

DigLogs

WP2 Pilot implementation

Progress Report – Final version

5.3.3. Spatial Data Management System

Responsible partner: CFLI			
Involved partners: All			
Version	Status	Date	Author
0.1	Draft	31.03.2021	CFLI
0.2	Draft	30.04.2021	CFLI
0.3	Draft	06.09.2021	CFLI
0.4	Draft	07.09.2021	CFLI
0.5	Final	03.12.2021	CFLI
Notes:			

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1 Reporting period

Reporting period	31.08.2021 - 30.11.2021
Date of the report	03.12.2021

2 Pilot action progress status

2.1 Pilot implementation schedule

The pilot action implementation followed the previously defined roadmap, which is reported as follows for convenience.

Note that the roadmap tasks hasn't been strictly sequential, as many of them have been carried out in parallel or followed different priorities.

1) Pilot planning

- a) Target definition
- b) User needs analysis
- c) Hardware/Software prerequisites definition
- d) Spatial data set to be used for the pilot implementation
- e) Involved processes and services analysis
- f) Training and educational program

CHECK OFF MILESTONE 1 - PLANNING (FEB 2021): COMPLETED

2) Spatial datasets acquisition

- a) **Data acquisition** (carried out in parallel with implementation)
- b) **Analysis of the spatial data packages for the pilot test** (carried out in parallel with implementation)
- c) **Optimization and pre-processing training on the job** (carried out in parallel with implementation)

3) Spatial Data Infrastructure implementation

- a) Data model design
- b) Performance requirements analysis
- c) IT infrastructure implementation (HW/SW)
- d) Network configuration

CHECK OFF MILESTONE 2 – PREPARATION (APR 2021): COMPLETED

4) Data migration

- a) Workshop with involved users
- b) Spatial data conversion and migration test
- c) Spatial data conversion and migration training on the job (extended)

CHECK OFF MILESTONE 3 – DATA MIGRATION (AUG 2021): COMPLETED

5) Procedures implementation

- a) Procedures objectives assessment
- b) Grants policy definition
- c) Procedures development training on the job
- d) Information design and delivery workshop / training

6) Processes and services optimization analysis

- a) Definition of involved processes and services
- b) Identification of spatial-data-driven support to processes and services
- c) Workshop with involved users
- d) Process / service re-design assessment

CHECK OFF MILESTONE 4 – PROCEDURES TESTS (NOV 2021): COMPLETED

2.2 Progress status

Phase 1 have been completed considering that it was decided to develop task *1e* underway with training activities within the various departments.

Regarding the spatial dataset integration activity, the pre-assessment layer list has been further implemented with two removals and the addition of the new “Power grid”, “Digital Terrain Model”, “Quays”, “Berths”, “Seamarks” spatial datasets:

- *Weather station data (removed)*
- Buoys / Dolphins
- Navigation aid systems
- Railway
- *Road network (removed)*
- Aerial photogrammetry digital map (postponed)
- Orthophoto (postponed)
- Coastline (postponed)
- Mo.S.E. system structures (postponed)
- Venice Port boundary
- Trees and green areas
- Waste bins location
- Seabed bathymetry
- Lighted pathway
- Public property areas
- Canals and basins
- Underground infrastructures
- Power grid
- Digital Terrain Model
- Quays
- Berths
- Seamarks

The **phase 2** related to dataset acquisition has been completed.

15 further datasets have been integrated into the system:

- Railway
- Public properties areas
- Canals and basins
- Seabed bathymetry
- Buoys / Navigation aids systems
- Venice Port boundary
- Underground infrastructures
 - Sewerage
 - Water
- Trees and green areas
- Power grid
- Waste bins location
- Lighted pathway
- Digital Terrain Model
- Quays
- Berths
- Seamarks

Total output items integrated into SDI: 25

A final **phase 3** has been completed with further 20 datasets that have been integrated into the system:

- Topographic landmarks
- New photogrammetric map boundaries
- Toponyms
- Land registry (land)
- Land registry (streets)
- Land registry (water bodies)

- Maritime state property (buildings)
- Maritime state property (quays)
- Shores
- Mainland
- Companies in port area
- Companies in Marghera petrochemical zone
- Railway gates
- Lunate
- Gas stations
- SIC (UE sites of interest)
- ZPS (special protection zones)
- Landscape restriction area
- Forest restriction area
- Unesco site boundary

The output SDI items after the third stage are 45.

The **stage 3**, related to the infrastructure implementation, have been completed.

For what regards the dataset conversion and migration procedures, the **stage 4** has been completed.

Some training activities have been planned and extended to December in order to better fit the employees and manager agenda with the courses and seminars modules. It can be assumed as completed. Training activities, seminars and presentations events have involved personnel of the following areas:

- Strategic Planning and Development Department (DPSS)
 - Strategic Planning
 - Urban Planning

- Transportation and Maritime Studies
- Technical Department (DTEC)
 - Environmental services
 - Canals and navigation
- Institutional Affairs and State Properties (DEM)
 - State Properties Concessions
 - State Properties Promotion and Development
- IT area
- President and Secretary Staff

With the employees belonging to these departments, so far, **23 days of workshop / training-on-the-job sessions** were planned for November and December (most of them have been already carried-out), involving **17 different operators / decision-makers**.

Stage 5 is completed.

Defined and reported management and operational procedures:

- Grants policies management for users belonging to different departments
- Bathymetry layer maintenance
- Minor procedures for dataset integration and access simplification
- Lightweight web-oriented visualization tool
- Virtual layers creation for multiple raster datasets
- Maintenance procedures for WMS and WCS data sources for multiple raster tiles using “Raster Mosaic Plugin”
- Basic recurring procedures for GIS environment first setup, the spatial datasets styling and visualization techniques, workspace, layers and tables management.
- Seabed volume calculation procedure using bathymetry data

These procedures have been assessed and detailed by carrying-out individual training-on-the-job sessions and workshops with the different Port System Authority operators and managers.

Stage 6 is completed.

The involved processed and services that have been assessed are the following:

- **"Pianificazione Strategica e Sviluppo" department**
 - *Accessibility and trade flows analysis*
 - *Three-year Operational Plan*
 - *Mo.S.E. system effects monitoring*
 - *Economic studies, statistics and assessment about port development*
 - *Chances scouting and searching on national and European funding programs*
 - *Research and European Projects management*
 - *Port Master Plan (PRP)*
 - *VIA, VAS, VINCA procedures*
 - *Three-year program and annual list of public works management*
 - *Urban planning and building permits granting*
 - *Strategic System Master Plan Document*
- **"Direzione Tecnica" department**
 - *Topographic surveys and projects / works mapping*
 - *Water supply and sewage service management*
 - *Green spaces management*
 - *VIA procedures*
 - *Hygiene and cleaning services*
 - *Canals and basins maintenance*
 - *Remote monitoring of sewage dump system*
 - *Building and infrastructures works management*
 - *Waste management and remediation*
 - *Environmental technical support*
- **"Affari Istituzionali e Demanio" department**
 - *Expropriation for public use*
 - *State concession management*
 - *Development and promotion of state property exploitation*

2.3 Milestones and actions

Milestone / action	Responsible partner / external resource	Deadline, as defined in PWP	Predicted or achieved completion date	Estimated completion %	Progress status
Milestone 1	CFLI	Feb 2021	Feb 2021	100%	COMPLETED
Milestone 2	CFLI	Apr 2021	Apr 2021	100%	COMPLETED
Milestone 3	CFLI	Aug 2021	Aug 2021	100%	COMPLETED
Milestone 4	CFLI	Nov 2021	Nov 2021	100%	COMPLETED

3 Risks

Risk description	Solution suggestion	Status
Training activities delays caused by Covid-19 emergency.	Different forms of training activities.	Several activities carried out on-line. Some activities spanned through next months.
Initially defined working dataset acquisition delay.	New dataset package list definition as alternative working set.	List defined with no significant issues.
Added workload needed due to new dataset to be optimized and migrated.	Hire new expert.	Workload assigned for two new hired experts.