INCLUSIVE CITIES: A CROWDSOURCING APPROACH

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The city of the future
Cardiff, December 2018

DATA IS TRANSFORMING CITIES

Cities have access to more data than ever to improve urban services, create efficiencies and reduce their environmental footprint

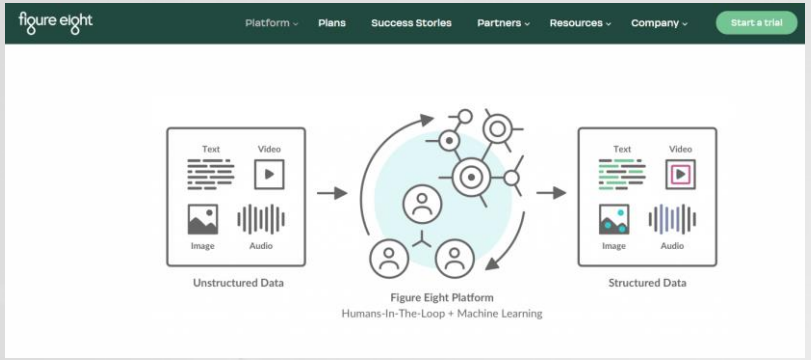
Machine learning and AI can help optimise traffic, support future planning and improve fuel efficiencies

A SMART CITY IS INCLUSIVE

Citizen-, rather than technology-centric

Participatory

Using data responsibly



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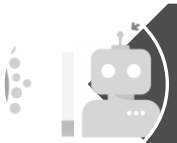
SOLUTIONS

Citizen sensing

Open *

Participatory governance

Crowdsourcing



Human in the loop

THE QROWD PROJECT

3 years project funded through Horizon 2020

8 partners from 5 European countries, led by the University of Southampton

Smart city solutions

- Combining crowd and computational intelligence
- Piloted in transportation with
  - A medium-sized smart city
  - A leading navigation and traffic management service provider

qrowd-project.eu

@QrowdProject

OUR APPROACH

Mix of open innovation methods to co-design pilots and encourage stakeholder participation

Value-centric approach to platform design: personal data empowerment, open source, building upon existing standards

Sustainable urban auditing through online and mobile crowdsourcing

Human-in-the-loop (HIL) architecture to improve the accuracy of predictions

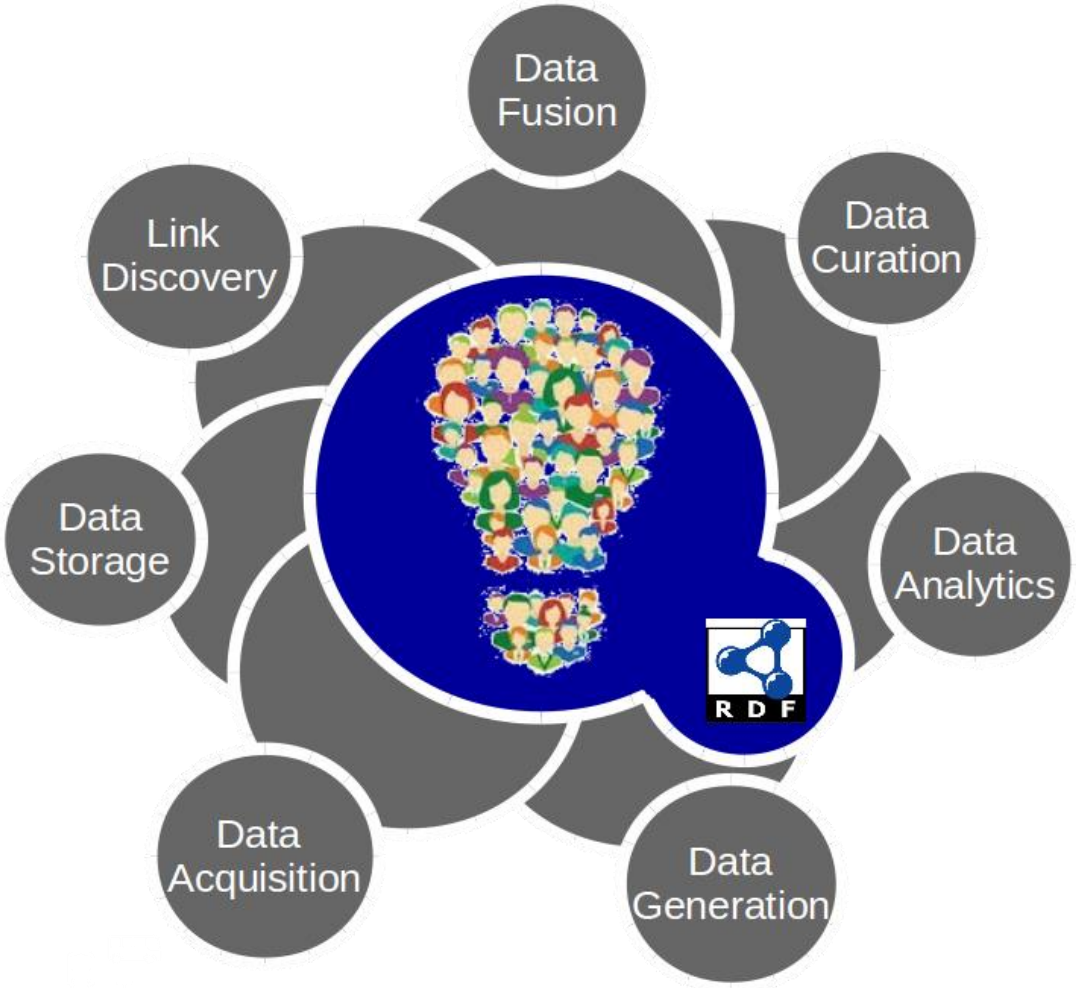
MORE THAN JUST TECHNOLOGY

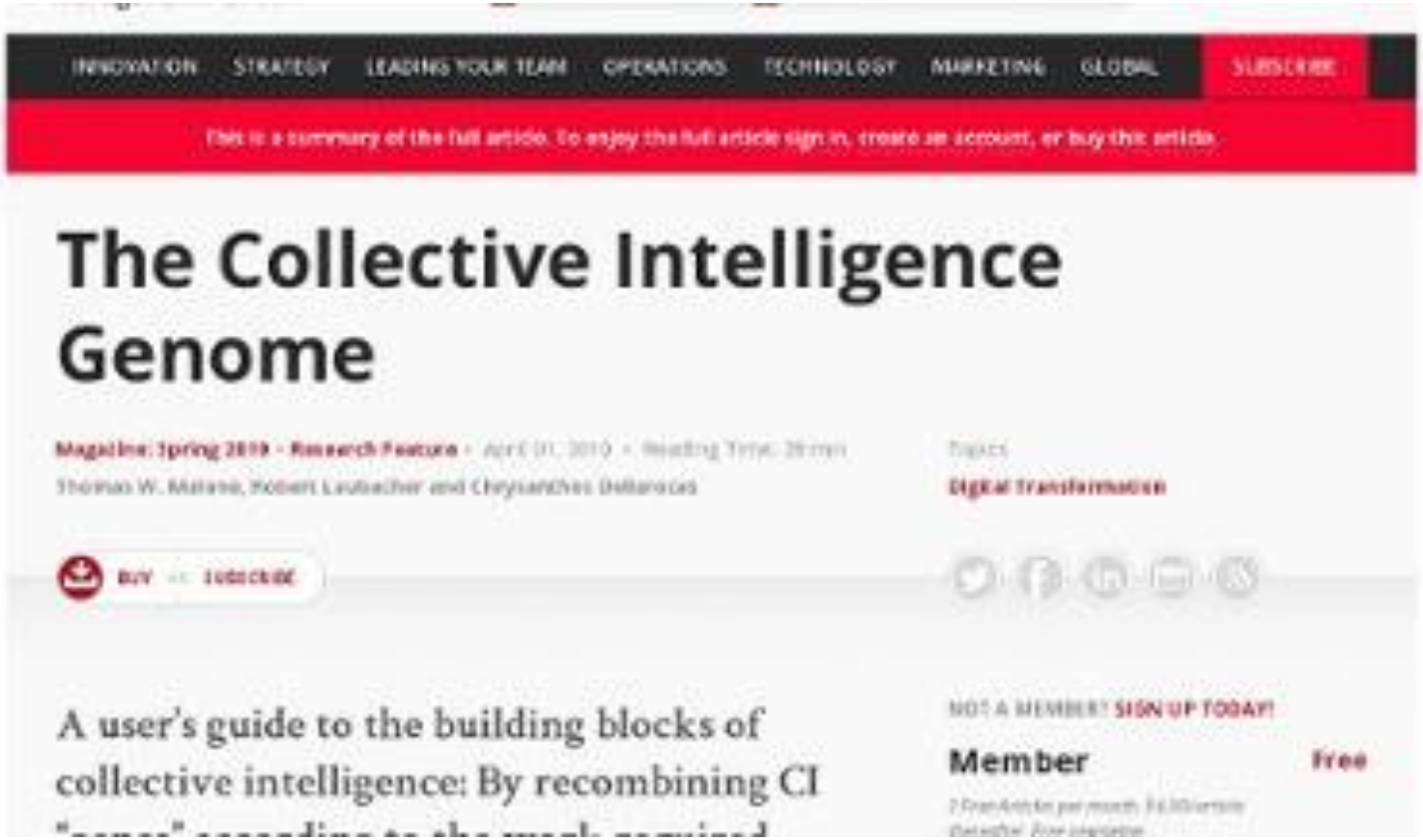
Supports deployment of human-machine workflows throughout

Interfaces to multiple crowdsourcing services

Complemented by methodology and guidelines

Data protection by design





THE METHODOLOGY

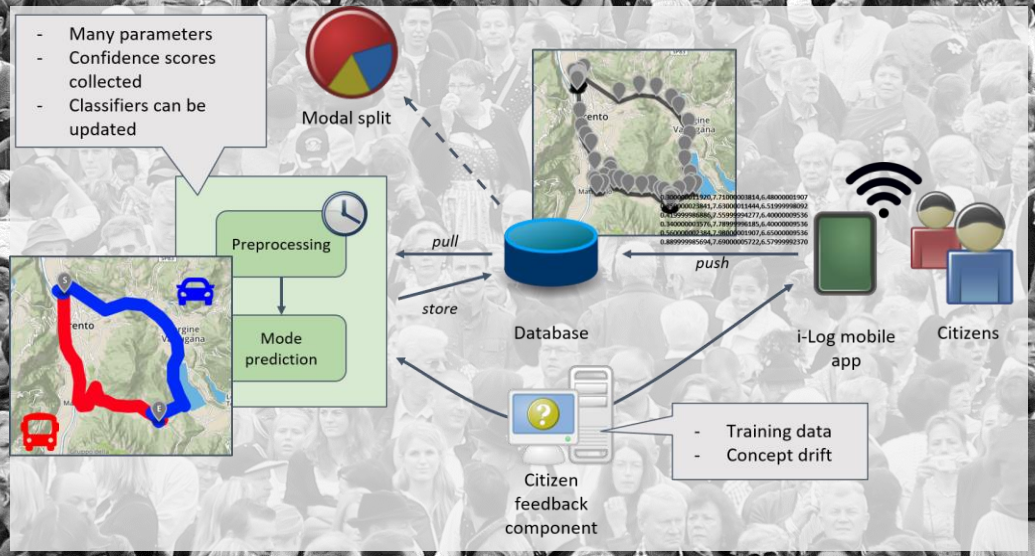
- **What -** Goal
- **Who -** Participants
- **How -** Implementation
- **Why -** Incentives

What to crowdsource?

Tasks based on human skills, not easily replicable by machines
Most effective when used <u>at scale</u> (‘open call’), in combination w/ <u>machine</u> intelligence

Example

Predicting modal split

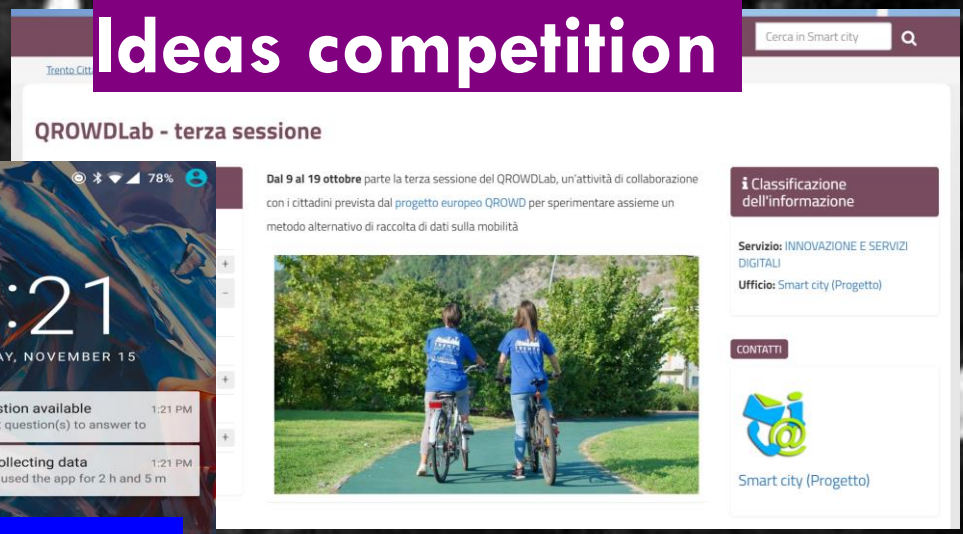


Who is the crowd?

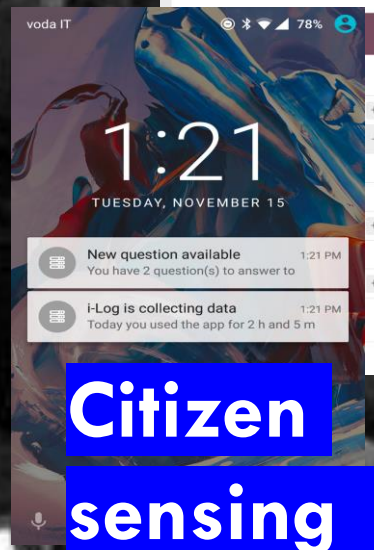
Use the right crowd for the right task

Paid crowdsourcing

Ideas competition

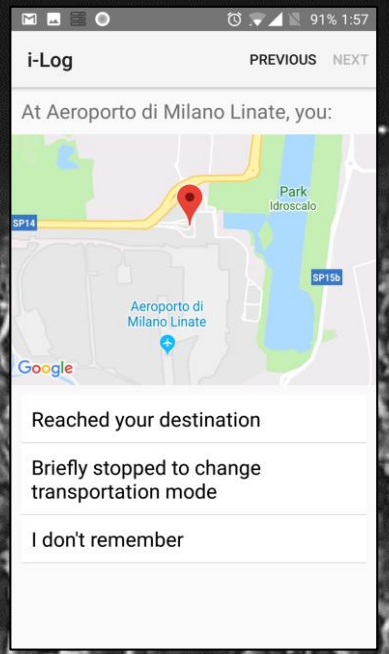


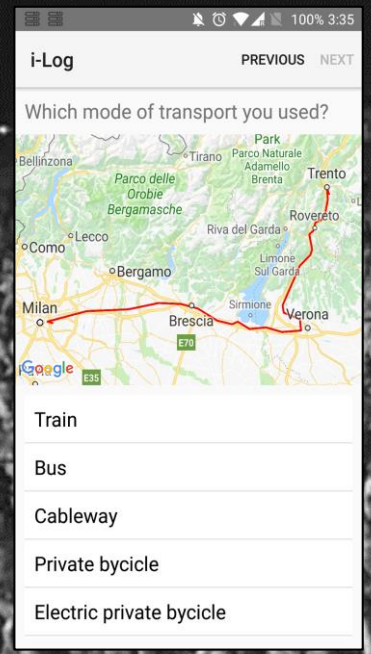
Citizen sensing

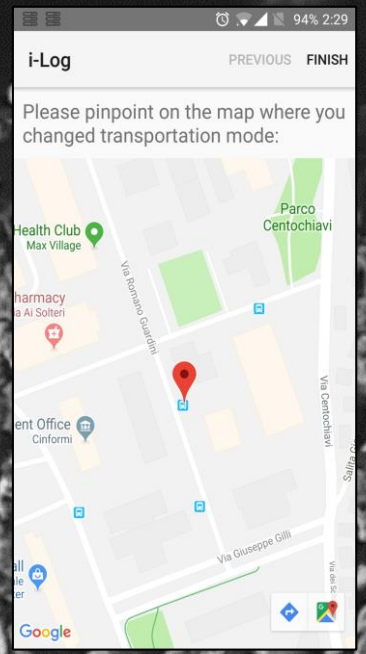


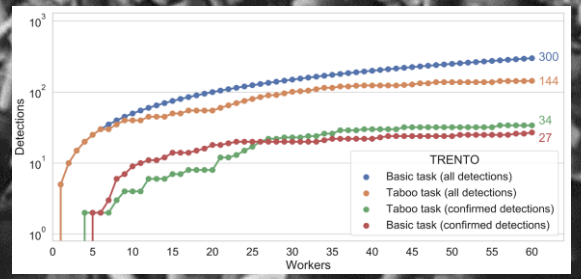
How to crowdsource?

- Implicit vs. explicit participation
- Onsite vs. remotely
- Instructions and interfaces
- Quality assurance and behavioural analysis
- Time constraints







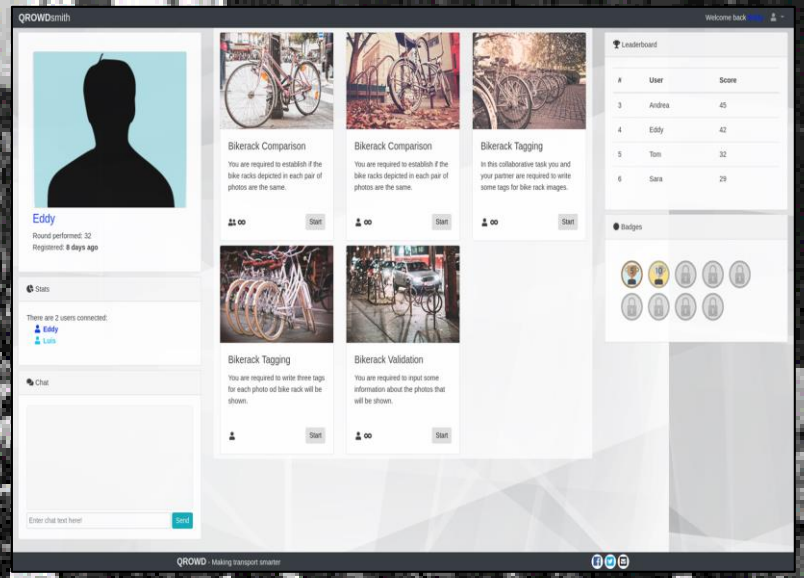


Why should anyone participate?

People do things for love, money or glory

Love and glory keep costs down

Money and glory deliver faster



CONCLUSIONS

Explore the **what**, **who**, **how**, **why** methodology to solve problems through participatory methods.

To use AI and ML cities will need not just data, but labelled data, created through crowdsourcing.

Use the full range of approaches and techniques to apply crowdsourcing at scale.