



# ***AR Crew Assistance Service for Water Utilities***

24.8.2022



# ***Hurja Solutions Oy***

Software development for demands of changing World.



**100 %**

Shareholders are  
employees



**Kuopio**

Office



**~25**

Employees



**03/2022 ~1,2M €**

Turnover



**500+**

Projects  
completed



Established in 2007 | VAT-ID: FI3209893-8 | [www.hurja.fi](http://www.hurja.fi)

# *Services*

Web Apps  
Mobile Apps  
Augmented Reality

Webpages  
Online Stores  
Integrations  
Cloud Services

*Hurja*

Concept & Service Design  
Digital Marketing, SEO  
Business Development  
Consultation

UI/UX Design  
Graphic Design  
3D Modeling & Visualization



# ***We Are Hurja***

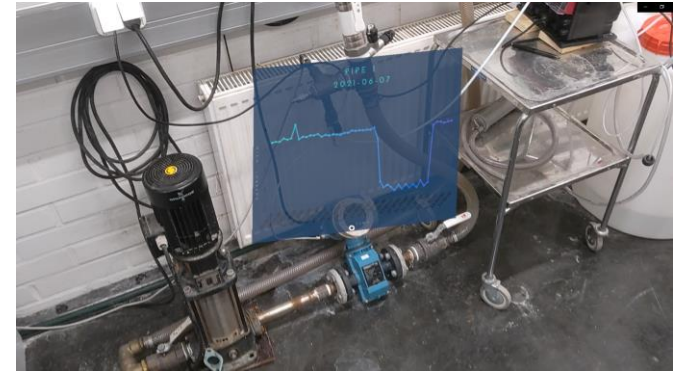
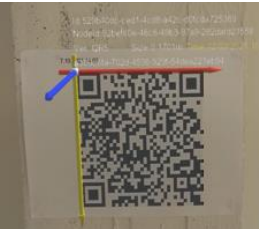
Hurja is a software company where work is approached with a professional approach, a good pulse, and in relaxed atmosphere.

We implement software development services that enhance the competitiveness of our customers to meet the needs of a changing world. Our team already has more than twenty professionals who are passionate about the field.

# Featured Customers



- **First Pilot Location:** Savonia WaterLab in Savilahti, Kuopio, Finland.
- **Indoors demo is simulating operator work in building environment**, such as water/wastewater treatment plant, pumping station, and water tank.
- **Virtual access to live and history data of devices** using AR and advanced visualization:
  - **Components naming and tagging**, such as type, manufacturer, serial number, basic technical specification, and next maintenance date.
  - **Live data feed**, such as current or historical pump flow rate or pressure and VSD (Variable Speed Drive) setting.
  - **Overlay pipe function**, such as suction and feed side.
  - **Overlay danger zone**, such as open impeller and electricity connectors.
  - **Maintenance protocols and on-site troubleshooting.**
- **Added efficiency and safety** via AR assistance.
- **Integration** to existing infrastructure and systems.
- **Live Hands-On AR Demo Day for Water Utilities:**
  - September-October 2022 in Savonia WaterLab.





Main valve

Burkert

Current setting: Open 2



Chlorine dosing pump

Grundfos DDA

Current setting: Manual 2

Flow rate: 20 mL/h



Main circulation pump

Grundfos CR3

Current setting: constant  
pressure

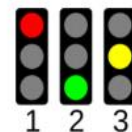
Pressure setting: 0.6 bar  
Flow rate: 5.2 m3/h



Total chlorine



Temperature Value



Main valve  
Burkert

Current setting: Open 2



Chlorine dosing pump  
Grundfos DDA  
Current setting: Manual 1  
Flow rate: 20 mL/h  
MALFUNCTION



8

Main circulation pump  
Grundfos CR3  
Current setting: constant  
pressure  
Pressure setting: 0.6 bar  
Flow rate: 5.2 m<sup>3</sup>/h





Suction line 1  
Pressure: 0.2 bar  
Flow rate: 5.13 m<sup>3</sup>/h

Feed line 1  
Pressure: 0.6 bar  
Flow rate: 5.13 m<sup>3</sup>/h





Hazard  
High voltage  
Moving  
elements

Security clearance  
required LEVEL 2

Security clearance  
GRANTED

1/5



Disconnect J1 connector

2/5



Turn the switch on, this will charge the battery. Wait 30 min.

4/5



Connect the J1 connector back



# AR Crew Assistance Service: Outdoors Demo

- **First Pilot Location:** SuperDMA in Savilahti, Kuopio, Finland.
- **Virtual access to measurement chamber and visualization of underground infrastructure:**
  - **Visualise underground infrastructure** (X-ray effect).
  - **Show relevant information**, such as nominal diameter, depth, and material.
  - **Show live and historical data** of measurement devices.
- **Integration** to network geographical information systems and sensor information systems.
- **Live Hands-On AR Demo** expected in Q1/2023.





Water network W1  
DN315, PE100  
**Flow rate: 245 m<sup>3</sup>/h**  
**Pressure: 3.3 bar**  
Water source: WTP 1

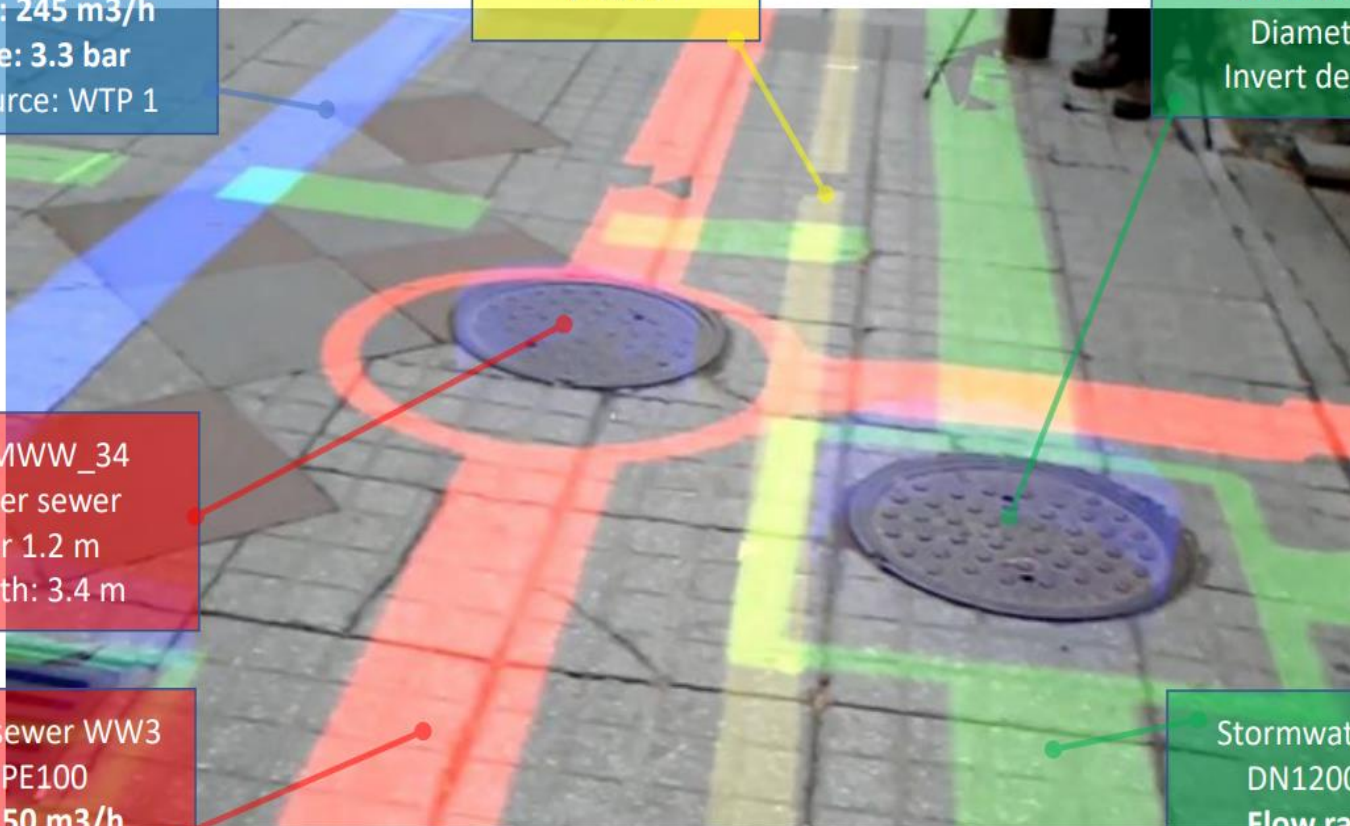
Gas line  
DN110

Manhole MSW\_55  
Stormwater sewer  
Diameter 1.2 m  
Invert depth: 2.7 m

Manhole MWW\_34  
Wastewater sewer  
Diameter 1.2 m  
Invert depth: 3.4 m

Wastewater sewer WW3  
DN800, PE100  
**Flow rate: 50 m<sup>3</sup>/h**  
**Level: 30%**

Stormwater sewer SS2  
DN1200, Concrete  
**Flow rate: 0 m<sup>3</sup>/h**  
**Level: 0%**





## Measurement chamber 1 Water network

Parameters:

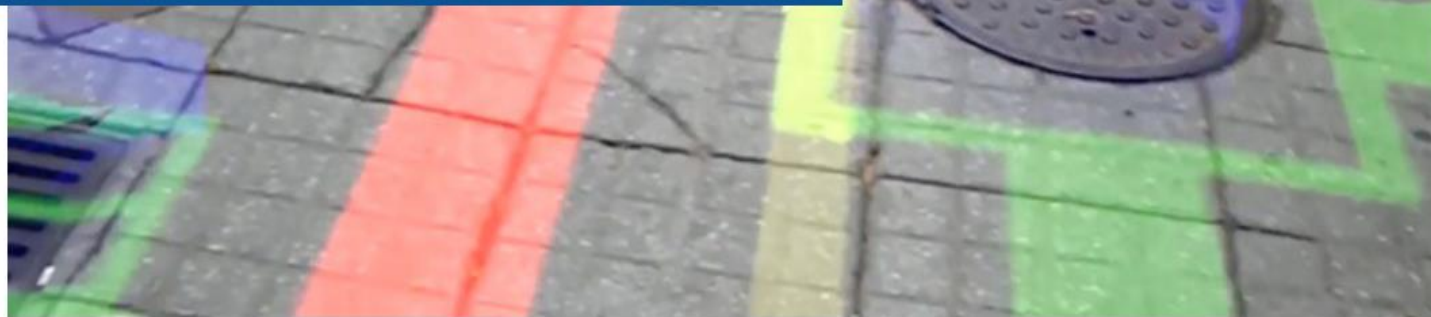
Temperature: 9.2 C

Turbidity: 0.22 NTU

Conductivity: 254 uS/cm

UV254: 0.2 abs/cm

...



# The Value Proposition Canvas

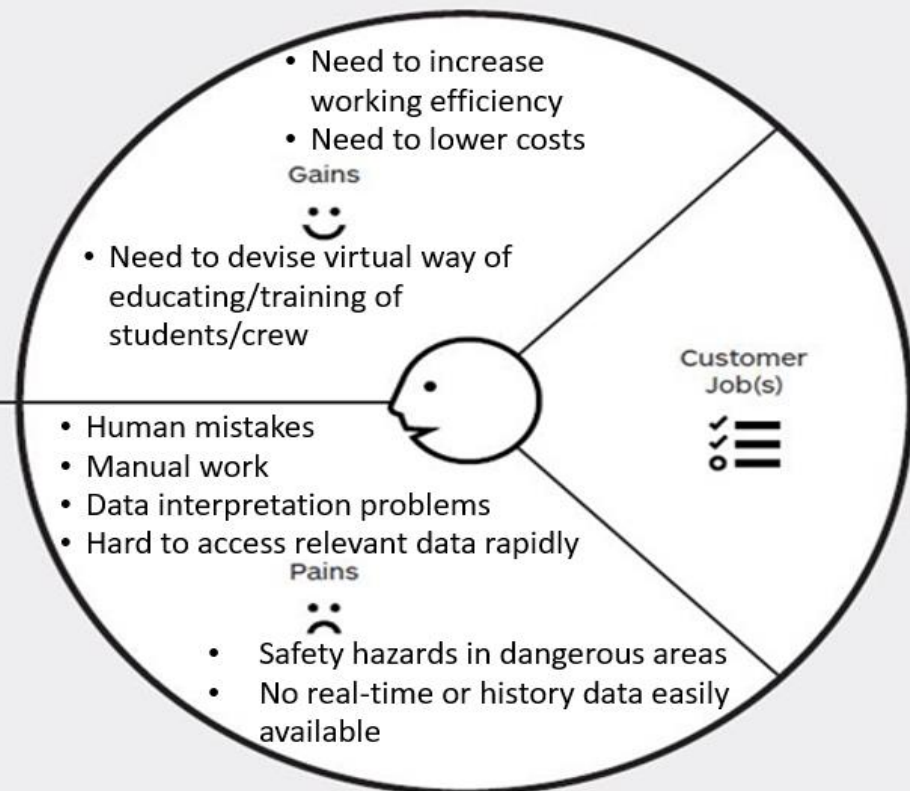
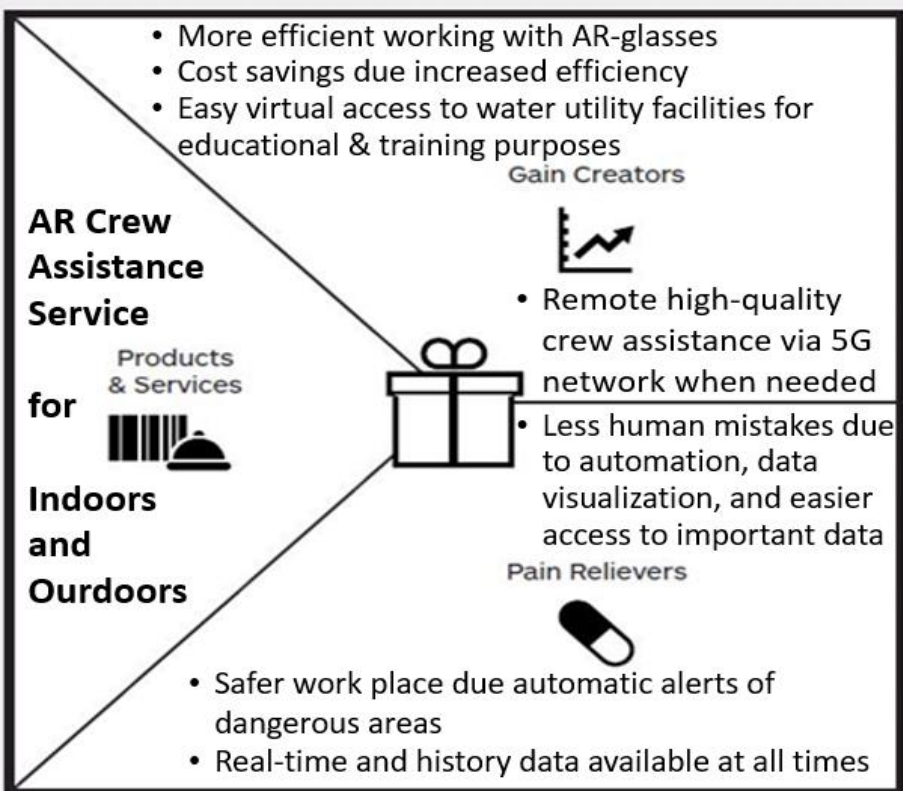


**Value proposition:**

**Hurja Solutions Oy**

**Customer segment:**

**Water utilities**



# ***Thank You! Any Questions, Comments, or Feedback?***

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