



SusCity Technical Workshop

1st Year Assessment

EDP, January 26th 2016

09h00 | Initial session

09h15 | Session on WP1

09h30 | Session on WP2

09h45 | Session on WP3

10h00 | Session on WP4

10h15 | Session on WP5

10h30 | *Coffee break*

10h45 | Session on WP6

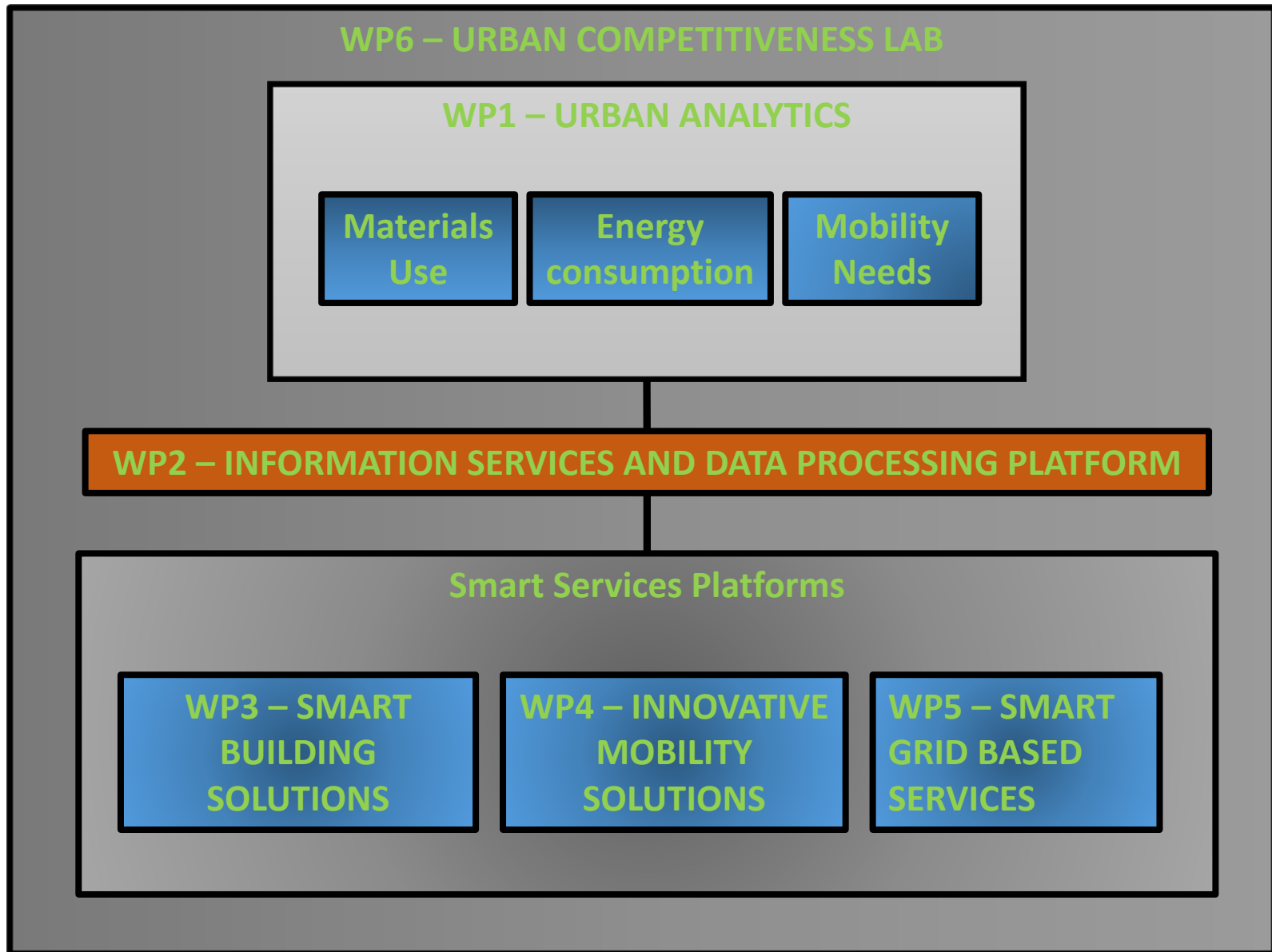
11h00 | General discussion

12h30 | *Lunch*

13h30 | End of Session

WP6 – URBAN COMPETITIVENESS LAB





WP GOALS

- **Create an Urban Competitiveness Lab** where specific outcomes towards **urban sustainability** take place with multiple stakeholders (**Municipality, public agencies, private partners and academia**);
- The **Urban Competitiveness Lab** (emerging from this project) will generate new **new products and services** (assessed and tailored) to **promote city competitiveness**;
- The Urban Competitiveness Lab is intended to **transform the smart solutions developed** in **innovative business models** and to **plan optimal investment decisions** of the **urban fabric**.

MAJOR DELIVERABLES

- **Assessment of the impact of new smart services, business and market models.**
- **Policy recommendations** for the promotion of neighborhood/city competitiveness with an emphasis on the impact that **sustainable/green economy**.
- Interaction with the **educational component of the MIT - Portugal Program**, particularly in the **PhD programs of Transportation Systems and Sustainable Energy Systems**.

WP PARTNERS

- WP leaders: IST ID, CML
 - IST ID/MIT: Richard de Neufville
 - CML: Teresa Almeida
- Institutions & Companies involved:



Universidade do Minho

WP TASKS & TIMELINE

1. Stakeholder platform - uncovering services and products

Creation of a **multi-stakeholder council** and the **organization of periodic workshops** with all partners of the project to **discuss results from all WPs**;

Potential urban interventions and the **potential economic valorization** of the project outcomes through **novel business models**;

Dissemination of the impact of **science and technology in urban living**, by **organizing public sessions** and global reach publications.

2. Decision-making in face of uncertainty

The **decision-making under uncertainty** lies in the **creation of opportunities** (options) to adapt a system easily to new opportunities/emerging risks;

As **long-term forecasts of urban issues** are necessarily, **very unreliable and uncertain**;

The **development of flexible options for urban interventions** can be presumed to be highly desirable.

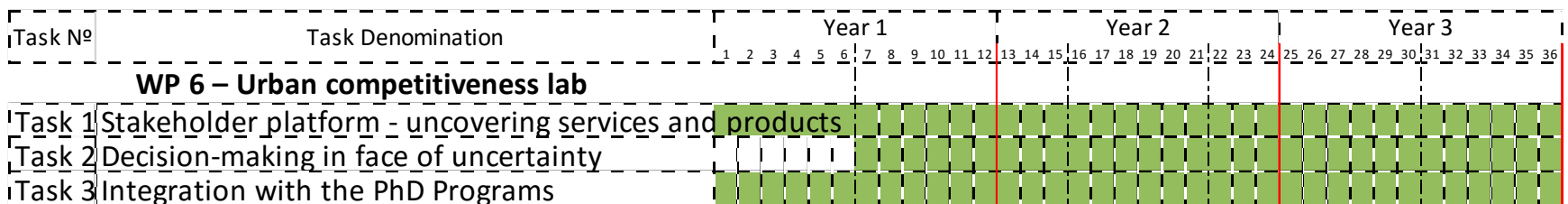
3. Integration with the PhD Programs Monitoring of Buildings

Team-building effort, the project will strongly **promote long-term interaction with the PhD students** (MIT Portugal program) providing them with **case studies** to be developed under the context of their **innovation and entrepreneurship** activities);

Facilitate the creation of startups based on the **specific developments and urban interventions** derived from the project;

MIT students will also participate in **summer intersession periods**, to further and deepen their understanding of the **opportunities and issues involved in the project**.

Several senior members associated with the project have already **undertaken long exchanges between MIT and Portugal**, and are actively **teaching in the PhD programs of Transportation Systems and Sustainable Energy Systems**.



WP6 – URBAN COMPETITIVENESS LAB

Thankyou very much for your attention

Rui Costa Neto

costaneto@tecncio.ulisboa.pt



WP6 – URBAN COMPETITIVENESS LAB



Task Nº	Task Denomination	Person *mont	Participant Responsibl	Partners Involved	Year 1												Year 2												Year 3																																															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																																				
WP 1 – Urban Analytics																																																																												
Task 1	Energy model	104,4	MIT, IST ID,	UCoimbra, ADENE	[Green grid]																																																																							
Task 2	UMS				[Green grid]																																																																							
Task 3	Mobility model				[Green grid]																																																																							
Task 4	Building Energy Savings Potential				[Green grid]																																																																							
Task 5	3D model				[Green grid]																																																																							
WP 2 – Information Services and Data Processing Platform																																																																												
Task 1	Development of the City Data Infrastructure	136,8	UMinho, IBM	IDMEC IST, UCoimbra	[Green grid]																																																																							
Task 2	Formalization of the CIM Concept				[Green grid]																																																																							
Task 3	Process External City Data				[Green grid]																																																																							
Task 4	Development of the City Data Platform				[Green grid]																																																																							
Task 5	Development of the City Data Analytics Engine				[Green grid]																																																																							
Task 6	Publish City Open Data				[Green grid]																																																																							
Task 7	Interoperate UML with IOC				[Green grid]																																																																							
WP 3 – Smart building solutions																																																																												
Task 1	Performance Criteria	167,4	UCoimbra, ADENE	LNEG, IDMEC IST, FFC, MIT, IST ID	[Green grid]																																																																							
Task 2	Improvement of Predictive/Design Tools				[Green grid]																																																																							
Task 3	Identification of Energy Efficient Techniques				[Green grid]																																																																							
Task 4	Monitoring of Buildings				[Green grid]																																																																							
Task 5	Integrated Evaluation Models for Buildings Control and Management				[Green grid]																																																																							
Task 6	Promote user interaction				[Green grid]																																																																							
WP 4 – Innovative mobility solutions																																																																												
Task 1	Vehicle monitoring	143,1	IST ID, iTds	IDMEC IST, MIT, UCoimbra, UMinho, ADENE	[Green grid]																																																																							
Task 2	Use-case testing				[Green grid]																																																																							
Task 3	Study of optimal planning of charging infrastructures for Electric Vehicle				[Green grid]																																																																							
Task 4	User needs				[Green grid]																																																																							
Task 5	Urban mobility models				[Green grid]																																																																							
Task 6	Designing sustainable mobility solutions				[Green grid]																																																																							
WP 5 – Smart Grid based services																																																																												
Task 1	Solar forecasting	79,2	INESC Porto, EDP Distribuição	UCoimbra, FFC, UMinho, REN	[Green grid]																																																																							
Task 2	EV charging optimization				[Green grid]																																																																							
Task 3	Evaluation of the MG/MMG interconnection				[Green grid]																																																																							
Task 4	Assessment of the EV impact in the upstream networks				[Green grid]																																																																							
Task 5	Design of new market models				[Green grid]																																																																							
Task 6	USD integration				[Green grid]																																																																							
WP 6 – Urban competitiveness lab																																																																												
Task 1	Stakeholder platform - uncovering services and	59	IST ID, CML	All	[Green grid]																																																																							
Task 2	Decision-making in face of uncertainty				[Green grid]																																																																							
Task 3	Integration with the PhD Programs				[Green grid]																																																																							
					M1												M2												M3												M4												M5												M6											
					1st Progress Report												2nd Progress Report												Final Progress Report																																															

M1 – Testbed setup: Demonstration of the monitoring equipment in households, vehicles, secondary substation transformers and for measuring solar radiation.

M2 – Microgrid and solar laboratory rigs: Demonstration of two laboratory rigs, one at INESC , to simulate the impact of Microgrids to pass from interconnected to islanded operation, and the other at LNEG to develop building integrated solar techniques.

M3 – Energy, mobility and metabolism models: Demonstration and validation of the urban energy, mobility and metabolism models to the selected neighborhood testbed.

M4 – City Data Platform: Demonstration of the City Data Platform to provide massive raw data storage for historical datasets as well as real-time data storage to support streaming computing applications.

M5 – City Data Analytics Engine: Demonstration of the City Data Analytics Engine for stream computing and allowing real-time identification, data synthesis and scoring, and mechanisms for analyzing vast amounts of data using predictive modeling, statistical models and reporting tools.

M6 – 3D model and Urban systems Simulator and Dashboard: Inauguration of the 3D representation model of the neighborhood testbed and the Urban systems Simulator and Dashboard for assessing urban interventions.