

Journal of the Association for Information Systems (JAIS) JAIS Special Issue Call for Papers on

Contemporary Innovation in Information Infrastructures

This call for a special issue in Journal of the Association for Information Systems (JAIS) focuses on contemporary innovation in information infrastructures – especially the emergence of new technological capabilities such as block-chain, big data and Artificial Intelligence (AI), and Internet of Things (IoT) technologies- and consequent emerging new (inter) organizational forms and processes encompassing contemporary infrastructuring. The special issue builds on and expands the earlier stream of studies on information infrastructures (Monteiro et al. 2014) to garner a deeper understanding of the new, emerging forms of digitally enabled infrastructural formations and their design, growth patterns, and local, organizational, societal and institutional uses and impacts (Yeow et al, forthcoming). In particular, we encourage multi-level analyses, studies of infrastructures in heterogeneous contexts (developing economies; new industry contexts such as new financial services around cryptocurrencies), and so on. The studies are expected to give due consideration to both organizational and societal level relevance and significance, including double-edged effects that have often been missed in the past analyses of infrastructural formations. These effects include but are not limited to changes in social justice, climate change, immigration, human or personal rights. Personalised technology infrastructures such as social media and smart phones have for example created novel societal problems that range from the accelerating mental health crisis among children and adolescents, growing anomie among social groups, threats to privacy and security, to the breakdown of consensual politics. At the same time, infrastructural solutions are being proposed to resolve many critical challenges of contemporary society including the rising cost of public services, responses to climate change, or creating engines of economic growth by providing personalized health care, optimized agriculture, or new 'clean' manufacturing systems. More broadly, societal level information infrastructures play an increasingly central role across many spheres of social organizing and engineering including governance, health care, education and most public services, energy, commerce, culture and entertainment, and even cold and hot warfare between nations.

Whilst engaging with these empirical developments, research on contemporary topics such as AI, block-chain and IoT solutions increasingly adopt an infrastructural perspective. There is currently a worldwide shift of attention towards recent rapid technical developments and early adoption and use of AI solutions, which has stimulated diverse empirical studies of specific, local AI applications. At the same time these studies struggle to analyze the broader context that makes such systems technologically and organizationally feasible and pushes organizations, industries and societies towards new AI based solutions. To address these questions requires the application of an infrastructural perspective which opens up under-theorised aspects of AI enabling such applications, such as digital data governance and digital storage and processing power, which all have become



infrastructural. Such analyses must go beyond portrayals of AI as discrete "things" with 'effects': a self-contained algorithm, or a singular application. Rather, from an infrastructural perspective AI should be treated as a comprehensive and evolving assemblage of heterogeneous technological and social elements (models, parameterization, optimization, training data) and their ever-expanding relationships. On top of this, AI is shaping and is shaped by communities of practices, one of the main tenets of infrastructural studies (Star and Ruhleder 1996; Hanseth et al. 1996)).

We invite original papers that engage with, scrutinize and highlight contemporary developments in a world composed of increasingly pervasive and rapidly changing information infrastructures and their component systems integrated into daily routines and widely shared services provided across time and space. We appreciate generally any analytic work that mobilises and resonates with the broad aims and approach outlined above in novel, interesting ways, and explores empirically and/or theoretically the landscape and manifestations of ongoing digitalization and expansion of infrastructures within the contemporary society. The expected contributions are not confined to any particular 'school' or position of infrastructure studies and can take any feasible theoretical and methodological stance towards the subject matter. Our scope is highly inclusive: we wish to recruit all scholarly work showing an interest in building upon, extending, or modifying current streams of work focused on information infrastructures.

In particular, we invite contributions focused on, but not limited to, the following themes (as illustrated by a non-exclusive sample of indicative topics):

1. Infrastructuring of Platforms, Platformisation of Infrastructures:

Contemporary organizations and societies struggle with finding appropriate strategies for architecting information infrastructures that can serve specific and urgent needs of different stakeholders. A case in point is failures to address properly privacy and ownership of personal data. Studies of novel architectural strategies, of evolving architecture/governance constellations related to digital platforms, platformisation processes and information infrastructures are welcome (Constantinides et al. 2018; Plantin et al. 2018). We are specially interested in studies that examine how diverse actors can/should pursue orchestration, governance and strategy in data-intensive digital ecosystems that can serve multiple goals and interests. Our aim is that such studies will enrich the current discourse dominated by primarily managerial perspectives on how to architect and orchestrate data on platform ecosystems.

2. Governance of/by Information Infrastructures:

We seek research that adds to our understanding of how information infrastructures and governance are related (Steifel et al. 2024). This could be studies of how information infrastructures embody governance aims in contemporary institutions (such as public entities, markets), as well as studies of the application of specific governance mechanisms in Information Infrastructures. Governance encompasses different forms, such as regulatory, professional/expertise-related, technical or political, and the existence and interplay of different forms are important to



understand, as are studies that uncover who influences governance, e.g. via public participation or execution of political or professional power. We are especially interested in critical views and failures of current governance and proposals for new and alternative forms of governance.

3. Societal Challenges addressed through Information Infrastructures:

Information infrastructures facilitate data sharing and large-scale coordination which are central to address many of the grand challenges our societies face. We welcome studies of information infrastructures and processes of infrastructuring in these domains, such as climate, healthcare, transportation and agriculture infrastructures. These infrastructuring processes also present challenges such as the rise of exclusionary processes, (e.g., related to ageing in an infrastructural world) and risks for political and social cohesion and stability (e.g., related to polarization, misinformation or surveillance spread via social media platforms). This topic highlights how the relevant unit of analysis for digital transformation are whole industries or sectors, not singular organizations. We also invite studies which discuss the risks that rising digital infrastructures pose for the operations and safety of current societies including environmental risks, privacy risks or system level risks.

4. Approaches to Data & AI Informed by Information Infrastructure Perspectives:

Much of the IS field is currently turning to examine AI: its design, use and impact. An infrastructure perspective holds the potential of articulating a fresh theoretical angle on AI, underlying dataintensive technologies and related datafication processes. This theme includes studies that unveil how AI operates as an infrastructural assemblage, how AI contributes to the epistemic infrastructures (such as libraries, instrumentation etc.) of contemporary science and society, or how AI systems spread and scale up as they become infrastructural. We also invite studies of novel instrumentation and infrastructures in specific epistemic practices such as engineering or health care to bring back a focus on materiality in AI/data studies. We also invite studies that identify and review risks of AI technologies to different groups, professions, organizations and industries as these systems become components of large-scale digital infrastructures.

5. Theoretical Frames and Methodologies Salient to Infrastructure Studies:

We welcome papers that propose and debate theoretical frames as well as methodological questions associated with infrastructure studies (Cordella 2010). These include for example discussions of methodological implications of analytically pursuing infrastructure perspectives and specific challenges associated with embedded approaches where fieldwork, interventions and action research play a prominent role but need to be often scaled given the size and complexity of current infrastructures. We also welcome self-reflexive papers that adopt a critical look on the field, and discuss for example how well current approaches deal with inherent properties of information infrastructures including path-dependency, complexity and multilevel nature.



Submission policies and timetable

The special issue is open to both empirical and theoretical articles which align with scope and mission of the special issue. Preference is given to empirical papers but we also welcome theory papers that address any of the specific challenges of the contemporary information infrastructures. The special issue is agnostic regarding theory, method and unit of analysis as long as the study contributes new, credible and useful ideas related to contemporary infrastructures as defined above and the connection is clearly indicated in the manuscript.

Initial submissions July 30, 2025

1st Round Decision on Submission November 30, 2025

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2nd Round Decision September 30, 2026

Revised Submission January 15, 2027

Final decision June 15, 2027

Publication of the special issue will take place in Fall 2027.

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