SMART ENERGY

REAL TIME & PERSONALISED TOURISTIC GUIDE

CROWDSENSING

INDUSTRIAL ESTATES MONITORING

MOBILITY PREDICTION

BUSINESS TOURISM MONITORING

CITY INFRASTRUCTURE MANAGEMENT

MULTILINGUAL CONCIERGE SERVICE

BIGCLOUT
Distributed Intelligence for Smarter Cities

SENSORIZED WEB PAGES

MOBILE APPS

IoT DEVICES

OPEN DATA

SOCIAL NETWORKS

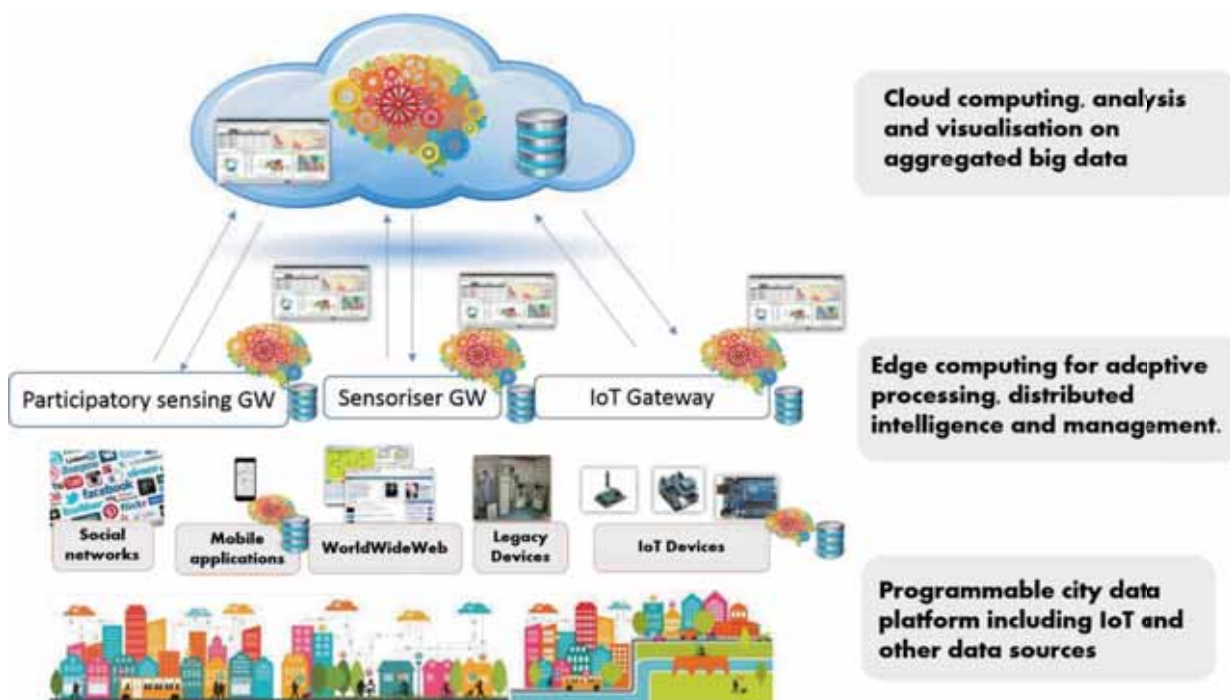LEGACY DEVICES

BigClouT context and overall objectives

As we approach 2020, the world is facing a number of critical challenges such as global warming, economic crisis, security threats, inequality, natural disasters and ageing society. Urban areas are particularly affected, given that the world population is increasingly concentrated in cities. ICT solutions have the potential to change the world and improve the quality of life and security of its citizens. In particular, IoT, cloud and big data are today's key enablers for increasing the efficiency in using shared urban infrastructure, economic and natural resources.

The overall concept of the BigClouT project is to give an analytic mind to the city by creating distributed intelligence that can be implanted in the whole city network (see Figure below). The unprecedented number of connected things and the associated big data naturally raise new technical challenges in terms of interoperability, scalable and online data processing, actionable knowledge extraction, self-management, security and privacy.

The BigClouT project is bringing together resources and knowledge necessary from prestigious European and Japanese institutions for tackling those challenges. BigClouT will leverage the results of the ClouT project and bring them several steps further and add, in particular, distributed intelligence with edge computing principles, big data analytics capability and self-awareness property. The BigClouT platform will be deployed and validated in 4 pilot cities in the project, Grenoble, Bristol, Tsukuba and Fujisawa. BigClouT gives a particular importance to the involvement of citizens during the whole lifetime of the project, from use case definitions to validation.

BigClouT overall concept

Cloud computing, analysis and visualisation on aggregated big data

Participatory sensing GW   Sensoriser GW   IoT Gateway

Edge computing for adaptive processing, distributed intelligence and management.

Social networks   Mobile applications   WorldWideWeb   Legacy Devices   IoT Devices

Programmable city data platform including IoT and other data sources

BigClouT city trials

One of the core work of the BigClouT project is a set of real-world trials that will be running in the participant cities, i.e. Bristol, Fujisawa, Grenoble and Tsukuba City. These trials are designed to test the BigClouT architecture and platforms to ensure that technological developments meet the needs of cities allowing them to exploit BigClouT results to develop and deliver new Smart City applications and services.
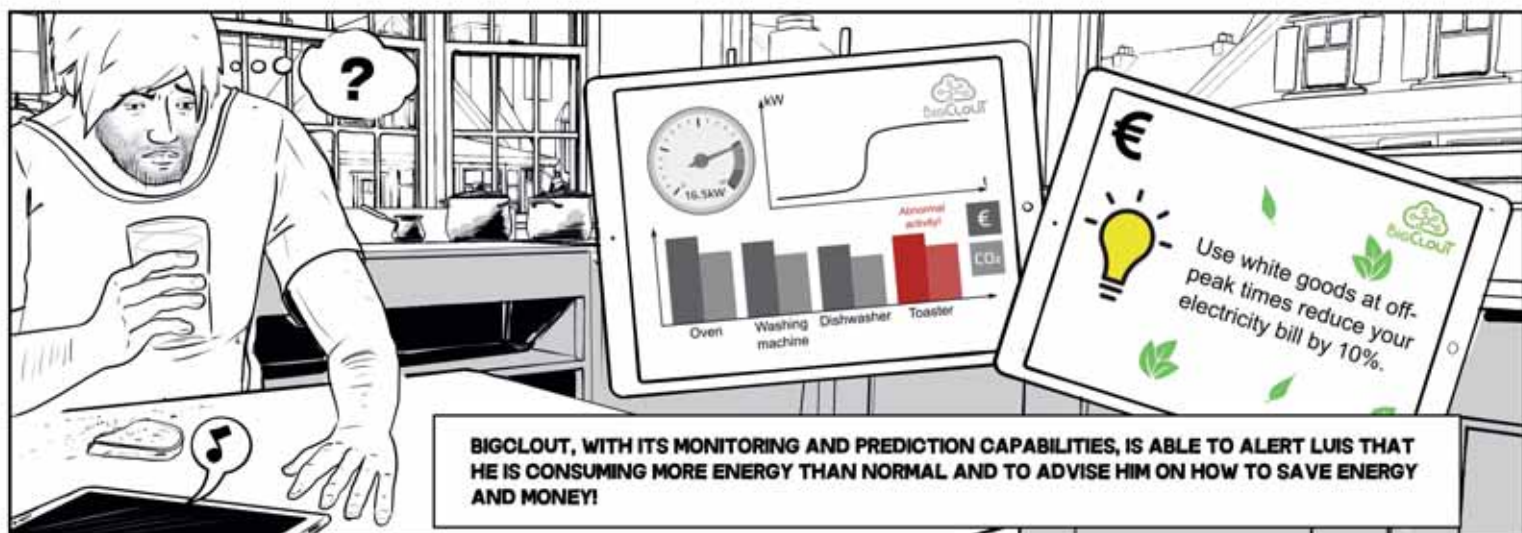
BigClouT pilot cities and trial scenarios

These trials will be a means to validate the BigClouT architecture and to fulfil the project objectives. The following comic presents these use cases and shows the possibilities offered by the BigClouT platform.

BRISTOL, ENGLAND 06:15 AM

DRiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiNG

LUIS IS UP EARLY TODAY AND GETS A HEAD-START ON HIS CHORES. THE SIMULTANEOUS USE OF A LARGE NUMBER OF HOUSEHOLD APPLIANCES LEADS TO OVER-CONSUMPTION.

Oven Washing machine Dishwasher Toaster

Use white goods at off-peak times reduce your electricity bill by 10%.

BIGCLOUT, WITH ITS MONITORING AND PREDICTION CAPABILITIES, IS ABLE TO ALERT LUIS THAT HE IS CONSUMING MORE ENERGY THAN NORMAL AND TO ADVISE HIM ON HOW TO SAVE ENERGY AND MONEY!

GRENOBLE, FRANCE, 07:45 AM

KATE'S LEAVING FOR WORK. SHE WONDERS WHAT THE BEST WAY TO GET THERE IS. SHE CONSULTS THE BIGCLOUT APP WHICH ANALYSES PUBLIC TRANSPORT SCHEDULES, TRAFFIC CONDITIONS, CAR-SHARING AVAILABILITY, CARPOOL SEATS, AND MANY OTHER SOURCES OF INFORMATION TO PROVIDE THE QUICKEST AND GREENEST SOLUTION.

Traffic Jam!

Walk
Time: 2h   CO₂: 0g

Bicycle
Time: 20min   CO₂: 0g

Bus
Time: 30min

Car
Time: 1h   CO₂:

Car pool
Time: 1h   CO₂: 0.8g

Car share
Time: 1h   CO₂:

GRENOBLE, 04:30 PM

KATE IS ALSO INFORMED ABOUT SPECIAL OFFERS, EVENTS AND JOB OFFERS. AS SHE IS LOOKING FOR NEW COLLABORATIONS AND NEW PARTNERS, SHE CAN EVEN CONSULT A MAP OF THE INDUSTRIAL ESTATE WITH A PRESENTATION OF ITS COMPANIES.

Shopping

Special offer 50% discount

Live shows

Exhibitions

Job offers

Madrid 5
Glasgow 2
Vilnius 8
Paris 12
Reykjavik 7
Tsukuba 3

Berlin
Paris
London Heathr
Dubaï
Tsukuba

KATE AND LUIS ARE BOTH ON THEIR WAY
TO A CONGRESS IN TSUKUBA.
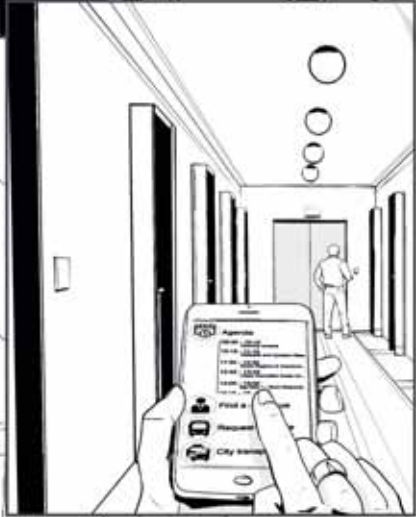BIGCLOUT WILL CONTINUE TO HELP THEM
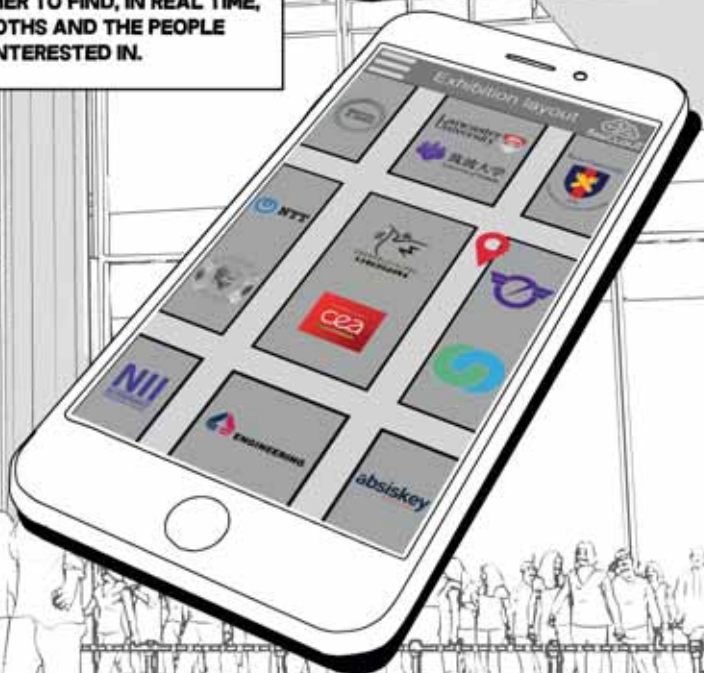DURING THIS TRIP.

TSUKUBA, JAPAN 08:30 AM

KATE IS IN A CITY SHE DOESN'T KNOW, IN A COUNTRY WHERE SHE DOESN'T SPEAK THE LANGUAGE. THE BIGCLOUT APP HELPS HER BY PROVIDING INFORMATION SUCH AS THE CONFERENCE AGENDA AND ITS ATTENDEES, AS WELL AS THE DIFFERENT TRANSPORT OPTIONS. ONE OF THESE OPTIONS IS THE SHUTTLE BUS SERVICE, DIRECTLY FROM THE HOTEL TO THE EVENT, SET UP BY THE EVENT ORGANISERS.

Agenda

09:30 - 10:15
Opening remarks

10:15 - 11:15
Walkable and Cyclable Cities

11:30 - 12:30
Smart Regions & Communit...

12:45 - 13:45
Urban Innovation Areas Un...

14:00 - 15:00
Big Data for More Respons...

15:15 - 16:15

Find a colleague

Request a shuttle

City transports

ONCE AT THE EVENT, BIGCLOUT HELPS HER TO FIND, IN REAL TIME, THE BOOTHS AND THE PEOPLE SHE IS INTERESTED IN.

Exhibition layout

cea

NII

ENGINEERING

absiskey

BIGCLOUT HELPS KATE AND LUIS, TWO OLD FRIENDS, TO MEET UP AT THE EVENT!

Acknowledgements

Project coordinated by

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www.cea-tech.fr

NTT

www.ntt-east.co.jp

Conception managed by

absiskey
INNOVATION SPIRIT

www.absiskey.com

Drawings by

~ Chat Noir ~

Etienne Giorgetti
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Lancaster University

BRISTOL IS OPEN

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FUJISAWA CITY

Keio University

TSUKUBA CITY

筑波大学 University of Tsukuba

Follow BigClouT on the project website. Contact us if you want to be the first to be informed about latest results of the BigClouT project.

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