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ODISSEI: the Dutch National Infrastructure for Social Science

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This presentation demonstrates how the ODISSEI research infrastructure enables interoperable, population-scale social science through the integration of data, compute, and services. At the core of the architecture is access to high-quality administrative microdata via Statistics Netherlands (CBS), combined with secure storage and linkage through the CBS Data Storage environment. Discovery and contextualisation of these data are facilitated through the ODISSEI Data Access Broker (DAB) and the ODISSEI Portal, which together streamline dataset findability, access requests, and metadata harmonisation across providers. The analysis leverages population-scale networks constructed within the Secure Analytics Environment (SANE), enabling computationally intensive network operations while complying with legal and ethical constraints. Interoperability across services is achieved

through shared standards, coordinated identifiers, and integrated workflows across ODISSEI's service stack, including the ODISSEI Secure Supercomputer (OSSC) for scalable analysis and the ODISSEI Code Library for transparent documentation, versioning, and reuse of analytical pipelines. By linking administrative registers, derived network layers, and reproducible code within a single federated infrastructure, ODISSEI lowers barriers to complex, multi-source research while increasing robustness and replicability. The presentation focuses on the architectural design rather than the empirical results, showing how ODISSEI functions as an integrated ecosystem rather than a collection of standalone tools and illustrates how national research infrastructures can operationalize FAIR principles, support population-scale analytics, and provide a blueprint for interoperable social science infrastructures in Europe.

