Keynote of Engineer Reiner John,
Coordinator of AVL Research Funding Corporate Strategy

Title: "AI+ — Self-Awareness as the Key to Resilience, Efficiency, and ROI"

Speaker: Reiner John

Abstract:
The keynote will challenge the European progress on AI+ technologies. AI+ is an advanced AI framework that integrates self-reflection, adaptive decision-making, and multi-agent collaboration to enhance resilience, trustworthiness, and efficiency across diverse domains, such as smart health, automotive, and smart living.

The AI+ approach is built on the idea that a higher degree of self-awareness fundamentally enhances the decision-making capabilities of AI systems. While machines are not traditionally attributed with "consciousness," self-awareness in this context enables the system to reflect on its own actions and dynamically adapt to new or unexpected situations in a given or adapted context.

Reflective capability acts as the driving force behind resilience and robustness:
- Stable and reliable decisions even in complex or changing environments.
- Reduced need for in-depth layer analysis (e.g., in LLMs) to assess trustworthiness. (X-Ray of the system in most likely every layer will not help to understand better the outcome)
- Greater adaptability, leading to more efficient system optimization.

Drawing parallels from human psychology clarifies this concept: Narcissists often lack self-reflection, leading to poor decision-making. Translated into AI, this means that enhanced self-reflection results in better, more robust decisions.

Economic Benefits and the ROI Perspective:
A key advantage of the AI+ approach is the shortening of certification procedures. With the system's ability to self-monitor and validate its decisions, the need for extensive external reviews and deep structural analyses is significantly reduced.

This opens up new possibilities for a stronger Return on Investment (ROI):
- Faster market entry through streamlined certification cycles.
- Lower development costs thanks to adaptive self-optimization.
- Increased system reliability leads to long-term savings.

The tutorial will bring practical examples from some applications.

The Core Message:
AI+ is where technical excellence meets economic efficiency. The driving force behind this innovation is the pressing question: What is the ROI of AI+? — and the answer lies in faster, smarter, and more resilient AI solutions.

in my opinion, Europe spends too much emphasis on regulations comparing to US and China that move faster . So, I would like to advise our next generation to concentrate on fast moving ideas and on a more global competitive view. Furthermore, I would like to initiate a competition of using this technologies for an industrial purpose in health care.

CV: Reiner John

Reiner JOHN received his diploma degree in Electrical Engineering from the Fachhochschule des Saarlandes (Germany) in collaboration with the University of Metz / Perpignan (France).

1. In 1984 he started his career at Siemens Semiconductor Group in Munich in the area of development of automatic test systems.
2. From 1989, he was responsible for consulting and application of embedded control development tools in the Siemens Automation Group. After joining Siemens' Central Research and Development in 1991, Reiner was involved in research on knowledge-based embedded systems within the Fuzzy Group. In the field of automotive systems he was responsible for developing concepts and implementations for a real-time operating system for engine and transmission system control and monitoring.
3. In 1996, he moved to Siemens Semiconductors, later the IPO of Infineon Technologies, where he held various management positions in the company's quality and production departments. In 2000, he continued his career in Taiwan, where he established and managed the Infineon Silicon Foundry Taiwan Office as department head.
4. Starting 2007 Reiner contributes to research and development by initiating and coordinating publicly funded projects at national and European level and building the ecosystem for successful projects.

Joining AVL Graz in 2021 he contributes as Coordinator Research Funding
Corporate Strategy with a focus on electromobility, promoting innovation in cutting-edge technology, affordability, ease of use, lower emissions, and AI-driven digitalization for the