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SPARCS Replication



Gretel Schaj
BABLE



Horizon 2020
European Union funding
for Research & Innovation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 864242
Topic: LC-SC3-SCC-1-2018-2019-2020: Smart Cities and Communities



What we do

We are constantly driving the change for a better urban life

- ▶ We **simplify urban innovation** and **facilitate smart city implementations** with our open exchange platform, its embedded automated services, and our bundle of consulting and training services.
- ▶ ... thereby **empowering cities, companies and other key players across Europe** to solve the most pressing urban challenges and achieve the most ambitious goals for their cities.
- ▶ No matter your role in the smart city movement, if you share the same **drive for creating healthier, more livable, and sustainable cities**, we are here to collaborate and find the best ways to improve urban life together.

www.bable-smartcities.eu

How we do it

Our portfolio of complementary and customizable services to help you achieve exceptional results

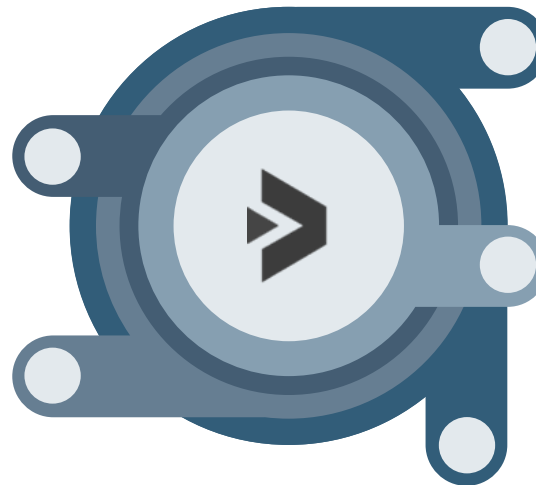


BABLE Smart City Platform

- Connecting cities, companies, and experts to share knowledge and opportunities
- Open access to a comprehensive database of vendor-neutral Smart Solutions and crowd-sourced Use Cases

BABLE Toolbox

- A unique set of online, automated tools to support cities in the ideation, evaluation, and implementation of smart city projects



OUPEN-SmartCity Certificate

- The first 'smart city ready' certification scheme for vendors and cities
- To assure interoperability of ICT solutions through open standards
- Holistic, third-party-endorsed process

BABLE Expert Guidance

- A bundle of consultancy services to maximise long-term impact and added value of smart solutions at any scale and scope
- Unique challenged-based, customer-focused and implementation-oriented roadmapping approach

BABLE Smart City Training

- Flexible and tailor-made training courses for key stakeholders in the urban ecosystem
- Certifiable by TÜV SÜD
- Including core modules on the basics of Smart Cities, and specialised modules on Smart Energy, Smart Mobility, and more...

City energy infrastructure

- RES & EVs integration
- Inefficient systems
- Mono directional infrastructure

Buildings

- Efficient energy systems
- Passive users
- Limited energy flexibility

Integration

- Digitalization of services
- Semantic & Operational interoperability
- Digital gap

Mobility

- Lack of electric Vehicle infrastructure
- EV mobility uptake

Public recognition

- Transversal Knowledge exchange
- Inter-city relationships
- National, European and International credits

Economy

- Low self-sufficiency rate
- Low R&D investment
- Economic growth
- Job creation

Environmental

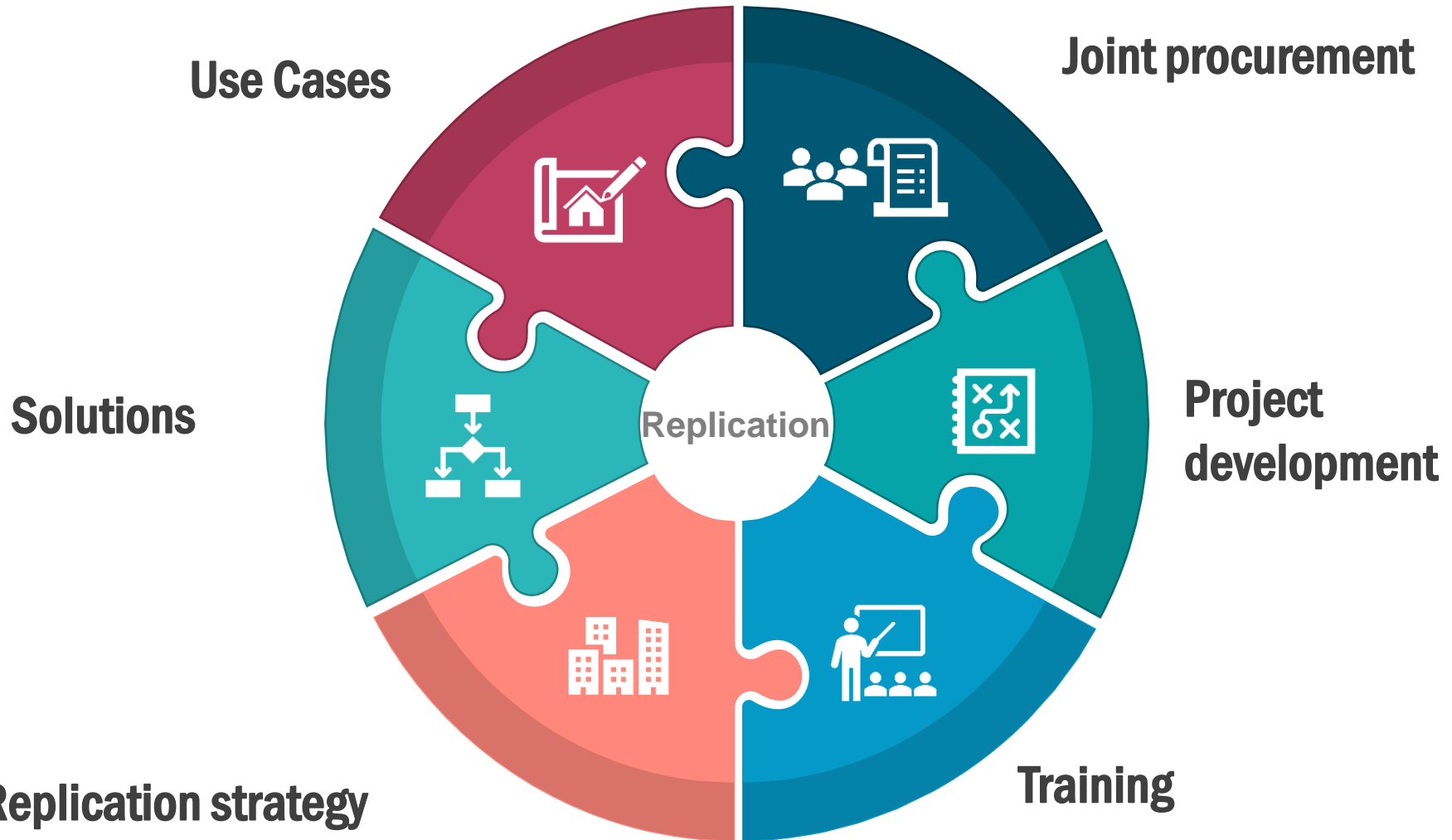
- CO2 emission in urban areas
- Local air quality
- Excess heat utilization



SHARED CITY CHALLENGES

General challenges for implementation/replication

The pieces of the puzzle



Use Cases

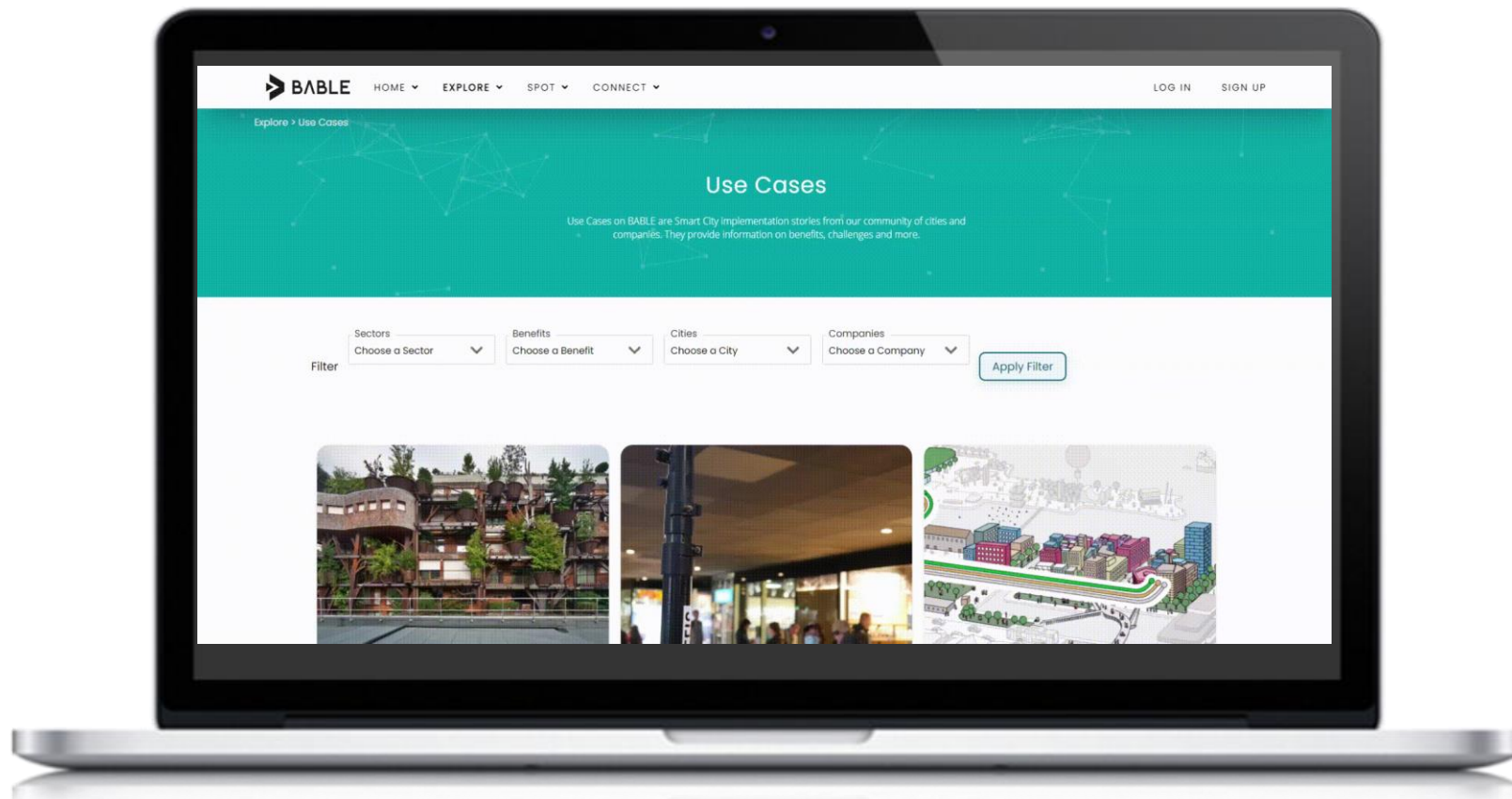


ULTRA-LOW ENERGY HOMES

Designing, procuring and showcasing homes for the future. An innovative outcome based procurement resulting in performance guaranteed 'zero energy' homes.

- ▶ They are **implementation stories** with information about:
 - ▶ the technologies and approaches used,
 - ▶ stakeholders involved,
 - ▶ financial details, and
 - ▶ insights gained during the implementation

Why we are doing this
Inspire action in Fellow Cities, inform about implementation experiences



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Solutions



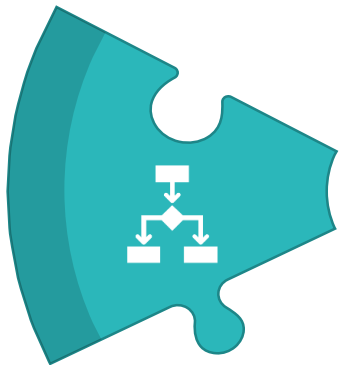
Description

Description

Benefits	In order to reduce fossil energy consumption, electric mobility is a key transportation. Not only is the transport sector responsible for 30% of road transport), but the rate of emission reductions has also slowed agriculture, forestry, fisheries and housing, have significantly reduced transport sector's CO ₂ emissions are higher today than in 1990 due to their longer lifespan and lower operational costs, electric vehicles facilitate the diffusion of electric vehicles rapidly and successfully into the electric vehicles are mandatory (Proff, Fojcik 2016, p. 128).
Functions	
Business Model	
Driving Factors	
Legal Requirements	
Use Cases	The main goal is to diffuse electric mobility for environmental reasons reduced by building up electric fleets. Plus, using electric fleets provide to create an innovative image and to test new technologies. The limit is often less of an issue for company- and city-operated vehicles, as self applications offer excellent opportunities for fast and successful diffusion.
Related Solutions	

- ▶ Expert curated neutral solutions as blueprints for project development and tender preparation:
 - ▶ **Benefits** – how can the solution improve the city
 - ▶ **Functions** – mandatory and optional configurations
 - ▶ **Business Model** – cost savings and value creation
 - ▶ **Driving Factors** – supporting initiatives & funding
 - ▶ **Legal requirements** – directives and standards
 - ▶ **Use cases** – implementation examples from other cities

Why we are doing this
 Providing neutral information packages to help cities implement and replicate these solutions



Solutions



Building Energy Management System

City Needs

Improving energy usage efficiency

Reducing energy bills

Core benefit

Improving energy usage efficiency



Monitoring building performance



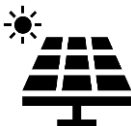
Managing energy demand

Core

Additional benefits

Shaving peak energy demand

Increasing share of renewables



Managing energy generation



Managing energy storage

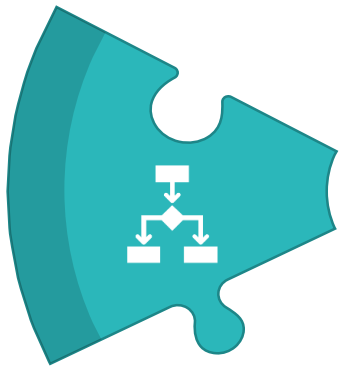


Controlling appliances remotely



Predicting energy consumption

Add-ons



Solutions



Building Energy Management System



Ca l'Alier, Barcelona



Monitoring Building Performance



Managing Energy Demand



Managing Energy Generation



Strijp-S, Eindhoven



Monitoring Building Performance



Managing Energy Demand



Controlling appliances remotely



Predicting energy consumption



Novo Mesto, Slovenia



Monitoring Building Performance

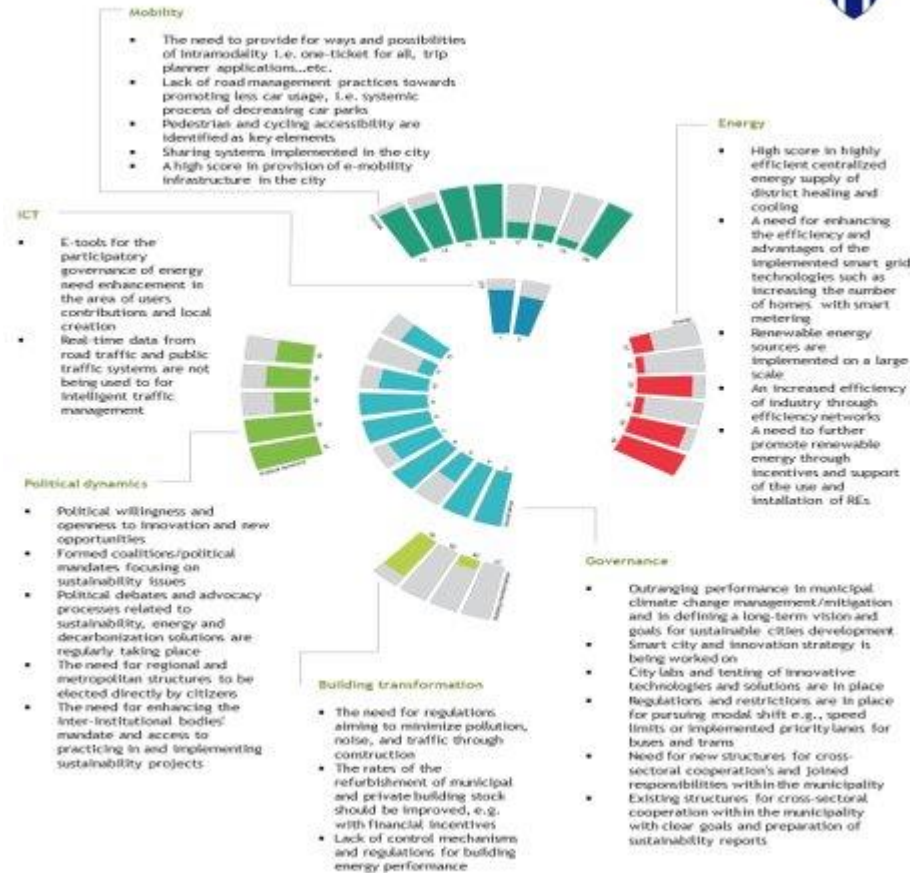


Managing Energy Demand



Replication strategy

Action Fields assessment Reykjavik (September 2020)





Smart City & Urban Energy Training



- ▶ 16 modules on Smart City and Energy sectors combining theory and exercises about policies, financing, planning, technologies, etc.
- ▶ ~ 30 trained city officials from the 7 SPARCS cities

Why we are doing this
Skill cities with technical and practical knowledge and tools to address their local challenges & plans



Smart City & Urban Energy Training – *City visits*



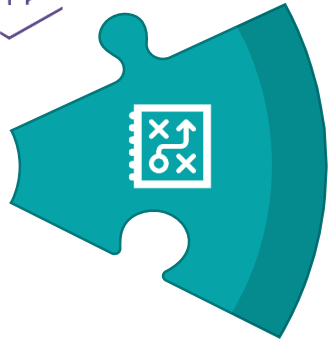
Stockholm



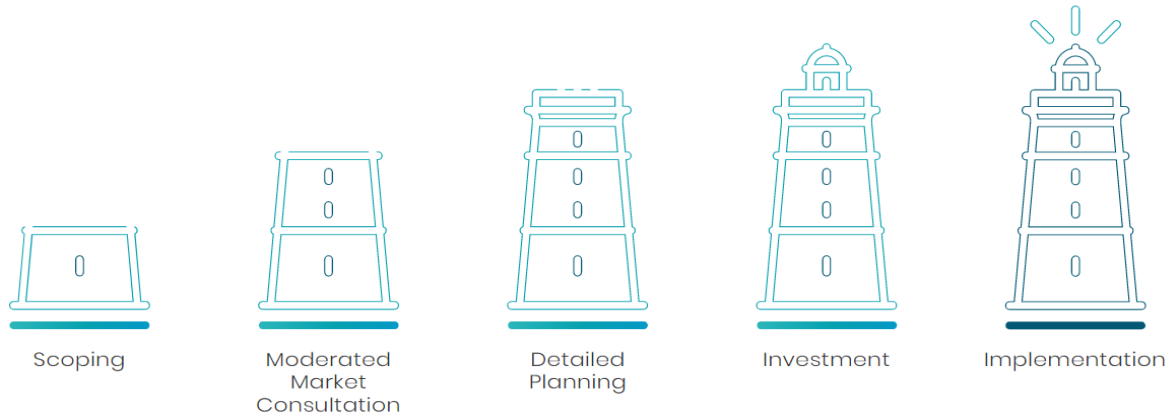
Cologne



Vienna



Project development



- From general and project insights to customised implementation

Why we are doing this

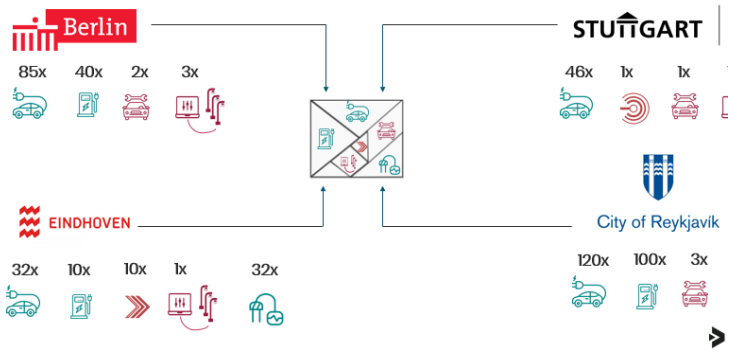
To tailor the energy and mobility solutions to the needs of the cities, supporting them from scoping to implementation



Joint Procurement

STEP 2: Aggregation of demand

Your specifications become part of a larger specification, which brings together the needs of several municipalities and municipal fleet operators.



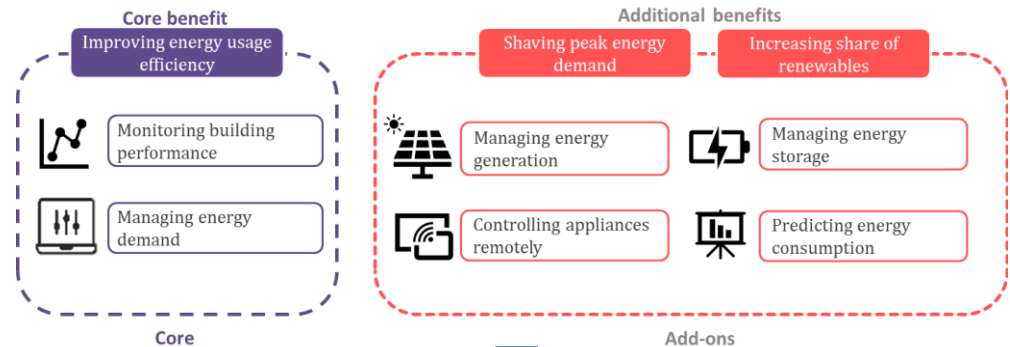
- ▶ Develop a reference model for a joint procurement process
- ▶ Pilot the process

Why we are doing this
To aggregate demand, benefit from the economies of scale, influence the market

Joint Procurement process



Building Energy Management System



Tender specifications



Reykjavic





<https://www.sparcs.info/>

@SPARCSeu



Stadt Leipzig



CÂMARA MUNICIPAL DA MAIA



KLADNO



ΔΗΜΟΣ ΚΗΦΙΣΙΑΣ



ESPOO



SIEMENS



PLUGIT

CITYCON



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WSL
Wohnen & Service Leipzig GmbH



Leipziger
Stadtwerke



CENERO



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Ingenieure



UNIVERSITÄT
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Reykjavik
Energy



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Suite5
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verd



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