



GWFF

GEOSPATIAL WORLD FORUM

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Digital Rail Baltica: Geospatial Solutions for Railway Megaproject Management

Vaidas Ulenskas,
GIS Team Leader at RB Rail AS

15.05.2024

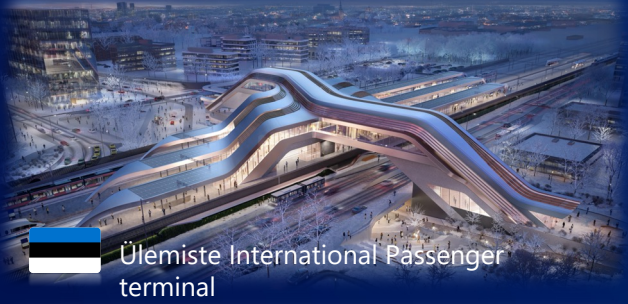




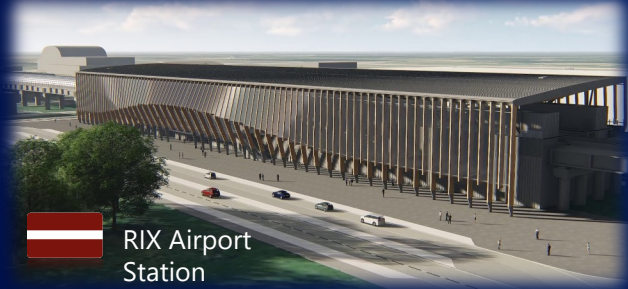
Connected Baltics in a Connected Europe

We are delivering seamless mobility for people, goods and services to accelerate social and economic development in the Baltics and beyond

A new standard for freight and passenger mobility



Ülemiste International Passenger terminal



RIX Airport Station











Riga Central Station



Vilnius Connect



-  870 km greenfield railway infrastructure
-  1435 mm Double track
-  ERTMS Level 2 + FRMCS*
-  Electrified 2x25kV AC
-  Maximum length of freight trains: 1050m
-  Axle load 25t
-  Design speed: 249 km/h for passenger trains
120 km/h for freight trains
-  SE-C (Swedish) loading gauge

* Subject to confirmation

Rail Baltica project timeline

2023

- Mainline designs' completion
- Delivery programme 2030
- Market readiness for material supply & logistics (incl. consolidated material procurements)
- New generation Cost-Benefit Analysis and Business Plan
- Decisions to ensure operational readiness (IGA on infra management and exploitation model, rolling stock etc.)

2024-2027

- **Construction!**



2028-2030

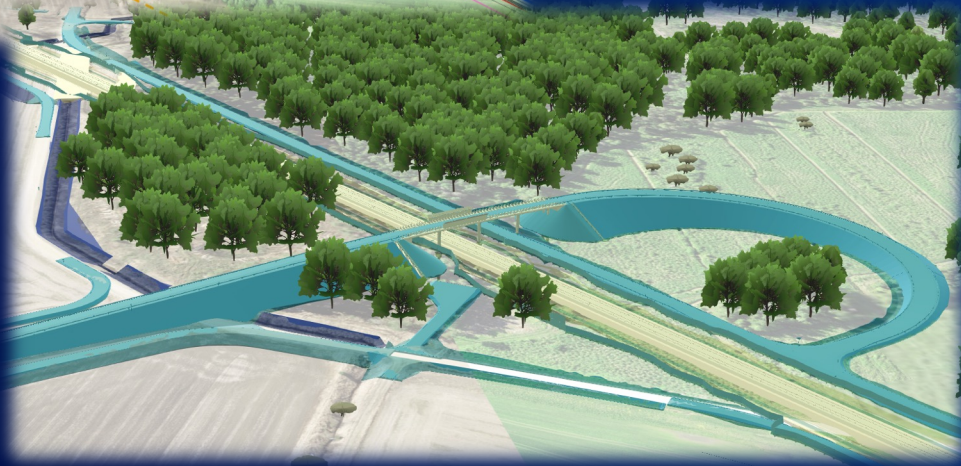
- Testing
- Validation
- Operations & full interoperability ensured
- New economic and security network corridor developed

Construction in progress

Gradual start of operations

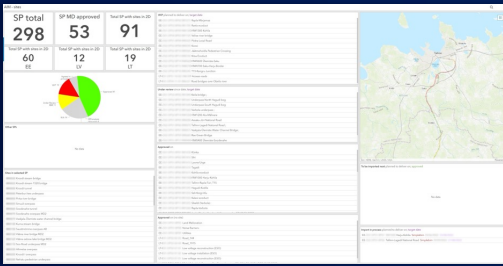
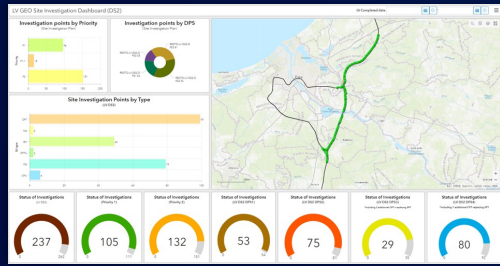
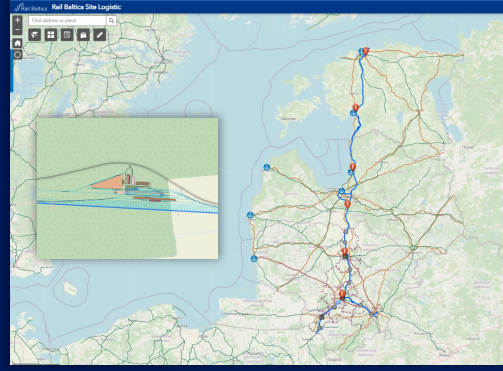
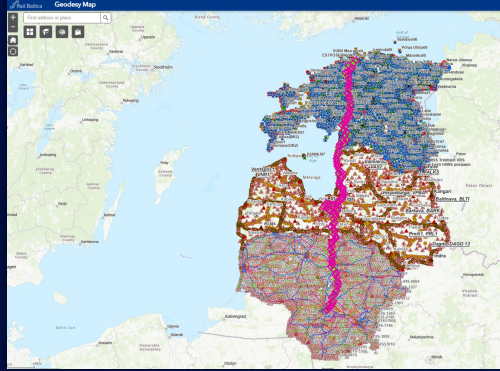
From Design....

...To
Construction
Geospatial
approach



What Design Phase brings to Construction Phase

2D data: Thematic Maps, Dashboards etc.

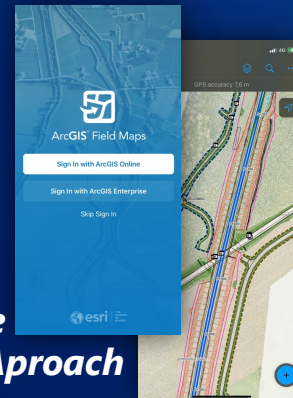


Internal Data Sharing Policy

3D data: BIM, Lidar, Mesh

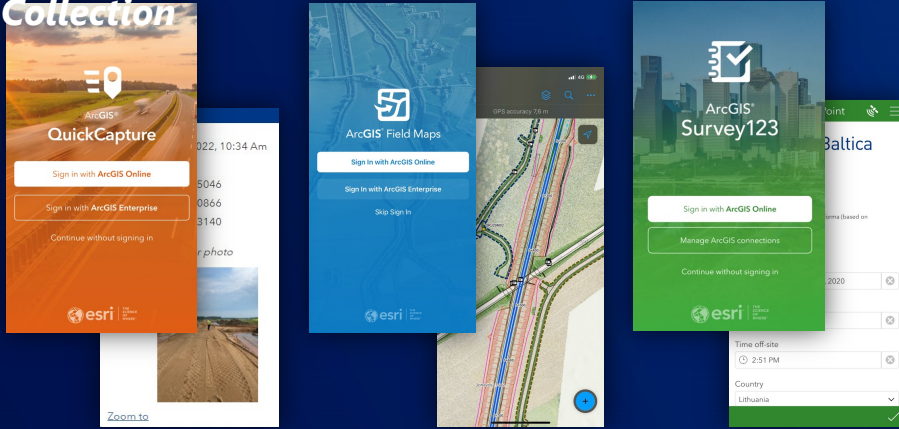


Mobile Approach

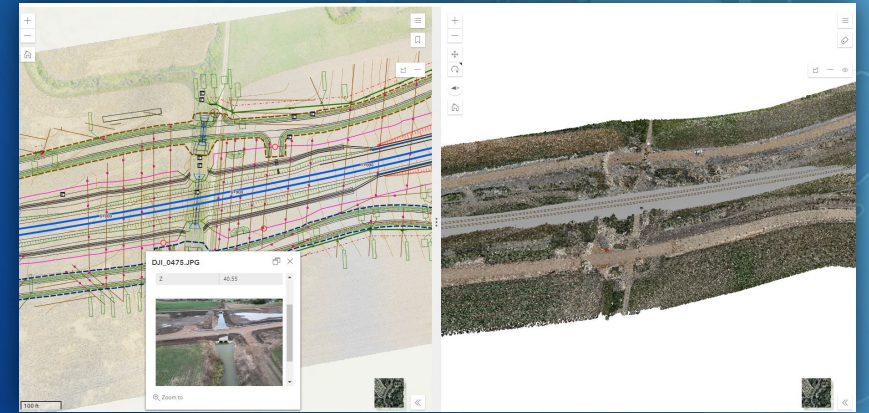


Construction Phase

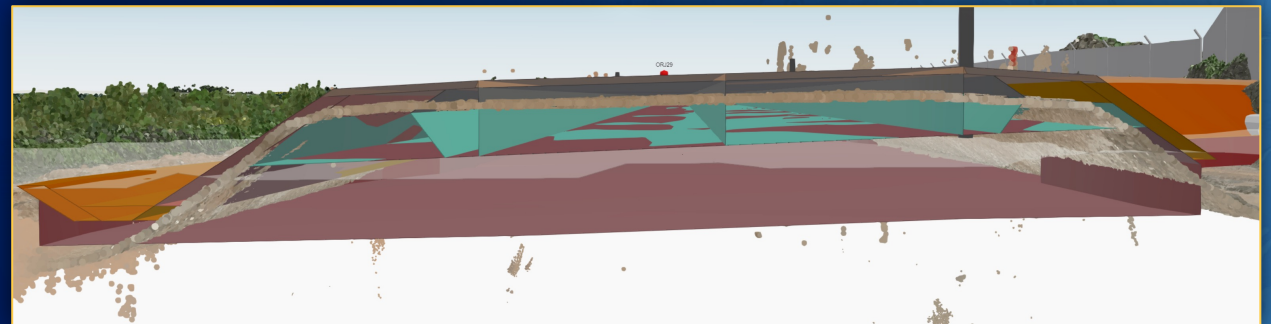
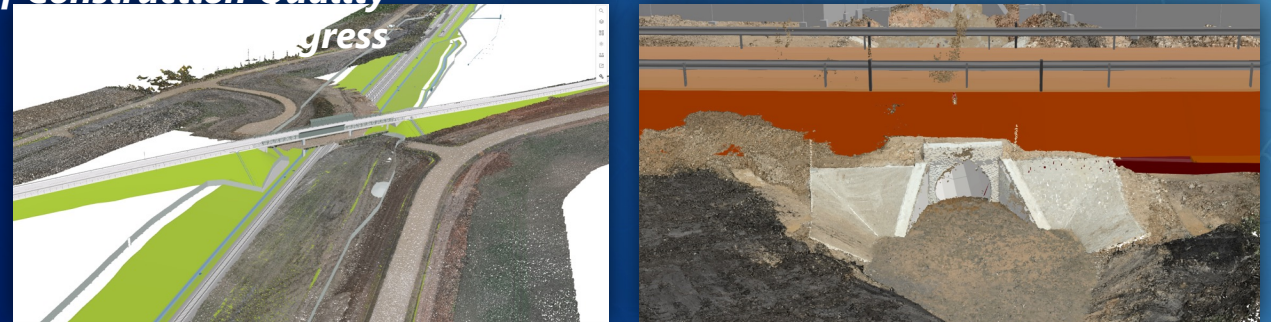
Field Applications. On-site Data Collection



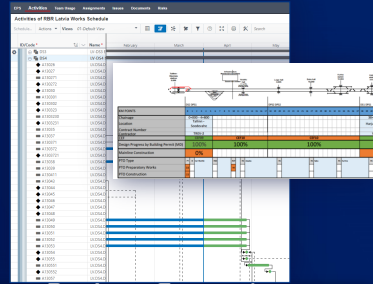
BIM and Lidar integration allows a quick evaluation of Construction Quality



Remote Sensing (UAV)



Design Phase & Construction Phase Outcomes



Project Control Management and Reporting Dep.



Global Project Finance Department

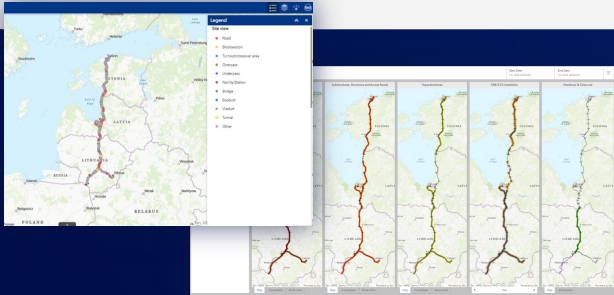


Communication Department

GIS Team

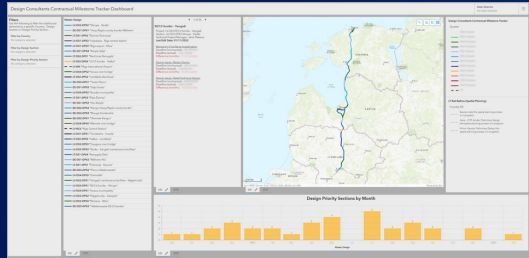
Construction monitoring for Technical Teams

Technical data of construction progress. High level of detail of information depending on the topic



Construction monitoring for Decision Makers

Financial, planning and construction progress data linked together in order to understand if everything is happening according plan



Construction monitoring for Public

Clear and simplified information about ongoing processes. The scope of information is limited to the mainline and PTO

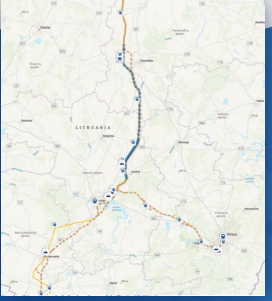
Construction

Construction status of point type objects

- Completed
- Covered with construction contracts

Construction status of mainline embankment

- Mainline embankment completed
- Mainline embankment covered with construction contracts
- Mainline embankment covered with tenders





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Thank You!



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