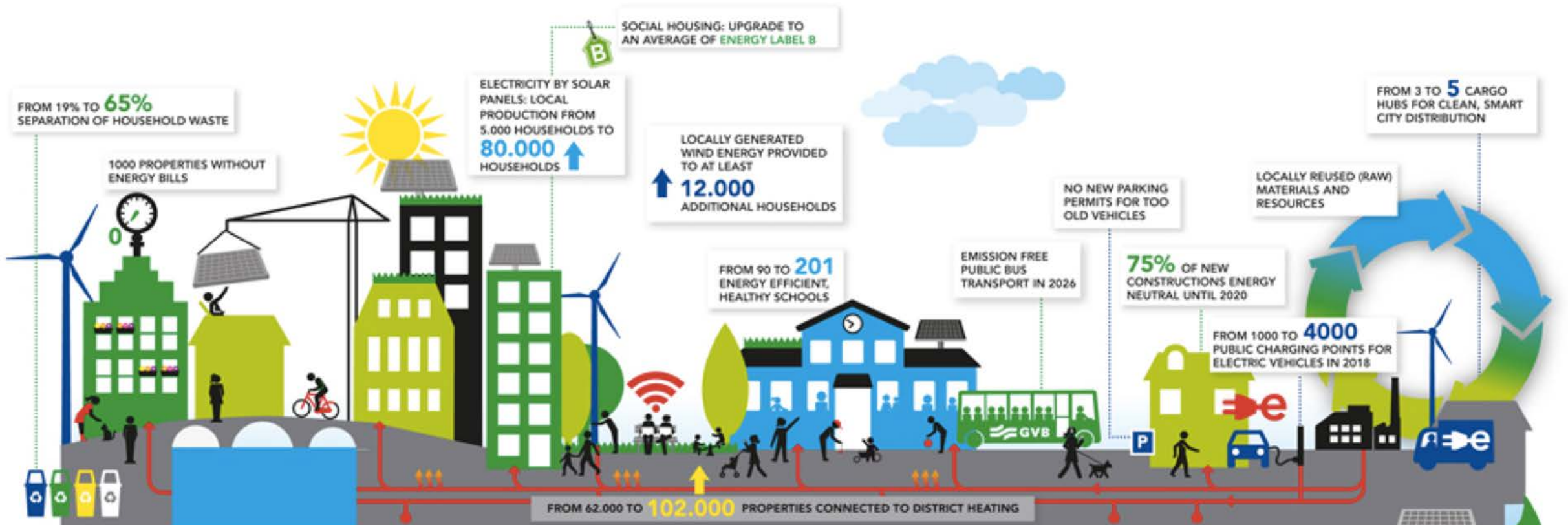


Прощай, приватность

как мы (незаметно) начали расплачиваться данными за жизнь в городе



RENEWABLE ENERGY

IN 2020, 20% MORE LOCALLY PRODUCED RENEWABLE ENERGY PER INHABITANT, AND 20% ENERGY SAVED PER INHABITANT.

CLEAN & HEALTHY AIR

BY 2025 AS MUCH EMISSION FREE TRAFFIC IN THE CITY AS POSSIBLE.

CIRCULAR ECONOMY

WASTE IS A RESOURCE. RAW MATERIALS AND RESOURCES WILL BE MINED LOCALLY AND RE-USED. NEW FORMS OF DISTRIBUTION, CONSUMPTION AND DISTRIBUTION WILL ARISE.

CLIMATE RESILIENT CITY

CLIMATE CHANGE AS A KEY FACTOR BY THE DEVELOPMENT AND DESIGN OF THE CITY OF AMSTERDAM.

SUSTAINABLE CITY

AMSTERDAM ENVISAGES RAPIDLY IMPROVING SUSTAINABILITY WITHIN THE MUNICIPAL ORGANIZATION ITSELF.

SERVING CITIZENS AND BUSINESSES BETTER THROUGH TECHNOLOGY

- Initiatives that make Citizens' lives better
- Initiatives that create opportunities for Businesses
- Initiatives that build a better home and community

MyTransport-SG

- 140,000 commuters enjoy one-stop, personalised journey planning daily

PayNow

- 2.3 million registered mobile and NRIC registrations for instant funds transfers

Business Grants Portal

- 19,000 business grants applied through this one-stop portal
- 15% savings in businesses' time and opportunity costs

MyInfo Business

- 220,000 SMEs benefiting from ease of pre-filing business data at UOB, OCBC and DBS

Networked Trade Platform

- Under 1 hour to process trade permits, down from several days
- Single platform for managing trade permits than across multiple Declaring Agents
- 1,400+ businesses having one-stop access to trade financing and supply chain management services

MyInfo

- 5 minutes to apply for bank accounts and credit cards with pre-filled information and instant approvals, down from 3 days

SingPass Mobile

- 190,000 users seamlessly logging in without need for passwords

Healthy 365

- 1.7 million sign-ups walking to a healthier lifestyle through tech-enabled National Steps Challenge™

Moments of Life

- 2,000+ births electronically registered without queuing and manual form-filing since 2018
- Child immunisation records accessible on-the-go

Parking.sg

- 15 million coupon-free parking sessions and \$3.3 million in refunds since 2017

myResponder

- 39,000+ citizen life-savers around you
- 13 heart attack victims saved

Dementia Friends

- More than 40 missing seniors with dementia assisted through app community

OneService

- 90% of 290,000 municipal cases resolved within 11 days, down from 16 days

Smart Gravitraps

- About 50,000 traps deployed in HDB estates to monitor Aedes mosquito population

***Thank you to our citizen volunteers, innovative companies and all who have contributed to our Smart Nation!**

Определение на скорую руку

В умном городе ИКТ и инфраструктура тесно интегрированы для повышения экономической и экологической эффективности, а также для предоставления новых услуг, улучшающих качество жизни горожан

Классические многогородские решения

Умный транспорт/мобильность





PLEDGE YOUR SUPPORT FOR SINGAPORE'S UNESCO BID
www.oursheritage.sg

CARM

999

Medical Clinic

On-Demand Public Bus
CBD To Bedok & Tampines NB-2

landtransportguru.net

SMRT
BUSES

MAN

SMB1487H

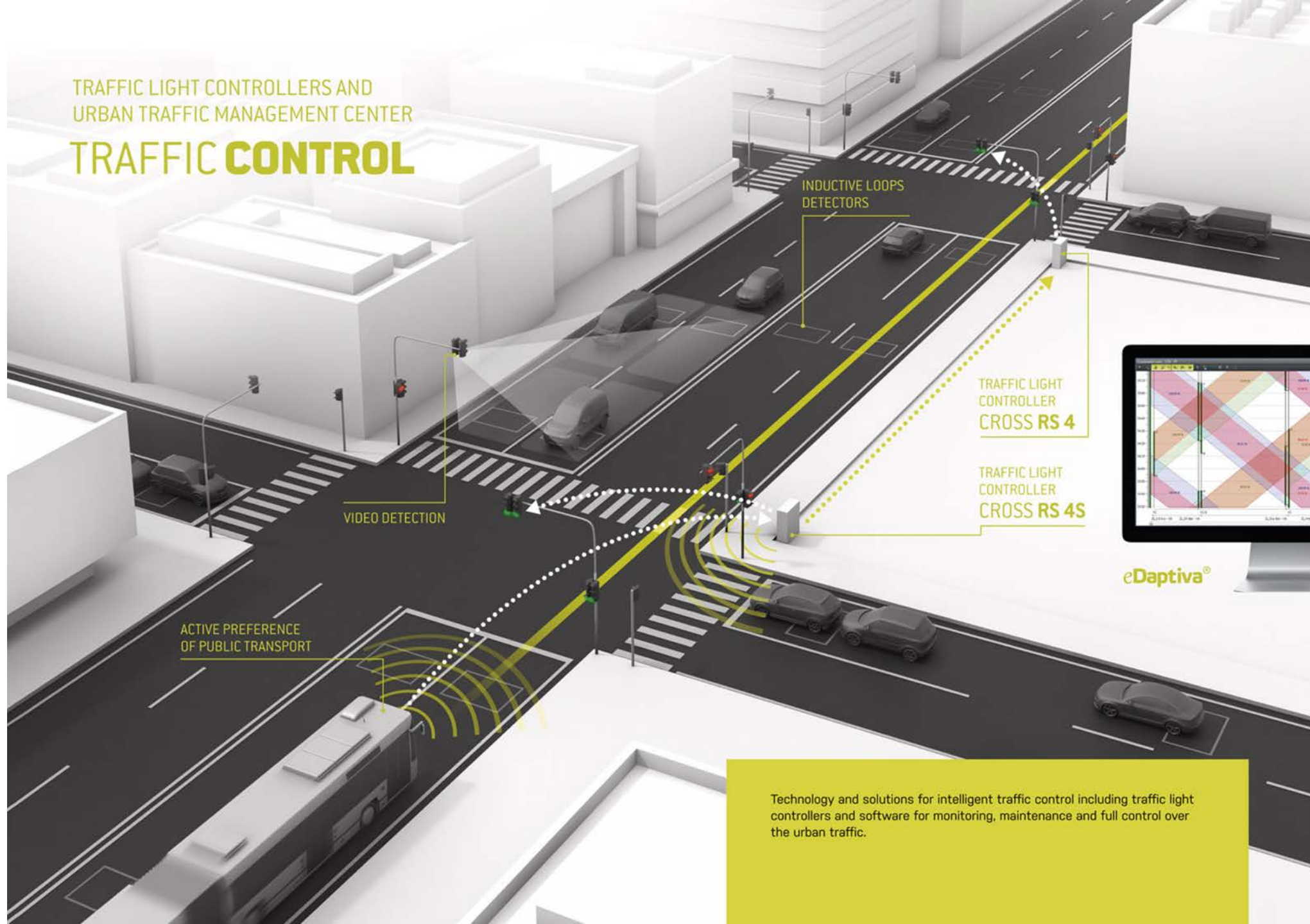






TRAFFIC LIGHT CONTROLLERS AND
URBAN TRAFFIC MANAGEMENT CENTER

TRAFFIC CONTROL



ACTIVE PREFERENCE
OF PUBLIC TRANSPORT

VIDEO DETECTION

INDUCTIVE LOOPS
DETECTORS

TRAFFIC LIGHT
CONTROLLER
CROSS RS 4

TRAFFIC LIGHT
CONTROLLER
CROSS RS 4S

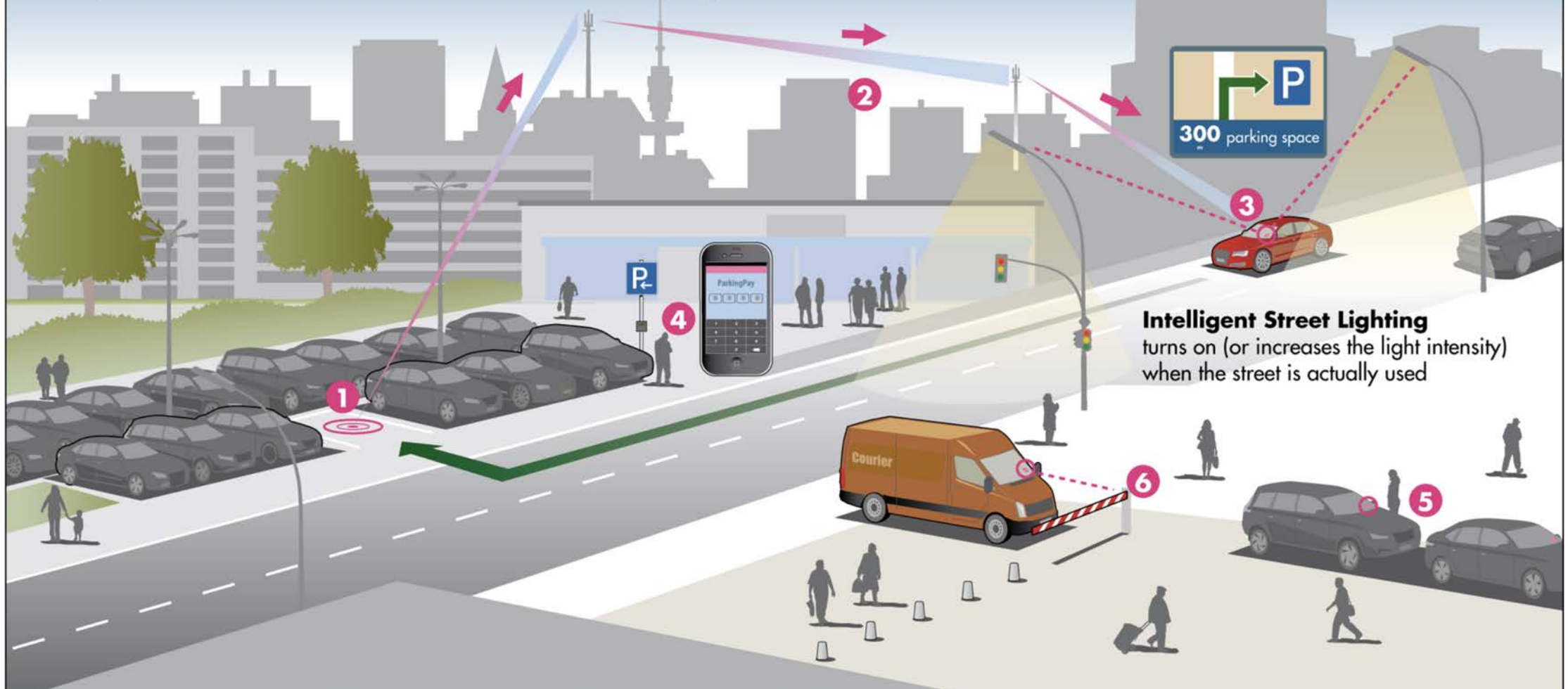
eDaptiva®

Technology and solutions for intelligent traffic control including traffic light controllers and software for monitoring, maintenance and full control over the urban traffic.



Help with finding a parking space

30 percent of drivers in cities are looking for a parking space.
Intelligent machine-to-machine (M2M) solutions make life easier in the city.



Intelligent Street Lighting
turns on (or increases the light intensity)
when the street is actually used

1 Sensors "detect" whether a parking space is occupied or vacant and...
2 ... transmit **data** to the central **server**

3 Smartphone app "requests" a parking space and guides drivers to the free space

4 Parking fee is paid directly through the app

5 Special permit
Administration of
- parking and local resident IDs
- permits for taxis, coaches, deliveries


6 Legitimation
Access control to restricted traffic areas such as loading zones, residential parking

 **M** metro **16th & M (northbound)** **3** MIN WALK

S9	Silver Spring Station Northbound	4, 12 MIN
S2	Silver Spring Station Northbound	7, 8 MIN

 **M** metro **16th & M (southbound)** **3** MIN WALK

S4	Federal Triangle Southbound	3, 15 MIN
S2	Federal Triangle Southbound	10, 13 MIN

 **M** metro **K & 15th** **3** MIN WALK

D1	Glover Park Westbound	5, 36 MIN
D6	Sibley Hospital Westbound	5, 18 MIN

 **M** metro **Farragut North Metro** **8** MIN WALK



RD	Glenmont	8 MIN
----	----------	-----------------

 **M** metro **McPherson Square Metro** **7** MIN WALK



SV	Wiehle-Reston East	6 MIN
BL	Largo Town Center	10 MIN

  **K & 14th DC Circulator** **6** MIN WALK

CIR	Georgetown - Union Station Westbound	5, 12 MIN
CIR	Georgetown - Union Station Eastbound	8, 11 MIN

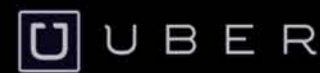
Now	6 PM	7 PM	8 PM
			
CLEAR	PARTLY CLOUDY	PARTLY CLOUDY	PARTLY CLOUDY
71°	67°	63°	61°




	BIKES	EMPTY DOCKS
 14th & Rhode Island Ave NW	9	12
 Thomas Circle	8	21



	MIN WALK
1435 Rhode Island Ave NW	6
1510 15th St NW	7



uberX  1.6x **5** MINUTES AWAY



MaaS



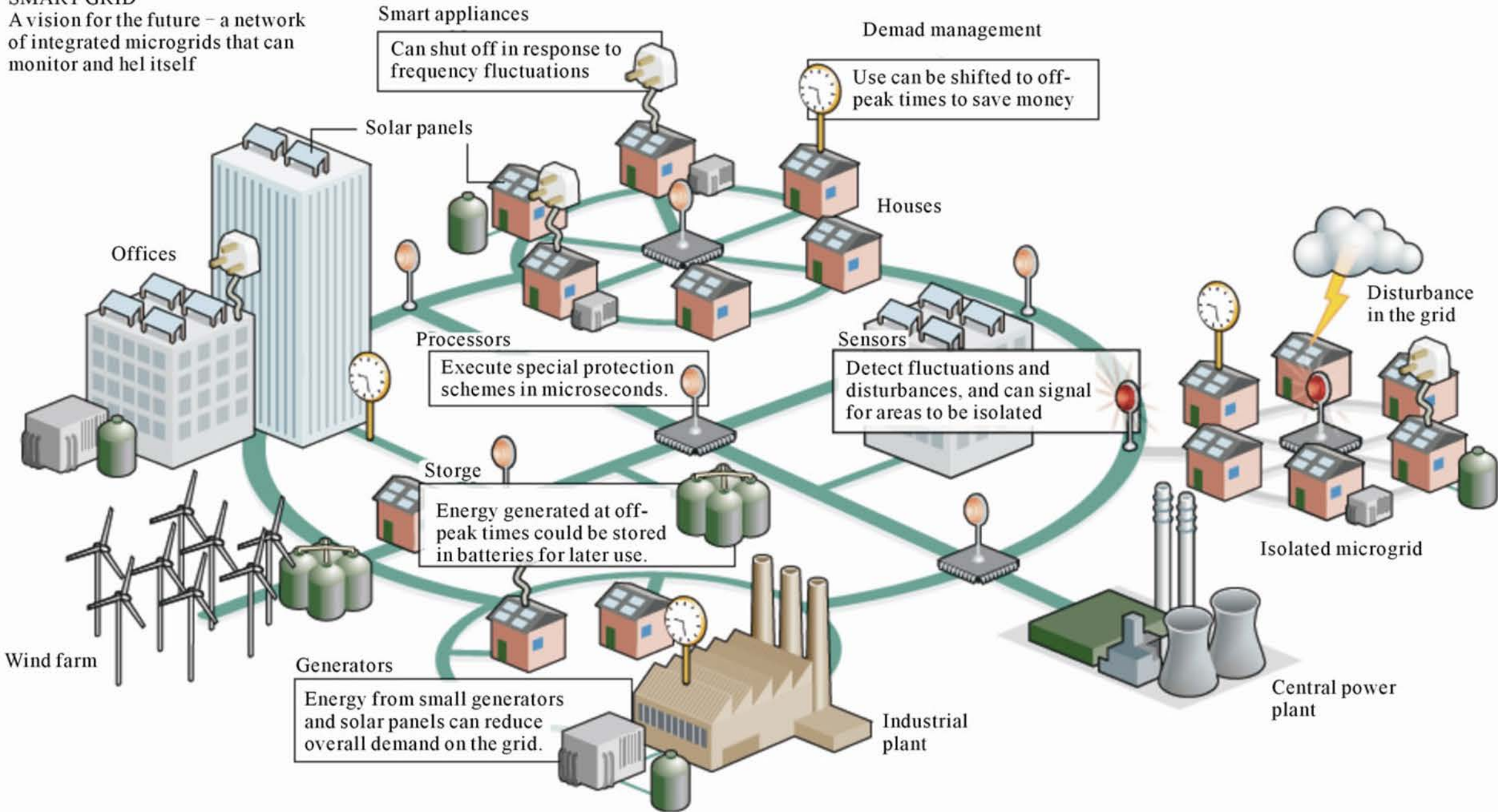
P



Умная энергетика

SMART GRID

A vision for the future – a network of integrated microgrids that can monitor and help itself



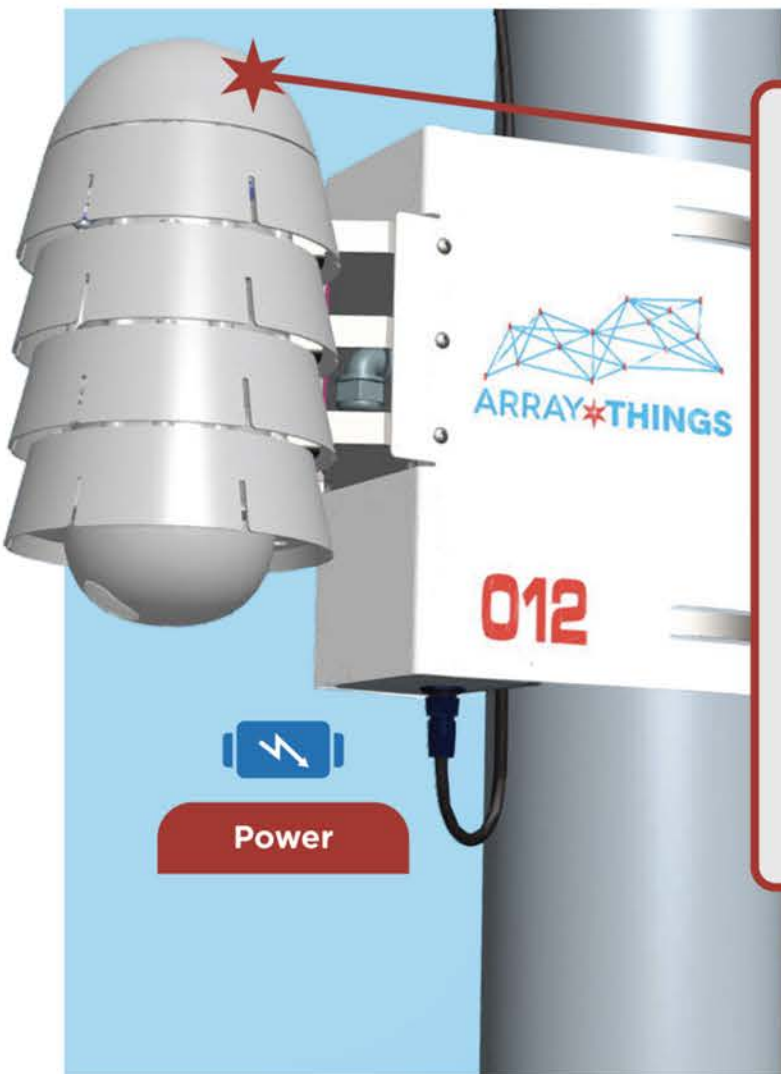




Умные фонарные столбы







Node Components



Environmental Sensors

Air temperature, Humidity, Barometric Pressure, Vibration, Sound Intensity, Magnetometer



Air Quality Sensors

Nitrogen Dioxide, Ozone, Carbon Monoxide, Hydrogen Sulfide, Sulfur Dioxide



Light & Infrared Sensors

Light intensity, infrared (CLOUD COVER; SURFACE TEMPERATURE), camera, vehicle and pedestrian traffic. Images processed in-situ and discarded.



Linux Node Controllers

Image Processing Computer & System Health Manager and Control/Communications Computer

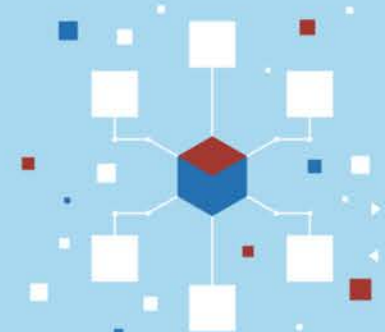


Node Power Manager

Node health monitoring and resilience functions



Argonne Server



Plenario, Open Data Portals, Dashboards, and Apps

Центры управления



CENTRO DE OPERAÇÕES PREFEITURA DO RIO



BANDUNG COMMAND CENTER



Не-ИКТ решения









Ключевые технологии

1) Сенсоры (IoT)

- Погода
- Качество воздуха
- Колебания
- Запах
- Наводнение
- Звук
- Заполнение мусорных баков

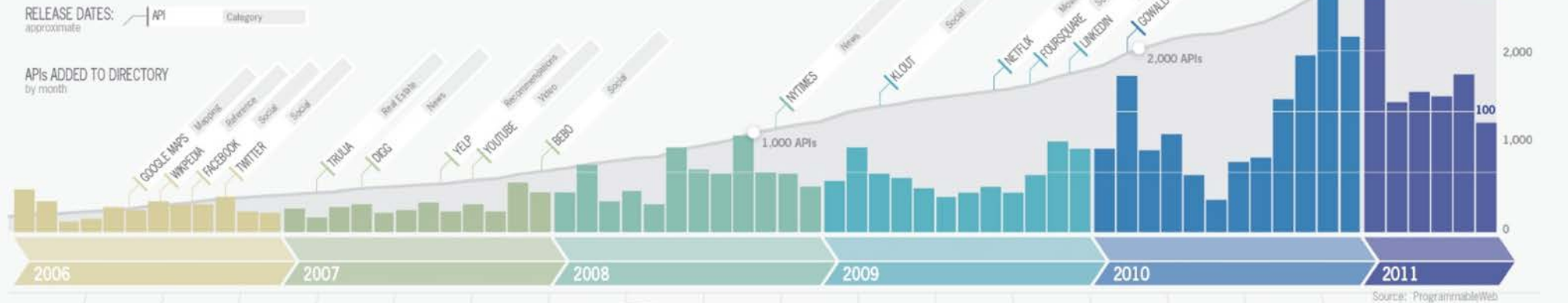
2) Данные

Цифровые следы

- Данные с сенсоров
- Сотовые сети
- Транспортные данные
- Финансовые транзакции
- Социальные медиа

THE OPEN DATA

MOVEMENT



THE EVOLUTION OF APIs

Increasingly, companies are making their data and inner workings publicly available through the release of APIs, which are used by developers in building new tools—like TweetDeck, based on Twitter's API. Since 2005, more than 3,700 APIs have been launched.

WHAT IS AN API?

An application programming interface is a set of instructions that allows software programs to interact with each other. ProgrammableWeb tracks APIs and "mashups" (new combinations of existing APIs).

PUBLIC DATA AROUND THE WORLD

From education to energy, health to poverty, and finance to demographics, governments and NGOs are opening up their data troves so that anyone can look for patterns and create informed solutions to global challenges.



Open Knowledge Somalia
presents

OPEN DATA DAY 2020

Mogadishu, Somalia

Murch 7th 2020



www.oksomalialia.org



info@oksomalialia.org

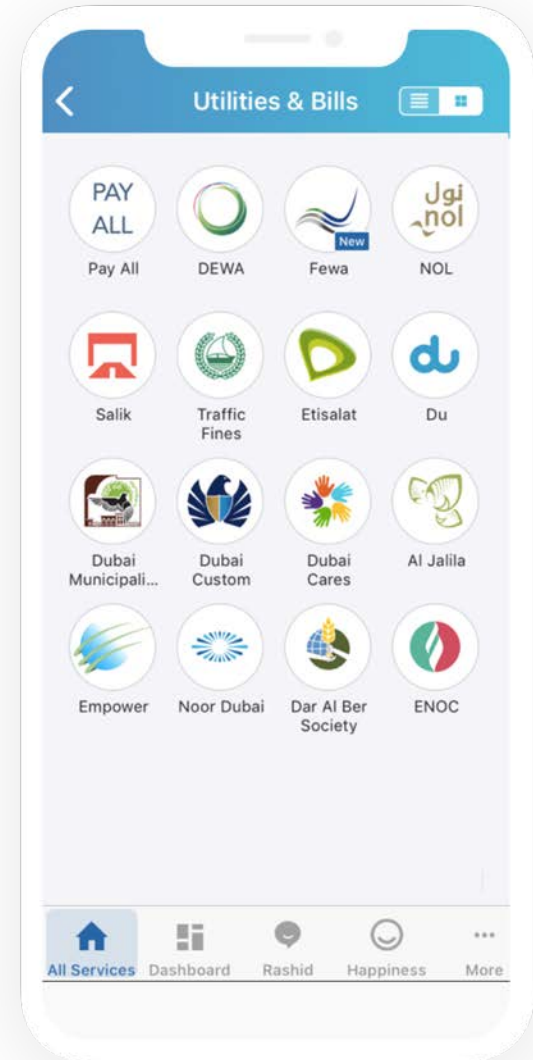


OKFNSO



OKFNSO

3) Смартфоны и мобильные приложения



Цифровой урбанизм

- Город как комбинация миллионов взаимодействий
- От статики к динамике
- От пространственной перспективы к топологической
- От внутренней неопределенности к прогнозам и симуляциям

- Как мы вообще жили без всех этих данных?

Конечная цель

Умный город—постоянно самооптимизирующийся город

(над которым у нас не останется контроля?)



PHYSICAL LAYER

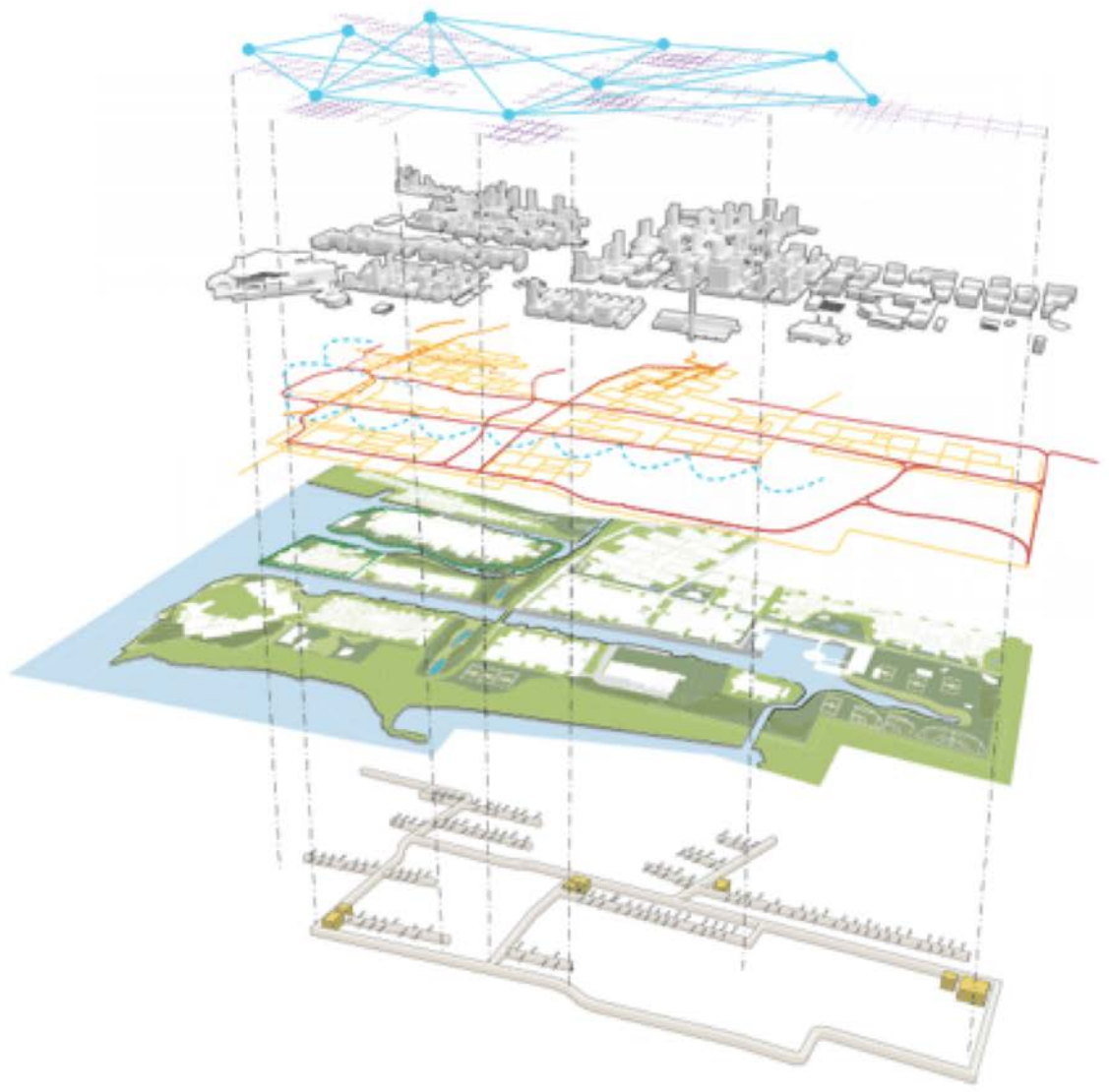
Digital Layer

Buildings

Mobility

Public Realm

Infrastructure





**Three layers of
“smartness”:**

Adoption and usage,
often leading to better
decisions and
behavior change

Smart applications
and data analysis
capabilities

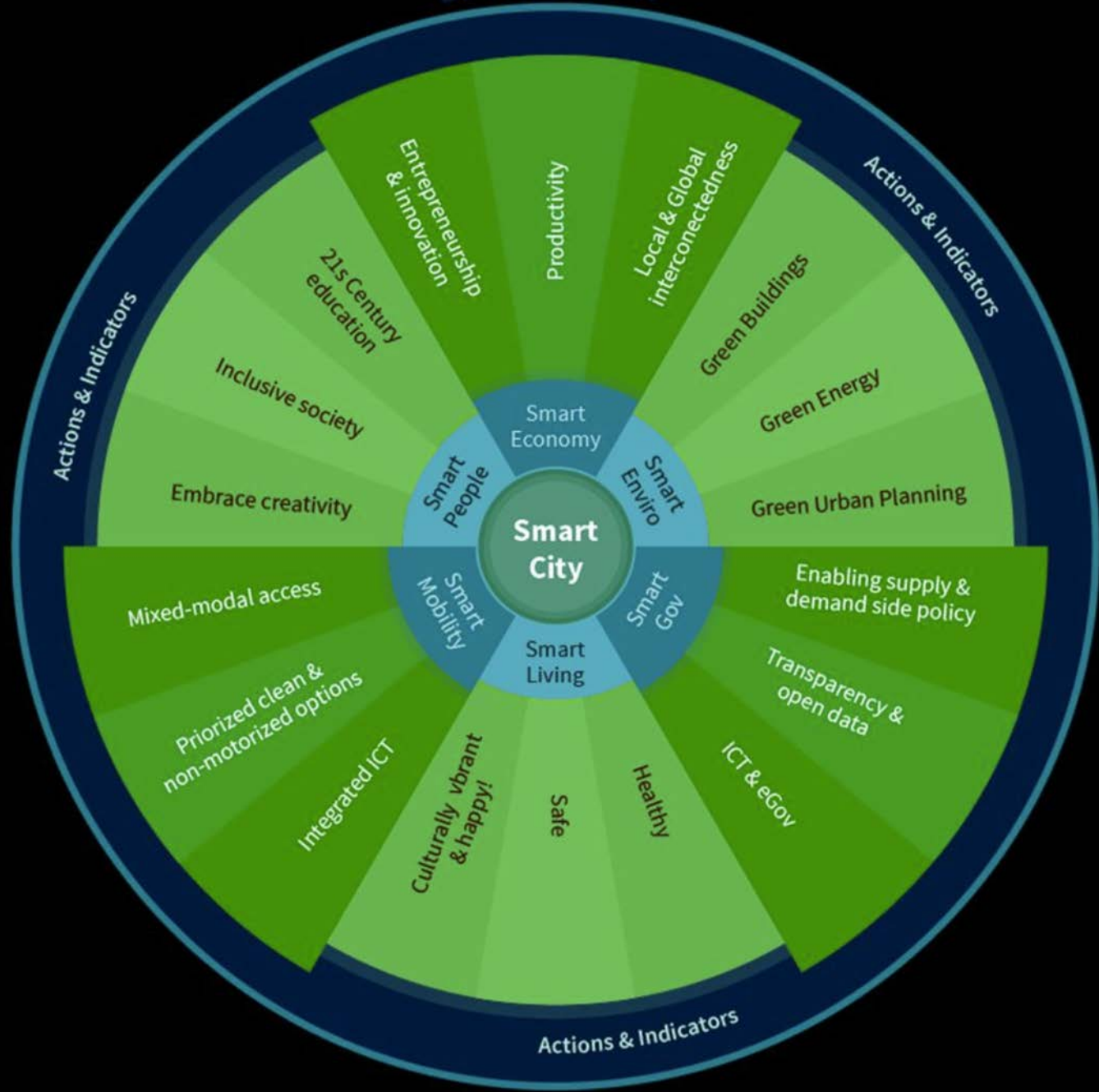
The tech base includes
networks of connected
devices and sensors

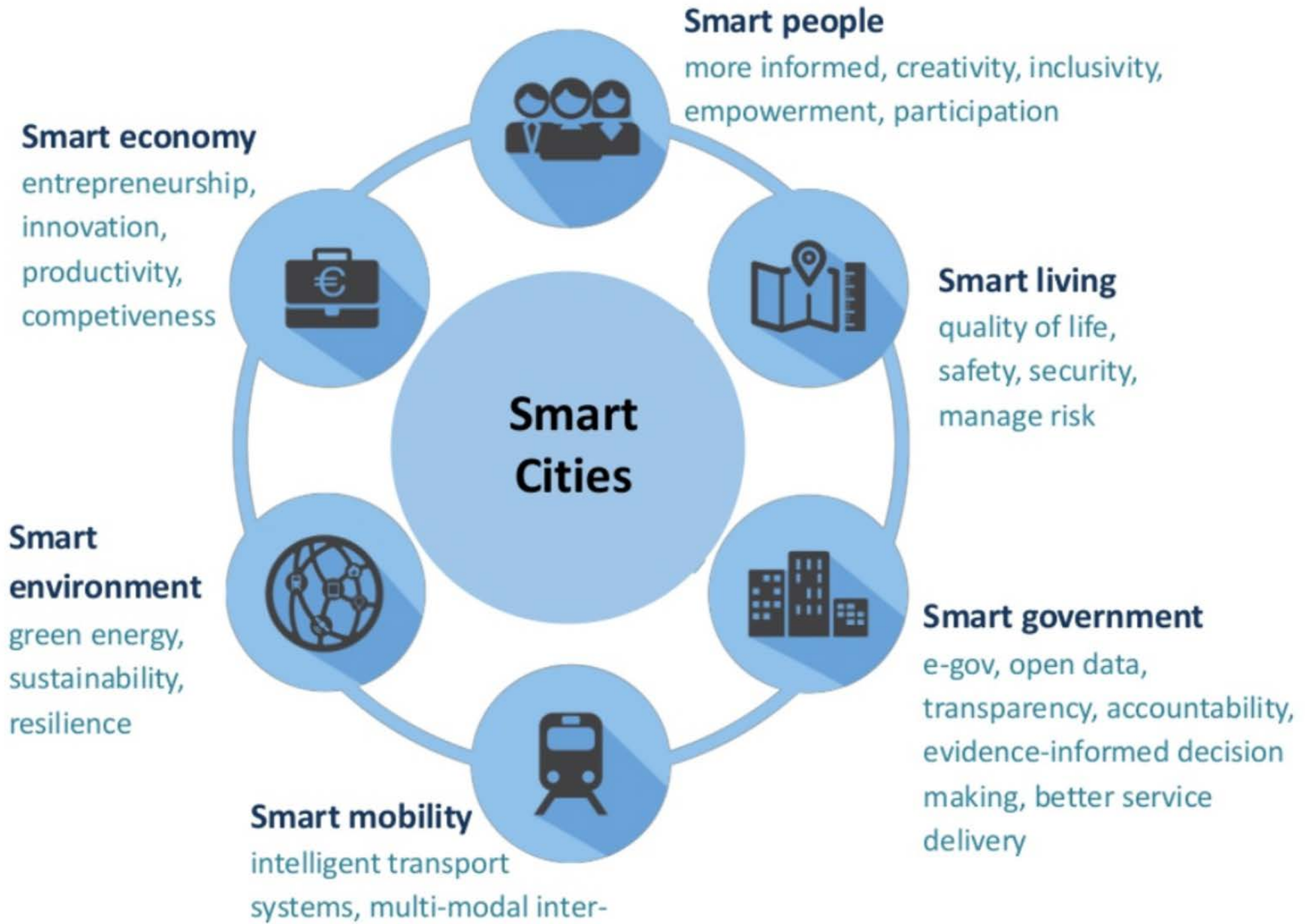
**Traditional
infrastructure**
(physical and social)

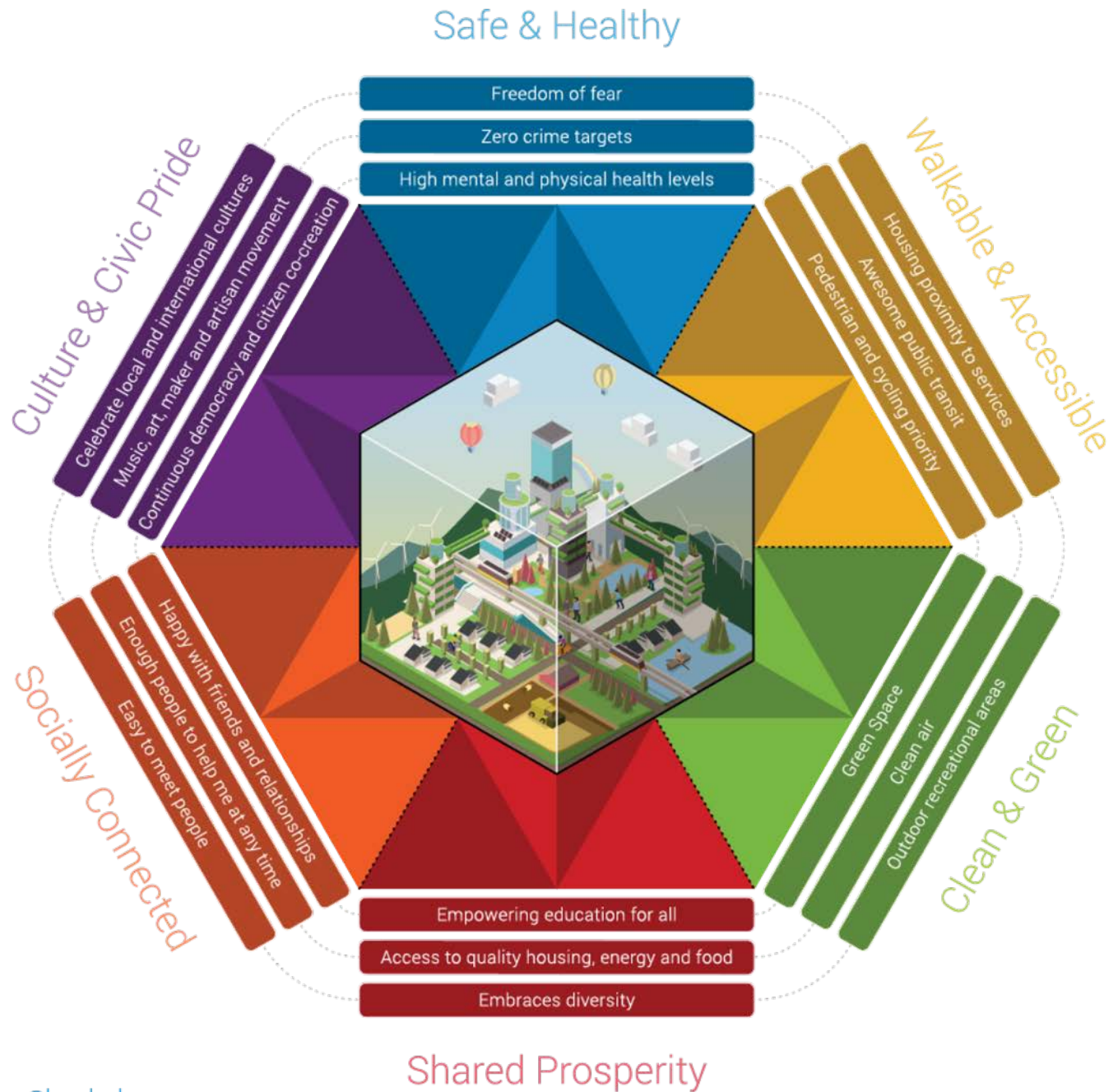
Новая урбанистическая модель

Современная модель городской трансформации, в которой технологии используются, чтобы решить ключевые вызовы, видоизменить систему управления и создать условия для дальнейшего развития городских сообществ

BY BOYD COHEN









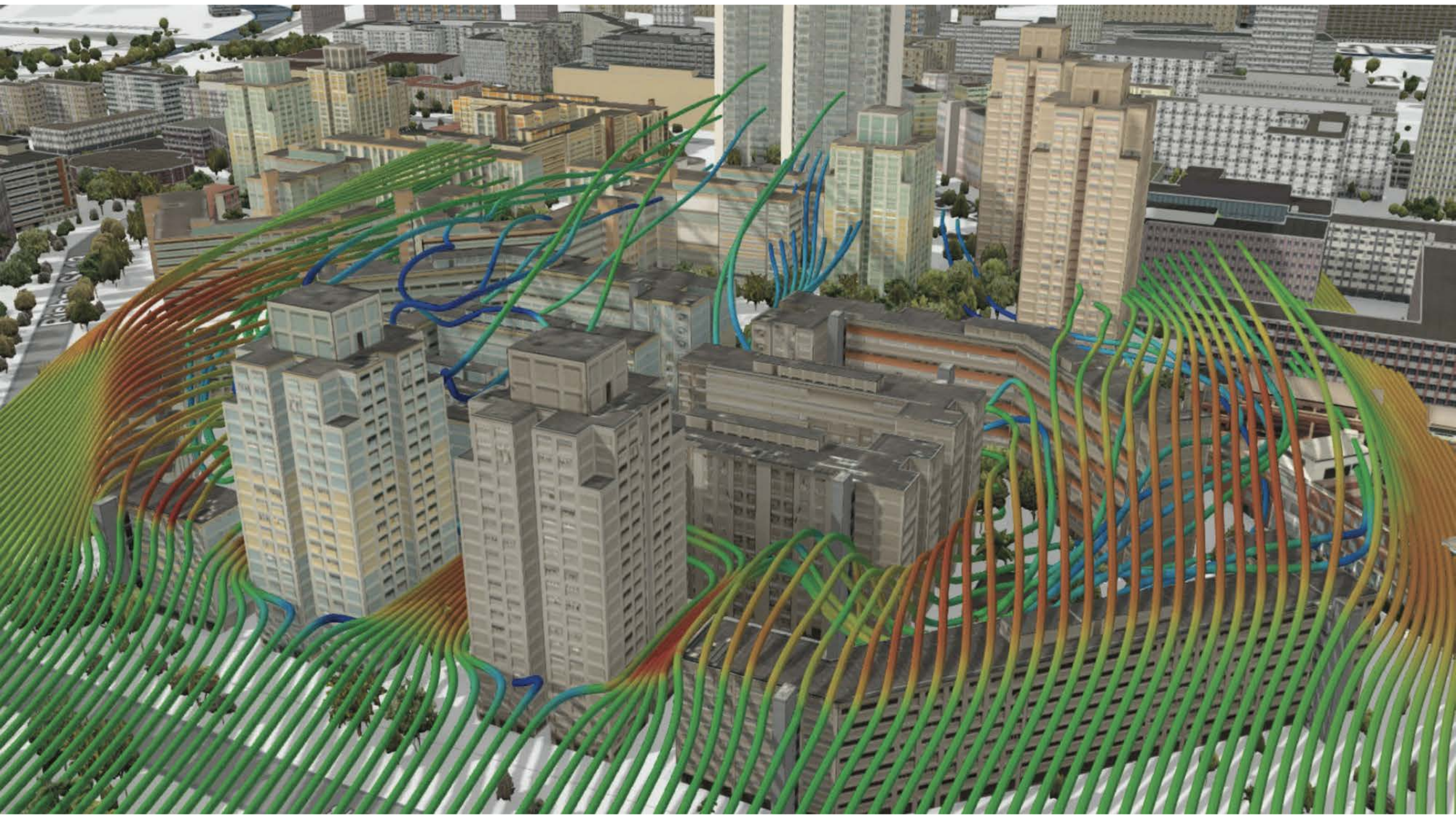


Сингапур









Проблемные кейсы

Silver Spring Networks
0013500100C952A8
FCC ID: OWS-NIC514 IC: 5975A-NIC514

Va 02 000698 kW
240

Type **FOCUS AXR-SD**
FORM 2S CL200 240V 3W 60Hz TA=30 Kh 7.2
NXL10075825980410 **1007582598**
AR 60 min. DS
PG&E SmartMeter
106 638 441
-415 0410 Landis+Gyr PATENT PENDING

Что могут показать умные счетчики

- Что-то не так с пожилыми родственниками
- Когда приходят коллекторам и залезать ворам
- Кто выращивает марихуану дома
- Какими бытовыми приборами семья пользуется и сколько времени семья проводит за телевизором

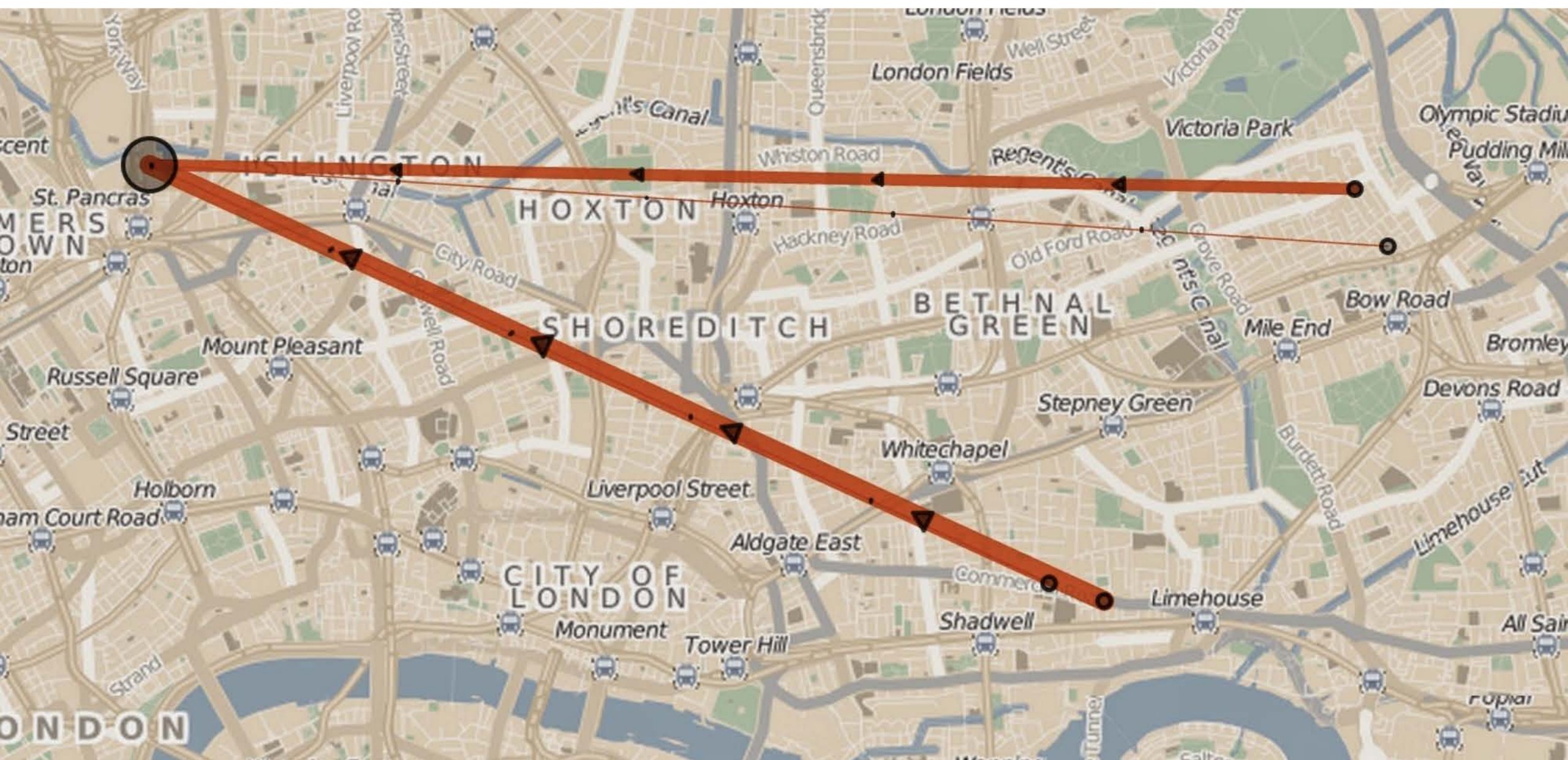


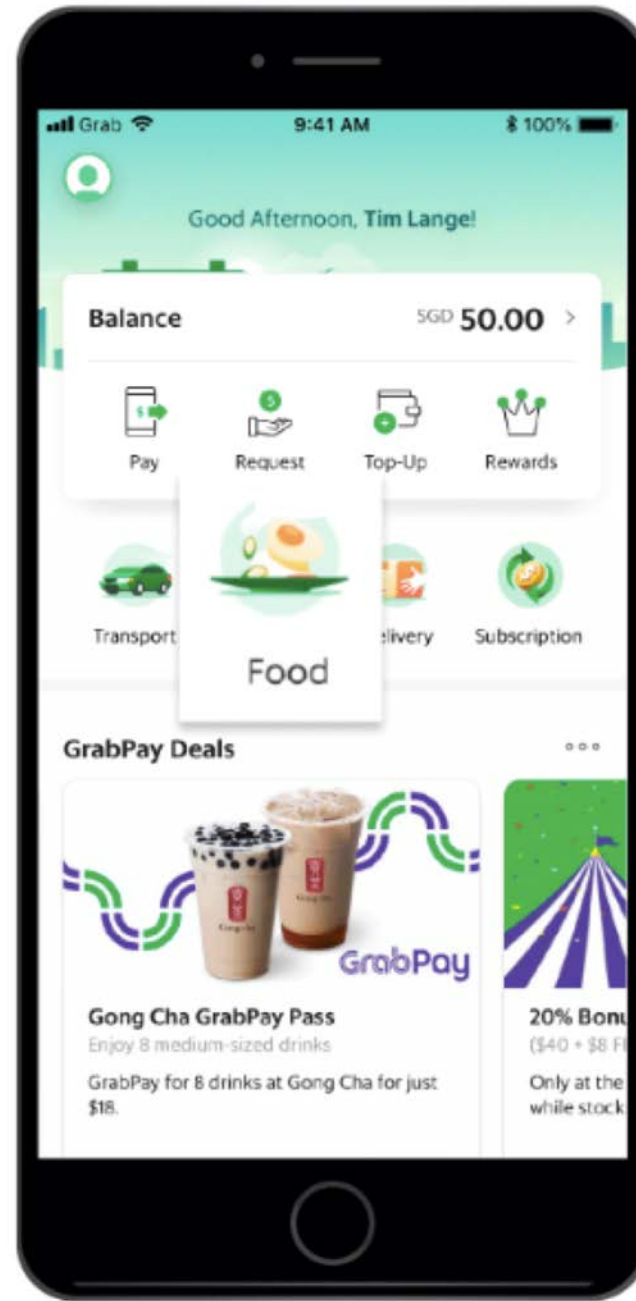
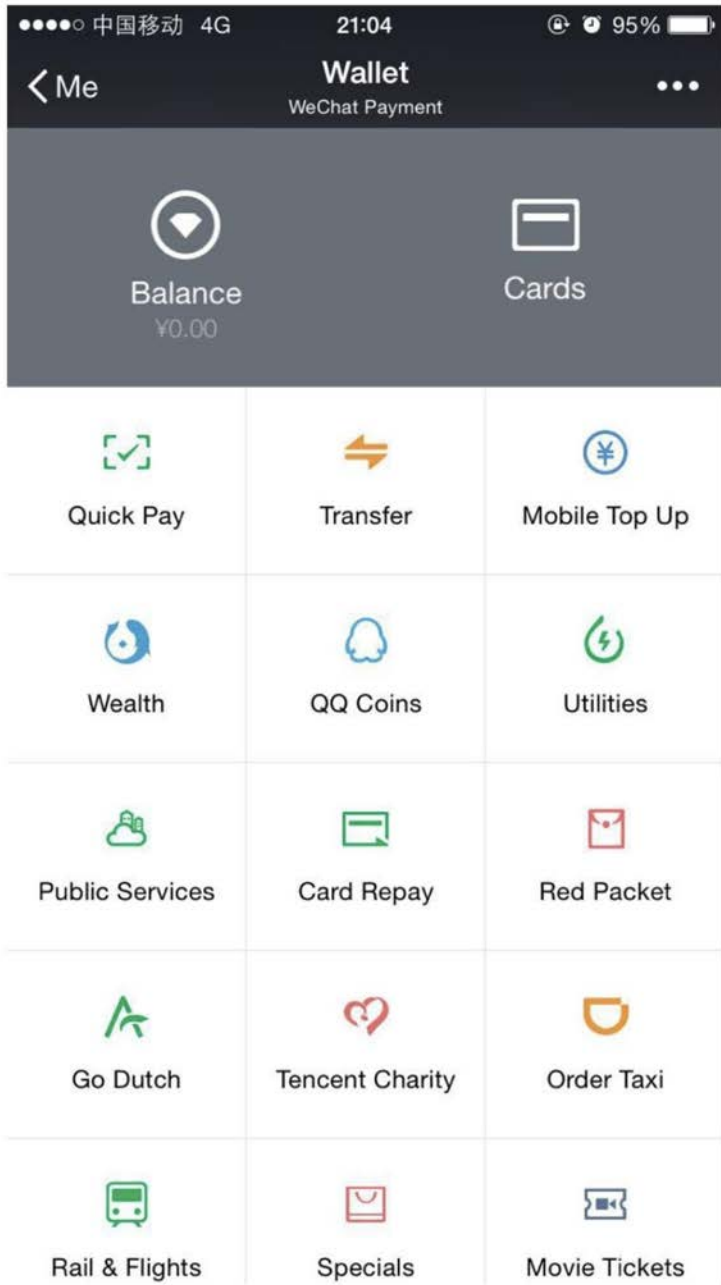
18:15
23 min
4 min
3 km
50 45 km/h
Sarah Daniels
New message
Read Aloud

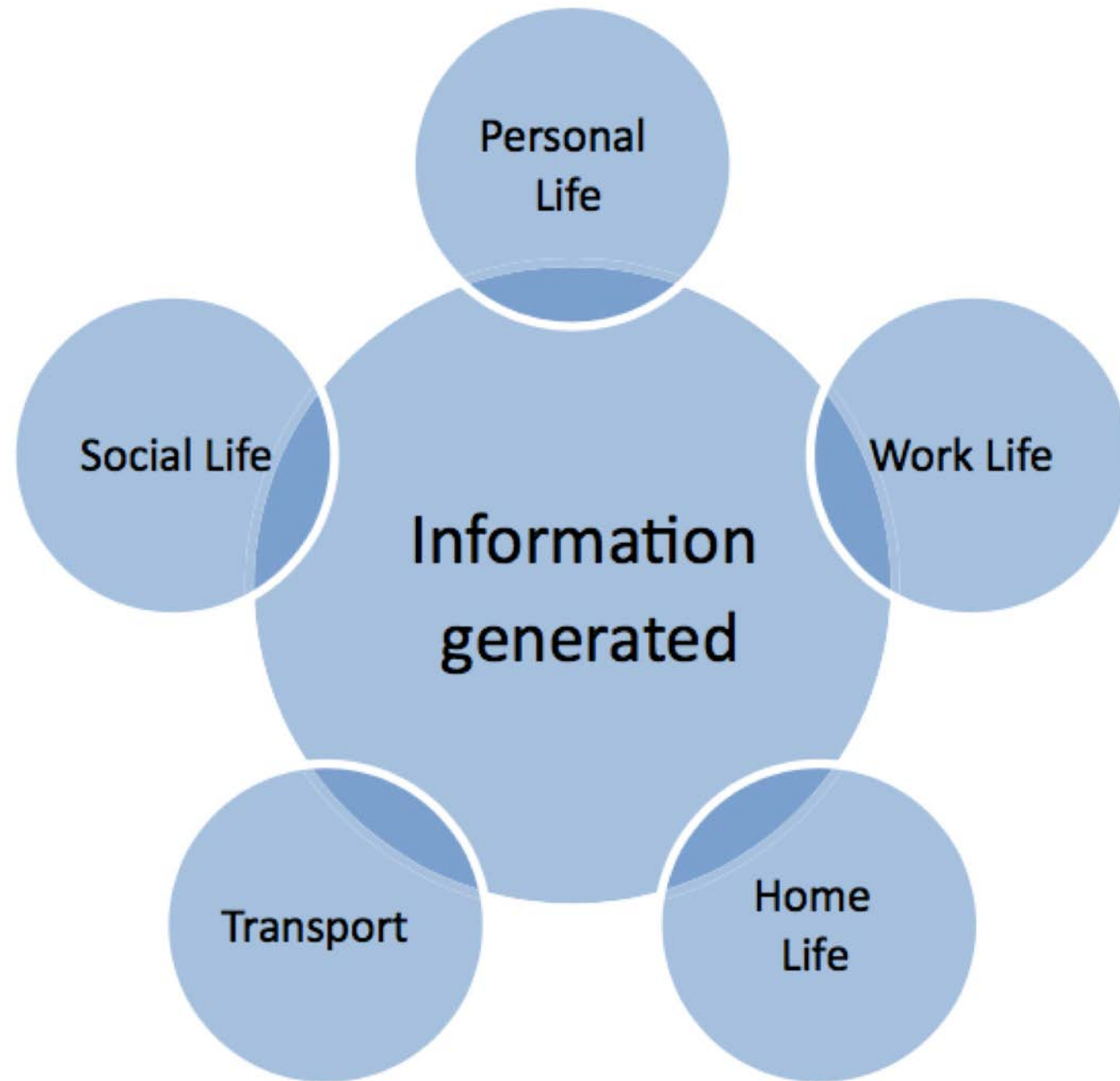
TOMTOM

10
180
200
220
240
260









ССТV камеры и распознавание лиц

ONE
NATION
UNDER
CCTV

firstcolour
PRINT CENTRE

abokpato







撮影画像 登録済画像

対象人物

撮影画像 登録済画像

対象人物

撮影画像 登録済画像

対象人物

撮影画像 登録済画像

対象人物

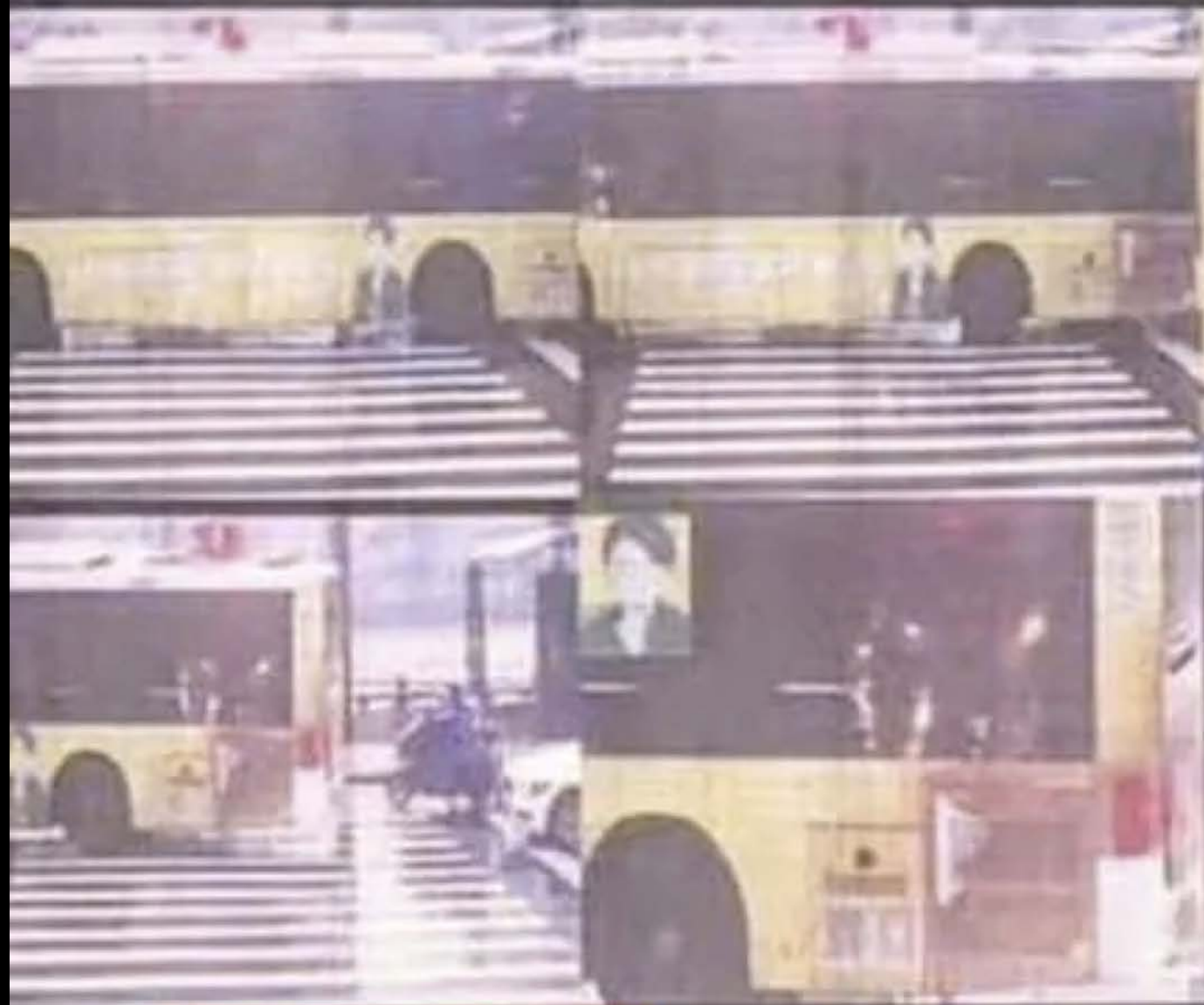




深圳交警

人脸识别智能抓拍行人闯红灯

粤A·595



区
在江厦桥东违法闯红灯

交警提醒行人闯红灯曝光台



SOCIAL CREDIT

RATING CITIZEN



5.0

3.8

2.3

4.1

3.1





Но камеры хотя бы увидеть можно!

NOT JUST A STREET LIGHT

City street lights are so ubiquitous they often go unnoticed. Today, street lights do more than just illuminate urban spaces. Fitted with multiple sensors and beacons, street light infrastructure becomes a hub for capabilities ranging from environmental to public safety to transportation and more.

- Location Beacon
- Automated License Plate Reader
- CCTV
- Light Sensor
- Environmental Sensor
- Pedestrian Traffic Sensor
- Gunshot Detector

URBAN SECTORS

- TRANSPORTATION
- UTILITIES
- TELECOM
- GOVERNMENT SERVICES
- ENVIRONMENTAL

STAKEHOLDERS

INDIVIDUAL

Citizens and visitors enjoy improved quality of life, including safer, more efficient services, seamless interfaces, and responsive institutions. Individuals' data fuels new services and infrastructure.

GOVERNMENT

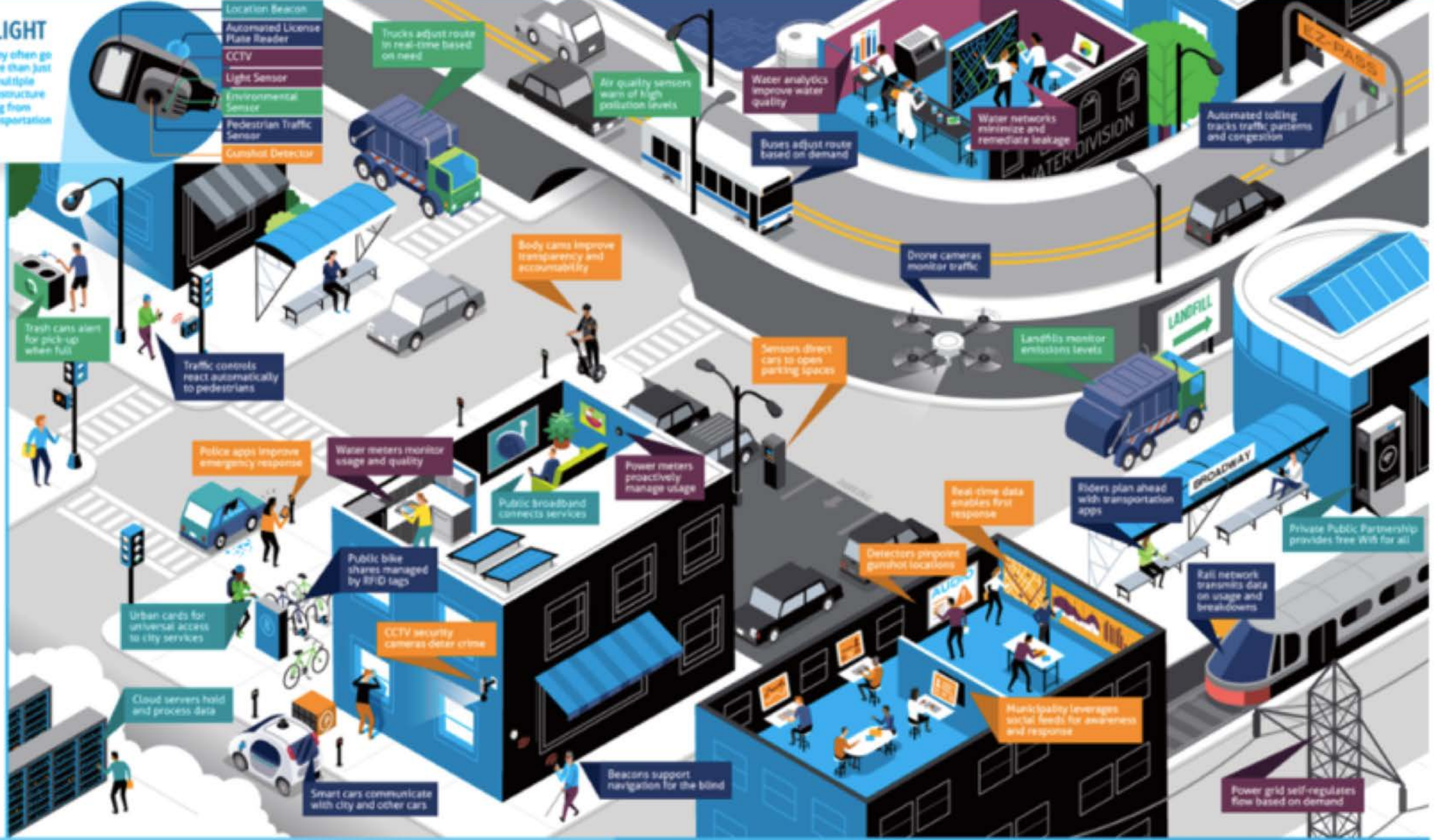
Local governments become more transparent, inclusive, responsive, efficient, and innovative. Data from connected sensors fuels a plethora of infrastructure, services, and activities.

BUSINESSES

Companies and civic organizations explore new business opportunities, improve products and services, and promote research and innovation based on access to new, real-time, reliable urban data flows.

PUBLIC-PRIVATE PARTNERSHIPS

PPPs improve the quality, reliability, speed, diversity, and sustainability of city service and solutions. Technologies and data flows enable individuals, governments, and businesses to collaborate in real time.



DATA PRIVACY CONCERNS

- SURVEILLANCE
- DATA SPILLS
- UNEXPECTED USES
- OPEN DATA VS. PRIVACY
- DISCRIMINATION
- DATA QUALITY

DATA PRIVACY TOOLS

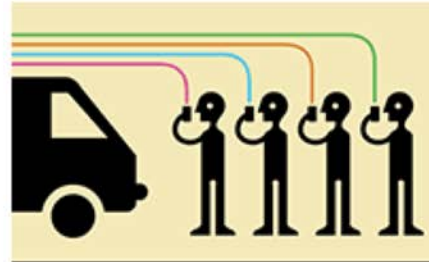
- PRIVACY PROGRAM MANAGEMENT
- NOTICE AND CHOICE
- LOCAL STORAGE
- DATA MINIMIZATION
- VENDOR MANAGEMENT
- DE-IDENTIFICATION



**AUTOMATED LICENSE
PLATE READERS
(ALPRS)**



**BODY-WORN
CAMERAS**



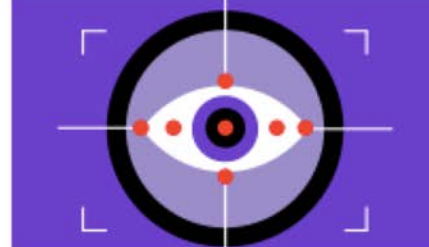
**CELL-SITE
SIMULATORS/IMSI
CATCHERS**



FACE RECOGNITION



**TATTOO
RECOGNITION**



IRIS RECOGNITION



GUNSHOT DETECTION



SECURITY CAMERAS



**DRONES/UNMANNED
AERIAL VEHICLES**



**ELECTRONIC
MONITORING**

IN3 модель

- INstrumented
- INterconnected
- INtelligent



Фундаментальные вопросы

- Большое количество данных и интеграция рано или поздно приводит к масштабной слежке за горожанами
- У горожан практически нет возможности проконтролировать как личные данные собираются и используются (consent и opt-out)
- У opt-out нет альтернативы
- Новые онлайн бизнес-модели приводят к дисбалансу силы, и городские власти часто не могут с этим бороться

- *Мы ко всему этому постепенно привыкаем*

Когда big tech компании берутся за города



NO STANDING
Anytime

BETA LinkNYC

Get Ready for
Super Fast
Free Wi-Fi!



linknyc | www.linknyc

bentor
Solutions for Play
and Efficient Work

THE WESTIN



Более позитивные примеры



**CITIES COALITION
FOR
DIGITAL RIGHTS**

Privacy, data protection and security

- Institute or maintain a data protection office
- Publish a data protection policy
- Institute local legislation to protect data privacy and security
- Develop tools for residents and visitors to protect privacy and security

Хельсинки



PASILA

KALASATAMA

KRUUNUVUORENRANTA

JÄTKÄSAARI

HERNESAARI

One more hour a day

Smart Kalasatama grows to a world-class district of smart, sustainable living.

The vision of Kalasatama is that smart services save one hour of citizen's time every day.

www.Ekkoalokasatama.fi/en
 @kalaskalasatama @kalokasatama

11 DIAK Kalasatama

6 Aika



City of Helsinki
 FORUM VIRIUM HELSINKI

- 1 Housing apartments bring a new level to cityscapes. Complemented by joint building ventures offering customized houses.
- 2 Digital health services and new practices are already being piloted to be part of the center's future offering.
- 3 Light tower blocks, building metro and massive shopping centre will form H201 living lab downtown in Suvilahti currently stimulates future tower house living.
- 4 No need to keep your car in - residents of this house can use shared electric cars from their garage. Cheap, green and easy!
- 5 Planned and co-created by active seniors living in the house. This building offers 100m2 of shared spaces.
- 6 Living skyline a look for new areas of teaching and learning supported by latest learning technologies. In the evening a meeting place for residents.
- 7 Smart matching and home remote control service allows residents to control and monitor their appliances with mobile services.
- 8 Packed by a maximum level underground parking, trashes which fill the local waste management facility at a speed of up to 72 kilometers per hour.
- 9 Outdoor realm with smart lighting takes you to the open garden with mushrooms, berries and fungi. Come and collect your own!
- 10 Harvest data goes to the smart and carbon-neutral Kalasatama's school plans to use Keskuskaari as its experimentation platform.

1 New Forms of Housing

2 Health and Well-being Centre

4 Shared Electric Vehicles

5 Co-created Senior House

7 Future School

6 HIMA Smart Metering

9 Smart Lighting, Edible Park

Carbon-Neutral Smart Zoo

10

Abattoir Pop-up Factory

12

Tower Blocks

1

4

Waste Collection System

8

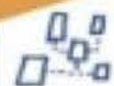
Fisuverkko

15

Surf Park

16

Smart Infrastructure



Smart Grid
 The smart energy grid supports electric vehicle use, new energy storage facilities, and energy efficient building automation as well as local energy production.

Smart Space Share
 The smart space share pilot aims to provide all available room to be utilized by the citizens for work, play and leisure, just as Abattoir does.

Internet of Things & MyData
 Many internet of things solutions are tested in Kalasatama. Combined with personal data they enable personalized services and customized solutions.

11 Modern compact living 1 500 residents and 140 workplaces. The new building has been designed to be a smart living environment with green spaces and a central square with local businesses.

12 Living future in energy, new building and food culture. Place for residents to learn and experiment with new technologies and smart living solutions.

13 This old power plant provides energy separately. The area also hosts TelecityGroup's data centre using sea water for cooling and providing heating for houses in Helsinki.

14 Customers appreciate the service, and enjoy high-quality public facilities. The independent, secure energy storage platform is the electricity market.

15 This modern smart tower with apartment, commercial and residential spaces. It also works as a pilot for smart living in Kalasatama.

16 From technology innovation creating smart living solutions, from design and building to smart living.

Main themes of digitalisation in Helsinki



THEME

The right services at the right time

Tomorrow's Helsinki will serve everyone in a way that suits them, according to their needs, life situation and interests, conveniently, around the clock and in many channels.



THEME

Together to develop better services

At present, some of Helsinki's services are difficult to find or use. They are produced from the point of view of the city organization, not from the needs of the customer.

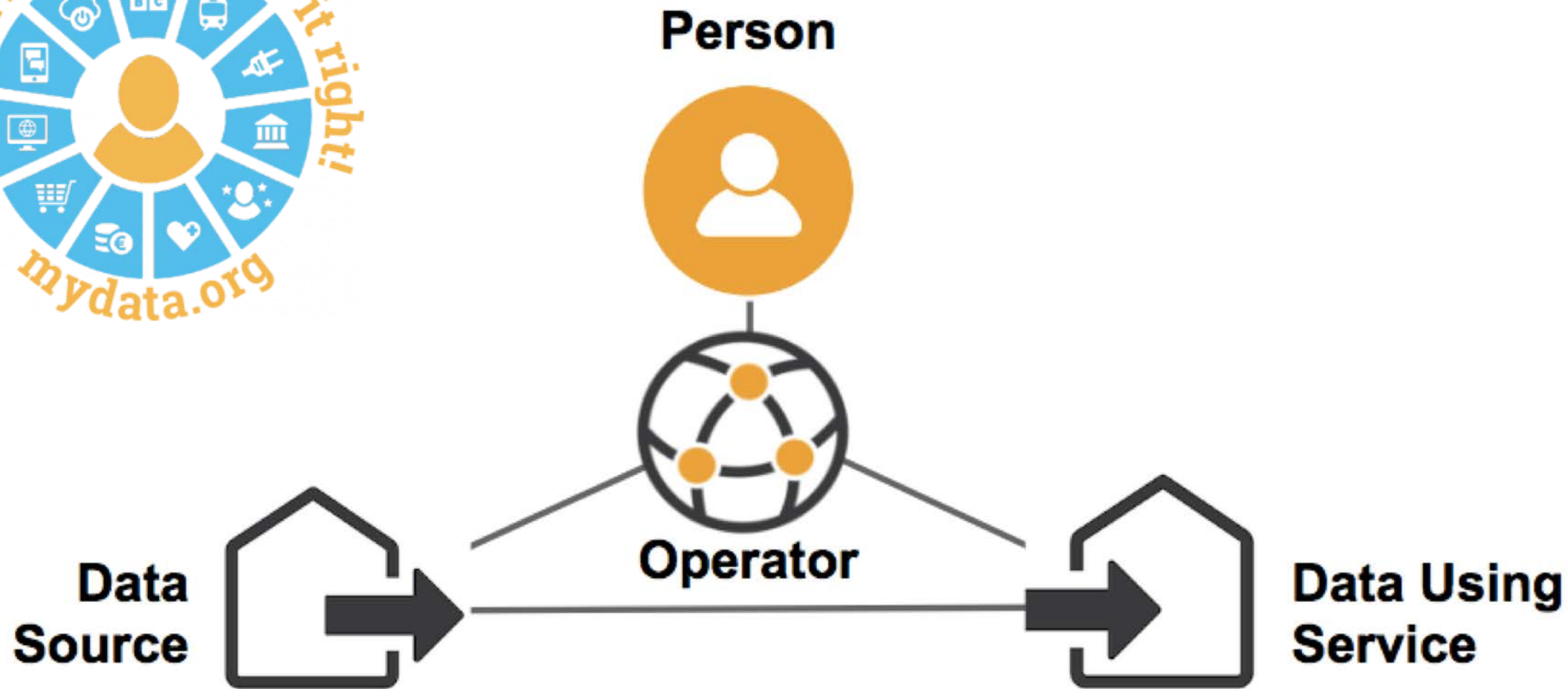


THEME

Up-to-date tools and infrastructure

Helsinki has over 900 information systems and dozens of different networks. They do not work seamlessly together and are difficult and expensive to maintain.

[Read more](#)





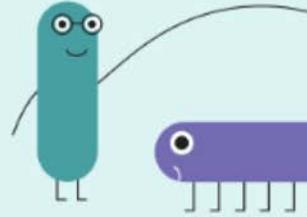
Амстердам

- Реестр сенсоров
- TADA
- Этический анализ алгоритмов

02

Control

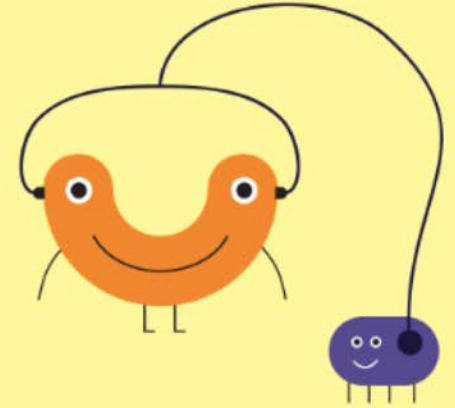
Data and technology should contribute to the freedom of people. Data are meant to serve the people. To be used as seen fit by people to benefit their lives, to gather information, develop knowledge, find room to organise themselves. People stay in control over their data.



05

Open and transparent

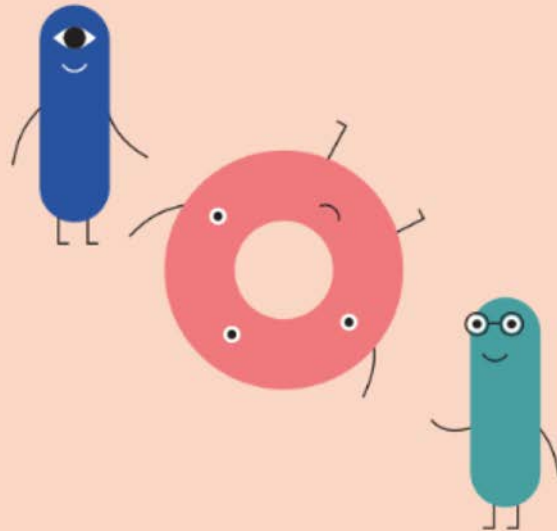
What types of data are collected? For what purpose? And what are the outcomes and results? We are always transparent about those aspects.



06

From everyone - for everyone

Data that government authorities, companies and other organizations generate from the city and collect about the city are held in common. Everyone can use them. Everyone can benefit from them. We make mutual agreements about this.



Барселона

- Регулирование
- Открытость (Decidim)
- Privacy by design



We decide on the Barcelona we want

OPERATING PROCESSES

Выводы

- Собака лает, караван идет
- Культурная специфика имеет решающее значение
- Гражданское участие будет очень важно, как и новые навыки цифровой грамотности и безопасности
- Давление на городские власти нужно увеличивать
- Сценарий из Оруэлла очень вероятен

- *И это мы еще про кибератаки не поговорили*

LIVE
PALO ALTO, CA

U.S.
vs.
APPLE

MCNEALY: YOU HAVE NO
PRIVACY, GET OVER IT

 **CNBC**

**THE AGE OF
SURVEILLANCE
CAPITALISM**

THE FIGHT FOR A HUMAN FUTURE AT
THE NEW FRONTIER OF POWER

**SHOSHANA
ZUBOFF**