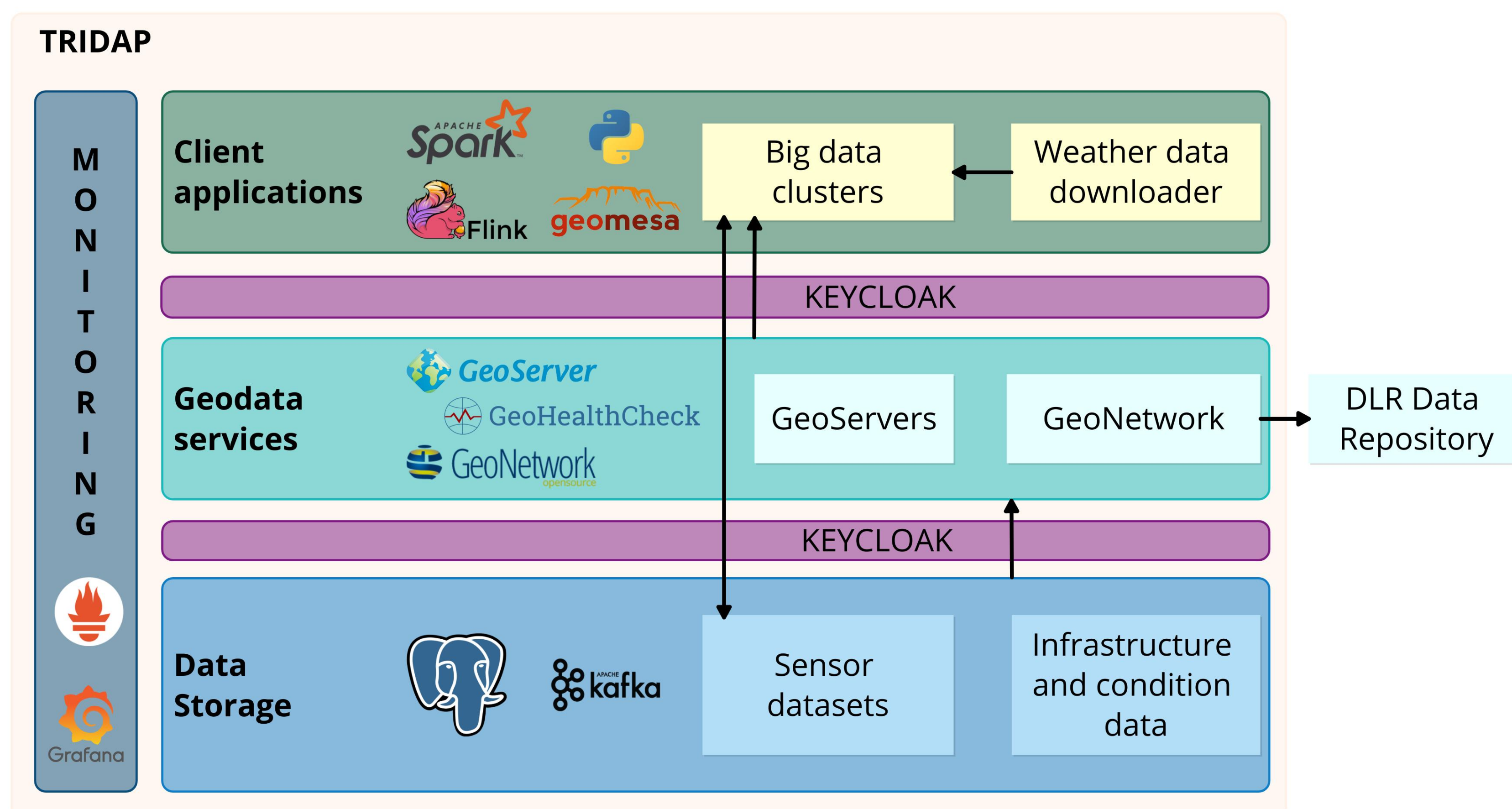


Management and publication of metadata-enriched road and railway infrastructure datasets

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- Global Navigation Satellite System (GNSS) receivers, inertial measurement units (IMU), accelerometers, weather sensors, cameras, barometers, ammeters, voltmeters, laser scanner and odometer.
- Total Size: 60 TB



Summary

- DLR Institute of Transportation Systems is developing a platform „**Transportation Infrastructure Data Platform**“ (**TRIDAP**).
- Goal**: Management of datasets generated in the research department in a FAIR-compliant way
- Purpose**: Storage, analysis and sharing of information on transportation assets along with their condition, as well as large amount of measurement datasets collected from multi-sensor systems mounted on several field units.
- Documentation of the datasets** to make them Findable, Accessible, Interoperable and Reusable (**FAIR**).
- Software stack**: PostgreSQL database, Keycloak, Apache Kafka, Apache Flink, Apache Spark, GeoServer, GeoNetwork, GeoHealthCheck, GeoMesa, Prometheus and Grafana

- Provision of data through standardized interfaces offered by the GeoServer
- Documentation of metadata in GeoNetwork
- Big data cluster for data processing

Currently under development

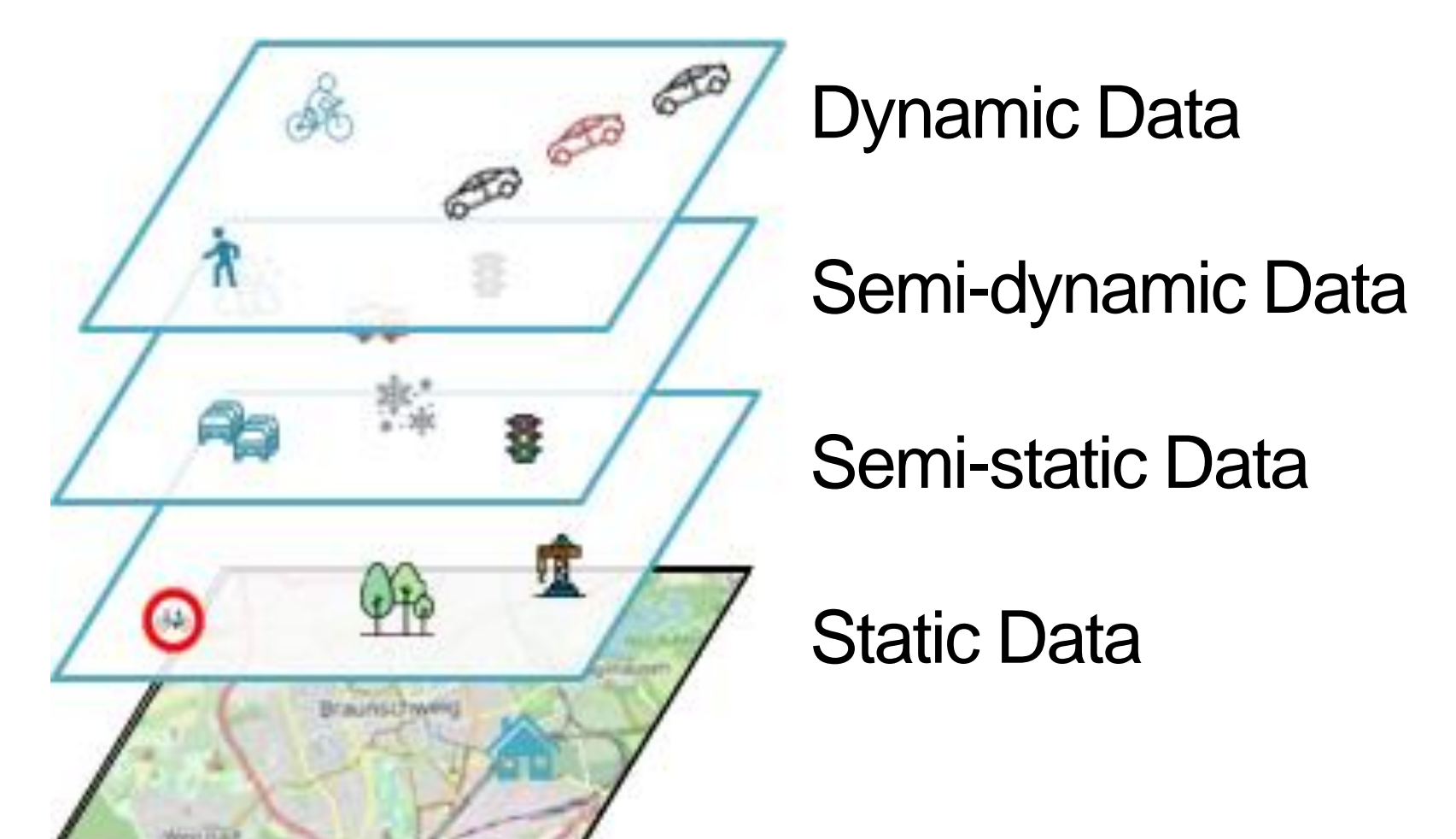
- Extension of database to support the storage of railway condition data
- Validation of selected datasets
- Experiments with SensorML to store additional metadata on sensor configuration
- Python library to download and fuse weather data from multiple sources
- Setup of monitoring framework

Datasets

- Topology and infrastructure of transport networks
- Degradation and condition of infrastructure
- Continuous collection of multi-sensor measurement data from multiple units in the field for more than five years

Local Dynamic Map

- The Local Dynamic Map (LDM) provides data through virtual interfaces and user interfaces.
- Data is inserted on independent viewing levels and can be accessed via established standards (e.g. Fiware, OGC).
- Provision of basic services within the service layer
- Merging of the datasets using a multilayer approach
- Provision as API as well as WebApp/Frontend



Features

- Storage of georeferenced transportation infrastructure data in a relational database (PostgreSQL)
- Storage of multi-sensor measurement data gathered from multiple field units and their metadata (HDF5 format)



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Please scan the QR code for further information.

Findable	Accessible	Interoperable	Reusable
Supported / In Progress	Provision of discovery metadata	Controlled access to datasets Existence of metadata after the deletion of original data	Use of controlled vocabularies
Planned	Datasets are assigned a PID Provision of human and machine-readable metadata	Provision of license information	Use of community-endorsed standards Open file formats Digital preservation
			Storage of provenance information Professional data curation