

An Approach for Automatic Generation of Metadata based on Data Product Specifications

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Overview

- Introduction of AGIS and University of the Bundeswehr Munich
- Overview of data product specification (DPS)
- Application of DPS
- Conclusion

UniBw München

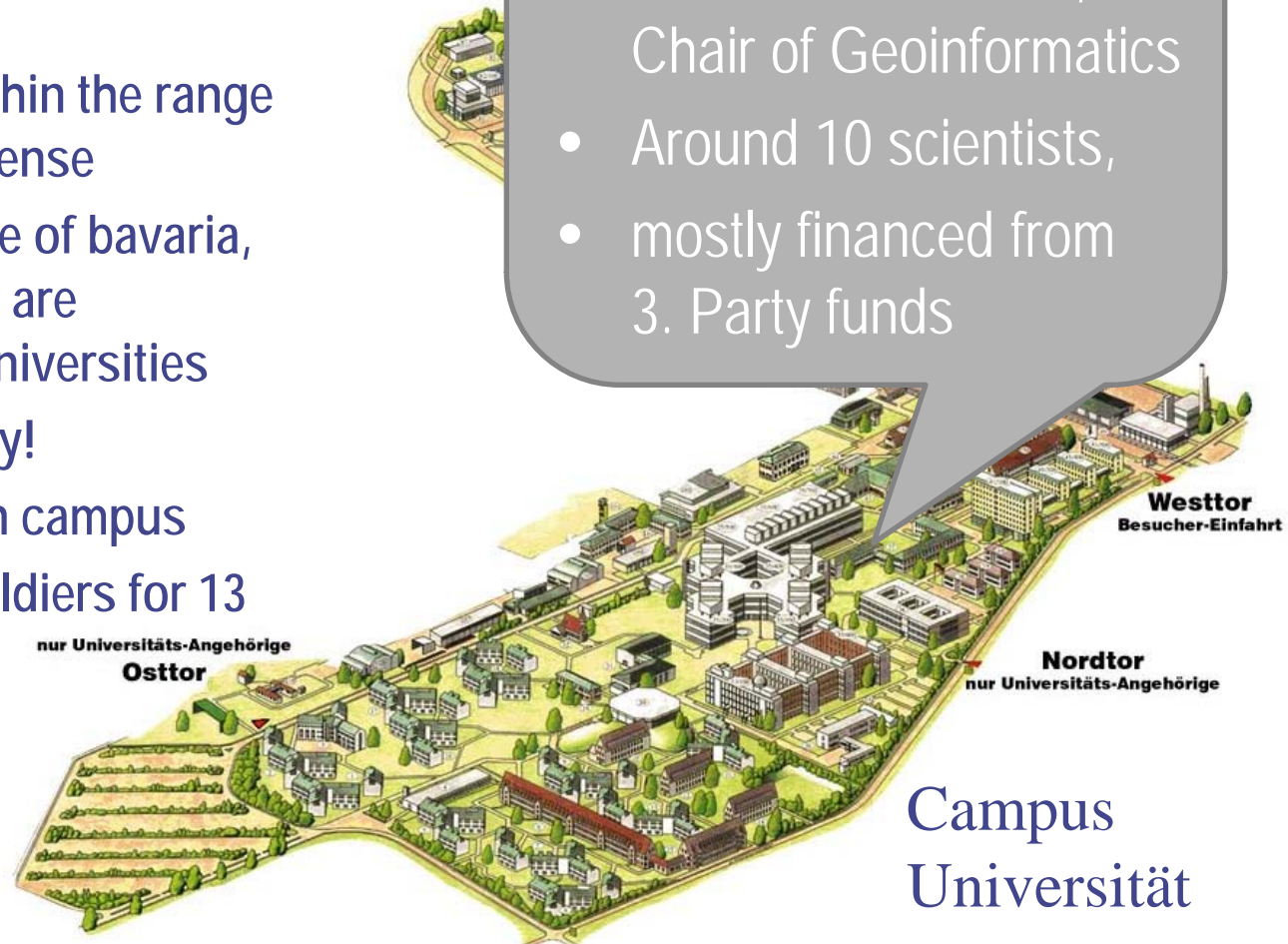
UniBw München

Around 3500 Students

- Private university within the range of the ministry of defense
- Approved by the state of bavaria, courses and degrees are equivalent to other universities
- Officers have to study!
- Most students live on campus
- Most students are soldiers for 13 years
- Staff is civil
- Trimester system!



- GI-Lab at UniBw M, Chair of Geoinformatics
- Around 10 scientists,
- mostly financed from 3. Party funds



Campus
Universität

Background

The creation of metadata content is mostly manual work, which is:

- boring,
- tedious and also
- error-prone.

[Manoso-Callejo, et al. 2009]

It is vital to capture automatically as much metadata as possible.

Overview of data product specification (DPS)

Data product specification (DPS) is defined in ISO 19131
Information about a product and the production process

A product is a **dataset** or **dataset series** (e.g. topographical map)

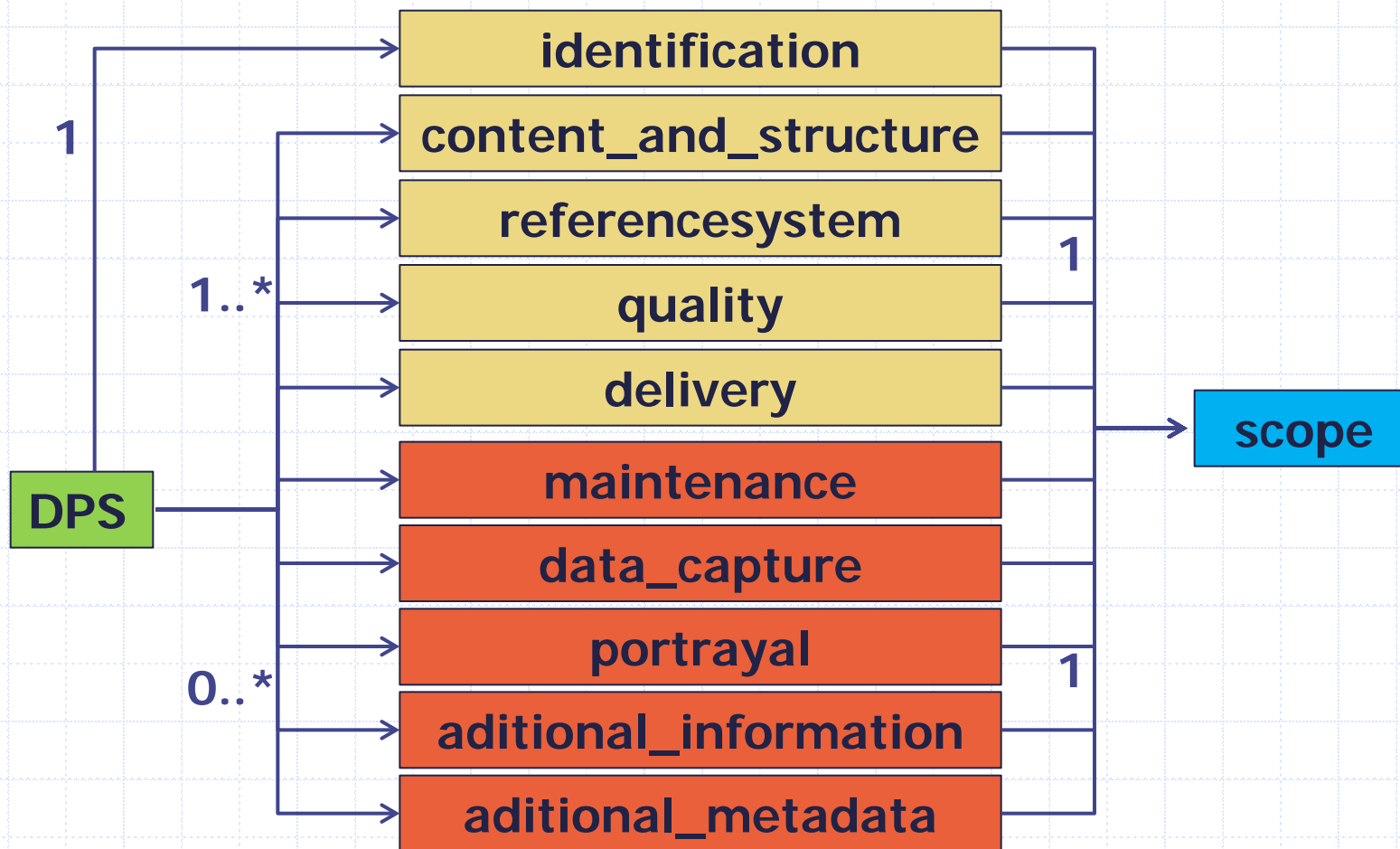
Refers to the elements of the ISO metadata standard (ISO 19115)

The INSPIRE data specifications shall conform with ISO 19131
(Data Product Specification).

The DPS is not so well known as Metadata standard ISO 19115

- Google Hits: "ISO 19131" (7.840) vs "ISO 19115" (298.000)

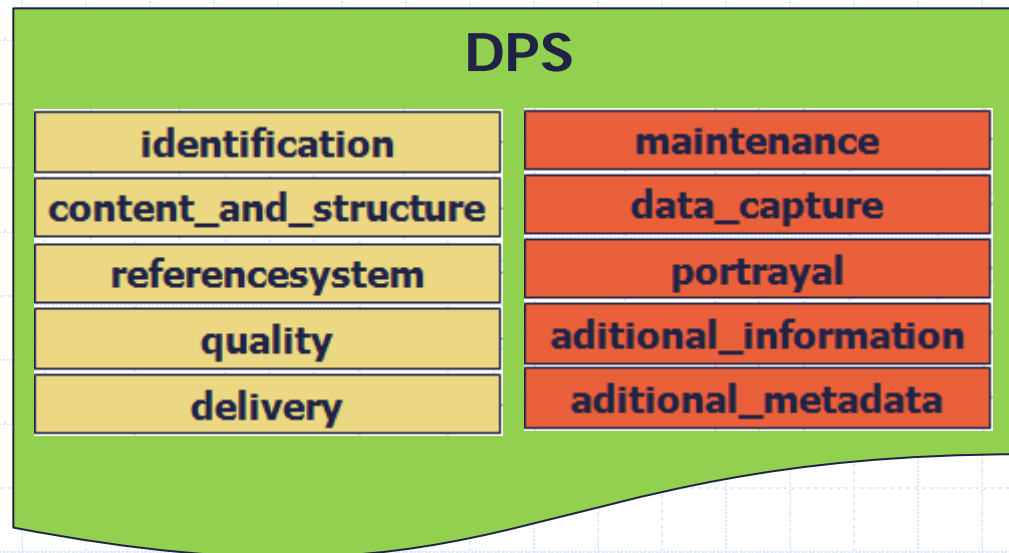
Content of ISO 19131 data product specification



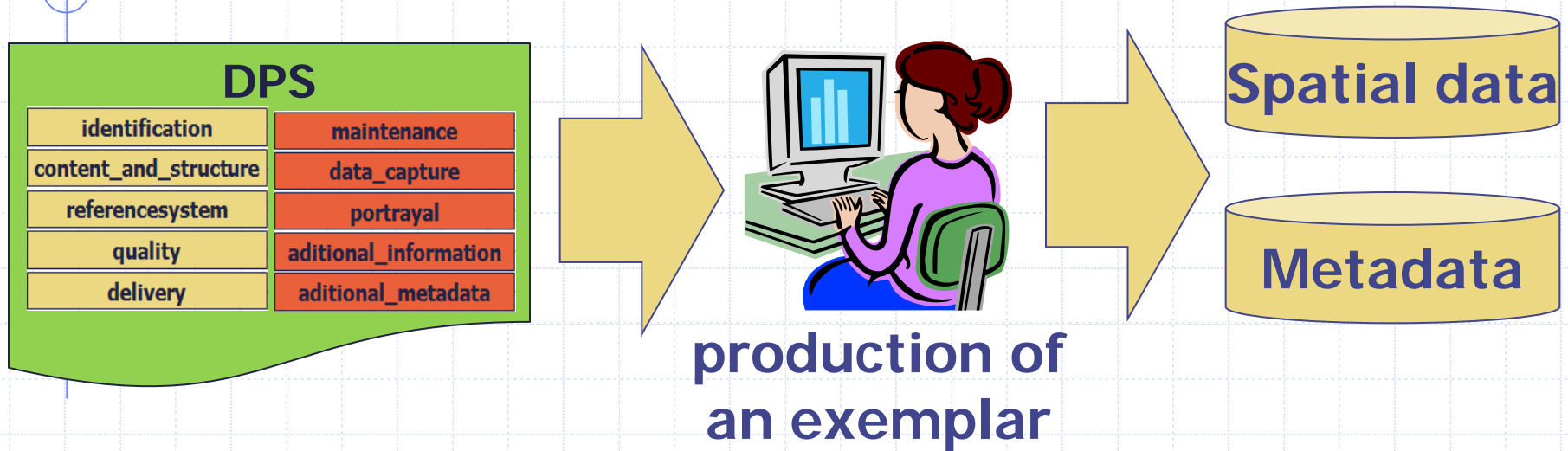
Assumption for application of DPS

Assumption for common production processes of spatial data

- Data content is defined and described (e.g. in a Feature Catalog or Application Schema).
- The information is stored according to ISO 19131 DPS



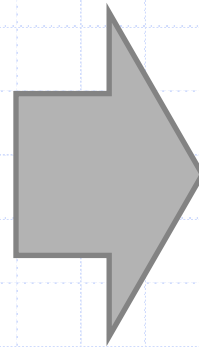
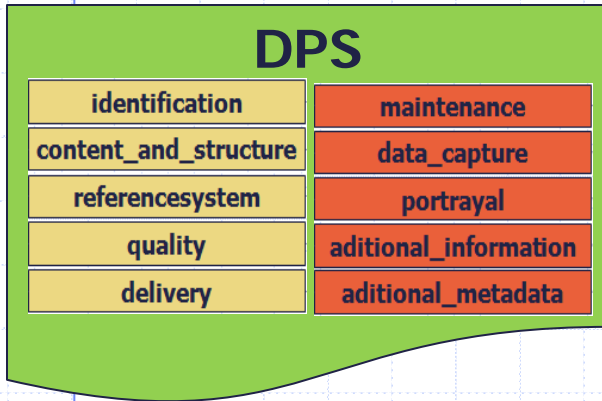
Application of DPS



A DPS is applicable for:

- Direct mapping of DPS contents to the metadata of the produced data
- User guidance and workflow support during the production process
- Support of the manual input of quality metadata

Direct mapping of DPS



Metadata of an exemplar

- title + individual text
- abstract
- purpose
- useLimitation
- ...
- updateScope
- maintenance
 dataSource
- ...

User guidance and workflow support during the production process

DPS	
identification	maintenance
content_and_structure	data_capture
referencesystem	portrayal
quality	aditional_information
delivery	aditional_metadata

textual descriptions of the processing steps and data sources can be displayed during the production process to support the producer

data_capture

maintenance



production of an exemplar

Support of the manual input of quality metadata

DPS	
identification	maintenance
content_and_structure	data_capture
referencesystem	portrayal
quality	aditional_information
delivery	aditional_metadata

DPS specifies that the dataset should have an absolute position accuracy of 5cm.

How many percent of the data pass the level?

quality



Only the required quality measure result has to be captured in the metadata

production of an exemplar

Conclusion

- Different Approaches are needed for an automatic generation of metadata
- The ISO 19131 data product specification can be used as a source for an automatic generation of metadata
 - Direct mapping of DPS contents to the metadata of the produced data
 - User guidance and workflow support during the production process
 - Support of the manual input of quality metadata

Thank you for your
attention