Key Role of Software and Software Engineering

Prof. Dr. Andreas Metzger

NESSI Steering Committee Vice Chair
andreas.metzger@paluno.uni-due.de

EUCEI/EC DG Connect Concertation and Consultation Event

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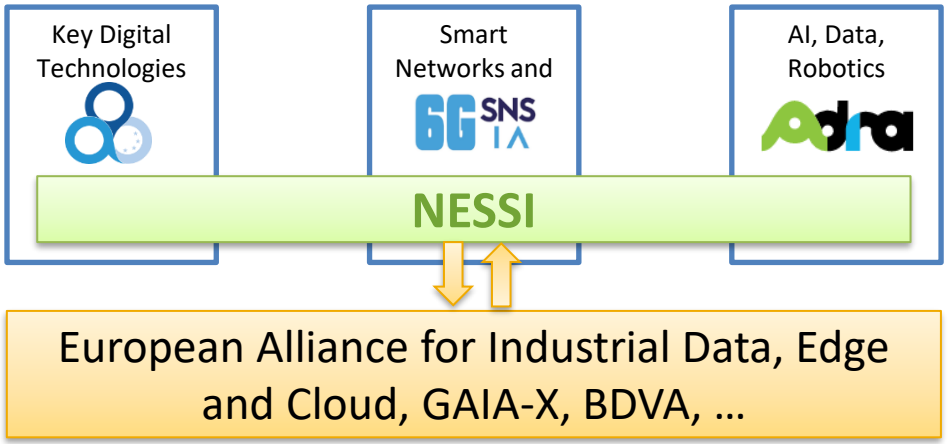
About NESSI

- EC-recognized **European Technology Platform in** in FP7 and H2020
- **16 partners** (“full members”) representing major ICT stakeholders from industry and academia
- Advocating horizontal, cross-cutting key role of **software** and **software engineering**



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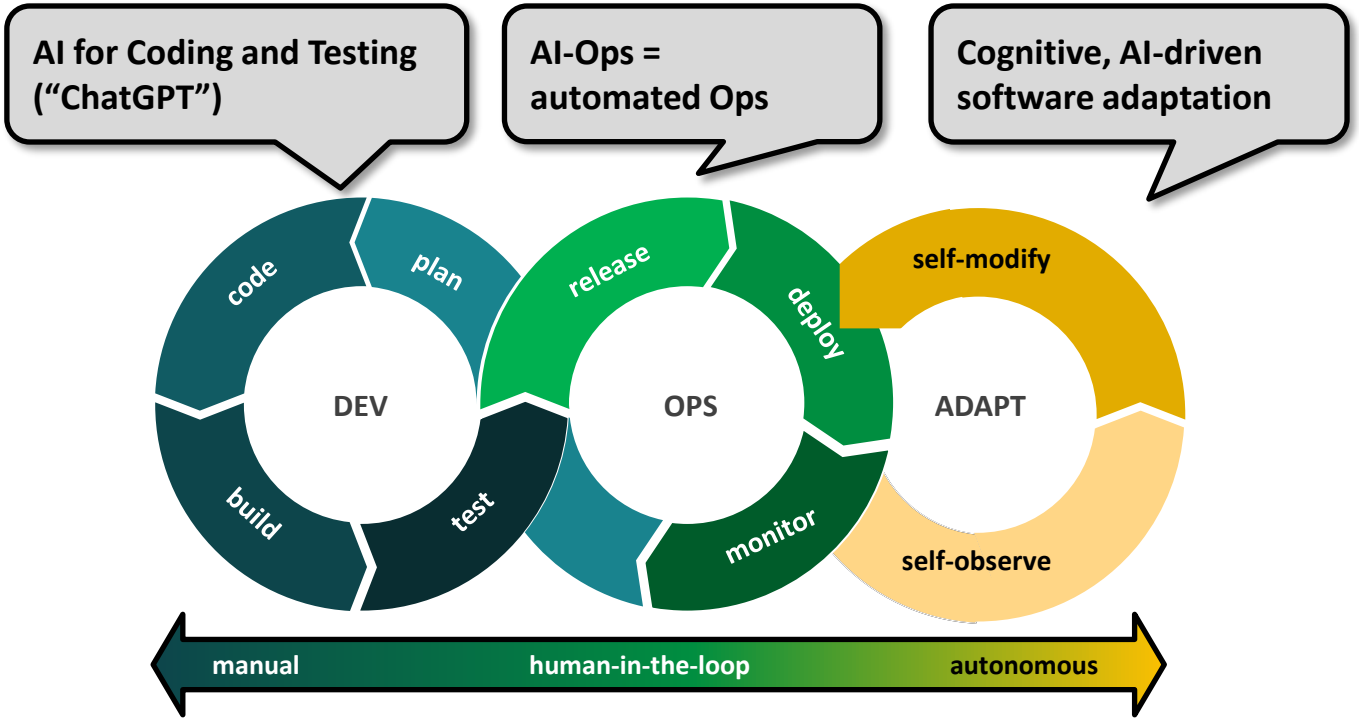
Generative AI for Software Engineering

AI as integrated part of software **life-cycle models** and **engineering methods**; e.g.,



NESSI Paper on Software and Artificial Intelligence

NESSI Stresses the Importance of Software Engineering for KDT

https://nessi.eu/wp-content/uploads/2020/09/NESSI-Software-and-KDT-issue1.pdf
https://nessi.eu/wp-content/uploads/2020/09/NESSI-Software-and-AI-issue-1.pdf

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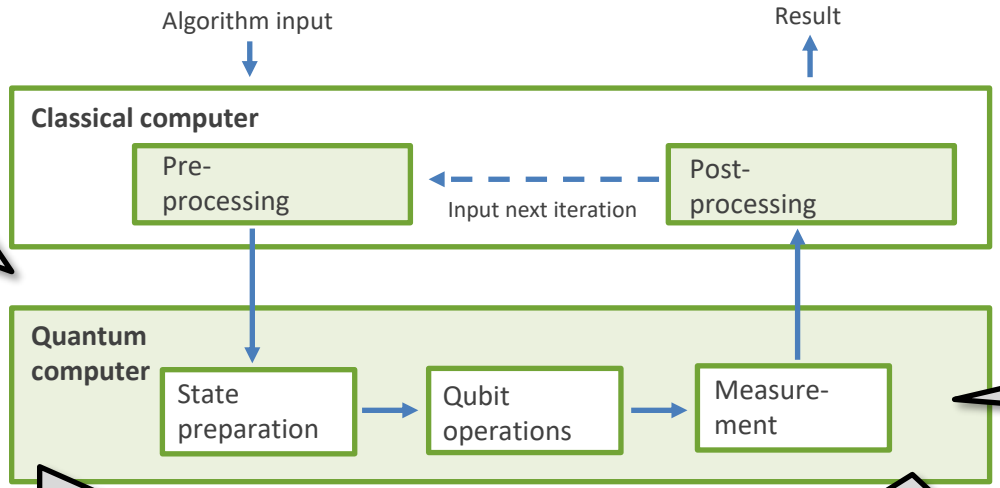
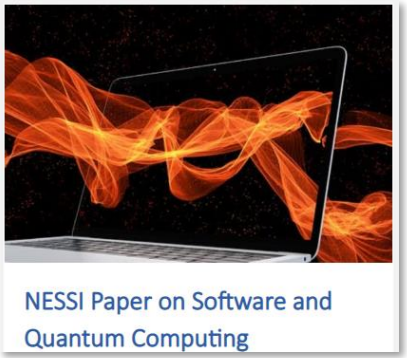
Quantum Software

Quantum algorithms as **novel software paradigm**; e.g.,





Integration and orchestration of classical and quantum computing

Testing and debugging of quantum programs

Programming abstractions and higher-level languages for quantum software

Software technology stacks for quantum computers

https://nessi.eu/wp-content/uploads/2022/05/NESSI-Quantum-Computing-issue-1.pdf

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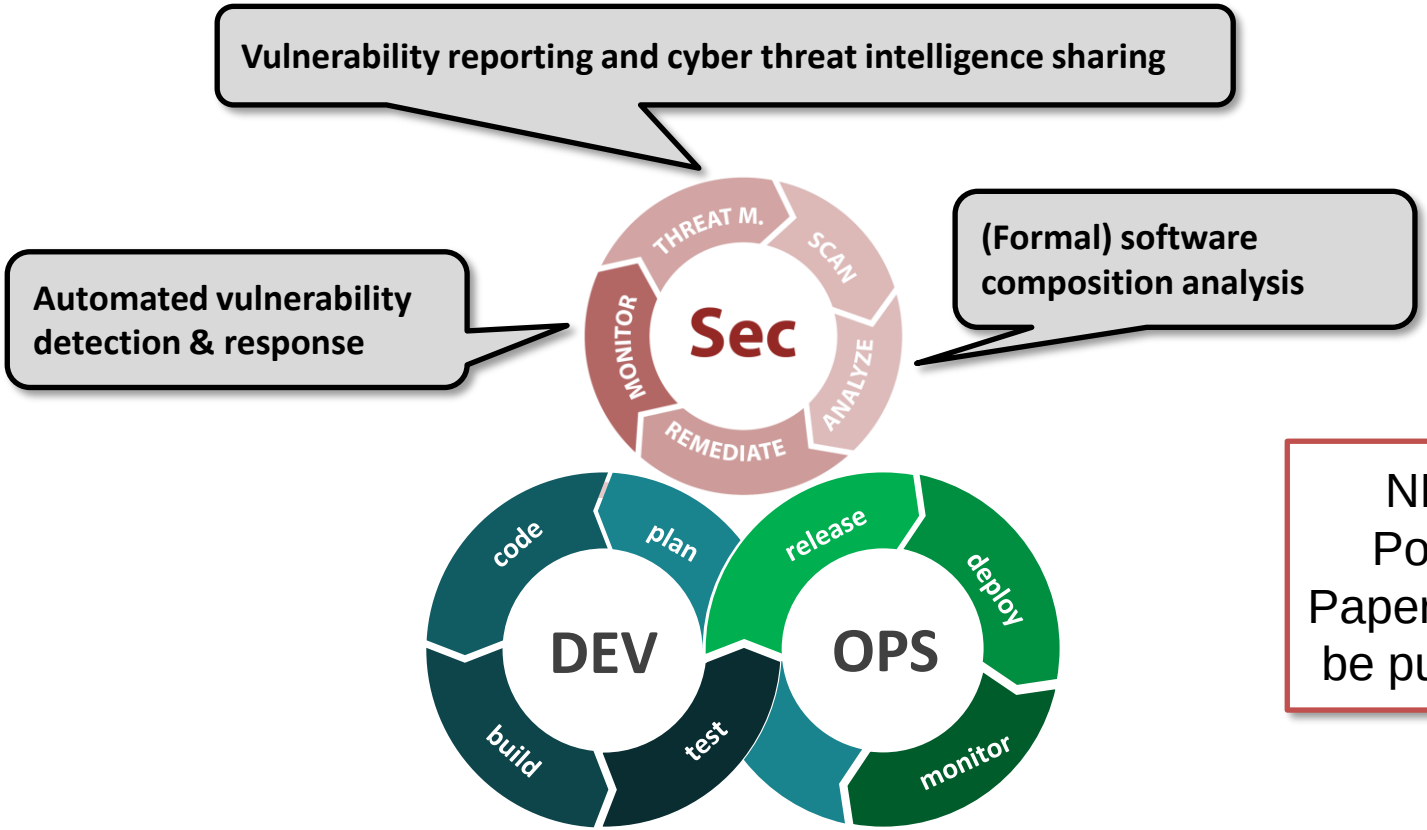
Secure Software

Ensure Security along whole software **life-cycle** and **software supply chain**; e.g.,



NESSI Position Paper soon to be published

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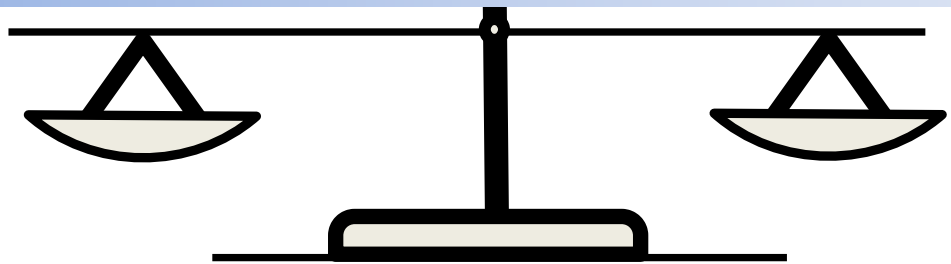
Open-Source Software

Need for **balanced view** on OSS; e.g.,

TCO	No direct cost: license, maintenance, …	Indirect cost: expertise, contributing, …
Reuse	Allows modification, debugging, integration …	Needs understanding and coding skills …
Community	Avoiding vendor lock-in	Relying on health of community and service providers providing missing skills and capabilities
Security	Security depends on health and governance of an OS project and the community	
Licensing	There are more than 200 different OS licenses. They may change over time.	



NESSI Paper on Open Source Software

A Balanced View of Open Source Software

https://nessi.eu/wp-content/uploads/2020/09/NESS-Open-Source-Software-issue1.pdf
https://nessi.eu/wp-content/uploads/2022/11/NESSI-A-Balanced-View-of-Open-Source-Software-issue-1.pdf

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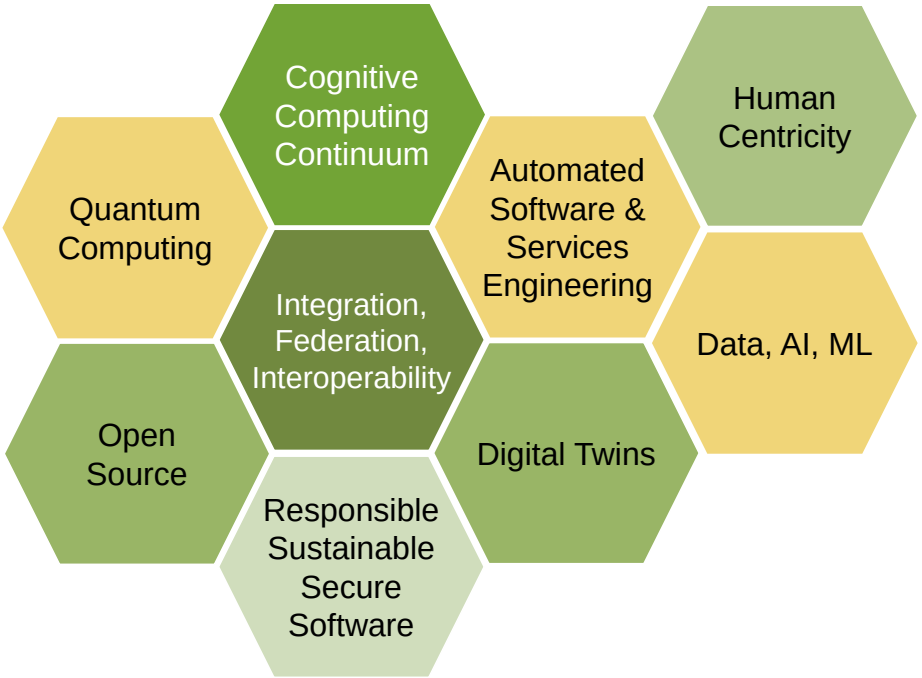
Engage with us!



Read our **position papers**:
https://nessi.eu/position-papers/

Get in touch for becoming **Partner**:
chair_SC@nessi.eu

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