

INNOVATION FOR A SMART FUTURE



# Collected information on State of Art

DELIVERABLE D2.1

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## PROJECT INFORMATION

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<b>Project Acronym</b>	City-Zen
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<b>Call Identifier</b>	FP7-ENERGY-SMARTCITIES-2013
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### Consortium partners

N° DoW	Organization	Acronym	Country
1	VITO	VITO	BE
2	Stichting Amsterdamse Economic Board	AIM	NL
3	Universiteit van Amsterdam	UVA	NL
4	Westpoort Warmte B.V.	WPW	NL
5	Alliander	LIAN	NL
6	HESPUL Association	HESP	FR
7	The Queens University of Belfast	QUB	UK
8	Th!nk E	THNK	BE
9	KEMA Nederland BV	KEMA	NL
10	Technische Universiteit Delft	TUD	NL
11	Stichting Waternet	WAT	NL
12	Mastervolt International B.V.	MAST	NL
13	SOLCALOR	SOLC	NL
14	AEB	AEB	NL
15	Daikin Airconditioning Netherlands B.V.	DAIK	NL
16	Siemens Nederland NV	SIEM	NL
17	Universita' degli Studi di Siena	UNIS	IT
18	Ville de Grenoble	MUNG	FR
19	Commissariat à l'Énergie Atomique et aux Énergies Alternatives	CEA	FR
20	Compagnie de Chauffage Intercommunale de l'Agglomération Grenobloise	CCIA	FR
21	Gaz Electricite de Grenoble	GEG	FR
22	SAS ATOS Worldgrid	ATOS	FR
23	Clicks and Links Ltd&L	C&L	UK

## DELIVERABLE INFORMATION

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<b>Number</b>	D 2.1
<b>Title</b>	Collected Information on State of Art posted on the project Website
<b>Lead organization</b>	HESP
<b>Main author(s)</b>	Benjamin GIRON (HESP)
<b>Contributors</b>	Leen Peeters (THNK), Rudy Rooth (KEMA), Telli Van Der Lei (TUD)
<b>Reviewers</b>	Ighor Van de Vyver (VITO)
<b>Nature</b>	O – Other
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Version	Date	Author/Reviewer	Description
0.1	30/06/2014	Benjamin GIRON (HESP)	First draft
0.2	30/06/2014	Ighor Van de Vyver	Draft revised
1.0	30/06/2014	Benjamin Giron (HESP)	Final version

## ABSTRACT

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Knowledge in the areas of energy efficiency and smartification is rapidly evolving. It is important to incorporate the knowledge on the latest state of the art in each of the 3 areas (buildings, district heating/cooling and smart grids) with special attention to the synergy between those.

The objectives of Work-Package 2 are:

- To incorporate the knowledge on the latest state of the art in each of the 3 areas;
- To indicate which of the collected technologies are relevant for City-zen
- To serve as input for the following Work Packages:
  - > Technology/integration (WP3)
  - > Processes/stakeholders/regulation (WP4)
  - > The demonstration activities (WP5 & 6)
  - > The City-Zen & Deployment: WP8 (serious game) & WP9 (social issue)

The State of the Art analysis task (task 2.1) answers the following questions:

- What has been the experience and outcome of recently finished projects, with special focus on demonstration projects?
- What are the experiences in ongoing projects at different scale?
- What are the latest industrial innovations in this area?
- What are recent outcomes from research programs in this and closely related domains?
- What have been successful approaches for valorising the products and services of innovative companies?

**This State of Art Analysis will mainly focus on:**

- **Technologies that show a large potential for the European context,**
- **Innovations that are focusing on the interoperability between networks (electricity, gas and heating & cooling)**
- **Process wise: which are the existing methodologies of approach for transition processes?**

This work will deeply rely on the outputs of recent European projects (TRANSFORM, ZENn, LINEAR, Next-Buildings) as well as on the Smart City Stakeholder Platform. Databases such as BuildUp, OpenLivingLabs, Smart cities and Communities platform and SETIS.

**The State of Art Analysis information will be stored in the information exchange website developed under WP9<sup>1</sup>. The information will be publicly accessible.** The website section developed within WP2 will further take shape throughout the project with the outputs of other WPs (cfr. task 2 of WP2).

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<sup>1</sup> The project website (task 9.5) will be on line by end of M6 (end of August 2014)

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## CHAPTER 1 - Introduction

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### 1.1 AREA

Regarding the innovations which will have to be developed in Amsterdam & Grenoble, the State of Art Analysis has been focused on the four following areas, under the responsibility of a dedicated leader :

**HESPUL**



**TUD**



**KEMA**



**THINK**



### 1.2 MILESTONES

There are two milestones in task 2.1 'State of the art analysis':

- 1) The 1<sup>st</sup> one at the very beginning of City-Zen, namely the **Workshop** 'State of the art analysis' held in Brussels on 24<sup>th</sup> and 25<sup>th</sup> of June 2014<sup>2</sup>. The workshop aimed to bring all City-Zen partners up to date with the latest developments and lessons learned and how these impact the approaches followed, etc.
- 2) Throughout the **next 20 months**, the task leaders will **continuously search for new information** that might improve the demonstrations in City-Zen and improve the relevance for the developed city transition methodology in WP4 and the roadshow across Europe in WP9.

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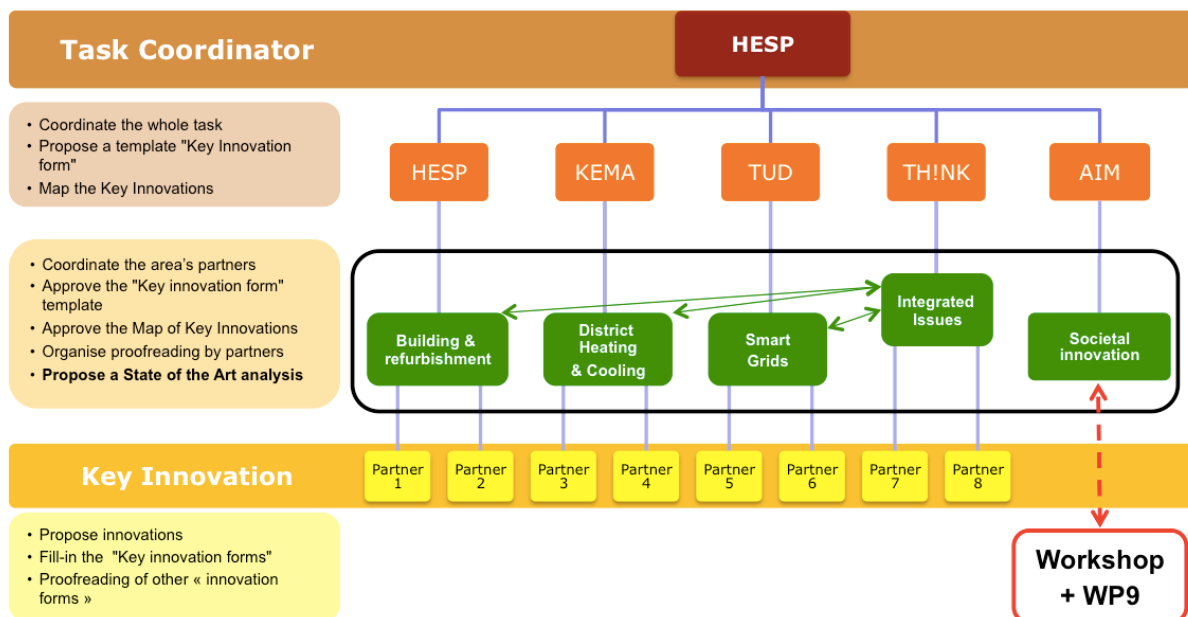
<sup>2</sup> See D.2.3\_International Workshop in Brussels

## CHAPTER 2 – Methodology

### 1.1 1<sup>ST</sup> MILESTONE (M4)

HESP, as the leader of WP2, issued a Working Paper and organized 3 work meetings with the topic leaders<sup>3</sup>. The following principles were agreed upon during the discussions:

- Each topic leader will approve his dedicated list of Key Innovations, following the Mapping issued, in close cooperation with its partners
- Partners will fill in Key Innovation forms (base on the template) under coordination of the topic leader
- **Topic leaders** will provide a **State of the Art Basics review** for each topic. They will mainly focus on:
  - > Technologies that show a large potential for European context
  - > Innovations that are focusing on the interoperability between networks
  - > Process wise: which are the existing methodologies of approach for transition processes

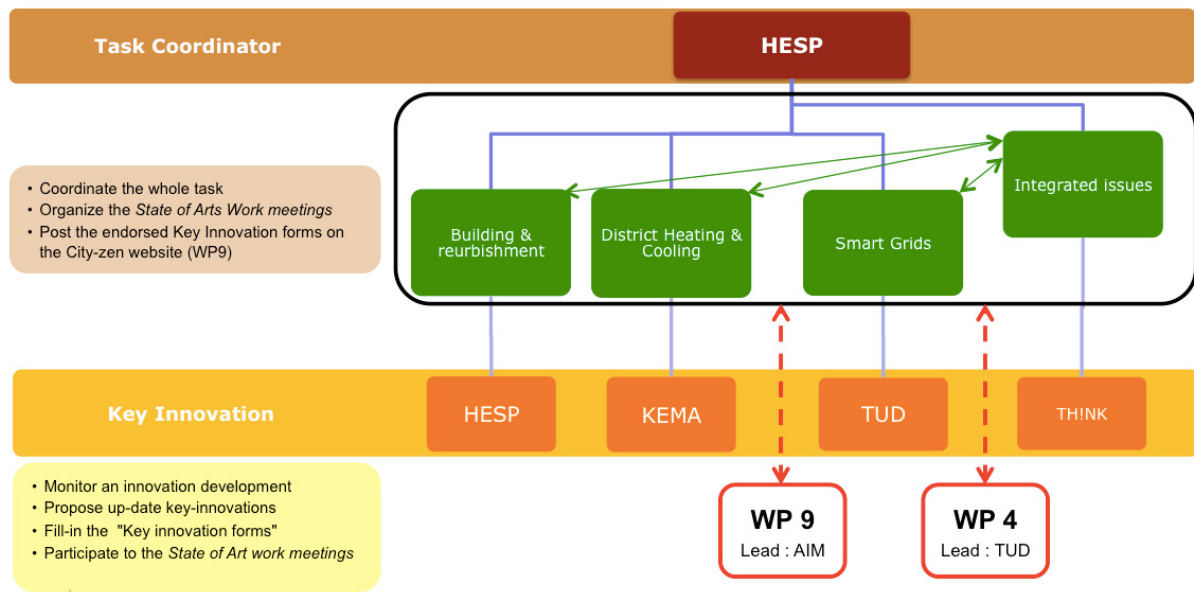


<sup>3</sup> Those documents are on a consortium restricted access on the SharePoint: [Project Documents/WP2/D2\\_1 state of the art analysis/Doc for area leaders](#)



## 1.2 2<sup>ND</sup> MILESTONE (M4 TO M20)

- Each area’s leader will continuously search for new information that might improve the demonstrations in City-Zen
- Topic leaders will fill in Key Innovation forms (based on the template proposed by Hespul)
- Topic leaders will participate to quarterly State of the Art work meetings (only for the leader of WP2 and the topic leaders) to analyse and endorse the up-dated Key-Innovations
- Internal workshops will be held during City-Zen events
- The updated Key Innovation forms will be posted on the City-Zen website (WP9) to aggregate the State of Art knowledge of partners



## CHAPTER 3 – Key Innovations

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### 3.1 KEY INNOVATION MAPPING

Roughly 30 Innovations were listed at the stage of the project. The [mapping list](#) is available on the Project portal<sup>4</sup>. Access to the Project portal can be obtained by all consortium partners and EU representatives connected to City-zen<sup>5</sup>.

**All these documents will be put online on the project website at M6. The website will be publicly accessible.**

### 3.2 KEY INNOVATION FORMS

The Key innovations related to each area are available on the Project portal through the following links:

- 1) [Building retrofitting](#)
- 2) [District Heating & Cooling](#)
- 3) [Smart Grids](#)
- 4) [Integrated Measures](#)

**All these documents will be updates under Task 2 and put online on the project website by end of M6. The website will be publicly accessible.**

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<sup>4</sup> [https://esites.vito.be/sites/city-zen/WP2/project initiation HESP/](https://esites.vito.be/sites/city-zen/WP2/project%20initiation%20HESP/)

<sup>5</sup> To do so, please send a request to [esiteCity-zen@vito.be](mailto:esiteCity-zen@vito.be).