



FIG WORKING WEEK 2019

Hanoi, Vietnam 22 - 26 April 2019

Geospatial information for a smarter life and environmental resilience



International
Federation of
Surveyors



Vietnam Association
of Geodesy, Cartography
and Remote Sensing (VAGRS)

**Presented at the FIG Working Week 2019
April 22-26, 2019 in Hanoi, Vietnam**

Integration of Authoritative Geospatial Information and Crowdsourced Volunteered Geographic Information

Hartmut Müller, Germany

TS04C: The Land Surveyors Role in the Era of Crowdsourcing and VGI,
presentation of the new FIG Publication No. 73, Wednesday 24 April 2019, 14:00-15:30



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FIG COMMISSION 3 Spatial Information Management



FIG Commission 3 Workshop

The Empowerment of Local Authorities:
Spatial Information and Spatial Planning Tools

Paris, France, 25-28 October 2011



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FIG COMMISSION 3

Spatial Information Management

Spatial Information

10-14 December 2012, Athens, Greece



New Trends in Geospatial Information:
The Land Surveyors Role in the Era of
Crowdsourcing and VGI

Current state and practices within the land
surveying, mapping and geo-science
communities

Report by Commission 3

2018

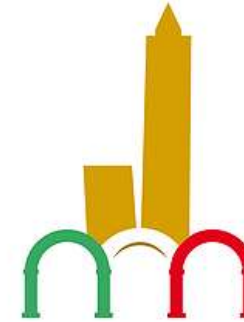
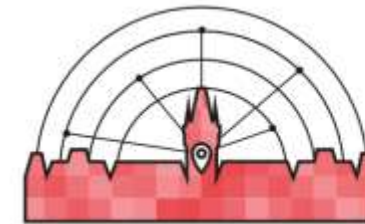


FIG COMMISSION 3

WORKSHOP & ANNUAL MEETING

4-7 NOVEMBER 2014 BOLOGNA - ITALY



Joint Workshop FIG Commission 3 & Commission 7 and Annual Meeting

MALTA 16-20 NOVEMBER 2015



FROM VOLUME TO QUALITY BRIDGING THE GAP FOR SPATIAL DATA INFRASTRUCTURE

14-17 November 2016



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FIG COMMISSION 3

Spatial Information Management

International Scientific Conference "Spatial Data Infrastructures and Spatial Information Management" SDI & SIM 2013 13-16 November 2013, Skopje, FYROM



LISBOA
27-30 NOVEMBER 2017

WORKSHOP AND ANNUAL MEETING
Volunteered Geographic Information:
Emerging Applications in Public Science
and Citizen Participation



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Spatial Information Management



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Overview

Authoritative Geospatial Information vs. Volunteered Geographic Information

KuLIS, a German Cultural Landscape Information System

A Quality Assurance Concept for a Heterogeneous Information System



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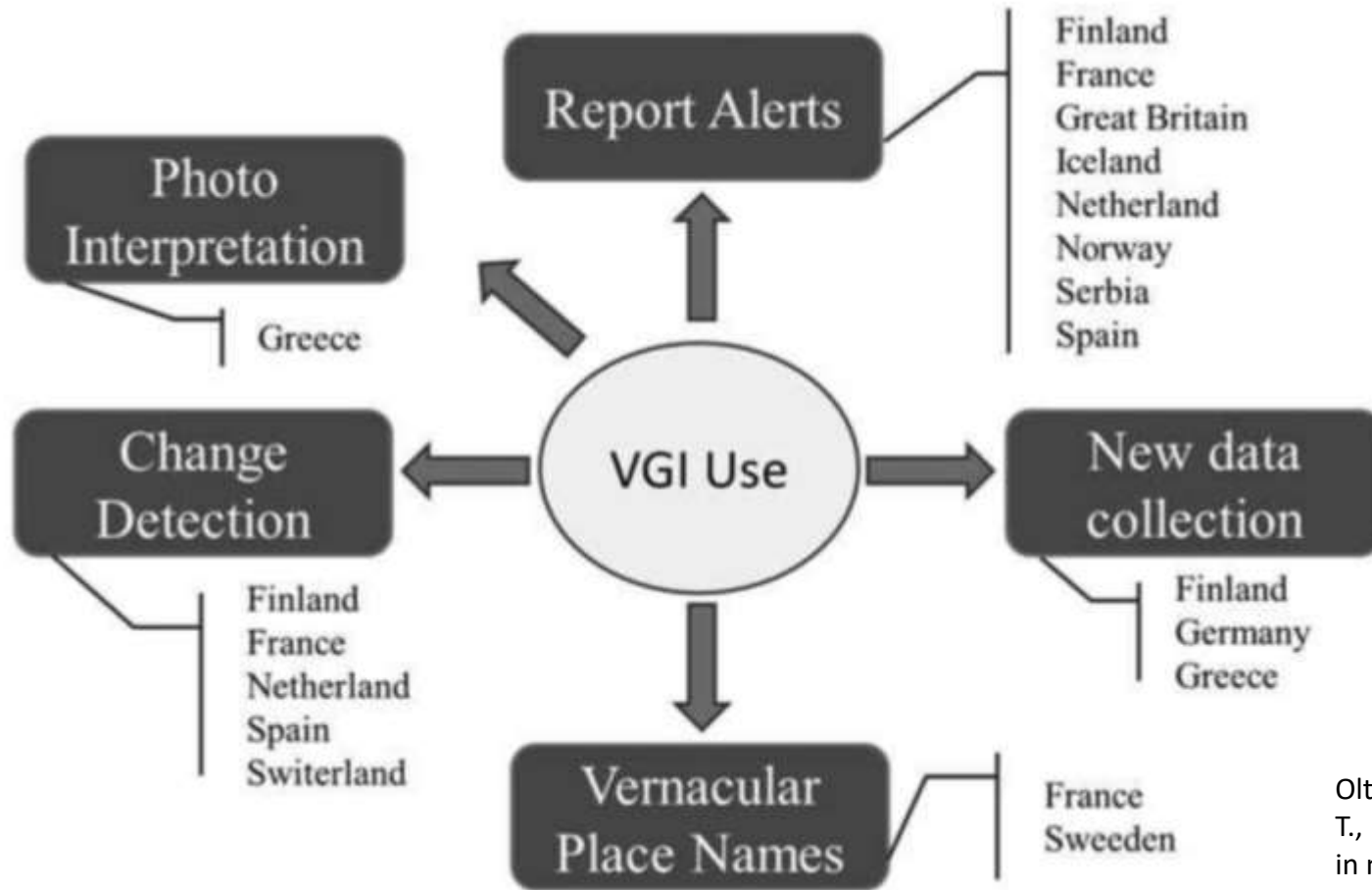


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VGI use in the European National Mapping Agencies



Olteanu-Raimond A. M., Hart G., Touya G., Kellenberger T., Foody G., and Demetriou D., 2015. The scale of VGI in map production: A perspective of European National Mapping Agencies, Transactions in GIS.



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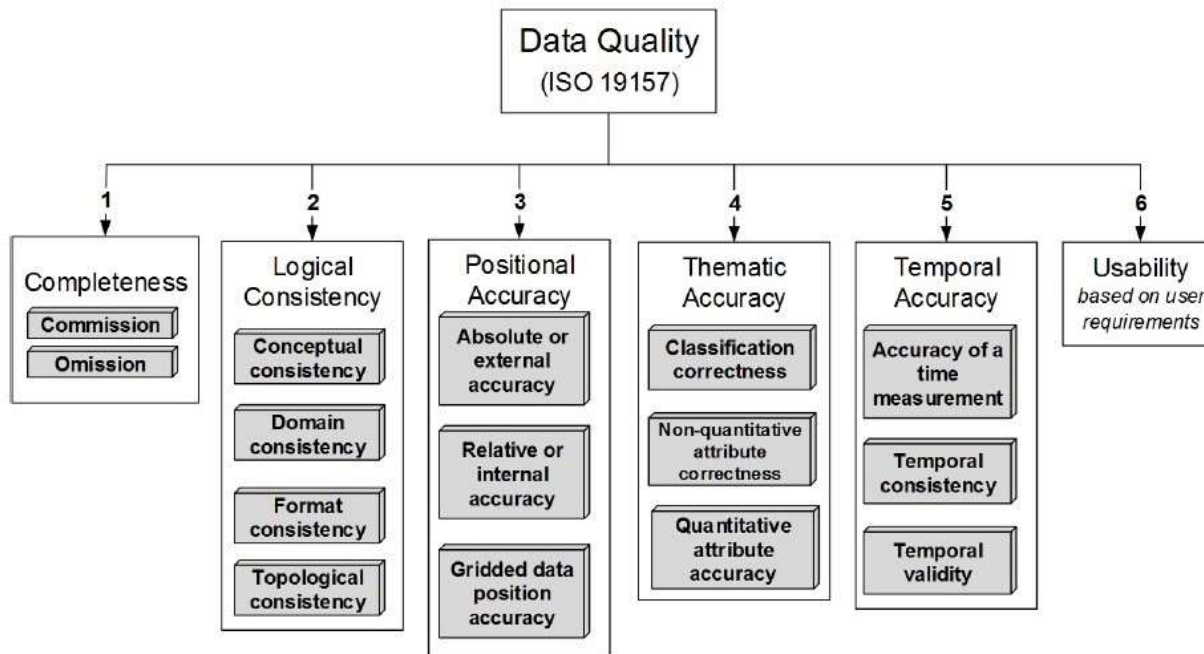
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Quality Assurance in a Controlled Authoritative SDI Framework



European Environment Agency



Volunteered Geographic Information VGI Quality Framework

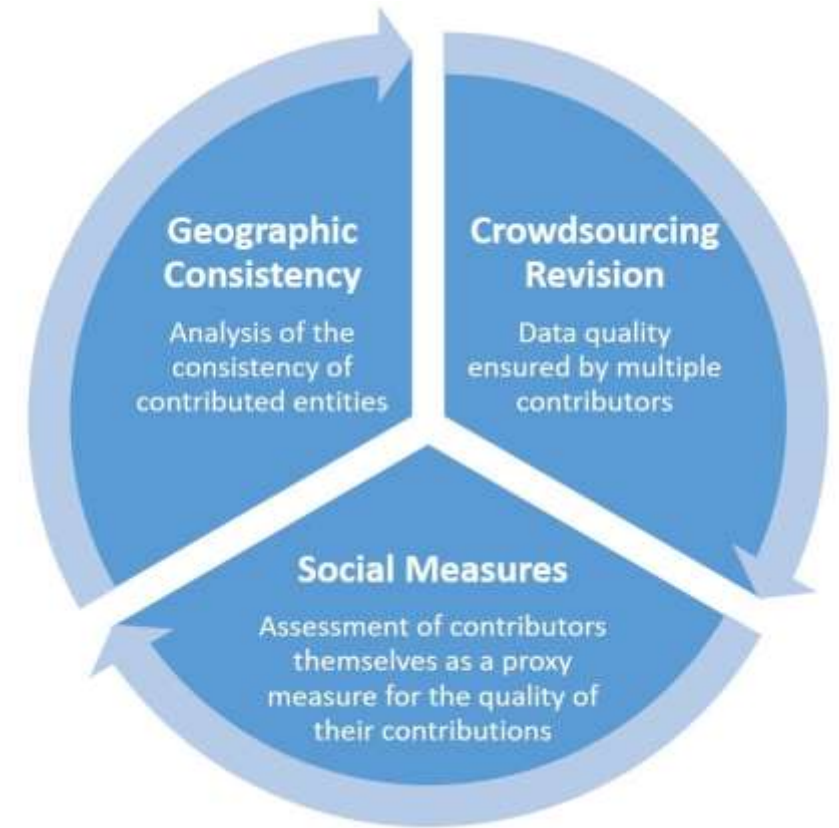




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KuLIS – A German Cultural Landscape Information System



Public Participation Geoinformation System (PPGIS)

The main goal is

to enrich existing administrative data with widespread public knowledge about cultural heritage.



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What is part of a Cultural Landscape?

No.	Functional feature categories
1	Urban Settlements, Health and Social Services
2	Rural Settlements, Agriculture, Horticulture and Fisheries
3	Forestry
4	Production and Processing of Raw Materials
5	Trade, Industry and Energy Production
6	Traffic, Transportation and Communication
e	Government, Administration, Law, Defence and Military
8	Religion and Worship
9	Education, Culture and Science
10	Sport, Tourism and Recreation
11	Natural Landscapes and Nature Conservation
12	Intangible Goods and Associative Features

Developing a KuLIS Feature Catalogue

- Categories
- Complexes
- Features

Category	Complex	Group: Feature
10. Sport, Tourism and Recreation	10.1. Sport	Sport Facilities: Golf Course, Stadium, Tennis Centre ...
	10.2. Recreation	...



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KuLIS System Requirements

Development of a feature catalogue for cultural assets in Rhineland-Palatinate

Design of a spatial database to implement the catalogue structure

Evaluation and transfer of existing data about cultural assets with spatial relation into the database

Providing OGC web map services to be included in the Spatial Data Infrastructure (SDI) of Rhineland-Palatinate

Visualization and digitalization of cultural assets in a web application interface

Ability to create and update information of new or existing information about cultural assets with citizen participation

Management and validation of the provided information by scientific and administrative supervisors

Analysis tools for further investigations and definition of important cultural landscapes



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KuLIS System Design

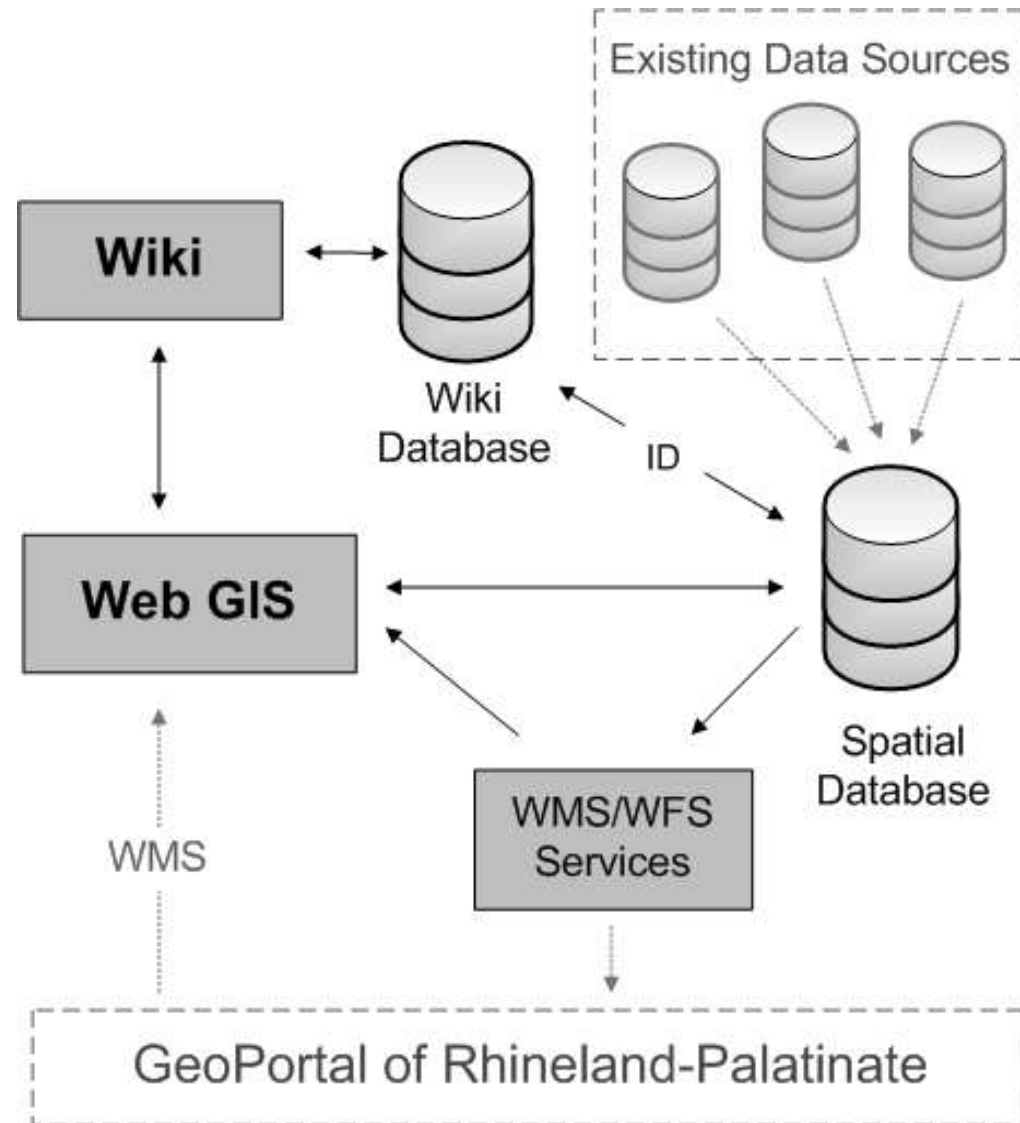




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Festung Ehrenbreitstein

Allgemeines



ID	100650
Name des Elementes	Festung Ehrenbreitstein
...	

Lage des Objektes

Landkreis/kreisfreie Stadt	Koblenz
...	
Lagegenauigkeit	Genau
Geografische Koordinaten	50° 21' 52" N, 7° 36' 50" O



Objekteigenschaften

Formtyp	Punktobjekt
Gruppierung	Einzelobjekt
Zeitliche Einordnung	

Objektbewertung

Erhaltungszustand	gut erhalten
...	



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The screenshot displays the KuLIS Web mapping interface. At the top, there is a toolbar with navigation and editing icons. On the left, a map overview shows the location of the main map area. Below the overview, a sidebar contains a 'Karten' section with 'Digitalisierung' selected, and a 'Festung Ehrenbreitstein (Dorf)' section with options to 'speichern / aktualisieren / löschen'. A search results window titled 'Suchergebnisse' is open, listing 'Alle bearbeiten' and 'Festung Ehrenbreitstein', each with an edit icon. The main map area shows a detailed view of Koblenz, Germany, with the Rhine (Rhein) and Mosel rivers. A scale bar at the bottom indicates 1 km. The interface includes various toolbars for navigation, editing, and information.

KuLIS Web mapping interface



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Flag	Revision status of article
	New/Un sighted
	Read and Sifted
	Reviewed/Proofed

KuLIS
Quality Management

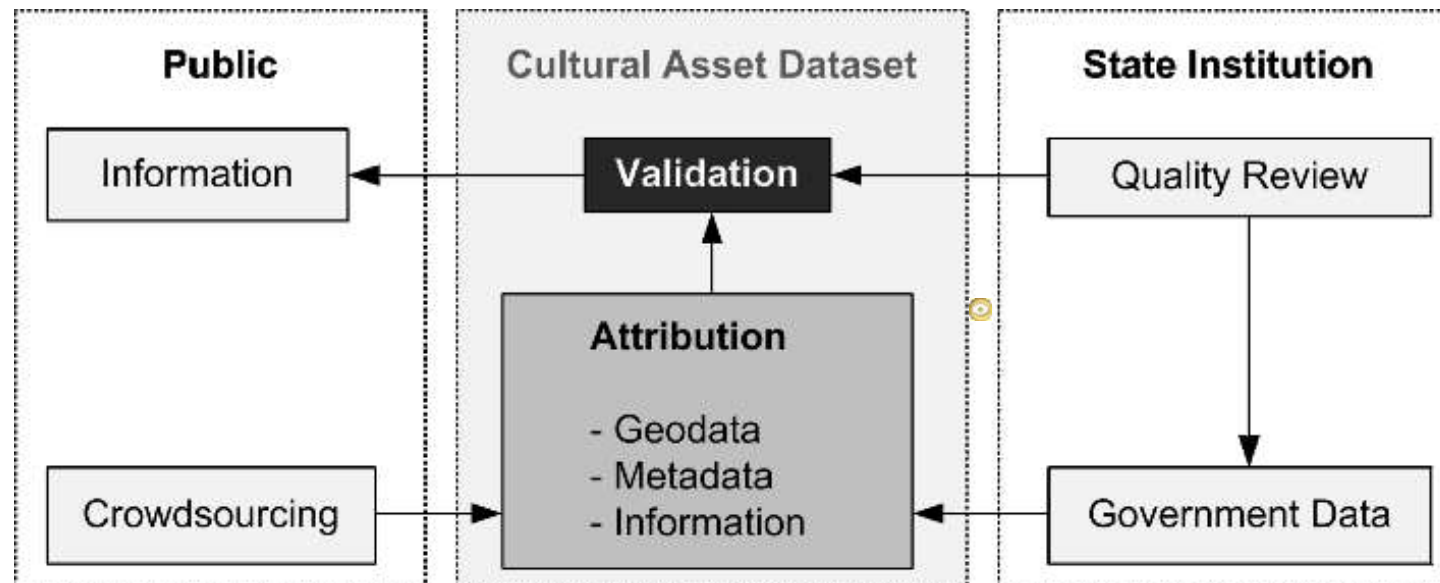




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Conclusions

Volunteered Geographic Information VGI, a tool for citizen participation

National Mapping Agencies NMA's top down vs. VGI's bottom up approach

Integrating Authoritative and VGI ,cultures' still an open subject