



water

&

IT



analysis and proposals to face an uncertain future

1 QUESTION

FACED WITH THE CRUCIAL CHALLENGES IN THE FUTURE OF WATER INDUSTRY...

HOW SHOULD WE TAKE ADVANTAGE OF THE ENORMOUS
POSSIBILITIES THE IT IS CURRENTLY PROVIDING TO US?

2 TOPICS



WATER



INFORMATION & TECHNOLOGY

3 TIMES



CONTEXT



PROBLEMS



SOLUTIONS

1



CONTEXT



71%

of planet surface is covered
by water



2,5%

is fresh water



0,75%

is contained in groundwater,
rivers, lakes and dams



70%

is consumed by **AGRICULTURE**



20%

is consumed by **INDUSTRY**



10%

is consumed for
DOMESTIC USE



THE INFORMATION TECHNOLOGY

TPS or Transactional Process Systems

BPM or Business Process Management Systems

Business Intelligence and analytic platforms

Advanced Analytics

GIS or Geographic Information Systems

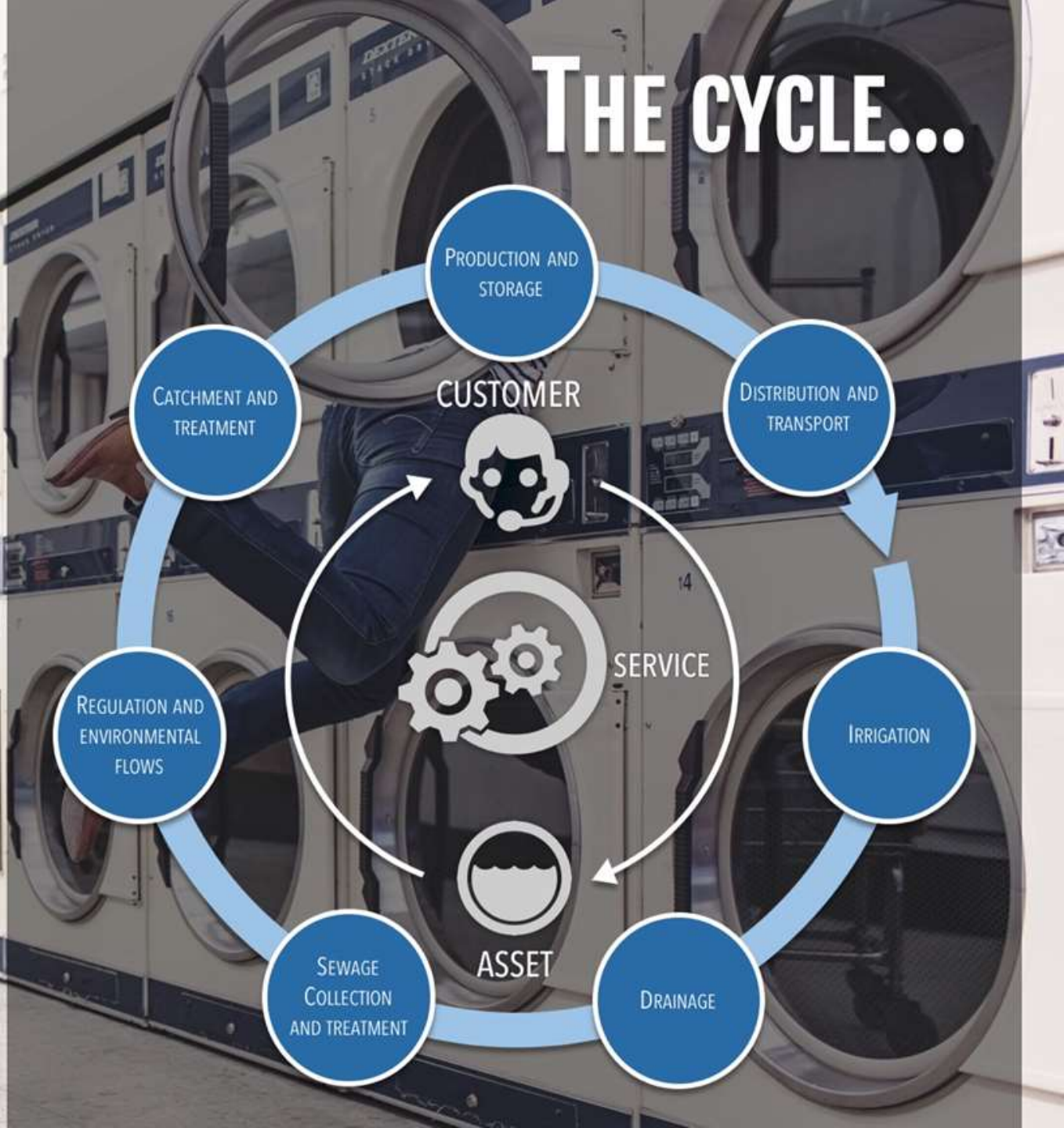
CRM or Customer Relationship Management Systems

Real Time Systems

Statistical modelization

Content Management Systems

Others (AR, VR, 3D printing...)



...AND ITS PROCESSES



MULTIPLE VISIONS OF THE SAME BUSINESS PROCESSES

OPERATION OF PLANTS

- . DWTPs
- . WWTPs

OPERATION OF NETWORKS

- . Drinking Water (Balances and leak detection)
- . Waste water
- . Storm water
- . Real-Time network monitoring

ASSET MANAGEMENT

- . AM in general
- . Planning and design of new assets

WORKS AND INTERVENTION

- . Management of field interventions and plan maintenance
- . Field/Plants works in general
- . Electromechanical maintenance
- . Sewer inspection and cleaning

MEASUREMENTS

- . Automation and sensors
- . Advanced Metering Infrastructure ("Smart Metering")
- . Laboratories and Quality Control

CUSTOMERS

- . Billing
- . Customer care
- . Contracting
- . Meter reading

PUBLIC SERVICE CONTRACT MANAGEMENT

CRISIS MANAGEMENT

2



PROBLEMS

WATER CRISIS



LESS AVAILABLE WATER
DUE TO ITS QUANTITY AND QUALITY



MORE ADVERSE EVENTS
AND MORE SEVERE...



MORE PEOPLE TO SUPPLY
AND FEED...



The Global Risks 2015 Report

The Ten Global Risks in Terms of Likelihood and Impact

Top 10 risks in terms of Likelihood

- 1 Interstate conflict
- 2 Extreme weather events
- 3 Failure of national governance
- 4 State collapse or civil unrest
- 5 Unemployment or underemployment
- 6 Natural catastrophes
- 7 Failure of climate-change adaptation
- 8 Water crises
- 9 Data fraud or theft
- 10 Cyber attacks

Top 10 risks in terms of Impact

- 1 Water crises
- 2 Spread of infectious diseases
- 3 Weapons of mass destruction
- 4 Interstate conflict
- 5 Failure of climate-change adaptation
- 6 Energy price shock
- 7 Critical information infrastructure breakdown
- 8 Fiscal crises
- 9 Unemployment or underemployment
- 10 Biodiversity loss and ecosystem collapse

Categories

- Economic
- Environmental
- Geopolitical
- Societal
- Technological



WATER STRESS

Nowadays...

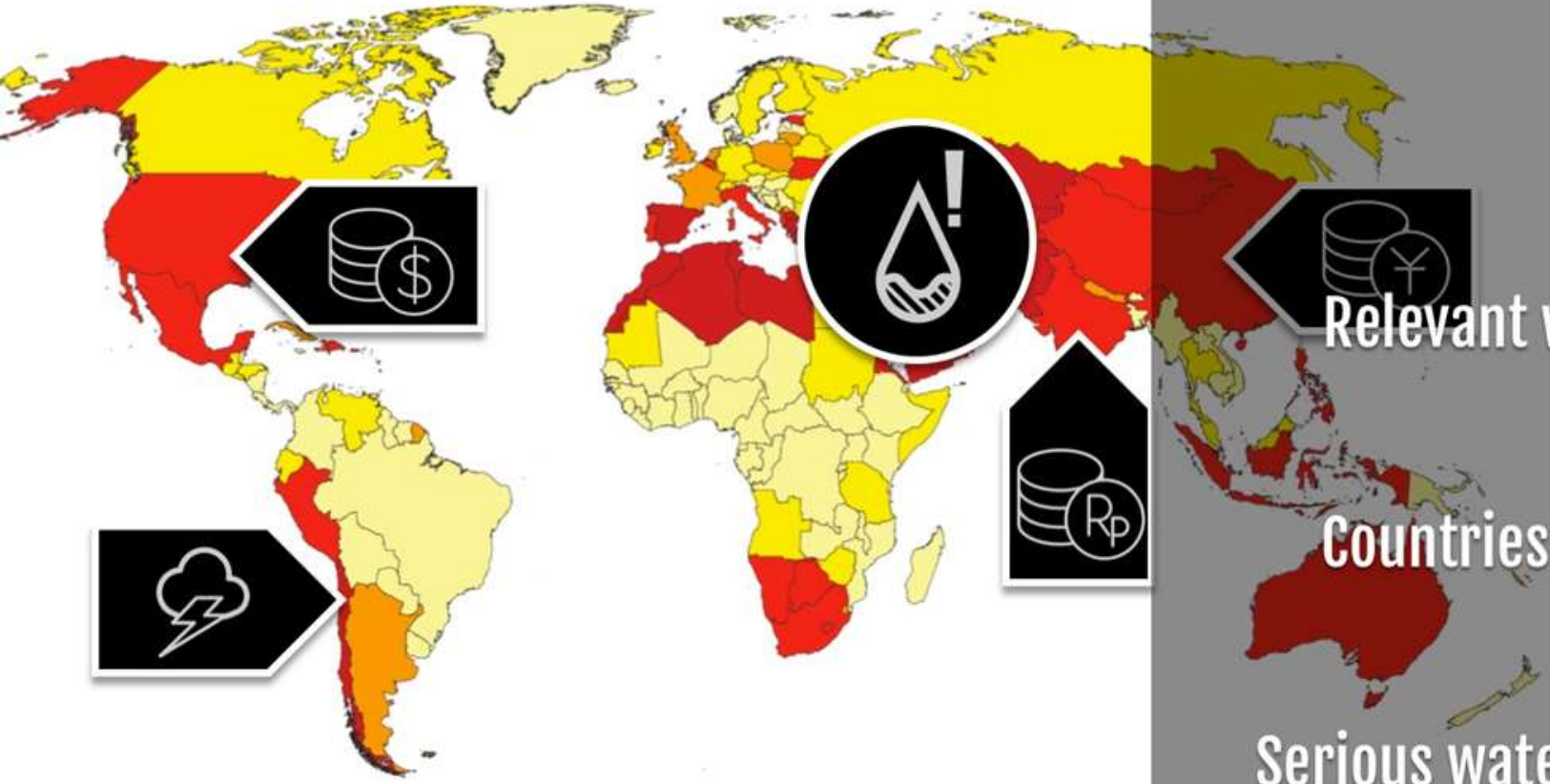
18% of European population is living in countries with water stress

In 2025...

56% of worldwide water demand will be above of water resources offering

WATER STRESS

In 2040...



Relevant water stress problems in biggest planet economies

Countries affected by dramatic changes in rain patterns

Serious water stress problems in Middle East

WATER STRESS





IN 2040...

A VERY REAL RISK OF
WATER WARS



ASSETS: THE REPLACEMENT ERA

\$1 trillion to spend in US during the following 25 years in order to avoid a surely deterioration in Water supply services

An average of 250.000 leakages per year in US... and increasing unless anybody mitigates it

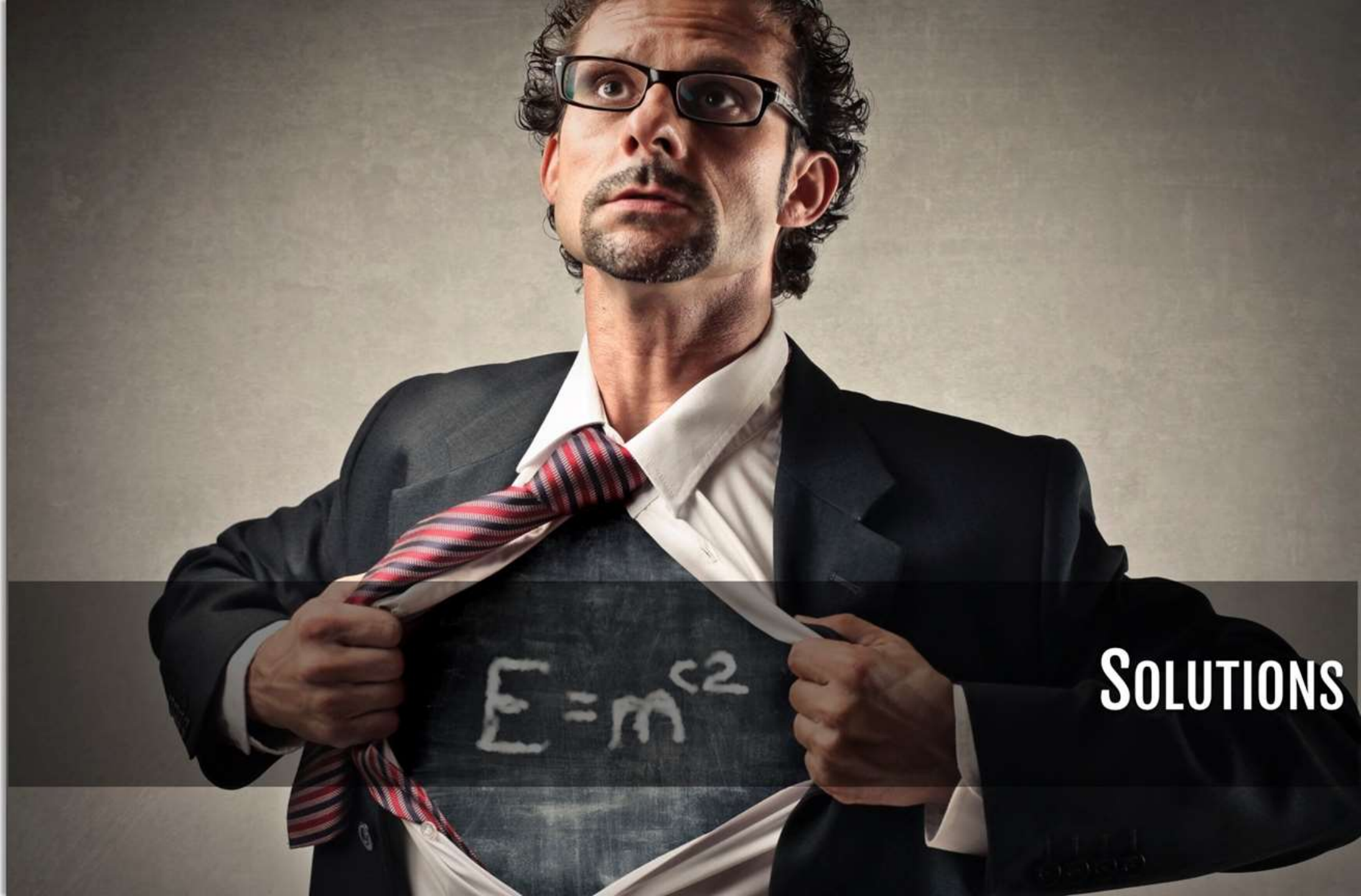
A more than sure increase in water bills to pay the party

An urgent need to capture talent and retain asset management knowledge

A teal-tinted photograph of a city street, likely in New York City, showing tall buildings and a bus. The text "IS THE WATER INDUSTRY READY FOR THIS?" is overlaid in white, bold, sans-serif font on the right side of the image.

**IS THE WATER
INDUSTRY
READY FOR
THIS?**

3



SOLUTIONS

A SIMPLE PROCESS

OBTAIN AS MUCH INFORMATION AS WE
CAN/NEED

1

TRANSFORM IT IN RELIABLE AND TRUE
KNOWLEDGE

2

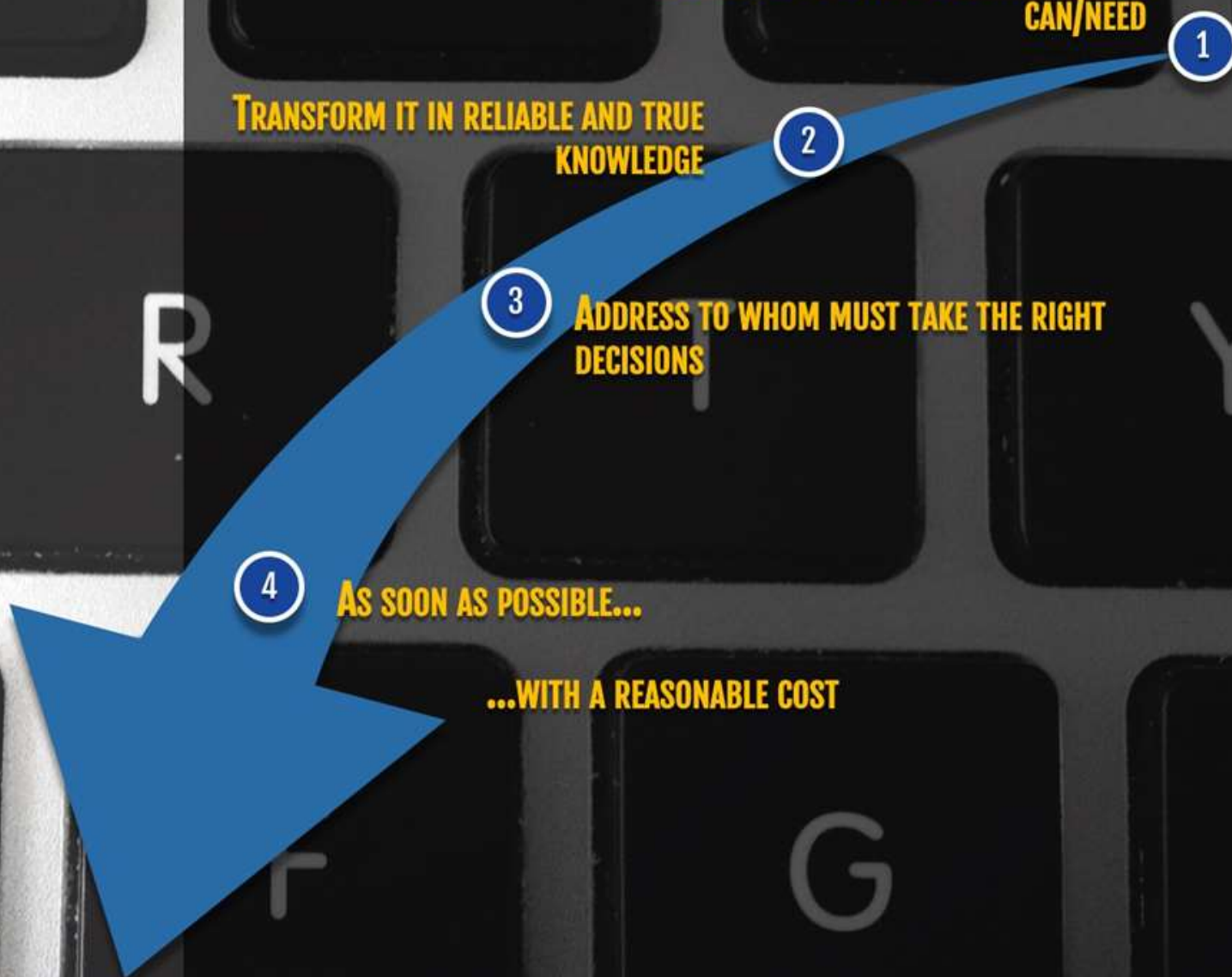
ADDRESS TO WHOM MUST TAKE THE RIGHT
DECISIONS

3

AS SOON AS POSSIBLE...

4

...WITH A REASONABLE COST





THE KEYS



MY TWO CENTS' WORTH IN JUST 10 POINTS



1

STAY CONNECTED

IoT – The internet of things
Remote sensing
Smart metering

...



2

CREATE KNOWLEDGE

Big Data
Predictive analysis
Prescriptive analysis

...



3

APPLY KNOWLEDGE

Data Analytics
Comparison
Discovery

...



4

STAY INTEGRATED

**Plattform
360°
Interoperability**

...

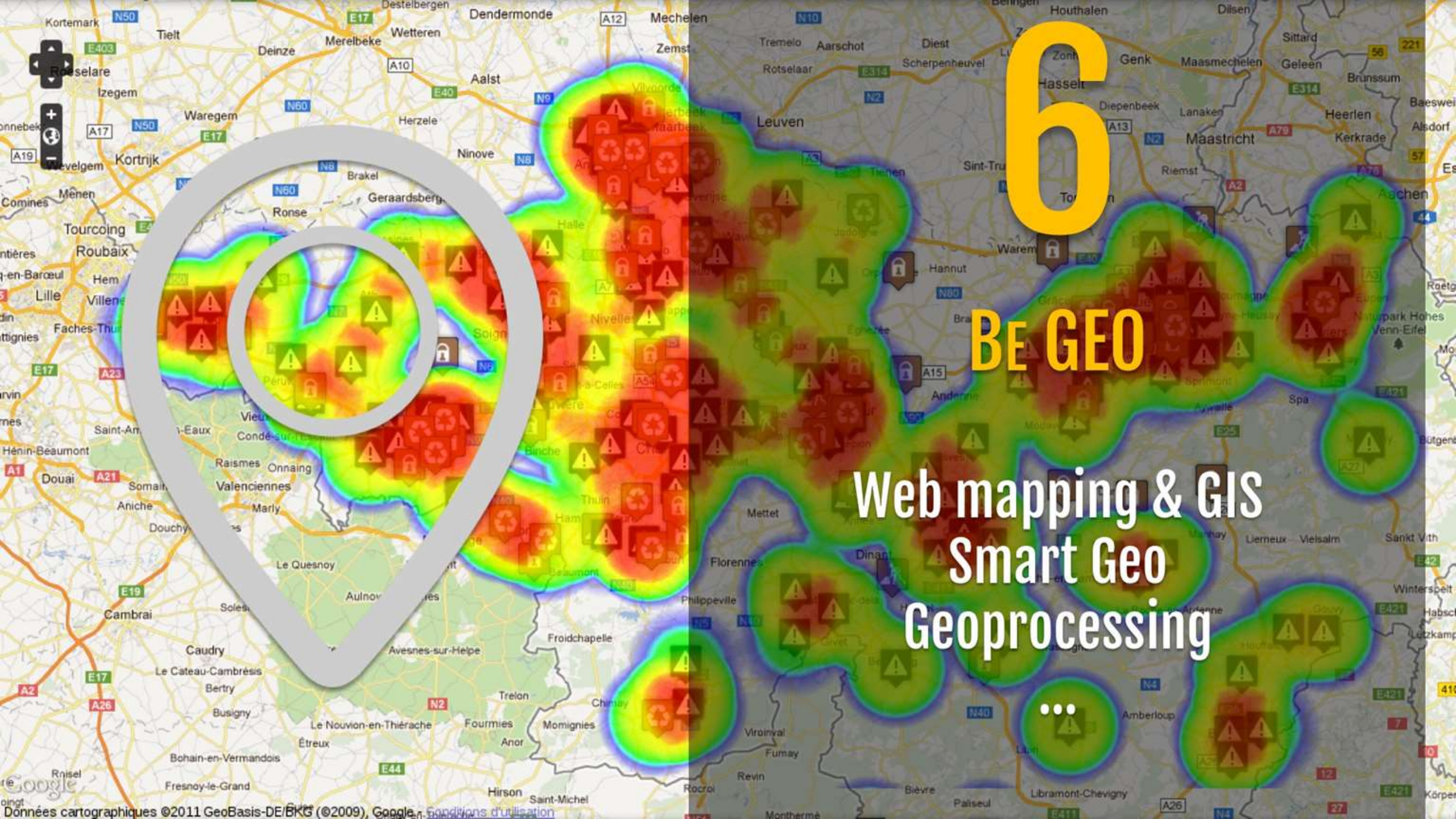
A photograph of a bar counter with various bottles and a white outline of a bottle. The background shows shelves with more bottles and a dimly lit bar area. The text is overlaid on the right side of the image.

5

MIX TECHNOLOGY

The barman's law
Processes and technologies
Consultancy

...



6

BE GEO

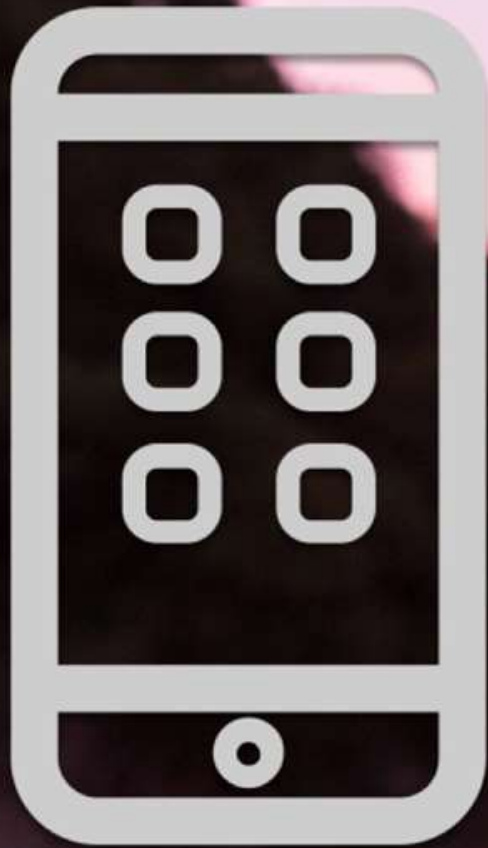
Web mapping & GIS
Smart Geo
Geoprocessing

7

BE MOBILE

A duty to be efficient
Different mobilities
No more paper

...



8

SHARE

Openness
APIs
Smart City & Open Data

...



9

USER FIRST

Vision's alignment
User Experience
Business needs

...

10

CAPTURE TALENT

Adopt a “geek”
Technic-business translation
A hard search

...



ADVICE - \$.50

GOOD ADVICE - \$2.00

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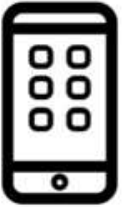
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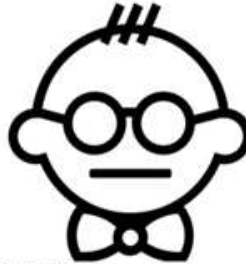
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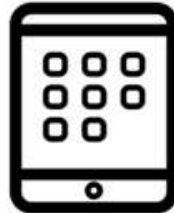
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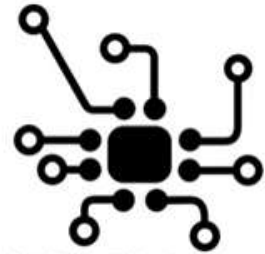
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