

Privacy Respecting Secure Digital Exchange.



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How to bring your research to the data? (DA2: demo personal health train)



Context: traditionally, researchers need to collect data for their research.



Problem: large amounts of personal data become at risk to be exposed.



Solution: Our “Personal Health Train” brings research to the data.

Controlled access to heterogeneous data sources while ensuring maximum privacy protection

Stations containing FAIR data (‘FAIRports’) controlled by individuals (‘Personal lockers’), (general) physicians, biobanks, hospitals and (public) data

How to keep your data encrypted during the analysis? (DA3: demo patients-like-me)



Context: Patients-like-me analyses can be used to improve medical care.



Problem: Exchanging patient data yields many privacy risks.



Solution: a hybrid analysis homomorphically encrypting sensitive data

Open source tools make it easier to implement homomorphic encryption. Common data science pipelines like clustering can be adjusted to use these tools. However, this homomorphic data science has some limitations e.g., concerning computation speed

A **hybrid solution** to do the analysis partly in the **homomorphic domain**. By encrypting the most sensitive data privacy is enhanced while still ensuring computation performance.

How to set-up secure digital environments for data handling and analysis?



Context: personal data is stored increasingly in personal storage in the cloud



Problem: analysis still requires a central party that can access the data.

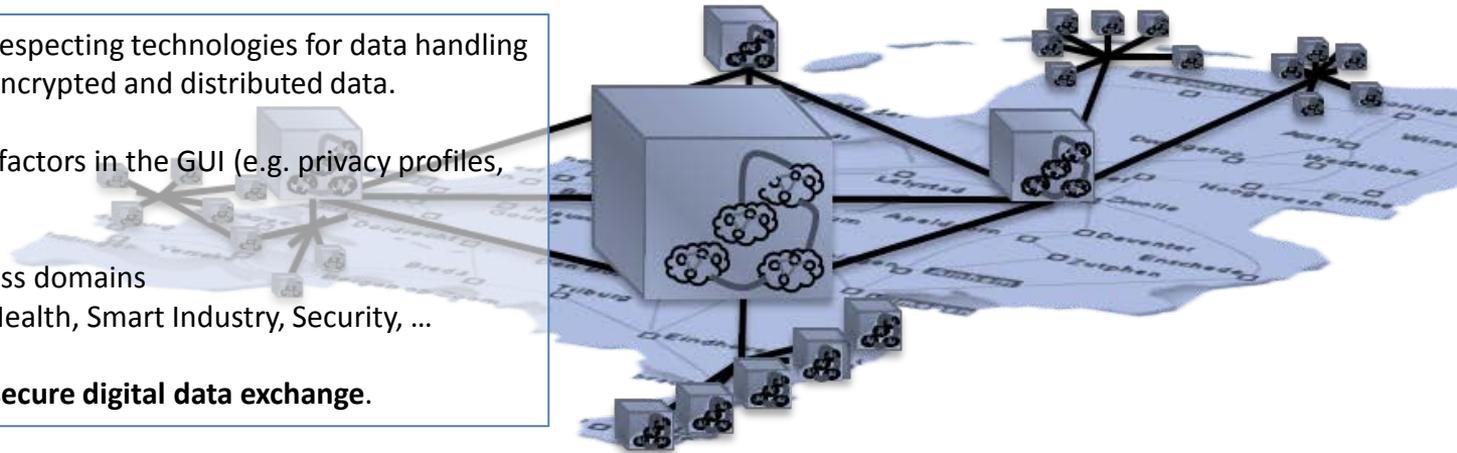


Solution: Develop technologies on personal data spaces of the future.

Personal data spaces should not rely on a third party with access to the raw data.

Additional success factors are transparency, user control, and feedback (PRANA user study).

- Develop a chain of privacy respecting technologies for data handling and analytics with (partly) encrypted and distributed data.
- Implement the key success factors in the GUI (e.g. privacy profiles, health hub, value-for-data).
- Focus on use cases in or cross domains
- E.g. Mobility and logistics, Health, Smart Industry, Security, ...
- Find partners to develop a **secure digital data exchange**.



Share Analysis. Not Data.

Privacy Respecting ANALYSIS of distributed patient health DATA (www.PRANADATA.nl)

Jessica Doorn, TNO | Pitch Commit2Data Matchmaking event
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