

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017

Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

Development of Multipurpose Land Administration Warehouse

Miodrag Roić, Saša Vranić, Tomáš Kliment, Baldo Stančić
and Hrvoje Tomić

University of Zagreb, Faculty of Geodesy
Kačićeva 26, 10000 Zagreb, CROATIA



OMLAS

Surveying the world of tomorrow -
From digitalisation to augmented reality

Organised by



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Outline

- DEMLAS project
 - Required data loaded into MLAS warehouse
- Project location for the field measurements
- Data organized into predefined folder structure and database
- Workflow for publishing data and metadata
- Developed web portal for searching, browsing and downloading data



Platinum Sponsors:





FIG WORKING WEEK 2017

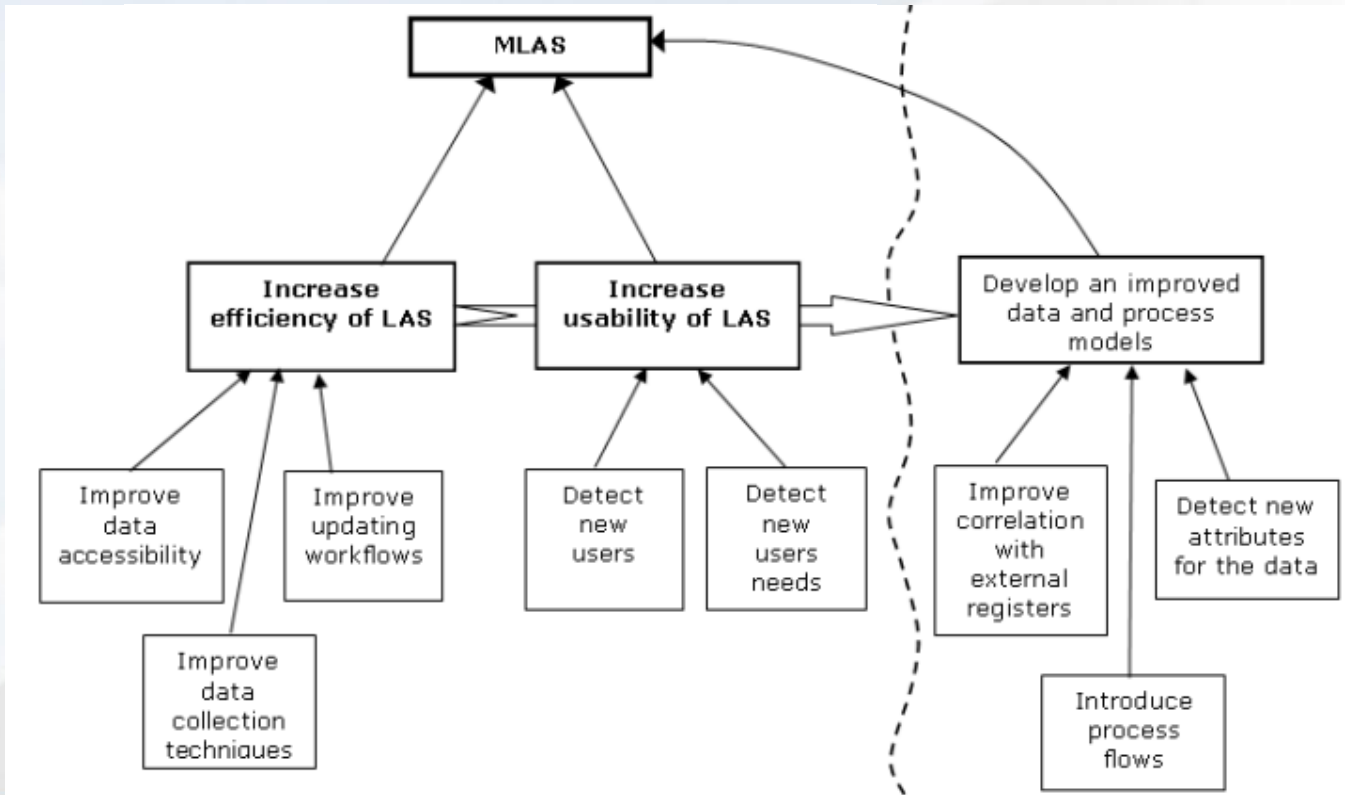
Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



DEMLAS project



Platinum Sponsors:



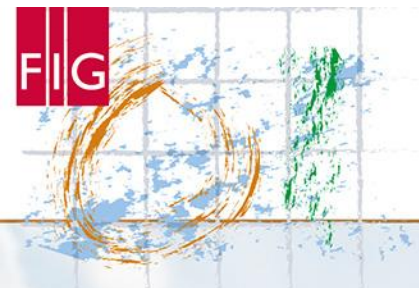


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Why we developed MLAS warehouse

- Data on land
 - A lot of unrelated registers with various restrictions on access and usage
 - Redundancy of data in different (or even within the same) registers/institutions
- We acquired the data from various registers for project location
 - Developed prototype of land administration infrastructure
- Basis for scientific research without restrictions in order to fulfill project goals



Platinum Sponsors:



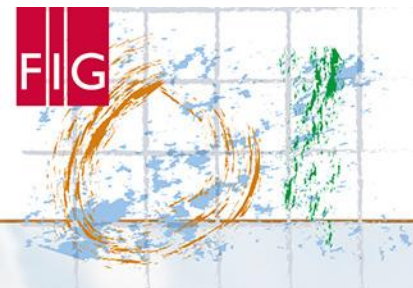


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Project location – Stari Grad Plain (UNESCO cultural landscape)



Platinum Sponsors:



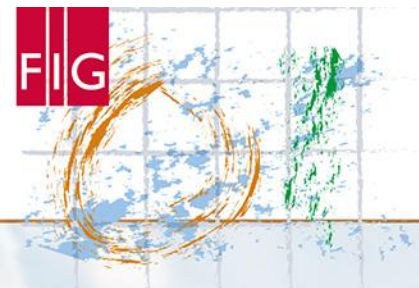


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

 MLAS



Data types

- Spatial datasets loaded into MLAS warehouse:
 - official and historical digital cadastral plan
 - scanned georeferenced historical cadastral plan
 - ortho photos
 - elevation model
- Non-spatial datasets
 - Property sheets and other alphanumerical content



Platinum Sponsors:



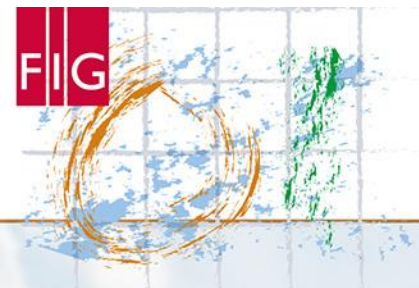


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Logical model

- Thematic groups of data
 - Cadastral parcels (CP)
 - Land cover (LC)
 - Orthoimagery (OI)
 - Elevation (EL)
 - Observations and Measurements (OM)
- Data stored in database



Platinum Sponsors:



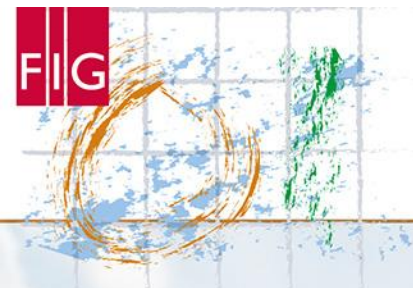


FIG WORKING WEEK 2017

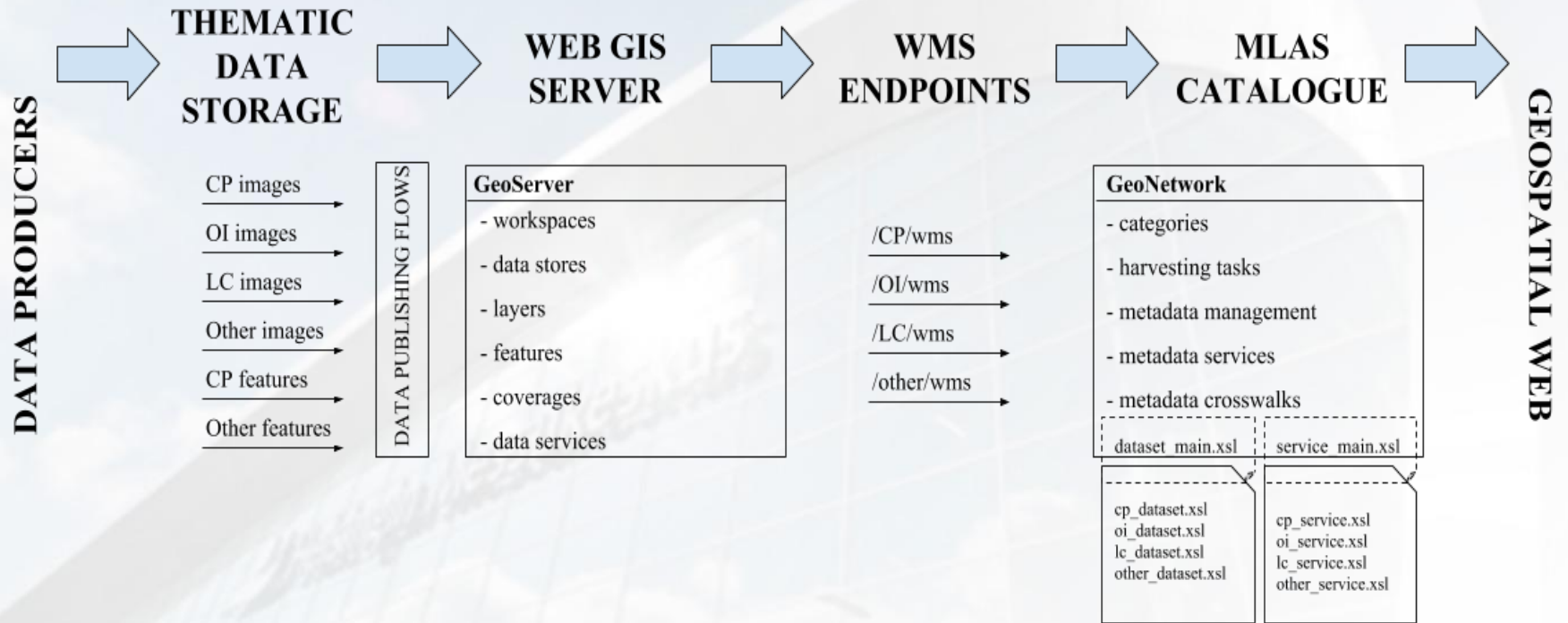
Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Data/Metadata publishing workflow



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Warehouse data/metadata viewer

Search metadata

Metadata info

You clicked here: 43° 10' 41" N 16° 36' 45" E

Title	Metadata	Action
georef_311669_DoI_1834_2	XML	Add to map Download GeoTIFF
georef_311669_DoI_1894_2_3	XML	Add to map Download GeoTIFF
georef_311723_StariGrad_1834_22	XML	Add to map Download GeoTIFF
georef_311723_StariGrad_1902_22	XML	Add to map Download GeoTIFF
cp_building	XML	Add to map Download GeoTIFF

Previous Next





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Displaying the search results

The screenshot shows a web application interface with a search bar containing 'bogomolje'. Below the search bar, there are two 'Metadata info' windows. The left window shows search results for 'bogomolje' with 14 results, listing items like 'Bogomolje 1', 'Bogomolje 11_16', etc. The right window shows search results for a specific location (43° 07' 53" N 16° 59' 57" E) with 2 results, including 'CP_GEOREF: WMS Georeferencirani skenirani listi katastarskih planovi na otoku Ithar' and 'Bogomolje 10_15'. The background is a map with a search area highlighted in black.



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Downloading the data

- Most of the data can be accessed and downloaded through standardised OGC service

Metadata info

Results covering location: 43° 11' 04" N 16° 35' 57" E

<< 1-9 result(s) / 9 >> Sort by: [] 0 Selected Other actions []

- StariGrad 17**
KATASTARSKI PLAN, KATASTARŠKE ČESTICE, PLANNINGCADASTRE
- StariGrad 21**
KATASTARSKI PLAN, KATASTARŠKE ČESTICE, PLANNINGCADASTRE
- StariGrad 17**
KATASTARSKI PLAN, KATASTARŠKE ČESTICE, PLANNINGCADASTRE
- StariGrad 21**
KATASTARSKI PLAN, KATASTARŠKE ČESTICE, PLANNINGCADASTRE
- CP_GEOREF: WMS Georeferencirani skenirani listi katastarskih planovi na otoku Hvar**
INFOMAPACCESSSERVICE, KATASTARSKI PLAN, KATASTARŠKE ČESTICE

Metadata info

You clicked here: 43° 11' 04" N 16° 35' 57" E

Title	Metadata	Action
georef_311723_StariGrad_1834_17	XML	Add to map Download GeoTIFF
georef_311723_StariGrad_1834_21	XML	Add to map Download GeoTIFF
georef_311723_StariGrad_1902_17	XML	Add to map Download GeoTIFF
georef_311723_StariGrad_1902_21	XML	Add to map Download GeoTIFF
cp_parcel	XML	Add to map Download GeoTIFF

Previous Next



Platinum Sponsors:



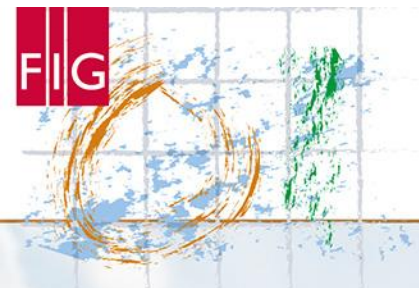


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

DEMLAS



Conclusion

- Warehouse prototype implemented (<https://demlas.geof.unizg.hr/>)
 - Access to actual official data without any restrictions
 - Stakeholders are able to find, download and upload back the data
 - It will be upgraded according to the needs of stakeholders and scientific research results
- What we have learned so far?
 - Data are unrelated
 - A lot of redundancy
 - Data needs harmonization, standardization, integration



Platinum Sponsors:



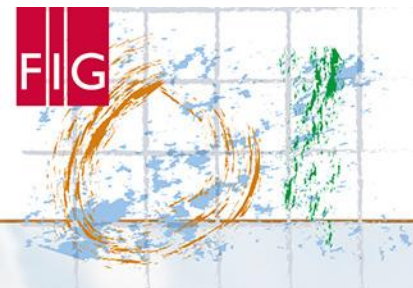


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality



Thank you for your attention!

Presenter: Saša Vranić, MSc

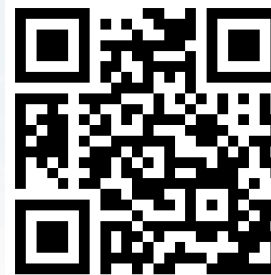
Institution: University of Zagreb, Faculty of Geodesy

[LinkedIn: www.linkedin.com/in/svranic](http://www.linkedin.com/in/svranic)

[RG: https://www.researchgate.net/profile/Sasa_Vranic2](https://www.researchgate.net/profile/Sasa_Vranic2)

DEMLAS project

<https://demlas.geof.unizg.hr/>



Platinum Sponsors:

