Karlsruhe Institute of Technology

Division II – Informatics, Economics, and Society

Institute of Information Security and Dependability (KASTEL)

ANYMOS – Anonymization for Networked Mobility Systems

Mobility Services with Anonymized User Data

Data-driven Mobility

Successful scaling of the public transport in Germany requires a more efficient use of the existing infrastructure. To this end, large data volumes are needed to make detailed prognoses and smart recommendations for users without invading their privacy.

Future mobility solutions will therefore be data-driven and largely based on the needs of users. Personal data will mostly be indispensable, but are subject to data protection regulations.

Anonymous Mobility Techniques

DData are produced by autonomous driving as well as by interconnected infrastructures, such as smart traffic lights or traffic management systems that communicate with each other. Data are also collected by public passenger transport systems, examples being electronic ticket purchasing systems or cameras on trains.

The problem: While a single data source may not allow any conclusions to be drawn about individuals, the situation may change when data from several sources are linked and combined smartly with each other.

To prevent this, ANYMOS is developing ticket systems that charge for the distance covered without revealing the passenger's route. Such cryptographic solutions may help secure anonymity and are aimed at establishing anonymization as a dependable technology in the long term.

Anonymization as Enabling Technology

The ANYMOS competence cluster uses concrete applications to study the use of anonymization techniques while maintaining the usefulness of data. The benefit of anonymization in reducing uncertainties about the legally compliant use of personal data must not go at the expense of the usability of data for concrete applications.

Networked public passenger transport systems produce many data. (KIT/Amadeus Bramsiepe)

ANYMOS will establish a model procedure for companies to identify anonymization needs and options, select suitable state-of-the-art methods, use them correctly, and identify and assess systemic re-identification risks.

The exhibit demonstrates the anonymization procedure while maintaining data usability for various mobility applications.

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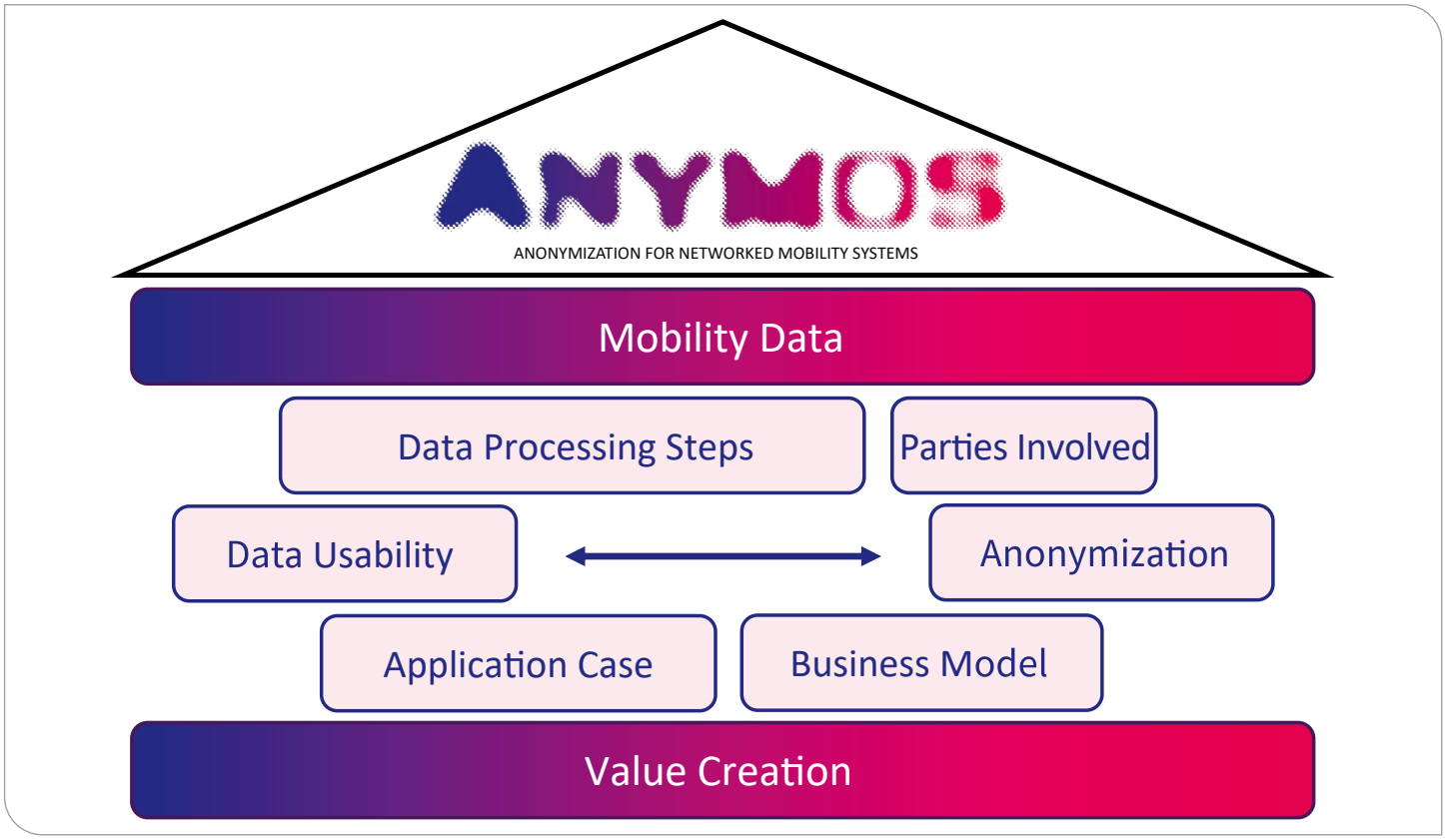

Overview of the ANYMOS project. (Graphical representation in German: https://anymos.de)

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