How Much Autonomous can be the Autonomous Systems? From Dreams to Facts!

- ICAS panel -

Panelist:

Jan-Philipp Steghöfer, Augsburg University, Germany
Klas Nilsson, Dept of Computer Science, Lund University, Sweden
Nikola Serbedzija, Fraunhofer FOKUS, Germany, Moderator

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Outline

I. Jan-Philipp Steghöfer, Augsburg University, Germany
   - “The frontier of autonomy is not merely a question of technological feasibility but also one of social acceptability“

II. Klas Nilsson, Lund University, Sweden
   - „While the academic/scientific system promotes specialisation, the integration needed to accomplish such systems is thereby overlooked. Businesses either lacks the long-term competences, or have no reasons to contribute to the needed community effort. Hence, the situation is not so good, but I'll outline a couple of suggestions.“

III. Ambuj Mahanti, IIM Calcutta
   - „Autonomy of Autonomous Systems Should Be Up To The Level for Human Decision Support"

IV. Nikola Serbedžija, Fraunhofer FOKUS, Berlin
   - “Our autonomous systems are not so autonomous!"
Autonomous Systems and their Impact

- To what extent the presents systems are really autonomous?
- How autonomous we want them to be?
- Can we control the level of autonomy?
- What are the application domains that require autonomous systems?
- In which domains we do not want them?

- What is the impact that the autonomous systems can have on individuals and society in genera?
- Are we giving up our own autonomy in favor of technical systems’ autonomy?
The Frontier of Autonomy – A societal problem?

Jan-Philipp Steghöfer
Autonomous Systems for mission-critical applications

Mission-critical system: Power generation and distribution
- Unpredictable Resources
- Subsystems from different vendors
- Interaction over physical energy transport network
- Massive scale

Mission-critical system: Aviation and Automotive
- Increasing number of automatisms
- Failure can cause fatalities
- Reliance on such systems increases
This is my thesis:

The frontier of autonomy is not merely a question of technological feasibility but also one of social acceptability.

- Controllability, Transparency, and Accountability: **Trust**
- What are we as a society willing to delegate to autonomous systems?
- What are the opportunity cost of not deploying autonomous systems?
- What are the dangers and potential hazards?
- Do we need a societal discourse and collective consent before pursuing systems that are ever more autonomous?