

**WG2 research interests and aims are summarised as follows.**

**A. Research Interests:**

*1. Interoperability, VGI quality and SDI*

- a. Introduction of user-based design in SDI to improve fitness-for-use;
- b. Correlation of VGI and other data from different sources;
- c. Interoperability and VGI;
- d. How can we use VGI in order to enrich and support SDI?
- e. Integration of sensor networks and crowd-sourced data into the SDI;
- f. How can VGI become trusted datasets and then official datasets?
- g. INSPIRE directive and VGI.

*2. VGI and fitness-for-use for various applications*

- a. Land use registration system improvement by VGI produced by farmers
- b. Crowd sensing for urban environments (public transportation and parking)
- c. Data collection by not experts for preserving cultural heritage
- d. Public transportation from enterprise point of view.

*3. VGI and Quality Elements*

- a. ISO quality elements on VGI
- b. Fitness for purpose: should there be purpose-oriented quality measures?
- c. Understand the data generation mechanism. Model the bottom-up process of each source and then evaluate the data on that basis of well documented methods (eg. ISO)
- d. Social aspects that might affect the quality of VGI data. Socio-economic criteria for quality on top of traditional ISO standard criteria.

*4. Quality and Algorithms*

- a. Develop/share Quality assessment algorithms
- b. Break the circle of checking data quality against authoritative datasets. How can we estimate VGI quality when there are no authoritative data at hand (e.g. Crisis Mapping)?
- c. Quality visualization
- d. How data collection interface and specific application frames affects the overall data quality?
- e. Use the state of the art geodata matching algorithms applied to VGI data and NMA data to match them and deduce semantics enrichment for VGI data and change detection for NMA data.

*5. Quality and sensor/VGI data*

- a. Hardware suitability (is hardware used by users suitable for the task)
- b. Automated gathering processes and data quality
- c. Automated quality control of sensed/VGI data (e.g. find outliers)
- d. Passive vs. active data collection, how these datasets differ in quality terms?

**B. State of the art investigations:**

1. Turn the focus of STSMs into all or some of the above mentioned research interests
2. Spatial Data Quality framework - ISO standards etc. Is the framework for quality relevant and which methods?
3. Create a taxonomy on the possible VGI applications and the levels of quality needed, use cases across different domains.

#### **C. Active Research among the WG2 members:**

1. Use of VGI for Cadastre
2. Create an Open Cadastre Map
3. Metadata building mechanisms for VGI
4. Contribution patterns and data quality
5. VGI data model vs SDI
6. VGI for Land cover systems
7. Data collection by not experts for preserving cultural heritage.

#### **D. Objectives**

WG2 will address Objective 2 “definition of quality assessment criteria” and also will contribute to the achievement of Objective 4 “develop cultural and contextual analysis methods of VGI that will help researchers in understanding the local aspects of VGI datasets and their use”.

While the overall objectives of WG2 are aligned to the ones stated in the updated MoU there have been also set intermediate objectives, as follows:

##### 1. Showcases:

Examples of quality assessment of VGI data (deadline 23 September)

1. Contribution patterns and data quality (Byron Antoniou)
2. Best practices for integrating VGI into SDI datasets (Alexandra Fonseca)
3. VGI and cultural heritage preservation: Quality challenges. (Damir Medak)
4. How high-resolution ortho-photos affect OSM data quality in Nuuksio national park study (Finland) (Tapani Sarjakoski)
5. Improving data quality on dense urban environment using VGI. (Imre Lendák)

##### 2. Outcome (deadline the next MC meeting):

1. Working paper based on the STSM reports
2. Working papers based on the results of Showcases

#### **F. Future Meeting of WG2:**

A possible next meeting of WG will be decided based on the WG's progress and needs.

#### **G. Work Group Members**

**We welcome the participation of all COST ENERGIC members to the WG2!**

If you wish to be added to the list, please contact Byron Antoniou.