

# SYNCHRONICITY



OPEN & AGILE SMART CITIES

running  
**PILOTS** for  
**SCALE UP**

**CATAPULT**  
Connected Places



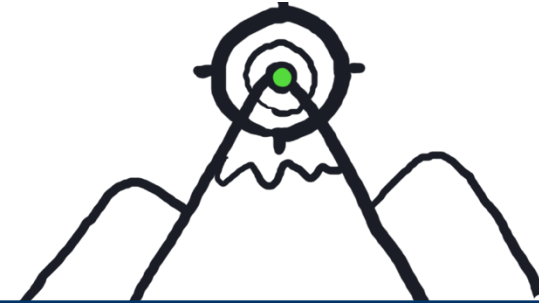
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1. SynchroniCity: making a market
2. Engaging with pilot deployments
3. Results beyond our expectations
4. So what happens next in the story?

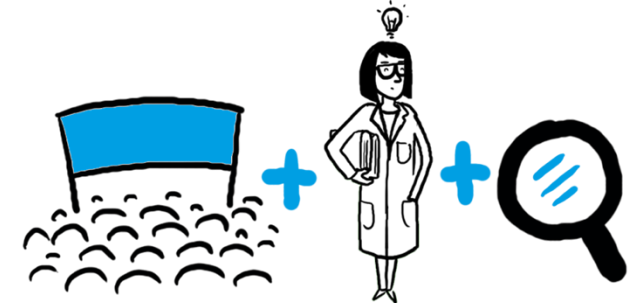


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# SYNCHRONICITY



## SUPPLY:

### GROWING EU COMPANIES

IoT-Enabled Firms lead the development of new innovative solutions

## MARKET MAKING:

Overcoming market barriers and failures

MIMs (Minimum Interoperable Mechanisms)  
SynchroniCity technical framework

## DEMAND:

### INFORMED CITIES

Cities become better customers for IoT enabled urban and city services

# Replicable, Interoperable and Scalable

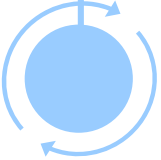
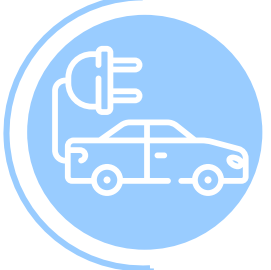
**The market  
was given a  
challenge in an  
open call...**

**SUSTAINABLE  
MOBILITY**

Enabling and  
improving  
mobility as a  
service



Encouraging more  
non-motorised  
transport

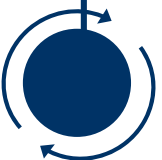


**ENVIRONMENT  
AND WELLBEING**

Climate change  
mitigation



Reducing noise  
and air pollution

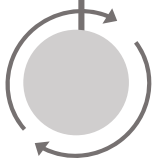


**CITIZEN  
ENGAGEMENT**

Increasing citizen  
engagement and  
decision making

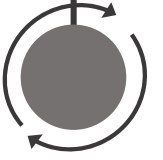


Increasing the  
level of diversity  
in political  
engagement



**OPEN THEME**

Open Challenge



# ...and it responded



**133 applications**

**227 SMEs**

**44 Pilot Cities**

**6 Large Business**

Santander	64
Porto	58
Manchester	54
Milan	44
Helsinki	43
Eindhoven	40
Antwerp	39
New cities	36
Carouge	32

**# Proposals by City**

Helsinki	26
Santander	22
Manchester	21
Porto	19
Antwerp	16
Milan	12
Eindhoven	10
Carouge	7

**# Proposals –  
Priority Core City**

# 16 pilot groups selected as winners in the open call

...and all responding to these different challenge themes



Climate Change adaption

2



Enabling and improving mobility as a service

3



Increasing citizen engagement in decision making

1



Reducing air and noise pollution

4



Encouraging more non-motorised transport

3



Open challenge

3



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# The pilot groups varied in size and mission but were all SME-Led

## Building Electricity Analytics and Control

**linc**

- Who we are:  
An all-in-one infrastructure for building energy management.
- Our service:
  - i) Hardware for data-acquisition and control;
  - ii) A purpose-built infrastructure for electrical data communications and management; and
  - iii) ML for analytics and load disaggregation.



Installation in Porto

## RainBrain

Make your green roof smart

Real – time monitoring of urban vegetation for predictive maintenance and **healthier plants.**

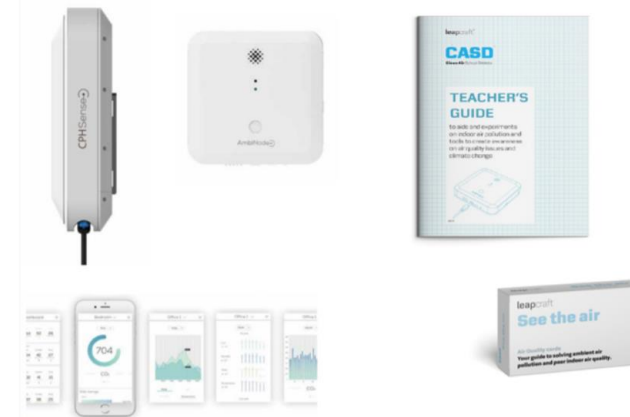
Intelligent control of water buffers to **mitigate floods and droughts.**



- Integration Synch-City framework, open data and models
- Commercial interest
- RainBrain - team

## CASD : Clean Air School Districts

leapcraft



Clean Air School Districts is a holistic solution with sensor instruments, educational material, and consultation for students, teachers, and parents to collaborate on improving the school's indoor environment quality.

The pilot groups varied in size and mission but were all SME-Led

## ABOUT SEE.SENSE SMART CYCLING

Pilot Group: See.Sense & BT

Pilot Cities: Antwerp, Dublin, Manchester

Theme: Encouraging Active Travel

What was your biggest achievement during the pilot phase?

Engaging with 800 citizens



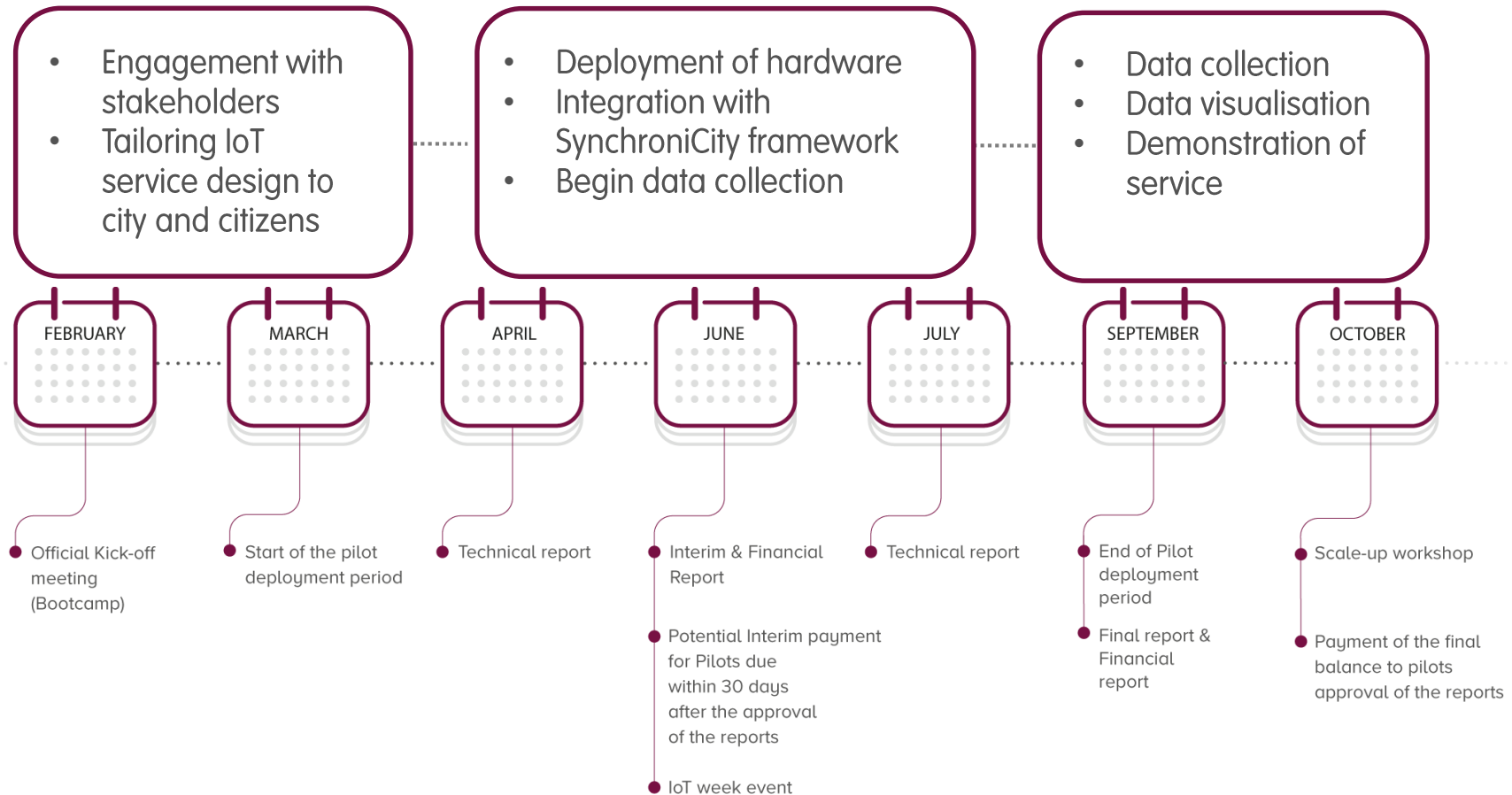
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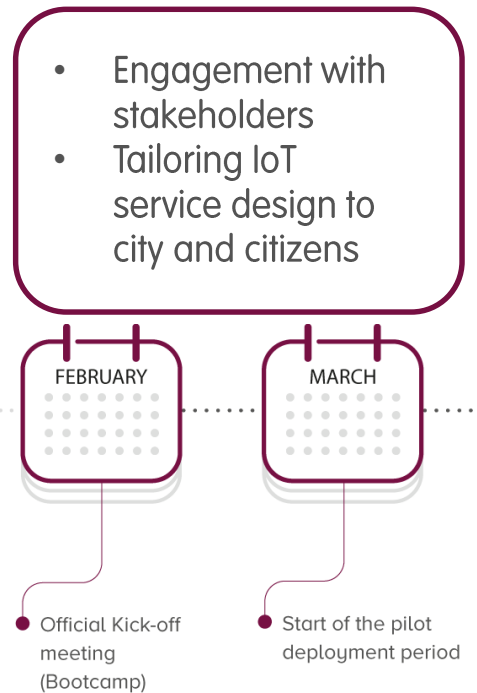
**Forbes**

“Transforming cities with  
big data & bicycle lights”

# And with our partners they faced an ambitious pilot deployment period



# And with our partners they faced an ambitious pilot deployment period



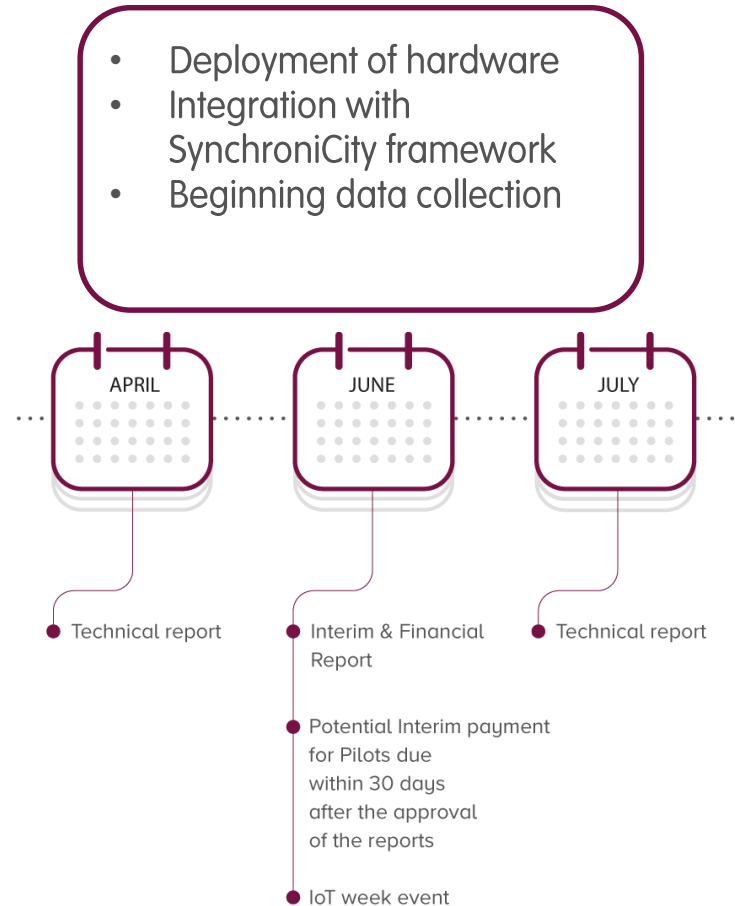
## INITIAL PERIOD

1. Starting with a kick-off event in London: To understand SynchroniCity better, meeting with cities, build partnerships, learn about communications
2. Engagement and service design: engaging stakeholders, meeting with cities and finalising their IoT service

# And with our partners they faced an ambitious pilot deployment period

## INTERIM PERIOD

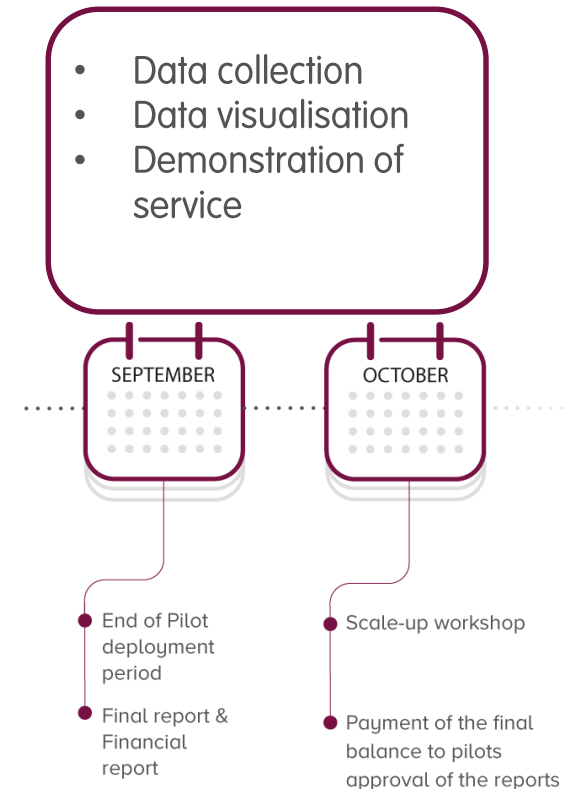
1. Reporting on technical and general progress
2. Deploying hardware i.e. sensors, lights
3. Testing services



And with our partners they faced an ambitious pilot deployment period

### FINAL PERIOD

1. Collecting data from deployed sensors and other hardware and creating data using SynchroniCity framework
2. Visualising data into apps or web services, demonstrating to city
3. Final reporting and payment



# Attending key events throughout

.... the Pilot Kick-off Event at Urban Innovation Centre in London



# Attending key events throughout

.... IoT Week 2019 in Aarhus, Denmark



# Attending key events throughout

.... Scale-Up (End of Pilot Period) Event in Milan, Italy





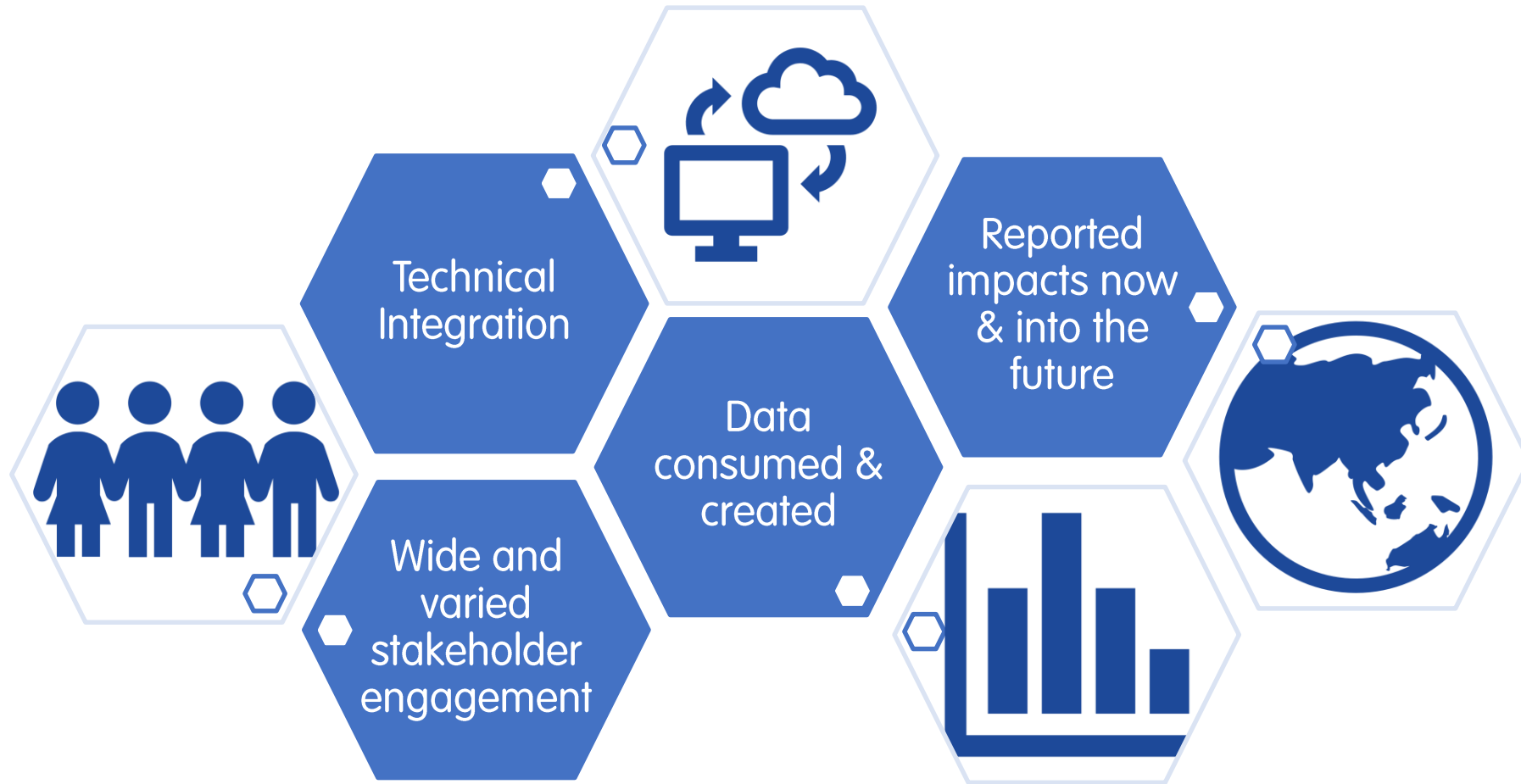
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The results were beyond our expectations...



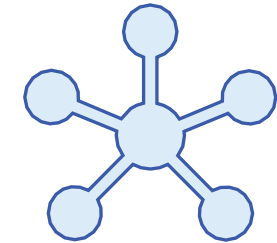
# Results beyond our expectations



# All 16 pilots achieved technical integration with the framework

**Replicability & Interoperability:** The pilots used the Synchronicity framework and ensured replicability by deploying in at least 2 different cities.

The pilots installed new hardware -> Almost, **1,700** IoT devices were deployed



**Scalability:** The success of the pilots giving a practical demonstration of our how replicability and interoperability can be scaled within cities and to new cities

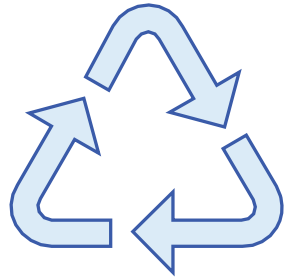
The pilots brought on new cities -> **13** new cities were added



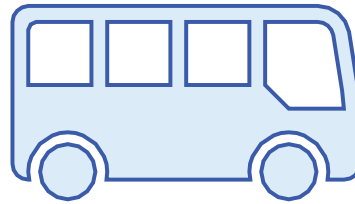
# More data is being used and created in a meaningful way

...with over 12,000 entities consumed and 5,000 entities created

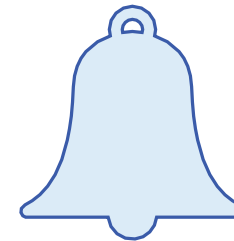
43 different types of data used by the pilots, collecting information for things such as:



Waste



Public Transport  
Routes



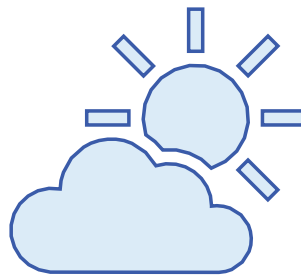
Noise  
Levels



Charging  
Stations



Green  
Space



Weather  
Forecast

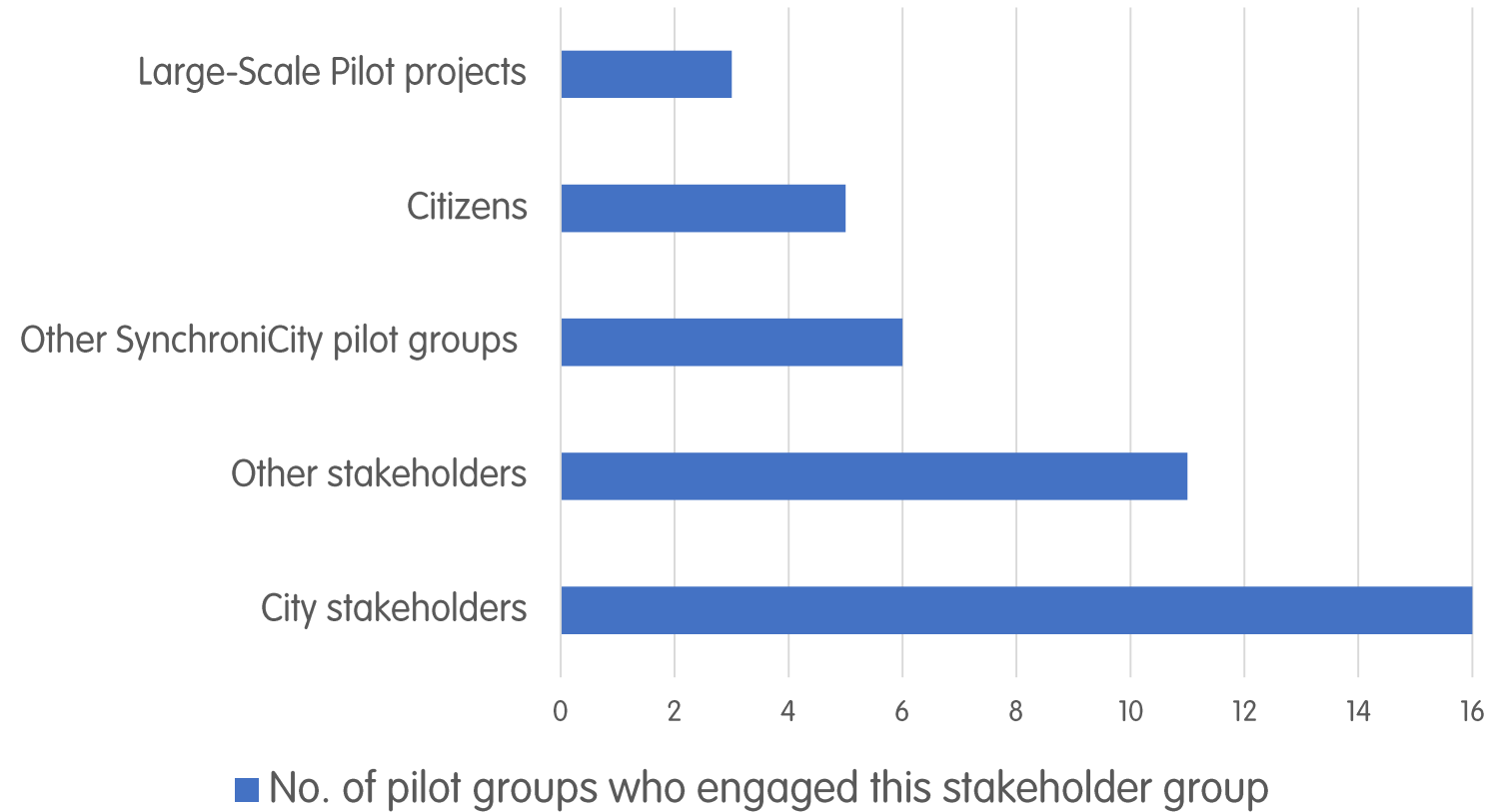


Bike Hire  
Docking Stations

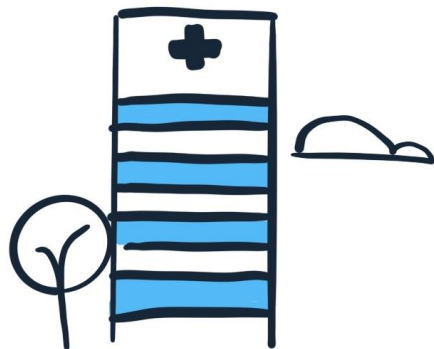


Air Quality

# The pilots had wide and varied engagement with stakeholders

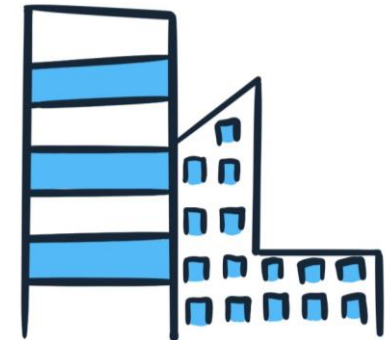


# The pilots had wide and varied engagement with stakeholders



## The pilots also reported engaging with:

- Standards bodies
- Universities
- Health professionals
- Building maintenance officers
- Schools
- Cleaners
- Sector Groups
- Investor groups
- Third-party providers



# The pilots reported their IoT solutions expected impacts now and the possibility if scaled-up into the future





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New agreements with existing and new cities...

**Replicability & Interoperability:** Existing SynchroniCity cities are already engaging with the other solutions that did not pilot in their city

**Scalability:** Pilots are engaging with new cities to bring them into the SynchroniCity Network

AND

New cities are engaging SynchroniCity network and interested in our piloted solutions



SYNCHRONICITY



## How can you find out more and be involved?

- **Pilot report on lessons learnt:** The detailed results of the pilot deployment, plus the **full list of key recommendations for running a similar project** will be released early next year in a public report by European Commission
- **Impact Evaluation report:** detail of impacts and KPIs and the framework developed to measure the outcomes of IoT service deployments
- **Engage with our Synchronicity Marketplaces:** Data marketplace, Product Marketplace, IoT catalogue solutions
- **Implementation at Scale:** Cities Forum Upscaling Declaration in Porto in January 2020
- **SynchroniCity Guide:** A comprehensive and helpful guide to SynchroniCity for local government and technology providers suitable for all levels of tech literacy

# The SynchroniCity pilot deployment

...is just the tip of the iceberg of the full market potential





# CATAPULT

Connected Places

is a founding  
member of



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