Co-creation case study from Norway

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1. GENERAL CHARACTERISTICS OF THE CO-CREATION INITIATIVE

Name of the initiative*: Triangulum Project
Start date*: 01.02.2015
Expected end date*: 31.1.2020
Country/ies where partners are based*: NO, UK, NL, DE, CZ, ES but this case study will focus mainly on the efforts made by the partners in NO.
Project budget*: € 29 million for innovative actions (NO: € 6 mill)

Share of budget co-funded by partners: € 4 million (All costs not directly related to innovative actions is funded by the partners, and thus not a part of the overall project budget). Public and research partners receive 100% funding, business partners 70%.

Main focus (please select)*: Other (Research and innovation actions to solve societal challenges related to carbon emissions in cities by integrating ICT, energy and mobility. The goal is to demonstrate sustainable solutions according to best value for money).

Goal and objective of the co-creation initiative

1*. What is the vision of the co-creation initiative? (e.g., stimulating research and discourse about a new model of global governance; platform for outcomes-based innovation to save and improve lives in low-income countries):

The vision and main goal of the project is to demonstrate that the integration of technologies from the sectors energy, buildings, mobility and ICT within one district leads to a significant reduction of energy demand and local GHG emissions whilst at the same time enhancing quality of life, delivering efficient and clean mobility to residents and local workers and providing the basis for economic growth and development.

The aim for co-creation is to extend the triple-helix to a quadruple-helix – to involve the citizens in the decision-making process. By involving users in the process of development and improvement of smart city solutions, connecting civil society ensures that the solutions are demand-driven and contribute towards real life improvement of the city.

Stavanger:
The plan is to apply integrated and sustainable solutions, create cleaner and nicer environment, better living conditions and improve the day-to-day business for Stavanger region´s citizens.

1A. What is the rationale behind the vision of the co-creation initiative?

To deliver state of the art innovations that contribute to profound societal changes, across-sectoral approach is seen to be of highest impact. The intersection between
research, industry, public administrations and the citizens is where needs and demands meet and innovations that answer to real challenges gets an answer.

1B. Was it someone's initiative or was it jointly set by all partners? Please provide details on the mechanisms implemented to co-develop the vision.

It was jointly set among 22 partners, the co-creation process started in the application phase of the project.

1C. Has the vision of the initiative ever been revised? Why?

No, it has been frequently up for review but never changed.

2*. What are the main objectives of the initiative?

2A. Are there plans to commercialise the co-created products and/or services? Please explain.

Yes. The commercial partners will exploit their solutions to the market.

Innovations owned by industry-partners will be commercialised if it is considered to have real market potential.

3. What are the main motivations of the different partners to collaborate in this initiative (e.g., need for finance, competences and skills, network & connections of partners, risk sharing)?

All the above mentioned, and in addition to have the opportunity to demonstrate innovations and to exploit the synergies that appear when collaborating in co-creation. “Bold, smart and collaborative”.

**Functional roles of co-creation partners**

4*. Please fill in the table below with the following information:

4A*. Specify all partners involved in the co-creation process (specifying the number of partners per type)

<table>
<thead>
<tr>
<th>Public Administration</th>
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<tbody>
<tr>
<td>- The city of Stavanger</td>
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<tr>
<td>- Rogaland County including 3rd linked party Kolumbus.</td>
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<tr>
<th>Industry</th>
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<tr>
<td>- LYSE AS</td>
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<td>- Greater Stavanger region</td>
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<tr>
<th>Research</th>
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<tr>
<td>- University of Stavanger including their 3rd linked party NORCE.</td>
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</table>

4B*. Choose the co-creation process project initiator(s)

The project was initiated by “Horizon 2020”. Locally, the city of Stavanger invited the other partners to the co-creation process.
4C*. Specify where partners are located
All the partners listed above, and part of this case-study, are located in the city of Stavanger.

4D*. Specify what are the main activities and responsibilities of partners

<table>
<thead>
<tr>
<th>A. Partners for co-creation</th>
<th>B. Project initiator(s)</th>
<th>C. Location</th>
<th>D. Main activities</th>
<th>E. Financial engagement</th>
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<tr>
<td></td>
<td>Local/regional</td>
<td>National</td>
<td>International</td>
<td>Priorities setting</td>
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<td>Firms: LYSE AS</td>
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<td>Service</td>
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<td>Tele/communications</td>
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<td>Energy provider (District heating, electricity, gas)</td>
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<tr>
<td>Electricity grid (incl. EV charging infrastructures)</td>
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<td>ICT infrastructure</td>
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<td>Research organizations: University of Stavanger</td>
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<td>Public research institutes</td>
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<td>Universities</td>
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<td>Research organizations: NORCE (3rd linked party)</td>
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<td>Public research institutes</td>
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<td>Civil society: Greater Stavanger</td>
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<td>Semi-public body, business development opportunities</td>
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<td>Civil society: Kolumbus AS (3rd linked party)</td>
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<tr>
<td>Public (100% owned by Rogaland County)</td>
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<tr>
<td>Government: Stavanger municipality</td>
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<tr>
<td>Public authorities</td>
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<tr>
<td>Government agencies</td>
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Transnational organizations

Government: Rogaland County
Public authorities X X X X
Government agencies
Transnational organizations

Notes:

5*. Were there any conditions to participate the co-creation initiative? (e.g. amount of funding provided, data sharing conditions, type of expertise, etc.)

Yes. The conditions were set in the “Horizon 2020”-call and Grant Agreement. All the co-creation partners were chosen according to tasks specified in the project-application.

For each co-creation partner, please, provide the following information:

6*. Name of organization and its scope of activities (local/regional/national/international) and website (if available)

**Stavanger Municipality** is an important net importer of workforce for the southern part of the country, with strong influence as employer for more than 200,000 people. The city has been the main centre for the development of Norway as an energy nation for the past forty years. The local Government’s main tasks are related to community development, planning and governance. In addition, the municipality is responsible for a wide range of welfare tasks. SK has around 10,000 employees into 8 service areas and departments. Since 2009 SK has membership in the Covenant of Mayors Agreement and as partner in the Future Cities National Programme. SK is since 2013 associated member of the Eurocities’ environmental and knowledge forum. SK participates in the following programmes; ERRIN, EIP, AHA, IEE, ICLEI and WECP. The city aims at becoming one of Europe’s foremost sustainable cities by integrating ICT, energy and mobility. The city of Stavanger has a long tradition for citizens’ involvement, which is crucial in developing smart, integrated solutions.

https://www.stavanger.kommune.no/en/
http://www.triangulum-project.eu/
https://triangulum.no/?lang=en

7*. Please explain the rationale of involving this partner in the co-creation project

Main initiator in Stavanger.

8*. Please explain the role and main responsibilities of this partner in the co-creation project

The city of Stavanger serves as a project manager and general coordinator between local consortia/quadruple helix in the Stavanger region. The municipality is also in charge of tasks within energy and ICT.

9*. What is the financial engagement of this partner in the co-creation initiative (i.e. what is the share of funding they provide overall and for each of the activities of the co-creation project)?
100% financed by EC.

**Rogaland county**

6*. Name of organization and its scope of activities (local/regional/national/international) and website (if available)

Rogaland county is responsible for the county policies within the following fields: secondary education, cultural affairs, communications and transportation, dental care, economic development and regional planning, including the development of the road system. Within a Smart City context, the change towards more sustainable mobility and transportation is of special interest for the County Council.

7*. Please explain the rationale of involving this partner in the co-creation project

The county is in charge of all public mobility services within the region, and therefore a necessary partner regarding all mobility aspects.

8*. Please explain the role and main responsibilities of this partner in the co-creation project

Main tasks are as public partner and initiator of demonstration projects, mainly within mobility. The county purchased and tested five e-buses in regular traffic to gain knowledge on the use and operational specifications. The testing of mobility system in the local conditions is necessary when developing the future transport needs and the mobility fleet to achieve the aim of being fossil free by 2024.

9*. What is the financial engagement of this partner in the co-creation initiative (i.e. what is the share of funding they provide overall and for each of the activities of the co-creation project)?

100 % funded by the EC.

https://www.rogfk.no/

**LYSE AS**

6*. Name of organization and its scope of activities (local/regional/national/international) and website (if available)

Lyse AS is a Norwegian industrial group based in Stavanger working within the fields of energy as energy provider, and owner of the energy grids. Lyse holds a nationally leading position within fibre-optic broadband with operations in renewable energy production and distribution. This gives LYSE a unique position to participate in a Smart City context.

7*. Please explain the rationale of involving this partner in the co-creation project

Lyse has products and actions that covers all three aspects of the project, Energy, ICT and mobility. As industry partner they also have an international potential which will be exploited to the European market.

8*. Please explain the role and main responsibilities of this partner in the co-creation project

Main tasks are as an industrial partner in demonstrations within ICT, energy efficiency and mobility.
9*. What is the financial engagement of this partner in the co-creation initiative (i.e. what is the share of funding they provide overall and for each of the activities of the co-creation project)?

70% funded by the EC.

https://www.lyse.no/english

* University of Stavanger

6*. Name of organization and its scope of activities (local/regional/national/international) and website (if available)

University of Stavanger, Norway, has app. 12000 students and 1,600 faculty, administration, research and service staff. CIPSI is a research centre for IP-based Service Innovation. Hosted at the University of Stavanger, CIPSI core competences are in the fields of integrated operations in the energy sector, energy optimisation for buildings and open spaces, processing of smart grid data, health data, remotely controlled systems for smart homes, distributed storage and secure cloud computing.

7*. Please explain the rationale of involving this partner in the co-creation project

The university as an academic institution has a valuable expertise when transforming innovative actions to concrete results, related to societal challenges and opportunities on further research in the urban context.

8*. Please explain the role and main responsibilities of this partner in the co-creation project

Main tasks are in Data Monitoring, Data Storage, Data Analysis and Impact Assessment.

9*. What is the financial engagement of this partner in the co-creation initiative (i.e. what is the share of funding they provide overall and for each of the activities of the co-creation project)?

100% funded by the EC

https://www.uis.no/?lang=en_GB#Studies

https://www.uis.no/research-and-phd-studies/research-centres/cipsi-centre-for-ip-based-service-innovation/

* Greater Stavanger Region

6*. Name of organization and its scope of activities (local/regional/national/international) and website (if available)

Greater Stavanger Economic Development is the economic development agency of the Stavanger region in Norway. The organisation is a think-tank, a networking hub and is responsible for the regions' international relations in areas of economic interest. Greater Stavanger consists of 16 partner municipalities and Rogaland County Council.

7*. Please explain the rationale of involving this partner in the co-creation project

The Greater Stavanger Economic Development agency was involved because of their network of 16 neighbouring municipalities to communicate and disseminate the project results.
8*. Please explain the role and main responsibilities of this partner in the co-creation project

Greater Stavanger’s main task is to spread information and communicate the Triangulum within the Stavanger region. Greater Stavanger contributes to the communication of the impacts of the project more generally.

9*. What is the financial engagement of this partner in the co-creation initiative (i.e. what is the share of funding they provide overall and for each of the activities of the co-creation project)?

70% funded by the EC

http://greaterstavanger.no/eng

2. MANAGEMENT STRATEGY

10*. Who is responsible for co-creation process management?

Q10A*. Was a steering group or advisory committee set up? If so, please provide details on its role and frequency of interactions.

- Local consortium steering committee consisting of one representative from each of the five local partners.
- Advisory groups on legal, financial and communication matters.
- Management group of project coordination and day to day administrative tasks.
- Stakeholder group, advisory group with top executives from each of the five partner organisations.

11*. What is the frequency of interaction between co-creation partners? (please select)
If necessary / Once every few months / Several times a month / Regularly

Q11A*. Please describe the nature and frequency of interaction between all couples of partners

- Stakeholder group meets when necessary (at least yearly).
- Local consortium steering committee meets regularly and quite frequent. In average once every month.
- The project steering committee (consisting of city coordinators and work package leaders) monthly.
- A General assembly is held yearly, and is mandatory for all 22 partners.

12*. What are the main means of communication among co-creation partners? (Please choose all appropriate answers)

a) Official meetings including site visits at the end of the reporting period (quarterly, yearly)
b) Sharing of newsletters, documents, reports, publications

c) Digital tools (e.g., email communication, conference calls, internet platforms such as social media)

d) Conferences, workshops, webinars etc. engaging external stakeholders

e) Personal meetings

All the above on different stages and frequency. Emails on a daily basis, conference calls monthly, conferences and workshops of different sizes and targeted at different audiences a few times a year. Newsletter are sent a few times a year, other documents and publications are distributed both within the consortium and to the public. Webinars are held app quarterly.

13. Is there a partnership agreement for the co-creation initiative? Yes / No (go on to question 13C)

13A. Is the agreement formalised? Yes / No

13B. Please specify the type of the agreement:

a) Legal agreement

b) Memorandum of understanding

c) Other (please specify):

13C. Are legal issues related to the ownership of jointly developed IPRs settled in a partnership agreement?

Yes, as part of the consortium agreement.

13D. In case there is no agreement, please explain how partners’ activities are coordinated

N/A

14A*. Who is the owner of data from the co-creation initiative?

Each partner owns their own data

14B*. Who is the owner of IP from the co-creation initiative?

Each partner owns IP within their tasks/deliverance

15*. How is the process of accessing research results (for partners) organized?

Through papers and final reports.

16*. How do you set the balance between data sharing and IP protection?

Only open data are shared.

17. Is public access to either co-creation results or products granted?

Yes.

18*. What types of intellectual property (IP) protection mechanisms are used (e.g., patents, trademarks, industry design, utility model, complexity)?

All the above. IPR issues are strictly regulated in the legally binding consortium agreement.
18A*. What types of IP are more important for your co-creation processes?

Personal data through citizen involvement.

3. PROJECT EVALUATION

19*. Are milestones and key performance indicators (KPIs) set for the co-creation initiative?

If YES,

19A. Are they settled in a partnership agreement?

KPI’s is formed as description of actions in the agreement. Data collecting from each task to monitor effect, progression and provide baselines for further exploitation. Eg policies, measures taken to simplify the innovation for citizens etc. (Work package 2 – multilevel impact assessment and monitoring)

19B. Are they essentially qualitative or quantitative? Qualitative / Quantitative

Both.

19C. Please provide the main KPIs (provide up to 5 indicators)

Carbon reduction
Energy efficiency and Annual energy costs
Reduction of energy consumption
total number of annual run km (e-bus compared to fossils fuelled bus)
mean of time pr. charging event e-buses
total transport savings/yr. by use of innovative video
Publications (scientific papers)
Open data sets

20*. At what stages is the evaluation implemented? (Please choose all appropriate answers): Ex-ante / Interim / Ex-post/ No evaluation procedure

For each evaluation stage, please, provide the following information:

20A. What approaches are used?

Technical and periodic reports are made within a certain period (Interim). A review meeting between the project partners and the EC is held shortly after the submission of each report. The final report evaluation process and exploitation plan is processed after the end of the project (Ex-Post).

20B. What types of data are used?

Financial and technical data.
20C. How is the evaluation process organised? Who is responsible for it? Are there any external evaluations conducted?

Evaluation is organised by EC/INEA and all consortium partners.

Review meeting

Financial audit/revision

21. Are the evaluation results open (e.g. published on the website, reports, structured databases, etc.) or closed (used only for the internal goals)? If they are open, please specify.

A publishable summary of each periodic report is open and accessible in EC-portal/website.

All reports are confidential - only for internal use within the project consortium and EC/INEA.

A report on smart city framework, smart city decision making tool, ICT reference architecture, and implementation strategies for follower cities are public.

22. What are the implications of any evaluations conducted so far (e.g., revision of KPIs; suspension or termination of funding; penalties and rewards associated to performance)? Please explain.

Amendments of the original description of action. Withholdings or termination of funding are measurements stated as penalties in the agreement in case of not delivering according to plan.

23. What are the key success factors of this co-creation initiative?

Trust between local partners.

Support and strong ownership and engagement from local stakeholders, politicians, regional partners as well as personnel working on the project.

An egalitarian approach to decision-making has been crucial for both cooperation and motivation for the co-creation. This non formal method characterised both the initial phase as well as the implementation- and evaluation phase.

The establishment of a solid and skilful project management.

24. Were there any challenges during the co-creation process? Please provide details and explain what caused them.

IPR

GDPR

Communication

Technology outdated (technological innovations develops rapid)

25. Based on your experience, what would you recommend to a new co-creation initiative for it to be successful? Please explain the main lessons learned from your experience.

- Trust among all partners
- Legal support
- Financial security for use of resources (also human resources)
- Frequent meetings in persona
• Openness within the consortium. Too much information is better than too little.
• Short and direct communication- and decision-making channels
• Shared ownership in responsibility of the project in order to reach common goal
• Facilitating connections between all project partners
• Must find the right balance point between utility, security and speed.
• Establish solid and skilful project managements

4. THEMATIC FOCUS

Please select one of the two themes below and answer the corresponding questions:

Theme 1. Co-creation’s contributions to digital innovation and AI and effects of data sharing

Please explain:

• What are the ways in which the co-creation initiative features digitalization and AI? Please provide examples.

• What are the roles of stakeholders? Are they different from traditional ones? Please provide examples.

• How are data sharing and intellectual property protection organised? Please provide details.

• What are your best practices? What would you recommend to a new co-creation project involving digital innovation and AI?

Theme 2. Effective involvement of NGOs and civil society at addressing societal challenges

Please explain:

• How are civil society and NGOs engaged in the co-creation initiative? Provide examples.
  • Co-creation processes like the design of e-buses
  • Raise awareness among citizens

• At which stages of the co-creation process (e.g. priority setting, research, design, experimentation and development, commercialisation, product launch) is the interaction most intensive? Please explain
  • Design and commercialisation.

• What tools do you use to gather inputs from civil society (e.g. online surveys, social media, organised workshops)?
  • Social Media
  • Traditional media (papers etc)
  • Partners webpages in addition to official project webpages
  • Workshops
  • Participation at national and international conferences and expos
  • Other Events and networks
o Direct contact according to goal (eg high schools for the design-contest and stand at regional events)

- Are there mechanism in place to address possible conflicts of interest? Please provide details.
  o Risk management and tools like risks-tables, and possible mitigations stated.
  o Legal agreement signed by all partners

- Was the participation of civil society and NGOs in the co-creation project useful for you? Why?
  o Yes, both when it comes to knowledge and collaboration as wider impact.
  o Ripple effects not foreseen and significant change of mindsets as a new platform towards the green shift (Game changer).

- What are your best practices? What would you recommend to a new co-creation project involving civil society or NGOs?
  o Be present
  o Involve and include the citizens as much as possible – especially if the citizens are the end-users or affected by the co-creation initiative.

5. POLICY CONTEXT

26*. Was the initiative supported by a specific policy initiative? If so, please provide details on the policy initiative and type of support provided (e.g. amount of funding, conditions of support, selection criteria, reporting obligations, etc.).

The policy initiative is supported by the city council.

The project is funded by the EC framework programme Horizon 2020, smart cities and societies. Since a considerable amount of resources is needed from the local partners, it was crucial to gain support from local policy bodies. A stakeholder group consisting of the top executives of each partner organisation is supporting the project.

27*. What are the factors (e.g. related to regulations, policy, business environment etc.) supporting and/or hindering co-creation in your country? Please explain.

None.

28*. What do you think are most effective types of policy support for co-creation?

Trust and dedication

The stakeholder group and their organisation wanting and facilitating co-creation. They see the added value and possibilities coming from co-creation processes and work-methods.

Legal framework/agreements to secure interests of the partners involved. Legal support to form the agreements.

Funding to minimize economic risk for partners involved. Balance between funding and ownership. Funding creates co-creation processes, but not necessarily dedication to see the project through. A certain amount of risk for the partner secures ownership.
------- THANK YOU VERY MUCH FOR YOUR TIME -------

Name: Gerd Seehuus  
E-mail: gerd.seehuus@stavanger.kommune.no  
Location (country): Norway  
Affiliation: The city of Stavanger  
Your role in the co-creation process: Local coordinator of the Triangulum project 
Your main activities in the co-creation process: coordination, administration, planning