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Limerick · Trondheim · Alba Iulia · Písek · Sestao · Smolyan · Võru

# Growth and replication of PED sites in urban environments

Sustainable Places 2020 | Workshop: Smart Cities and Communities – Positive Energy Districts | 27.10.2020

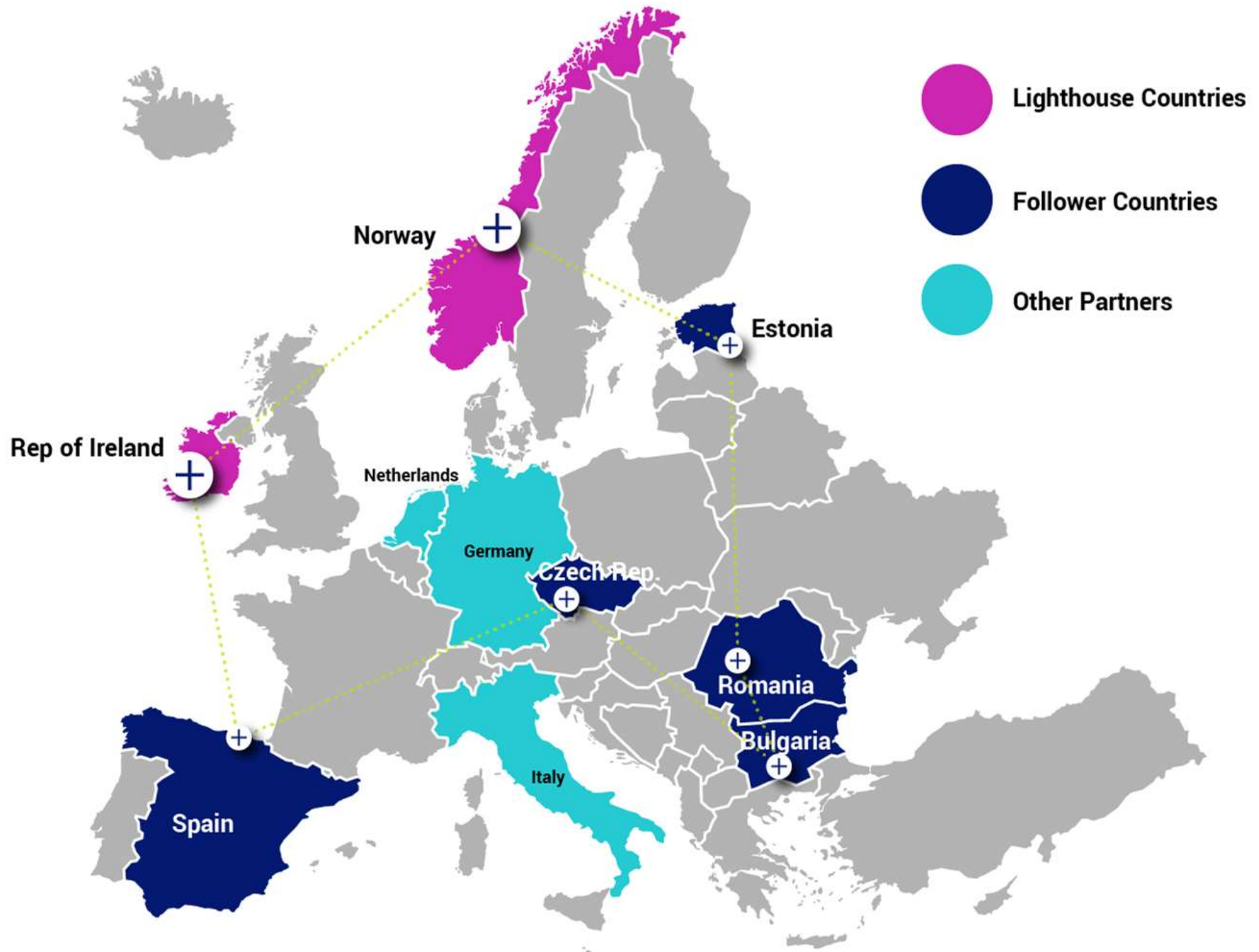
Dr. Dirk Ahlers

NTNU – Norwegian University of Science and Technology  
<https://cityxchange.eu/> | <https://www.ntnu.edu/smartcities>

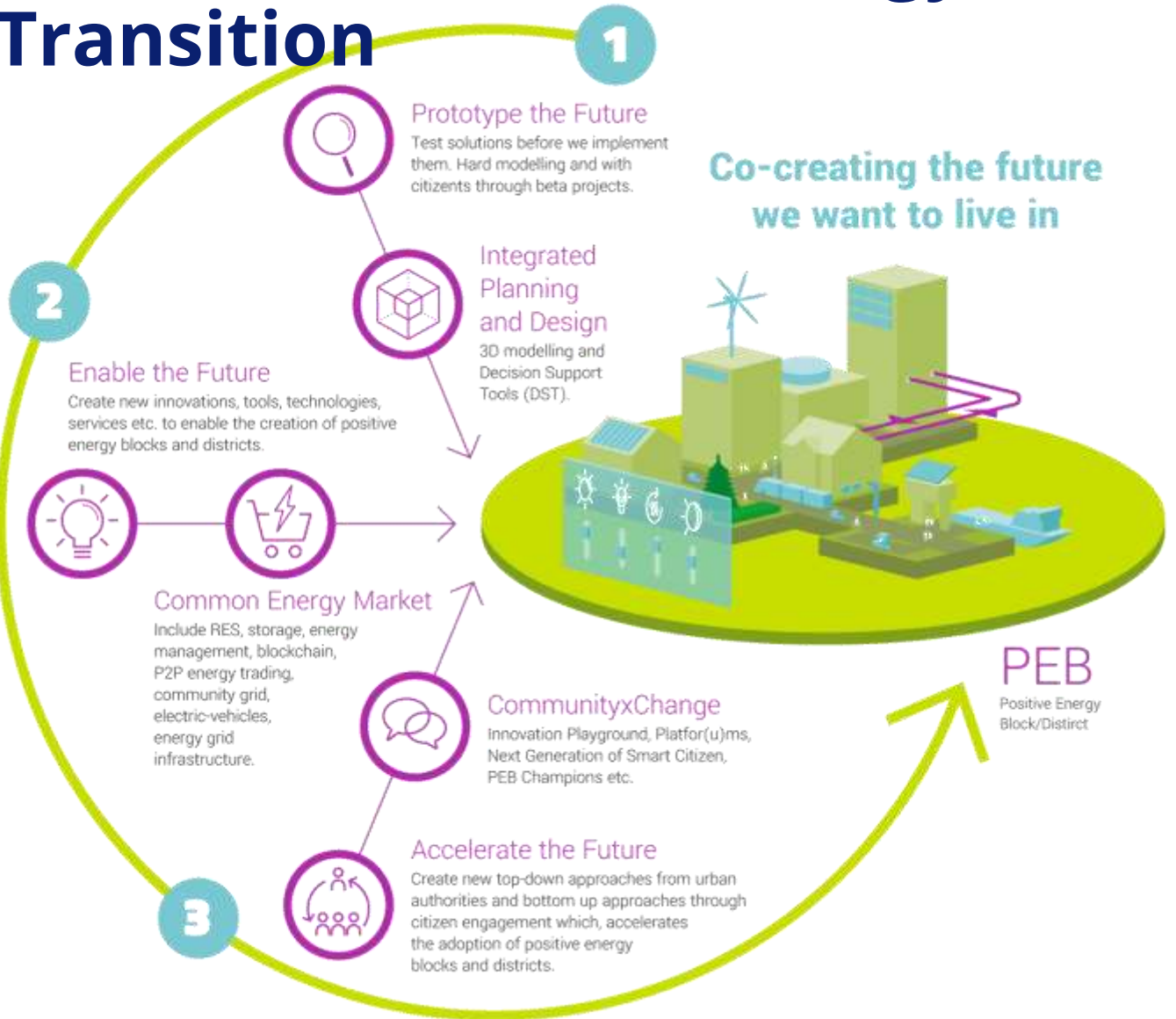
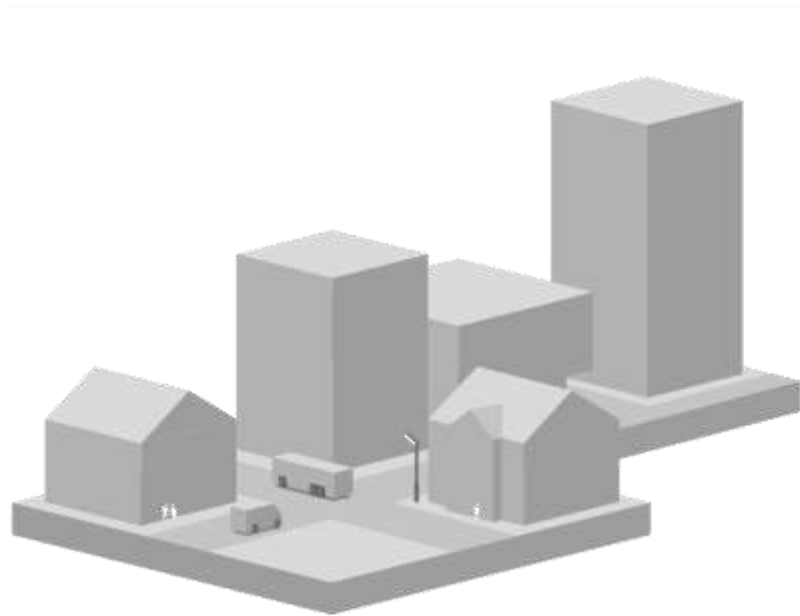


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824260.

# Cities

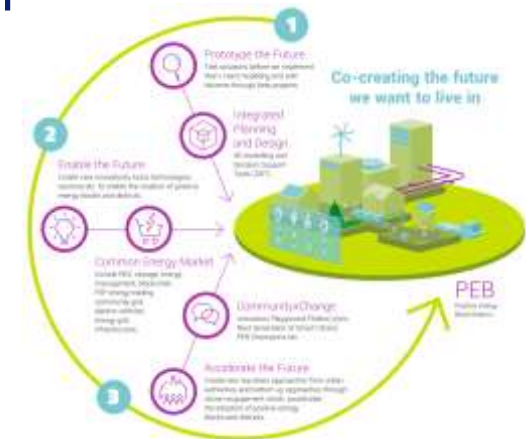


# City-Driven System Transition to Positive Energy Blocks & Local Energy Transition

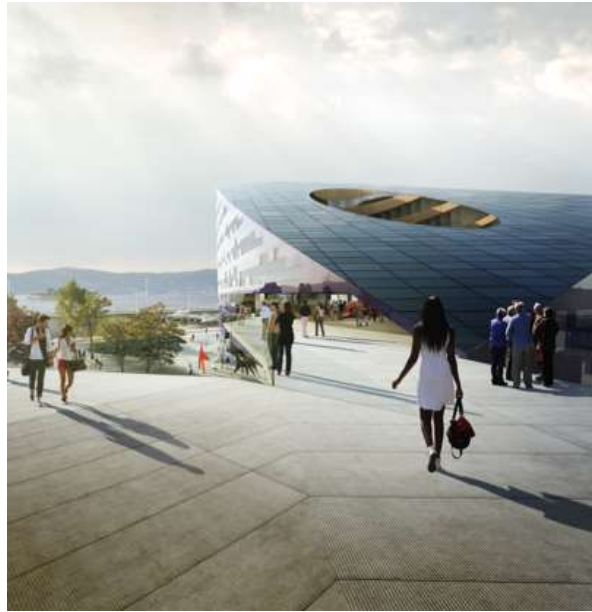


# PEDs should be inherently designed for scalability

- Starting from the idea of *plus* local generation
- PED as process, not state
- Scaling by
  - Growing PEDs
  - Starting new PEDs
- Annual positive energy balance
  - Surplus energy generated needs to be shared with neighbours or the outside system
  - PEDs can “carry” lower efficiency areas
  - Inclusion of new areas into PED



# Starting from hubs



Powerhouse Brattøra,  
Trondheim  
[[www.powerhouse.no](http://www.powerhouse.no)]



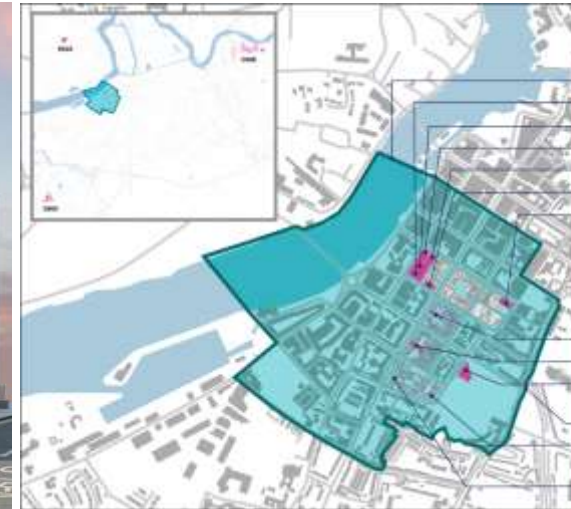
Lysgården, Sluppen,  
Trondheim  
[[www.lysgarden.no](http://www.lysgarden.no)]



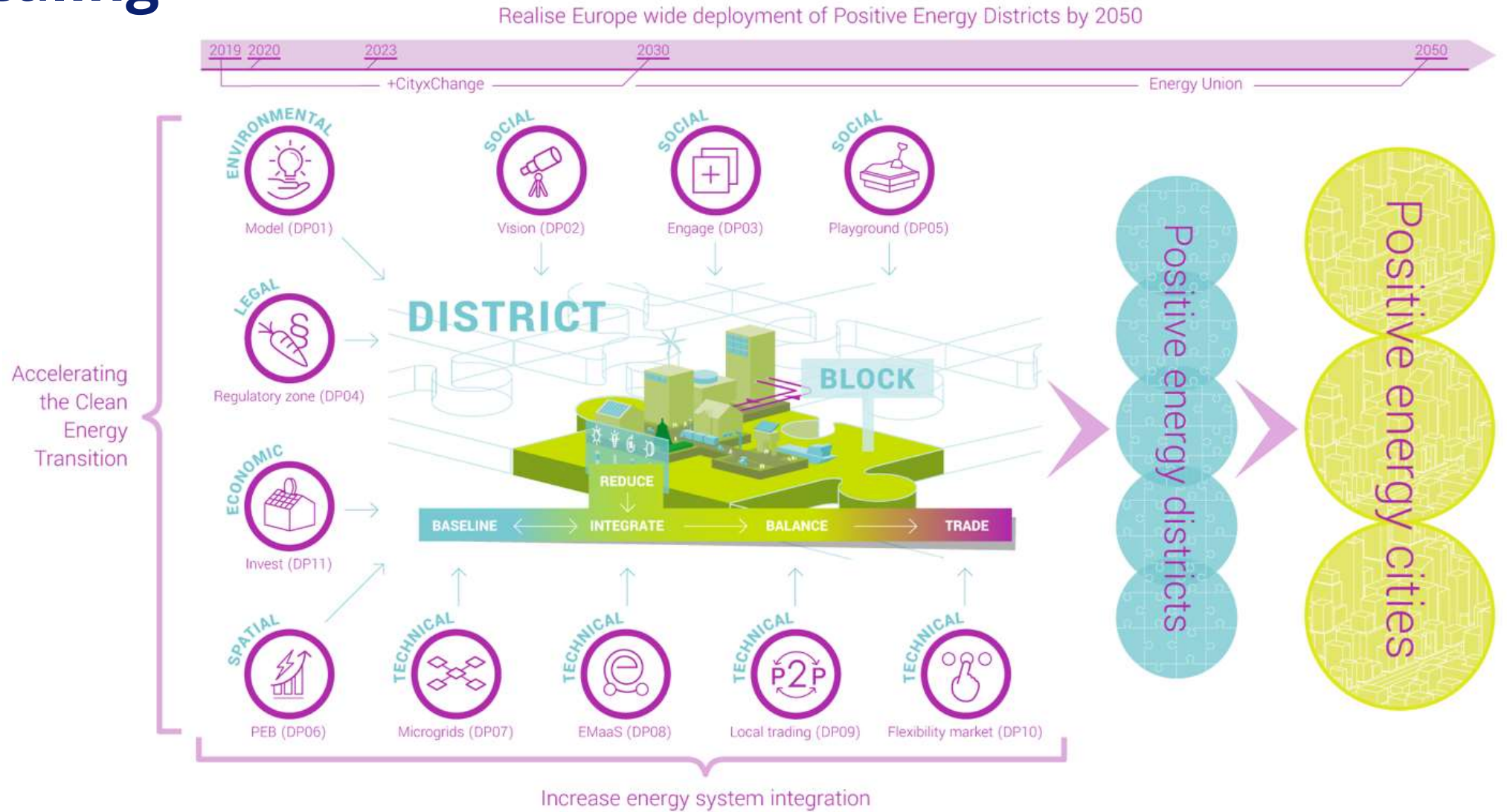
Calle Txabarri, Sestao  
[[www.sestaoberri.eus](http://www.sestaoberri.eus)]



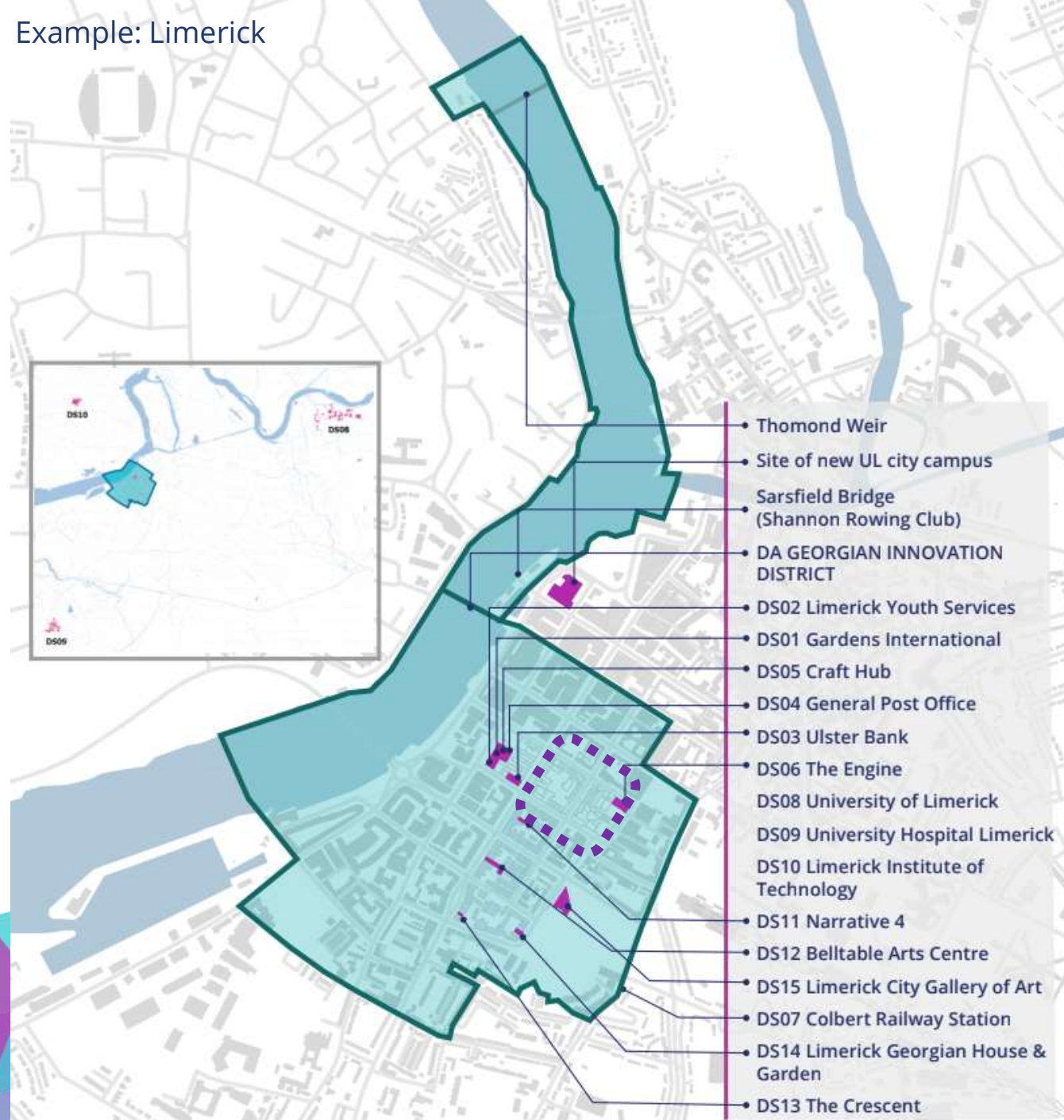
Gardens International, Limerick  
[[www.limerick.ie](http://www.limerick.ie)]



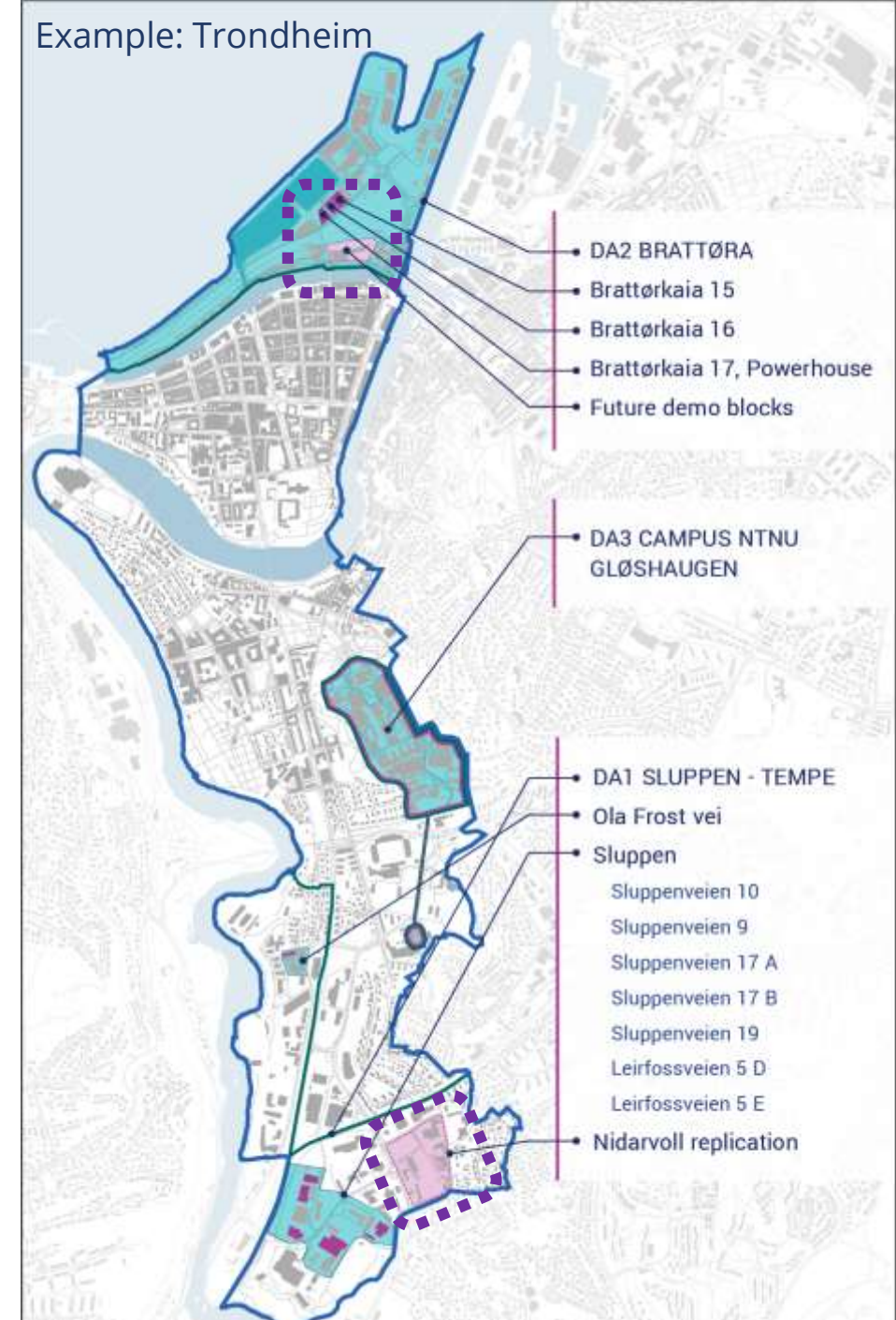
# Scaling



Example: Limerick



Example: Trondheim



# +CityxChange replication/upscaling Plan

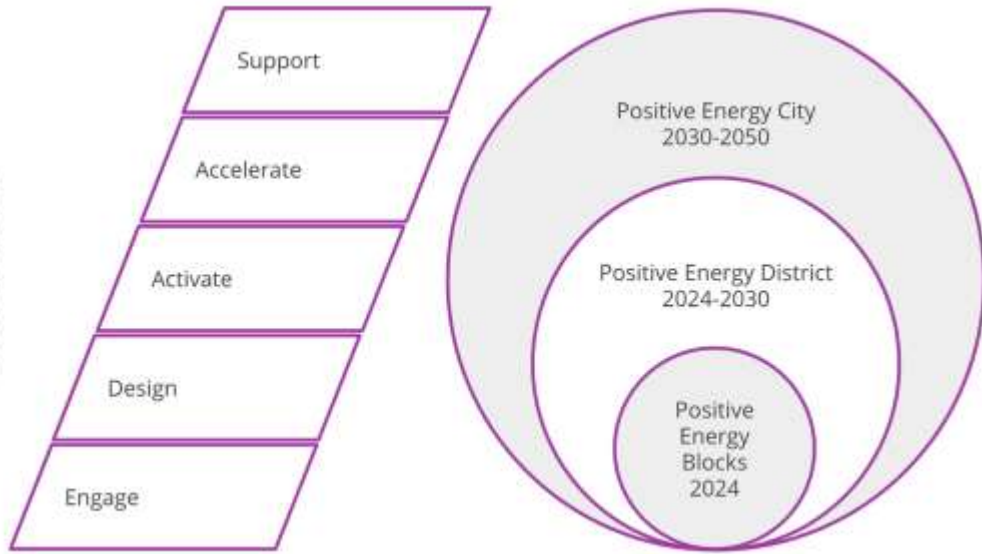
- Replication integrated into the project, from Lighthouse Cities to Follower Cities
- Ambition to build replicable solutions that work in all 7 cities and beyond
- Roadmap to scale up the PEB pilots
- Detailed feasibility studies and replication project pipelines for Follower Cities
- Investment and business models to build & scale PEBs
- Regulatory mechanisms for sandboxes/pilots





# Bold City Vision Framework

Bold City Vision Support Framework



	Engage	Design	Activate	Accelerate	Support
Standardisation	Evaluation	Visualisation	Simulation	Funding	Sharing
Policy development	Review	Revision	Planning	Budgeting	Analysis
Innovation partnerships	Appointment	Linking	Collaborating	Prioritising	Portfolio management
Organisational development	Identification	Leadership	Intrapreneurship	Self organisation	Twinning
Citizen engagement	Acknowledgement	Deliberation	Localisation	Connection	Amplification
Project development	Pitching	Prototyping	Delivering	Capitalising	Storytelling

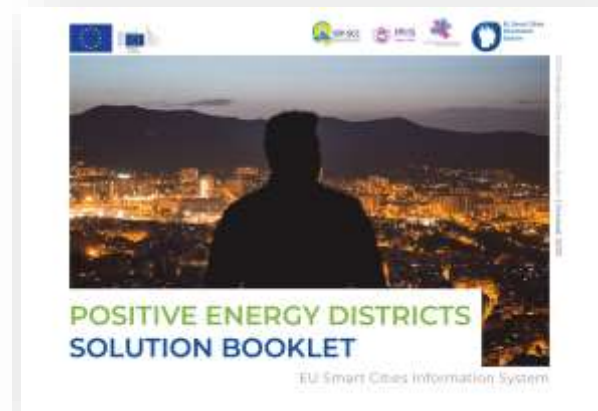
BOLD CITY VISION FRAMEWORK FOR 2050

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[D3.1 Framework for Bold City Vision, Guidelines, and Incentive Schemes, <https://cityxchange.eu/knowledge-base/framework-for-bold-city-vision-guidelines-and-incentive-schemes/> ]

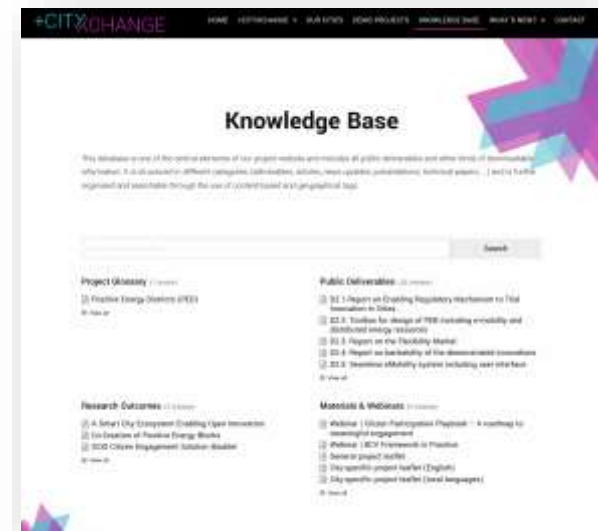
# Knowledge sharing and followup

- Co-Creation and Open Innovation
- Involvement of all stakeholders in urban innovation, knowledge sharing, collaboration
- “Open by Default” strategy



SCIS PED Solution booklet, upcoming SCIS, SCC01 projects

[<https://smartcities-infosystem.eu/solutions>]



[<https://cityxchange.eu/knowledge-base/>]



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# Q&A

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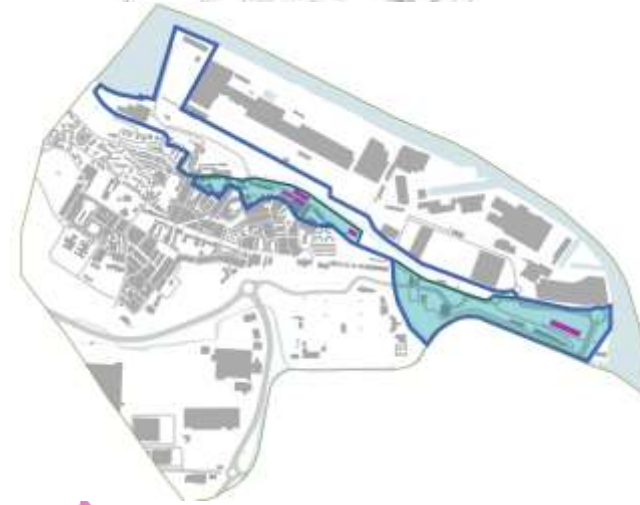
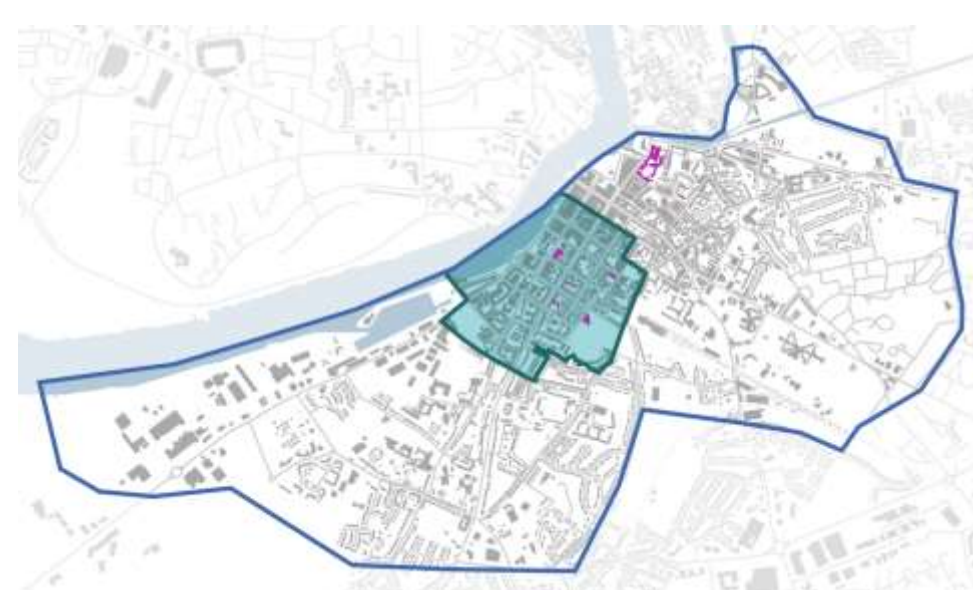


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# Consortium



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