



### **SMART CITIES Conference**

#### route.Plexor

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**UP IAM/Abelium** 

#### **Challenges**



- GPS data from vehicles
- GIS data about infrastructure
- Logistic challenges
  - Winter service (planning, execution)
  - Port of Koper, container terminal
  - Real estate ownership database management
  - TISAR editing of transportation infrastructure data
- (Big) data analytics and visualization







#### route.Plexor



- A tool for managing transport data
- C# desktop application
- Central GPS data database
- Geolocated orto-photo (tile server)
- Central version control for GIS data
- Web services and web xapplication for inspection of the state of execution
- Integration with scripting language Python for data analytics
- Animations

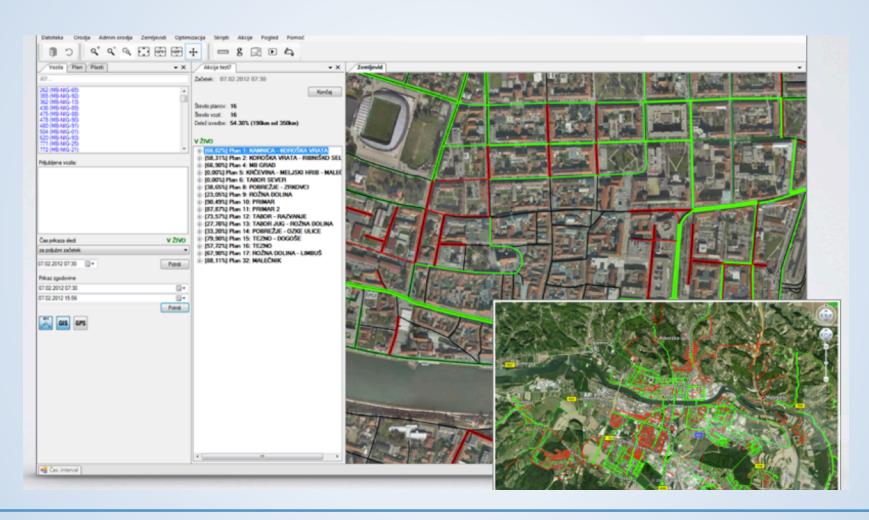






#### route.Plexor





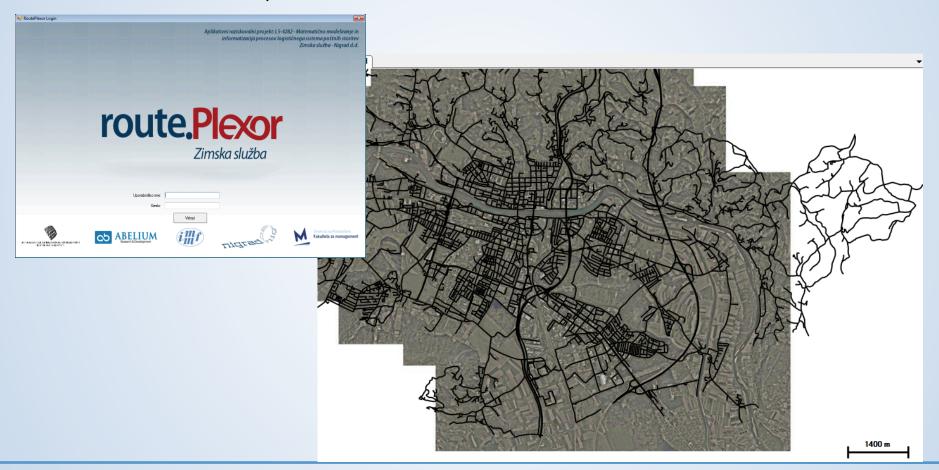








Authentication, visualization





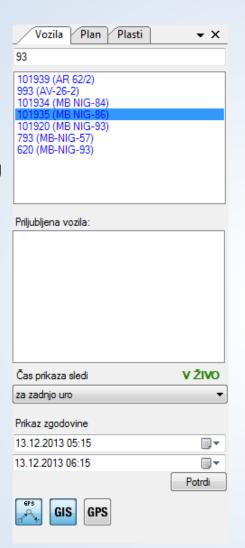


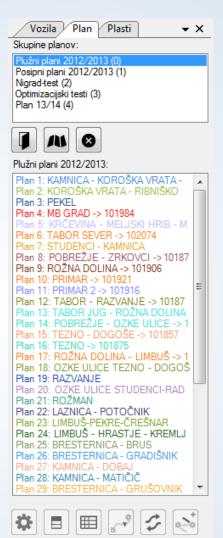


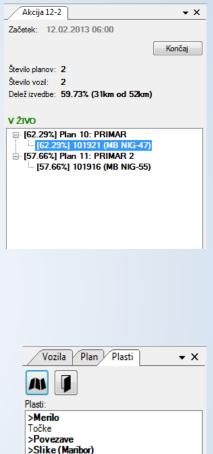
#### route.Plexor

route.Plexor

- Vehicle tracking
- Plowing & salting plans
- GIS and road layer
- Monitoring progress of plan execution







Slike (okolica)





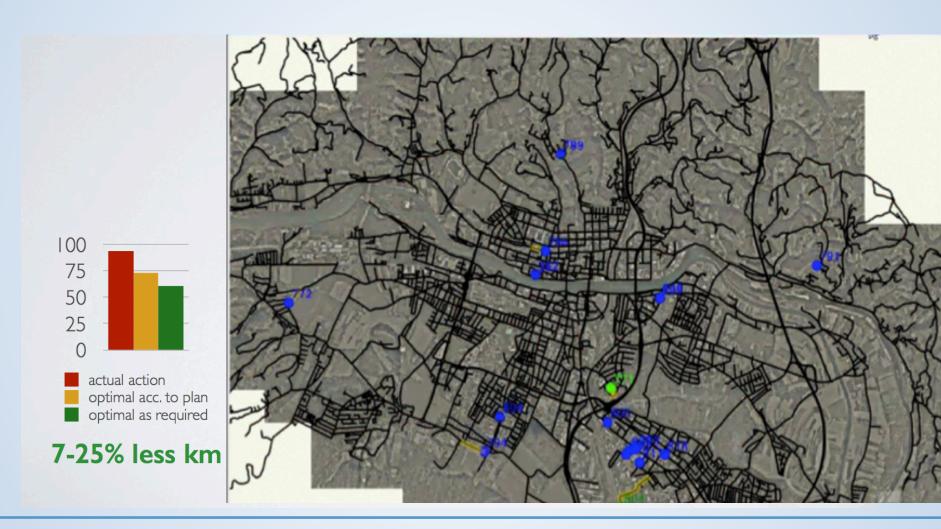
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#### Winter service





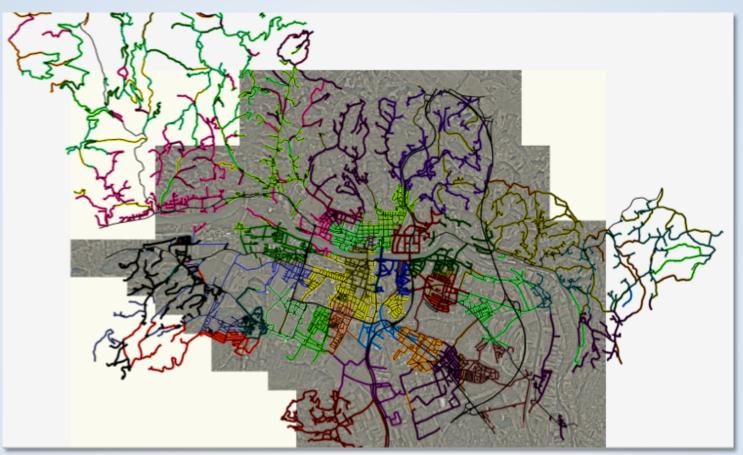






#### Winter service





One vehicle

Many vehicles

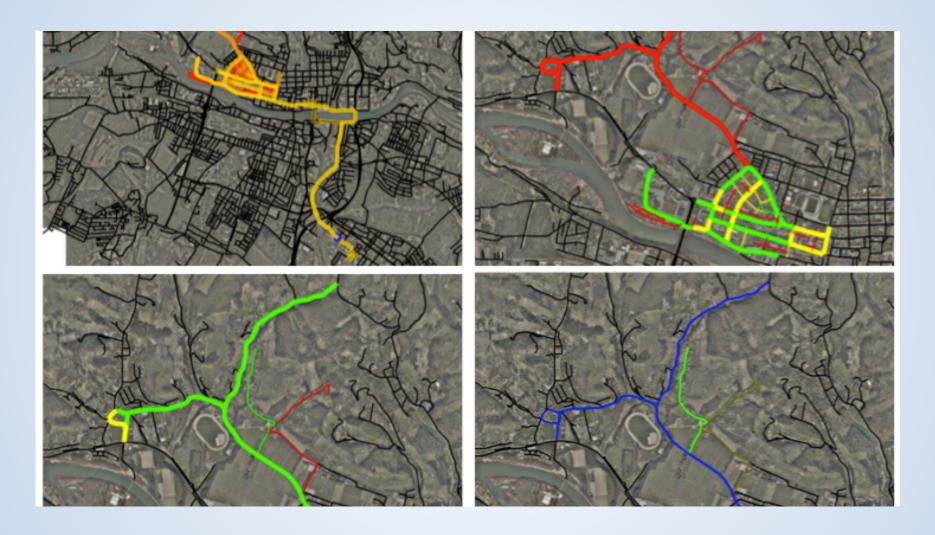






#### **Analytics & Visualization**











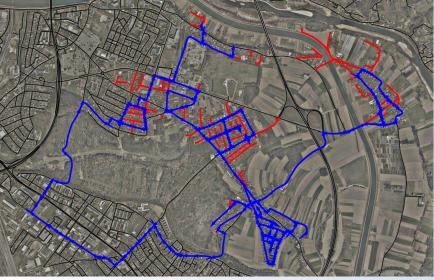
#### **Optimization**

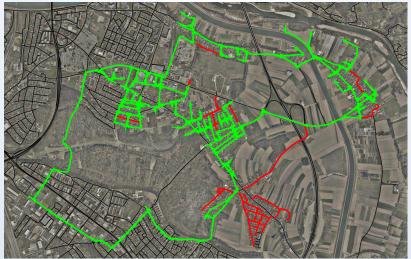




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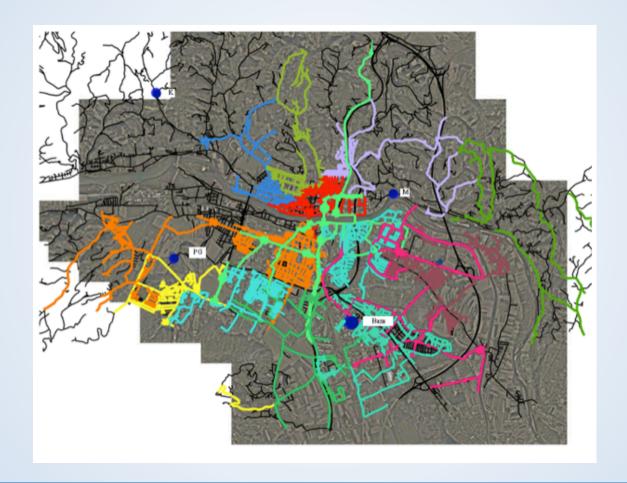




#### **Optimization**



Distribution of salting stations (additional 8%)



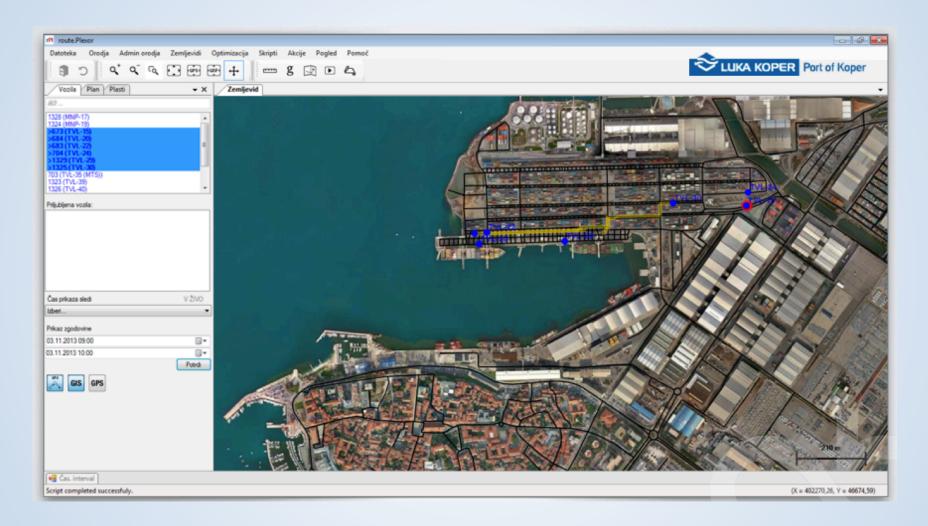






## Port of Koper – Container terminal











#### **Data analysis**



- Half a year of GPS data for container manipulation vehicles (every 10 s)
- Detailed orto-photo of the port area
- Linear increase of cargo => "quadratic" rise of energy
- Work in progress ...









# Thank You

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