

Smart Living, Smart Work, Smart Mobility - Smart Cities for Citizens

*Best & next practices and
Lessons learned from a global village*

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Connected Urban Planning
Amsterdam Smart City

Dublin, September 2017



@adamsmartcity

www.amsterdamsmartcity.com/register

METROPOLREGIO
AMSTERDAM

Amsterdam Smart City believes
in a **liveable** city
where people can
live, work and play
pleasantly

Smart City is about the
happiness of your citizens



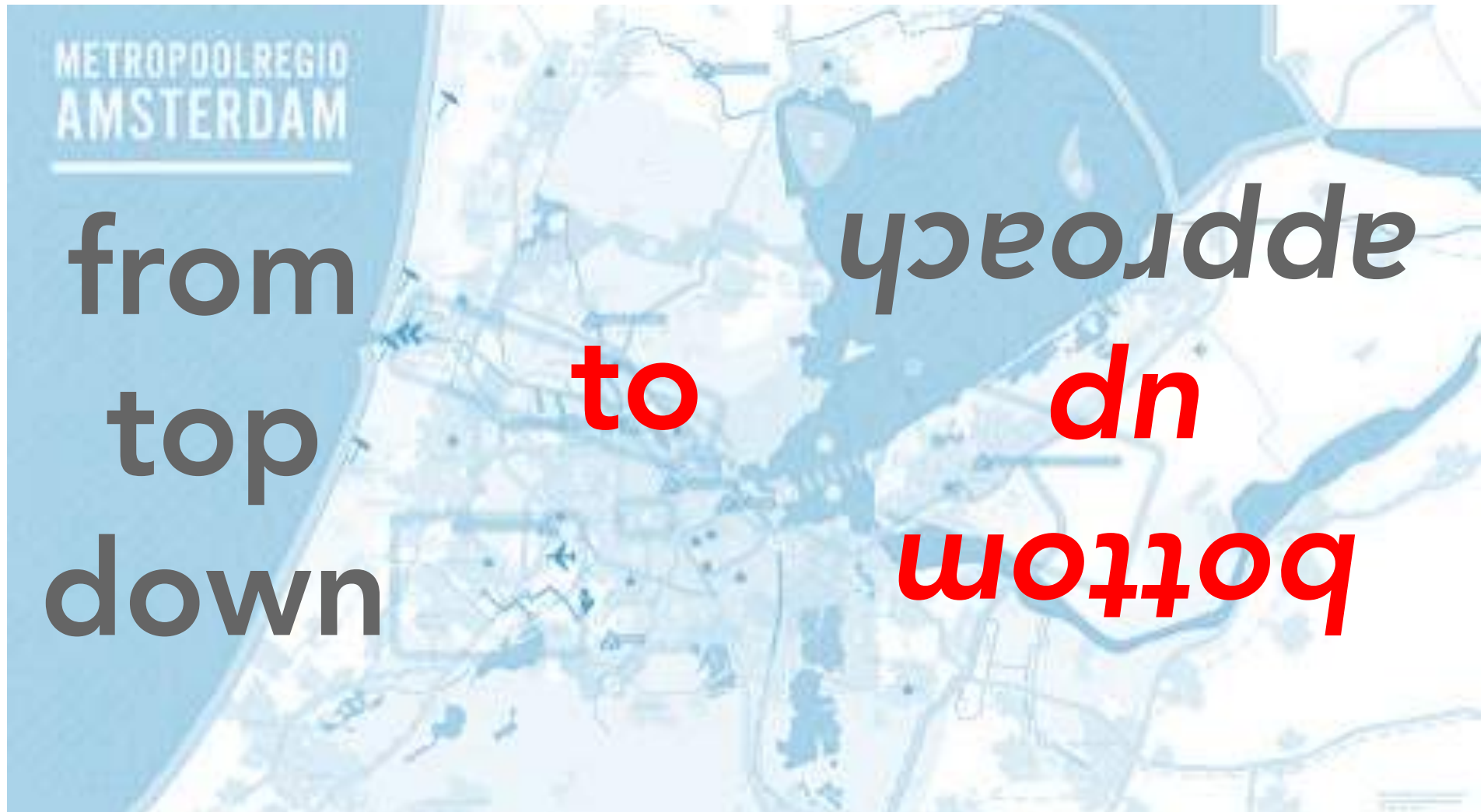
“The **concept** of Smart Cities is like art:
the **context** is more important than the
product”

Mister Amsterdam **Smart City** Ger Baron
currently Chief Technology Officer City of Amsterdam

- From company to **community**
- From consultative selling to **co creation**
- From "point solution" to **eco system**
- From closed to **open**
- From sending messages to **deep understanding**





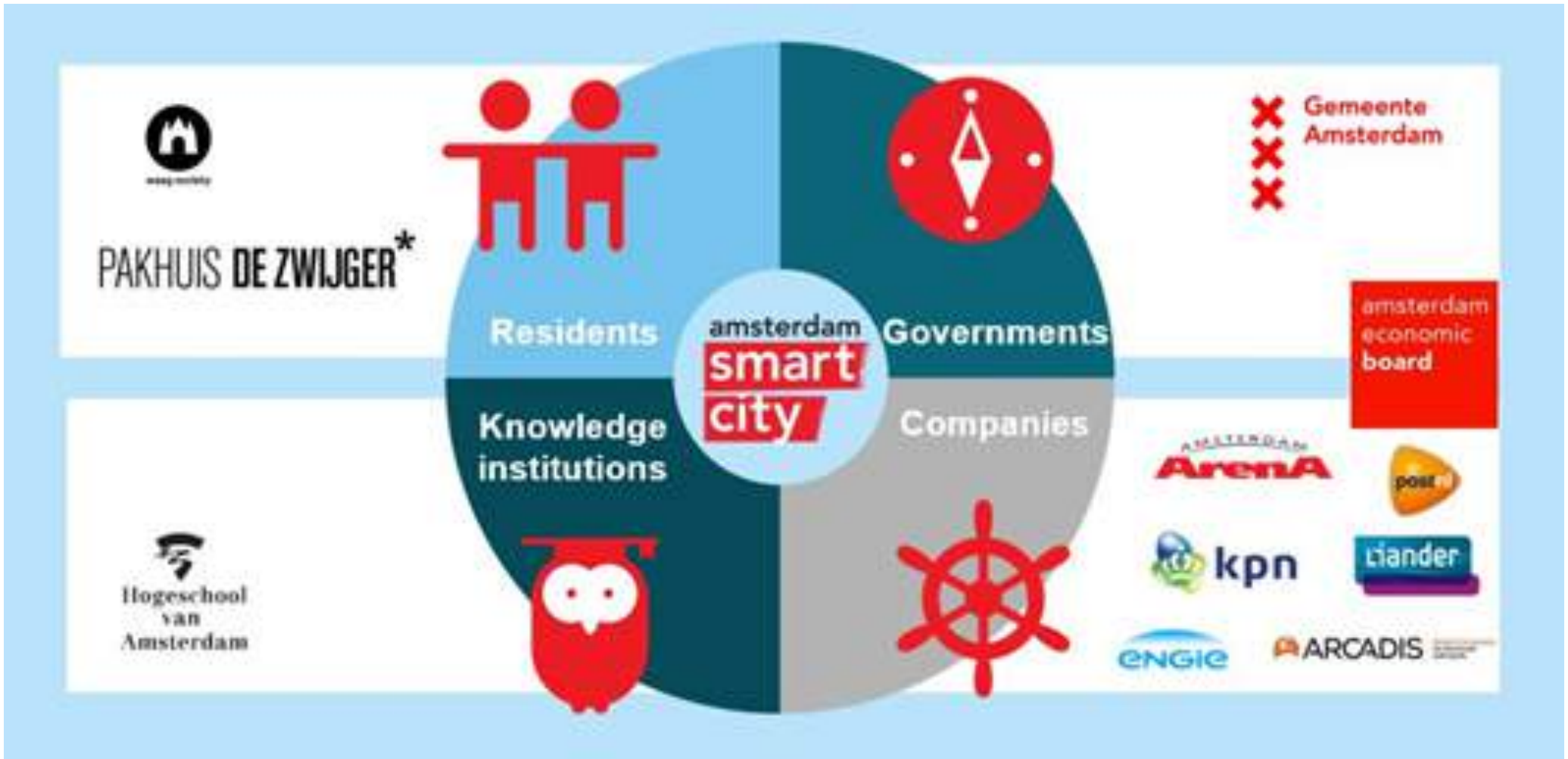




- political leadership
- holistic / cross silo approach
- facilitator – match maker
- citizens engagement
- end user centric approach
- digital social innovation & inclusion
- open data – source - platform



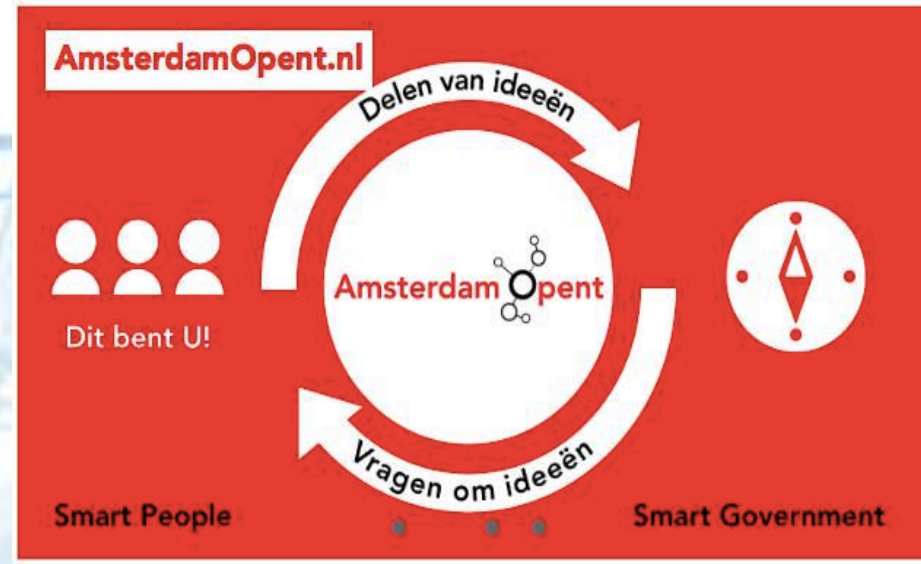




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Amsterdam Smart City:

- arms length of government
- open
 - platform
 - source
 - data
- cross silo
- end user centric approach
- facilitator – match maker
- 7 FTE only

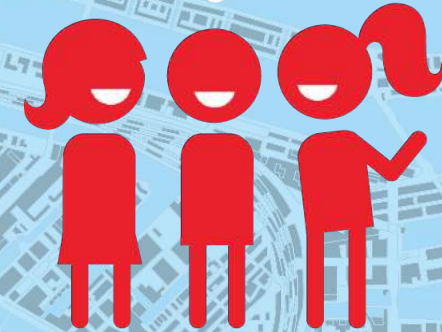


Connect

Accelerate

Strengthen

amsterdam
smart
city



Social

Open

Sustainable



Programma Partners



Project Partners

Network Partners

Building Better Cities Together

Do you know what technologies your city needs?

How self-sufficient is your city?

Where are the opportunities for innovation and new urban design?

We inspire city leaders, technologists, urban designers, architects and citizen-leaders to develop more efficient, resilient and sustainable future cities.

Our Impact



Members

Cities Amsterdam, Barcelona, Béziers, Charlotte, Dubai, Dublin, Gaziantep, Genova, Moscow, Oviedo, Quito, Sant Feliu de Llobregat, Vilanova i la Geltrú

Industry Abertis Telecom Terrestre, Aigües de Barcelona, Bismart, Cast-info, CISCO, CityZenith, GDF Suez, Microsoft, Nerei Emotional Intelligent, OptiCits Ingeniería Urbana, Schneider Electric, Yachay EP

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Nonprofit Organizations Consensus Institute Inc., Ecocity Builders, New York Academy of Sciences, Tice.pt, Turkiye Bilisim Vakfi

am **smart** erdam
city

I amsterdam.



- **Stop talking** the talk and **start walking** the walk
- Identifying the **needs and wishes** of the residents and users of neighbourhoods.
- **Practical** look and approach on what **does work** in particular situations and **act accordingly**
- **Locally** and **temporarily** regulatory exemption
- Align **interest** of partners
- Think **globally**, act **locally**

Fastest consumer network in Europe

Smart Grids



Amsterdam Open Data Program - data.amsterdam.nl

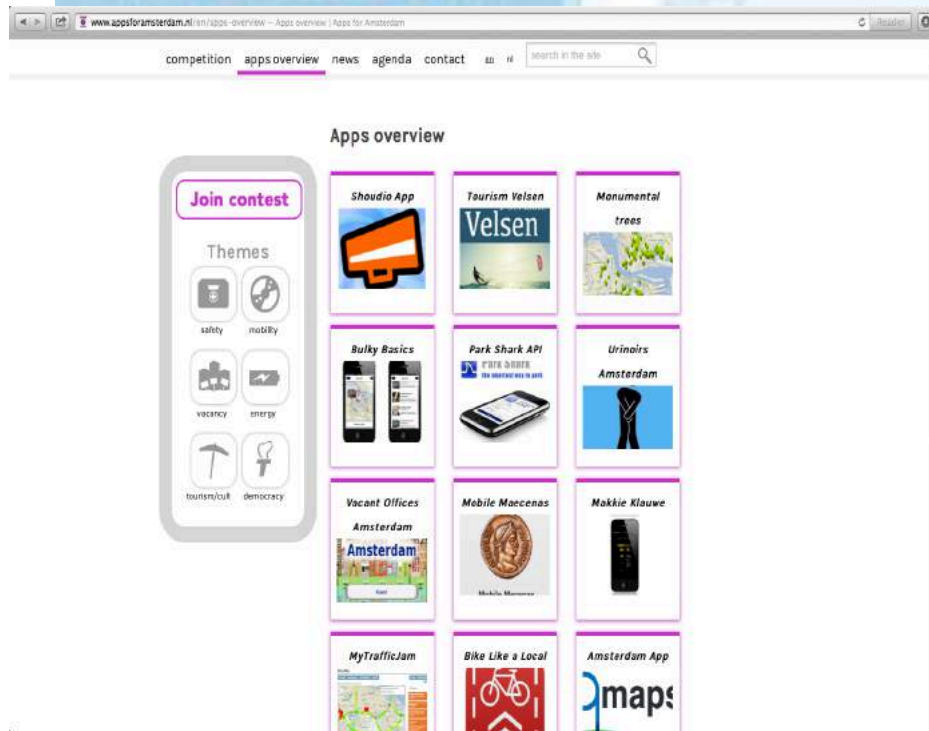
490 Updates (Last 30 days)
1766 Files
297 Datasets
39 Publishers
18 Topics
28 New Datasets (Last 12 months)

Start-up accelerators

Incubators

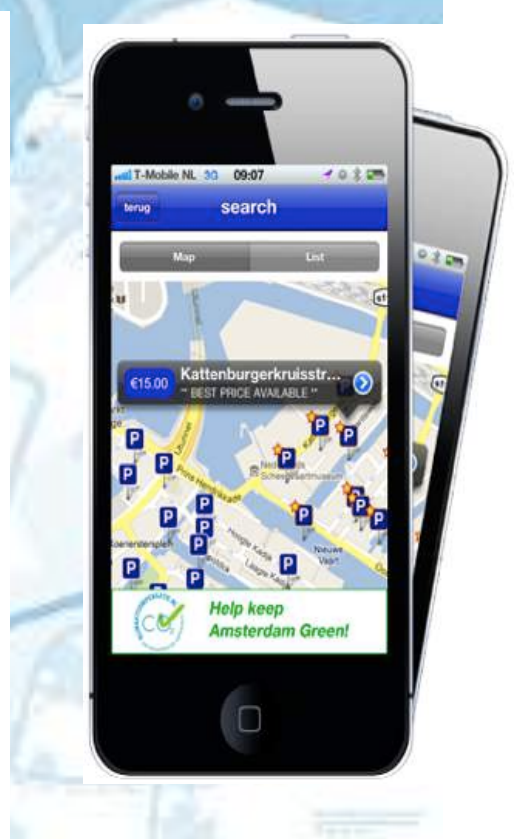
Knowledge institutions

Powered by the people

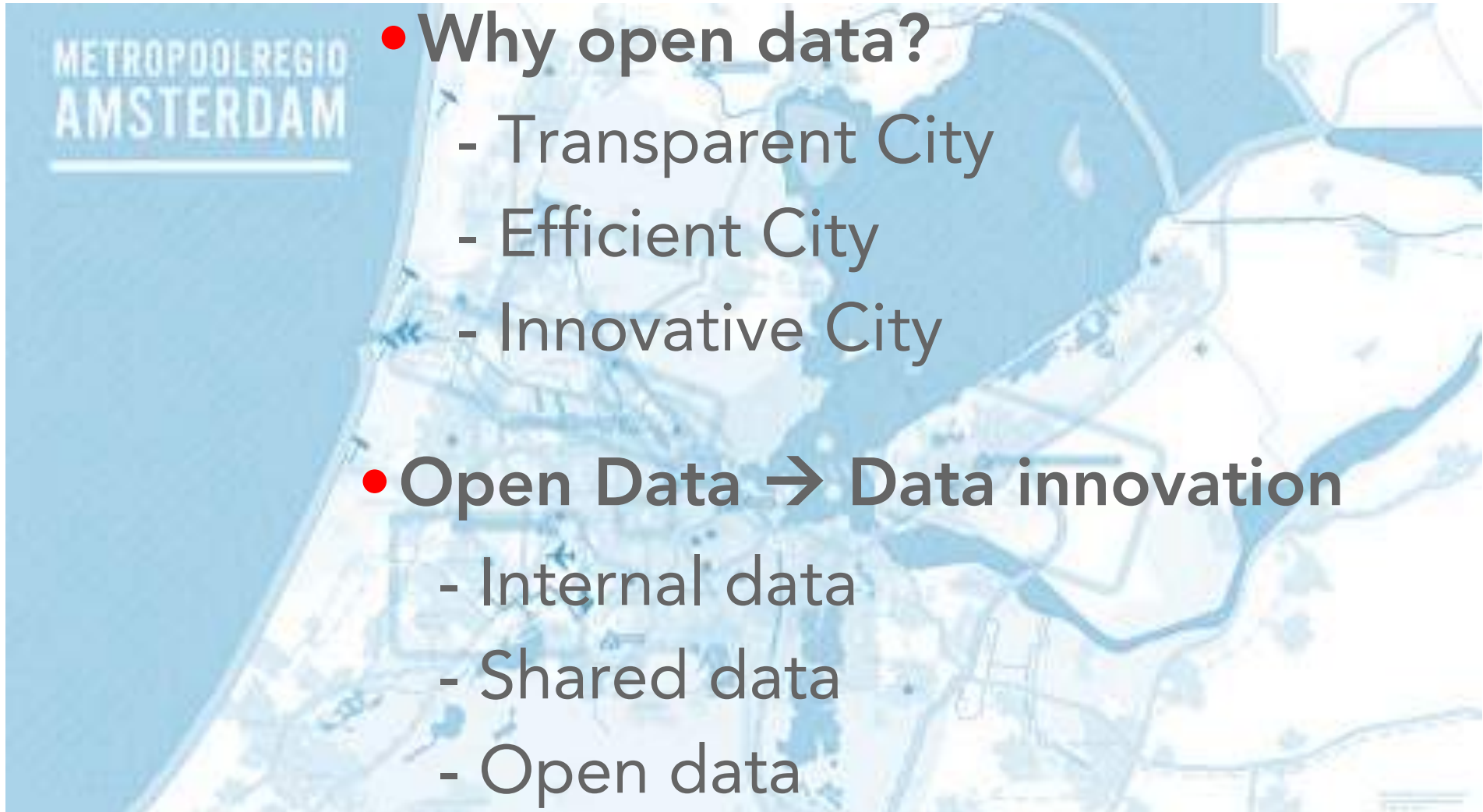


How ParkShark works:

- ✓ Find the nearest parking meters in Amsterdam
- ✓ Filter search results based on:
 - Payment method
 - Location
 - Duration of parking
 - Date & time of parking
- ✓ Calculate the cheapest parking near the desired location.
- ✓ FREE



The city of Amsterdam won the Smart City award with its open data programme. This open data programme is built around the premise that the city shares its data and businesses develop apps using it. Charging points and public transport (trams and buses) – all free available.



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- **Why open data?**
 - Transparent City
 - Efficient City
 - Innovative City
- **Open Data → Data innovation**
 - Internal data
 - Shared data
 - Open data

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Big Data is like *teenage sex*:

- *everyone* talks about it
- *nobody* really knows how to do it
- *everyone* thinks *everyone* else is doing it
- so *everyone* claims they are doing it

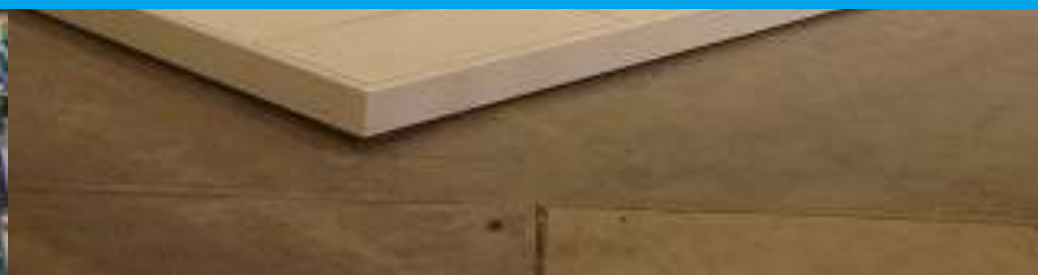
Dan Ariely, Duke University
Director of the Center for Advanced Hindsight

Amsterdam Beacon Mile





› **Partnerships with Google & TomTom**
Collaborate on sharing data and shared goals





- “Good news for the accessibility, traffic flow and air quality in the city” - Deputy Mayor Pieter Litjens

What?

Improve traffic flow and parking in the Dutch capital.

How?

Using the insights from TomTom’s Traffic data combined with the city government’s data.

Impact

- Improved traffic flow in the city
- More efficient parking, decreasing unnecessary ‘search kilometres’

More info:

[@adamsmartcity](#)

- <https://www.amsterdam.nl/bestuur-organisatie/college/individuele-paginas/pieter-litjens/persberichten/persberichten-2016/amsterdam-tomtom/>

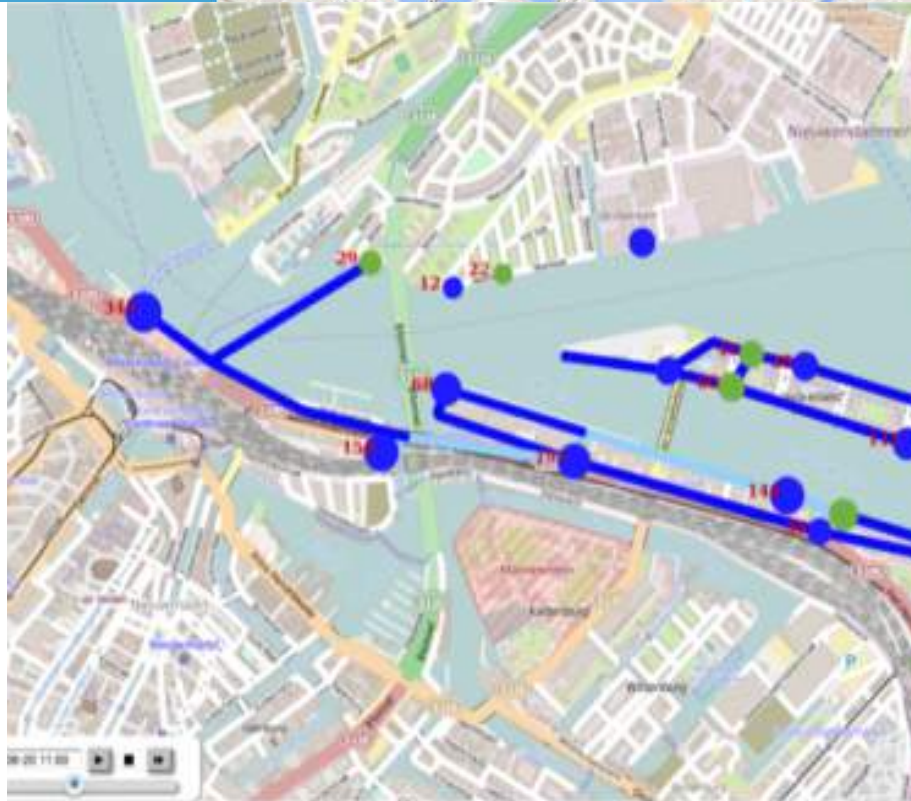
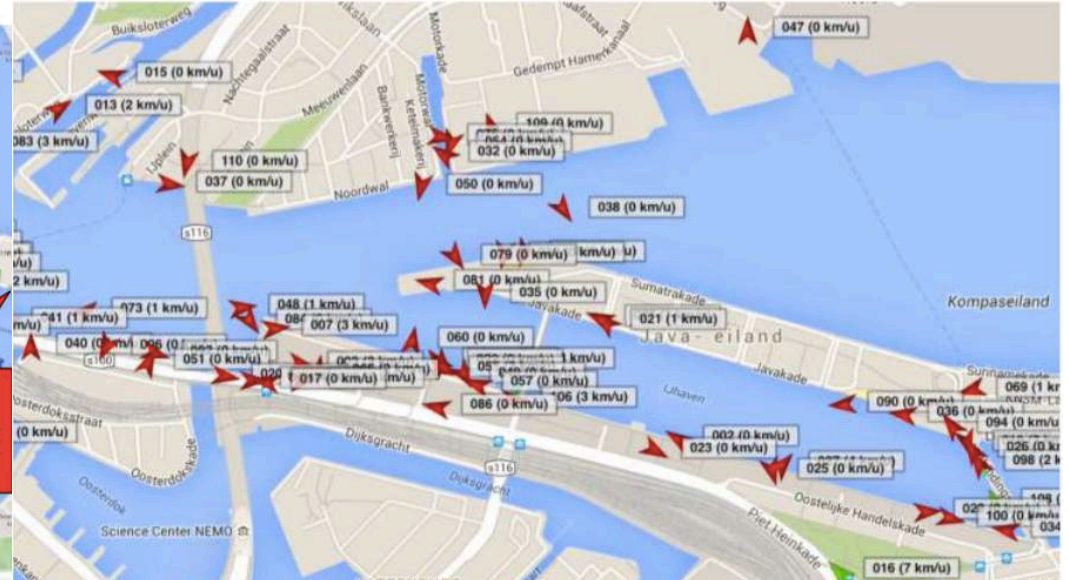


Social Media data (visitor characteristics)

Counting cameras
count pedestrians
in two directions

Wi-Fi sensors follow
Smartphones from
sensor to sensor

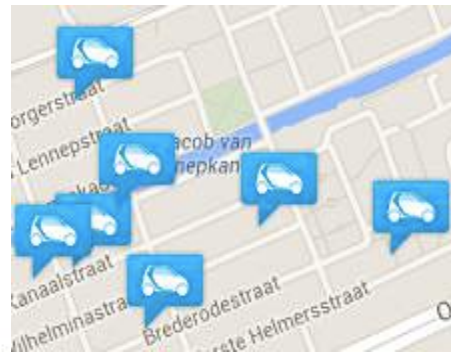
Some visitors carry
GPS trackers that we
can follow







- THE MOBILITY CONCEPT 2.0
- OPERATING AREA
- EASE OF PARKING
- REGISTRATION
- FAVOURABLE FEES
- CORPORATE CUSTOMERS
- HOW IT WORKS
- MY CAR2GO
- FAQS
- PRESS



87-SPJ-4	E-Smart
Address	Eerste Helmersstraat 104, 1054 Amsterdam
Status interior exterior	☺ ☺
Fuel	87%

[> CHANGE LOCATION](#)

[LOGIN](#) or [JOIN NOW](#)



ELECTRICAL AND FLEXIBLE CAR USE IN AMSTERDAM.

It's finally possible! Driving a car inside Amsterdam without the high costs of owning a car or the bother with parking. And with hardly any CO2 discharge.

Electric driving is going to get a big boost in the coming years, partly thanks to 'Amsterdam Elektrisch'. Logical, because it's cleaner, quieter and saves energy. No wonder that Amsterdam is the first city in Europe where 300 car2go [electric smarts](#) are used. Where you can now use them 24/7.



The New Motion develops a charging point for houses and offices. Together with grid operator Liander they make home charging easy!

Project description

- Integration of smart meter, grid and 'Moet Je Watt'
- Testing concept with first customers in Amsterdam in collaboration with Liander
- Impact analysis of EV to electricity grid



Results

- Safe: according to Dutch regulation (mode 3, type 2)
- No Worries: Charging without tripping the fuse at home & at the office
- Smart Charging: automatically charge multiple cars in turn
- Billing: online and automated via lease company
- Community: charging at all Moet Je Watt charging points





We aim at establishing 850.000 solar panels in Amsterdam



The focus areas

Thinking big: what is needed to realize 850.000 solar panels?



Inform the roof owner



Make it simple



A professional approach

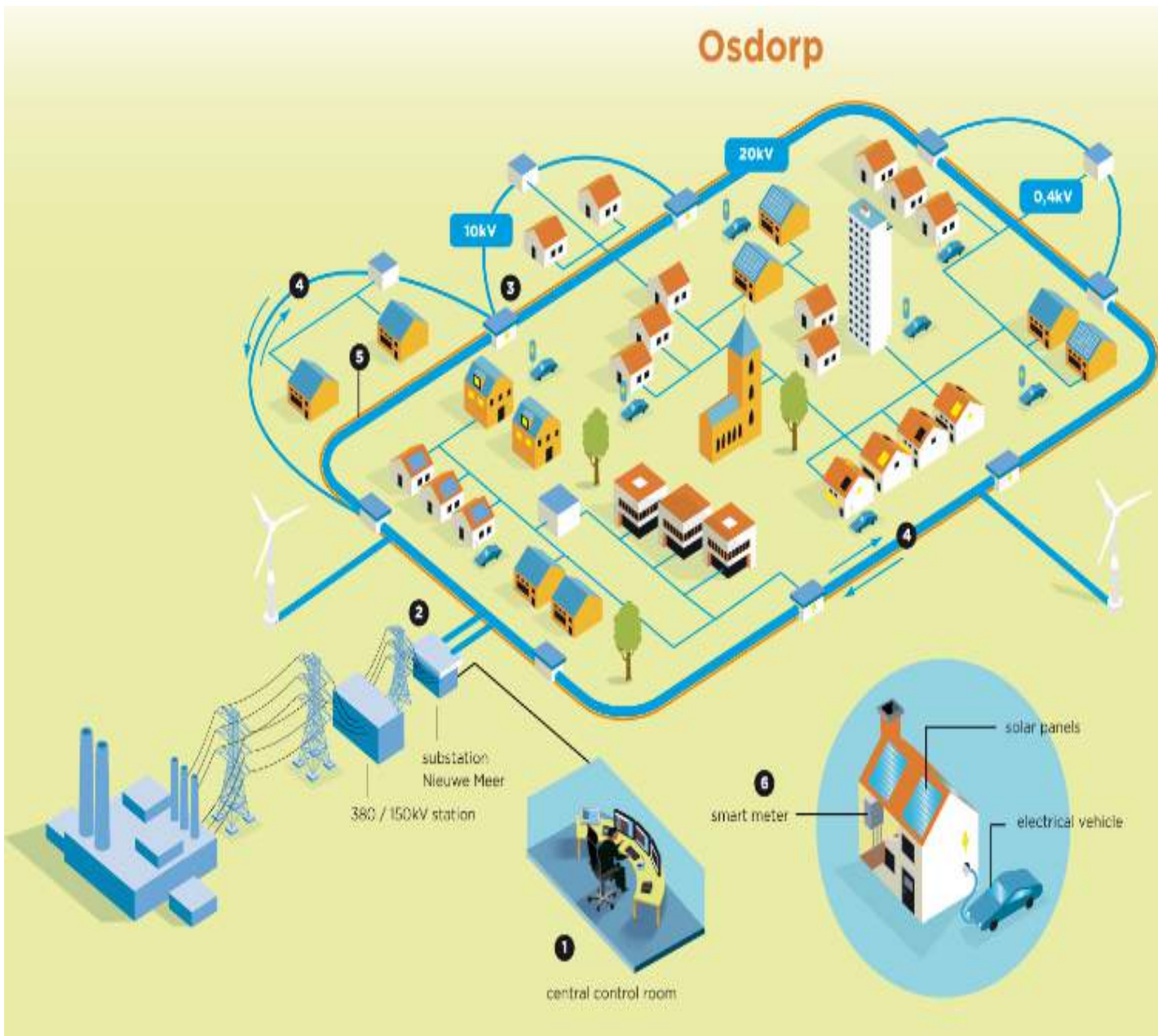


Work together with politics



Business models without investments



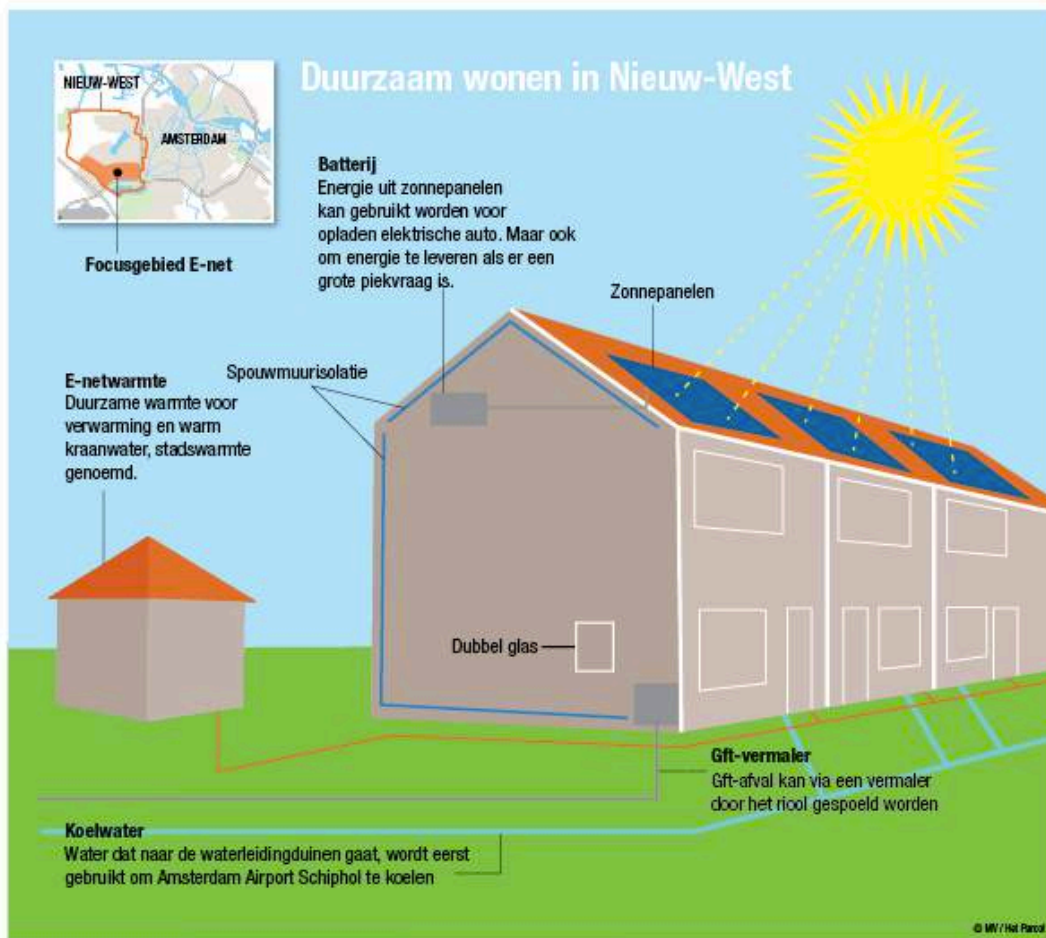


Key components

- Continuous monitoring (1)
- Intelligent substation (2)
- Intelligent secondary substation (3)
- Flexible bidirectional grid(4)
- Fiber optic telecom (5)
- Smart metering (6)

Key benefits

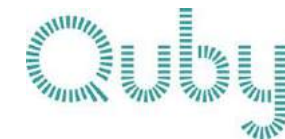
- More capacity
- Increased flexibility
- Increased reliability
- Less outage
- Facilitates distributed generation



- Started in April
- 23 partners, 30 million investment
- Citizen empowerment
- Project includes:
 - Smart grids
 - Solar energy & storage
 - Renovation. 52.000 m²
 - Serious Gaming
 - Watercooling Schiphol

CITY-ZEN
**TOGETHER WE MAKE
THE WORLD SMARTER**

Making energy part of our daily Life
Energy Management Display



- Co-developed tested with 350 consumers
- Co-Developer with 50 entrepreneurs (Climate Street)
- More interactive (include weather), simplified (and clear focus on energy)





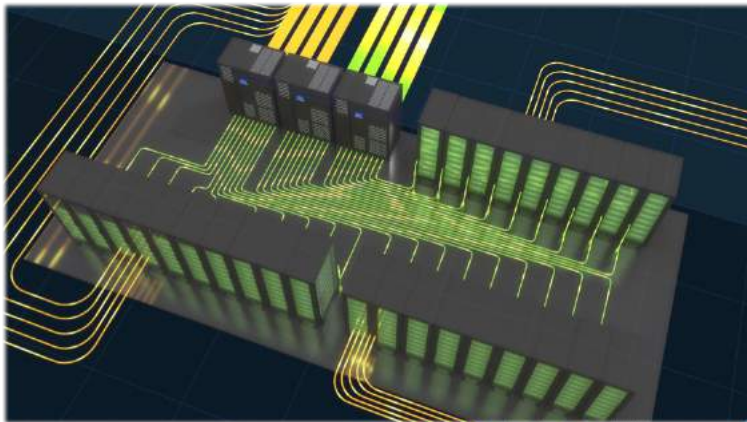
AMSTERDAM

ArenA

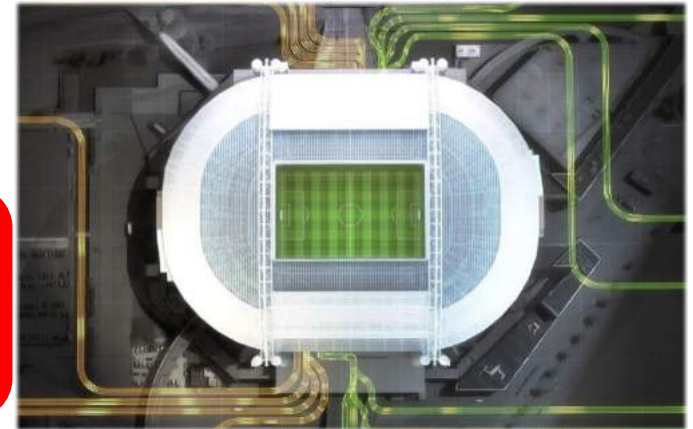


INNOVATION CENTER

world's **leading** innovation hub for **cities** and **stadiums** of the future



Second life Nissan LEAF batteries to power Amsterdam Arena



Arena starts own innovative energy comp.
Joint purchasing and exchange of energy (large scale consumers)



Waste heat from data centers
Use of waste heat of new data center in the immediate vicinity



Sun PV AMC
AMC hospital develops a viable business case for 35000 m2 solar PV on the roof



Local Data Centers

Citizen central



- Crucial position
- At the centre of all activities
- Gaining knowledge about residents and users of neighbourhoods
- Multi stakeholder approach
- Looking at different ways to enhance citizen involvement
- Accelerating bottom-up initiatives



ORGANISING SMART CITY PROJECTS

LESSONS FROM AMSTERDAM

Willem van Winden
Inge Oskam
Daniel van den Buuse
Wieke Schrama
Egbert-Jan van Dijck



1. Partnership should fit project scope and should be open to new input
2. Project scope should be clear and shared by all partners involved
3. Projects benefit from clear ownership and committed project leadership
4. User involvement is multi-layer and ongoing process
5. Value of project needs careful consideration and evaluation

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6. Creating a viable business case is key to continuation and upscaling of the project
7. Technology itself is not the problem, but the way technology is used and integrated
8. Upscaling cannot prosper without sharing knowledge



The City is an **Open Platform**

Products and Services are **User Centric**

The most **livable cities** will be cities with the **best Apps**

Paradigm shift: Ownership vs **Availability**

Allow for **failure & uncertainty**



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Industry Abertis Telecom Terrestre, Aigües de Barcelona, Bismart, Cast-info, CISCO, CityZenith, GDF Suez, Microsoft, Nerei Emotional Intelligent, OptiCits Ingeniería Urbana, Schneider Electric, Yachay EP

Academia Bandung Institute of Technology, Cardus, Computation Institute-University of Chicago, FUNITEC La Salle, Global Cities Institute-University of Toronto, IESE Business School, Institute for Advanced Architecture of Catalonia (IAAC), IUT Béziers, Universitat Autònoma de Barcelona (UAB), Universitat Rovira i Virgili (URV)

Nonprofit Organizations Consensus Institute Inc., Ecocity Builders, New York Academy of Sciences, Tice.pt, Turkiye Bilisim Vakfi



JOIN OUR NEW COMMUNITY



am **smart** erdam
city

Connect with Amsterdam's
Smart City innovators

www.amsterdamsmartcity.com



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Challenges

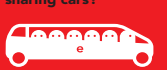
Amsterdam has one of the most diverse populations in Europe. How can we keep the city attractive and enjoyable for everyone?



City residents are living longer. How can we guarantee their quality of life?



30% of the cars in Amsterdam are used less than once a week. Shouldn't we start sharing cars?



A smart city is not just a matter of technology. Surely it requires smart citizens as well?



An Amsterdam household produces about 550 kilos of waste per year. How can we reduce and reuse this waste?



Climate change and increasing population density are making the city vulnerable to extreme weather. How can we keep our feet dry?



Last year Amsterdam welcomed millions of visitors. Can the city remain attractive for both tourists and residents?



What will future energy look like? Will we generate it at home?



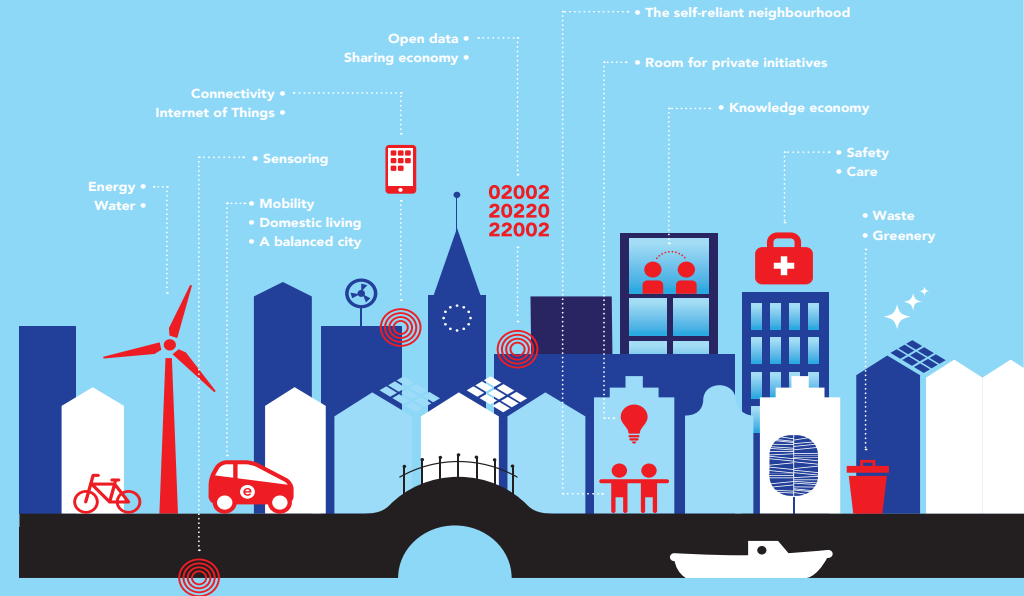
Smart City here we come!

As cities grow, new **opportunities** and **challenges** emerge. The rapid growth of urban populations is driving a demand for **smart ideas** and **solutions** for the city. The challenge here is to guide this growth **efficiently** and **sustainably**. That's why Amsterdam Smart City was established.

amsterdam smart city

Amsterdam Smart City is the innovation platform where public authorities, businesses, citizens and knowledge institutes team up to **tackle** urban **issues**. Amsterdam Smart City collaborates **intensively** with partners in fields ranging from mobility, digitisation and energy to waste. The result: innovative projects that are making the city progressively **smarter**.

Facts & figures



I amsterdam.

Join in!
If you'd like to contribute to Amsterdam Smart City or you have an innovative idea, then share it with our community:
www.amsterdamsmartcity.nl
@adamsmartcity
facebook.com/AmsterdamSmartCity

