

## **The promise of (alternative) platforms for (alternative) information infrastructures**

Over the past three decades, IT infrastructure projects have emerged in all sectors of society. Be it in government, education, healthcare, research, agriculture, or finance, these projects have been driven by the same promise: sector-wide IT infrastructures will reduce costs, foster innovation, and ultimately improve social welfare. Most of these projects have failed to deliver. They have been criticized for being pipe dreams, unworkable from the start, or for leading to the transfer and accumulation of power.

But despite criticism and repeated failures, they keep coming back. Proponents argue that experience gained over the years and new technological capabilities will overcome the difficulties of the past; efforts must continue, especially in light of the new crises and threats facing society. It is not surprising that to attempt to build an information infrastructure is fraught with difficulties. Building a system is never done in a vacuum. Contextual constraints always limit the possible design strategies and decisions (Robey and Markus, 1984).

To develop an information system at the scale of an organisation or of an enterprise is reportedly difficult. How much more difficult can it be to design and roll out an information infrastructure, shared among many organisations, across an entire economic sector, and possibly even across national boundaries? At this level, to work on a blueprint does not make sense. Design becomes a delicate balancing act of the existing (Peppe et al., 2014; Nielsen and Saebo, 2016).

Architecture must preserve organizations and their information systems, which are associated with structures and procedures, and more importantly, with people and work practices (Bowker et al., 2009; Edwards et al., 2009). Some researchers have identified a new way to build information infrastructures that they have coined platform-oriented infrastructures (Hanseth and Bygstad, 2021). This suggests that the platform model, which has been known for 15 years, could serve as a foundation for the sustainable assemblage of sector-wide information infrastructures out of large and respected existing platforms. Yet, even when they are run by public actors, most platforms discussed in the literature are centralized and proprietary service platforms, structurally

similar to the GAFAM (de Rosnay and Musiani, 2020). However, this type of platform is only one possibility among others: alternatives exist that rely neither on centralization nor on ownership. The most widely used is the TCP-IP protocol stack, which is the fundament of the Internet information infrastructure. But there are others.

These alternative platforms are increasingly sought after, especially in the context of the management and the sharing of sensitive or personal data. In this panel, we wish to collectively explore platform models (both dominant and alternative) and ask the question of their envisaged or proven opportunities for the constitution of sector-wide information infrastructures. Which are the socio-technical choices and the platform architectures involved in the design of IIS, whether centralized, peer-to-peer, federated or orchestrated? What configurations of actors do they presume? What is innovative or promising about them compared to past criticisms? What challenges and opportunities do they represent?

The panel invites contributions, both theoretical and empirical, that will advance knowledge and understanding of these issues.

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