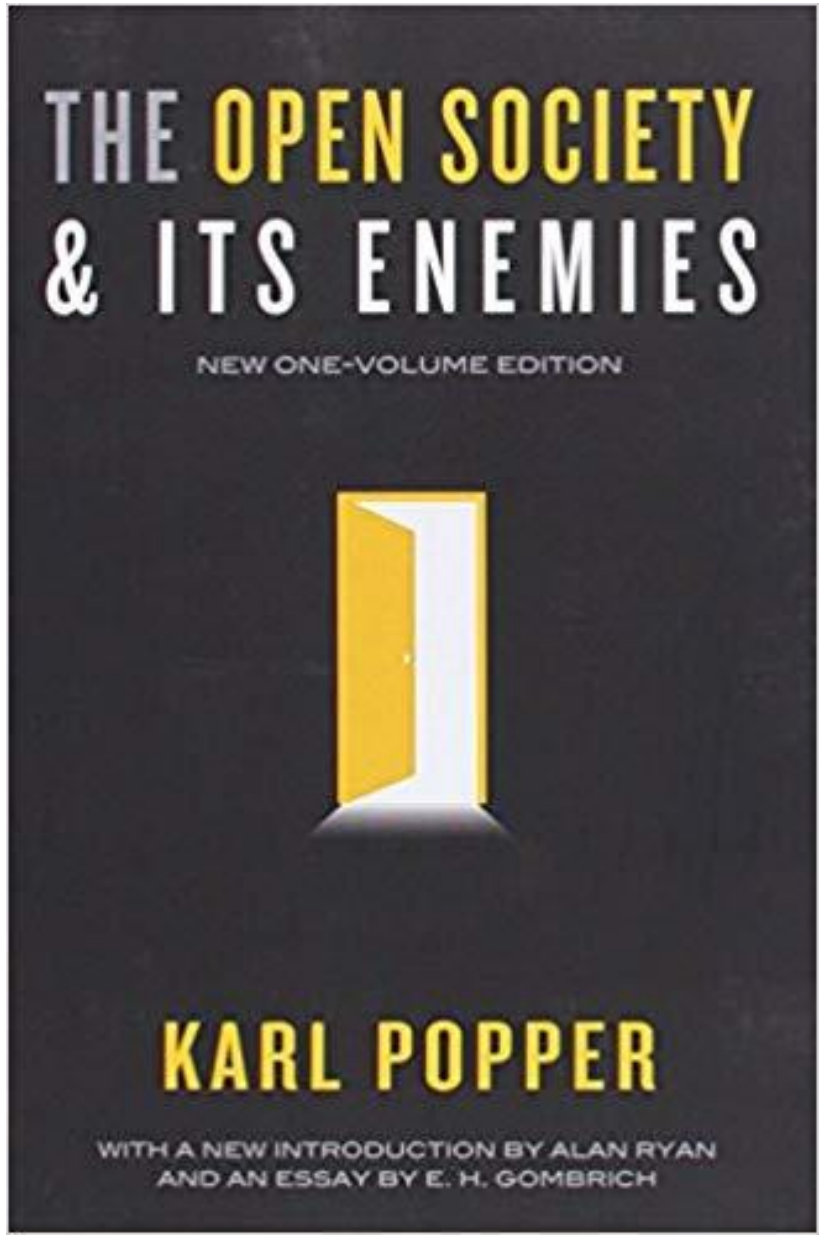
- Smart/fast data and hyperparameter estimation opens up to optimization a vast set of new problems and entirely new setting of traditional fields

- Successful optimization methods will be defined not only in the lab but in the market as well. Data efficiency and flexibility to adapt to structurally different datasets and delivery platforms is already critical

- Optimization methods will have to interact with the environment i.e. incorporate some learning element, balancing exploration and exploitation and accepting uncertainty as the key modelling feature, as in dynamic/stochastic programming, BBO, BO and RL.

- We should not approach data analysis as a «cool science» experiment: the fundamental aim in collecting, analyzing and deploying data is to make better decisions in a context of bounded rationality and partial knowledge.
- All is good then? Quite the opposite: factory IoT displaces workers (“Throwing rocks at the Google bus”), cab drivers rebellion against Uber, …


THE OPEN SOCIETY
& ITS ENEMIES
NEW ONE-VOLUME EDITION
KARL POPPER
WITH A NEW INTRODUCTION BY ALAN RYAN
AND AN ESSAY BY E. H. GOMBRICH

Back in the Day When Horseless Carriage (Car) Came Along...

Locomotive Act of 1865 –
Red Flag Act

Law Enacted in UK...
Horseless Carriages (Cars) Had to be Preceded By Someone with Red Flag For Safety Purposes

Back in the Day When Horseless Carriage (Car) Came Along...

Jitneys (1914)

Ride-Sharing, ~100 Years Ago...
150K Jitney Rides / Day (1915) in LA, yet Regulated Out of Existence by 1919...

157K Uber Rides / Day (2016) in LA...

Algorithmic management, meet algorithmic rebellion

«When the boss is an algorithm»

- Gig-economy workers are asking UK Courts to decide their working status
- Driver maintains the control by the algorithm and the difficulty to refuse a trip implies te status of an employee
- Uber maintains the drivers are not forced to log and can decide each week how much they are available
- UK sentence has been partially favorable to drivers who have acquired the status of workers
- The boundary between employee and freelance is deeply changed by sharing platforms


September 8, 2016 5:49 am

When your boss is an algorithm

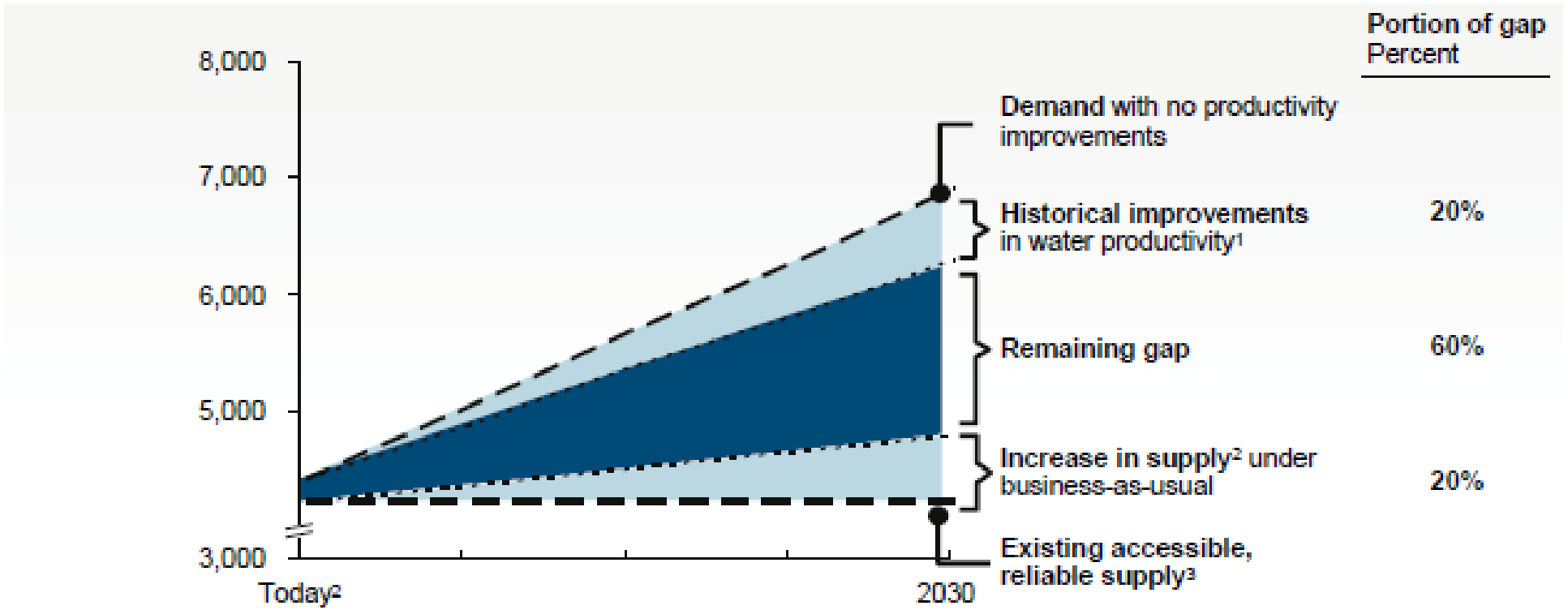
Sarah O'Connor

Share Author alerts Print Clip Comments

In the gig economy, companies such as Uber and Deliveroo manage workers via their phones. But is this liberating or exploitative?

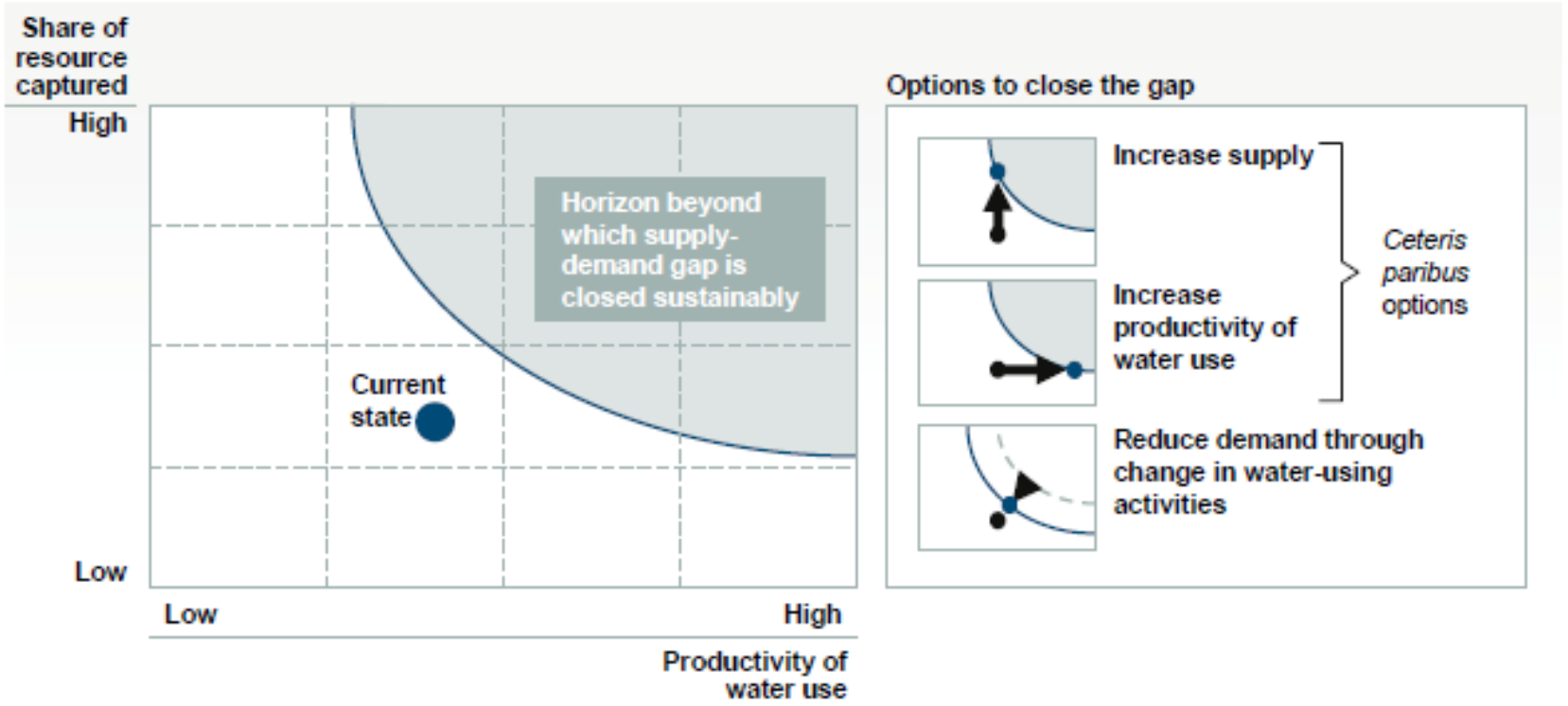
Charting a sustainable water future

Business-as-usual approaches will not meet demand for raw water



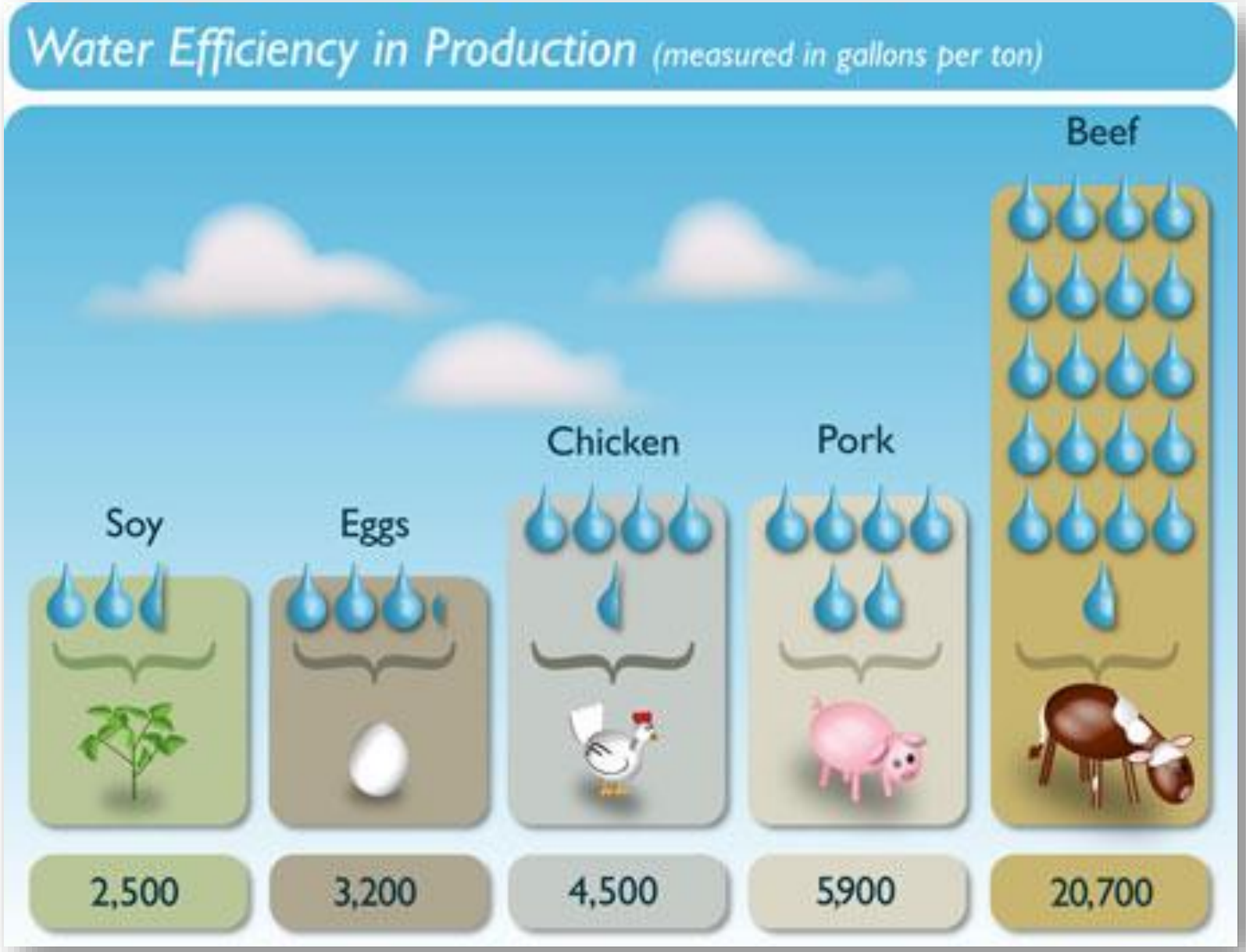
1 Based on historical agricultural yield growth rates from 1990-2004 from FAOSTAT, agricultural and industrial efficiency improvements from IFPRI
2 Total increased capture of raw water through infrastructure buildout, excluding unsustainable extraction
3 Supply shown at 90% reliability and includes infrastructure investments scheduled and funded through 2010. Current 90%-reliable supply does not meet average demand
SOURCE: 2030 Water Resources Group – Global Water Supply and Demand model; IFPRI; FAOSTAT

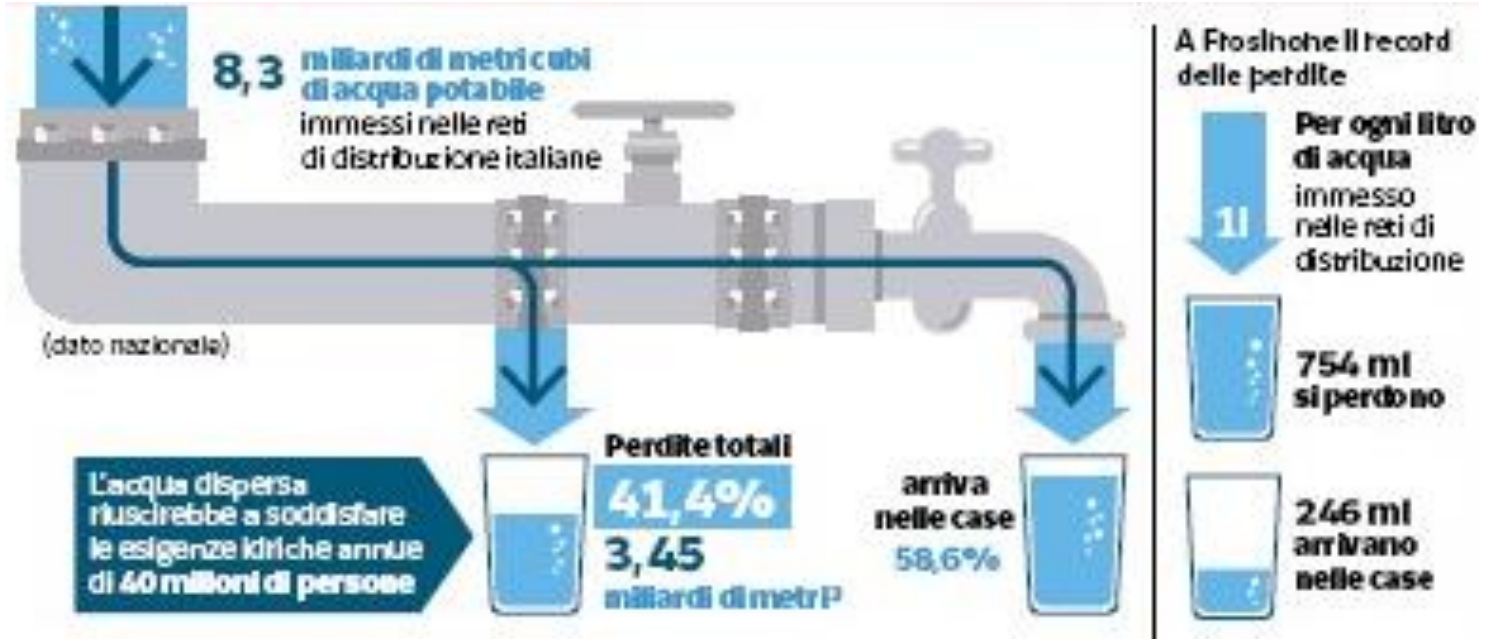
Three options for closing the supply-demand gap



SOURCE: 2030 Water Resources Group

- Different combinations of these three options will result in different costs and bring about
- different end-states for the country. Varying the country's economic outputs, the water intensity of its economy, and its reliance on supply-side infrastructure are all potential levers for achieving water security. The critical question is: what is the optimal mix?
- Maximizing return on investments through reduced operational costs and improved performance


Water Efficiency in Production (measured in gallons per ton)
Soy
Eggs
Chicken
Pork
Beef
2,500
3,200
4,500
5,900
20,700

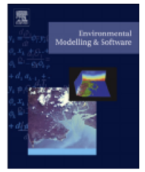

8,3 miliardi di metri cubi di acqua potabile immessi nelle reti di distribuzione italiane
(dato nazionale)
Perdite totali
41,4%
3,45 miliardi di metri
L'acqua dispersa riuscirebbe a soddisfare le esigenze idriche annue di 40 milioni di persone
arriva nelle case
58,6%
A Frosinone il record delle perdite
Per ogni litro di acqua immesso nelle reti di distribuzione
1l
754 ml si perdono
246 ml arrivano nelle case


La dispersione nelle grandi città
16,7%
Milano
27,9%
Torino
31,7%
Venezia
35,7%
Napoli
44,1%
Roma
47,1%
Firenze
52,3%
Bari
54,6%
Palermo
Fonti: Istat (dati 2015), Utilitalia
CdS

Contents lists available at ScienceDirect

Environmental Modelling & Software

journal homepage: www.elsevier.com/locate/envsoft



Integrated intelligent water-energy metering systems and informatics: Visioning a digital multi-utility service provider

Rodney A. Stewart [a, b, *], Khoi Nguyen [a, b], Cara Beal [a, b], Hong Zhang [a, b], Oz Sahin [a, b, c], Edoardo Bertone [a, b], Abel Silva Vieira [a, b, d], Andrea Castelletti [e], Andrea Cominola [e], Matteo Giuliani [e], Damien Giurco [f], Michael Blumenstein [g], Andrea Turner [f], Ariane Liu [f], Steven Kenway [h], Dragan A. Savic [i, j], Christos Makropoulos [k], Panagiotis Kossieris [k]

- Digital disruption has already transformed a number of other industries globally, but the utility sector has been slow to embrace digital transformation technologies. This is largely because of their conservative nature, often underpinned by a natural monopoly status that is government-supported and slowly eroded by technology.

- Water-energy links related to the use of water is emerging as a key pathway for integration of water and energy retail services provision.

- Notwithstanding the benefits of transitioning to a digital multi-utility, there are a number of impediments and challenges that need to be overcome before this vision can be realised. and achieve the goal of a digital multi-utility:

  - metering technology,
  - communications network,
  - cyber security and privacy,
  - societal, economic and financial,regulatory barriers

- an issue of sustainability is also given by migratory flows and politically unstable situations

Internet of Things for community water

- 1 million hand operated pumps supply groundwater to people in rural africa .
- F. E. Colchester et al. «*Accidental infrastructure for groundwater monitoring in Africa*» Environmental modelling and software. 91, pp. 241-250 (2017)
- Accelerometry data are sent from transmitters inserted in pump handles to estimate hourly water usage and more sophisticated analysis . Machine learning tecniques(Support vector Machines and Gausian Processes) are sensitive to subtle interaction between pumping and groundwater depth and allow early diagnostics to reduce downtime from months to days,