



# WORKSHOP

## “Young Water Professional Vision on the roadmap for Innovation and ICT”

Bologna, 19th october 2018

*Ing. Alessandro de Carli*

*Fondazione AquaLAB*

Con il supporto di



# Participants @ YWP Workshop 2018



## Young Water Professionals

- Fabio Francione (Alpi Acque – EGEA Group)
- Aurora Graziano (IT Group)
- Paola Bottega (Golder)
- Anacleto Rizzo (Iridra)

## Senior Water Professionals

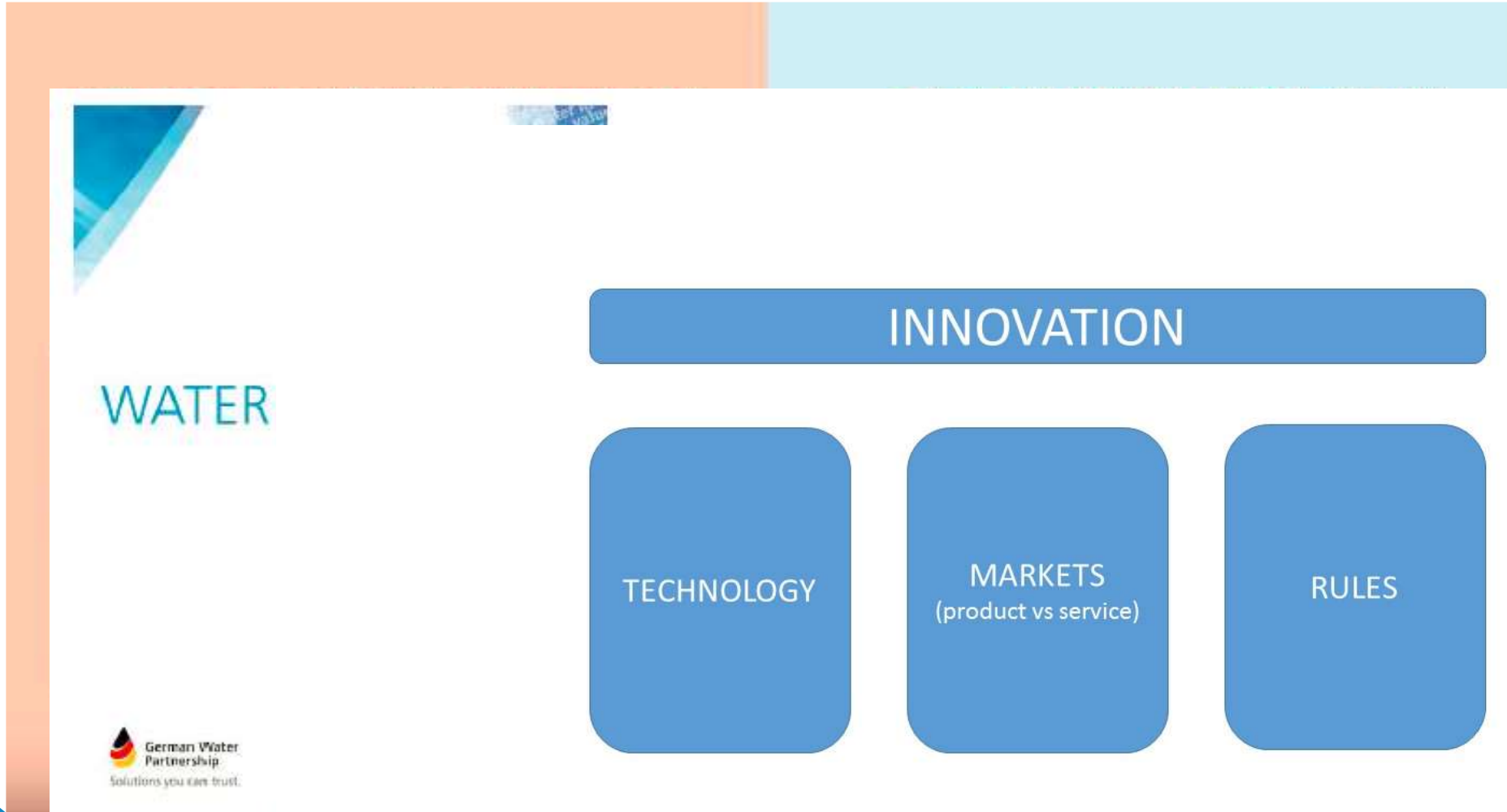
- Alessandro de Carli (AquaLab Foundation)
- Angelo Viterbo (Regione Umbria)



# The Workshop Agenda

- Inspiring introduction
- Presentation of 3 «My WaterIDEAs»
- Discussion about critical issues and solutions for a sustainable urban water service
- The vision of YWPs

# The Inspiring Introduction



# Presentation of 3 WaterIDEAs



Young Water Professional workshop

**My WaterIDEA:**  
L'applicazione del modello WCM  
al SII, con particolare attenzione  
al ramo della depurazione

Ing. Fabio Franciose



17 ottobre 2018



La visione dei YWPs sulla Roadmap per l'innovazione  
e l'ICT nel settore idrico

Concorso My waterIDEA

Valorizzazione delle aree infrastrutturali inutilizzate per la  
gestione sostenibile ed il trattamento delle acque  
meteoriche di dilavamento

Paola Bottega



Bologna, 17 ottobre 2018



Potenziamento dei depuratori esistenti con uso integrato e diffuso di  
soluzioni naturali per il drenaggio urbano e il trattamento e riuso delle  
acque grigie

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YOUNG WATER PROFESSIONALS WORKSHOP

# My WaterIDEA – Fabio Francione



The diagram illustrates the WCM (World Class Manufacturing) model. At the top, the text "WCM:" is displayed. Below it, a classical temple structure is shown with the pediment labeled "WORLD CLASS MANUFACTURING". The columns represent various manufacturing goals: SAFETY AND HEALTH, COST EFFICIENCY, INCREASED MANUFACTURING, MANUFACTURING FLEXIBILITY, MANUFACTURING QUALITY, QUALITY CONTROL, CUSTOMER, FLEET EFFICIENCY, FLEET EFFICIENCY, and SUSTAINABILITY. To the left of the temple is a circular diagram with a yellow sphere in the center and four colored segments labeled A, B, C, and D. To the right is the ALPIacqua logo. In the bottom right corner of the diagram area is a cluster of colorful gears with various icons inside them.

EGEA  
ENERGIE DEL TERRITORIO

ALPIacqua

WCM:

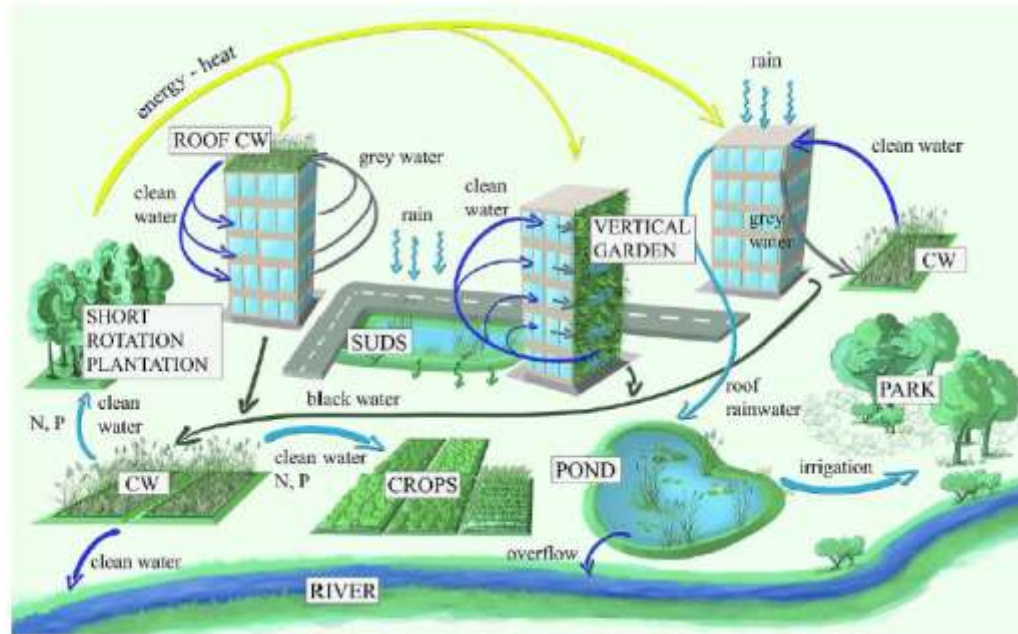
WORLD CLASS MANUFACTURING

SAFETY AND HEALTH  
COST EFFICIENCY  
INCREASED MANUFACTURING  
MANUFACTURING FLEXIBILITY  
MANUFACTURING QUALITY  
QUALITY CONTROL  
CUSTOMER  
FLEET EFFICIENCY  
FLEET EFFICIENCY  
SUSTAINABILITY

- Riduzione degli sprechi
- Miglioramento degli impianti
- Aumento delle performance
- Aumento della sicurezza

Application of World Class Manufacturing model to water services  
Technology readiness level (TRL): 5

# My WaterIDEA – Anacleto Rizzo



Contents lists available at ScienceDirect  
Journal of Environmental Management  
Journal homepage: [www.elsevier.com/locate/jenvman](http://www.elsevier.com/locate/jenvman)

Research article  
The role of constructed wetlands in a new circular economy, resource oriented, and ecosystem services paradigm  
F. Mai <sup>1,\*</sup>, A. Rizzo <sup>2</sup>, M. Fogliarini <sup>3</sup>  
<sup>1</sup> IRIDRA, Via Inghilterra 10, 00147, Roma, Italy  
<sup>2</sup> IRIDRA, Via Inghilterra 10, 00147, Roma, Italy  
<sup>3</sup> IRIDRA, Via Inghilterra 10, 00147, Roma, Italy



Integration of Nature-based solutions to support WWTP: SuDS, grey water treatment and reuse, etc.  
TRL 9 (concerning the NBS design) / TRL 5 concerning DSS

# My WaterIDEA – Paola Bottega

## RAIN GARDEN NELLE AREE NON UTILIZZATE IN AMBITO INFRASTRUTTURALE

Criticità:

- Distanze minime di rispetto
- Sovrapposizione delle competenze



Altri benefici ambientali

- Assorbimento CO<sub>2</sub>
- Cattura particolato
- Riduzione fenomeno isola di calore
- Aumento della biodiversità vegetale

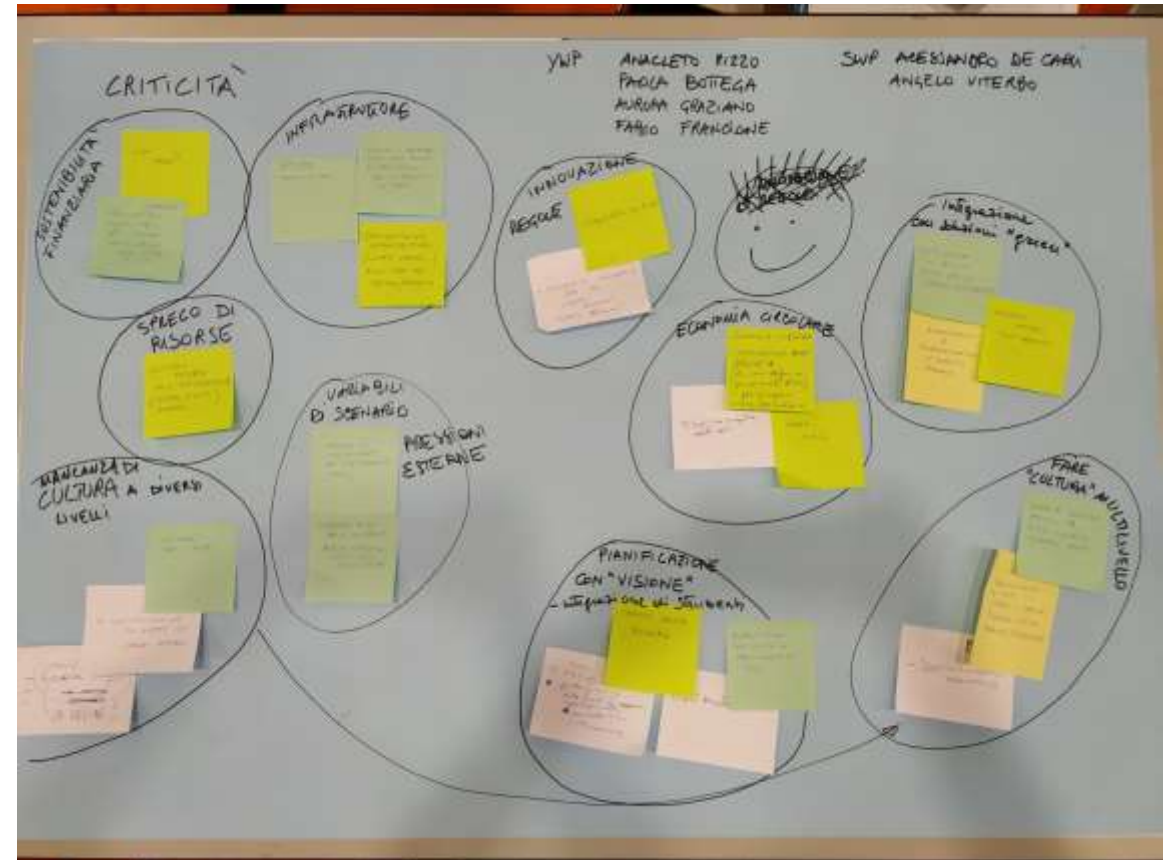
VALORIZZAZIONE DELLE AREE INFRASTRUTTURALI INUTILIZZATE PER LA GESTIONE SOSTENIBILE ED IL TRATTAMENTO DELLE ACQUE METEORICHE DI DILAVAMENTO

PAOLA BOTTEGA

Rain gardens applied to Urban Marginal Areas  
TRL: 9



# The discussion: Critical issues & possible solutions



# Critical issues identified by YWPs



Financial  
Sustainability

Obsolescence  
of  
Infrastructures

External Drives

Waste of  
Resources

Lack of "Water  
Culture" at  
different levels

# Critical issues identified by YWPs



## Financial Sustainability

- Who pays?
- Economic efficiency of the water service Vs. objectives and constraints related to services

# Critical issues identified by YWPs



**Infrastructures**

- Water losses
- Vulnerability to future challenges
- Obsolescence

# Critical issues identified by YWPs



**Waste of  
Resources**

- Water
- Energy
- C, N, P


# Critical issues identified by YWPs



**External  
Drivers**

- Diffused pollutants from streets, buildings, ect.
- Security of supply undermined by climate change

# Critical issues identified by YWPs



Lack of “Water Culture” at different levels

- Citizens
- Final user
- Decision Makers
- Professionals

# The elements of the YWPs vision

Innovation of  
rules

Integration  
with green  
infrastructure

Planning with  
a vision /  
Integration of  
tools

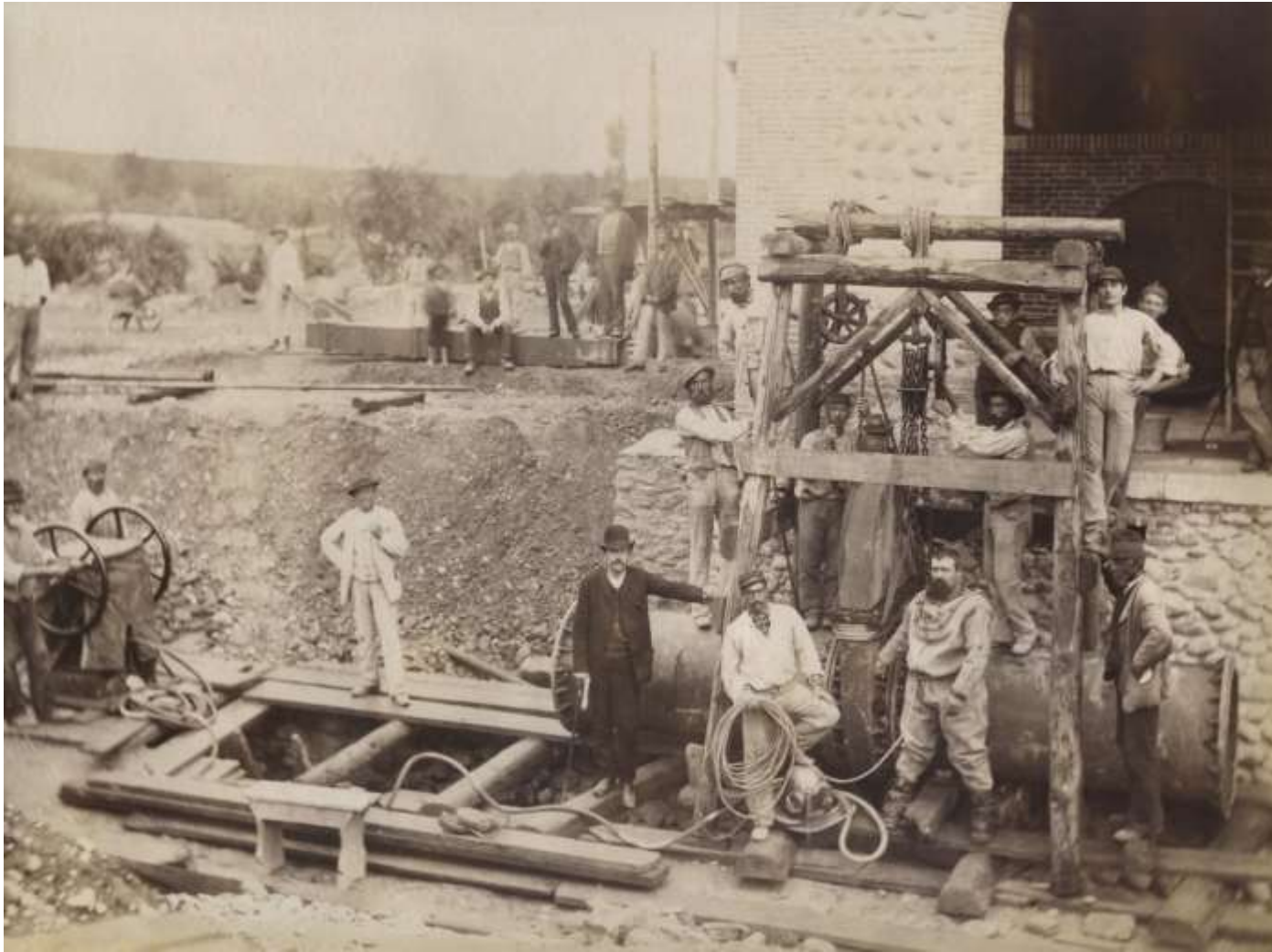
Circular  
economy

Make Water  
Culture @  
different levels



# Key messages

- Innovation of rules as a driver to push innovation in technologies, not *vice versa*
- Integrations of solutions (gray & green infrastructures) to by-pass the “path dependency”
- “Water culture” at several levels



Water 1.0 – Construction of Aqueduct of Verona (IT)  
(Private Archive «Ing. Enrico Carli»)

**Thank you !**