

URBAN CO-CREATION DATA LAB

ACTION MANAGEMENT PLAN

OCTOBER 2019

Milestone

Milestone Title	MS 1 – Action Management Plan
Related Activity	6 - Action Management
Related Task	6.2 - Quality assurance and progress management
Author's	NOVA IMS
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Actual Submission	
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Instrument	Connecting Europe Facility (CEF) – Telecommunications Sector
Starting Date of Action	01.10.2019
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Main objective	To ensure the quality levels of the Action's results through the continuous monitoring of the Action activities and their proper execution, the coordination of the work plan, and the optimum coordination of the beneficiaries

Beneficiaries:



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Executive Summary

This document is the **Milestone 1 - Action management plan, including quality assurance and risk management**, of the Activity 6 - Action **Urban Co-creation Data Lab** Management, funded by the European Commission under the H2020ICT- 28-2017 Connecting Europe Facility (CEF) – Telecommunications Sector under the grant agreement n. INEA/CEF/ICT/A2018/1837945.

This Action Management Plan presents information for the Beneficiaries of the Action to understand the processes, procedures, roles and obligations of each Action Beneficiaries.

This document summarises the required knowledge for the good management of the Action and includes an internal review procedure to guarantee the quality of the results of the Action.

The processes and procedures described are to ensure an effective and clearly define methodology for ensuring that the Action is delivered as efficiently as possible. This document complements existing Action documentation including the Grant Agreement and Consortium Agreement and should be used in conjunction with these two documents.

1. Introduction

This Action management plan describes the Action main products, the organisational, governance and decision-making structure, deliverables and document management, reporting and financial management and it will also describe the Action management processes and documentation which will be created and maintained throughout the Action.

The aim of this document is to provide guidelines and procedures which should be followed to ensure that the Action is delivered according to the Description of Action in the Grant Agreement.

This Action management plan is intended to be a live document and although no significant changes to this document are envisaged, the guidance and some sections may be updated.

This plan is based on key documents/meetings including:

- The Grant Agreement;
- The Action kick-off meeting 22th of October, Lisbon, Portugal.

2. Action description

2.1. Scope and objectives

The main objective of the Action is to support decision-making at the municipality level in order to provide citizens with high quality services in the areas of security, emergency, operational management and planning.

The Action will deploy such support in Lisbon and two other cities to be defined at the beginning of the Action.

By building the analytical capabilities, and specifically analytical services able to support the management, the municipality will be able to better respond to the following **5 challenges**:

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Area of intervention	Objective	Challenge
Mobility	To support new planning and management approaches altogether with new tools to evaluate impact and prediction of behaviours'	Evaluation and prediction of patterns and behaviours of micro mobility in the city of Lisbon
Waste management	To identify patterns to support the prediction of the production of urban waste associated with a variety of context information (e.g. events, climate situation, etc.)	Identification of patterns/profiles and solid waste production prediction in the city of Lisbon
Parking	To create new models either to predict or to generate viable alternatives for illegal parking in the city	Identification of patterns and prediction of parking in the city of Lisbon to improve surveillance efficiency
Pollution	To develop predictive models for the propagation of liquid and atmospheric pollutants	Elaboration of predictive models for the propagation of liquid and atmospheric pollutants in the city of Lisbon
Crowd management	To build impact prediction models based on the mobility/people flows in large events	Evaluation and elaboration of models for predicting the impact of major events on Lisbon city services

The Action aims at developing a new generation of public services in the context of smart cities exploiting supercomputing facilities and public and private data to analyse complex combinations of large datasets in areas of public interest.

2.2. Activities description

2.2.1. Activity 1: Data preparation and open data infrastructure assessment

The **main objective** of the activity is to prepare data and open data infrastructure for Lisbon Smart Management Platform.

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	31/12/2019	MS 2 - Data sets and requirements defined for all 3 cities	Data sets definition and requirements definition completed and available for all 3 cities
01/10/2019	30/03/2020	MS 4 - Service and Use Cases full definition for all 3 cities	Service and use cases full definition completed and available for all 3 cities

2.2.2. Activity 2: Services analytics refinement and HPC preparation

The **main objective** is to deploy the identified services in the co-creation labs and to connect them with the HPC infrastructure and with, the applications and the city services to be provided to users and stakeholders.

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Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/04/2020	30/09/2020	MS 6 – Data models including refined analytical models (descriptive, predictive and prescriptive models) that support the city's planning and management and 5 analytical services are deployed in HPC	Analytical models disclosed in public via Lisboa Aberta Portal
01/04/2020	30/11/2020	MS 7 - HPC resources have been used in order to process the data as required by the Action	Report of the supercomputing resources (systems/ organisations providing the resources and computing hours) that have been used
01/04/2020	30/11/2020	MS 8 - Compliance with the Metadata Quality Assurance (MQA) tool for datasets	Relevant datasets (including metadata) resulting from the action published on a national portal or catalogue that is harvested by the European Data Portal, under which the MQA can be performed confirmation in the final report submitted to INEA

2.2.3. Activity 3: Co-Creation Labs: perform experiences and validation by cities

The **main objective** is to validate the Co-Creation Labs proposed services in selected cities (Lisboa + 2) and adding new use cases.

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	30/09/2020	MS 5 - Define methodologies to follow in all cities' co-creation labs	Report on Co-Creation Labs is available
01/10/2019	30/09/2021	MS 10 - Complete use cases implementation in all cities' Co-Creation Labs	Report on completed use cases implementation in all cities is available

The **main objective** is to maximise dissemination of the Action results to a wide audience of researchers, city authorities, business organizations, EC and citizens.

2.2.4. Activity 3: Dissemination and Communication of results

The dissemination will be performed before and during exploitation of the Action results to promote collaboration with other EC related Actions in Smart Cities and HPC.

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	31/12/2019	MS 3 - Elaboration of dissemination strategy and setting up of dissemination channels	Dissemination strategy is available
01/10/2019	30/09/2021	MS 11 - Final reach assessment	Final reach assessment report is available

Beneficiaries:

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	30/09/2021	MS 12 - Final conference in Lisbon	Meeting report submitted to INEA

2.2.5. Activity 5: Future sustainability

The **main objective** is to ensure that Action results are exploited beyond the duration of the Action and will be sustainable in long-term.

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	31/07/2021	MS 9 - For all services: identification of viable business models and willingness to buy verified	Report is available

2.2.6. Activity 6: Action Management

The main objective is to ensure the quality levels of the Action's results through the continuous monitoring of the Action activities and their proper execution, the coordination of the work plan, and the optimum coordination of the beneficiaries.

Starting date	Indicative ending date	Milestone (MS)	Means of verification
01/10/2019	31/10/2019	MS 1 - Action management plan including quality assurance and risk management	The Action management documentation is electronically available
01/10/2019	30/09/2021	MS 13 -Beneficiaries to deliver a demonstration of their Action's results via a remote or onsite meeting with DG CNECT	Validation email by DG CNECT

3. Action organisation, governance and decision making

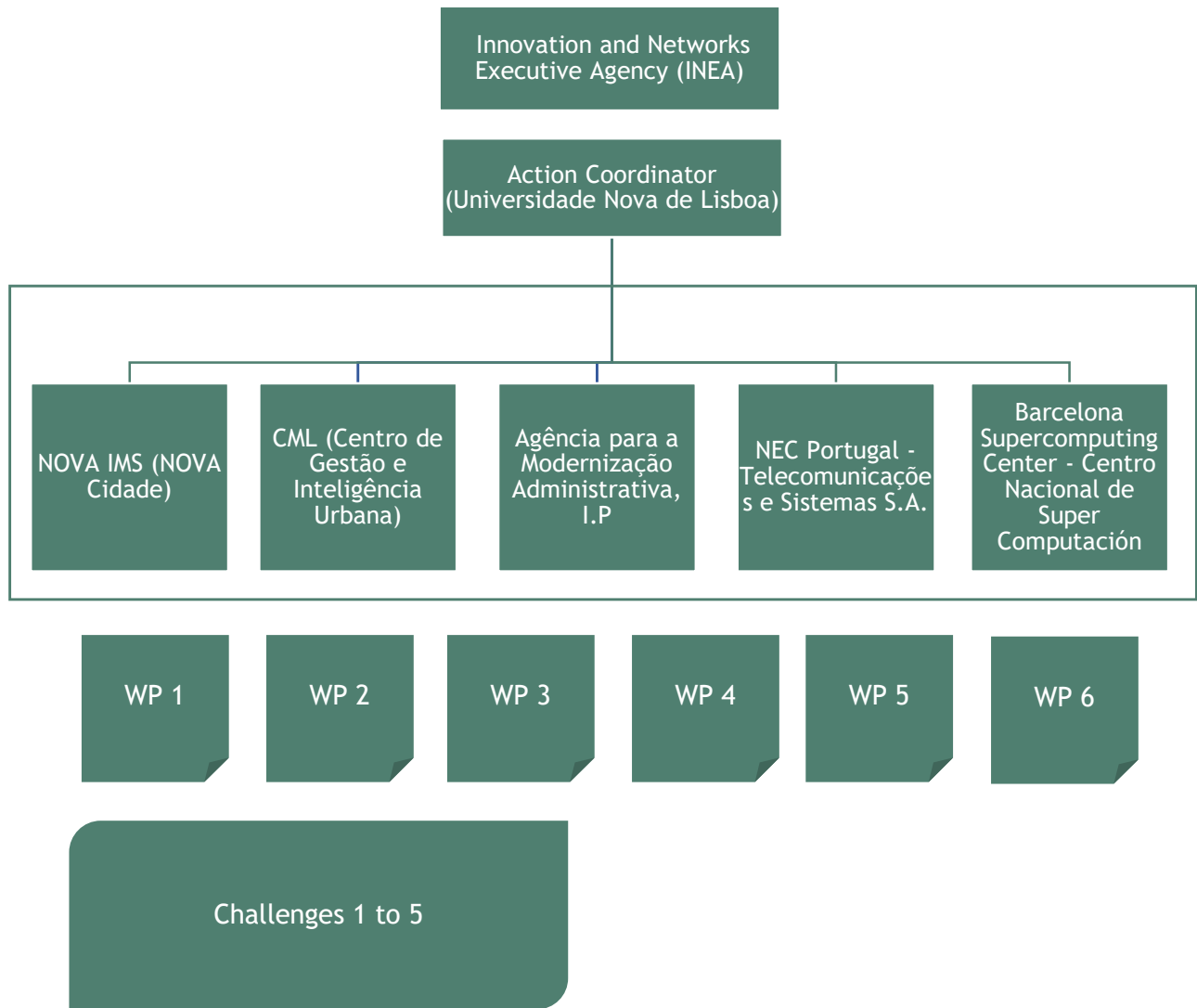
The management structure aims at safeguarding the effective cooperation among the Action Beneficiaries and at producing high quality deliverables to the Commission. The overall management structure will endorse links between UCD Lab Beneficiaries and build and strengthen new interactions, especially by enabling and fostering the transfer of complementary expertise between the involved municipalities, researchers, end-users and other relevant stakeholders' players and countries.

Within the UCD Lab, each participant will take an active part in the efficient implementation of the **challenges**, and will cooperate, perform and fulfil, promptly and on time, all its obligations as foreseen in the Grant Agreement.

The main challenges of UCD Lab will be addressed through the organisational structure described in the figure below.

Beneficiaries:

MS 1 – Action Management Plan



Any deviations to the task plans should be reported up to the Task Leader, if this expected to have an impact on the content or delivery of any deliverables or milestones within that work package or on a task within another work package this should be reported via the Work Package Leader to the Coordinator who propose methods to manage this and pass the proposal to the SC for approval. If accepted by the SC, the proposed changes are passed to the EC Action Officer for the next stage of approval.



Beneficiaries:

3.1. Coordinator

Prof Miguel de Castro Neto will act as coordinator. The Action Coordinator (PC) will duly inform the Action Officer at INEA of any contingency that may occur along the Action and will be the spokesperson for the Action Officer. Therefore, the Action Coordinator will be responsible for the continuous monitoring of the Action.

The Action Coordinator will be responsible for:

- Organization of coordination meetings to assure that the Action objectives are attained, at least 4 such meetings will be arranged: a kick-off meeting (M1), 3 Action meetings (M6, M12 and M18) and a final Action meeting (M24) as well as bi-monthly conference calls which will be monthly in the first 6 months;
- Continuously monitor significant Action risks: identify, assess probability and consequences, and devise mitigation strategies;
- Monitor the progress of individual work packages, in terms of production of deliverables according to schedule, and other key indicators of progress;
- Coordinate progress reporting within the Work Package Leaders;
- Deal with any conflicts which may arise between Action participants.

3.2. Steering Committee

It will be constituted by:

- Chair: Action Coordinator, Miguel de Castro Neto, NOVA IMS;
- Vice-Chair: João Tremeceiro, CML;
- Action Beneficiaries Representative;
- Work Package Leaders.

The Steering Committee (SC) is the decision-making body within the Action for all significant issues.

The SC is responsible for the Action and the daily management is delegated to the Action Coordinator. The SC is responsible for the agreement on the working program and the interaction between the Milestones. Will also take decisions and agreements on possible changes and adjustments in Milestones, timelines and budget allocations.

3.3. Management, Communication and Related Actions Coordination Boards

These boards have been created to assure Action management, administrative and financial coordination and the effective interaction with related Actions, as well as to follow up the compliance of communication procedures. They will be composed as follows:

Management Board:

- Chaired by the Coordinator (Miguel Castro Neto, NOVA IMS).
- All Action Beneficiaries represented and report on management, administrative and financial issue.

Communication Board:

- Chaired by WP4 Leader (Ana Mouro Gomes, NOVA IMS).

Beneficiaries:

- All Action Beneficiaries represented and report to follow up the compliance of communication procedures.

Related Actions Coordination Board:

- Chaired by João Tremoceiro (CML)
- All Action Beneficiaries represented and report to follow up on the effective interaction with related Actions/actions.

3.4. Work packages leaders

At the operational level, leaders have been appointed for the six different WPs of UCD Lab. The WP teams are responsible for an effective and efficient implementation of the work associated with a specific work package. A WP Team consists of a WP Leader, leading experts of the Action Beneficiaries who are active in that work package, and Action Beneficiaries who are expert in the area.

The work package leader role includes:

- Ensuring that the tasks and deliverables within their work package are delivered on time and to the required quality criteria and according to the budget provided;
- Identifying and reporting risks and deviations within their work package to the Action Coordinator.

WP 1 Leader	Susana Paulo, CML
WP 2 Leader	Pedro Sarmiento, NOVA IMS
WP 3 Leader	Célia Aguiar, CML
WP 4 Leader	Ana Mouro Gomes, NOVA IMS
WP 5 Leader	João Tremoceiro, CML
WP6 Leader	Ana Mouro Gomes, NOVA IMS

3.5. Challenge Leaders and Task Leaders

The challenger leader and the task leader (when appropriate) are responsible for the work within their challenge or task, ensuring that tasks are delivered on time and to budget, reporting any deviations from the work plan to the work package leader.

Challenge 1 Leader	Miguel de Castro Neto, NOVA IMS
Challenge 2 Leader	Susana Paulo, CML
Challenge 3 Leader	Célia Aguiar, CML
Challenge 4 Leader	Oriol Lehmkuhl, BSC
Challenge 5 Leader	Pedro Sarmiento, NOVA IMS

3.6. Working group on sustainability

A specific working group on sustainability will be created to ensure the sustainability of UCD Labs initiatives after the Action. During the Kick-off meeting, the Action Coordinator asked to the Action Beneficiaries to propose a person for each WP to be part of the Working Group on Sustainability.

The work to be undertaken by this group will begin immediately after the final definition of the five challenges, the definition of the basic data for the infrastructure and the subsequent identification of the other two target cities.

Beneficiaries:

NOVA IMS	Ana Mouro Gomes
CML	Célia Aguiar
AMA	André Lapa
NEC	João Paulo Fernandes
BSC	Oriol Lehmkuhl

3.7. Lisbon Urban Data Lab

Under the of Activity 2 - Services analytics refinement and HPC preparation, five (5) Lisbon Urban Data Lab will be organised, one per challenge. This Urban Data Lab will establish the conditions to build the analytical models that will support the creation of real time optimized solutions with predicting capabilities. This will address the challenges inherent to the proposed services.

The Urban Data Lab, despite targeting different challenges, will follow a common co-creation lab implementation methodology applied to the 5 challenges, namely:

- 5 days long;
- 12 EU participants invited;
- 2 EU cities invited;
- 1 thematic moderator per challenge;
- 1 kick off session for presentation of the challenge and the available data
- 3 working days
- 1 closing seminar, open for on-line participation, for presentation of the analytical models build.

For each co-creation lab a wide communication and call for participation will take place aiming at bringing to Lisboa the top European cities experts in each of the challenges.

The expressions of interest will be evaluated by a jury to select the 12 who will be funded to participate. The jury will have the following composition:

- Marco Painho (President) - NOVA IMS
- Miguel de Castro Neto - NOVA IMS
- João Tremoceiro - CML
- André Lapa - AMA
- João Paulo Fernandes - NEC
- Oriol Lehmkuhl - BSC

The organisation of each of the Urban Data Lab shall be distributed by the beneficiaries of the action as follows:

Urban Data Lab	Challenge & Sector	Beneficiary responsible for the organisation of the Lab
1	5 - Crowd management	NOVA IMS
2	2 - Waste management	NDC
3	3 - Parking	AMA
4	4 - Pollution	CML
5	1 - Mobility	CML

4. Communication

Appropriate communication measures will be taken to ensure the way UCD Lab promotes its findings and engages with the public and the media, as well as to demonstrate the ways in which is contributing to a European ‘Connection Union’

The communication activities will be executed following the plan of the Dissemination and Communication Strategy (MS 3), that will ensure the design, implementation and follow up of an efficient communication strategy, starting with the mapping of key messages and targeted audiences to any adjustment that will be necessarily made during the implementation of the different actions.

Two aspects of communication activities are envisioned: information flow between the Action Beneficiaries and the presentation of the Action results to another relevant entities/public.

The Dissemination and Communication Strategy (MS 3) will:

- Describe the dissemination and communication strategy and its plan of activities, this will include the resources allocated to communication including professional services within the Beneficiaries, linked third parties, other projects and within the EC. The strategy will identify continuity arrangements to ensure that information is not lost after the end of the Action and will identify the process for ensuring that UCD Lab messages are consistent and meet the approval of the Beneficiaries;
- Define the goals and objectives of the strategy plan of activities, including any specific aims and objectives of the Action and identify the audience for each of these key messages;
- Identify the message and medium for addressing each audience and maximising the impact of the message;
- Create a timeline of communications throughout the Action;
- Provide a template for recording and assessing the impact of the external communications.

4.1. Internal communication

Meetings

Coordination meetings to assure that the Action objectives are attained:

- Kick-off meeting (M1), for planning the initial work;
- 3 Action meetings (M6, M12 and M18);
- Final Action meeting (M24);
- Bi-monthly conference calls, which will be monthly in the first 6 months.

The Action meetings will serve to debate and discuss the relevant topics, to address ongoing activities and to plan the work for the subsequent period.

The conference calls will be held to verify the work progress of the WP. These meetings will help update Action status on a regular basis as well as having the opportunity to discuss technical, operational and administrative issues on a timely fashion.

Prior to a meeting or a conference call a calling notice should be issued. The calling notice sets the time and date of the meeting, identifies the attendees who should participant in the meeting, the aims and objectives of the meeting, the agenda and reference to any supporting documentation which should be read prior to the meeting taking place.

If there is a physical meeting the calling notice should also contain the meeting location, and recommended travel arrangement and accommodation. For meetings in which travel is involved the calling notice should be authorised by the Action Coordinator and this validates that any travel expenditure is related to the tasks of the UCD Lab Action.

Calling notices for conference calls may be issued by challenge, task and work package leaders as appropriate.

Meeting participants should be appropriate to the topics being discussed. To ensure that meetings are an effective use of time and budget, only those participants whose work will be impacted by the outcomes from the meeting, or who have input to be reported to the meeting should attend and invite lists should be minimised.

The agenda of the meeting should be included within the calling notice. Although the calling notice may be updated later.

Within each meeting a chairperson should be assigned as well as someone to record the minutes and actions from the meeting.

Minutes of the meeting should be taken, and a draft of the minutes should be made available 14 days after the end of the meeting. The minutes should be circulated to all parties concerned for comments or approval, upon issuing the minutes a deadline should be set for the return of comments and in the absence of comments beyond the deadline the minutes are deemed to be approved.

The minutes of meetings should be stored.

Email

Many people may be working on several different Actions and are likely to receive numerous emails every day, therefore, a standard subject title is proposed. This helps to quickly recognise the Action related emails.

Intranet

The Action Intranet will be set up to act as repository for all working documents, minutes and reports. The address of the Intranet will be: [http:// http://urbandatalab.pt/login.php](http://http://urbandatalab.pt/login.php).

Every member of the Action Beneficiaries will have access to the Intranet.

More information about the Intranet will be described in MS 3 - Dissemination and Communication Strategy.

4.2. External communication

External communication is considered towards parties outside the Action Beneficiaries, target groups of the Action, stakeholders and the EU Action Officer.

There will be different mailing lists, which can be found on the Intranet together with the contact list.

The external communication is part of for which NOVA IMS is responsible. More information will be included in the deliverable “Dissemination and Communication Strategy”, due in 31/12/2019 (M4).

The dissemination strategy has the purpose to ensure that the results from the UCD Lab Action are disseminated to end-users and researchers, ensuring the implementation of the products from this Action and that any future or on-going research builds upon and does not duplicate the work already carried out.

The UCD Lab Action aims to disseminate its activities through three main channels: publications, press and publicity, and end user events.

To ensure that a party's intellectual property is protected notice of any publication must be given to the Coordinator at least 15 calendar days before publication, this will then be circulated to all Beneficiaries. Any partner then has 5 calendar days to raise an objection to the publication. Objections are justified if the protection of the objecting Party's results or background would be adversely affected, or the objecting Party's academic or commercial interests would be significantly harmed. The objecting Party must make a precise request for necessary modifications.

In the event an objection is raised the party proposing the publication and the partner objecting will seek to find a solution on a timely basis and the objecting Party shall not unreasonably continue the opposition if appropriate measures are taken following the discussion.

The objecting Party can request a publication delay of not more than 20 calendar days from the time it raises such an objection. After 20 calendar days the publication is permitted, provided that Confidential Information of the objecting Party has been removed from the Publication as indicated by the objecting Party.

Any publications or dissemination activity should also be reported to the WP4 Leader - Communication of results (amgomes@novaims.unl.pt) for logging and for inclusion in the dissemination report.

Publications, Press and Publicity

The UCD Lab Action aims to publish the Action results in world-class academic peer reviewed journals and present the work at international conferences. The aim of such publications is to reach a technical audience of academics and technical specialists within municipalities, disseminating the knowledge acquired during the Action upon which others can build.

End-user events and Communications

The UCD Lab Action will engage directly with a group of end-users, through meetings and workshops and other communications such as newsletters and direct communications. Where possible the UCD Lab Action will aim to co-ordinate end-user events with those of other similar projects.

Communication with the EC through INEA

The Action Coordinator is the official interface with INEA. Therefore, all formal exchanges of information will be processed through the Action coordinator.

Communication to general public and wider audiences

The UCD Lab Action must also communicate to a wider audience and will develop a detailed communication strategy with how to do this and how to communicate with the public and wider audiences.

The UCD Lab Action intends to engage with the EC media tools and promotion through INEA and the INEA website <http://inea.ec.europa.eu>. IT will work with NOVA University press office as well as the press offices of each of the partners to communicate the Action's news events to the general public.

Beneficiaries:

The UCD Lab Action will also engage with social media for communicating to end-users and the wider public.

- Action website

UCD Lab count with an Action website for communicate the Action results to the general public, municipalities and stakeholders. The website includes general information about the Action, its Beneficiaries, and the Action results and achievements, including all the public deliverables.

The website will be regularly updated, and Action related publications, brochures, presentations and any other material, which may be generally distributed, will be available via the public part of the website.

The Action website can be found at <http://urbandatalab.pt>

More information about the website will be described in the deliverable “Dissemination and Communication Strategy”.

- Social networking

Some of the content from UCD Lab website will also have online presence through social media sites and tools such as LinkedIn, YouTube or Facebook. These channels will be used to disseminate the activities and outcomes of the Action.

Dissemination material

Leaflets, brochures, posters, roll-ups, events information, etc., will be elaborated to promote UCD lab results. The materials will be of a high-quality standardised format and will be distributed in the regular dissemination activities. The dissemination materials will be available in English. These materials will be available in the website.

Media-related actions

Press releases, interviews will be undertaken to strengthen the impact of the Action and to reach the widest possible audience within the end-user and the general public. Updated information about these activities will be published in the website.

4.3. General requirements

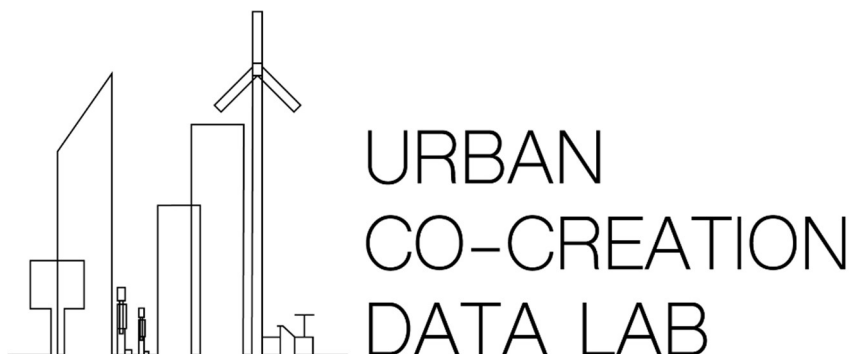
All the communications will indicate that the Action has received funding from the European Union. The following requirements will be considered:

- display the EU emblem;



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- include the Action logo



The Action logo can be found in the Intranet.

4.4. Templates

All public documentation needs to conform the document standards provided by the Innovation and Networks Executive Agency (INEA), available in The Beneficiaries' Info Point (<https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/beneficiaries-info-point>).

All Action templates (deliverables, presentations, document standard) can be found in the Action Intranet.

5. Monitoring and reporting progress

The Action deliverables will mainly be in the form of reports which are presented to INEA as evidence of the work carried out. Although the main product of the task may be a database, document or publicity material, an event or a website, a report will be produced which demonstrates the work carried out and which can be uploaded to the EC Participant Portal.

5.1. Performance monitoring

Progress will be monitored against the following Action milestones, identified in the Grant Agreement (GA), Annex I:

WP/Activity number	Milestone number	Milestone description	Indicative completion date	Means of verification
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MS 1 – Action Management Plan

1	2	Data sets and requirements defined for all 3 cities	31/12/2019	Data sets definition and requirements definition completed and available for all 3 cities
1	4	Service and Use Cases full definition for all 3 cities is ready	30/03/2020	Service and use cases full definition completed and available for all 3 cities
2	6	Data models including refined analytical models (descriptive, predictive and prescriptive models) that support the city's planning and management and 5 analytical services are deployed in HPC	30/09/2020	Analytical models will be disclosed in public via Lisboa Aberta Portal
2	7	HPC resources have been used in order to process the data as required by the Action	30/11/2020	Report of the supercomputing resources (systems/organisations providing the resources and computing hours) that have been used
2	8	Compliance with the Metadata Quality Assurance (MQA) tool for datasets	30/11/2020	Relevant datasets (including metadata) resulting from the action are published on a national portal or catalogue that is harvested by the European Data Portal, under which the MQA can be performed confirmation in the final report submitted to INEA
3	5	Defined methodologies to be followed in all cities' co-creation labs are ready	30/09/2020	Report on Co-Creation Labs is available
3	10	Complete use cases implementation in all cities' Co-Creation Labs	30/09/2021	Report on completed use cases implementation in all cities is available
4	3	Elaboration of dissemination strategy and setting up of dissemination channels	31/12/2019	Dissemination strategy is available
4	11	Final reach assessment	30/09/2021	Final reach assessment report is available
4	12	Final conference in Lisbon	30/09/2021	Meeting report submitted to INEA
5	9	For all services: identification of viable business models and willingness to buy verified	30/07/2021	Report is available
6	1	Action management plan including quality assurance and risk management	31/10/2019	The Action management documentation is electronically available
6	13	Beneficiaries to deliver a demonstration of their Action's results via a remote or onsite meeting with DG CNECT	30/09/2021	Validation email by DG CNECT

For an objective verification of milestone accomplishment, a set of Key Performance Indicator (KPI) has been also identified. Specific KPIs and indicators will be defined for each WP to assess the minimum requirements of achievement to reach the expected impact of UCD Lab.

Beneficiaries:



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MS 1 – Action Management Plan

The table below provides a preliminary list of these indicators, which are specific to the UCD lab, as well as quantified targets to be measured over consecutive periods of six months (maximum interval between measurements).

WP	Key result / output	Key Performance Indicator	Sem1	Sem2	Sem3	Sem4
1	Data sets definition and requirements definition	N.º of data sets and requirements defined	100%			
1	Service and use cases full definition	N.º of services and use cases defined	75%	25%		
2	Data models and analytical services specifications	N.º of data models and analytical services specified	25%	75%		
2	Services HPC configuration report	Report submitted		85%	15%	
2	Lisboa use cases implementation	N.º of use cases implemented		85%	15%	
2	Validation of datasets per service with the European Data Portal	Datasets per service validated			100%	
3	Report on Co-Creation Labs: methodology, framework and technological tools	Report submitted		100%		
3	Report on the legal and regulatory frameworks applicable to open data collection in each city	Report submitted		100%		
3	Report of use cases implementation and performance in each city	Report submitted				100%
3	Recommendations for implementation: handbook for smart cities Co-Creation Labs	Handbook submitted				100%
4	Dashboard to monitor the dissemination and other impact objectives	Dashboard available at the Action web site	100%			
4	Dissemination and Communication Strategy	Dissemination and Communication Strategy submitted	100%			
4	Dissemination material and channels	Amount of material disseminated		20%	40%	40%
4	Dissemination and Communication report, including reach assessment	Report submitted				100%
4	Scientific articles about each analytical model, aiming for presentation in international conferences	N.º of scientific articles presented		20%	40%	40%
5	An exploitation and sustainability plan detailing how the consortium beneficiaries will collectively or individually ensure sustainability of the results	Sustainability plan submitted				100%
6	Action Management Plan, including Quality Assurance and Risk Management	Action Management Plan submitted	100%			
6	Interim progress report	Interim progress report submitted		100%		
6	Final report	Final report submitted				100%

Beneficiaries:

5.2. Reporting progress

The UCD Lab Beneficiaries will use a web-based cooperative workgroup tool as a platform for cooperative work documentation.

Reporting is performed on a two-level scheme:

- Three-monthly - The WP leader submits a brief summary progress report (2-3 pages) to the Coordinator. This includes short information about progress, results obtained (e.g. deliverables) and compliance with the work programme;
- Annually - The WP leader submits to the Coordinator a summary progress report showing the technical work carried out during the year. The Coordinator will prepare a consolidated annual progress report for the EC. Also, every 12 months the Coordinator will prepare a consolidated overview of the budgetary situation of the Action based on the cost's statements from the Beneficiaries.

The coordinator will submit to the EC technical and financial reports with the following periodicity:

- RP1: from month 1 to month 12 (only technical)
- RP2: from month 1 to month 24

6. Risk Management

6.1. Risk Management

The purpose is to identify, evaluate and eliminate or minimize potential risks that may jeopardize the success of the Action. It is a continuous process in which known risks will be regularly reviewed and new risks will need to be recognized to handle and control them adequately.

Their assessment will lead to the formulation of appropriate mitigation measures that should help to prevent and overcome a risk or reduce its effects to an acceptable level. The process behind risk management can be broken down as follows:

1. Risk identification (i.e., recognize and describe risks);
2. Risk analysis (i.e., analyse likelihood and consequences of risks);
3. Risk assessment (i.e., determine magnitude/acceptability of risks for the Action);
4. Risk response planning (i.e., create and execute action plan to prevent or minimize risks);
5. Risk control (i.e., monitor, track and review risks and mitigation actions).

The following basic risk factors may apply to any level of the UCD Lab Action:

	Risk	Action
Complexity	Tasks may be too complex to be realized	Review tasks and scale down Action ambitions
Scope	Number of tasks may be too many for an Action Beneficiaries to realize and/or manage at once	Prioritize and scale down ambitions
Capacity	One or more Beneficiaries may not be able to complete their tasks	Replace defaulting Beneficiaries

MS 1 – Action Management Plan

	without another Beneficiary being able to take over	
Reliability	Action methods and strategies applied could be inappropriate to realize the intended outcomes	Adjust Action methods and strategies
Validity	Outcomes may not reflect the real needs and priorities of the stakeholders	Adjust Action activities and outputs
Sustainability	Action outcomes may not lead to a sustainable outcome	Adjust Action activities and outputs

In more detail, the list of potential risks and corresponding contingency plans, is the following:

Beneficiaries:



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Milestone number	Activity number	Milestone description	Indicative completion date	Description of Risk	Risk level	Proposed Risk Mitigation Measures
1	6	Action management plan including quality assurance and risk management	31/10/2019	Delay in starting the Action activities / kick off meeting	Low	Monitoring and regularly comparing actual and planned achievements
2	1	Data sets and requirements defined for all 3 cities	31/12/2019	Data variety: the required formats and data sources are extremely diverse in terms of formats and structure. Different data sets and data characteristics of the data from the 3 cities	High	Pre-requirements defined in the Data Sheet. Periodic quality control. Adjustment of the objectives of the use cases to address all the individual characteristics of the data from the 3 cities. Close collaboration between the three cities regarding the data sets requirements needed to develop the use cases
3	4	Elaboration of dissemination strategy and setting up of dissemination channels	31/12/2019	Delay on works conclusion	Low	Monitoring and regularly comparing actual and planned achievements
4	1	Service and Use Cases full definition for all 3 cities is ready	30/03/2020	Underestimation of the required effort. The use cases defined don't add value to the municipalities needs	Medium	Monitoring the effort spent and regularly comparing actual and planned achievements, the management team will identify any slippage and ensure that any underestimation of effort is dealt with as early as possible. In the unlikely event of delays or underestimated effort remaining unnoticed for longer periods, the management team in consultation with the EC services - will appropriately adjust the work plan and / or allocated effort. In the definition of the use cases identify clearly if they had value to the municipalities. Evolving of the three cities in the definition of the use cases to harmonize the value deliver of the project

Beneficiaries:

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Milestone number	Activity number	Milestone description	Indicative completion date	Description of Risk	Risk level	Proposed Risk Mitigation Measures
5	3	Defined methodologies to be followed in all cities' co-creation labs are ready	30/09/2020	Underestimation of the required effort	Medium	Monitoring the effort spent and regularly comparing actual and planned achievements, the management team will identify any slippage and ensure that any underestimation of effort is dealt with as early as possible. In the unlikely event of delays or underestimated effort remaining unnoticed for longer periods, the management team in consultation with the EC services - will appropriately adjust the work plan and / or allocated effort
6	2	Data models including refined analytical models (descriptive, predictive and prescriptive models) that support the city's planning and management and 5 analytical services are deployed in HPC	30/09/2020	Failure to meet user requirements. The software functionalities do not meet user requirements (KPIs, data sources, etc.). Difficulties in the integration of the models developed to be deployed in HPC	Medium	Pre-requirements defined in the Data Sheet. Periodic quality control. Definition from the beginning of the project of the technical requirements needed to run the models developed in HPC
7	2	HPC resources have been used in order to process the data as required by the Action	30/11/2020	Difficulties in the integration of the models developed to be deployed in HPC	Medium	Validation challenges the challenge on the part of BCS throughout the development of services. Definition from the beginning of the project of the technical requirements needed to run the models developed in HPC
8	2	Compliance with the Metadata Quality Assurance (MQA) tool for datasets	30/11/2020	Failure to meet user requirements.	Low	Pre-requirements defined in the Data Sheet. Periodic quality control
9	5	For all services: identification of viable business models and willingness to buy verified	31/07/2021	Poor identification of the problem to be solved, i.e. not delivering value added	High	Clear identification of the service, with identification of the value it will generate for the municipality

Beneficiaries:

MS 1 – Action Management Plan

Milestone number	Activity number	Milestone description	Indicative completion date	Description of Risk	Risk level	Proposed Risk Mitigation Measures
10	3	Complete use cases implementation in all cities' Co-Creation Labs	30/09/2011	Datasets from third parties not available. Poor identification of needs	High	Involvement of cities in identifying challenges and data. Participation of cities in Laboratories
11	4	Final reach assessment	30/09/2011	Negative evaluation	Medium	Ensuring the involvement of all in the different stages, in particular in terms of data identification, services/challenges and value of services
12	4	Final conference in Lisbon	30/09/2011	Not guaranteeing the presence of the relevant partners and experts for the Action	Low	Timely event scheduling and regular contact with key entities for event success
13	6	Beneficiaries to deliver a demonstration of their Action's results via remote or onsite meeting with DG CNECT	30/09/2011	Delay on works conclusion	Low	Monitoring and regularly comparing actual and planned achievements

Beneficiaries: