



Pro<sup>2</sup>Future Scientific Symposium on  
**SUSTAINABLE AND COGNITIVE  
PRODUCTS AND PRODUCTION SYSTEMS**  
of the Future



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## **The Future is Circular - Unternehmen auf dem Weg in eine moderne Kreislaufwirtschaft**

### **Abstract**

"Circular thinking" premised, cognitive production systems can play a crucial role in accelerating the transition to a circular economy. Using advanced technologies such as data analytics, machine learning and artificial intelligence, these systems can enable more efficient use of resources and identify bottlenecks, optimise processes and reduce material consumption. They also enable precise product lifecycle management by using sensors and IoT devices to monitor products, improve their traceability and plan repair, reuse or recycling at the end of their useful life. Cognitive manufacturing systems can support quality control and improvement by detecting and correcting defects early, resulting in less scrap and waste. They also contribute to resource recovery and recycling by identifying and sorting valuable materials from recovered products. By predicting demand more accurately and optimising production planning, they reduce overproduction and excess inventory, making more efficient use of resources and eliminating waste. Cognitive production systems can bring about the development of innovative value cycles by identifying potential for improvement and helping companies develop sustainable solutions to accelerate the transition to a circular economy.

### **Short Bio**

Karin Huber-Heim is Executive Director of Circular Economy Forum Austria, an initiative she co-founded with key players from business, science, design, politics, and society to support the transition to a circular economy. She leads the strategic engagement with business, science & research, politics, and civil society organisations on the necessary actions for dialogue and collaborative innovation. The Forum has multiple formats for interdisciplinary, multi-sector knowledge transfer and engagement to support the development of circular capabilities and business innovation at the international scale.

As board member of Global Compact Network Austria, she promotes SDG dissemination among Austrian companies. As Academic Programme Director she leads education programmes on sustainability & responsible management, circular economy & innovation, and sustainable finance at BFI Vienna.

She has extensive international experience working with companies of all sizes and industries to design, support and advise on corporate sustainability strategies and projects, and is a frequent speaker at conferences and podium discussions.