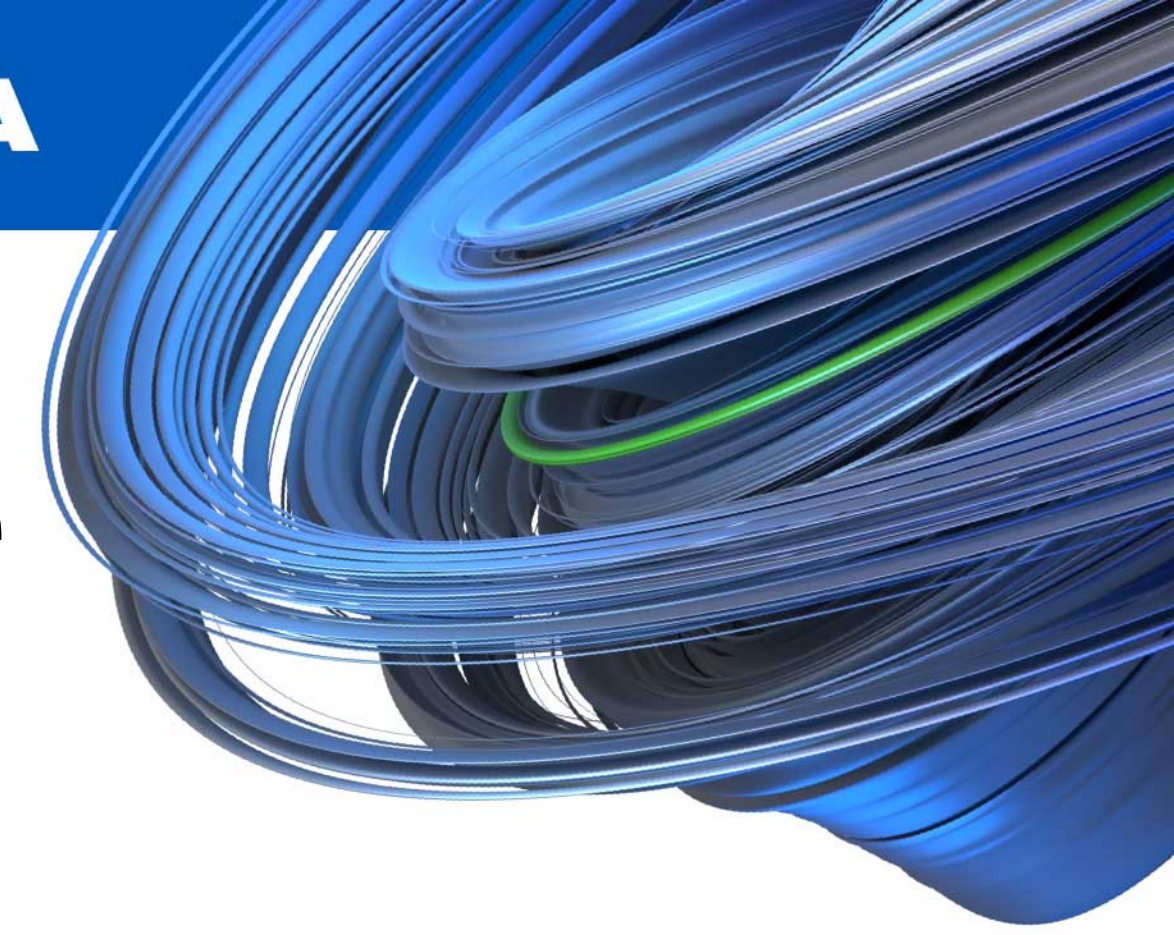
- Photonics established in communications space and on a definitive path towards computing
- Evolving very fast – III V materials
- More and more active components
- More and more foundries
- More and more propositions
- Datacom – Quantum com – Telecom – Astro com



PICs' propositions for Quantum

- Photonics started offering alternative path for Quantum computing
- Quantum communications are the Photonics communications
- PICs offer great value – miniaturization, reliability and cost arbitrage
- Few Propositions :
 - Quantum Communications - QKD/Satellite QKD,
 - Quantum Computing / Processing and
 - Quantum Memory/Internet





Our efforts – Opportunity for Europe

- Evolving ecosystem
- Focus on ‘Alternative computing technologies’ as they offer :
 - Level playing field - No legacy dependency - Low capital intensity
- Silicon Photonics and Quantum Photonics
- Incubation - Manufacturing ecosystem - Innovation Centers

**Opportunity for Europe : (i) Supply chain connect
(ii) Collective exploration**

Thank You