

W1 - Do opposites attract? When centralized systems meet decentralized digital technologies.

2. DIGITAL TRANSFORMATION of ORGANIZATIONS and INDUSTRIES

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Track summary: Several industrial systems have been governed by centralized regulations, systems, and processes but are today challenged by technologies that rely on decentralized governance structures. Two examples are energy and retail payment services. In energy, technologies for renewable energy open up for decentralized and small-scale energy production located close to energy users, which in turn enables local markets where small-scale producers can become self-sufficient or supply energy in a local market. The traditionally centralized system of large-scale production and long-distance electricity transport can potentially be replaced by small-scale production in local systems. The system must nonetheless meet the requirements of being in constant balance between supply and demand, which builds on centralized coordination. Retail payment systems is another example facing technological discontinuity. Centralized actors and systems have traditionally ensured stability and efficiency as well as national control but are now challenged by decentralized control and decentralized technologies. Blockchain protocols and decentralized ledger technologies have led to the creation of paradigmatically different systems and services for payments where Bitcoin is the prime example. There are strong tensions between centralized control via central banks and principles of decentralized technologies.

The questions for this workshop concern how businesses – in energy and in payment services - are being challenged by new actors, new technologies, and new organizing principles, and how they can act. The overarching question is whether the benefits of large-scale technologies and centralized system properties can be combined with the benefits of decentralized technologies and principles. And, if so, how?