

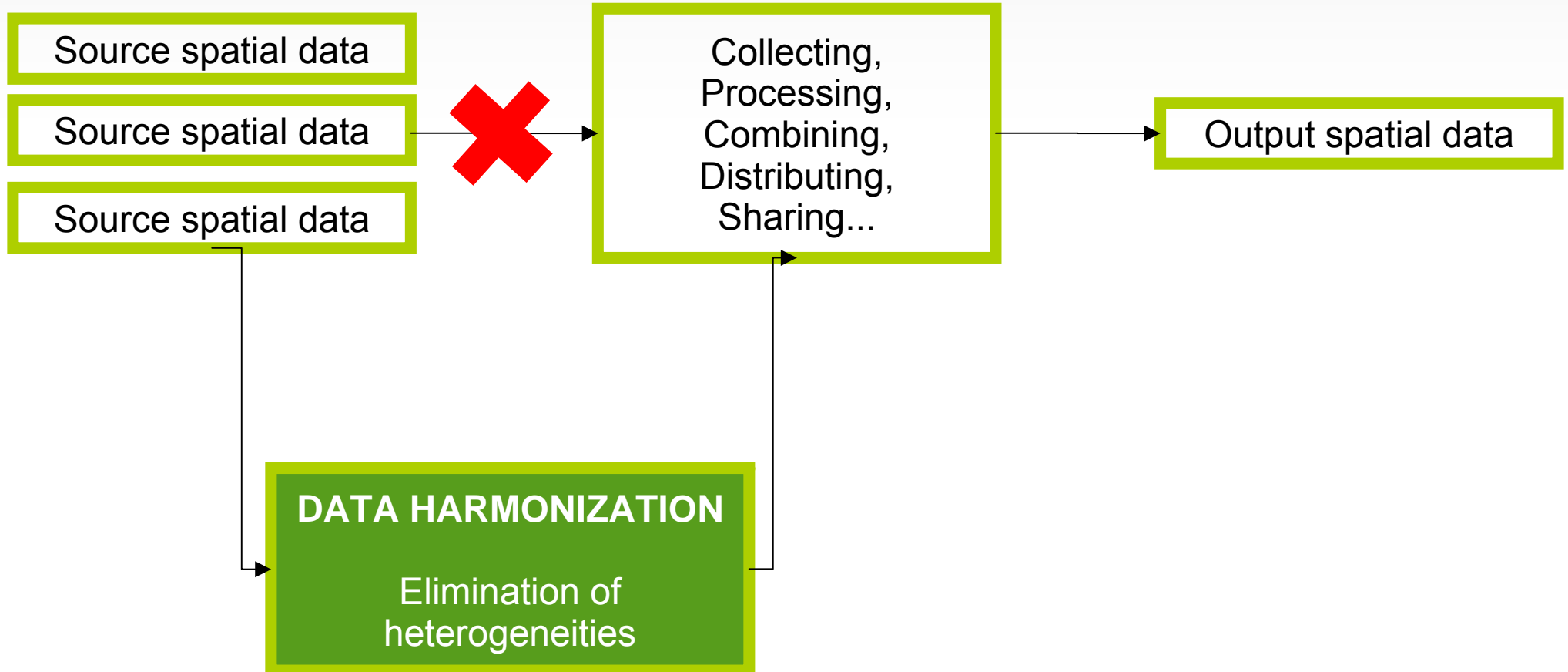
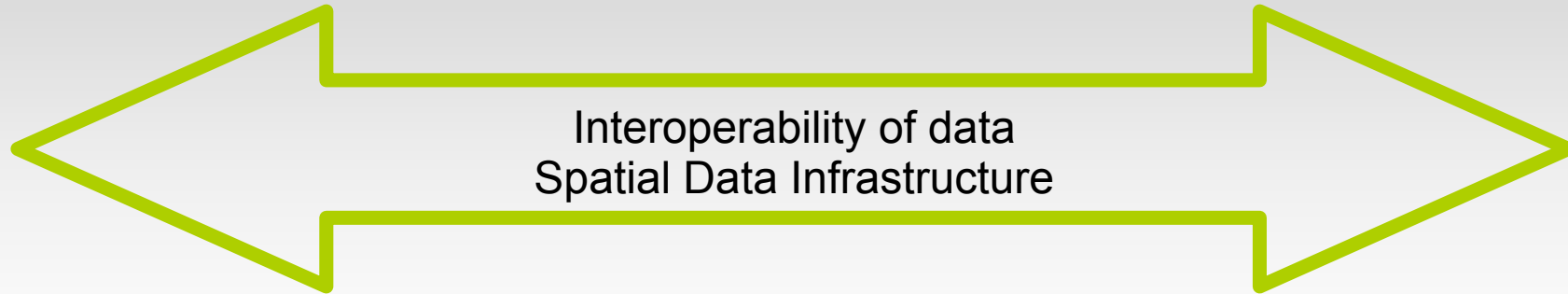
# HUMBOLDT SCENARIO FOREST PRACTICAL EXAMPLE FORESTRY DATA HARMONISATION

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# Objectives

- Data harmonization
- Harmonization in forestry
- Humboldt project & Humboldt Scenario Forest
- Tested harmonization processes
- Conclusion

# Data harmonization



# Data harmonization

- Providing access to data through network services in a representation that allows for combining it with other INSPIRE data in a coherent way by using within the ESDI a common set of data product specifications
- *This includes agreements about coordinate reference systems, classification systems, application schemas, etc.*

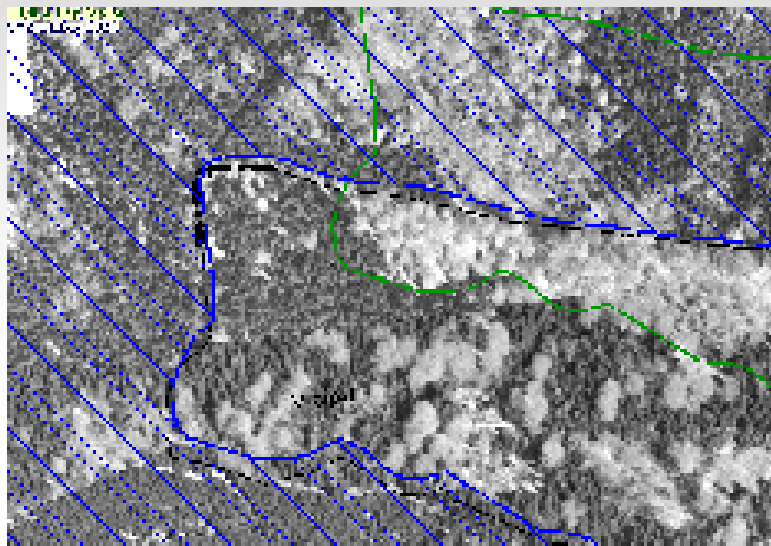
# Components of harmonization

- INSPIRE principles
- Reference model
- Data translation model
- Portrayal model
- Application schemas and feature catalogues
- Dictionaries
- Metadata
- Maintenance
- Quality
- Data transfer
- Derived reporting & multiple representations
- Consistency between data
- Data capturing

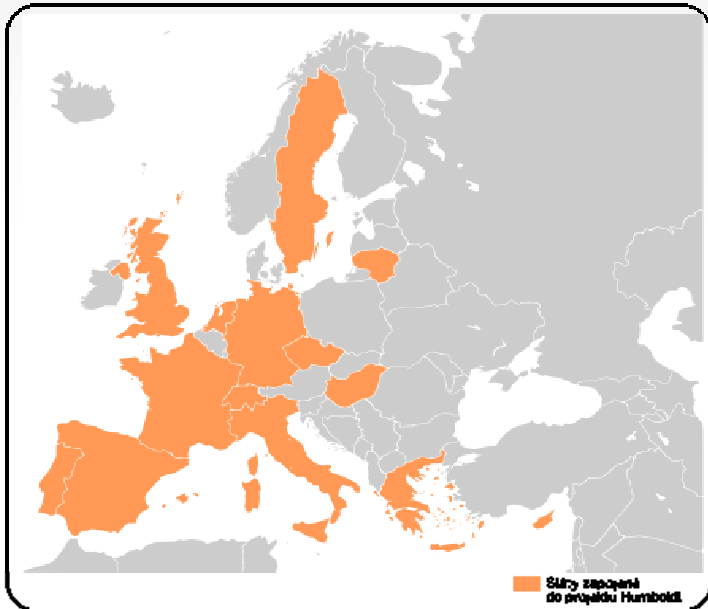
# Harmonization in forestry?

- The forestry data have the huge utilization, because forestry represents the combination of different subjects.
- In forestry there is a large number of different data sets originated from many sources.
- Above all the activities of risk management needs the very quick access to the updated forestry data. Just the harmonised data sets lead to better accessibility.
- The forests are situated regardless of state and other administrative borders.

# Examples of data conflicts



# Humboldt project



Methods of implement. of harmonization	SW Framework, Services, tools...
Real-world application (scenarios)	Other activities – Cost analyses...



ESDI Integration

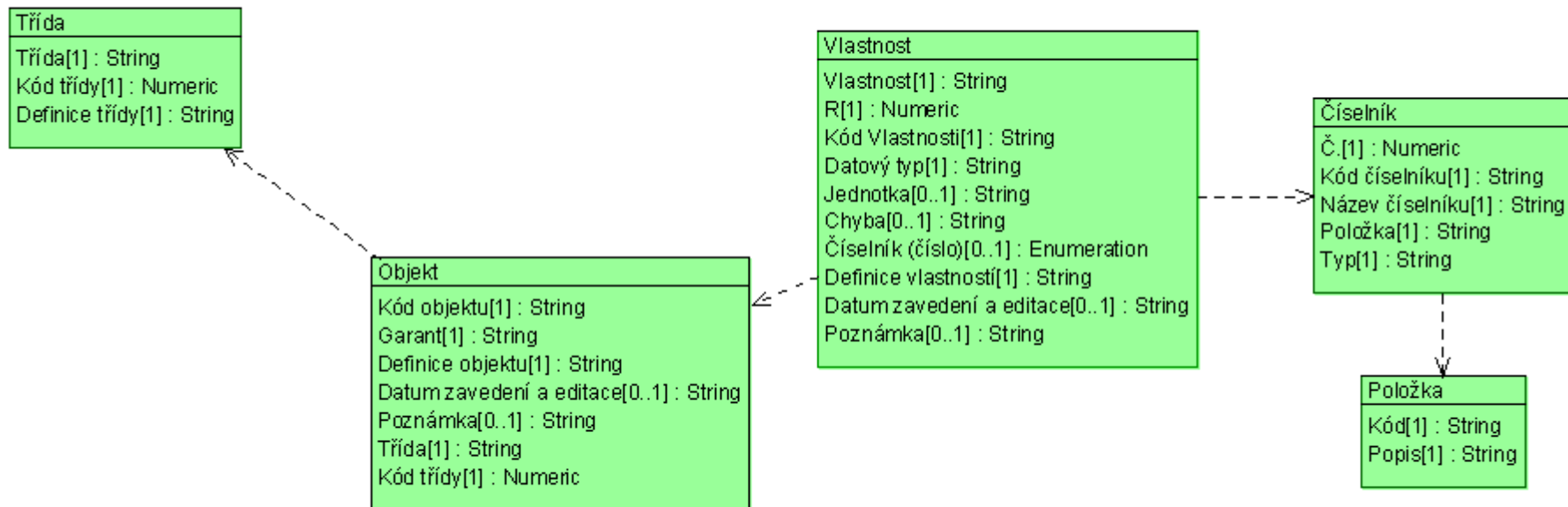
# Humboldt Scenario Forest

- The scenario is focused mainly on land cover and vegetation integration with data for spatial planning, water resources, risk management and security.
- It demonstrates the possibilities of updating of international data set Corine Land Cover (CLC) with using RPFD data.

# CLC Use case – Source data

- RPFD contain data summaries on the state of the forest and the service needs of the forest as a public interest.
- Geometry types: Data can contain all types of geometry primitives (point, line, polygon) and some texts, too.
- Storage format(s): Database, shapefiles.
- Coordinate reference system: S-JTSK (Czech national system)
- Scale / resolution: from:1:10 000 to 1:50 000
- Language: Czech
- Metadata: Defined by FMI (support of INSPIRE)

# Source data – UML model



# CLC Use case – Target data

- Geometry types: Data contain polygons.
- Storage format(s): Shapefile
- Conceptual model: The CLC data are composed of features with three parameters: GEOMETRY: Geometry; CODE\_00: String (enumeration of values in Appendix 1); AREA: Double
- Coordinate reference system: ETRS 1989
- Scale / resolution: 1:100 000 or 1:250 000
- Language: English (translated to other languages)



XSD schema

# CLC Use case – harmonization issues

- Data formats conversion (to GML)
- Classifications schemes and systems, codelists, terminology and vocabulary (selection of corresponding items)
- Types of geometric primitives (to polygons)
- Metadata profile
- Coordinate system
- Geometry improvement
- Generalisation, multi-linguality...

# The benefits of proposed solution

- Conformity with standards and major European initiatives
- Reduction of cost and effort of INSPIRE implementation
- Integration of services and data to facilitate decision-making
- Information accessibility and distribution
- Core technology will be available as Open Source
- Information management technology related user-driven operational services

# Conclusion

- Harmonization in forestry makes possible better...
- ...Exploitation of external data sets
- ...Combination of internal and external data sets with different parameters
  - Analyses
  - Visualisation
  - Distribution through web services
- ...Using of different IT systems
- ...Cross-border cooperation

Thank you for your attention

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