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ODISSEI Secure Supercomputer - a breakthrough in complex data linkage and applications.

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The social reality is becoming increasingly complex and social scientists interested in studying those complexities and resolving real-world problems (such as increased inequalities or the spread of contagious diseases) require an advanced infrastructure to advance this task. Ideally, a research infrastructure delivers access to rich and interlinked data that can be analysed with sufficient computational capacity while adhering to the highest security standards imposed by the sensitivity of this data. ODISSEI (Open Data Infrastructure for Social Sciences and Economic Innovation) offers such a unique opportunity in the Netherlands. In this talk, the ODISSEI Secure Supercomputer (OSSC) and its potential will be highlighted. This infrastructure allows researchers to work with the extremely rich administrative data curated by Statistics Netherlands, covering different facets of life of the whole Dutch population and application of the complex models, pushing the boundaries of social sciences. The OSSC offers researchers sufficient computational power, memory, and GPUs to execute projects that include complex applications, such as Agent Based Models, network analysis, machine learning or LLM methods (such as life2vec). Moreover, high-security standards to which the environment adheres allow complex linkage with the genetic data, expanding the scope of research questions that can be studied even further. In this talk, the results of the ongoing studies will be presented, as well as the possibilities to conduct research using the OSSC infrastructure.

