



**TIP Working Party  
CO-CREATION PROJECT  
2019-2020**

**Case study from Norway**



**Triangulum project - the Lighthouse City Stavanger**

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## 1. GENERAL CHARACTERISTICS OF THE CO-CREATION INITIATIVE

**Name of the initiative\*:**

Triangulum Project [https://www.triangulum-project.eu/?page\\_id=82](https://www.triangulum-project.eu/?page_id=82)

The three-point project Triangulum is one of 17 European Smart Cities and Communities Lighthouse Projects, set to demonstrate, disseminate and replicate solutions and frameworks for Europe's future smart cities. The Lighthouse Cities Manchester (UK), Eindhoven (NL) and Stavanger (NO) serve as testbeds for innovative projects focusing on sustainable mobility, energy, ICT and business opportunities. The project consortium combines interdisciplinary experience and expertise of 22 partners from industry, research and municipalities who share the same objective and commitment to develop and implement smart solutions in order to replicate them in the three follower cities Leipzig (D), Prague (CZ) and Sabadell (ES) as well as in the Observer City Tianjin (CHN).

The overall budget of Triangulum is 29 million Euros (2015-2020). The European Commission funding (Horizon 2020) totals 25 million Euros.

By now, the majority of the implementation projects in the three Lighthouse Cities have been completed and the monitoring and impact assessment has started with data being stored at the central Cloud Data Hub. To this point, Triangulum exhibits 29 solution modules and 69 use cases addressing the individual challenges and requirements of its Lighthouse Cities and involved stakeholders.

This case study focuses on the city of Stavanger, with its 5 co-creative partners (<https://triangulum.no/?lang=en>), the municipality of Stavanger, Rogaland County Council, LYSE AS, The university of Stavanger and Greater Stavanger AS. The collaboration is established as a triple-helix, with the aim of a quadruple-helix as much as possible.

In addition to the solutions being implemented, the project has resulted in several not foreseen impacts and spin-offs such as the Stavanger Smart City Roadmap and further on the Stavanger Smart City office being established, the development of the biggest smart city expo in the Nordics – the Nordic Edge Expo, and the partners' engagement in later EU-funded projects.

**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 \*:** €25 million for innovative actions is the overall Triangulum project funding – that is all cities and workpackages (Stavanger partnership: € 6 mill). Total budget €29mio.

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 (Innovation actions to solve societal challenges related to carbon emissions in cities by integrating ICT, energy and mobility. The goal is to demonstrate sustainable innovative (first of a kind) solutions by use of renewable energy

sources, at least a reduction 75% GHG-emissions, energy efficiency and deliver within the timeframe given (implementation 3 years/monitoring 2 years) and 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.

Aim of the city of Stavanger when deciding to go forward with the application.

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 and the public and private sector.

#### **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 importance. The intersection between research, industry, public administrations and the citizens is where needs and demands meet and innovations that answer to real challenges is developed.

**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?**

The primary objectives and expected impacts are to demonstrate innovative solutions combining energy, mobility and ICT, to lower the GHG-emissions, energy efficiency by smart devices to improve society inclusiveness and quality of life for people with limitations on movement outside their residence, clean public transport, and less use of cars by shift of mobility solutions to walking and biking, improve health perspective and create jobs.

**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, but this is not part of the project.

Innovations owned by industry-partners will be commercialised if it is considered to have real market potential. Not part of the project.

**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)**

Public Administration

- The city of Stavanger
- Rogaland County including 3<sup>rd</sup> linked party Kolumbus (Kolumbus AS is the mobility provider in Rogaland region. It is owned 100 % by the Rogaland County Council).

Industry

- LYSE AS with 4 subcontractors
- Greater Stavanger region (16 neighbouring municipalities)

Research

University of Stavanger including their 3<sup>rd</sup> linked party NORCE ( NORCE – Norwegian research Centre AS. It is owned mainly by The Norwegian Universities in Bergen, Stavanger, Agder and Tromsø).

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

The project was initiated by “Horizon 2020” when searching for the lighthouse smart cities and communities (SCC1) specific call. The organisations involved in the project agreed to apply for the call together and were all linked together from before. E.g the Stavanger-region’s office in Brussels had a close contact with Eindhoven-regions Brussels office. Manchester had contacts within Fraunhofer IAO research organization and follower cities were suggested from each of the lighthouse cities and invited to join.

Locally, the city of Stavanger invited the other partners to the co-creation process and wrote their part of the application. A process of cocreating the common parts and joint objectives of the application was done during 3 joint workshops in Stavanger and Eindhoven. Fraunhofer IAO as main coordinator was responsible for placing the proposal to the EC: Share of funding was based on cocreation and each partners need to perform their tasks.

**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**

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The matric below was made during one of the co-creation workshops in the proposal-writing/ application phase (serves here as one example only).

	A.	B.	C. Location			D. Main activities						
	Partners for co-creation	Project initiator(s)	Local/regional	National	International	Priorities setting	Research	Designing products	Experimentation and development	Commercialization / Support (marketing, consultancy, etc.)	Product launch	Financial engagement (share of funding, %)
<b>Firms: LYSE AS</b>												
Service	X	X	X	X				X	X	X	X	
Tele/communications			X	X				X	X	X	X	
Energy provider (District heating, electricity, gas)			X					X	X	X	X	
Electricity grid (incl. EV charging infrastructures)			X					X	X	X	X	
ICT infrastructure			X					X	X	X	X	
<b>Research organizations: University of Stavanger</b>												
Public research institutes												
Universities	X	X	X				X		X			
<b>Research organizations: NORCE (3<sup>rd</sup> linked party)</b>												
Public research institutes	X						X		X			
Universities												
<b>Civil society: Greater Stavanger</b>												
Semi-public body, business development opportunities	X	X	X									
<b>Civil society: Kolumbus AS (3<sup>rd</sup> linked party)</b>												
Public (100% owned by Rogaland County)	X		X									
<b>Government: Stavanger municipality</b>												
Public authorities	X	X	X			X						
Government agencies												
Transnational organizations												
<b>Government: Rogaland County</b>												
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.

WP7 (led by Steinbeis Europa Zentrum),dissemination and communication, all partners contributed

Data sharing conditions; open data according to data management plan, facebook, linkedIn and twitter as communication channels

Type of expertise; various

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 10000 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 WCEP. 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. The local partnership has a crosscutting joint group of communication advisors, to dive deep into the cocreation field – in cooperation with WP7, communication and dissemination

**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 in cooperation with third partner KOLUMBUS, the regional busoperator. 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. Member of POLIS.

#### **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 AS has products and core 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. Big data tasks involves both researches, students, PhDs and engineers, led by the CIPSI center. Big data from the entire project are processed.

**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/?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?

The management of the co-creation process in the Stavanger region is led by a coordinator team within the municipality of Stavanger. The above mentioned group of communicators from all local partners dive into the communication and dissemination tasks I close cooperation with WP7, led by Steinbeis Europa Zentrum.

### 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 (Stavanger Municipality, Rogaland County, LYSE AS, University of Stavanger, and Greater Stavanger AS).
- Advisory groups on legal, financial and communication matters, each consisting of 1 representative from each of the local five partners.
- Management group of project coordination and day to day administrative tasks. (Municipality of Stavanger).
- Stakeholder group, advisory group with top executives from each of the five partner organisations.
- All these local groups are coordinated by the local coordinator at the Municipality/city administration.
- The steering group of the entire lighthouse project, consists of the local coordinators from the 3 lighthouse cities, the main coordinator (Fraunhofer), the taskleaders from WPs on monitoring, replication and communication.

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

The frequency of interaction between the partners is regularly and at least several times a week depending on the stages of development throughout the project.

### 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.

- Local crosscutting group of communication meets regularly, at least 4 times a year, and is represented in the local consortium steering committee.
- 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, in connection with General Assemblies/review meetings etc
- 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**

**13A. Is the agreement formalised? Yes**

**13B. Please specify the type of the agreement:**

Legal agreement

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

Yes, as part of the consortium agreement. Confidential. Project results are accessible at the project webpage ([https://www.triangulum-project.eu/?page\\_id=119](https://www.triangulum-project.eu/?page_id=119))

**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/deliverable

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

Through papers and final reports available at project webpage.  
[https://www.triangulum-project.eu/?page\\_id=119](https://www.triangulum-project.eu/?page_id=119)

**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. Results open to public is found here: <https://cordis.europa.eu/project/id/646578/results>

This page is updated once the latest report is approved by the commission. The fact sheets gives an understanding of the solutions implemented within the project: [https://www.triangulum-project.eu/?page\\_id=4663](https://www.triangulum-project.eu/?page_id=4663)

Or for scientific publications:

[https://www.triangulum-project.eu/?page\\_id=4269](https://www.triangulum-project.eu/?page_id=4269)

The Stavanger consortium presents its solutions and the impact the project has made through a local website: <https://triangulum.no/?lang=en>

**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?**

Protection of Personal data through citizen involvement. You need trust and transparency to engage them and to get them involved willing to participate.

### 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: To reduce carbon emissions by at least 75% compared to baseline.

Energy efficiency and Annual energy costs: The central energy plant saves energy costs by efficient use of energy. KPI compared to baseline.

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. “Blink” by LYSE AS is a ICT solution that can be fitted with two-step authentication for users such as doctors and patients and in other settings with sensitive information. The solution communicates between smartphones, tablets and other screen devices such as the TV.

Publications (scientific papers) (number of)

Open data sets (number of)

**20\*. At what stages is the evaluation implemented? (Please choose all appropriate answers):** Interim / Ex-post/

Evaluation is done after each periodic reporting period (3) via review-meetings led by the project officer (INEA) and an external expert, both on finance and deliveries. End evaluation is done after the project by EC/INEA.

**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).

Technical reports: Delivered in months 12, 24, 36, and 48.

Periodic reports: Delivered in month 18, 36, 48 and 60 of the project period.

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 communication, smart city framework, smart city decision-making tool, ICT reference architecture, and implementation strategies for follower including examples of “use-cases” are public.

One of the solutions are the Municipal Central Energy Plant running on renewable energy and reducing CO<sub>2</sub> emissions by 88%.

(<https://www.stavanger.kommune.no/samfunnsutvikling/prosjekter/triangulum/energisentralen/>). The Stavanger Energy Plant is on the EC innovation Radar.

**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. Stated in the grant agreement and consortium agreement. Conducted when needed. Confidential.

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

Trust and transparency 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. In Stavanger this was done by the municipality.

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

IPR Intellectual Property Rights. Even though clarified in agreement, the understanding isn't always clear in all cases for all. IPR is not always a question on black or white but how you see the grey colours. Matters and cases are confidential, and we can not provide any further details.

GDPR – General Data Protection Regulation was introduced after the project start and contributed to some challenges concerning data collection.

Communication – Communication is always a challenge when several partners from different cultural backgrounds and with different interests cocreates and works together. This shouldn't be seen as a barrier, but a challenge to be aware of throughout the project. Frequently efforts within “teambuilding” is a positive measurement to assure all partners interpret communication positively.

Technology outdated (technological innovations develops rapid) The rate of development and complexity of technology means that the ideas in the original proposal were no longer relevant or needed to be re-thought during delivery. This is an inevitable issue when working with any technology

**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 – cultural matters
- Openness/transparency 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 - inclusiveness
- Must find the right balance point between utility, security and speed.
- Establish solid and skilful project managements – building inhouse expertise

- Anchorage in each of the parties is fundamental, to provide the best resources needed to fulfil the tasks.

#### 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. The county council, being responsible for both transport and high schools, arranged a competition of designwork for the buses at the high schools together with a street art festival (NuArt). The aim was to involve citizens in the process and to create positive awareness of the project at the same time. Over 100 designs were delivered after 6 weeks, and a jury chose 7 finalists among them. These suggestions were published in the local newspaper, and the citizens voted for which design they preferred. 22 000 voted, which is not a bad number for a city with 130 000 inhabitants. In addition, the buses were unveiled in a ceremony at the main square in the city, where cakes and coffee were handed out to the citizens. Well documented at the project's webpage.
  - Raise awareness among citizens and other organisations both about the project as well as the issues like carbon emissions, energy savings, and other positive impacts of the solutions implemented.
  - More examples to be found at the webpage and the public project summary and final communication report
- **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, communication and commercialisation. The co-creation are long processes and sometimes parallel timeframes, involving a lot of people and expertise from different fields. The process and the product evolves during the process to find the best result able to answer to the main objectives and demands of the project and show innovations able to last in the future.

- **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
  - Direct contact according to goal (eg high schools for the design-contest and stand at regional events)
  - <https://triangulum.no/about-triangulum/?lang=en>
- **Are there mechanism in place to address possible conflicts of interest? Please provide details.**
  - Risk management and tools like risks-tables, and possible mitigations stated.
  - Legally binding consortium agreement signed by all partners and developed as a cocreation process (version 10 was accepted and signed by all parties)
  - Trust and transparency beyond cultures, gives the opportunity to discuss these matters in the open.
- **Was the participation of civil society and NGOs in the co-creation project useful for you? Why?**
  - Yes, both when it comes to knowledge and collaboration as wider impact.
  - Ripple effects not foreseen and significant change of mindsets as a new platform towards the green shift (a regional Game changer).
  - In Norway this has a long tradition of cooperation, cocreation and trust. Simply to build further on what is already a normality in well established triple helix constellations.
  - The challenge is to directly involve the citizens – and there is also a need for them being wiling to participate actively. Citizens also need to engage themselves to contribute when the initiatives appear, “take the chance when it is there”...
- **What are your best practices? What would you recommend to a new co-creation project involving civil society or NGOs?**
  - Be present.
  - Involve and include the citizens as much as possible – especially if the citizens are the end-users or affected by the outcomes and products of the co-creation imitative.

## 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. 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.

The project is funded by the EC framework programme Horizon 2020, Lighthouse in the Smart Cities and Communities call (SCC1/2014). Fraunhofer IAO as the main coordinator applied on behalf of all partners (22 from 6 countries). The application process was also a co-creation process to create the joint proposal.

**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, motivation 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.

----- CASE STUDY AUTHOR -----

Name: Gerd Seehuus

Location (country): Norway

Affiliation: The city of Stavanger

Your role in the co-creation process: Local coordinator for the Stavanger partnership of the Triangulum project

Your main activities in the co-creation process: coordination, administration, planning, co-designing when needed, branding the city and the partners at different occasions, motivating, engaging and supporting the partners to continue over the finishing line – and beyond the frame of the project.