IRIS

Integrated and Replicable Solutions for Co-Creation in Sustainable Cities

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Deliverable 5.2

Planning of Utrecht integration and demonstration activities

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Version History

Version	Date	Modifications made by
0.1	20 June 2018	Common template with Nice and Gothenburg
0.2	27 June 2018	Template with task assignments
0.5	15 August 2018	Feedback and input from TT-leaders
0.9	14 September 2018	First draft version for review
0.95	26 September 2018	Second draft version for review
1.0	29 September 2018	Final version to be released to the EC

Disclaimer

Executive Summary

Scope and context

This Deliverable 5.2 concerns a report providing the coordination structures and procedures concerning governance, communication, monitoring and impact analysis, local risk assessment, periodic reporting, and planning of Utrecht integration and demonstration activities aligned between Utrecht IRIS ecosystem partners. From the kick off of the project, the 3 LH cities Utrecht, Nice and Gothenburg identified a need for a joint approach, aimed at lasting the whole project duration. Therefore, LH cities have cooperated to use common methodology (tables, figures and so forth) in writing the deliverables D5.1/6.1/7.1 and D5.2/6.2/7.2, whilst keeping freedom to adapt according to local needs and context.

Deliverable D5.2 is part of task T5.2 of WP5. Task T5.2 ensures the optimal coordination, collaboration and communication between the Utrecht IRIS ecosystem partners and involved stakeholders, supporting optimal preparation and implementation of all foreseen Utrecht LH interventions. T5.2 further facilitates the interface between the activities of WP5 and other WPs (WP3 Business modelling, WP4 City Innovation Platform, WP9 Monitoring and Evaluation), and the other LH cities Nice and Gothenburg and the Follower Cities Vaasa, Alexandropoulos, Focsani and Santa Cruz de Tenerife.

Activities comprise:

- Developing coordination structures and procedures concerning governance, communication, monitoring and impact analysis, local risk assessment, periodic reporting.
- Organising periodic meetings with Utrecht IRIS ecosystem partners, international IRIS project partners, as well as stakeholders in the demonstration district for regular progress follow up.
- Aligning planning and investment agendas between Utrecht IRIS ecosystem partners, both during and after the project.

Success is measured in terms of participation and satisfaction (through continued commitment in the meetings and project activities) of the Utrecht IRIS ecosystem partners, the IRIS international project partners, as well as stakeholders in the demonstration district (e.g. local communities, schools, technology providers), and achievement of project results in conformance with the established planning and budget, including replication at the district, city, region and national level.

This Deliverable provides detailed information on the way IRIS Lighthouse City Utrecht has planned the coordination not only into its own ecosystem to ensure an effective implementation of demonstration activities, but also:

- to maximize the lessons learnt thanks to a cross-cultural approach, made possible by the IRIS-project
- to facilitate the Replication within LH cities and Follower cities.

The Deliverable is intended for the following audiences:

- Utrecht IRIS ecosystem partners, as it should provide a detailed overview of the planning and organisation of the planned interventions
- Stakeholders in the demonstration district as it should provide them with information about planning, resource usage and on how local stakeholders will be involved;
- International IRIS project partners in the other lighthouse cities and follower cities;

- Broader public which is interested in the details of the demonstration.

The deliverables D5.1 and D5.2 cover different aspects of the description of planned interventions in the Utrecht ecosystem.

Deliverable D5.1 describes the baseline, ambitions, barriers and drivers of the five TTs and the various integrated solutions that will be demonstrated (the WHAT of the demonstration activities in Utrecht). Deliverable D5.2 complements these descriptions by elaborating on the governance and financing of the Utrecht demonstration (the HOW of the demonstration). Both deliverables together form a reference document on which the actual implementation of the integrated solutions in the Tasks 5.3 till 5.7 will be based.

D5.2 has relationships with deliverables of other work packages on the STRATEGY part. With WP1 for the Transition strategy, WP9 for the KPIs and the monitoring approach, WP3 for the results of interviews with IRIS partners about ambitions and possible business models, and WP4 for the functionalities of the City Innovation Platform (CIP).

In conclusion, progress has been made in setting up the coordination structures and procedures concerning governance, communication, monitoring and impact analysis, local risk assessment, periodic reporting, and planning of Utrecht integration and demonstration activities aligned between Utrecht ecosystem partners.

So far, no major deviations are anticipated compared to the DoA, and the current coordination structures and procedures will benefit an effective implementation of the integrated solutions.

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List of Abbreviations and Acronyms

Abbreviation	Definition
CIP	City Innovation Platform
DoA	Description of Action
EU	European Union
FC	Follower City
IS	IRIS Solution
KPI	Key Performance Indicator
LH	Lighthouse
LHCSM	Lighthouse City Site Manager
MaaS	Mobility as a Service
PoR	Programme of Requirements
PV	Photovoltaic
RES	Renewable Energy Sources
TT	Transition Track(s)
WP	Work Package

1. Introduction

D5.2 'Planning of Utrecht integration and demonstration activities' sets out key functions and activities in this domain for the IRIS project (Grant Agreement No. 774199), funded by the European Commission's Horizon 2020 Research and Innovation Program (H2020). This document gives insight in the way the integration and demonstration activities have been organized in Utrecht, one of the three Lighthouse cities in the IRIS project. This deliverable describes the planning and alignment with investments by Utrecht IRIS ecosystem partners and should be read together with deliverable D5.1. Deliverable D5.1 defines the baseline and ambition of the demonstration in Utrecht and contains more detailed information about the integrated solutions. The deliverables D5.1 and D5.2 function as a reference document for a successful implementation of the planned activities.

1.1. Scope, objectives and expected impact

The DoA states that the aim of the deliverable D5.2 is to ensure the optimal coordination, collaboration and communication between the Utrecht ecosystem partners and involved stakeholders, supporting optimal preparation and implementation of all foreseen Utrecht Lighthouse interventions. The Deliverable provides a detailed and up-dated (at M12) action plan of the demonstration activities foreseen in Utrecht.

It will also be used as a referral update for the later coordination of activities. Planned budget and investment forecasts are included in the content. Finally, this will facilitate LH cities and Follower Cities the identification of demonstrators that are of interest for replication.

This Deliverable D5.2 provides detailed information on the way Utrecht Lighthouse City has planned the coordination not only into its own ecosystem to ensure an effective implementation of demonstration activities, but also:

- to maximize the lessons learnt thanks to a cross-cultural approach that is made possible by an EU-funded project
- to facilitate the Replication within LH cities and Follower cities

Besides the international collaboration in the joint approach, Utrecht IRIS ecosystem partners (see Figure 4) were addressed and associated in detailing a local action plan as follows:

- setting up a coordination team that is responsible for coordinating the cooperation between Utrecht IRIS ecosystem partners in updating, detailing and (budget) planning of the demonstration activities. The coordination team consists of the LHCSM, WP5-leader and Transition Track leaders and has 2-3-weekly meetings.
- setting up project meetings with all Utrecht IRIS ecosystem partners, including those of other WPs (see Figure 4), to ensure a well-established exchange between WPs and a common mindset of goals, project structure and planning.

The Deliverable is intended for the following audiences:

- Utrecht IRIS ecosystem partners, as it should provide a detailed overview of the planning and organisation of the planned interventions
- Stakeholders in the demonstration district as it should provide them with information about planning, resource usage and on how local stakeholders will be involved;
- International IRIS project partners in the other lighthouse cities and follower cities;
- Broader public which is interested in the details of the demonstration.

1.2. Disclaimer

The information in this report represents the best estimates and knowledge obtained at the time of writing. Due to the innovative and exploratory nature of many of the activities planned, changes and modifications to the information written in this report may occur due to circumstances not foreseen at the time of writing.

1.3. Contributions of partners

1.3.1. Joint approach between LH cities

The 3 LH (Utrecht, Nice and Gothenburg) have identified early in the project that they will deliver a common set of Deliverables: D5.1 and D5.2 for Utrecht, D6.1and D6.2 for Nice, D7.1 and D7.2 for Gothenburg.
From the project kick off, the recurrent identification of a need for a joint approach led **D567.1/D567.2** lead editors to stand for a dedicated Working session "Session 1B: Lighthouse Cities site exchange" that was held on this occasion of the Consortium Plenary Board in Goteborg (M6) – 27-29th of March 2018. Conclusions of this Working session were to set-up a "cooperation structure/LH Task Force" between LH cities that aims at facilitating benchmark.

It has been decided that this "cooperation structure/LH Task Force" will learn by doing, and therefore will adopt a joint approach focusing at first stage for both **D567.1** and **D567.2,** and aiming at lasting during the whole project lifecycle.

Final conclusions of the workshop were that despite the need for a joint approach, LH cities keep having their own specificity: local context, geographical features, and national financial & legal regulations. As a consequence, when appropriate, some chapters will integrate a focus part dedicated to each LH city. All in all, the 3 lead editors together with Utrecht as coordinator and the Quality Assurance Manager have communicated in order to deliver the most harmonized set of chapters and sections possible for D5.2, D6.2 and D7.2.

1.3.2. Contribution from Utrecht IRIS ecosystem partners

The following Utrecht IRIS ecosystem partners contributed to specifying the local action plan:

- Municipality of Utrecht: WP5-lead and overall coordination, provided input for TT#4
- Stichting Bo-Ex '91: provided input for TT#1 and TT#5
- LomboXnet: provided input for TT#2 and TT#3

- Stedin: provided input for TT#2 and TT#3
- University Utrecht/Utrecht Sustainability Institute (UU/USI): Overall coordination, producing draft text and match with inputs form WP1, review 90% of the report.

The contribution from Utrecht IRIS ecosystem partners was coordinated by Municipality of Utrecht (WP5-lead) and UU/USI (LHCSM) by organizing working sessions, bilateral meetings and collecting draft texts of specific

1.4. Relation to other activities

The deliverables D5.1 and D5.2 cover different aspects of the description of planned interventions in the Utrecht ecosystem. Where D5.1 deals with baseline, ambitions and a detailed description of planned activities, D5.2 mainly describes the management structures and processes associated with the demonstrators. Since the two Deliverables are two sides of the same coin, there is significant correspondence in both directions between the two of them.

The DoA states that both D5.1 and D5.2 describe the planning of the demonstration. To prevent overlap and the same text in both deliverables it was decided, in consultation with the Project Coordinator, QAM, LHCSM of Nice and Gothenburg and WP6 and WP7-leads, that the planning for each of the interventions will be described in D5.1 along with a precise and realistic specification of ambitions, and activities. The planning in D5.2 represents the aligning of the planning and investment agendas between Utrecht IRIS ecosystem partners, both during and after the project.

1.4.1. Input from D5.1 and other WPs

This deliverable is part of the WP5 “Utrecht Lighthouse City demonstration activities” and Task 5.2. It reports on the preparatory activities in the first year and focusing on the planning, organization and financing of the demonstration activities. This deliverable is closely related to the other tasks and deliverables in WP5. Together with Task 5.1 and Deliverable 5.1 it describes the way the demonstration in Utrecht will be executed.

Deliverable D5.1 describes the baseline, ambitions, barriers and drivers of the five TTs and the various integrated solutions that will be demonstrated. It describes so to say the WHAT of the demonstration activities in Utrecht. Deliverable D5.2 complements these descriptions by elaborating on the governance, planning and financing of the Utrecht demonstration.

Deliverable D5.2 describes the HOW of the demonstration. Both deliverables together form a reference document on which the actual implementation of the integrated solutions in the Tasks 5.3 till 5.7 will be based. The relationships between the tasks and deliverables within WP5 are depicted in Figure 1.

Figure 1 also shows the relationships with other work packages on the STRATEGY part, with WP1 on the one hand for the Transition strategy and WP9 on the other hand for the KPIs and the monitoring approach and WP3 for the results of interviews with IRIS partners about ambitions and possible business models. Finally, WP5 is in close contact with the other two LH cities as described in section 1.3.1.

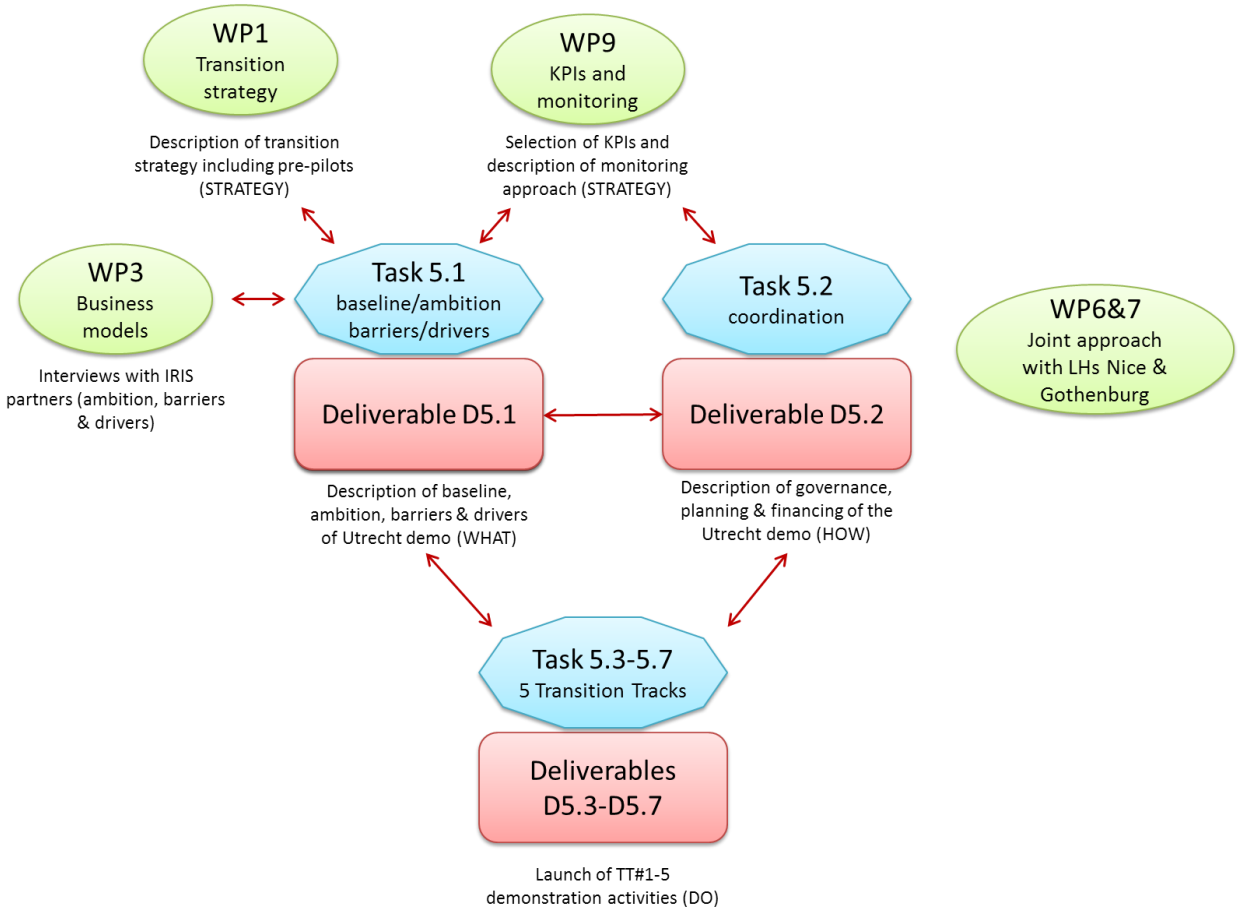

Figure 1. Relation of Deliverable D5.2 to other activities

1.4.2. Relation with tasks in WP5

WP5 consists of seven tasks, of which task 5.1 and 5.2 are reported in deliverables D5.1 and D5.2. The other five tasks are related to the five transition tracks of IRIS and are all aimed at demonstrating integrated solutions. The results described in this deliverable are essential for the proper execution of the various demonstration activities. Due to the work done in task 5.2, it is clear what responsibilities each partner has and at which moment activity of partners is expected. Also verifying the planned investments and planning and linking them to the demonstration activities is a relevant result for the success of the entire demonstration in Utrecht.

1.5. Structure of the deliverable

- Chapter 2 presents the methodology on which D5.2 is based, highlighting specifically the joint approach adopted that aims at lasting for the whole project and fostering exchange of good practices amongst LH cities.
- Chapter 3 reports on horizontal activities such as “monitoring and evaluation” (WP9), “communication” (WP10), events and workshops organized.
- Chapter 4 provides an updated investment planning

- Chapter 5 elaborates on the local risk assessment.
- Chapter 6 aims at identifying interdependencies amongst Work Packages and Tasks.
- Chapter 7 presents conclusions and recommendations.

2. Methodology

2.1. Methodology task 5.2

The DoA states that deliverable D5.2 is a report "providing the coordination structures and procedures concerning governance, communication, monitoring and impact analysis, local risk assessment, periodic reporting, and planning of Utrecht integration and demonstration activities aligned between Utrecht IRIS ecosystem partners".

The work undertaken in T5.2 in the first year consists of setting up current coordination structures and procedures that will benefit an effective implementation of the integrated solutions. Therefore, the following key activities have been undertaken:

- Setup of coordination structures aligned with the TTs and horizontal WPs of IRIS.
- Defining roles and responsibilities of LHCSM, WP5-lead, TT- and task-leaders.
- Coordinate a regular periodic meeting schedule with a coordination team (consisting of LHCSM, WP5-lead and TT/task-leaders) and the Utrecht project team (consisting of all involved Utrecht IRIS ecosystem partners).
- Coordination of communication at Utrecht ecosystem level through the setup of a Local News Desk and cooperation with WP10-lead ESCI.
- Cooperation with WP1- and WP9-partners to set up a process to select Key Performance Indicators as the basis for a strategy for monitoring and impact analysis.
- Setup a joint approach with the 3 LH cities aimed at lasting the duration of the IRIS project.
- Reporting to the European Commission, the project coordinator and the Utrecht ecosystem on progress in the IRIS project.
- Verification and updating of the investment planning submitted in the application phase.
- Development of a governance structure, including a Programme of Requirements, to structure, specify and purchase all investments needed to demonstrate the integrated solutions during the IRIS project.
- Aligning project planning and investments with activities and investments outside the IRIS project by developing and discussing an overall time schedule for the entire demonstration in Utrecht, with mutual relations between the activities in the transition tracks.
- Identification of local risks and mitigation measures based upon the work reported in D5.1 identifying the barriers and drivers per integrated solution.

2.2. Methodology deliverables D5.1 and D5.2

Deliverable D5.1 and D5.2 together form a reference document of the demonstration activities in Utrecht. From this reference point the deployment of activities will be carried out, providing all involved international IRIS project partners, reviewers and readers (public document) a good understanding of the ambitions of the Utrecht demonstration and how it is organised.

The Joint approach amongst LHs (see section 1.3.1) led LH cities to define a common set of chapters and sections, in order to:

- ensure a full completion of commitments listed in the DoA,
- taking full benefit of this joint approach by fostering the sharing of good practices amongst LH cities,
- provide harmony amongst the 3 LH approaches that will ease both internal and external communication.

This Deliverable provides detailed information on the way IRIS Lighthouse City Utrecht has planned the coordination not only into its own ecosystem to ensure an effective implementation of demonstration activities, but also:

- to maximize the lessons learnt thanks to a cross-cultural approach that permits a EU-funded project
- to facilitate the Replication within LH cities and Follower Cities

The LHCSM and WP5-lead led the writing process of deliverable D5.2. In an iterative approach feedback and input is gathered in the common template. A draft deliverable has been reviewed according to the procedures in the IRIS Project Management Plan (D11.1). The feedback of the reviewers is processed in the final deliverable.

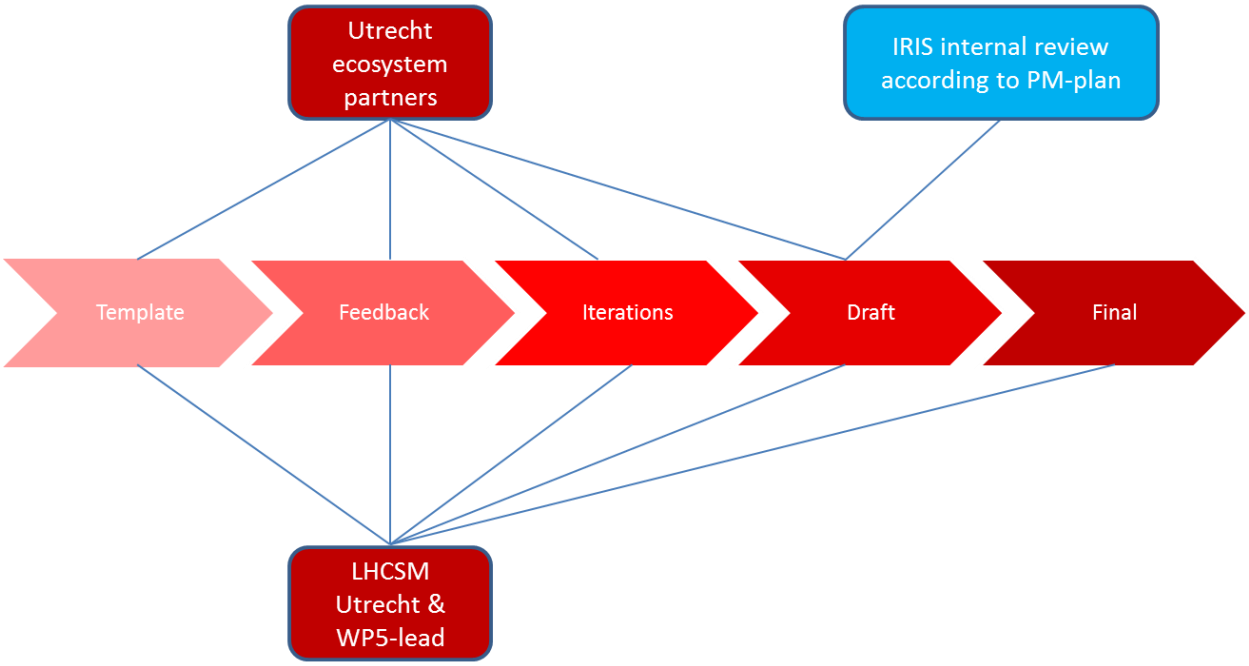

Figure 2. Deliverable D5.2 writing process

3. Coordination of LH integration and demonstration activities

3.1. Developing coordination structures and procedures concerning governance

The overall concept of IRIS is the Transition Strategy comprising of five (5) Transition Tracks (TT) that together provide a universal yet versatile framework to address both common and district specific challenges. Within these five TT, IRIS envisions to demonstrate a set of integrated solutions built on top of both mature and innovative technologies. The integrated solutions are defined on the basis of a common-shared know-how interchange among the lighthouse and followers cities, and planning of replication from the early beginning of the project. All solutions already know emerging innovative business models, albeit in different phases of maturity. The IRIS TT and IS are presented in Figure 3.

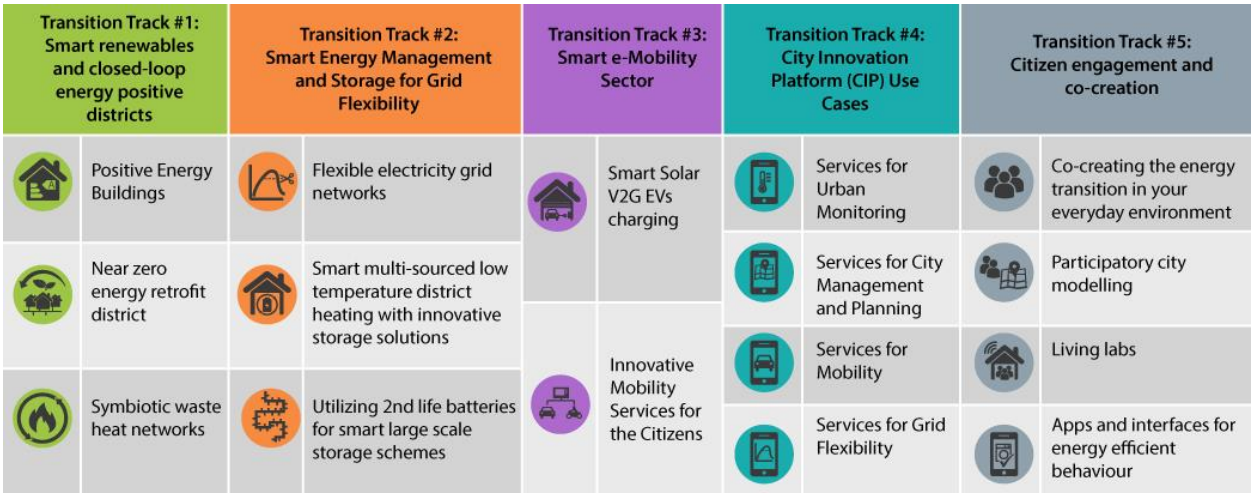

Figure 3. IRIS Transition Tracks with 16 IRIS Solutions

These five TT are also the backbone of the demonstration in Utrecht. For each one of these TTs, a partner per "Transition Track" is assigned, who provides a technical approach with concerned stakeholders and oversees activities during the 3 phases of the project, from documentation of pre-pilots, through demonstration activities, up-to replication activities. Table 1 lists the Utrecht partners who lead a transition track. Details about the integrated solution to be demonstrated in Utrecht are available in D5.1 as well as the descriptions of the pre-pilots in the deliverables of WP1.

List of roles and responsible partners for Utrecht demonstration			
LHCSM	UU/Utrecht Sustainability Institute	Arno Peekel	
WP5 lead	Gemeente Utrecht	Mirjam Harmelink	
TT#	**Task**	**Partner**	**Task leader**
TT1:	5.3	Stichting Bo-Ex '91 (BOEX)	Martijn Broekman
TT2:	5.4	LomboXnet (LOM)	Ragnhild Scheifes

TT3:	5.5	LomboXnet (LOM)	Ragnhild Scheifes
TT4:	5.6	Gemeente Utrecht (UTR)	Mirjam Harmelink
TT5:	5.7	Stichting Bo-Ex '91 (BOEX)	Martijn Broekman

Table 1. Utrecht Demonstration Transition Track Leaders

The responsibilities of LHCSM, WP5-lead and TT-leads are specified in Table 2.

Are	LHCSM duties	WP5 lead duties	TT lead duties
Management	Design an appropriate and consistent work plan to ensure efficient follow-up between LH cities, FCs and WPs	Design an appropriate and consistent work plan to ensure efficient follow-up within his/her own WP	Design an appropriate and consistent work plan to ensure efficient follow-up within his/her own Task
	Coordinate the technical work between LH cities and WPs and incorporate in work plans	Coordinate the technical work within the WP in line with the agreed work plan	Coordinate the technical work within the Task according to the agreed work plans.
	Refine and update work plan following PSC proposals and decisions	Refine and update work plan following QRM proposals and decisions	Refine and update the work plan following WPL requests
Quality	Coordinate interaction between LH cities and WPs and with external partners	Plan, coordinate and harmonise the content of the deliverables within his/her own WP	Contribute to deliverables' content.
	Chair of meetings with Utrecht IRIS ecosystem partners (cross WP)	Organise WP meetings	
Reporting	Coordinate structure of deliverables and reports	Contribute to the final report	Give full technical support to WPL through in-depth understanding of technologies developed within his/her task and be the official communication interface w.r.t. other tasks.
	Report overall progress to the PC in regular meetings	Report technical progress to the PC in regular reports via the QRM	
	Be official representative in relevant situations	Be official communication interface with other WPs	

Table 2. Responsibilities LHCSM, WP5-lead and TT-leads for Utrecht demonstration

To ensure coherence between the different TTs within WP5, the LHCSM and WP5-lead work closely together in the overall coordination of the Utrecht Demonstration. Two coordination structures have been set up for the Utrecht ecosystem (see Figure 4).

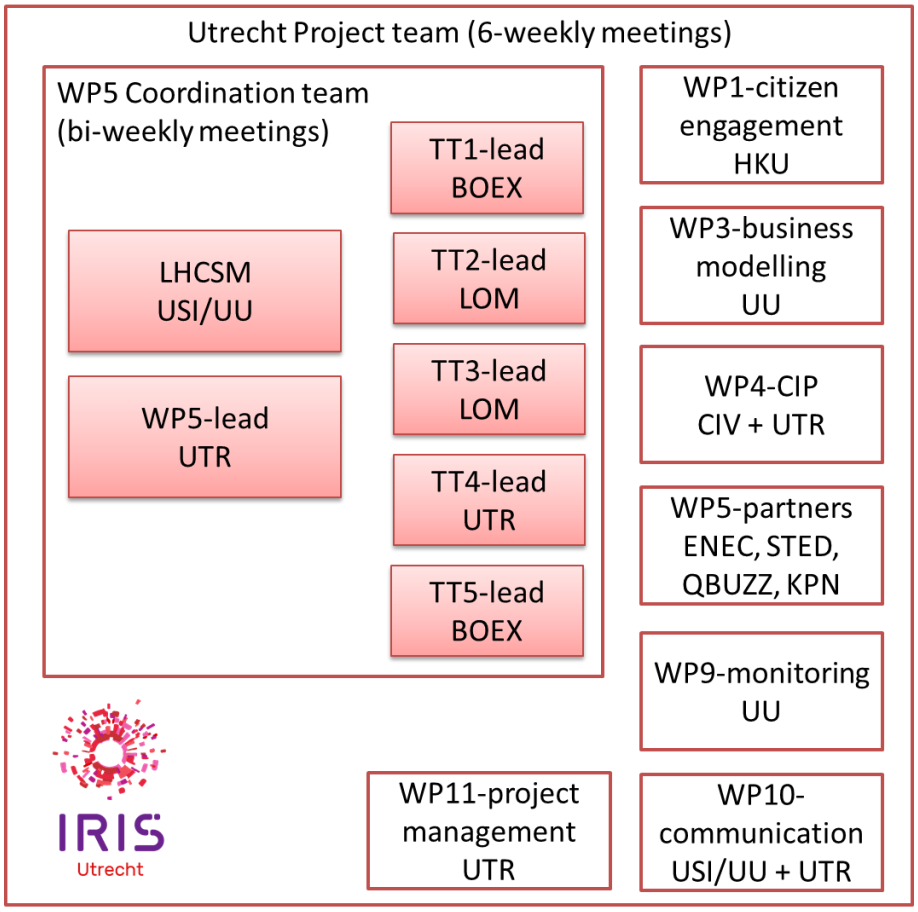

Figure 4. Coordination structures of Utrecht Demonstration and involvement of Utrecht IRIS ecosystem partners

- a WP5 coordination team that is responsible for the daily coordination and the cooperation between Utrecht IRIS ecosystem partners in updating, detailing and (budget) planning of the demonstration activities. The coordination team consists of the LHCSM, WP5-leader and Transition Track leaders and has 2-3-weekly meetings.
- An Utrecht Project team (at IRIS project and Demonstration level) that consists of all Utrecht IRIS ecosystem partners, including those of other WPs, to ensure a well-established exchange between WPs (see Figure 4) and a common mindset of goals, project structure and planning. The Utrecht Project team has 6-weekly meetings.

The WP5 coordination team sets up the structures in which the activities to be demonstrated are developed and planned. Every activity is planned and where applicable synergy is sought to create an effective and efficient process of the demonstration activities (see also Deliverable D5.1 for details and the established planning of activities).

From their different responsibilities, the WP5 coordination team collects feedback and input from Utrecht IRIS ecosystem partners by organizing (bilateral) meetings with these partners. These meetings are also used to commit the Utrecht IRIS ecosystem partners to the investments and planning of the activities. The overall progress is reported in the Utrecht Project team.

3.2. Communication

As reported in the Communication and Dissemination Plan (D10.1, submitted 22 December 2017), 'communication is a vital horizontal activity that supports and interacts with almost every element of the project. Each deliverable and development of the project is a potential source of content, editorial highlight or achievement to profile. A heartbeat of IRIS communication and dissemination activities will be profiling the extensive developments of our three lighthouse cities and accelerating replication and exploitation in the follower cities and beyond. A relationship with WP3 and exploitation will gather momentum during the course of the project and be regularly updated and revised in light of market analyses, monitoring results and commercial potential of IRIS solutions developed.'

Communication in the Utrecht ecosystem is coordinated with respect of the structure and guidelines laid out in the Communication and Dissemination Plan. As a local partner, Utrecht Sustainability Institute/Utrecht University is lead in the local communication about the project. And as such, they participate in the WP10-coordination meetings. Furthermore, activities consisted of:

- Setting up the Local News Desk. The Local News Desk is responsible for identifying and using the most appropriate channels and messages to their defined audiences and target segments. Local news desks have the freedom to choose the most effective method, message and delivery channel – also taking a proactive approach to distribute IRIS news to powerful multipliers.

The cooperation with the Communication & Dissemination (C&D) secretariat (IRIS partner ESCI) is defined by

Figure 5.

- Setting up a localized IRIS website aimed at the Utrecht ecosystem and at the citizens of the demonstration area Kanaleneiland-Zuid. The URL of the localized website is http://iris-utrecht.nl and is launched at the end of September 2018.
- Gathering and coordinating the local news in Utrecht by joining the communication channels of the Utrecht IRIS ecosystem partners.
- Managing Twitter and LinkedIn feed with reference to the IRIS-accounts and identity.

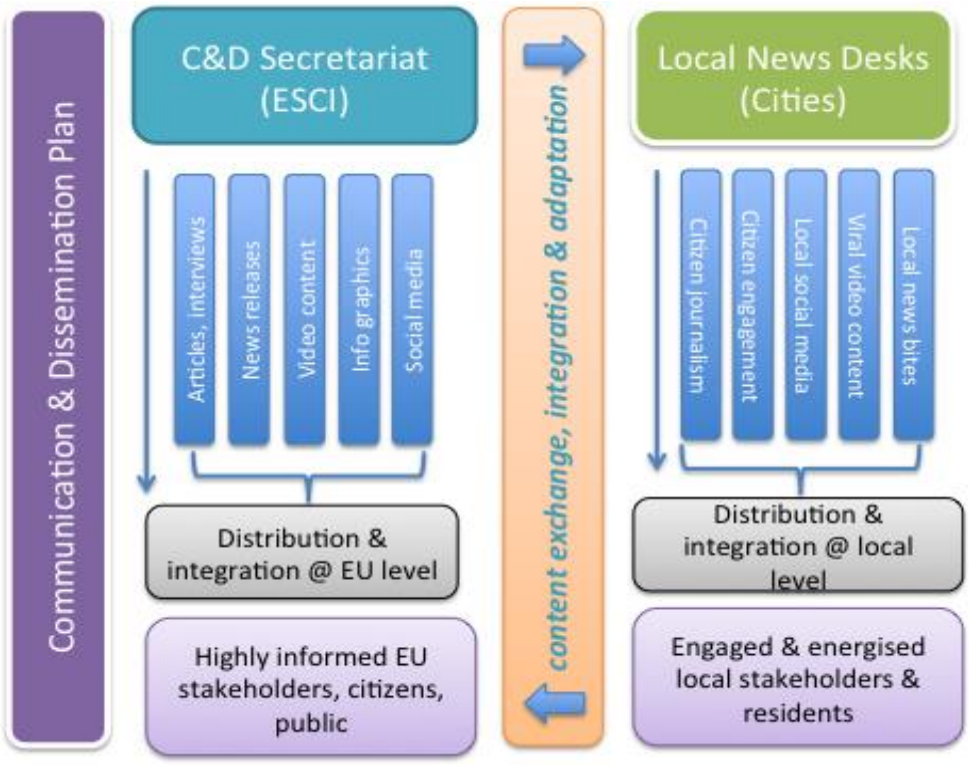

Figure 5. Interaction between EU project level communication (WP11) and local level communication (WP5-WP6-WP7) in the IRIS project

Annex 1 gives an overview of communication and dissemination activities from the Local News Desk in Utrecht. The table in annex 1 is a document that is kept as a logbook of all the communication and dissemination activities in Utrecht during the IRIS project.

Besides communication about the IRIS project as explained above, in the Utrecht ecosystem periodic meetings (6-weekly) with the Utrecht IRIS ecosystem partners are organized for regular progress follow up (see section 3.1). And finally, with respect to the citizen engagement activities in TT#5, a communication plan will be developed to successfully reach the citizens of the demonstrations area Kanaleneiland-Zuid.

3.3. Monitoring and impact analysis

A relevant part of the demonstration in the three LH cities is using Key Performance Indicators (KPIs) as a basis for the monitoring strategy to be able to quantify the impacts of the sustainable activities in the district. The selection of relevant KPIs and setting up a monitoring framework is and will be done in close cooperation with the international IRIS project partners from WP1 and WP9.

The cooperation in WP1 resulted in deliverable D1.1 that was submitted in M9 (June 2018) and was aimed at determining the appropriate list of KPIs for the technology solutions proposed in IRIS by either gathering existing ones in the project's proposal that fit well to the requirements of the specific solutions, and/or introducing new ones, in order to assess more accurately the success level of each technology or methodology tested by the demonstrators. The definition of KPIs is conducted in accordance with other European projects leading the way towards energy smartification of European

cities. Thus, most of the selected KPIs were developed within the SCIS [1] and CITYkeys [2] initiatives, which have created lists of KPIs for the evaluation of systems and technologies demonstrated in smart city projects.

The basic axis of the IRIS KPI framework lies on the definition of IRIS domains, namely technical, economic, environmental, social, ICT and legal. These domains (or dimensions) are complementing each other to set the holistic performance framework. And these are also complementing the PESTLE method that is used to define the barriers and drivers in deliverable D5.1.

Figure 6. The IRIS methodology for KPI definition (source: IRIS deliverable D1.1)

Deliverable D1.1 is the first step towards the establishment of the monitoring infrastructure of the IRIS project. The list of KPIs, defined in D1.1, will be shared with D9.2, as D9.2 will go a step forward towards defining the necessary KPIs that will be used for the evaluation of each of the LH cities and not only for the specific demonstrated solutions. The data model and management plan for integrated solutions will be delivered in month 12 within D9.3. The monitoring infrastructure will be completed in month 24 with the establishment of a unified framework for harmonised data gathering, analysis and reporting (T9.3) and the deployment of the monitoring framework in LH cities (T9.4).

LHCSM and WP5-lead coordinate the feedback and input from the Utrecht IRIS ecosystem partners on the selection process of the list of KPIs, leading to a manageable and measurable set of KPIs. in the second year of the project (M13-M24). The list of KPIs will be translated into a concrete monitoring approach and monitoring equipment, as part of Tasks T5.3-T5.7, and will be reported in Deliverables D5.3-D5.7. And finally, necessary data for the monitoring, coming from the monitoring equipment or from available datasets, is connected to the KPIs.

3.4. Periodic reporting

As part of the Grant Agreement, the progress of the project is reported periodically. The quality assurance of the reporting process is described in the Project Management Plan (D11.1) as submitted in M2 of the project.

Besides the deliverable reporting process and the progress reporting after reporting periods as described in the DoA, the IRIS project coordinator City of Utrecht requests intermediate progress reports every six months.

The LHCSM and WP5-lead coordinate the several reporting processes and coordinate the contribution and support of appointed Transition Track and Task Leaders.

Table 3 provides a compilation of both kind of periodic reporting executed and foreseen.

Nr of periodic reporting	Description	Month of delivery
1	Intermediate progress report initiated by IRIS Project Management UTR	M6 (and every six months afterwards)
2	Deliverable D5.1	M12
3	Deliverable D5.2	M12
4	Progress report after reporting period 1	M12
5	Deliverable D5.3/4/5/6/7	M24
6	Progress report after reporting period 2	M30
7	Progress report after reporting period 3	M42
8	Deliverable D5.8	M48
9	Deliverable D5.9	M60
10	Final progress report at end of project	M60

Table 3. List of reports WP5 (internal and external progress reports and deliverables)

The planning of each report type is given in Figure 7 till Figure 9.

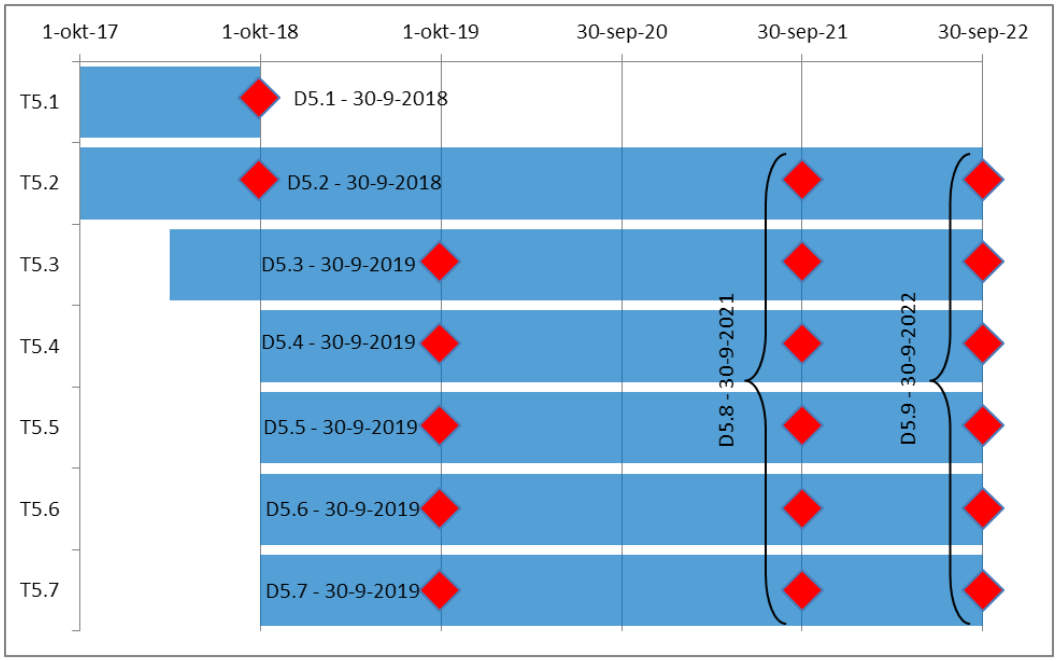

Figure 7. Planning of WP5-deliverables (red dots depict contribution of Tasks to a deliverable)

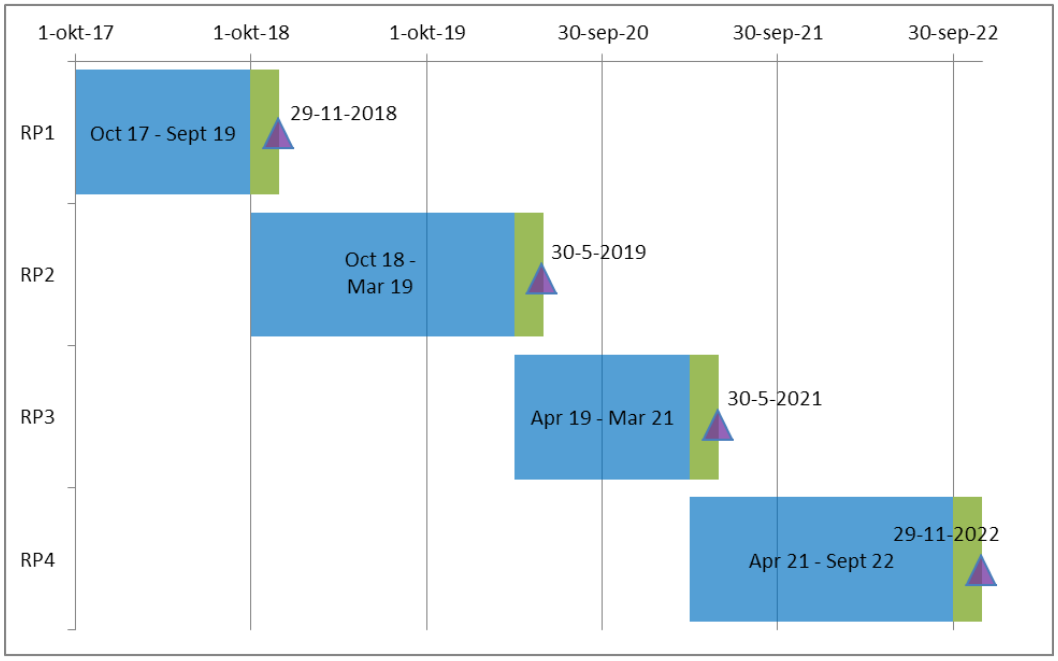

Figure 8. Planning of periodic reporting to EC (purple triangles depict deadlines)

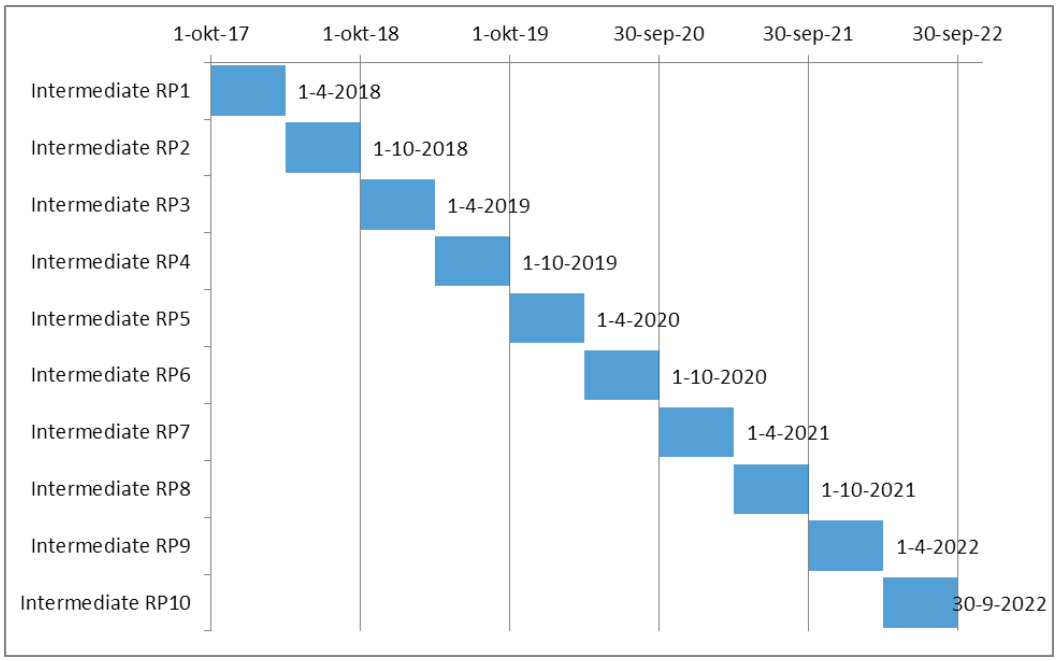

Figure 9. Planning of IRIS internal intermediate reporting periods

The approach (and responsibilities) used for writing this deliverable D5.2, as described in section 2 and in Figure 2, will be used for all reports.

3.5. Organizing periodic meetings

Despite a well-detailed DoA, Utrecht IRIS ecosystem partners have created new approaches, developed project-specific methodologies, and some partners (mostly WP-leaders) will deploy not-yet-foreseen activities (a.o. organising interview, specific workshops) to carry out their task. Therefore, LH cities organise periodic meetings to integrate and take into account output from others running WPs. This leads LHCSM and WP5 lead to adopt a global overview of the project, and permit a smooth articulation of activities, and more basically support partners in the organisation of various IRIS events (a.o. CPB, workshops).

Two different kinds of event are organized.

- Local Ecosystem meetings are organized in order to prepare and coordinate the demonstration activities.
- Cross-WP workshops are organized with horizontal IRIS partners in order to take into account output from others running WPs.

3.5.1. Utrecht Ecosystem meetings

Utrecht IRIS ecosystem partners organise a mix of remote-meetings and face-to-face meetings with local stakeholders according to importance of issues to be addressed.

As described in section 3.1 the Utrecht demonstration is coordinated at two levels Coordination team and Project team. At both level periodic meetings are organized:

- Coordination team: The coordination team has bi-weekly meetings that are prepared by the LHCSM by sending an up-to-date action list. In the meetings the action list is used as agenda to go through all the steps that need to be taken towards a successful demonstration.
- Project team: A review of WP-progress from WP1 to WP11 is systematically done in order to provide to all Utrecht IRIS ecosystem partners the opportunity to interact and detect potential opportunities (Detect a IS in another LH to be replicated, cf WP5/6/7, Communicate on an event, cf WP10, etc) and threats (a.o. interdependencies with another WP, overlapping of activities). These meetings are held every six weeks and are prepared, coordinated and hosted by the LHCSM. Minutes are sent to Utrecht IRIS ecosystem partners in Dutch.

3.5.2. Utrecht cross-WP workshops

In the first year of the IRIS project, several workshops were organized by other WPs and a majority of the Utrecht IRIS ecosystem partners attended these workshops to share the questions and knowledge from the Utrecht demo and to learn from international IRIS project partners in other WPs. These workshops established cross-WP-links that benefit the integration of solutions and cross-WP-relations between international IRIS project partners.

3.5.2.1. WP4 workshop on USEF 21 March 2018

The goal of this workshop was to get a clear picture of the role of Universal Smart Energy Framework (USEF) in the innovative ecosystem that is aimed for with the IRIS demonstration activities. After a presentation explaining what USEF is, the workshop used the elaboration of so-called sprints of four use cases.

The workshop resulted in a better understanding of USEF and the possibilities to connect with the City Innovation Platform. From the sprints of the four use cases barriers and drivers emerged that helped both WP4 as WP5 in the next steps.

The workshop was also performed at the 2nd Consortium Plenary Board meeting in Gothenburg 27-29 March.

3.5.2.2. WP3/WP9 workshop – 19th of April 2018

In this workshop, coordinated by IRIS project partners RISE (WP9-lead), the Utrecht IRIS ecosystem partners were guided in a structured workshop to define the ambition level of each TT and IS. From these ambition levels, a brainstorm on possible KPIs were deducted. The necessary data to quantify the KPIs and the ambition levels were mapped.

The workshop resulted in the foundation of the KPI and monitoring framework that will be used to objectively quantify the impacts that IRIS aims for. This workshop also resulted in a closer collaboration between LHCSM/WP5-lead with the WP9-team. The workshop also helped the WP9-team to get a better picture of the Utrecht demonstration, its challenges and involved Utrecht IRIS ecosystem partners. With these results, a list of KPIs and monitoring approach is drawn up that is manageable and feasible to perform in the Utrecht demonstration.

3.5.2.3. TT5 citizen engagement workshops with HKU – 30 January 2018, 6 March 2018, 7 May 2018

A main challenge in the Utrecht demonstration is to engage the citizens of the low-income and multicultural district area Kanaleneiland-Zuid. LHCSM and IRIS project partner HKU worked closely

together to develop the citizen engagement approach, as reported in deliverable D1.7. IRIS project partner HKU developed that approach and together with the LHCSM it was judged whether the approach would benefit the ambitions of IRIS. The method was applied to the Utrecht demonstration activities in 3 workshops:

- 30 January 2018: Mapping exercise for all integrated solutions of the five TT
- 6 March 2018: Scope-model for Getting to know the district w.r.t. the integrated solutions
- 7 May 2018: Setting up coordination structures for citizen engagement activities

Figure 10. Citizen engagement workshop: Mapping exercise - 30 January 2018

The series of workshops led to:

- Confidence in the citizen engagement method, and the application in the LH Nice and Gothenburg.
- Establishment of coordination structures for TT#5 in Utrecht demonstration (see deliverable D5.1 for details)
- Approach for first citizen co-creation activities regarding smart street lighting.

3.6. Conclusion on coordination of LH integration and demonstration activities

Progress has been made in the coordination of LH integration and demonstration activities. Key activities include:

- Setup of coordination structures aligned with the TTs and WPs of IRIS, together with roles and responsibilities and a regular periodic meeting schedule.

- Coordination of communication at Utrecht ecosystem level through the setup of a Local News Desk and cooperation with WP11-lead ESCI.
- Cooperation with WP1- and WP9-project partners to set up a process to select Key Performance Indicators as the basis for a monitoring strategy.
- Reporting to the European Commission, the project coordinator and the Utrecht ecosystem on progress in the IRIS project.
- Setup a joint approach with the 3 LH cities aimed at lasting the duration of the IRIS project.

So far, no major deviations are anticipated compared to the DoA regarding the coordination structures of the LH integration and demonstration activities.

4. Aligning planning and investment agendas between Utrecht IRIS ecosystem partners

Note: Up-dated planning of deployment of the demonstration activities in the five Transition Tracks, including the alignment between the five TTs and external stakeholders' activities in the demonstration area can be found in Deliverable D5.1. This chapter focuses on the governance and alignment of the planned investment.

4.1. Updated investment plan Utrecht

Among the Utrecht IRIS ecosystem partners that committed to invest in the transition activities bilateral meetings were planned with the LHCSM. These meetings served the purpose to put the investment planning into perspective of the demonstration activities planning.

The investment plan as submitted with the proposal was used to determine significant deviations. For the demonstration in Utrecht this led to only one deviation, i.e. Bo-Ex plans to invest more money (2 million Euros instead of 1.2 million Euros) in the application of PV-panels on its twelve apartment buildings, that will be retrofitted as part of IRIS. The extra investment is necessary for buying more PV-panels and PV-panels with a higher peak voltage. The updated Investment Plan for the Utrecht Demonstration, with the change in investments in PV-panels highlighted, is given in Table 4.

4.2. Programme of requirements and procurement

Besides the update of the investment planning, the Utrecht ecosystem prepared procedures that govern the investments foreseen for the Utrecht demo, since quite some investments will be done during the demonstration project as depicted in Table 4. Therefore T5.2 included the development of a governance structure, including a Programme of Requirements, to structure, specify and purchase all investments needed to demonstrate the integrated solutions during the IRIS project. The PoR will be signed by all Utrecht IRIS ecosystem partners involved in that integrated solution to prevent misunderstandings and safeguard an effective and efficient procurement process, and realize cost-effective solutions with proper contracts and tender procedures.

Figure 11 shows an example of the PoR for one of the integrated solutions. Note: The PoR includes all solutions that will be integrated in the Utrecht demonstration project, whether they are financially supported by IRIS/Horizon2020 or not. The example chosen, the district-wide PV-system, is financed by IRIS-project partner Bo-Ex and is not financially supported by H2020.

The budget for procurement of equipment is allocated with different Utrecht IRIS ecosystem partners. Every Utrecht IRIS ecosystem partner that will purchase equipment or subcontract is responsible for following the rules as laid out in the Grant Agreement and national procurement legislation. In order to facilitate the procurement and subcontracting process, the LHCSM provided instructions to the involved

Utrecht IRIS ecosystem partners, to secure best value for money and proper documentation in procurement dossiers.

4.3. Aligning planning of activities with investment planning

The planning of deployment of the integrated solutions and the alignment between transition tracks is described in the planning sections in deliverable D5.1. The coordination team has developed a time schedule for the entire demonstration in Utrecht, with mutual relations between the activities in the transition tracks. In the 2-3 weekly meeting of the coordination team, this schedule is used to discuss the investments of the coming months. While determining the investments in the coming months the coordination team also looks for opportunities to align with investments outside the IRIS project. For example, the public space around an apartment building under refurbishment will be refurbished by the municipality of Utrecht. Or the renewal of the energy infrastructure or the sewerage as an apartment building is being renovated. Aligning these activities and investments makes the whole district more attractive and increases the support of the local community in the demonstration area.

UTRECHT LIGHTHOUSE DEMONSTRATION INVESTMENT PLAN Eligible + non eligible investments	Investment cost	Cost recovery	Cost recovery allocation								
			Hor 2020	Public partners		Industrial partners				Other	
				BoEx	MunU	Enec	Lomb	Qbuzz	Sted	Citizens	Other
TOTAL			**2.175.388**	**20.416.000**	**1.751.680**	**593.000**	**127.920**	**124.000**	**89.532**	**0**	**300.000**
%			**9%**	**87%**		**4%**				**1%**	
TOTAL	24.777.520	25.577.520	2.175.388	20.416.000	1.751.680	593.000	127.920	124.000	89.532	0	300.000
Tr1 Smart RES and NZE district	21.732.680	22.532.680	432.000	19.456.000	1.751.680	593.000	0	0	0	0	300.000
1. District-scale PV + DEMS	1.575.000	2.375.000	75.000	2.000.000	0	0	0	0	0	0	300.000
2. DH with biomass and low temp	500.000	500.000	0	0	0	500.000	0	0	0	0	0
3. HEMS TOON	161.000	161.000	112.700	0	0	48.300	0	0	0	0	0
4. NZEB refurbishment	16.100.000	16.100.000	0	16.100.000	0	0	0	0	0	0	0
5. Smart (hybrid) e-heating + BEMS	1.386.000	1.386.000	30.000	1.356.000	0	0	0	0	0	0	0
6. Hybrid AC/DC home grid + BEMS	110.000	110.000	110.000	0	0	0	0	0	0	0	0
7. Smart street lighting DC-RES-WIFI	1.900.680	1.900.680	104.300	0	1.751.680	44.700	0	0	0	0	0
Tr2 EMS and Storage for Flexibility	1.818.440	1.818.440	768.908	960.000	0	0	0	0	89.532	0	0
1. Stationary storage district + BEMS	1.520.000	1.520.000	560.000	960.000	0	0	0	0	0	0	0
2. District energy management system	298.440	298.440	208.908	0	0	0	0	0	89.532	0	0
Tr3 Smart E-mobility services	606.400	606.400	354.480	0	0	0	127.920	124.000	0	0	0
1. V2G e-cars, e-vans, e-buses	308.800	308.800	232.960	0	0	0	75.840	0	0	0	0
2. Smart solar V2G chargers + DEMS	297.600	297.600	121.520	0	0	0	52.080	124.000	0	0	0
Tr4 City Info Platform & Services	420.000	420.000	420.000	0	0	0	0	0	0	0	0
1. City Information Platform	100.000	100.000	100.000	0	0	0	0	0	0	0	0
2. City Information Market	40.000	40.000	40.000	0	0	0	0	0	0	0	0
3. City Interlink	70.000	70.000	70.000	0	0	0	0	0	0	0	0
4. CIP Information services	210.000	210.000	210.000	0	0	0	0	0	0	0	0
Tr5 Citizen Engagement	200.000	200.000	200.000	0	0	0	0	0	0	0	0
1. Engagement & co-creation	30.000	30.000	30.000	0	0	0	0	0	0	0	0
2. Change agent leaders	120.000	120.000	120.000	0	0	0	0	0	0	0	0
3. Virtual Home & District experience	50.000	50.000	50.000	0	0	0	0	0	0	0	0

Table 4. Utrecht Demonstration Investment Plan

IRIS: Integrated and Replicable Solutions for Co-Creation in Sustainable Cities

Program of Requirements		Date	8-8-2018
District-scale PV panels		Compiled by	Martijn Broekman
Transition Track	#1	Version	2

Description
District-scale integrated PV-system installed on 12 apartment buildings and 3 schools and by means of open ICT interconnected to a district smart energy grid, leading in a high share of locally produced and consumed renewable power at district scale making PV profitable without subsidies.

Compiled by							
Organisation	**Stichting Bo-Ex '91**						
Name	Martijn Broekman						
Function	Project manager						
Signature							

Timeline within IRIS
October 2018-September 2022
Timeline procurement and implementation
Procurement: From October 2018 Implementation: From begin 2019

Tender procedure	
Apartment buildings: single private tender procedure for each apartment building.	Schools: Multiple private tender procedure.
Investments are not funded by the IRIS project.	
Criteria for assignment	
Lowest price: total costs for installation and commissioning.	

Location(s) of Implementation
12 apartment buildings in Kanaleneiland-Zuid. 3 schools in the district of Kanaleneiland-Zuid: De Kaleidoscoop, De Schatkamer, MBO Utrecht.

Requirements	
#	**Description**
1	**Technical requirements** — ***Comments***
	PV-panel should at least have a peak capacity of 300 kWp.
	PV-panel should have dimensions of approx. 1,600mm by 1,000mm.
	PV-panel to degredate max. 25% over 25 years.
	A minimum of 4 and a maximum of 6 PV-panels should be connected to the apartments directly.
	A minimum of 30 PV-panels should be connected to a car charging point.
	PV-panels to be connected to the building management system and district management system.
2	**Dimensional/situational requirements**
	PV-panels to be installed on the roof of the apartment blocks / schools.
	Individual connections to the individual tenants for the apartment buildings.
	Possibility to exchange power between tenants in the future.
3	**Contractual requirements**
	Delivery of power behind the meter is allowed as part of the Experimenteerregeling
	Scope: installation and commissioning.
	Garanty: 10 years on the PV-panels and convertors.

Figure 11. Example of Programme of Requirements for Integrated Solution

4.4. Conclusions on aligning planning and investment agendas between Utrecht IRIS ecosystem partners

Progress has been made in the aligning planning and investment agendas between Utrecht IRIS ecosystem partners. Key activities include:

- Verification and updating of the investment planning submitted in the application phase.
- Development of a governance structure, including a Programme of Requirements, to structure, specify and purchase all investments needed to demonstrate the integrated solutions during the IRIS project.
- Aligning project planning and investments with activities and investments outside the IRIS project by developing and discussing an overall time schedule for the entire demonstration in Utrecht, with mutual relations between the activities in the transition tracks.

So far, no major deviations are anticipated compared to the DoA regarding the alignment of the demonstration planning and investment agendas of Utrecht IRIS ecosystem partners.

5. Local risk assessment

In this chapter the local risk assessment is discussed. The demonstration in Utrecht contains the introduction of a lot of new technologies to facilitate the energy and mobility transition. The inclusion of stakeholders and residents is essential in this transition.

Utrecht IRIS ecosystem partners involved in the respective transition tracks have provided the main barriers and drivers affecting the implementation of the integrated solutions. These barriers and drivers are described in deliverable D5.1. In some cases, when there is not a 100 % certainty that the barrier will materialize, barriers may be viewed as risks. In the same fashion, drivers may be viewed as opportunities. Barriers that might lead to risks are mentioned in this chapter (Table 5).

Transition Track	Identified risk Utrecht	Mitigation measures Utrecht
TT#1	1. No support for the plans for the retrofit within our tenants (for every retrofit Bo-Ex requires a majority (minimum 70%) of tenants who agree on the plan before the realization can start). 2. Tenants are afraid of 'the power' generated by the PV-panels on the roof of their apartment building. 3. Tenants don't accept low temperature (district) heating. 4. The HEMS Eneco Toon is not accepted/understood by the tenants.	1. For every apartment building a committee of tenants is invited to participate in the project in an early stage. At the beginning of every project, a tenant investigation is held to get known of the wishes and requirements of the tenants. 2. Expose the positive properties of PV-panels, focus on the risks of PV-panels for the tenants, invite people who already have PV-panels on their roof / refer to other similar situations and the feedback of the tenants. 3. Expose the positive effects of low temperature heating, create a show house to experience low temperature heating, refer to other similar situations and the feedback of the tenants. 4. Organize citizen engagement activities to participate tenants in the principle and positive effects of the HEMS, invite people from outside to tell about their experiences with the HEMS, offer a one year energy coaching course for every tenant from the moment of delivery/completion of the project.
TT#2	1. No viable business case for 2nd life batteries without subsidies 2. No garage boxes become available to place the 2nd life batteries	1. Legal and financial barriers will be addressed by starting a EU-wide lobby on smart charging and use of storage as flexibility source 2. Bo-Ex has a few garage boxes for its own storage, that can be used Tenants are encouraged to stop renting

Transition Track	Identified risk Utrecht	Mitigation measures Utrecht
		garage boxes by a small financial compensation
	3. No prior experience available in Utrecht with 2nd life batteries in garage boxes	3. Carefully design the demonstration (safety, loading capacity of floor, etc) and closely monitor when implemented
	4. Regulatory barriers regarding self-consumption, smart charging strategies, double energy taxes could hamper the replication of 2nd life batteries	4. Learn from the Utrecht demonstration and use lessons learnt in EU-wide lobby.
TT#3	1. No interest in demonstration area Kanaleneiland-Zuid for the MaaS We Drive Solar	1. Communication and engagement of citizens in TT#5 activities. Start introduction of MaaS at location where people are interested. And use the first MaaS-users as ambassadors.
	2. People find it difficult to operate the technology used for MaaS (booking app and V2G-charger), due to language barriers, low education level	2. Perform a test with the target audience aimed at gaining insight in the usability of the current technology. Change the technology where possible or provide instruction (courses).
TT#4	1. Data service doesn't meet expectations of target audience	1. the process to develop data services contains several steps during development to confront design, prototypes etc with the expectations
TT#5	1. The tenant/citizens of the district don't understand why we focus on specific matters regarding energy usage while there are bigger problems in the district the citizens are faced with (rats, criminality, less parking area, traffic accidents).	1. listen carefully to these messages and, if possible, link these problems to other existing initiatives and/or find integral solutions within the team which also cover the mentioned problems (partly) to gain sympathy and support for the IRIS project.

Table 5. Local risks and mitigation measures Utrecht demonstration

6. Output to other work packages

Being a coordinating work package, WP5 has interdependencies with most of the other WPs. The relevant interdependencies for reaching the IRIS project goals are described in the next sections.

6.1. Interdependencies with WP3

WP3 being a work package focused on identifying bankable and replicable solutions will benefit from the activities in the three LH cities. In LH Utrecht, the following pathways will provide input to WP3:

- Implementation of the IS in the TT#1-3: Each technological solution to be implemented as part of the TT#1-3 has a business model or may lead to a business model. Recording of actual investments and costs together with the revenues provide quantified information to WP3.
- Development of data services in TT#4: the process of development of data services as described in deliverable D5.1 is aimed at challenging the market. Through these challenges, startups can emerge and become a new business opportunity. WP3 will facilitate the challenges as data service manager and bringing in knowledge about the steps to evolve from a startup to a business. TT#4 also develops data services that may provide existing companies an opportunity to expand their business.
- Creating new jobs in TT#5: the co-creation activities in TT#5 give the citizens a lot of influence on the direction of several IS. Since the demonstration area Kanaleneiland-Zuid is a low-income and multicultural disctrict, with high unemployment rates, the IRIS project team will cooperate with local SME's and will focus on opportunities for citizens to start a new business or creating new jobs aligned with the transition activities.

6.2. Interdependencies with WP4

According to DoA, WP4 aims at "offering an open, reusable and reliable platform for sharing data, speeding-up innovation, standardisation and implementation of smart application." The interdependencies with WP4 manifest themselves in the following ways:

- Cooperation to fill the CIP with available datasets from the Utrecht IRIS ecosystem partners: CIP provides an architecture and platform to host and connect data sources. With respect to the topics in IRIS the Utrecht IRIS ecosystem partners can provide data sources to the CIP.
- Development of data-services in TT#4: The data services that will be developed as part of TT#4 can and will benefit from the CIP and the unlocked data.
- Monitoring data in CIP: WP5 being the demonstration in Utrecht will monitor the transition. Data of these monitoring activities will be stored in the CIP.

6.3. Interdependencies with WP9

Interdependencies with WP9 focus on creating a KPI set that perfectly fits the local situation in Utrecht. This is realized by exchange of local knowledge and ambitions with WP9-project partners. Furthermore,

the cooperation with WP9 is to develop a monitoring strategy that best describes the demonstrations results

7. Conclusions

Deliverable D5.2 is together with deliverable D5.1 the first step in the actual implementation of the demonstration activities in Lighthouse City Utrecht. Deliverable D5.2 presents the work undertaken in Task 5.2 (Coordination of Utrecht integration and demonstration activities) of WP5. Task 5.2 is a task that lasts the entire duration of the IRIS project and provides and manages coordination structures and governance procedures for an optimal execution of activities between Utrecht IRIS ecosystem partners as well as with international IRIS project partners from other Lighthouse & Follower Cities and horizontal work packages.

The deliverables D5.1 and D5.2 cover different aspects of the description of planned interventions in the Utrecht ecosystem.

Deliverable D5.1 describes the baseline, ambitions, barriers and drivers of the five TTs and the various integrated solutions that will be demonstrated (the WHAT of the demonstration activities in Utrecht). Deliverable D5.2 complements these descriptions by elaborating on the governance and financing of the Utrecht demonstration (the HOW of the demonstration). Both deliverables together form a reference document on which the actual implementation of the integrated solutions in the Tasks 5.3 till 5.7 will be based. D5.2 has relationships with deliverables of other work packages on the STRATEGY part. With WP1 for the Transition strategy, WP9 for the KPIs and the monitoring approach and WP3 for the results of interviews with IRIS partners about ambitions and possible business models.

Progress has been made in setting up the coordination structures and procedures concerning governance, communication, monitoring and impact analysis, local risk assessment, periodic reporting, and planning of Utrecht integration and demonstration activities aligned between Utrecht IRIS ecosystem partners. Key achievements include:

- Setup of coordination structures aligned with the TTs and WPs of IRIS, together with roles and responsibilities and a regular periodic meeting schedule.
- Coordination of communication at Utrecht ecosystem level through the setup of a Local News Desk and cooperation with WP11-lead ESCI.
- Cooperation with WP1- and WP9-project partners to set up a process to select Key Performance Indicators as the basis for a strategy for monitoring and impact analysis.
- Setup a joint approach with the 3 LH cities aimed at lasting the duration of the IRIS project.
- Reporting to the European Commission, the project coordinator and the Utrecht ecosystem on progress in the IRIS project.
- Verification and updating of the investment planning submitted in the application phase.
- Development of a governance structure, including a Programme of Requirements, to structure, specify and purchase all investments needed to demonstrate the integrated solutions during the IRIS project.
- Aligning project planning and investments with activities and investments outside the IRIS project by developing and discussing an overall time schedule for the entire demonstration in Utrecht, with mutual relations between the activities in the transition tracks.
- Identification of local risks and mitigation measures based upon the work reported in D5.1 identifying the barriers and drivers per integrated solution.

So far, no major deviations are anticipated compared to the DoA, and the current coordination structures and procedures will benefit an effective implementation of the integrated solutions.

8. References

[1] A. G. Marijuan and S. Moller, "Smart Cities Information System: Key Performance Indicator Guide v.2.0.," https://www.smartcities-infosystem.eu/sites/default/files/document/scis_kpi_guide.pdf, 2017.

[2] P. Bosch and et al., “CITYkeys indicators for smart city projects and smart cities.,” https://www.researchgate.net/publication/326266723_CITYkeys_indicators_for_smart_city_projects_and_smart_cities, 2016.

Annex 1 – Overview Communication & Dissemination activities Utrecht

IRIS - WP 5 Communication & Dissemination actions				
Communication/Dissimenation	**Date**	**Type**	**Description**	**Channel**
Communication	25 September 2017	share	IRIS: An exciting new #EUSmartCities project starting October 2017: News to follow #SmartCities #Mobility #citizenengagement #H2020	USI twitter
	29 September 2017	share	Discover the new flagship project @IRISsmartcities organised around five key challenges	USI twitter
	18 October 2017	post	Civity announces participation in IRIS project	Civity website
	23 October 2017	share	Update from IRIS kick-off meeting	USI twitter
	24 October 2017	share	Update from IRIS kick-off meeting	USI twitter
	28 November 2017	post	News article announcing Utrecht's participation in IRIS Smart Cities	UU website
	05 December 2017	post	News article announcing Utrecht's participation in IRIS Smart Cities	USI website
	07 December 2017	share	Article promoting Utrecht as frontrunner for engery efficiancy	USI website / USI Facebook page

			in Europe due to projects as Smart Solar Charging and IRIS	
	january 2018	post	Article in Bo-Ex magazine 'Thuis'	Article
	04 January 2018	share	Cross-post from LomboXnet about increasing the number of solar powered cars in Utrecht	USI twitter
	09 January 2018	share	Article explaining IRIS project in Bo-Ex magazine "Thuis"	USI website
	24 January 2018	post	Promoting an interview with Joop Oude Lohuis of Gemeente Utrecht on IRIS	USI twitter
	26 January 2018	share	Cross-post from VulogTech	USI twitter
	30 January 2018	share	Promoting the Pathways to Sustainability conference	USI twitter
	09 February 2018	post	Promoting IRIS at the Pathways to Sustainability conference	USI twitter
	15 February 2018	share	IRIS project in Kanaleneiland subsidised	USI twitter
	15 February 2018	post	Press release about IRIS project in Kanalaeneiland Zuid and European funding	City of Utrecht / USI website / USI Twitter
	15 February 2018	letter	Letter to Muncipal Council about IRIS project	Board of City of Utrecht
	23 February 2018	share	Cross-post from IMREDD about Nice IRIS Ecosystem	USI twitter

	02 March 2018	post	Municipality announces that Kanaleneiland will become a sustainable district	City of Utrecht website
	13 March 2018	share	We Drive Solar and EU Innovation Deal	USI twitter
	15 March 2018	share	Promoting article from smarter communities	USI website
	23 March 2018	share	Six month milestone for IRIS Utrecht	USI twitter
	10 April 2018	post	Promoting an interview with Mirjam Harmelink about reducing energy bills	USI twitter
	11 April 2018	share	Cross-post about "Do-tanks"	USI twitter
	12 April 2018	post	Visit Carolien van Hemel at Smart Cities Summit	USI twitter
	16 April 2018	post	Promoting interview with Martin Whybrow about Lighthouse	USI twitter
	23 April 2018	share	Cross-post about electric busses	USI twitter
	25 April 2018	share	Promoting article from smarter communities	USI twitter
	26 April 2018	share	Cross-post about Gotheburg project meeting	USI twitter
	01 May 2018	share	Cross-post about electric busses	USI twitter
	07 May 2018	share	Promotion EU Regions Week	USI twitter
	11 May 2018	post	Number of electric vehicles increased by 78% in 2017	USI twitter
	11 May 2018	share	Promotion interview Carolien	USI twitter

			van Hemel	
	16 May 2018	post	Video interview with Carolien van Hemel about IRIS	USI website / USI Facebook
	17 May 2018	post	Opening EU green week in Utrecht	USI twitter
	21 May 2018	share	Cross-post of Mayor Jan van Zanen mentioning IRIS in openings speech at EU Green Week	USI twitter
	22 May 2018	share	Preparation of IRIS Citizen Engagement workshop	USI twitter
	23 May 2018	post	A European first in Utrecht: 20 full electric cars charged with solar energy - after sunset	USI twitter
	04 June 2018	share	Promoting Urban Reverd podcast about Bidirectional chargers and the implementation in Kanaleneiland for IRIS	USI website
	06 June 2018	share	Article on public participation	USI twitter
	12 June 2018	post	promoting positive developments for electric mobility in Utrecht	USI twitter
	14 June 2018	share	Cross-post of We Drive Solar and Renault winning the international Partnership Award	USI twitter
	26 June 2018	post	Stedin encourages Utrecht residents to switch to electric cooking	USI twitter

	30 June 2018	post	Muriel Pels @Utrecht presenting the IRIS project, business models for smart cities	Utrecht University Centre for Entrepreneurship twitter
	03 July 2018	post	Promoting Stedin's green initiatives	USI twitter
	11 July 2018	share	4.3 billion people will live in cities by 2020	USI twitter
	24 July 2018	share	promoting Innovative City Conference in Nice	USI twitter
	30 July 2018	post	Promoting msart solar charging	USI twitter
	13 August 2018	share	Congratulating Alexandroupolis on their energy projects	USI twitter
	29 August 2018	share	Cycling infrastructure in Utrecht	USI twitter
	29 August 2018	share	Promoting smart cities	USI twitter
Dissemination	23 -25 October 2018	Organisation	Kick-off Meeting in Utrecht	Meeting
	09 February 2018	presence	Using the Pathways to Sustainability conference as an opportunity to promote IRIS with a banner, stand and USI employees	Conference
	4-6 April 2018	presence	Participation Roel Massink at EUROCITIES Environment Forum in Amsterdam	Conference
	11 & 12 April 2018	Visit	Participation Carolien van Hemel at Portugal	Conference

			Smart Cities Summit in Lisbon	
	16-18 April 2018	Visit	Participation Muriel Pels at EUROCITIES Knowledge Society Forum in Ghent	Conference
	26 April 2018	Visit	Participation at project meeting in Gothenburg	Meeting
	21 May 2018	Visit	Participation Carolien van Hemel & Muriel Pels at Opening EU Green Week in Utrecht	Conference
	22 - 24 May 2018	Visit	Participation Muriel Pels at EU Green Week in Brussels	Conference
	06 June 2018	presence	Presentation by Joop Oude Lohuis at PROVADA Real Estate Fair in Amsterdam	Conference
	13 & 14 June 2018	Visit	Participation Mirjam Harmelink at 2018 International Business Festival - Smart Cities Realised Summit in Liverpool	Conference
	19 - 22 June 2018	Visit	Participation Hans Sakkers at ICLEI World Congress in Montreal	Conference
	20, 25 -26 June 2018	Sessions	Interactive sessions with inhabitants of Kanaleneiland about smart street lighting in Utrecht	Citizen engagement

	27 - 28 June 2018	Visit	Participation of Muriel Pels & Haye Folkertsma at European Innovation Partnership for Smart cities & Communities General Assembly in Sofia	Conference
	16 - 17 July 2018	visit	Participation of Haye Folkertsma & Thomas Kruse at Creative Dialogue DE-NL on E-Mobility in Munchen	Conference