FINAL PROJECT FACT SHEET
EUROPEAN UNION CO-FUNDED PROJECT

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Horizon 2020

CALL TOPIC

SCC-01-2017 - Smart Cities and Communities Lighthouse projects

Project acronym:

IRIS

Integrated and Replicable Solutions for Co-Creation in Sustainable Cities

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1. SUMMARY

The IRIS project supports the Lighthouse cities of Utrecht (NL), Göteborg (SE) and Nice Côte d'Azur (FR) and their Follower cities Vaasa (FI), Alexandroupolis (GR), Santa Cruz de Tenerife (ES), and Focsani (RO) to address their urgent need to deliver energy and mobility services in their cities that are cheaper, better accessible, reliable, and that contribute to a more sustainable urban quality of life. By demonstrating smart solutions that integrate energy, mobility and ICT, rooted in a City Innovation Platform, IRIS quantifies their value, and connects interests of many different stakeholders in innovative business models, allowing for upscale and replication of integrated solutions for sustainable cities across Europe and world-wide. The expected impacts of IRIS are an open innovation ecosystem motivating citizens to act as prosumers; more effective urban planning and governance of integrated solutions; exploitation of validated innovative business models based on multi-stakeholder collaboration; more stable, secure and affordable energy and mobility services for citizens, with improved air quality.

2. PROJECT SCOPE

In the IRIS project Utrecht, Göteborg and Nice work as collaborators and test-beds for fellow cities. Each city will draw upon a local ecosystem of governments, enterprises, utility companies, research organisations, innovation agencies and SMEs to accelerate the adoption of ambitious energy, mobility and ICT initiatives. The lighthouse cities face common as well as district specific challenges, which they will address by integrating and demonstrating the universal yet versatile IRIS solutions. The IRIS project objectives are to**:**

1. Demonstrate solutions at district scale integrating smart buildings, renewables and energy positive districts.
2. Demonstrate smart energy management and storage solutions targeting grid flexibility.
3. Demonstrate integrated urban mobility solutions aiming at a greener transportation mechanism.
4. Demonstrate the integration of ICT solutions with existing city platforms enabling the exchange of data for development of new innovative services.
5. Demonstrate active citizen engagement solutions.
6. Demonstrate the feasibility of bankable business models of the integrated solutions to foster investments.
7. Strengthen the links and active cooperation between diverse cities in Europe and beyond.
8. Measure and validate the demonstration results after a 3-years large-scale demonstration at district scale

The overall concept of IRIS is the Transition Strategy comprising of five Transition Tracks. Within these five tracks, IRIS demonstrates a set of integrated solutions built on top of both mature and innovative technologies. The IRIS Transition Tracks and their Solutions are presented in the following table:

Transition Track #1: Renewable and energy positive districts	Transition Track #2: Flexible energy management and storage	Transition Track #3: Intelligent mobility solutions	Transition Track #4: Digital transformation and services	Transition Track #5: Citizen engagement and co-creation
Positive Energy Buildings	Flexible electricity grids	Vehicle-to-grid and smart solar charging	Urban Monitoring	Changing everyday energy use
Near zero energy districts	Multi-sourced district heating		City Management and Planning	Participatory city modelling
Symbiotic waste heat	2nd life batteries	Innovative Mobility Services	Mobility Services	Living labs
			Energy Management	Behaviour changing information

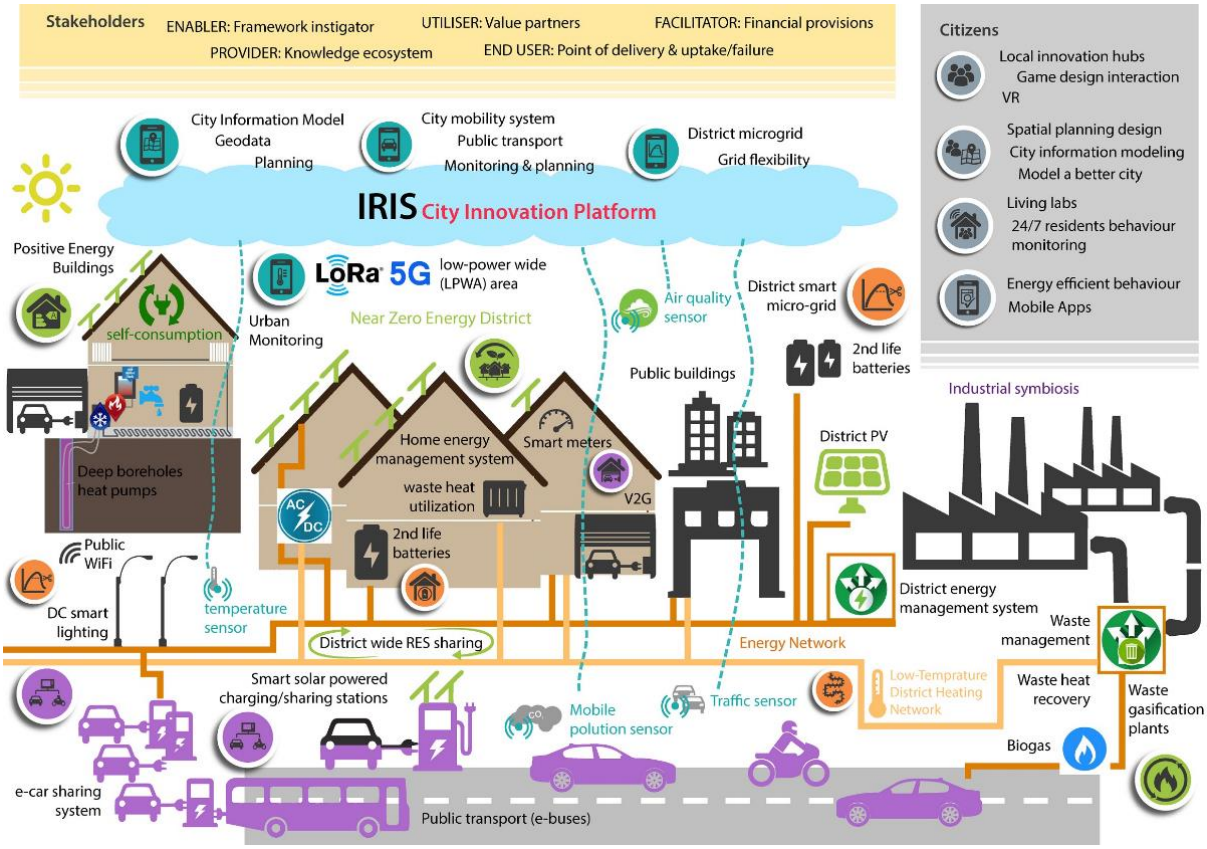
The innovation potential: The IRIS project targets to build upon intelligent, user-driven and demand-oriented city infrastructures and services at the intersection of energy efficiency, renewable energy, e-mobility and ICT. The most important innovations are within the City Innovation Platform which will stimulate the development of new data services towards healthy and sustainable urban environments by engaging citizens and companies.

The main deliverable: Along with the demonstration of integrated solutions in each of the three Lighthouse cities, new business cases will be developed and tested in order to accelerate the worldwide market uptake of the demonstrated solutions. The public deliverables of IRIS are found here: http://bit.ly/2ALSguE

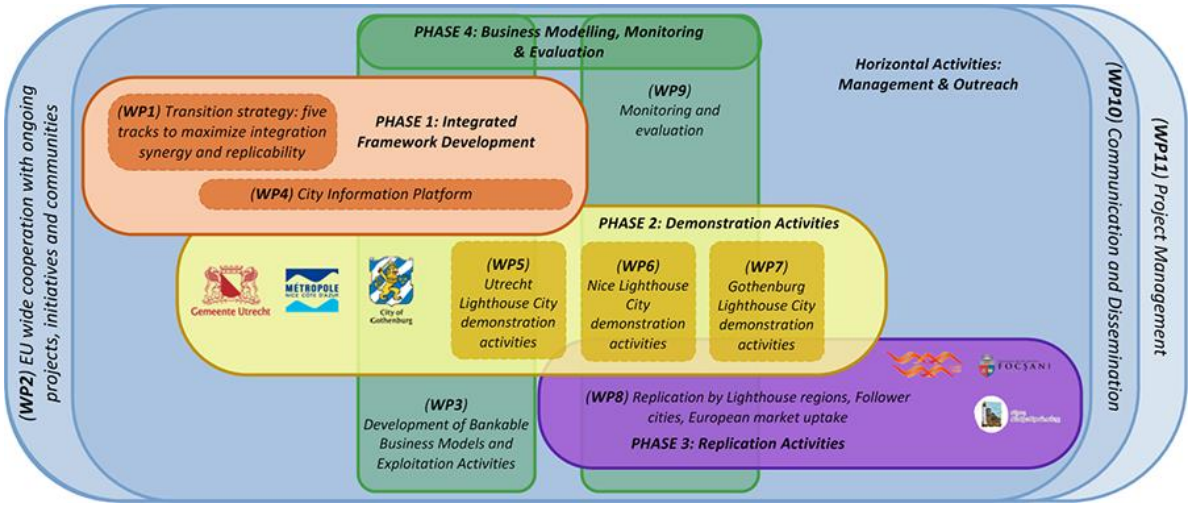
The use of the deliverable by others: The demonstration results will be replicated in other districts in the lighthouse cities, as well as in the follower cities, which can mix and match the demonstrated solutions according to their needs, paving the way to worldwide replication.

3. PROJECT TECHNICAL DESCRIPTION & IMPLEMENTATION

Within the framework of the 5 Transition Tracks, there will be 16 solutions integrated in total. IRIS is focusing on "system prototype demonstration in operational environment" (TRL7), willing to lead the solutions tested within the project to TRL8-9 levels that can actually be sustainably exploited and transfer to other EU smart cities primarily and around the world on a second level. An overview of the technologies demonstrated is presented in the following image:



The overall approach and methodology for implementation of the project consists of five interrelated phases as presented in the image on the next page. Phase 1 hosts all the activities for the preparation of the large demonstrations at the LH cities, whilst Phase 2 focuses exclusively on the demonstration of the IRIS Solutions. Within Phase 3, the FCs develop plans for their respective smart demonstration district and estimate their replication potential based on their own capacities and capacity building activities from the LH cities' experiences. In Phase 4 the monitoring and evaluation as well as on bankable business models which provide the basis for an effective replication takes place. Finally the "Phase 5 – Horizontal Activities" comprises all the horizontal activities of the project.



4. RESULTS ACHIEVED

The project started 1 October 2017 (M1) and is now in M15. The project team is finalizing *Phase 1: Integrated Framework Development* and is starting *Phase 2: Demonstration Activities*. Key results so far:

- Establishment of baseline for the project by defining the user, business and technical requirements of the integrated solutions in all transition tracks including KPIs per transition track and stakeholder group.
- Definition of a transition strategy and commissioning plan for the careful implementation of integrated solutions in the Lighthouse cities, follower cities and wider community of cities interested in IRIS solutions.
- Lighthouse cities have established all coordination and governance procedures and made a detailed implementation plan for the demonstration of the integrated solutions in their demonstration sites.
- The functional IT architecture for the City Innovation Platform has been defined based on needs of Lighthouse city stakeholders, and reference architectures of Urban Data Platforms networks and initiatives.
- The IRIS monitoring and evaluation framework with a set of KPIs to measure the impact of integrated solutions has been defined. The framework includes factsheets to operationalize each KPI.
- A communication secretariat has been installed and the events overview, project website, various social media channels and three local news desks in each of the Lighthouse Cities have been established.

5. IMPACT

Replicability: results will be replicated in other districts in lighthouse cities, and in the follower cities, which select the demonstrated solutions according to their needs, paving the way to worldwide replication.

Socio-economics: demonstration and validation of the integrated solutions lead to reduction of technical and financial risks, therefore giving confidence to investors for large-scale replications and bankable solutions. The social impacts are increased energy efficiency and more secure, stable and cheaper energy systems.

Environment: increase of the renewable energy share, stimulating self-consumption, ensuring the rollout of electric vehicles in cities. Other environmental impacts which come as a result of the aforementioned, are the reduction of transport-based CO_2 emissions and the improvement of the air quality.

Market Transformation: IRIS contributes to the market transformation by many means: a) establishment of another type of flexibility market through storage of electricity in stationary storage and EV batteries; b) citizen engagement relocates more market power to the consumers, since they receive access to information, which can assist in adjusting their energy usage to their needs and to their individual willingness to pay; c) new technologies creates new business, such as car sharing and energy trading. Overall, the market transitions from its initial vertical structure to a new multi-stakeholder structure that stimulates original business models.

Policy: IRIS stimulates the reconsideration of the current policy mainly in terms of supporting renewable energy integration, promoting greener practices and re-assessing data accessibility and security issues.