**KfW Development Research**
Development in brief

# Digital sovereignty as a prerequisite for effective inter-institutional cooperation

Issue 4, 13 May 2026 // Authors: Yvonne Hartmann, Dr Jure Zakotnik, Editor: Heide Kühlken

Cooperation between international cooperation actors is becoming increasingly digital. Documents, analyses and decision-making bases are digitally created, exchanged and coordinated between the institutions involved. For these often confidential cooperation processes, software and cloud solutions from a small number of vendors are typically used. This makes digital cooperation efficient, but creates structural dependencies. In fact, individual, centralised platform operators or organisations assume data sovereignty over information from the institutions and companies involved. The digitisation of bilateral and international cooperation thus directly affects questions of digital sovereignty: What does cooperation mean if digital workspaces do not belong to all stakeholders? How can trust be built in digital collaboration between organisations? And, can efficiency be increased without creating new technological dependencies?

## Digital sovereignty between aspiration and technical reality

Digital sovereignty is often equated with the use of open source software or the choice of a specific server location, but falls short in inter-institutional contexts. As soon as several organisations work together with data and only one of these organisations has data sovereignty, we speak of a centralised system. This includes not only the control of data and metadata, but also the technical framework of data management. In such inter-institutional relations, a structural imbalance inevitably arises. The leap of faith that is needed here can easily be lost, especially if the legal, political, or organisational framework is different. In practice, complex access processes and media breaks also make it difficult to understand changes and responsibilities.

## Decentralised data spaces as the basis for sovereign cooperation

One possible approach to strengthening digital sovereignty is to use decentralised data management systems. Documents are no longer held by a single organisation, but are stored and kept in sync across multiple organisations. The focus is not on a central platform, but on common rules on how data should be made available. Digital workspaces thus become a fairly shared space for cooperation.

## Sovereign AI as a supplementary building block

In a primarily text-based collaboration, the use of artificial intelligence facilitates the analysis, structuring and summarisation of documents. At the same time, proprietary AI services create new dependencies on large AI providers and raise questions about data protection. Decentralised data rooms offer alternatives. This enables the integration of open-source and self-operated AI models. AI analyses of the shared documents are visible to all and thus avoid duplicate AI processing.

## Solution approach: Decentralised document collaboration

In order to validate the technical implementation or to identify possible obstacles, an open source solution was developed and published: TruSpace is a tool for AI-supported collaboration on documents based on a decentralised, non-public network. Each organisation involved manages its own installation, which synchronises documents with other TruSpace installations without necessarily relying on them. It enables the processing and distribution of documents across organisational boundaries, without the need for a central platform. Instead, all changes are saved within the respective organisation and synchronised with

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others, so that e-mail delivery and version conflicts are avoided. Tamper resistance is high because a cyber attack would have to be carried out against all locations simultaneously. However, one insight from the implementation is that the complexity increases, as all participants have to manage "their" installation themselves. Sovereignty comes at a price – independence also means responsibility for your own data and systems.

## Conclusion

Digital sovereignty is not an abstract guiding principle, but a concrete prerequisite for robust inter-institutional cooperation. De-centralised data spaces, open technologies and sovereign AI approaches show that efficiency, cooperation and self-determination do not have to be contradictory. The key is not to treat digital collaboration primarily as a question of tools, but as a design challenge in which technological architecture, governance and trust are considered together. Institutions with such a perspective create the basis for resilient, equal and more effective cooperation. ■

ISSN 2195-1403 

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