

SUNSHINE



D6.4 Training Material

WP 6 – Awareness, Networking and Dissemination
Task 6.3 – Training

Revision: Final

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Acronyms

CityGML	City Geographic Markup Language
CO2	Carbon Dioxide
DOW	Description of Work
ESCO	Energy Saving Company
E-SDOB	Energy performance of large scale building stocks
EU	European Union
GIS	Geographical Information System
GML	Geography Markup Language
INSPIRE	Infrastructure for Spatial Information in Europe
JRC	Joint Research Centre
NZEB	Nearly Zero Energy Building
OSM	OpenStreetMap

1 Executive summary

SUNSHINE – “Smart Urban Services for Higher eNergy Efficiency” has delivered three innovative digital services: Automatic large-scale assessment of building energy behaviour, optimisation of energy consumption of heating/cooling systems through automatic alerts and interoperable control of public illumination systems, which were tested in different configurations in 8 pilot sites across Europe. The project solutions (particularly Scenarios 2 and 3) have been addressed to skilled personnel such as energy experts, industry, municipal workers, etc., though not exclusively; in order to ensure the creation of local capacity to implement and test the SUNSHINE solutions, as well as to continue their run after the project lifetime, structured training actions have been foreseen in the project.

Training is an essential component of inserting new and innovative technologies within the socio-economic local climates, as it does not only bridge the knowledge gap between the product providers and the actual users (municipal workers, energy managers, planners, citizens, etc.) but it also adds important skills to the share of the population trained. As the SUNSHINE products (or similar) will become adopted or begin roll-out on the market, the trained users will have the chance of finding new and better jobs or moving upwards from their current position. Subsequently, it can be argued that on the longer term, training should to a certain degree improve the employability of the persons involved and open up new job markets. The SUNSHINE project offers niche services, but they are still relevant in the global context with respect to the growing importance of energy efficiency, not only at European level.

This deliverable presents the outputs (in terms of training material) of the Task 6.3 – Training. The actual actions performed during the project are also outlined, albeit they are detailed at large in the Deliverable 6.3 – Proceedings and dissemination material. The present document is designed as a „container” for the collection of slides, documents, training videos and external annexes developed in the three years of SUNSHINE, which make up the entire D6.4 Training Material, and should therefore enable the reader to understand the way this material was structured, presented and used.

2 Introduction to the task of Training

T.6.3 – Training represents a task of the Workpackage 6 – Awareness, Networking and Dissemination, led by URBA with contributions from the partners GRAPHITECH, GL, INFOTN, EPS, SGIS, TNET, HEPESCO, GSYS, SET.

As per the Description of Work (DoW), under guidance of URBA, structured Training Actions have been organised involving the various SUNSHINE partners of the different interested stakeholders involved through the project, most notably those not part of the consortium. These actions have been initially envisioned as training workshops in different partner's locations and assisted self-learning activity through interactive videos to be prepared by the consortium.

The requirements of the DoW were to develop at least 5 training actions during the final phase of the project in order to transfer the knowledge about the SUNSHINE results, with the participation of at least 200 stakeholders. The scope was to build capacity, transfer skills and assist exploitation of project results through training activities aimed at facilitating uptake of SUNSHINE solutions in a real-world scenario.

T.6.3 was an activity in synergy with the **Task 6.2 – Large scale dissemination and openness activities** and the **Piloting tasks T5.1-T5.9** within Workpackage 5, with the actual training being organized and reported either as piloting activities (for local training) and as openness, awareness and dissemination activities (for international training seminars). All information, descriptions and results regarding the training events is enclosed in the deliverable D6.3 – Proceedings and dissemination material. The output of the Task 6.3 is the present report – Training Material – which was due in Month 36, at the end of the project.

2.1 Considerations regarding task timing and responsibility changes

After the decommitment of partner CEIT Alanova as the WP6 leader, Task 6.2 leader URBA has replaced the organization in managing communication, dissemination and awareness activities. It was considered beneficial for the proceedings of all tasks that URBA also oversee the Task 6.3 Training, being allotted 1 Man Month worth of coordinating and aligning the task with the other actions of the Workpackage, as well as for preparation of the final deliverable. The decision has been taken in October 2014 between URBA, SUNSHINE Coordinator Fondazione Graphitech and former task coordinator Sinergis.

The main action packs of the task are: a) Identification and involvement of possible stakeholders, b) Collection and development of training material, c) Organization of training activities. Responsibility for coordination of all actions lies with URBA, while SGIS will be in charge of developing pack b) in particular.

Due to the leadership change in Training, to the postponement of pilot activity start until February 2015 and to the late maturation of the online platforms (especially for Scenario 2 and 3), **training activities have been deployed in the second half of the third year, for Scenario 1, and in the last 2 months of the project for Scenario 2 and 3. This represents an important factor in the overall training deployment, as, while SUNSHINE has successfully reached its indicators, an even more ample training will be conducted after the project ends.**

3 Proceedings

Initial training requirements have been baselined in the deliverable D1.2 – Project Requirements (HEP ESCO), under Chapter 3.4:

Table 1 – Training requirements (Source: D1.2)

REQ-TRE-001.	The local pilot partner shall ensure training for building managers, technical persons (technicians) and energy managers in order to use SUNSHINE platform
REQ-TRE-002.	SUNSHINE shall ensure through local pilot partner training for SUNSHINE platform (on server and client level)
REQ-TRE-003.	SUNSHINE shall ensure through local pilot partner training for heating/cooling control adjustments
REQ-TRE-004.	SUNSHINE shall receive any suggestion given by the user through Wiki methodology, in order to improve all the functionalities during its lifecycle

Furthermore, specific task-related activities have been deployed in the following order:

1. Developing a stakeholder database for local and international training events.

This point has been addressed twofold, based on the types of training actions we aimed at involving actors in. One is a „global” stakeholder database for communication, dissemination and online training purposes, containing contacts of SUNSHINE partners (the Newsletter database of SUNSHINE, industry, fellow projects’ pre-existing databases such as the SmeSpire’s, etc) whom we will invite to access the online training instruments developed.

The other (local) one is a database resulting from local stakeholder analysis in the Pilots (especially those organizing actual training workshops/seminars), namely a list of people consistent with the users involved in each Pilot (professionals / administration / NGO / RTD / university). These individuals have been invited to participate in the local events which all partners organized. The local database is consistent with the target users each pilot aimed at involving.

2. Developing training materials

Partners Sinergis and Graphitech have, over the better half of the SUNSHINE running period, developed a number of training materials which were structured as following:

A. General Training

- S.a.1 – SUNSHINE Project Architecture (Presentation Training)
- S.a.2 – SUNSHINE Service Platform (Presentation Training)

B. Training for Scenario 1

TRAINING SLIDASETS

- S1.1 – Introduction to Scenario 1
- S1.2 – Data Model for Energy Maps
- S1.3 – The INSPIRE Directive
- S1.4 – Model for Energy Map Calculation
- S1.5 – The Map4Data App

S1.6 – Elements for Validation

TRAINING DOCUMENTS

S1.a – Data Model for Energy Maps and Data Collection

S1.b – Building Energy Precertification Service

S1.c – Building Energy Performance Estimation

EXTERNAL ANNEXES

EXT 1.1 – Bart de Lathouwer – OGC and bSI, Geospatial and BIM, CityGML and IFC

EXT 1.2 – Francesco Pignatelli, M.T. Borzacchiello – EU Location Framework

EXT 1.3 – Paolo Conci – GBC Italia

EXT 1.4 – Romain Nouvel, J.M. Bahu – Development of the CityGML ADE Energy

EXT 1.5 – Trenta – SUNSHINE Energy Maps workshop, Trento edition

C. Training for Scenario 2**TRAINING SLIDASETS**

S2.1 – Introduction to Scenario 2

S2.2 – Low-Level Service Platform

S2.3 – Meter Data Management Service, including Green Button

S2.4 – Validation Activities for Scenario 2, case of Ferrara

TRAINING DOCUMENTS

S2.e – Specifications for Data Ingestion via SUNSHINE FTP

S2.f – Specifications for Data Ingestion via GreenButton

S2.g – Meter and Sensor Data Management Service

S2.h – Meter Data Management Service

S2.i – Suggestion Service

EXTERNAL ANNEXES

EXT 2.1 – AiCARR – Comfort e Risparmio Energetico negli edifici esistenti (IT)

D. Training for Scenario 3**TRAINING SLIDASETS**

S3.1 – Introduction to Scenario 3

S3.2 – Low-Level Service Platform and Remote System Management Service

S3.3 – Security and Privacy

TRAINING DOCUMENTS

S3.k – Security Layer

S3.l – Lamp control service

E. Videos

Online training support has been provided within the project via the YouTube platform account [Sunshine Project EU](#). The training videos uploaded have been structured under the following:

1. General module

a. SUNSHINE Project – Technological Overview

2. Training on Scenario 1

a. [SUNSHINE training module – Energy Maps – WEB](#)

b. [SUNSHINE training module – Energy Maps – Mobile](#)

c. [SUNSHINE Project – Scenario 1 – Ferrara Mobile demo training](#)

3. Training on Scenario 2

a. [SUNSHINE training module – Scenario 2 – Ferrara and Trentino \(WEB\)](#)

b. [SUNSHINE training module – Scenario 2 – Ferrara and Trentino \(Mobile\)](#)

4. Training on Scenario 3

- a. [SUNSHINE Training module – Scenario 3 – Rovereto \(WEB\)](#)
- b. [SUNSHINE training module – Public illumination system \(WEB\)](#)
- c. [SUNSHINE training module – Scenario 3 – Rovereto \(Mobile\)](#)
- d. [SUNSHINE training module – Public illumination system \(Mobile\)](#)

Table 2 – Number of user views on SUNSHINE training videos on Youtube

No.	Module	Users trained
1	General module	373
2	Training on Scenario 1	171
3	Training on Scenario 2	137
4	Training on Scenario 3	100
TOTAL		781

F. Native Language Training

Complete Native Language support is still under development but at the end of the SUNSHINE project, training was available on Scenario 1, Map4Data App and Scenario 2 in both Italian and Greek, and for SUNSHINE Scenario 2 in Croatian. All presentations are enclosed as annexes.

- G. **Advanced reading** - specialty papers and articles submitted on the use and functionality of the SUNSHINE services and platform over the 3 year period of project implementation

3. Developing the online training subsection of the SUNSHINE Website

The [Training subsection of the SUNSHINE Website](#) has been developed in order to display the above-mentioned training materials online. The Sections of the Training page are identical with the above-mentioned training chapters, with the addition of the Feedback module in which it is possible to request contact, further support, local training activities or affiliation with SUNSHINE (as a city).

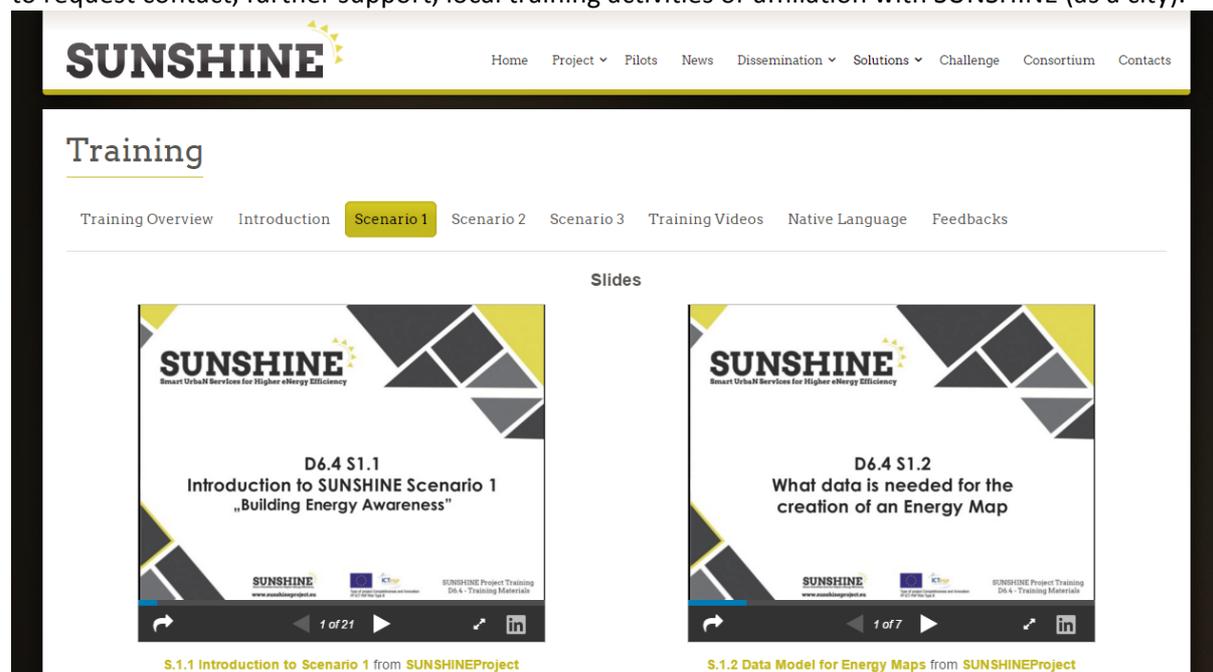


Figure 1 – Appearance of the Online training subsection of the SUNSHINE platform

4 Results of outreach and training actions

Results will outline the reach of the training material developed, as per the activities described in Deliverable D6.3.

4.1 The SUNSHINE Community Database

The Contact Database of the SUNSHINE project has been designed as a list of partner- and event-specific contacts of SUNSHINE stakeholders, forming the project community which will be kept updated with new content in the Training subsection of the Website. The list features contact names, institutions, e-mails, optionally websites of institutions, and stakeholder type or field of specialization (local administration, planning, construction and building management, departments of GIS, energy, economy, researchers, engineers, teachers at universities, etc.).

Table 3 - SUNSHINE Stakeholder Database of potential users

No.	Partner	Stakeholders	Stakeholder Types
1	GRAPHITECH (SUNSHINE Newsletter Subscribers)	860	Local administrations and regional authorities, energy experts, utility companies, industry, research and development, press, general citizens subscribers to the SUNSHINE newsletter
2	URBA	59	Local administration, regional authorities from Romania, planners, architects, construction experts
3	SINERGIS	74	Experts and authorities from the GIS and Environment departments, researchers, architects, CEOs and Directors of business and industry contacts involved in SUNSHINE
4	INFOTN	113	Engineers, teachers, regional agencies, figures of authority, directors and CEOs of business and industry contacts involved in SUNSHINE
5	GEOSYS	14	Education and energy experts involved in SUNSHINE
6	EPSILON	109	Local utility companies, Technological Institute of Lamia, Municipality, Central Greece Technical Chamber, experts from affiliated EU projects (Epsilon GR and IT)
8	HEP ESCO	519	Energy Managers, industry, utility companies, research and development
9	SET	19	SET Distribution CTI Operators, System Managers, IT Service
10	GRAFICALIGHT	42	Municipalities (public servants and planners), regional authorities, associations, energy managers, university and research, industry
Joint event			
11	Final conference	69	Experts from affiliated EU projects, local and regional authorities, EC representatives, architects, planners, representatives of ICT and Energy companies, university
TOTAL INTERNAL STAKEHOLDERS		1878	
12	SmeSpire Liaison	640	SMEs involved in innovative and smart solutions pertaining to the INSPIRE directive
TOTAL STAKEHOLDERS		2518	

A training event calendar has been set up early in the third year to collect partner intentions to organize training activities.

The overview of organized events until 31 January 2016 shows a number of 23 training activities performed in all 8 pilots, with a reach of 575 total trainees.

Table 4 – Pilot training activities overview and users trained

Pilot	Subject	Date	Trainees
Bassano del Grappa	Bassano sotto le stee – „Choose the light for your city”, training with citizens	17.06.2015 25.06.2015	80
	Final citizen live audit of SUNSHINE pilot, with trained volunteers	January 2016	Total 200
Ferrara	SUNSHINE Training Workshops on Scenario 1 and 2	25.09.2015	60
Naxxar	MCAST Training with teachers	14.10.2015	10
Val di Non	SUNSHINE Training workshop in Trento, all scenarios	27.11.2015	95
	Informatica Trentina Spa internal training of consultancy, service design and general direction	Dec 2015 -Jan 2016	18
Rovereto	SUNSHINE training sessions for: <ul style="list-style-type: none"> Center operators, use of application at monitoring level Lighting system managers, use of application at management level IT service, management of IT infrastructure on pilot side Center operators, use of application at monitoring level Lighting system maintenance unit, maintenance of hardware on pilot side 	17.12.2015	4
		21.12.2015	2
		23.12.2015	1
		15.01.2016	4
		20.01.2016	7
	Total 18		
Zagreb	Training for Energy Managers and Energy Assistants of the HEP Group	19-27.01.2016, 6 training events (see Annex 5)	Total 72
Trentino	Project training and future development with the ENAIP - Professional Faculty for energy operators	11.04.2015	30
Lamia	<ul style="list-style-type: none"> Demonstration and training on the Map4Data App to students of the Technological Institute and citizens Demonstration and training on Scenario 2 in the City Hall of Lamia to building managers, energy auditors, students of the institute, citizens Demonstration and training on Energy Maps to students of the Technological Institute, surveyor engineers and citizens Demonstration and training on Energy Maps in the City Hall of Lamia to utility company, municipal workers, Technical Chamber of Central Greece 	12.08.2015	10
		5.10.2015	9
		2.11.2015	20
		2.11.2015	10
	Total 50		
TOTAL TRAINED INDIVIDUALS THROUGH THE SUNSHINE PROJECT DURING LOCAL TRAINING EVENTS FOR PILOTS			575
ONLINE USERS TRAINED VIA THE YOUTUBE VIDEO TRAINING MODULE			781

5 Annexes

Annex 1. [The SUNSHINE Training Platform](#)

Annex 2. [General Training](#)

Annex 3. [Training for Scenario 1](#)

Annex 4. [Training for Scenario 2](#)

Annex 5. [Training for Scenario 3](#)

Annex 6. [Training Videos](#)

Annex 7. [Native Language Training](#)

Annex 8. [Advanced Reading](#)

