INESCTEC

opti-MOVES

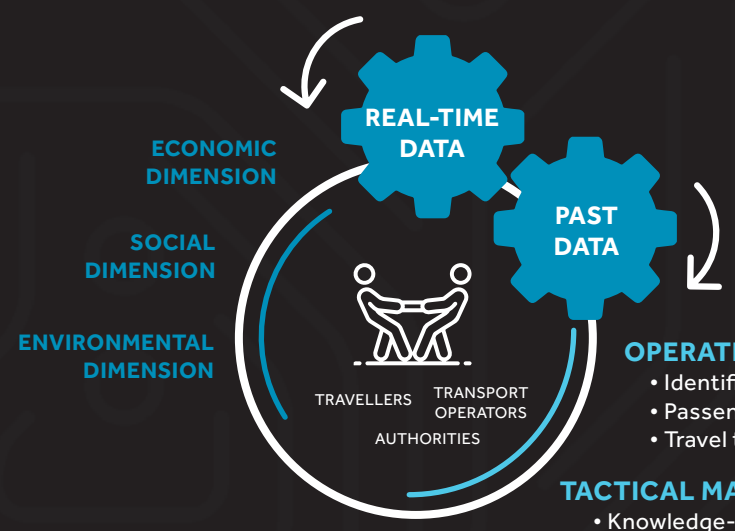
Quality management of intermodal public transport services

GOAL

To combine diagnosis and optimization methods to improve the quality of intermodal urban public transport services.

FOUR MAIN COMPONENTS

- **A** **domain modeling** and **data integration** supported by the definition of a domain ontology;
- **B** **knowledge extraction**, with support of machine learning methods for the identification of patterns that affect the quality of services;
- **C** **optimization** techniques to improve public transport operations;
- **D** **information visualization** for supporting decision-making of transport stakeholders, and for exploratory data analysis.



OPERATIONAL MANAGEMENT

- Identification of travel patterns and atypical operations
- Passenger demand forecasting
- Travel time optimization

TACTICAL MANAGEMENT

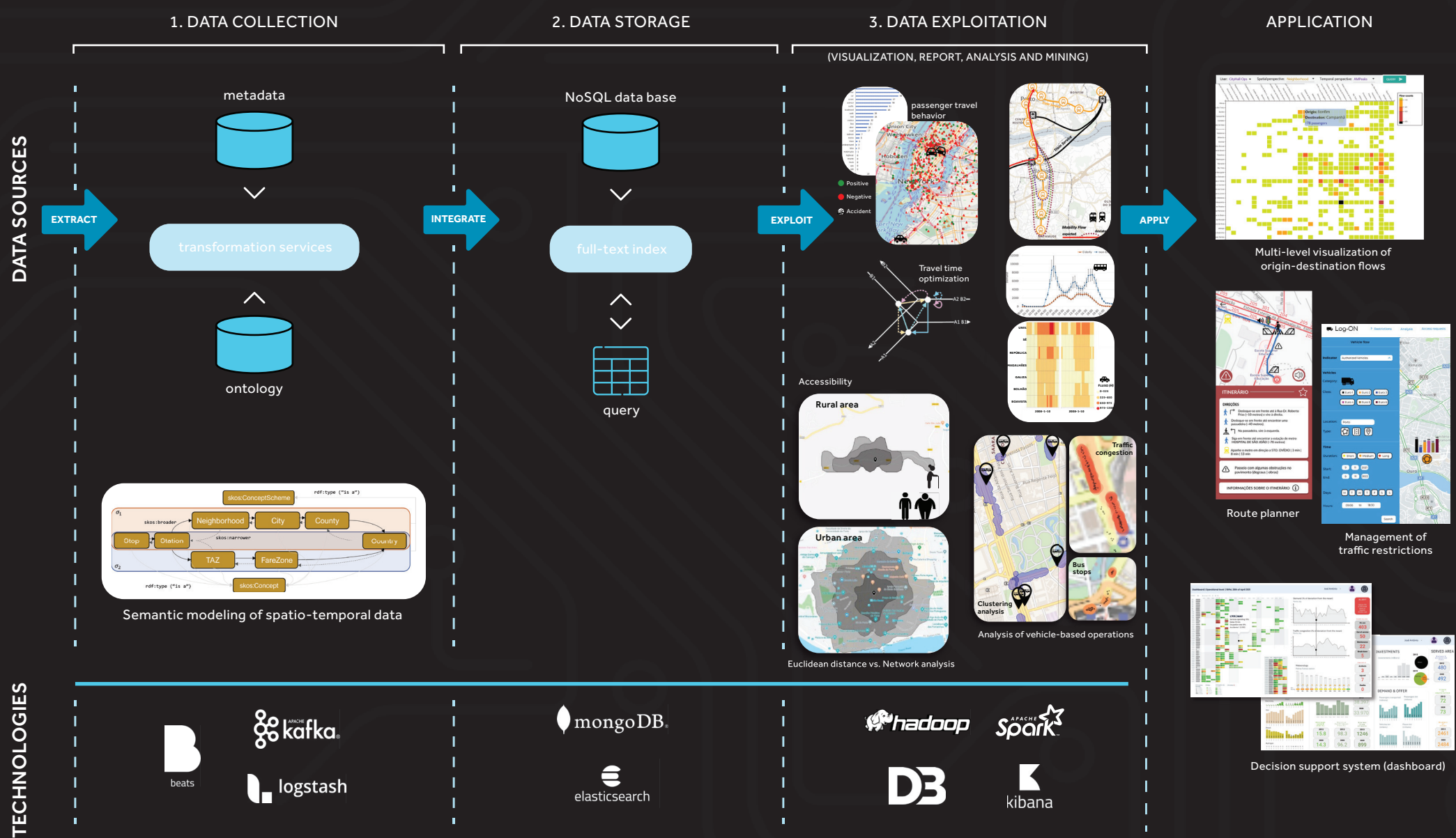
- Knowledge-assisted visualization tools using ontologies
- Information provision to passengers
- Improving accessibility
- Design of sustainable responsive transport systems
- Fleet transition

An architecture for data collection, data exploration and data exploitation was defined using big data technologies.

Large amounts of data (past and real-time data) were obtained from different transport operators and urban contexts.

Such data and tools supported the study and analysis of different techniques and topics related with operational management and tactical management of urban public transport.

The methods investigated aimed to support decision-making of transport operators and authorities in planning, monitoring and optimizing operations in the definition of urban policies, mostly related with social issues.



TECHNOLOGIES

beats · kafka · logstash · mongoDB · elasticsearch · hadoop · Spark · D3 · kibana

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Acknowledgements

This work is partially financed by the ERDF - European Regional Development Fund through the Operational Programme for Competitiveness and Internationalisation - COMPETE 2020 Programme and by National Funds through the Portuguese funding agency, FCT - Fundação para a Ciência e Tecnologia within project opti-MOVES (PTDC/ECI-TRA/32053/2017 - POCI-01-0145-FEDER-032053). The work of Tânia Fontes is financed by FCT scholarship SFRH/BPD/109426/2015.

FCT Fundação para a Ciência e a Tecnologia · COMPETE 2020 · PORTUGAL 2020 · UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional