IWA YOUNG WATER PROFESSIONALS

BUILDING BRIDGES

ONLINE EVENT SERIES

Accessing Hidden Information in Water Resource Management Data

Tuesday, 23 November 2021 7 PM (Central European Time)

AGENDA (Duration 1.5 hrs)

. 15’ Introduction
. 15’ Guest Speaker Spain: **Adrián Campos Gibert** (Acciona)
. 15’ Guest Speaker Germany: **Juliane Neumann** (Okeanos Consulting)
. 45’ Networking Discussion

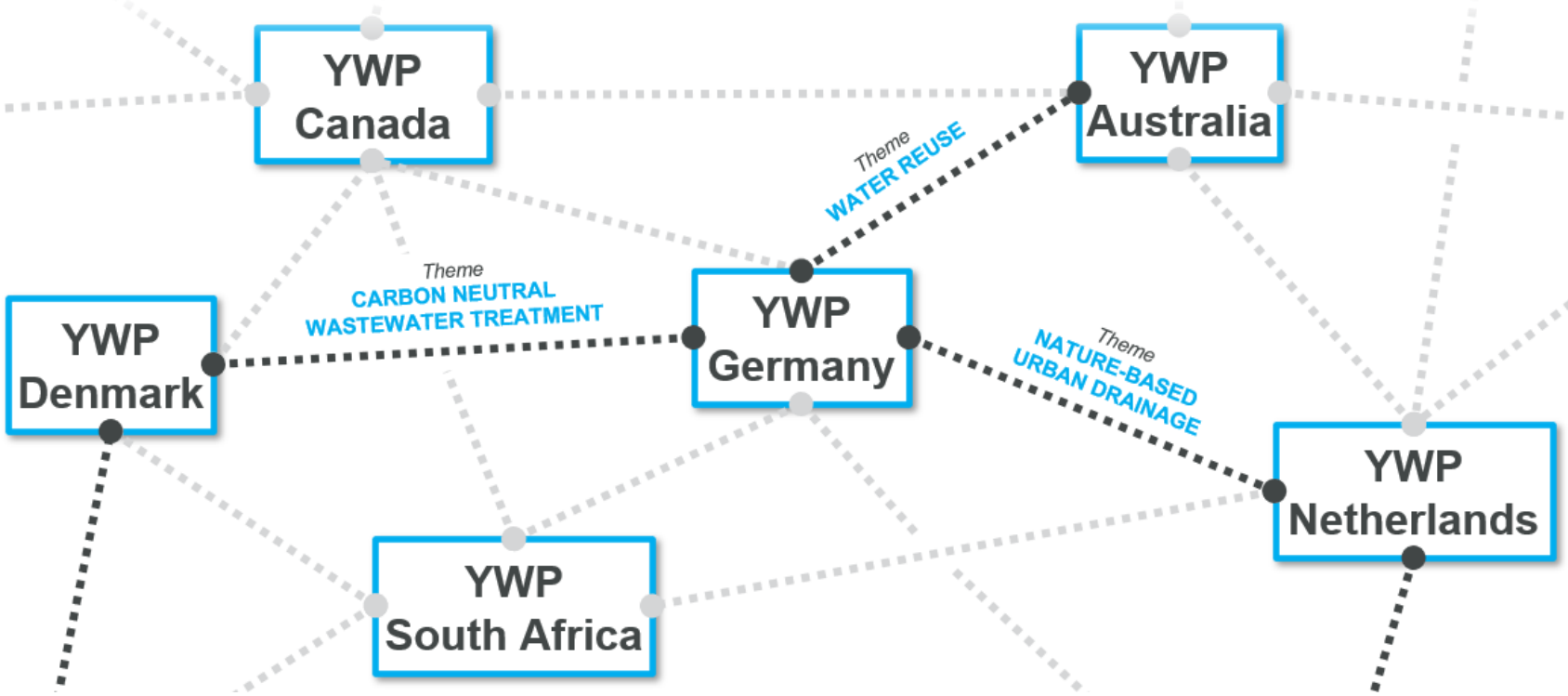
info@ywp-germany.com
international@junge-dwa.de

info@ywp-spain.org

BUILDING BRIDGES ONLINE EVENTS

Concept in a nutshell

- Part of newly created **Building Bridges Online Event Series**
- Regular get-togethers connecting YWP across the globe in **bilateral dialogue**
- Platform to network and **engage over a topic** relevant to both countries
- Platform **empowering YWP** to present insights and to **learn** from peers



INTRODUCING OURSELVES!

JUNGE DWA (YOUNG DWA)

Connect - Roundtables

Exchange - Network Meetings

Grow - Circles & Inclusion

international@junge-dwa.de

https://en.dwa.de/en/jungedwa.html

XING-Gruppe > JungeDWA

INTRODUCING OURSELVES!

IWA YWP GERMANY (YWPGER)

We connect (young) water professionals in Germany with the world, and the world with Germany.

- Organisation of **roundtables** & network events
- **Publications** (national & international)
- **Representing** GER abroad within IWA events and at international conferences
- **Connecting** with other IWA chapters

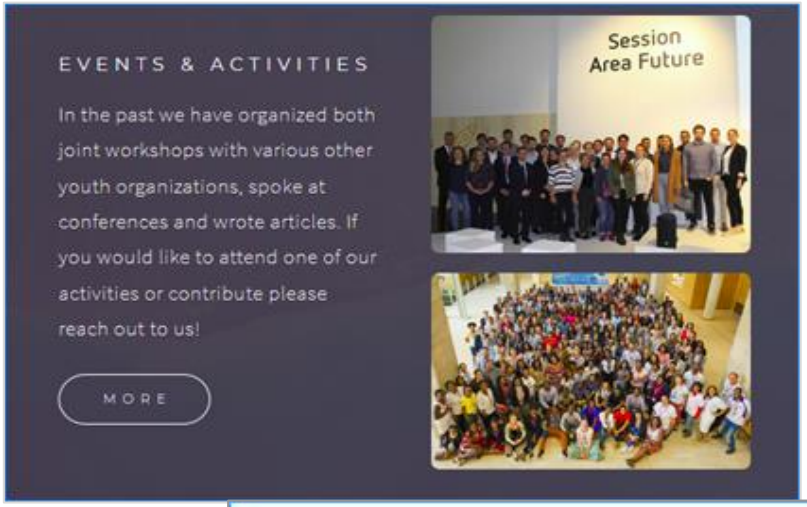
info@ywp-germany.com

NEW WEBSITE UNDER CONSTRUCTION!

https:// http://ywp-germany.com/

@YWP_Germany

https://www.linkedin.com/company/ywp-germany/



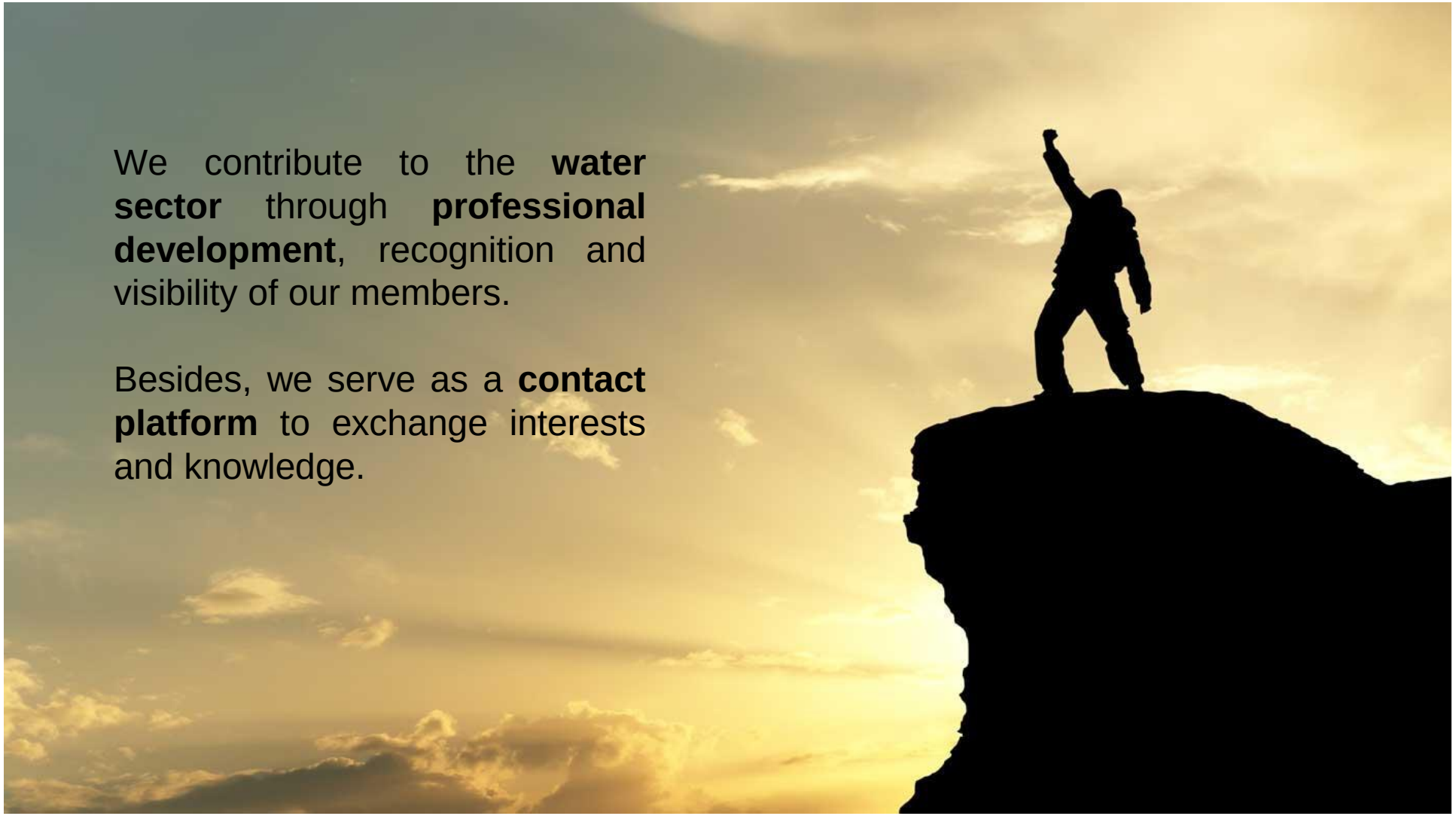
YWP – Young Water Professionals

YOUNG WATER PROFESSIONAL SPANISH CHAPTER

YWP
YOUNG WATER PROFESSIONALS SPAIN

http://ywp-spain.es/

OUR MISSION



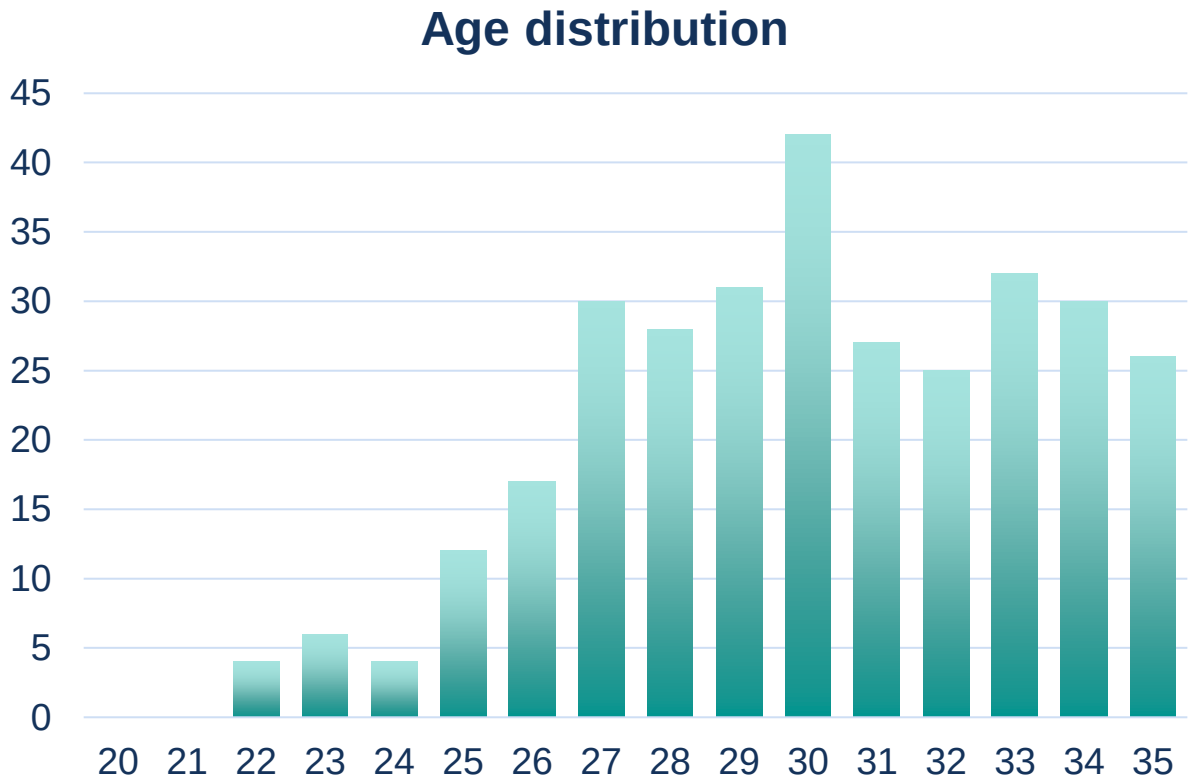
We contribute to the **water sector** through **professional development**, recognition and visibility of our members.

Besides, we serve as a **contact platform** to exchange interests and knowledge.

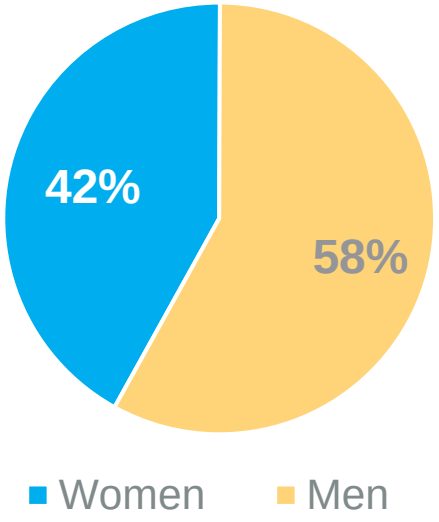
YWP
YOUNG WATER PROFESSIONALS SPAIN

OUR NETWORK

Since **2015**



349 members



YWP
YOUNG WATER PROFESSIONALS SPAIN

MAIN ACTIVITIES

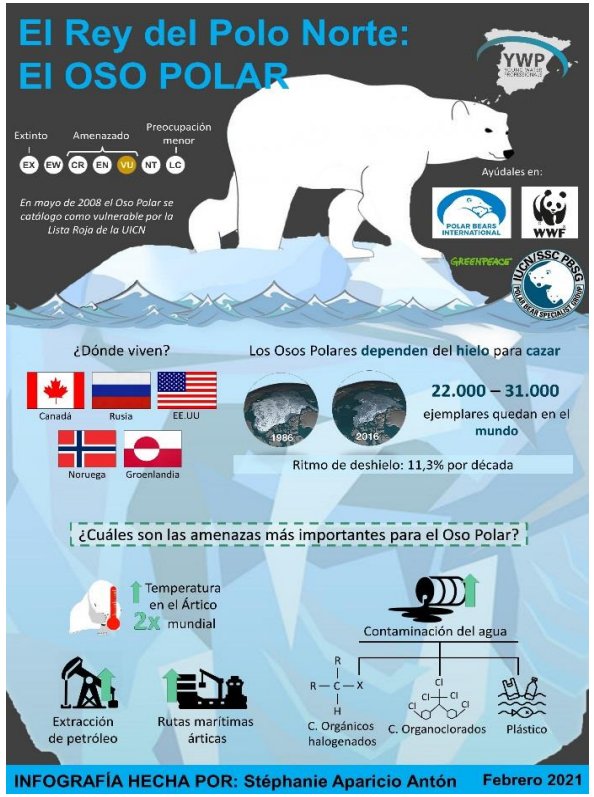
More than **70** Newsletters

Divulgation and challenges in social networks

Introduction to stakeholders

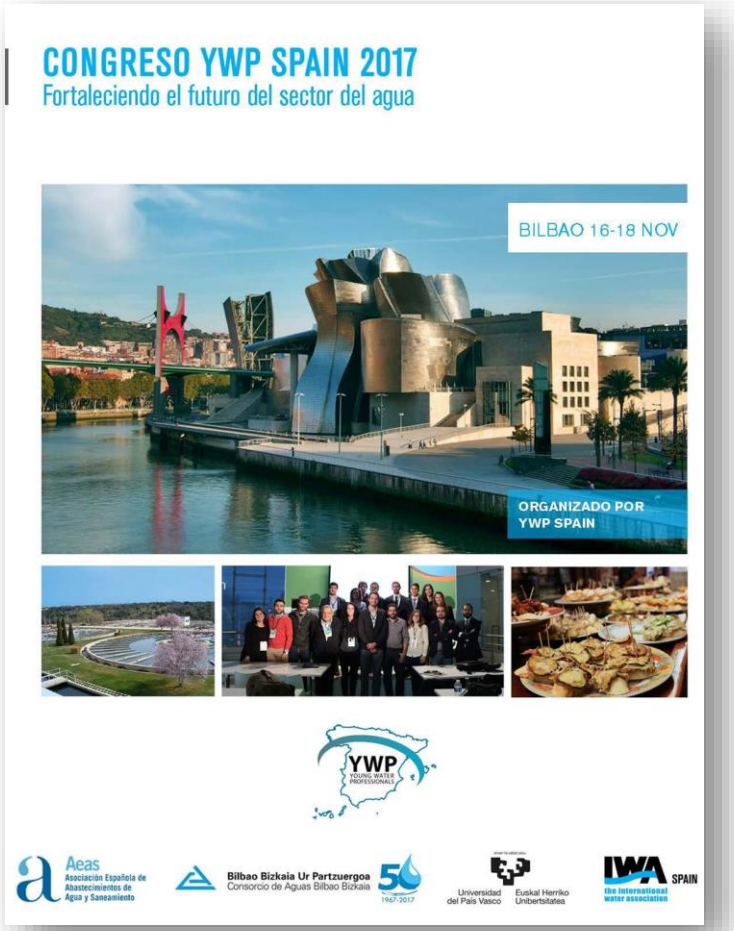
Webinars

Networking abroad: Denmark, Portugal, Serbia, Germany



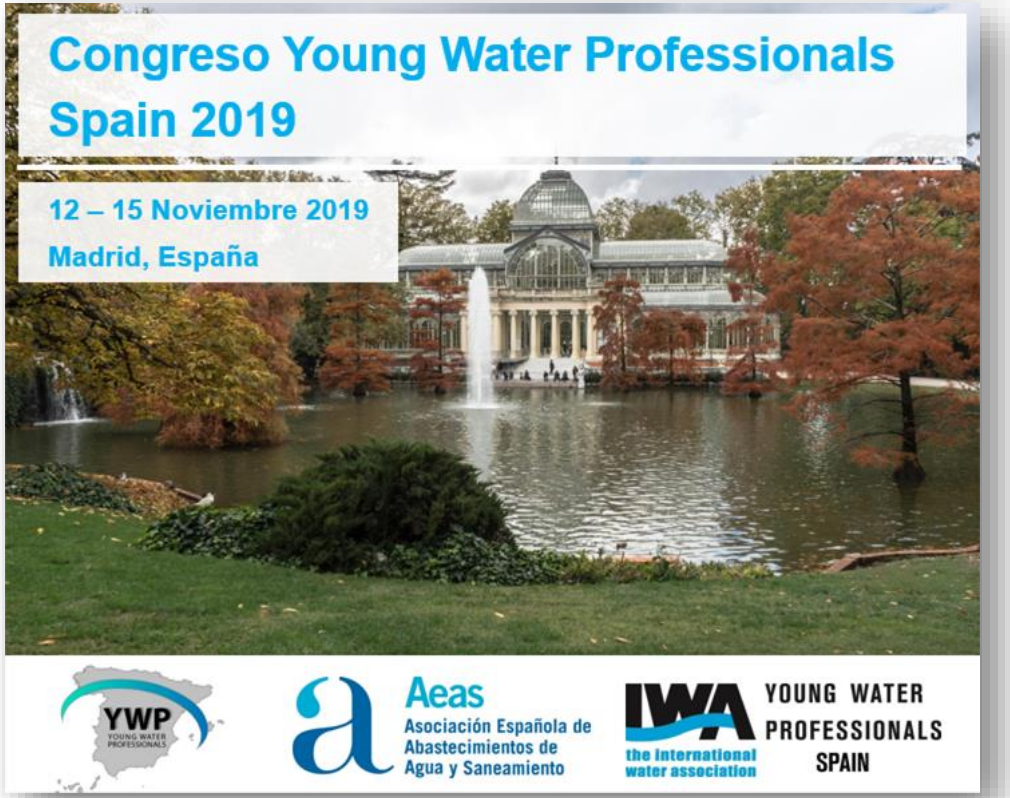
MAIN ACTIVITIES

CONGRESS YWP SPAIN 2017. Bilbao



MAIN ACTIVITIES

CONGRESS YWP SPAIN 2019. Madrid



https://www.youtube.com/watch?v=tIpZrRyFceY

THANK YOU!

http://ywp-spain.es/

GUEST SPEAKER

YWP SPAIN

- **ADRIAN CAMPOS GIBERT**
  Automation & Control Engineer, Acciona

MONITORING AND EFFICIENCY IN WATER NETWORKS

Building Bridges YWP Spain & Germany conference

11.24.21

Adrián Campos

Automation & Control Dpt.

ACCIONA IN FIGURES

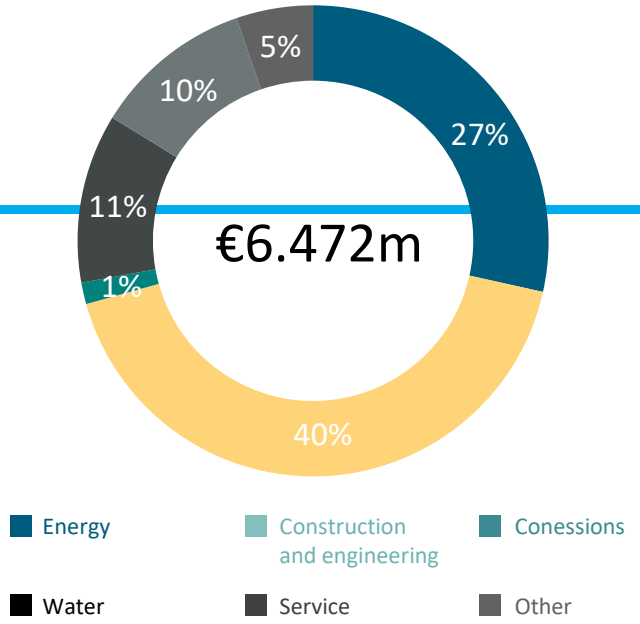
A stable, predictable growth business

+38,500
Employees
In over 40 countries on 5 continents

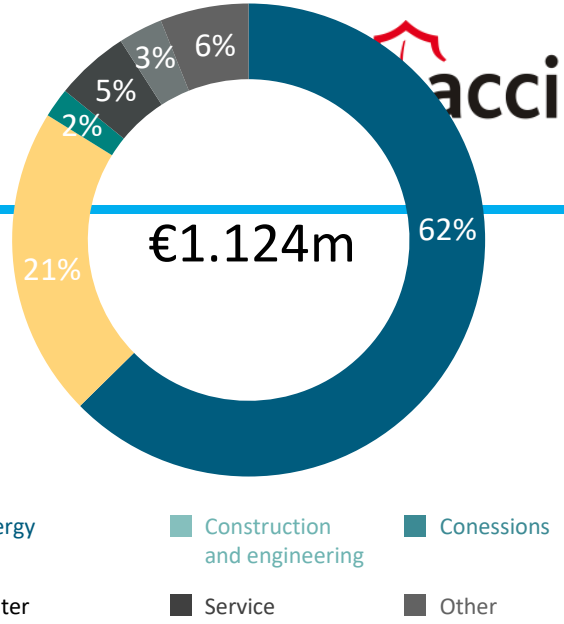
+75 years
Of history
50% family-owned (approx.)

526 M€
total capex 2020

2020 REVENUES



2020 EBITDA



CARBON NEUTRAL
Since 2016

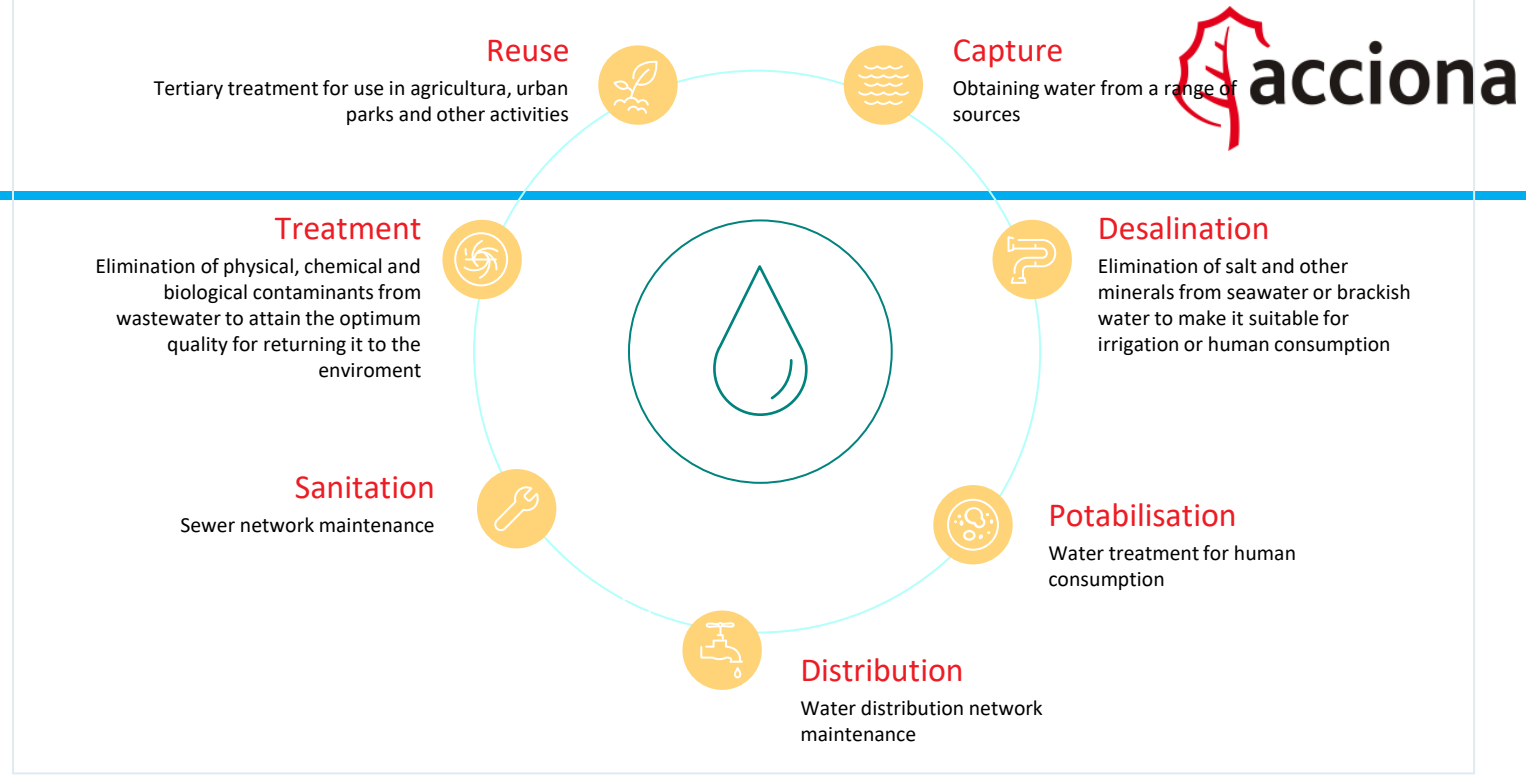
Data at 19.02.2021

OPERATING THROUGHOUT THE WATER CYCLE

In all stages of the water cycle, making it fit for human consumption, supplying the population, treating municipal and industrial wastewater, and applying technology to reuse this resource.

ACCIONA protects water at every stage of its life cycle to ensure the supply of quality water and its sustainable use.

WATER CYCLE



“The hard part is not the learning but the unlearning. The walking back down the mountain.”

Naval Ravikant (The Almanack)

“Doing the right thing is the wrong thing.”

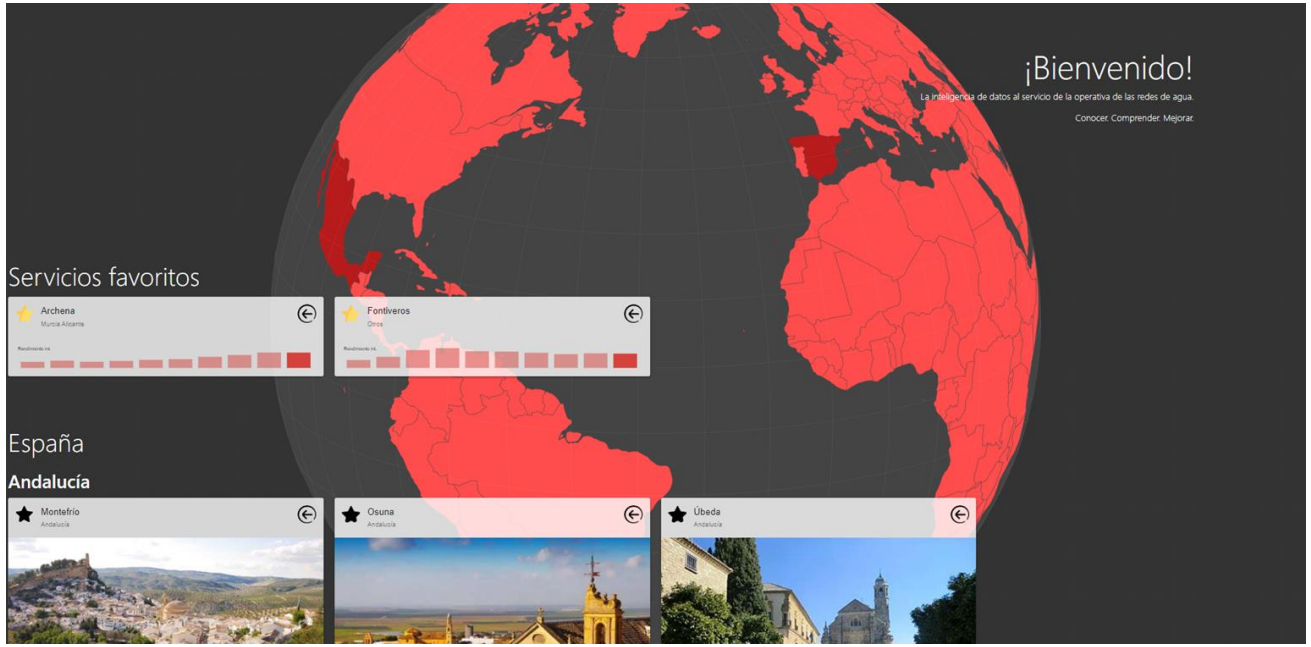
Clayton M. Christensen (The Innovator’s Dilemma)

WATER SERVICES

Cities need water infrastructure and a sustainable approach to water management in order to ensure a supply of properly treated water

WATER MANAGEMENT IN CITIES

In more than 100 cities in Spain, Peru, Italy, Mexico and Panama, serving a total of more than 15 million people.



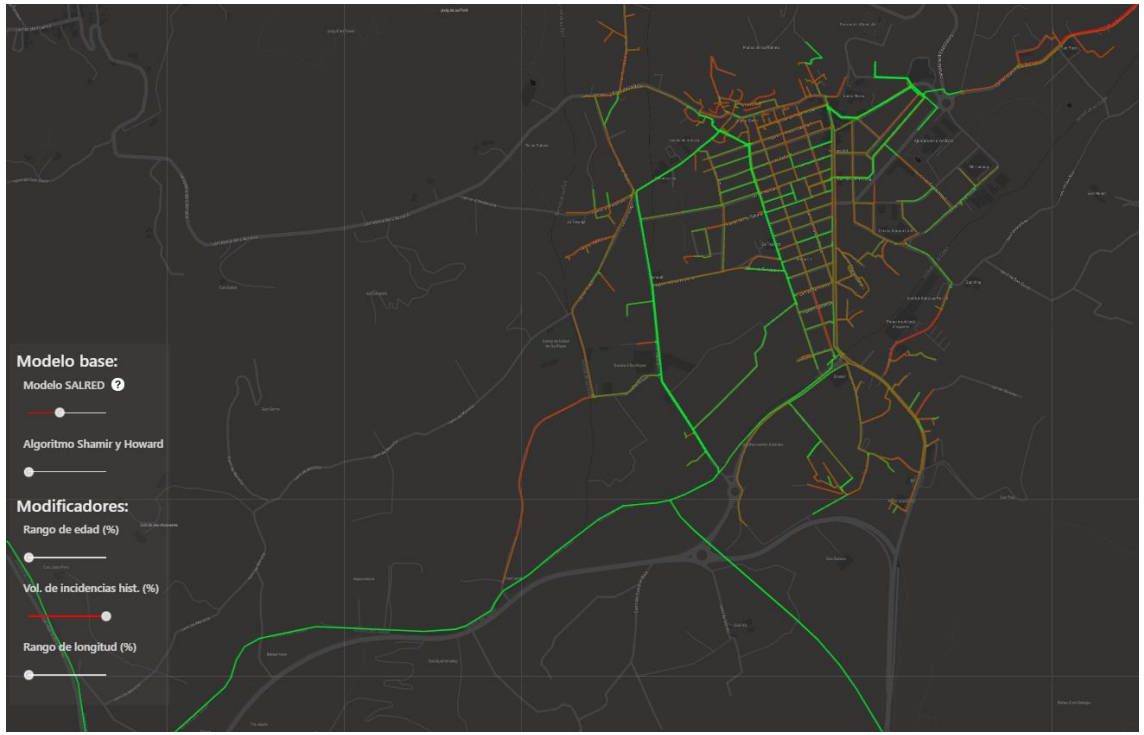
923 hm3

total volume of water treated in 2020

Corrective
maintenance services and customer management,
providing direct user support

CHALLENGES

We face major challenges in the coming years



Infrastructure Asset Management

Proactively managing our aging infrastructure.

Scarcity

Efficiently managing water and energy.

Public Security

To ensuring water quality from source to tap.

Compliance

To meet regulatory requirements sustainably.

UX

Involve diverse stakeholders and find creative solutions.

APPROACH

Industry 5.0 places people at its core

Operator

Efficient and optimized management.
Visibility of hidden problems.

Area manager

Centralize transactional data.
Customer expectations.

BD

Bidding capacity.
ACCIONA brand presence.

General Management

Strategy
Sustainability

Head of Site

Data intelligence (predictive models)
Infrastructure Asset Management.

Service Dept. Lead

Visualization of transactional data.
Cost avoidance.

Digital Transformation

UX
IoT

COMPANY-WIDE DATA DISTRIBUTION

Meeting specific needs by catering to each role

Home

Country

Performance, supplied water, billing.

Area

Performance, supplied water, billing.

Site

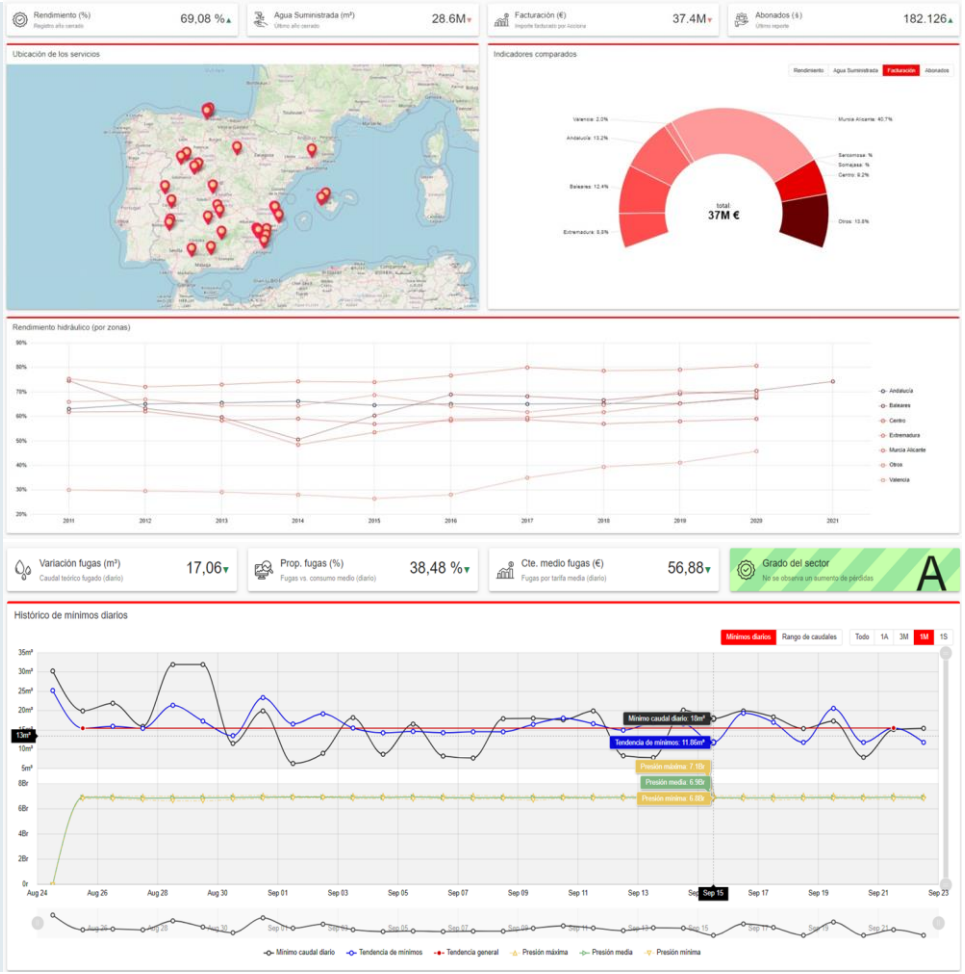
Sectorization, network, tanks, meters, debt.

DMA

Flow composition, leak finder, event detection.

KEY FACTORS

Each person has the information they really need, when they need it.



TAILORED-MADE FOR EACH PERSON

Value proposition

Customized analysis

Decision-making at all levels.

Network Modeling

Breakage probability of each pipe.

Full Access

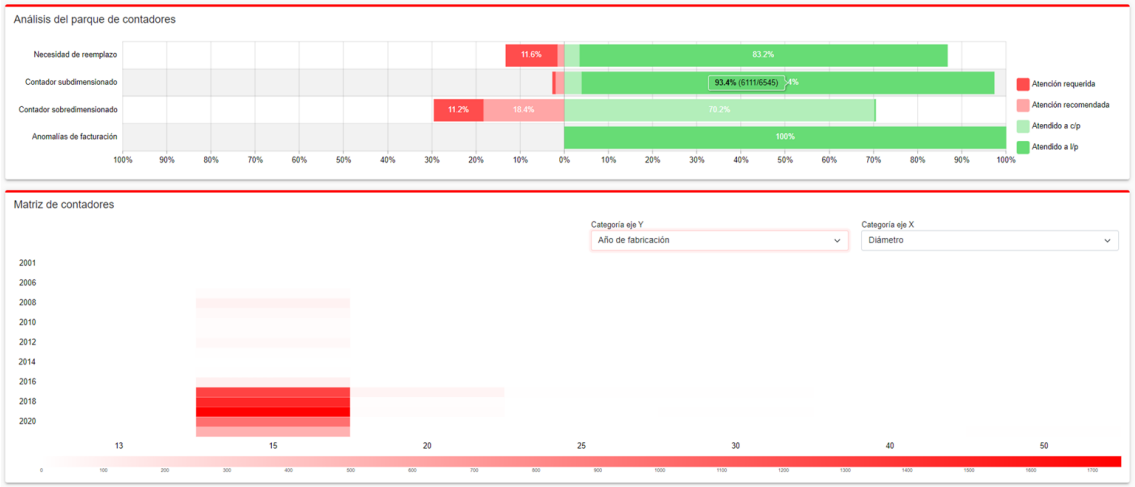
Performance at the DMA level.

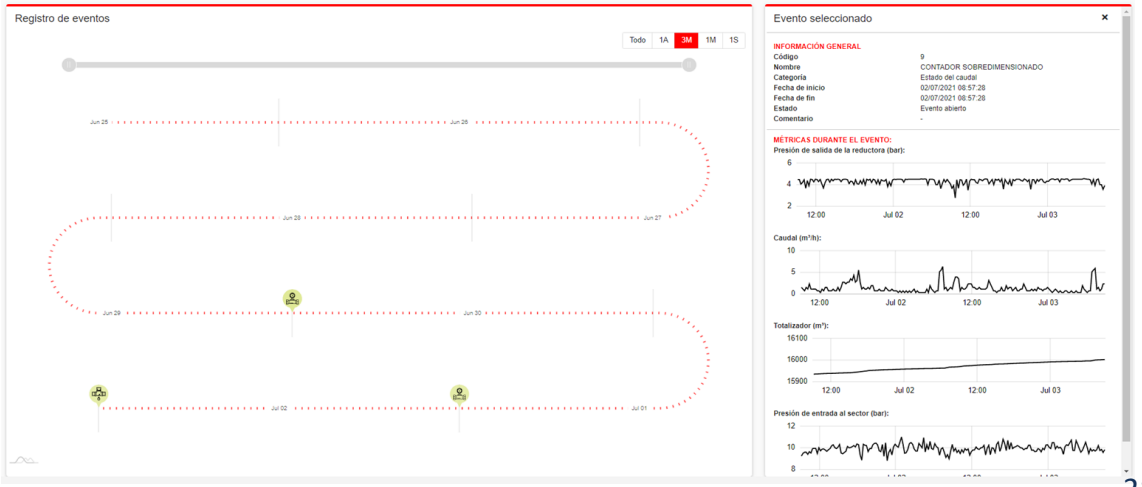
Water Meters

Sizing, amortization, replacement needs.

DMA footprint

Recursive calculations and behavioral tracing by using historical patterns + fuzzy logic





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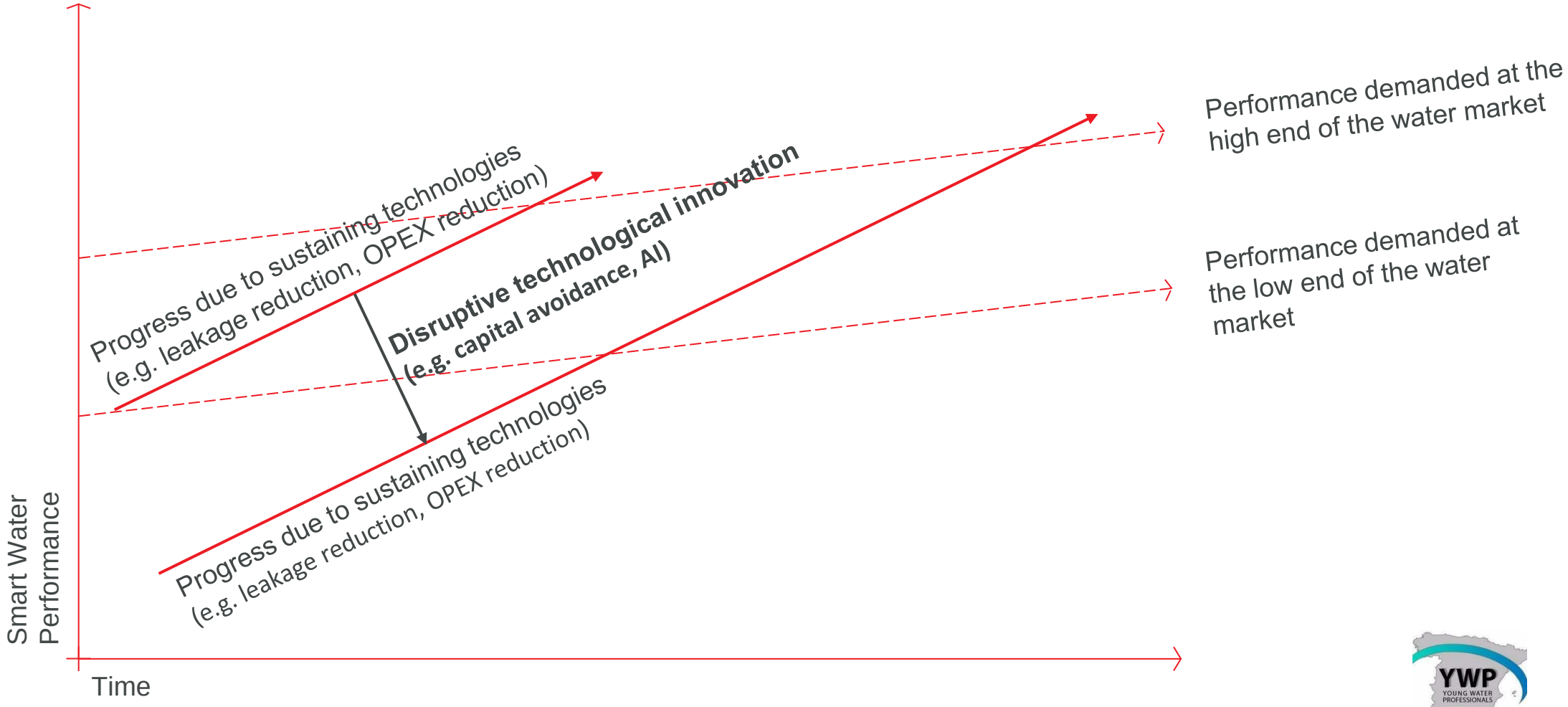
IT'S NOT IN THE "IF". IT'S IN THE "HOW"

The Journey

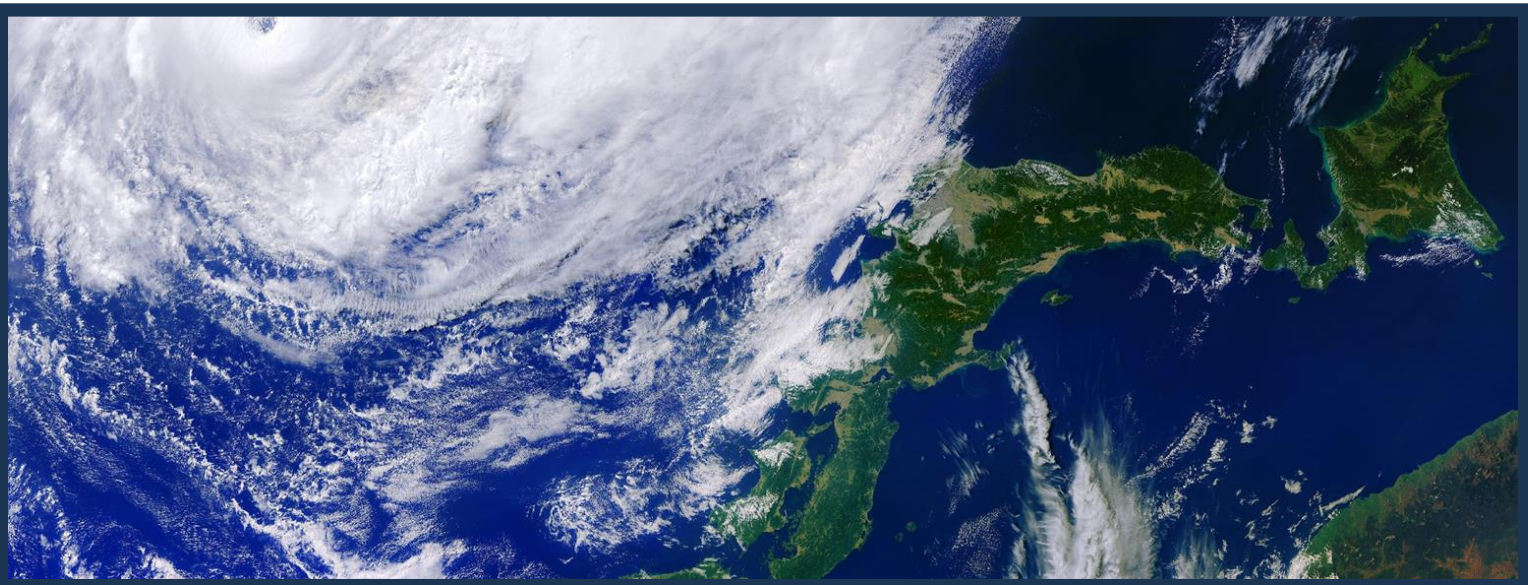


GUEST SPEAKER

YWP GERMANY

- **JULIANE NEUMANN**
  Lead Engineer, Okeanos Consulting

OKEANOS SMART DATA SOLUTIONS GMBH



OKEANOS

Water.AI.Combined.

→ **Start-Up** from Ruhr-University Bochum, Germany

→ **Interface** between **Environmental modellierung & IT**

→ Experts in **modelling techniques (physically-based** or **data driven)**

→ Strong references in environmental industries and service sector

→ We offer tailored **software solutions**

Team Okeanos

Dr.-Ing. Benjamin Mewes

CEO

Dr.-Ing. Henning Oppel

CTO

Önder Türksoy, M.Sc.

Lead engineer hydrometeorology

Juliane Neumann, M.Sc.

Lead engineer hydrochemics

Philipp Bühler, M.Sc.

Lead engineer for backend services

Dr. rer. nat. Svenja Fischer

Team Leader Big Data Analytics

Networks

greentech.ruhr

DATA SCIENCE RUHRGEBIET

Gefördert durch

EFRE.NRW
Investitionen in Wachstum und Beschäftigung

Gefördert durch:
Bundesministerium für Verkehr und digitale Infrastruktur

GEFÖRDERT VOM
Bundesministerium für Bildung und Forschung

aufgrund eines Beschlusses des Deutschen Bundestages

References

Ruhrverband
WISSEN, WERTE, WASSER

Erft Verband
Wasserwirtschaft für unsere Region.

EGLV
Emschergenossenschaft Lippeverband

PROLOGS UMWELTMESSTECHNIK

PHYSEC

Hydrotec
Ingenieurgesellschaft für Wasser und Umwelt mbH

topocare
simply innovative

mainova

STADT BOCHUM

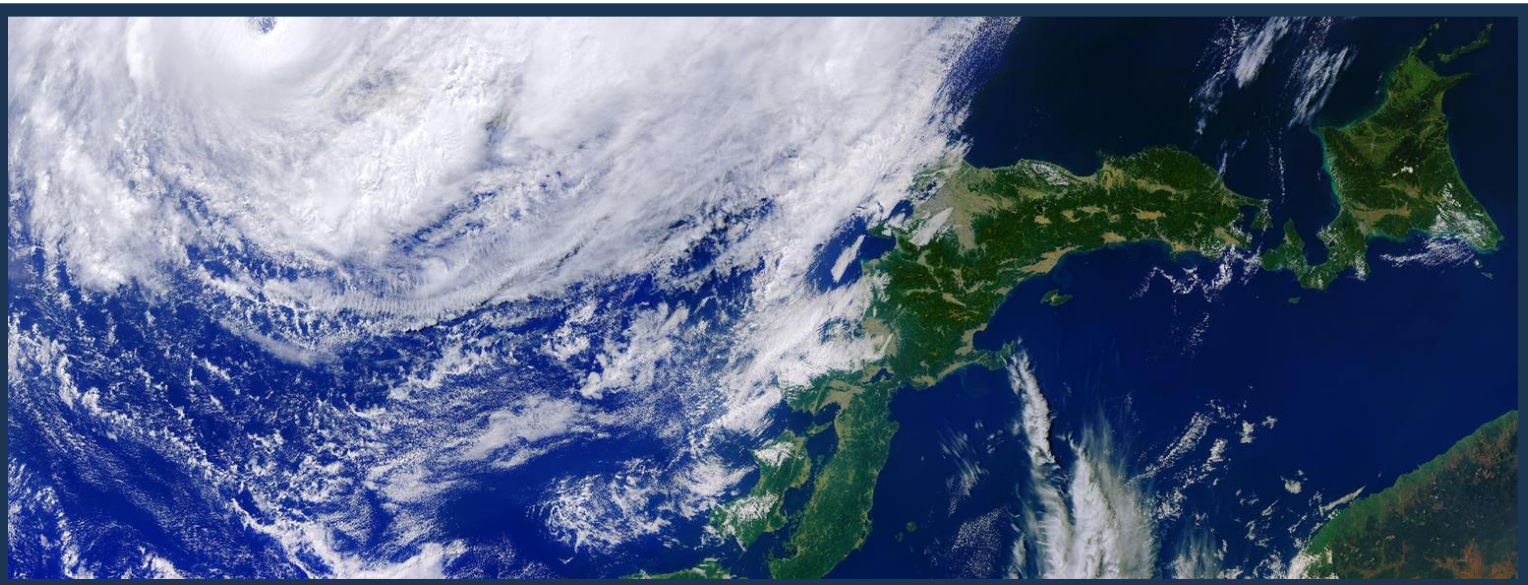
Stadtwerke Bielefeld

VONOVIA

HST SYSTEMTECHNIK

Technology for Water
ENVIROCHEMIE

KISTERS



OKEANOS

→ **Heavy rain** has lead to **massive destruction** in Germany in July 2021.

→ **Warnings** required to avoid **casualities** in the future!

→ **AI** is able to **solve problems** in hydrological fields that are not solvable with traditional approaches.

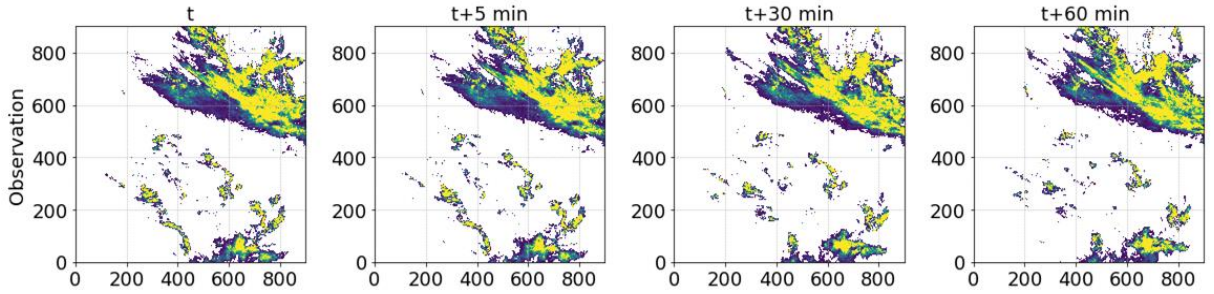
Quelle: Handelsblatt 19.07.2021

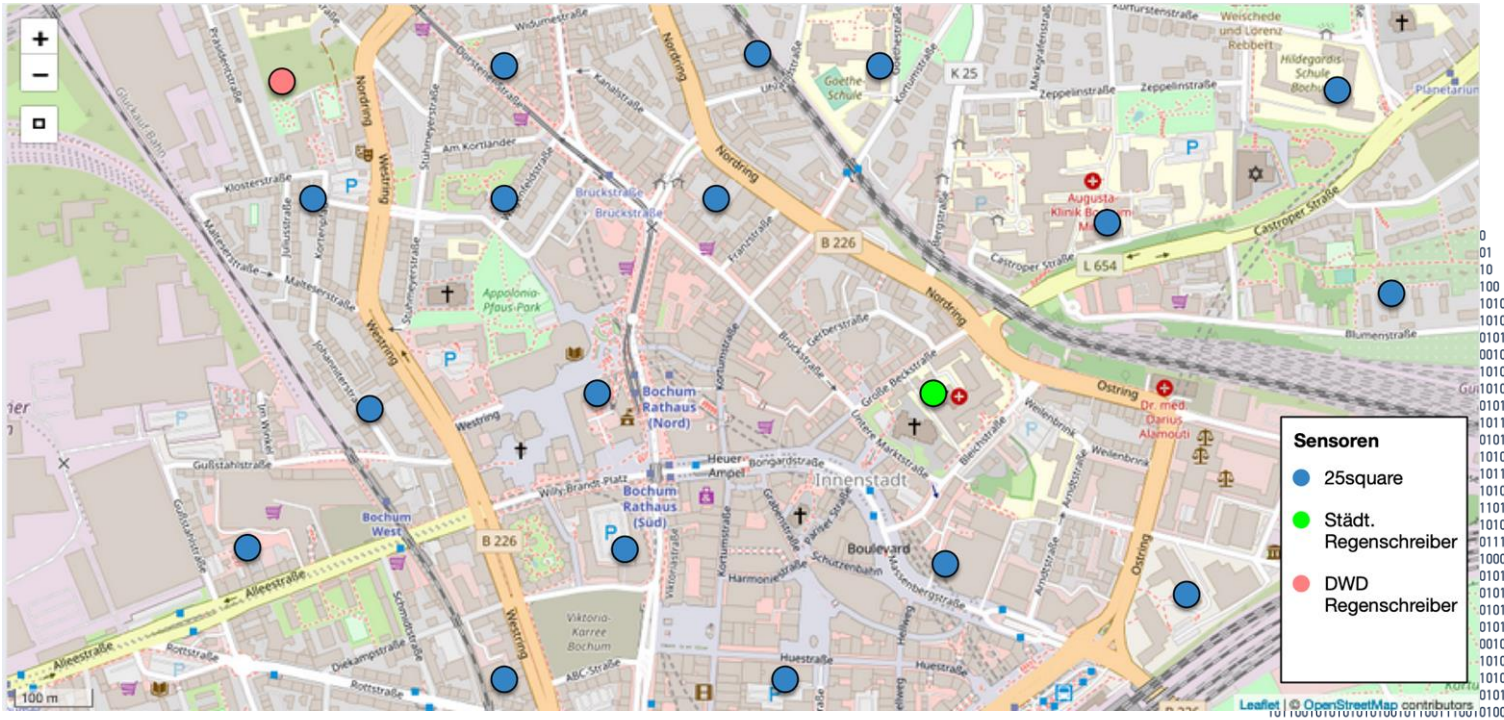
25square

25square is a sensor network and AI-based forecast of heavy rainfall by combining an AI model and low cost precipitation sensors.

Thus, a heavy rain cell tracking and forecast can be conducted at a very high spatial resolution.

25square collects the data from a sensor swarm and mitigates any data related insecurities.





25square

The sensor swarm combines a multitude of low cost sensors with established precipitation measurement techniques.

Consequently, we add insights to yet unsurveilled areas and catchments at relatively low costs.

Gefördert durch:

Bundesministerium für Verkehr und digitale Infrastruktur

aufgrund eines Beschlusses des Deutschen Bundestages

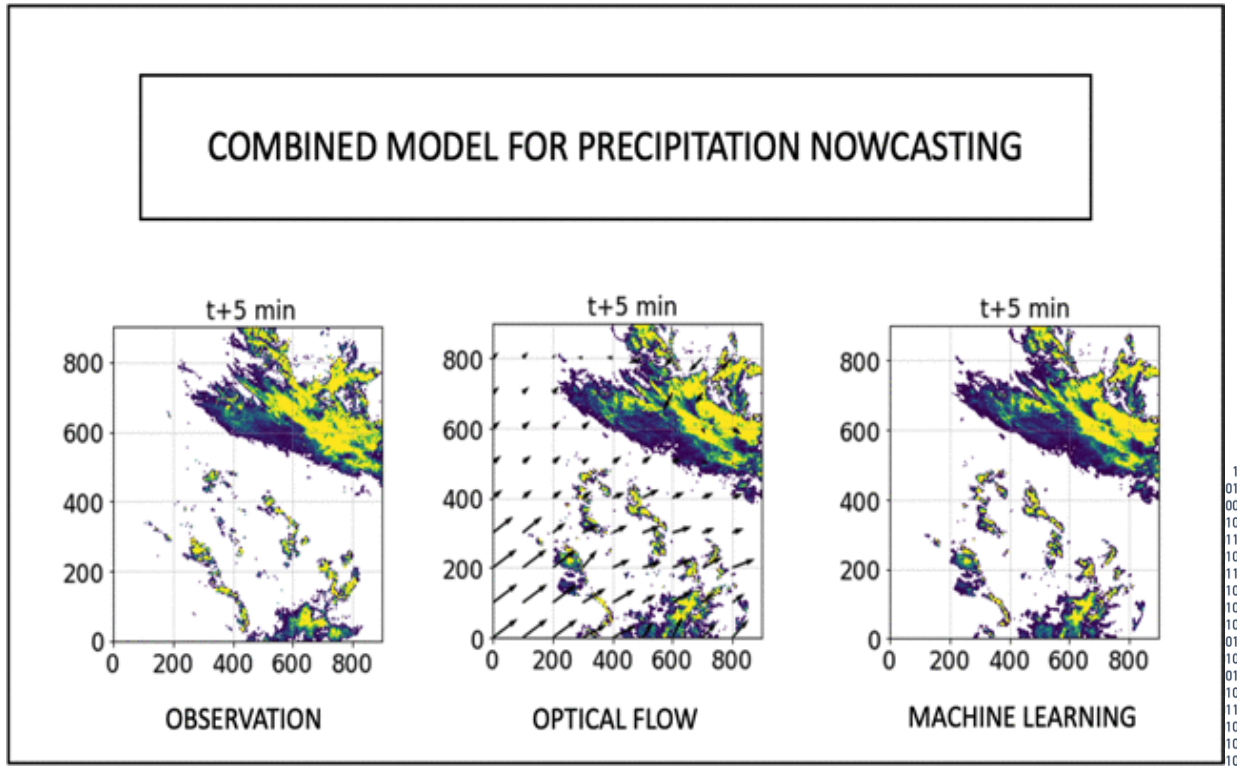
25square

25square allows:

1. To inform technical services where heavy rain will take place in the upcoming 60 minutes.

1. Warn inhabitants to avoid casualties.

1. Manage water resources at a local scale.



25square Roadmap

Phase 1

Pilot Phase

- 10-20 sensors in vulnerable sectors
- \+ Testing of LoRa-infrastructure

Phase 2

evaluation & development of strategy

- Validation of pilot phase.
- Development of smart city strategy

Phase 3

25square City

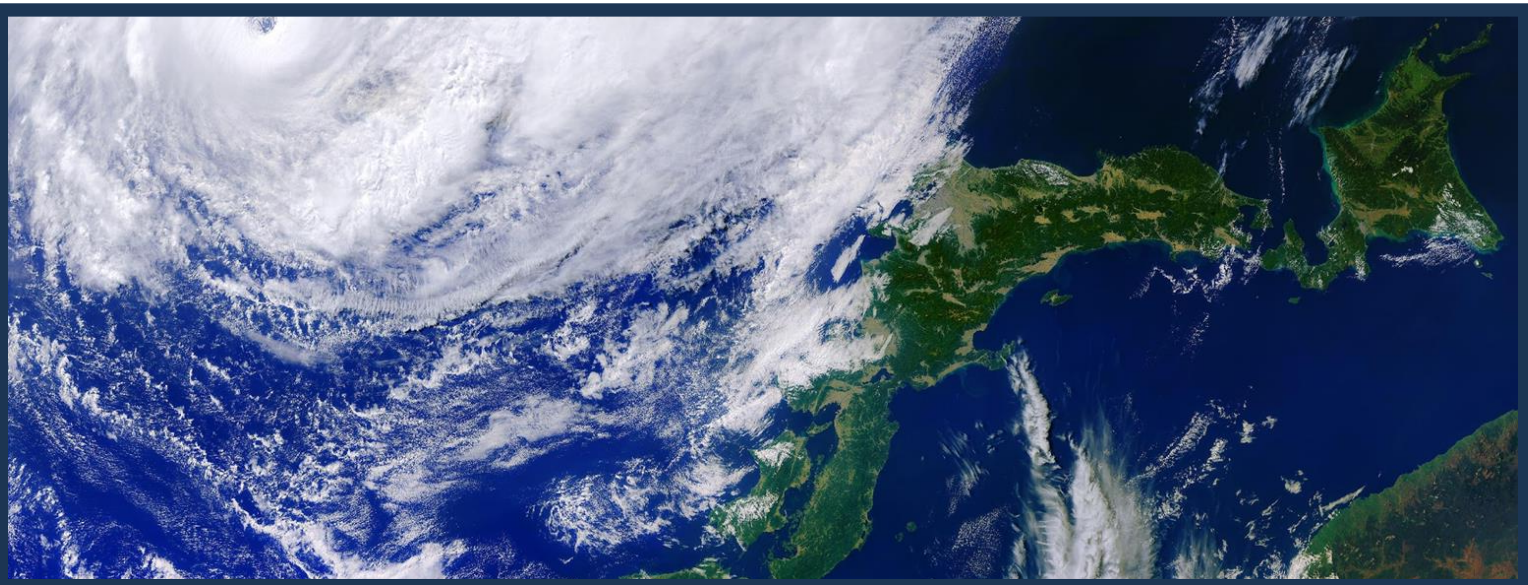
- Heavy rain monitoring for a whole city
- Maximum of warning time
- Connecting with actors in water resource management

Phase 4

Combination

- Connecting the grid to neighboring muncipalities and cities.
- Increase the spatial coverage of heavy rain monitoring

Municipial Inudation Monitoring



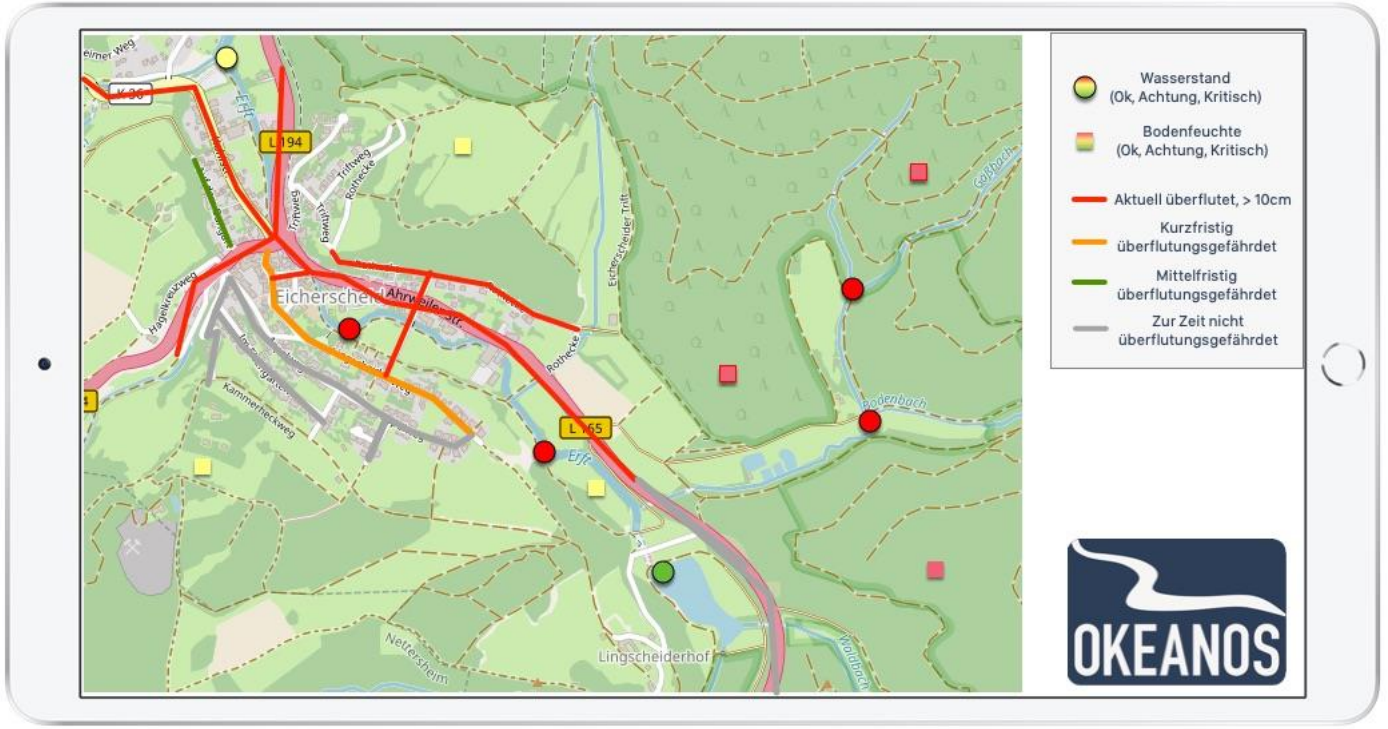
OKEANOS

Municipial Inudation Monitoring

- **Collecting** all types of relevant data
  - Precipitation
  - Soil moisture
  - State of water related infrastructure

•**Warnings** based on **local** measurement data

•Translation of **measurement** data into **process** data



Call to action

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OKEANOS

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THANK YOU

FOR YOUR PARTICIPATION