U4IoT Co-Creation Workshop
for
Smart Cities
Carouge (Genève, Switzerland)

Concept paper - 16/03/18 – v1.1

Organizers

Made possible by

Contents

Introduction

In collaboration with the City of Carouge, Mandat International, the Internet of Things Master Programme (MAS-IoT), and SynchroniCity, the Coordination and Support Action (CSA) User Engagement for Large Scale Pilots in the Internet of Things (U4IoT) is organising a four-day Co-Creative Workshop for Smart Cities from the 22nd – 25th of May in Geneva and the City of Carouge.

The four-day programme is structured as follows:
- On May 22-23: 2 days of training, education and capacity-building in end-user engagement methodologies. We will present and review various approaches and methodologies for engaging end-users in designing, developing and assessing new solutions and technologies.
- May 24: 1 day of a co-creation workshop with invited representatives of municipalities in order to collaboratively identify, design and formalize new applications and/or services based on the Internet of Things for Smart Cities. This activity will focus on the needs of the municipalities;
- May 25: 1 day of a co-creation workshop with invited citizens and other stakeholders from the city of Carouge in order to collaboratively identify, design and formalize new applications and/or services based on the Internet of Things that are useful for the citizens. It will focus on citizens' needs and expectations.

The first two days of capacity-building will pave the way for two subsequent practical workshops with local stakeholders. Participants to the first part will help organize the two days of practical workshops with external participants.

The registration to the initial Training Course is tailored for:
- smart city employees and project managers;
- master's students in Internet of Things and/or smart cities;
- European Large Scale Pilots (LSPs) partners

The Training Course will be taught in English. The master's students registered for the Training Course will be invited to support the organizers of the two subsequent co-creation workshops.

The Co-creation Workshop on May 24th will be bilingual - English and French - and will focus on:
- smart city representatives including smart city project managers, public services such as waste management, gardening, security, etc.
- European Large Scale Pilots (LSPs) partners
- master's students in Internet of Things and/or smart cities;

The Co-creation Workshop on May 25th will be in French and will focus on:
- citizens from Carouge
- representatives of local associations

EVENT

The main objective of the event is to educate the participants of the workshop and provide them with tools to create services together with citizens, in this case the inhabitants of the City of Carouge. The challenges presented by the inclusion of the City of Carouge in the SynchroniCity project will be taken as a starting point to explain the possibilities that end-user engagement tools offer and the challenges that will stand central during the last two days of the workshop.

The event is split into three parts:
A) The first two days will focus on learning about end-user engagement and co-creation in IoT projects with the students of MAS-IoT and LSP partners.
B) On the third day, a co-creative workshop will be held with interested Smart Cities and LSP partners.
C) On the fourth day, a co-creative workshop will be held with the City of Carouge, local SMEs and inhabitants of Carouge.

The Master's and Certificates in Advanced Studies on the Internet of Things (MAS-IoT) have been tailored for professionals and future professionals in this domain. The programs are co-organised by the University of Geneva, IoT Forum and Mandat International. Students will be provided with education on the Internet of Things.

U4IoT supports five Large Scale Pilot (LSP) projects that participate in the European IoT-Programme, of which SynchroniCity is one. From the beginning of 2017 until the end of 2019, U4IoT is supporting the projects (SynchroniCity, IoF2020, ActivAge, MONICA and AUTOPILOT) in this programme in actively engaging end-users in their project processes to ensure a more economical, ethical and user-friendly outcome. In addition to the project partners, SMEs also participate in the Open Calls; connected end-user communities and other stakeholders can benefit from the U4IoT tools and support services.

The aim of SynchroniCity is to establish a global IoT marketplace where cities and businesses create and trade common digital services to improve the lives of citizens and grow local economies. A total of eleven cities are participating in this project, among which is the City of Carouge. The City of Carouge has formulated a couple of IoT-related challenges to work on within SynchroniCity. The challenges revolve around themes like sustainability, mobility, public participation and safety.

Part A)
The event starts with two days of learning (capacity-building) about end-user engagement in IoT projects (internet of things). Students from MAS-IOT and Large-Scale Pilot partners are provided with lectures on the history of End-User Engagement and Co-Creation. An overview of different methodologies is provided and benefits and possible constraints are explained.

During the second day, different end-user engagement tools, which are included in the U4IoT End-User Engagement Toolkit, will be introduced and experimented with. Participants are provided with a hands-on experience during which the different tools can be explored. At the end of the second day a training session is provided to give the MAS-IOT students and LSP partners more insight into the organization, facilitation and documentation of a co-creative workshop.

Objectives of the first two days: Participants are provided with insight into the history of end-user engagement and will learn about tools and methods to engage end-users in IoT projects in a meaningful way, while taking into account privacy and sustainability issues.
Target group & participants: MAS-IoT Students and Large-Scale Projects partners (12-25 participants).
Language: English

Part B)
On the third day, creating services for the City of Carouge with LSP partners and Smart Cities representatives stands central, giving the participants a possibility to develop skills in running a co-creative workshop. The workshop is focussed on creating solutions for the challenges formulated by the City of Carouge. The challenges are about improving:

- sustainability through more conscious energy and water consumption and the use of renewable energy.
- the environment through better waste management systems and street cleaning.
- mobility and reducing reliance on cars (traffic problems due to the number of people who come into the city for work, and travel through to get to Geneva).
- public participation and engagement with the city (very few people engage, low voter turnout, and lack of diversity in participation both demographically and by geography).
- public safety and security (problem with anti-social behaviour, graffiti and vandalism).
- water trough depletion or optimize the quantity of water used by the city or the citizens.

At the beginning of the day the challenges are introduced by SynchroniCity and the context is explained by the City of Carouge. The participants are divided into three groups and each of the groups will create a solution for one of the set challenges. Partners from U4IoT will facilitate the workshop and will guide the participants through the workshop. After lunch, each group will present a theoretical concept in the form of an IoT service, interface or physical product. These are then evaluated in smaller groups to discuss how these theoretical solutions can be implemented in the future.

Objectives of the day: In continuation of the co-creative workshop training of the previous day, participants are provided with a hands-on co-creative workshop experience and will create IoT solutions for the challenges of the City of Carouge together with LSP partners and Smart Cities representatives.
Target group & Participants: LSP partners and municipality representatives (3 times 6 participants).
Language: English (with a French interpreter present).

Part C)
The fourth day looks similar to the third day; it revolves around the same challenges as presented above and is also about creating solutions for the City of Carouge. The participants of the workshop differ however. Citizens and local SMEs of Carouge are invited to participate in the workshop being held on the fourth day of the event. The participants are welcomed by the City of Carouge who will also set the context for the co-creative activities. The citizens and local SMEs of Carouge have a lot of knowledge about the city and are key in the creation of meaningful solutions for the challenges set. During the workshop participants will therefore have the opportunity to speak their minds and share their ideas. The objective of the workshop is to gain more insights into their needs and involve them in creating IoT concepts together. The workshop will be hosted in French and the participants will be guided through the workshop with the assistance of a U4IoT facilitator. The theoretical concepts are presented at the end of the day.

Objective of the day: Gain more insights into the needs of the citizens of Carouge and involve them and local SMEs in creating IoT concepts together for the challenges set by the City of Carouge. At the end of the day the created solutions are presented to the city of Carouge.

Target group & Participants: Representatives of the City of Carouge and its inhabitants (3 times 6 participants).

Language: French

A more detailed programme of the four days is provided on the following pages. The full event will be recorded on video, in order to serve as study material for the MAS-IoT students and as reference material in the IoT-Programme.

Registration process

A registration form is available in Lime Survey – an open source survey tool developed by Mandat International. People can subscribe for one or more days of the event by entering their first and last names and their email address. The following links will be used:

English: http://limesurvey.iotlab.eu/index.php/254129?lang=en

French: http://limesurvey.iotlab.eu/index.php/254129?lang=fr

to enable attendees to register for the event.

Part A - Day 1
Capacity Building - Learning

Tuesday May 22nd - Geneva

"An introduction to end-user engagement and co-creation in the Smart City"

On day 1, you will be introduced to the history of end-user engagement and co-creation in the Smart City context. As the day progresses, you will be introduced to the Living Lab Methodology. Living Labs are situated in a real-world context and are used to stimulate user-driven technical innovation. The benefits and possible constraints of the methodology are explained. At the end of the day, you will understand how engaging end-users in IoT projects can lead to more innovative ideas and can be used to create new business opportunities.

Program

11:00 - 11:30 Welcome and Introduction
Municipality of Carouge and Mandat International

11:30 – 12:30 End-User Engagement History and Theory
Luleå University of Technology

12:30 – 13:30 Lunch

13:30 – 15:00 Living Lab Methodology
European Network of Living Labs

15:00 - 15:30 Coffee break

15:30 - 17:00 End-User Engagement in Business Innovation
imec

Objective of the day

Participants are provided with insight into the history of end-user engagement in Smart Cities and will learn about tools and methods to engage end-users (citizens, SMEs, etc.) in Internet of Things projects.

Session 1: End-User Engagement History and Theory

Engaging end-users and citizens in the development of Smart Cities is important not only to support innovations, but also to create a sense of ownership and commitment to the city and its development. In this session, the emphasis is on the growth of end-user engagement and its use for Smart Cities. Here, we will give a historical background of why end-user engagement grew in the first place, why it is important when developing new innovations for smart cities and the potential results that can be expected from it. We will also present and discuss different end-user perspectives and their potential contributions to the development of Smart City solutions as well as to the city as such.

Session 2: Living Lab methodology:

This session introduces a Living Lab approach that guides the planning, execution and evaluation of the Smart City and other projects in a user-centered and co-creative manner. The European Network of Living Labs is comprised of Living Labs that operate as intermediaries between citizens, research organizations, companies, cities and regions for joint value co-creation, rapid prototyping or validation to scale up innovation and businesses. They have common elements but multiple different implementations.

In this session the key elements of Living Labs are presented together with the different phases of the innovation process in a Living Lab context. Practical examples of Living Lab activities are brought up and participants have a possibility to learn about useful methodologies and best practices collected from experienced Living Labs.

Session 3: End-User Engagement in Business Innovation

This session introduces a 2-step approach, developed by imec, to involve end-users and focus on the aspects you need to take into account. In this session, a general flow to involve users is presented together with two methods: panel circles and panel matrix.

Involving users in Open Innovation and (Living Lab) projects requires specific skills and consists of different aspects. Foremost panel management facilitates the interaction between end-users, researchers, instigators/clients and addresses the tension between the different expectations of these stakeholders.

What's **the role of the panel** within the living lab? Which activities do they need to perform? What are **the parameters** of the panel (quantitative vs. qualitative, diversity, timeframes…)? **Who** do we need? **Where** do we find them? **How** are we going to **support & protect** them (recruitment, privacy, helpdesk, rewarding…)

Location : The course will take place in Geneva, venue TBA.

Target participants

Days 1 and 2 will be directed towards Master's students in IoT and/or Smart Cities as well as Large Scale Pilot partners. The expected session size is about 12-25 participants. Participants in Part A will have the opportunity to volunteer at the co-creative workshops on days 3 and 4; simply indicate your interest in the registration form. If in doubt, register your interest first. Part A will be conducted entirely in **English**.

Speakers & Facilitators

Laurent Horvath
Smart City Carouge

Sébastien Ziegler
MI

Anna Ståhlbröst
LTU

Zsuzsanna Bódi
ENOLL

Koen Vervoort
imec

Register here:
English Français

Part A -Day 2
Capacity Building - Learning
Wednesday May 23rd - Geneva

"Experience the use of different end-user engagement tools and participate in a co-creative workshop training for Smart Cities"

On day 2, you will be introduced to several tools that can help you engage and learn from end-users in your project. In the morning you will be able to choose between three parallel sessions: in the first session you will get to know a wide variety of end-user engagement tools and will experiment with some of the tools in order to learn when and how to apply them; the second session demonstrates a tool to 'source the crowd' - this tool helps you to do user research by gathering data and ideas; the third session teaches you about using gamification in end-user engagement activities - the Privacy Game is created to help players explore the rights related to data protection in a playful way which serves as an example. In the afternoon, a Co-Creative Workshop training session provides you with more insight into the organization, facilitation and documentation of such a workshop.

Program

9:00 – 9:30 Welcome and introduction
Municipality of Carouge and Mandat International

9:30 – 12:30 Parallel sessions
        Session 1 - End-user Engagement Toolkit
        European Network of Living Labs and imec
        Session 2 - IoT Lab Crowdsourcing Tool
        Mandat International
        Session 3 - Example of gamification
        Archimède Solutions

12:30 – 13:30 Lunch

13:30 – 17:00 Co-Creative Workshop Methodology training *(including coffee break)*
Stembert Design

Objective of the day
Participants will experiment with different tools and methods to engage end-users in IoT projects, while taking into account privacy and sustainability issues. They will receive training to facilitate a co-creative workshop themselves.

Session 1: End-user Engagement Toolkit

During this session, the U4IoT toolkit., including a variety of end-user engagement tools and methods, will be introduced. Participants will also have a chance to experiment with some of the tools in order to learn when and how to apply them. Specific focus will be given to the panel management methods presented on day 1.

Session 2: IoT Lab Crowdsourcing Tool

In this session, you'll learn how the crowdsourcing tool works, what data can be gained from it, how it can be used to improve IoT services, and how it upholds EU standards on individual privacy.

Session 3: Example of Gamification

In this session, you will learn several examples of serious games and gamification approaches, understanding why these concepts are used more and more as an effective method of education and end-user engagement. Moreover, you will be able to play the Privacy Game developed by Archimède Solutions to raise awareness about privacy in the IoT world.

Session 4: Co-Creative Workshop Methodology training

In this session, you will receive a general introduction to co-creation and be informed about the organization and documentation of a co-creative workshop. By means of a couple of small exercises, you will experience how to work with co-creative tools and receive tips on how to facilitate a co-creative workshop session yourself.

Location : The course will take place in Geneva, venue TBA.

Target participants

Days 1 and 2 will be directed towards Master's students in IoT and/or Smart Cities as well as Large Scale Pilot partners. The expected session size is about 12-25 participants. Participants in Part A will have the opportunity to volunteer at the co-creative workshops on days 3 and 4; simply indicate your interest in the registration form. If in doubt, register your interest first. Part A will be conducted entirely in **English**.

Speakers & Facilitators

Laurent Horvath	Sébastien Ziegler	Ines Vaittinen	Chris Hemmens	Cesco Reale	Nathalie Stembert	Koen Vervoort
Smart City Carouge	*MI*	*ENOLL*	*MI*	*AS*	*SD*	*imec*

Register here:
English Français

Part B - Day 3
Co-Creation Workshop - Municipalities
Thursday May 24th - Carouge

*"Discover ways to create Internet of Things solutions for your own city,
based on challenges set by the Smart City of Carouge ."*

On day 3, participants will be brought together to create Internet of Things solutions based on the challenges set by the City of Carouge. Participants will be able to use this or similar methodologies in their own city. No previous experience in Internet of Things or Smart Cities is required. The challenges that will stand central during the workshop will be introduced by SynchroniCity and the context will be explained by the City of Carouge (road services, urban construction, mobility, water, waste, civic engagement, energy efficiency, renewable energy, etc.). In groups, you will create a concept for the City of Carouge to solve one of the set challenges. You will be guided through the workshop steps and, after lunch, each group will present a theoretical concept in the form of an IoT service, interface or physical product. One of these concepts will be chosen to be evaluated in smaller groups and you will discuss how these theoretical solutions can be implemented in the future. At the end of the day, during two parallel sessions, the results of the co-creative workshop will be further developed by utilizing specific tools from the end-user engagement toolkit to how theoretical solutions can be realized and, in parallel, by mapping the business ecosystem that is necessary to exploit them economically.

Program

9:00 – 9:30 Welcome and introduction
SynchroniCity and U4IoT

9:30 – 12:30 Co-Creative Workshop with Smart Cities *(including coffee break)*
Synchronicity and U4IoT, based on challenges set by the city of Carouge.

12:30 – 13:30 Lunch and Networking with other Cities

13:30 -15:00 Continuation of the Co-Creative Workshop with Smart Cities *(including coffee break)*
Synchronicity and U4IoT, based on challenges set by the city of Carouge.

15:00 – 17:00 Parallel sessions
          Session 1 - End-user Engagement Toolkit and Panel Management
          imec and European Network of Living Labs
          Session 2 – IoT Business Ecosystem Mapping
          imec and European Network of Living Labs

Objective of the day

Participants will develop skills and understanding through shared goals surrounding Smart Concepts instigated by challenges set by the City of Carouge. Topics covered in this situation will be directly applicable to other Smart Cities around the globe. It will also provide an opportunity for participants to network with other Smart City representatives.

Session 1 (parts 1 and 2): Co-Creative Workshop with Smart Cities

In this session you will co-create an IoT concept together with five other participants to solve one of the challenges set by the City of Carouge. You will be guided through the workshop process in comprehensible steps and will receive assistance to visualize and communicate your ideas. No prior knowledge or technological expertise is needed to join this session.

Session 2: End-user Engagement Toolkit and Panel Management

This session is related to the outcomes from the preceding co-creation workshop, utilizing panel management methods from the toolkit to evaluate how these theoretical solutions can be realized in the future.

## Session 3: IoT Business Ecosystem Mapping

Taking the concepts and theoretical solutions developed during the day as a starting point, this workshop addresses them from a business perspective. The participants will map the ecosystem necessary to implement and exploit the concepts and identify barriers and bottlenecks that need to be taken into account when addressing the design challenges defined by the City of Carouge.

Location : The course will take place at Maison Delafontaine, 2e étage,
24 rue Jacques-Dalphin, Carouge, GE.

Target participants

Day 3 will be directed towards Large Scale Pilot partners and representatives from other Smart Cities. The expected session size is about 18 participants working in groups of 6. Participants from Part A will have the opportunity to volunteer at this co-creative workshop to help them understand what it takes to operate it. Standard participants will learn more about taking part in the co-creative process. Part B will be conducted in **English** with an interpreter for **French**.

Speakers & Facilitators
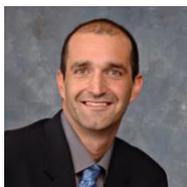
Laurent Horvath	Nathalie Stembert	Ines Vaittinen	Jonas Beurer	Cesco Reale	Koen Vervoort
Smart City Carouge	*SD*	*ENOLL*	*imec*	*AS*	*imec*

Register here:
English Français

Part C - Day 4
Co-Creation Workshop - Citizens
Friday May 25th - Carouge

*"Share your knowledge and create smart city solutions together with
other smart citizens of the City of Carouge"*

On day 4, citizens of all ages and local SMEs from the City of Carouge will be brought together to create or imagine Smart City concepts for the City of Carouge. The workshop is introduced by the City of Carouge who will explain the context and purpose of the workshop. During the workshop you are invited to speak your mind and share your ideas concerning a couple of challenges to improve your city (civic engagement, urban construction, waste management, energy, renewable, safety, mobility, etc.). In groups, you will create a solution for the City of Carouge to solve one of the set challenges based on your own needs and wishes. You will be guided through the workshop steps and after lunch, each group will present a theoretical concept in the form of an IoT service, interface or physical product. The day will be wrapped up with a synthesis of the results from the four-day event. The whole day will be conducted in French.

Program
Full program is hosted in French

9:00 – 9:30 Welcome and introduction
City of Carouge - What are the current challenges of Carouge? (civic engagement, urban construction, waste management, energy, renewable, safety, mobility, etc.).

9:30 – 12:30 Co-Creative Workshop Part 1 with local stakeholders *(including coffee break)*
Synchronicity and U4IoT - Citizens of Carouge and Geneva will share their ideas with local SMEs and try to find tailored solutions for them and the city

12:30 – 13:30 Lunch

13:30 – 16:00 Co-Creative Workshop Part 2 with local stakeholders *(including coffee break)*
Synchronicity and U4IoT

16:00 – 16:30 Report and synthesis
City of Carouge and Mayor of Carouge

Objective of the day

Gain more insights into the needs of the citizens of Carouge and involve them and local SMEs in creating Internet of Things or Smart concepts together for the challenges set by the City of Carouge. At the end of the day the created solutions are presented to the city of Carouge.

Session 1 (parts 1 and 2): Co-Creative Workshop with Smart Cities

In this session you will co-create an IoT concept together with five other participants to solve one of the challenges set by the City of Carouge. You will be guided through the workshop process in comprehensible steps and will receive assistance to visualize and communicate your ideas. No prior knowledge or technological expertise is needed to join this session.

Location : The course will take place at Maison Delafontaine, 2e étage,

24 rue Jacques-Dalphin, Carouge, GE.

Target participants

Day 4 will be directed towards individuals from the city of Carouge at all levels from regular citizen to city manager/engineer. The expected session size is about 18 participants working in groups of 6. Participants from Part A will have the opportunity to volunteer at this co-creative workshop to help them understand what it takes to operate it. Standard participants will learn more about taking part in the co-creative process. Part C will be conducted entirely in **French**.

Speakers & Facilitators

Laurent Horvath
Smart City Carouge

Nicolas Walder
Administrative Council Ville Carouge

Cesco Reale
AS

Register here:
English Français