DANA CONTROL & ONDINA

CONTROL SYSTEM & MEASUREMENT TOOLS

21.10.2021 | Petra Huge

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CONTENT

1) Control system for natural pools: DANA control box
2) Measurement unit for natural pools: ONDINA
3) Comparison of the both systems

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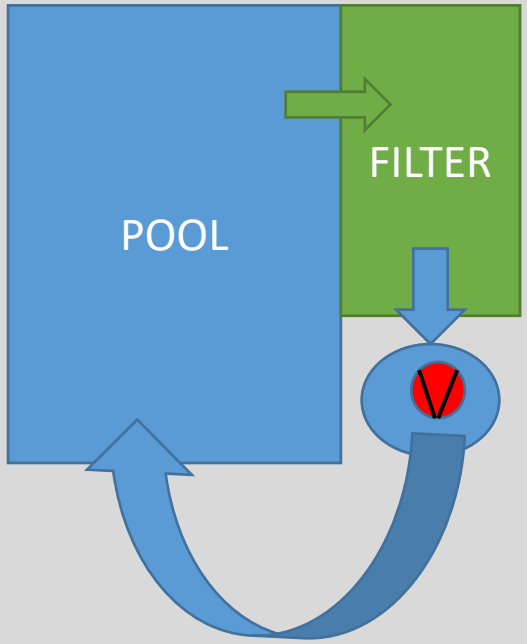
Control system for natural swimming pools

Can be simple…

- → 1 Pump with timer
- → Manual filling water input
- → Manual measurement of parameters
- → No automatically data transfer into DANA
- → Manual DATA transfer into DANA is possible



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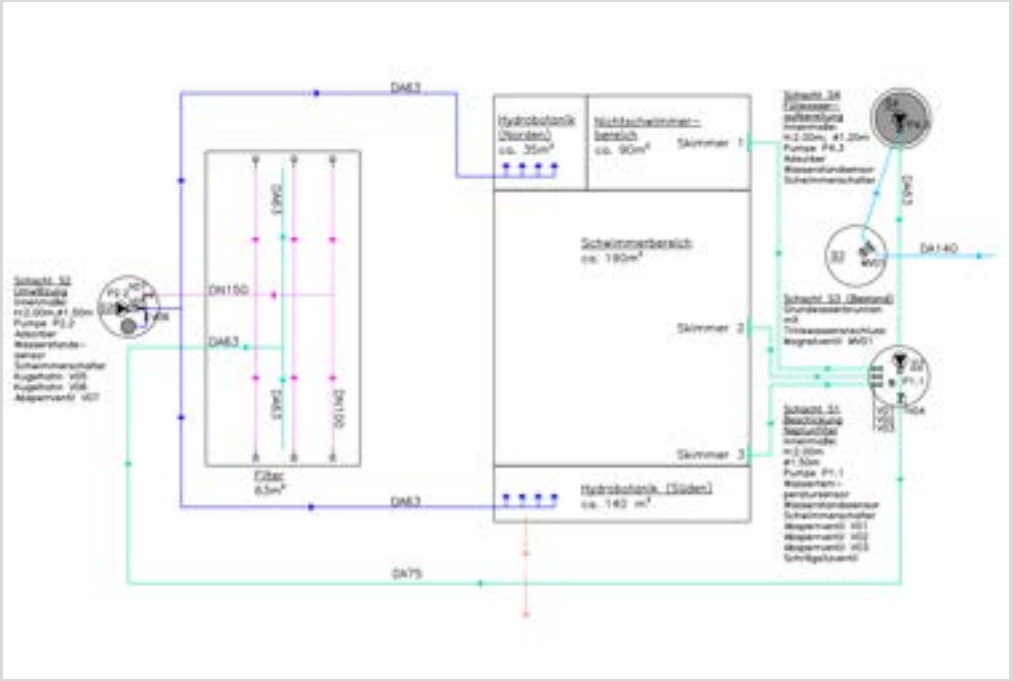
Control system for natural swimming pools

Can be more complex…

- System with 2 pumps or more
- Measurement of water levels, temperatures and turbidity
- Pumps should be automatically activated depending on water levels or water temperatures
- Filling water should be automatically activated depending on water levels
- data transfer should be automatically to DANA



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How to control your complex system and bring data automatically to DANA?

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Control system for natural swimming pools

Dana control box

- Connect your pumps
- Connect your sensors for water level and temperature measurement with plug and play connection
- Internal CPU with ready programmed swimming pool control system.
- Filling water is automatically activated when the water level is too low.
- Modem for automatical data transfer to DANA

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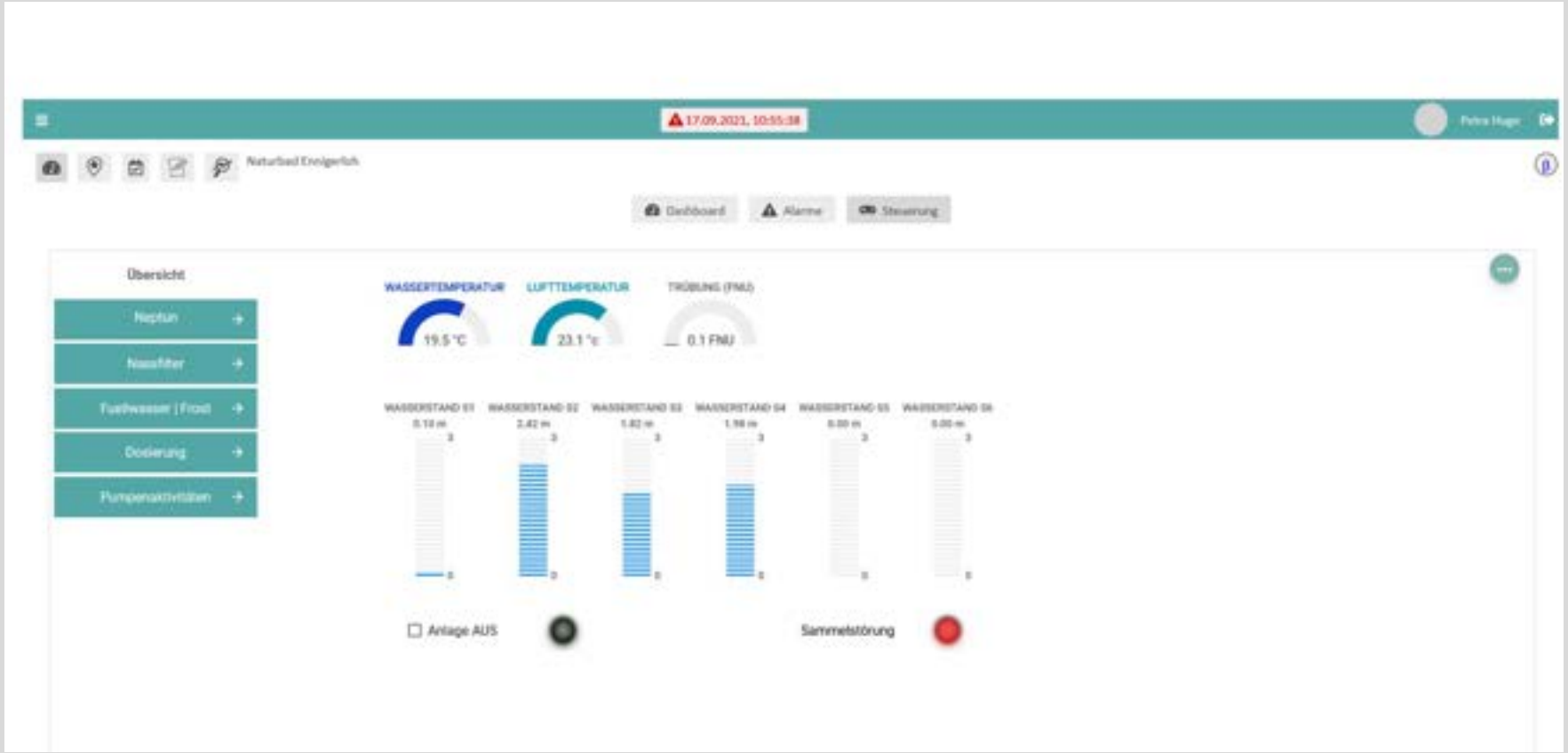
Control system for natural swimming pools

DANA control – what you can do in the data base…

- Switch your system on and off
- Check your sensor Data in DANA
- Check your alarm messages in Dana



https://dana2.polyplan-kreikenbaum.eu/de/location/dashboard/15/control

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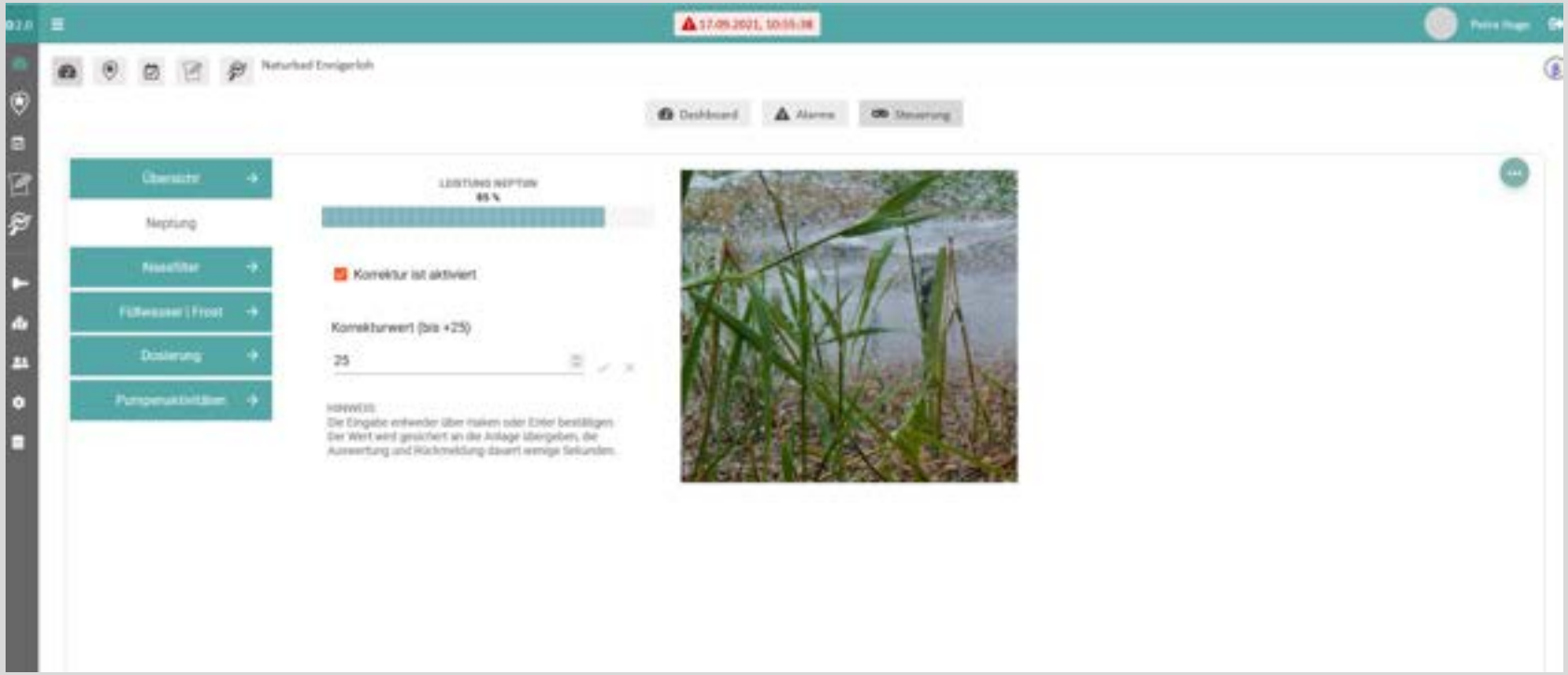
Control system for natural swimming pools

DANA control – what you can do in the data base…

- Check the setting of your filter
- Adapt your filter performance



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Control system for natural swimming pools

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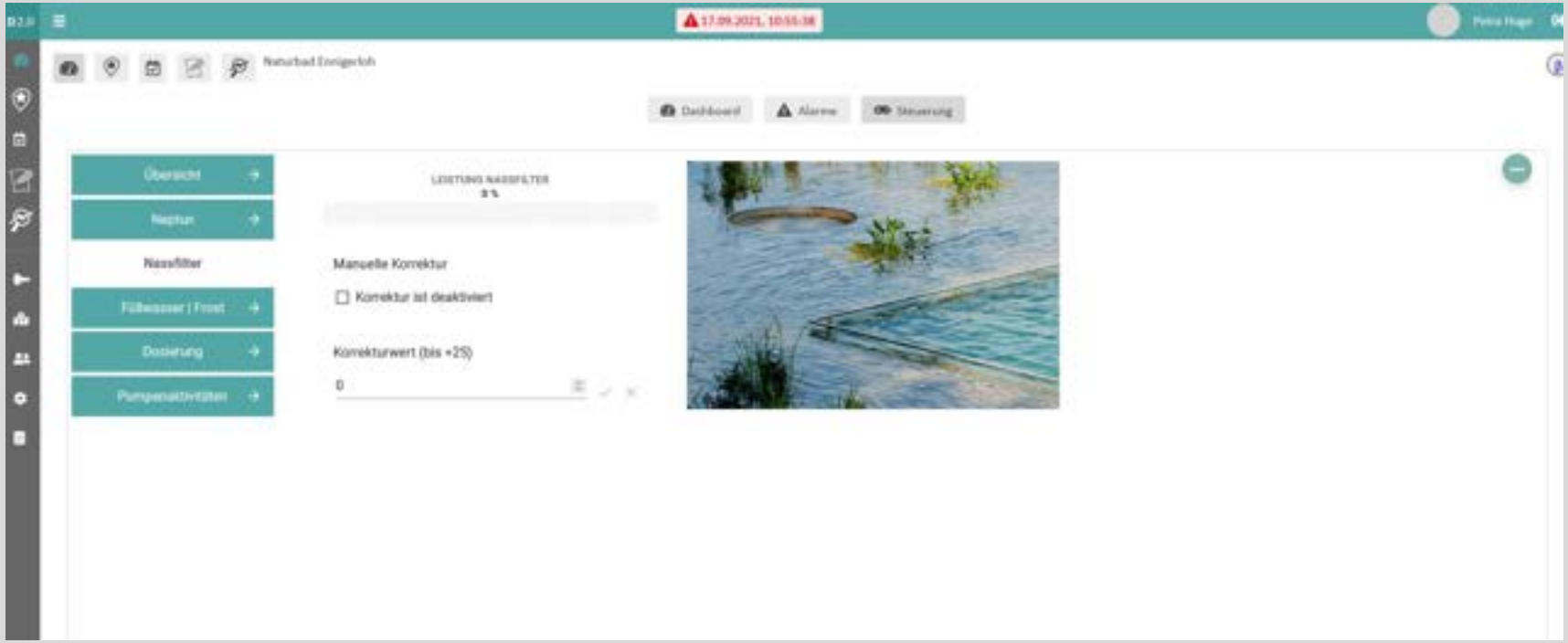

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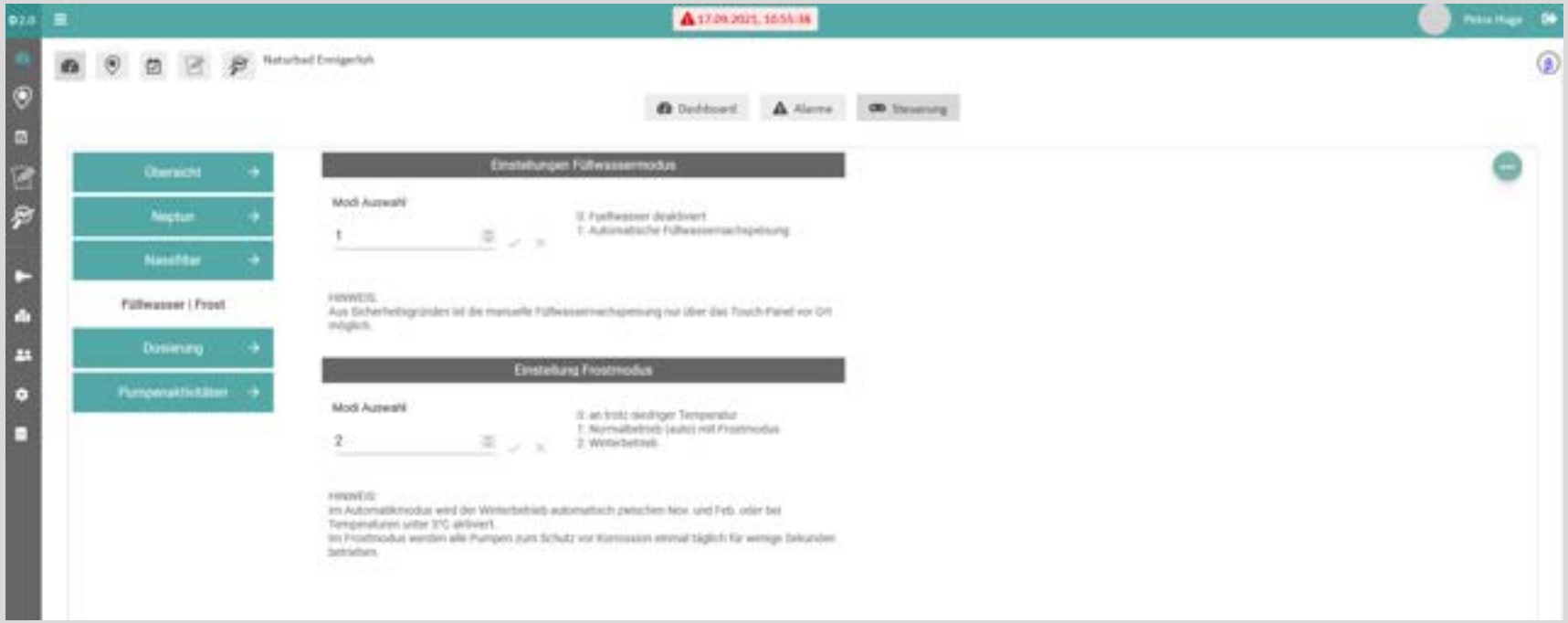
Control system for natural swimming pools

DANA control – what you can do in the data base…

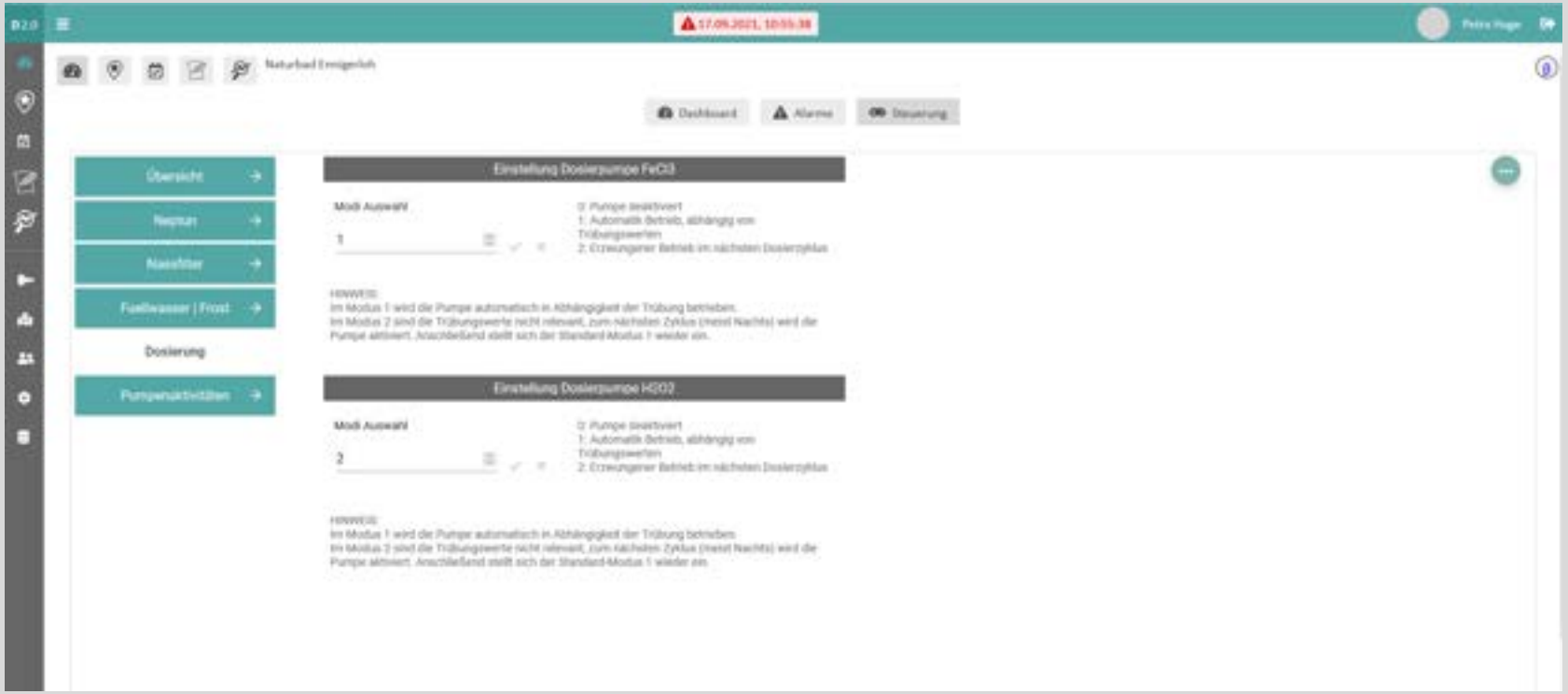
- Activate or deactivate your automatic filling water mode.
- Activate or deactivate your automatic winter or summer mode



Control system for natural swimming pools

DANA control – what you can do in the data base…

- Activate or deactivate your automatic dosing of precipitator



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Control system for natural swimming pools

DANA control – what you can do in the data base…

- Check your pump running times
- Check your valve running times

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Conclusion DANA control box

Connect your swimming pond system to your control box, check your parameters in the data base and change system settings via Dana.

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ONDINA
POWERED BY DANA

…plug and play measurement tool

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Application of ONDINA…

The pool control system an be simple…

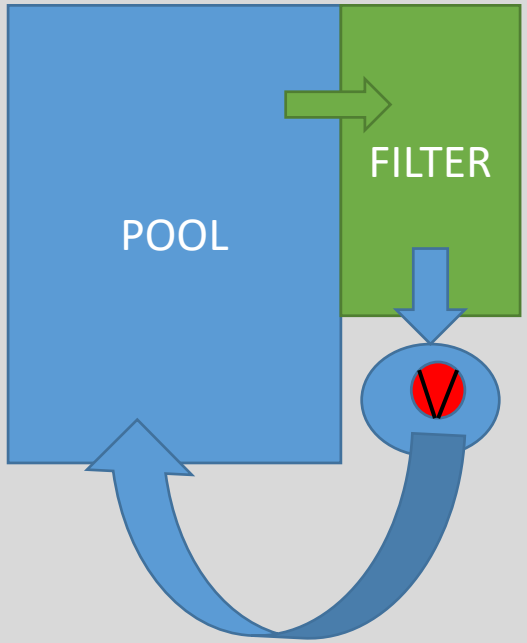
→ 1 Pump with timer

→ Manual filling water input

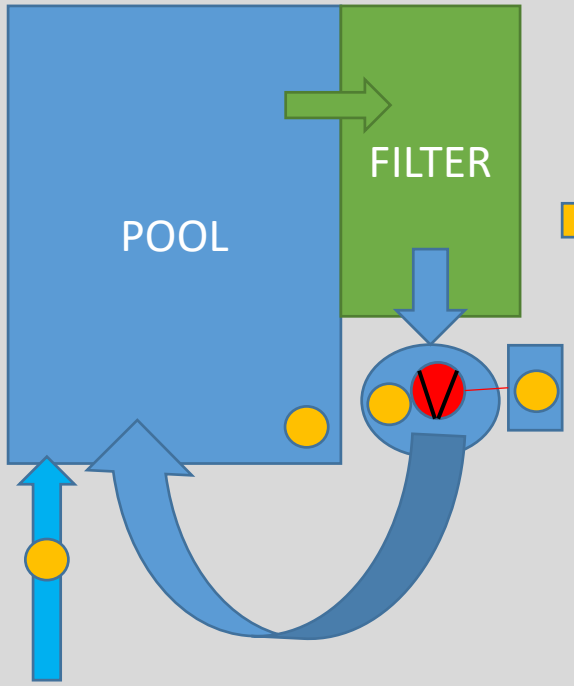
→ Manual measurement of parameters *switched to automatically measurement with ONDINA*

→ No automatically data transfer into DANA *switched to automatically data transfer with ONDINA*

→ *Addition to Blue connect, different parameters.*



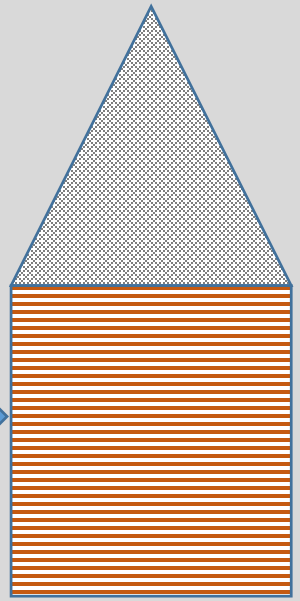
Measurement system for natural swimming pools



MEASUREMENT POINTS/ SENSOR

→ wire less data transfer with LoRaWAN

→ High distance up to 1km



ONDINA GATEWAY: installation outside/ house wall

DANA

→ Automatically data transfer to DANA via LTE

Measurement system for natural swimming pools

ONDINA GATEWAY

- → Connect antenna
- → Connect electricity
- → Fix the gateway outside of your house
- → Check control light for sensor connection

1.6 LED Indicators

There is a waterproof triple color LED on DLOS8 enclosure, the meaning of the LED is:

- ✓ SOLID GREEN: DLOS8 is alive with LoRaWAN server connection.
- ✓ BLINKING GREEN: a) Device has internet connection but no LoRaWAN Connection. or b) Device is in booting stage, in this stage, it will BLINKING GREEN for several seconds and then RED and YELLOW will blink together.
- ✓ SOLID RED: Device doesn't have internet connection.

ONDINA SENSOR 1: AIR TEMPERATURE + HUMIDITY + WATER TEMPERATURE

- Fix the air temperature sensor somewhere outside
- Connect sensor for water temperature and put it into the water to be measured
- Activate device by pressing a bottom more than 3 sec.

ONDINA SENSOR 2: WATER TEMPERATURE + WATER LEVEL

- → Put sensor into water (water depth 50-80 cm)
- → Fix sensor node somewhere close by, outside the water
- → Activate sensor node by putting the yellow jumper to activate the electricity flow.

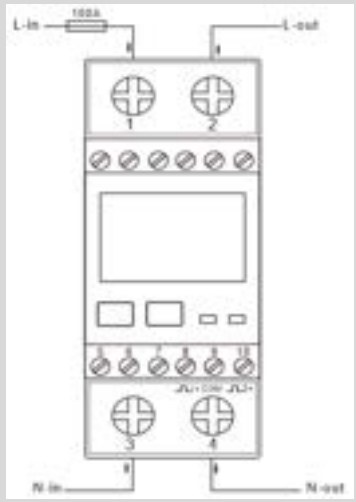
ONDINA SENSOR 3: WATER LEVEL

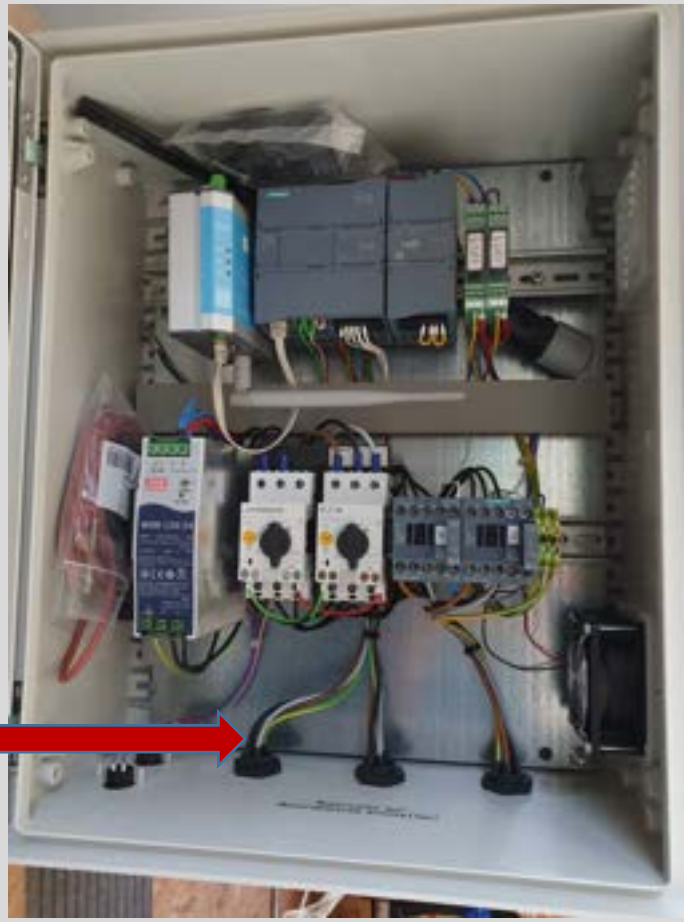
- → Put sensor into water (water depth 50-80 cm)
- → Fix sensor node somewhere close by outside the water
- → Activate sensor node by putting the yellow jumper to activate the electricity flow.

Measurement system for natural swimming pools

ONDINA SENSOR 4: ELECTRICITY COUNTER

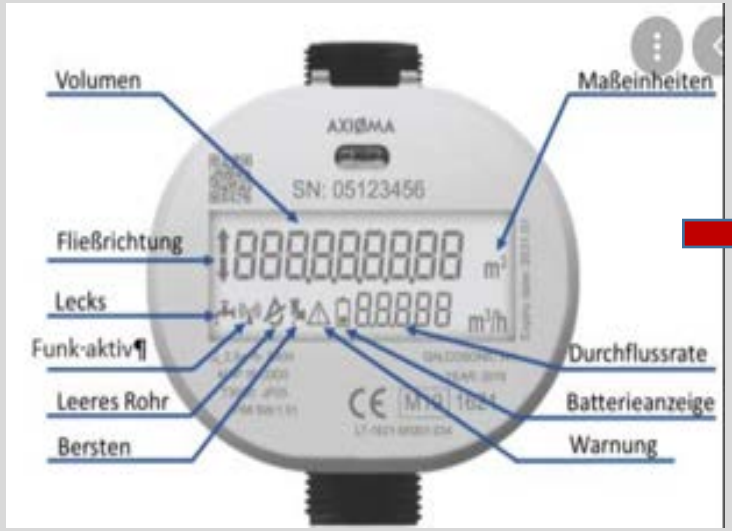
- Electricity counter wire less
- Can be used in mobile units
- Automatically data transfer to DANA





ONDINA SENSOR 5: WATER METER FOR FILLING WATER

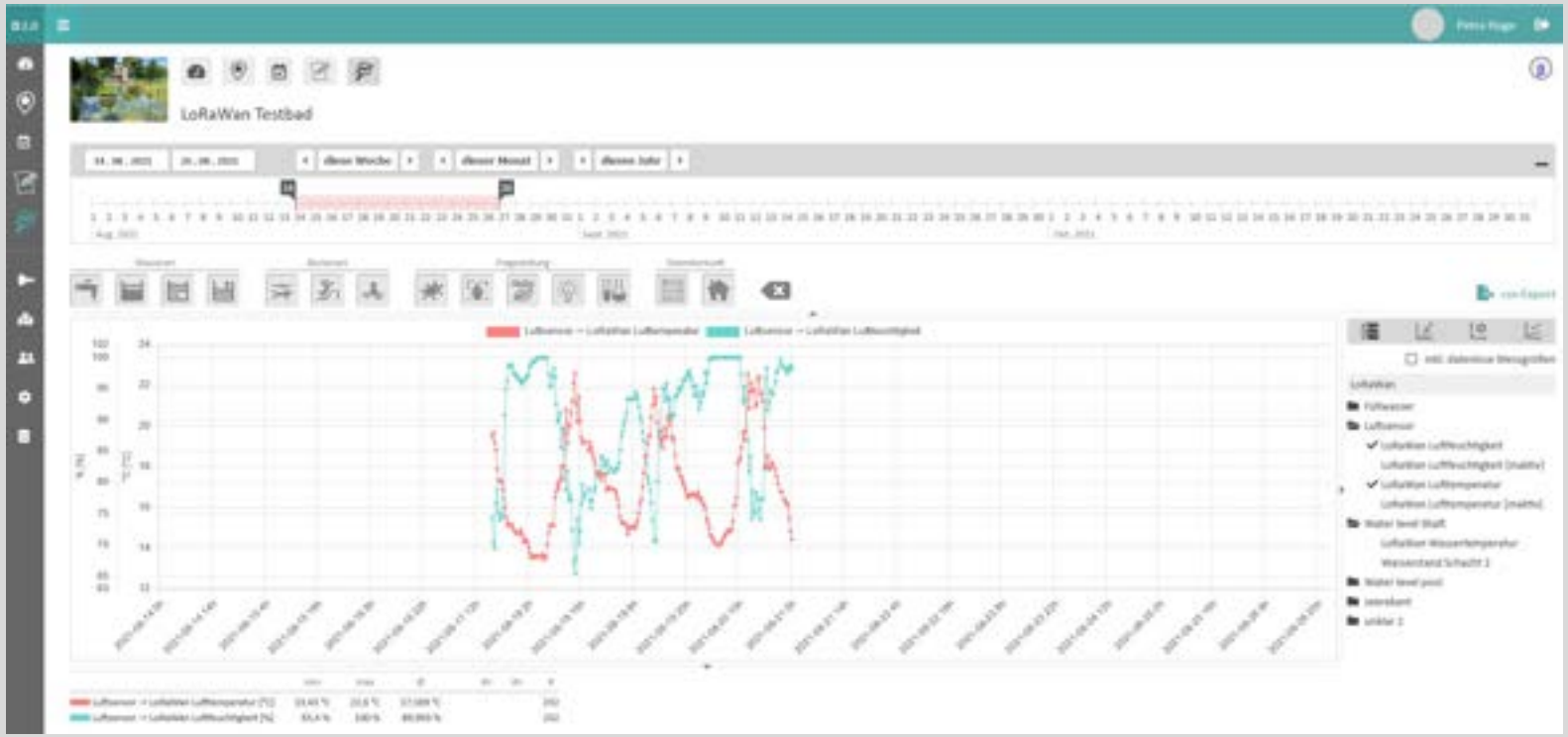
- → Water meter wire less
- → Can be used in mobile units
- → Automatically data transfer to DANA



Measurement system for natural swimming pools

WHAT YOU SEE IN DANA…

- → See your pool data history in graphs
- → Compare your data to each other
- → Air temperature and humidity:



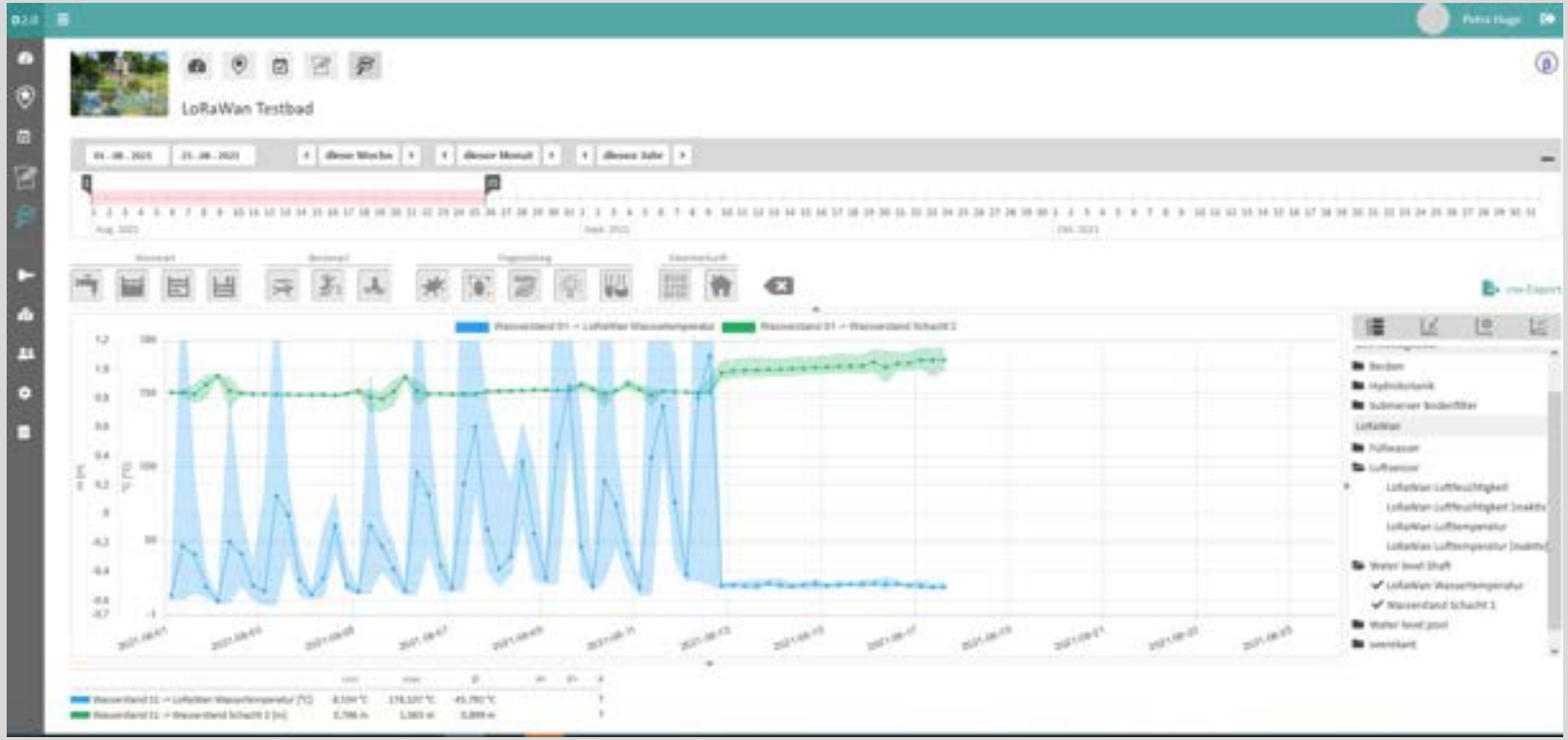
Measurement system for natural swimming pools

WHAT YOU SEE IN DANA…

→ See your pool data history in graphs

→ Compare your data to each other

→ Water temperatures and water levels:



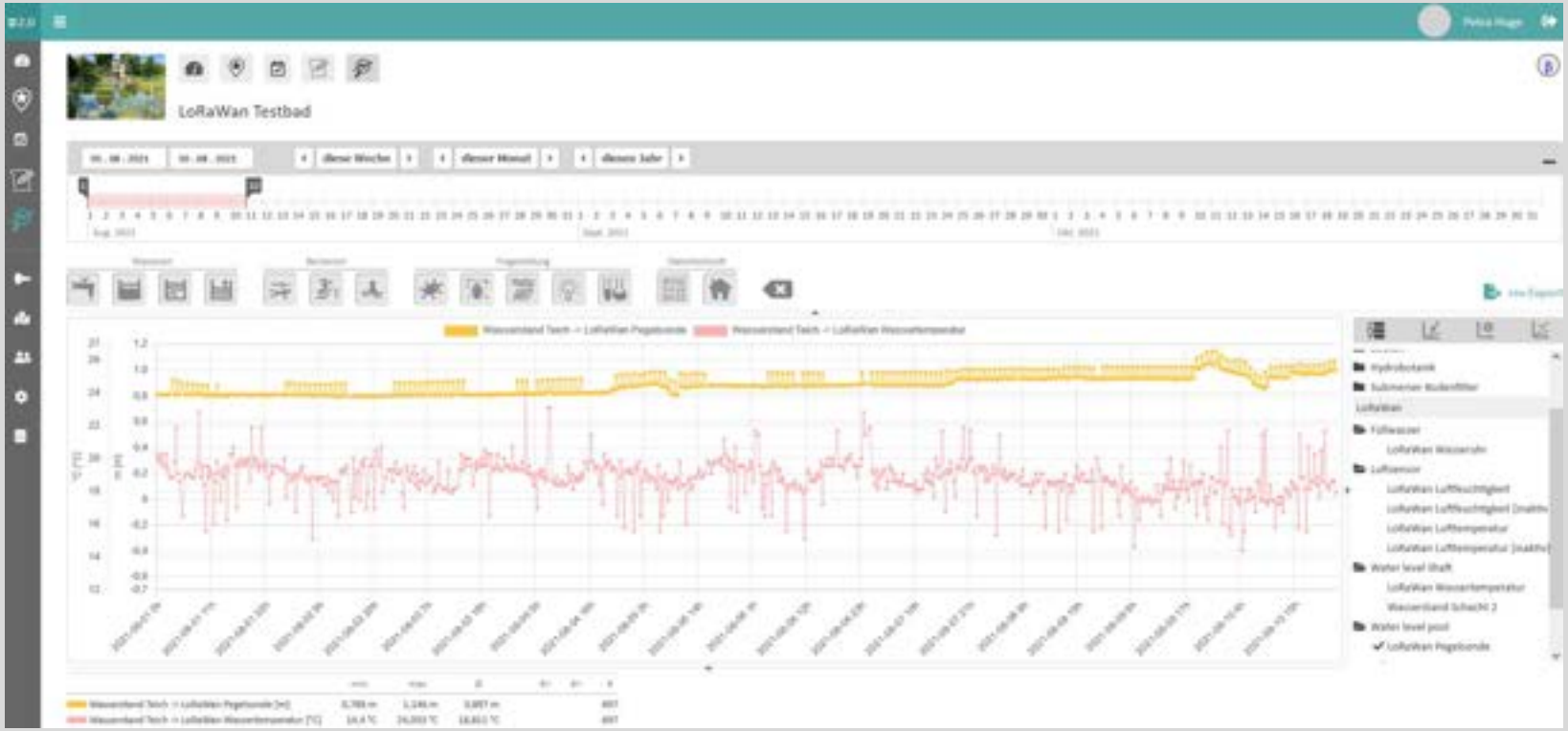
Measurement system for natural swimming pools

WHAT YOU SEE IN DANA…

→ See your pool data history in graphs

→ Compare your data to each other

→ Water levels and water temperature



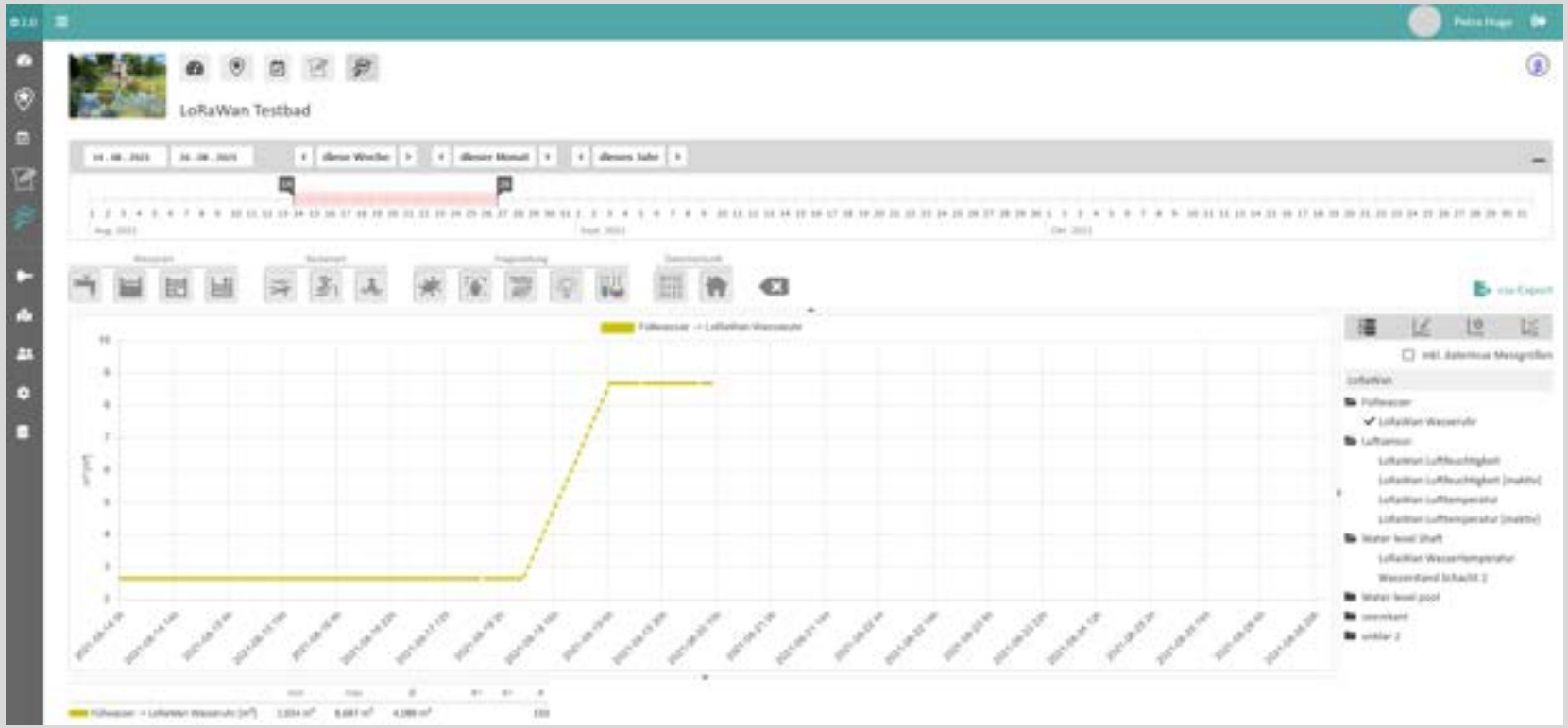
Measurement system for natural swimming pools

WHAT YOU SEE IN DANA…

→ See your pool data history in graphs

→ Compare your data to each other

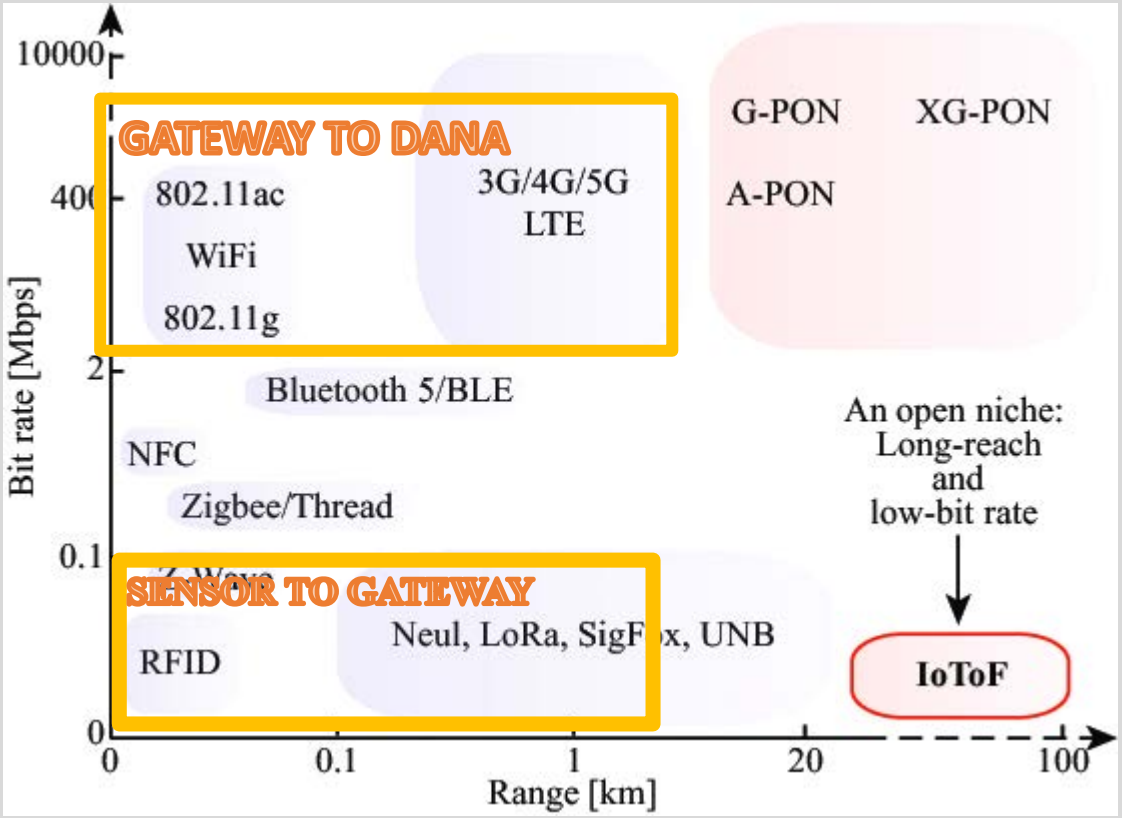
→ Filling water



Measurement system for natural swimming pools

WHY LoRaWAN for sensor connection?

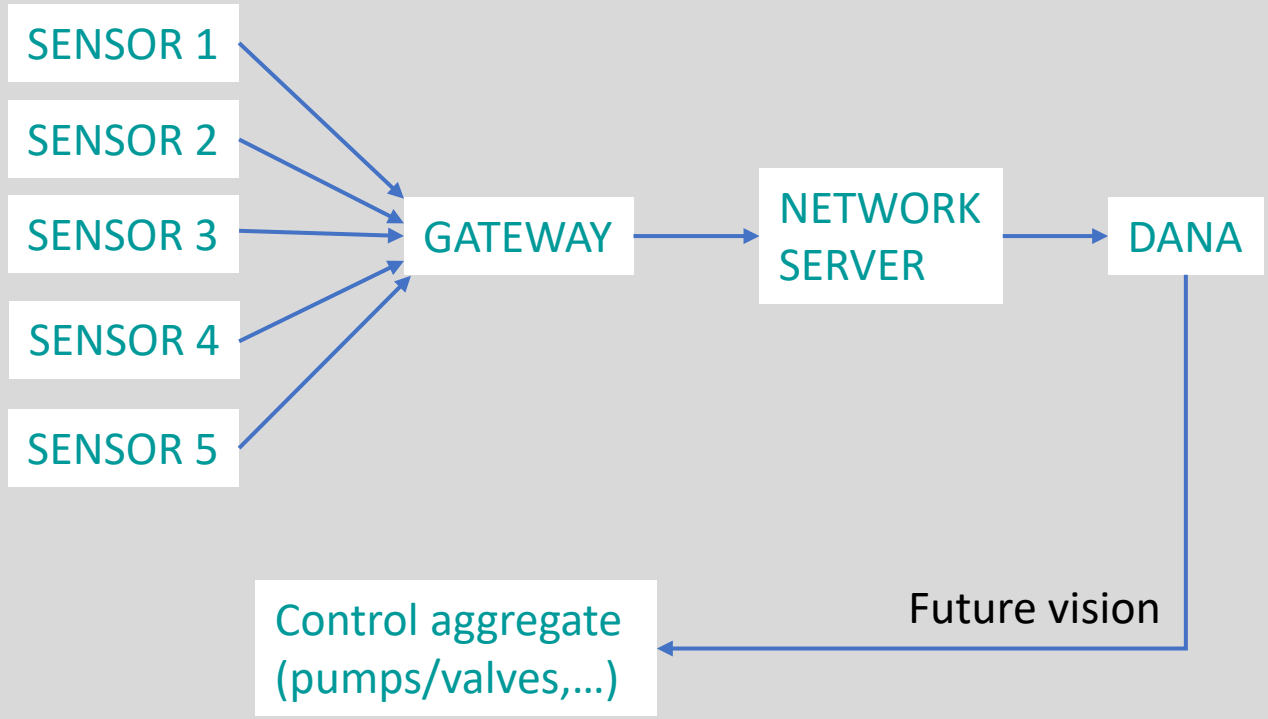
- Long Range Wide Area Network : Distance sensor to gateway up to 1km
- Low bit rate sufficient for sensor data
- Low power: Sensor Batteries hold 2 years, normally 3 years, up to 10 years
- No cable between sensor and gateway
- High security, sensor data are encrypted



Measurement system for natural swimming pools

ONDINA DATA TRANSFER

- Sensor sends DATA to Gateway with LoRaWAN
- Gateway sends DATA to Network server with LTE
- Network server sends DATA to Application server ➔ Database DANA
- Perspective: Bidirectional sending is planned in LoRaWAN net soon, control possibility.



Measurement and control systems for natural swimming pools

	DANA CONTROL BOX	ONDINA
Control possibility	yes	No
Measurement system	Yes, 4 Parameter	Yes, 8 Parameters
Sensor data transport to Gateway wireless	no	Yes
Automatically DATA transfer to DANA	yes	Yes
Fix installed system	yes	No

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Thank you for your attention ☺

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Measurement and control systems for natural swimming pools

	DANA CONTROL BOX	ONDINA
Control possibility	yes	No
Measurement system	Yes, 4 Parameter	Yes, 8 Parameters
Sensor data transport to Gateway wireless	no	Yes
Automatically DATA transfer to DANA	yes	Yes
Fix installed system	yes	No
Purchase costs	3800,- €	2600,- €
Yearly costs	240,-€	240,-€

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