



*..making cities
even smarter*

European Smart City Plans and Experiences

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VP Development



- [ui!] - the urban institute® - is an incubator and innovative software and consulting company in the field of „Smart City“.
- Founded in 2012 [ui!] supports cities in Germany, other European countries, USA and Australia in their efforts to use innovative concepts and solutions.
- Innovative business models form the center of our activities leveraging real-time urban data provided by the urban infrastructures. Turning urban data into revenue generating services for businesses while supporting cities in their digital transformation for making cities even smarter.
- Therefore, [ui!] focuses on cloud-based smart services leveraging smart urban data in the areas of:
 - ✓ Open Urban Platforms
 - ✓ Sustainable Urban Mobility
 - ✓ Integrated Urban Infrastructures
 - ✓ Smart Energy for Urban Districts
 - ✓ Smart Urban Services
 - ✓ Digital Transformation of Cities
- The [ui!] group is based in Chemnitz, Germany, with four offices in Germany as well as offices in Brisbane (Australia), Budapest (Hungary) und New York City (USA).

Current State: Cities Need to Grow Smarter

The actors in a „Smart City“ already use **huge amounts of data** every day.

However, these are often only used for a **single purpose** and cannot be provided to 3rd parties.

With **intelligent open platform solutions** we create the opportunity to **reuse** this data and enable new **smart services**.



European Initiatives for Smart Cities

EU Instrument for Smart Cities:
The **European Innovation Partnership**

Deploying new infrastructures
The Humble Lamppost Initiative

Standardization
Open Urban Platforms
DIN Standards (Germany)





European Innovation Partnership

Smart Cities and Communities

<https://eu-smartcities.eu/>

The 2020 Climate and Energy Package

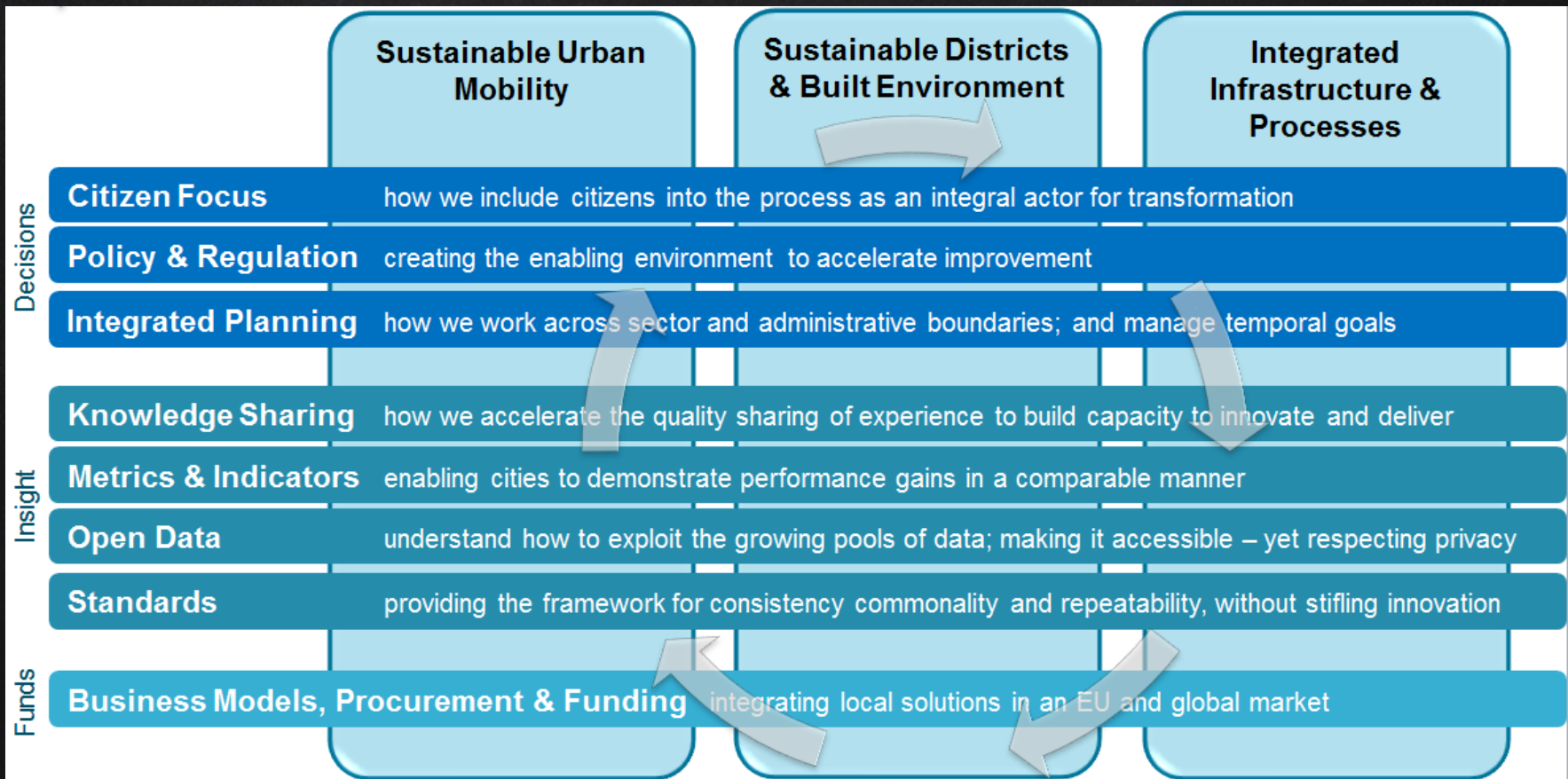
- 20% Green House Gas

+ 20% Energy Efficiency

20% Renewable Energy

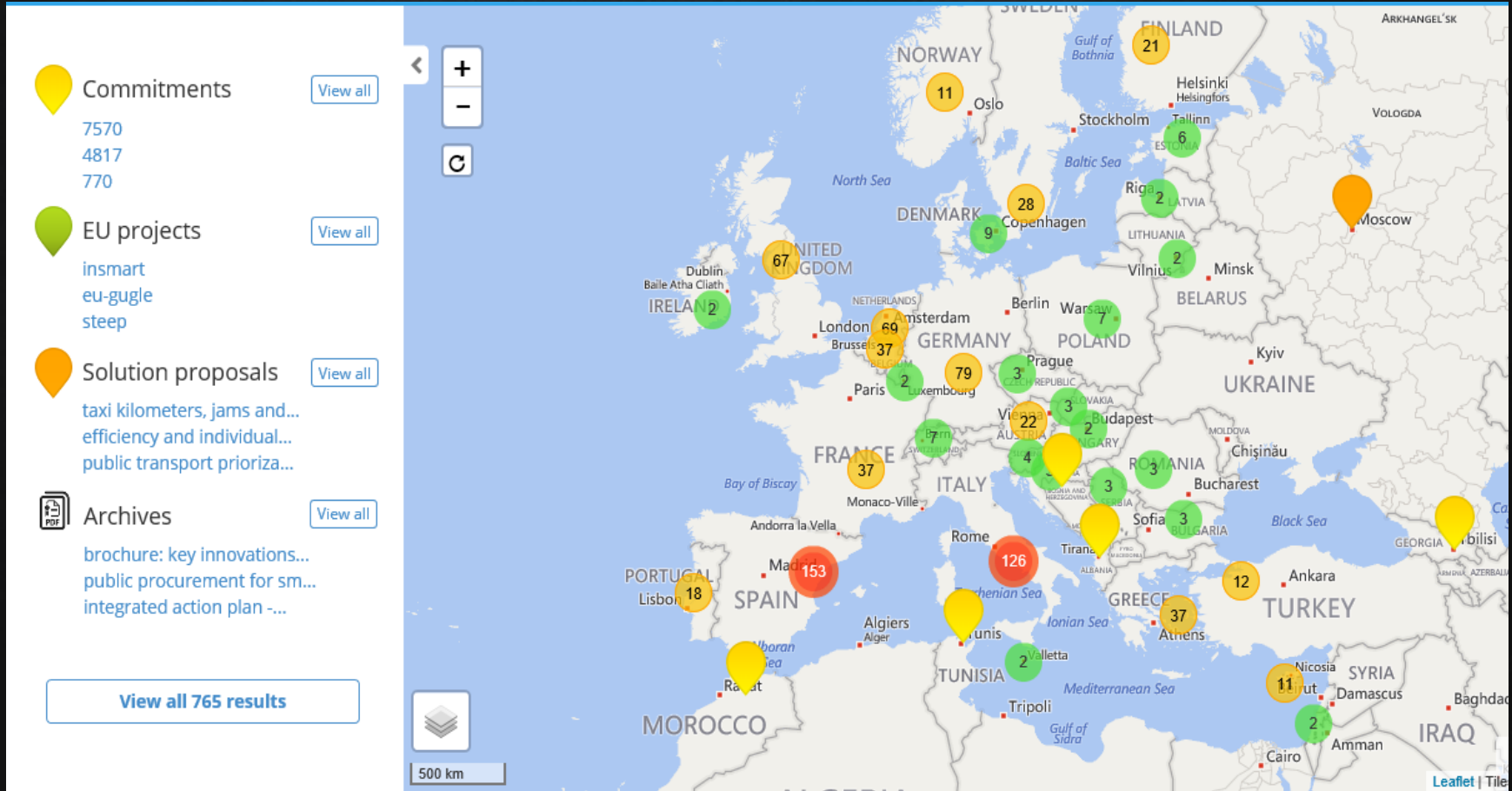


Engagement Model of the European Innovation Partnership Smart Cities and Communities





400 initiatives of 3000 Partners



EV4SCC – Scaling-up electro mobility solutions in Europe

Lead Initiative of the Action Cluster “Sustainable Urban Mobility”



European Innovation Partnership
on Smart Cities and Communities



Scaling-up smart electromobility solutions in Europe

EV4SCC partner's commitment to action

Our Ambition

As representatives of cities and regions, we understand the benefits of electromobility: less noise, greenhouse gas emissions and air pollution reduction, but also exciting new opportunities for mobility services and infrastructure integration, when combined with innovative ICT solutions.

EV4SCC was created as part of the European Innovation Platform for Smart Cities and Communities launched in 2014. Today, the EV4SCC platform represents 59 partners from 17 countries, including 15 cities and regions. It brings together start-ups, SMEs, research organisations, large companies and public authorities. It spans the sectors of transport, energy and ICT, because we know that smart electromobility builds on integrated solutions.

We want to continue to work together and support EV4SCC to create a dynamic European marketplace for smart electromobility solutions.

Our Commitment to Action

To achieve this, we have to overcome fragmentation of markets and better utilise our joint wealth of experience and expertise.

By coming together, we declare our willingness to accelerate the deployment of electromobility solutions by supporting cities and regions to adopt them at scale in key market segments such as:

- Intelligent management of public and private fleets of electric vehicles
- Smart urban logistics with light electric vehicles
- Smart electrification of public transport
- Innovative integrated infrastructure solutions
- Smart electromobility solutions that serve multi-modal mobility services

We support the ambition that the **EV4SCC platform** will provide dedicated expertise, animation and support to:

- **Champion** the needs of cities and regions, the capabilities of practitioners and the benefits of smart electromobility solutions
- **Connect** practitioners, problem-solvers and procurers in an engaged community
- **Accelerate** the deployment, replication and adaptation of solutions across Europe

The outcomes of this will be:

- **50** cities from across Europe to join the platform
- **50%** SME participation in the EV4SCC platform, supporting SME growth and competitiveness
- **50%** increase in the number of active collaborations between EV4SCC partners
- **50** new projects by the end of 2017 which will focus on one of the key market segments

We recognise the active role we need to play in order to make this a success and we are committing today our support to EV4SCC.

We encourage public and private sector organisations from across Europe to join EV4SCC to create the **world's largest marketplace for smart electromobility solutions.**

www.ev4sc.eu

Core initiative since 2014

Coordinated by Urban Foresight

Endorsed by DG MOVE and
Commissioner Bulc as one of the two lead
initiatives of SUM in EIP SCC

For details:

<http://urbanforesight.org/projects/projectsites/ev4sc/>

[ui!] Our contribution:

- [ui!] CROSSFLEET – optimizing the utilization of eCars in public and commercial fleets by sharing
- New mobility service, i.e. fleets purchase time shares of fleet cars

New Mobility Services

Market Place
of the European Innovation Partnership on
Smart Cities and
Communities



Scaling-up new
mobility services
in Europe

Partner's commitment to action

create an open and collaborative marketplace for new mobility services in Europe

Collaborate with at least 50 cities to [...] link public and private transport ultimately to a single real-time multi-modal transport platform

Develop new services connecting cars to the urban mobility system through a standardized link between in-car systems and smartphones

Creating leadership and awareness for New Mobility Services, involving specifically smaller and medium sized cities

Building a common ground for New

"1,000,000 Humble Lampposts" Pan-European Effort

40+ Partners in Europe to work on **integrated multi-functional street lighting infrastructure**

Goal: 1,000,000 public street lights turned into Humble Lamppost

Approach: Agree on common standard components and features to develop a reference tender framework for fast market take-up

Engage suppliers / vendors, operators, cities, and financial institutions in a common approach

Standards: The German Standards organisation DIN started a DIN SPEC project.



Commitment #6670 of the EIP SCC

- 40+ Partners in Europe to agree on smart street lighting as key contribution to the EU Climate goals
- **Goal**: 1,000,000 public street lights turned into intelligent adaptive light points integrating other IT-based infrastructures
- **Approach**: Agree on common standard components and features to develop a reference tender framework for fast market take-up
- Engage suppliers / vendors, operators, cities, and financial institutions in a common approach

Figures & Facts on Street Lighting

<90m	Estimated nos. streetlights across Europe
75%	Percentage of streetlights over 25yrs old
20-50%	Proportion of city's energy bill from streetlights
€3 bln	Approx. annual street lighting energy cost
50-75%	Energy saving potential thru SLL/LED
€1.9 bln	Annual energy saving from SSL/LED
2.6 mln	GHG equivalent in removing nos. cars from EU roads

An open affordable component-based city lighting solution

...that enables other smart city initiatives;

delivered collaboratively between cities & Industry

to speed integrated valuable delivery

BENEFITS

- Efficiencies
- Savings
- New Services
- Bootstrap S.City



- Better experience
- Better connected
- Safer society
- Pride in community

- Innovation
- Extended Portfolio
- Add'l Revenue
- Export potential



MoU on “Open Urban Platforms”



initiated by



meanwhile
supported by

- ✓ 30+ vendors
- ✓ 30+ cities
- ✓ EU
- ✓ Standards bodies

Goal:

Open APIs
based on



EUROPEAN INNOVATION PARTNERSHIP ON SMART CITIES AND COMMUNITIES

Towards Open Urban Platforms for Smart Cities and Communities

Memorandum of Understanding

1. Outline of this Memorandum

- 1.1. The market for current Urban Platform(s) is fragmented and uncertain on the demand-side and lacking interoperability and common standards in the supply-side.
- 1.2. Big, small and diverse industry organisations have come together recognising that the Urban Platform market is a critical enabler for the Smart Cities market.
- 1.3. The signatories to this MoU have agreed to take a city and community needs led approach to address the fragmented market. The key challenges facing this market include:
 - Interoperability and common open standards – so that cities can mix and match offerings from a range of different vendors;
 - To date the market has been supply-led – with the norm being proprietary and custom-built offerings;
 - Many cities have reservations about Urban Platform(s) – including limited understanding of their costs & benefits.
- 1.4. The ambition of the signatories to this MoU is to enrol cities, infra-structure and service companies, tele-communications and utilities to:
 - Work with the partners of this Memorandum of Understanding
 - by 2018, create a strong EU city market for Urban Platforms
 - by 2025, ensure that the market of 300m residents of EU cities use Urban Platform(s) to manage their business with a city and that the city in turn drives efficiencies, insight and local innovation through the platform(s)

To meet the above challenges and to deliver on these ambitions the Memorandum of Understanding Group (in the following: MOU Group), whose names and signatures appear at Annex two of this document, have agreed on the following:

2. Background

- 2.1. The European Innovation Partnership on Smart Cities and Communities (EIP SCC) is a stakeholder driven initiative stimulated and supported by the European Commission. The EIP SCC has defined key priority areas which will be addressed through six Action Clusters including “Integrated Infrastructures & Open Data”. A general observation has been that



EUROPEAN INNOVATION PARTNERSHIP ON SMART CITIES AND COMMUNITIES

Annex Two: The Memorandum signatories

Organisation	Name, Role
1. HERE	Mr Michael Bültmann Managing Director HERE Deutschland GmbH
2. Alliander N.V.	Mr Peter Molengraaf Chief Executive Officer Alliander N.V. and High Level Group Member
3. SAP SE	Mr Luka Mucic Board Member SAP AG
4. Microsoft Corporation	Dr Marianne Janik Senior Director Public Sector Microsoft Deutschland GmbH
5. Continental AG	Mr Helmut Matschi Member of the Executive Board Continental AG Division Interior
6. Fraunhofer FOKUS	Prof. Dr-Ing. Ina Schieferdecker Director Fraunhofer Institute for Open Communication Systems FOKUS
7. Urban Software Institute GmbH & Co. KG	Dr Lutz Heuser Chief Technology Officer Urban Software Institute GmbH & Co. KG
8. UrbanDNA LLP	Mr Graham Coldclough Partner UrbanDNA LLP
9. HyperCat Consortium	Lord Erroll Chairman HyperCat Consortium
10. Software AG	Dr Harald Schöning Vice President Research Software AG
11. EnBW Energie Baden-Württemberg AG	Mr Michael Gutjahr Regional-Director EnBW AG
12. Flexeye Ltd	Mr Justin Anderson Chairman & CEO Flexeye Ltd
13. Greater London Authority	Mr Matthew Pencharz The Mayor's Smart Cities and Environment Adviser Greater London Authority
14. Deutsche Telekom AG	Mr Heinrich Arnold Senior Vice President Innovation & Laboratories, Deutsche Telekom AG

The GrowSmarter Project 2015-2019



The GrowSmarter Project 2015-2019



3 Lighthouse Cities: Stockholm, Cologne & Barcelona

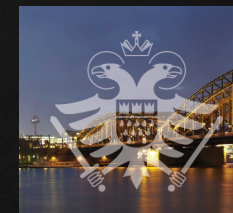
5 Follower Cities: Valetta, Suceava, Porto, Cork and Graz

Focus on:

Low Energy Districts

Integrated Infrastructure

Sustainable Urban Mobility



WP2 - Low Energy Districts Stegerwaldsiedlung

Phase 1

Under construction

Phase 2

Building Permits obtained
Buildings are scaffolded

Phase 3

Building Permits under way

WP2 - Low Energy Districts

Measure 1.1 Energy efficient refurbishment of the building - RheinEnergie and DEWOG



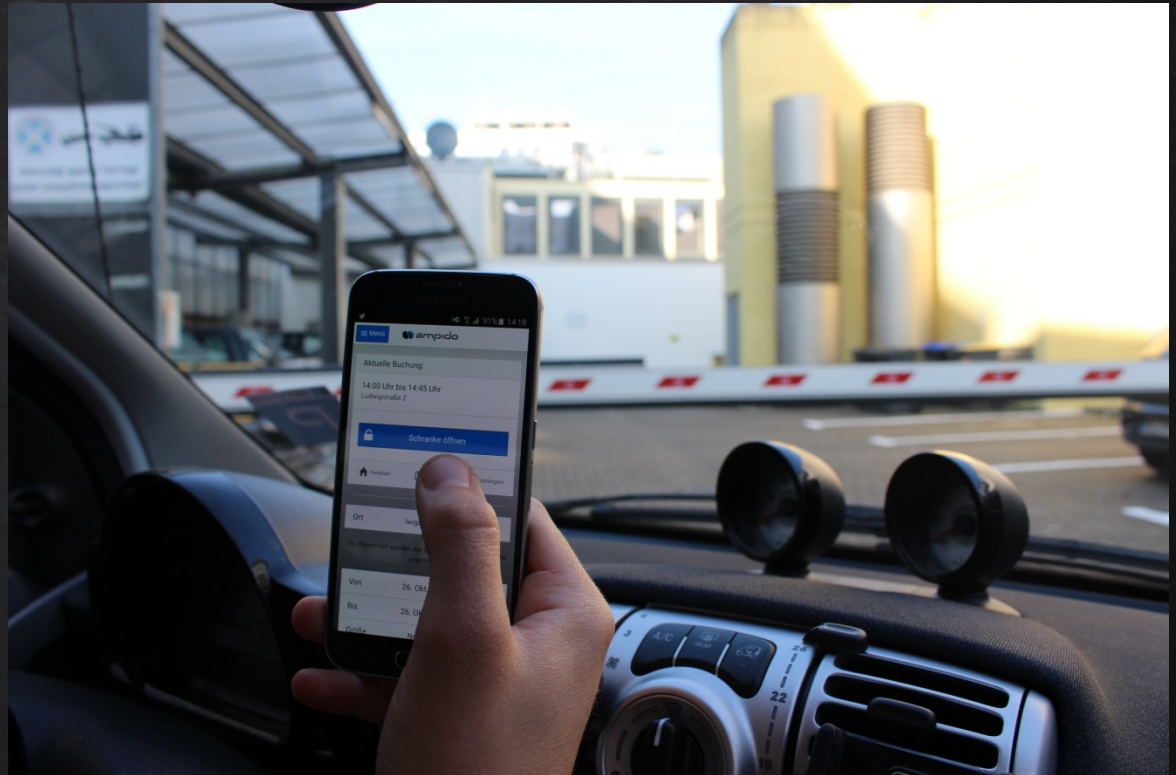
WP3 - Integrated Infrastructure

Measure 5.3 Smart Meter information analysis



WP4 - Sustainable Urban Mobility

Measure 12.4 Electrical and conventional Car & Parking sharing



WP3 - Integrated Infrastructure

Measure 8.1 Big consolidated open data platform

“Urban Cockpit” – ui!



<https://nmw.urbanpulse.de/CologneDashboard/>

References



**[ui!] TRAFFIC
Las Vegas**



**Smart Quarter
Innsbruck**



**Smart Grid
Saarlouis**



**[ui!] TRAFFIC
Darmstadt**



**[ui!] COCKPIT
Bad Hersfeld**



**Smart Open Data
Cologne**



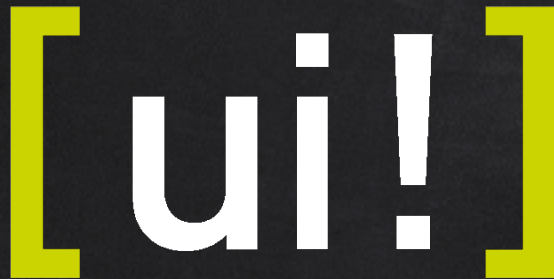
**Smart eMobility
Berlin**



**Smart Lighting
“Humble Lamppost”
Wiesloch**

..and more projects in execution with cities around the world

Thank You!



*..making cities
even smarter*

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