

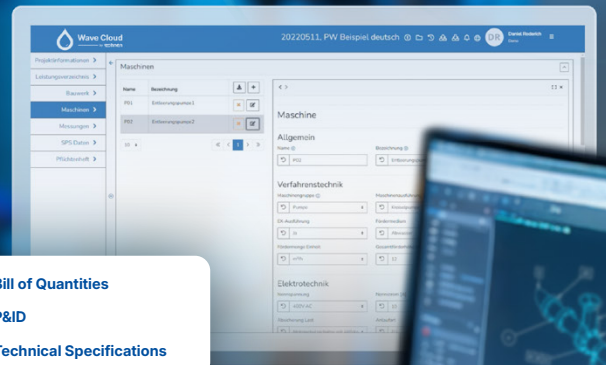


Pre Planner
by **zähnen**

Automated preplanning. Error-free. At the touch of a button.

The software module for preliminary process engineering planning & automated generation of tender documents.

— Seamlessly integrated into the Wave Cloud by zähnen platform.



- ✓ Bill of Quantities
- ✓ P&ID
- ✓ Technical Specifications

Digital pre-planning reduces costs, minimizes mistakes and saves valuable time.



Your Problem

Time Pressure, Mistakes, and Dependency

Manual pre-planning cost time and trust, without standardization & automation, the error rate increases.



Manual pre-planning takes time & leads to errors, especially without standardization.



Loss of trust due to inconsistent documentation & data gaps.



External dependencies and cost pressures reduce the quality of planning.



Pre Planner
by **zahn**

Your on-demand digital expert planner

Our solution offers the much-needed digital support and eliminates the critical steps of the manual workflow.



Standardized components & processes, customized to meet your specific needs.



Real-time validation of technical correlations.



Automated creation of bill of quantities, P&ID & other pre-planning documents.



Preserving & utilizing internal expertise.



Independence from external specialized planning.

— BENEFITS

Measurable ROI: Your new planning certainty

Instantly generate 100% consistent documents from a single data source

85 %*

Reduction in
error rate

Measurable results
starting with the very
first project

60 %*

Reduction in
planning effort

Through automated
documents



**Time &
cost savings**



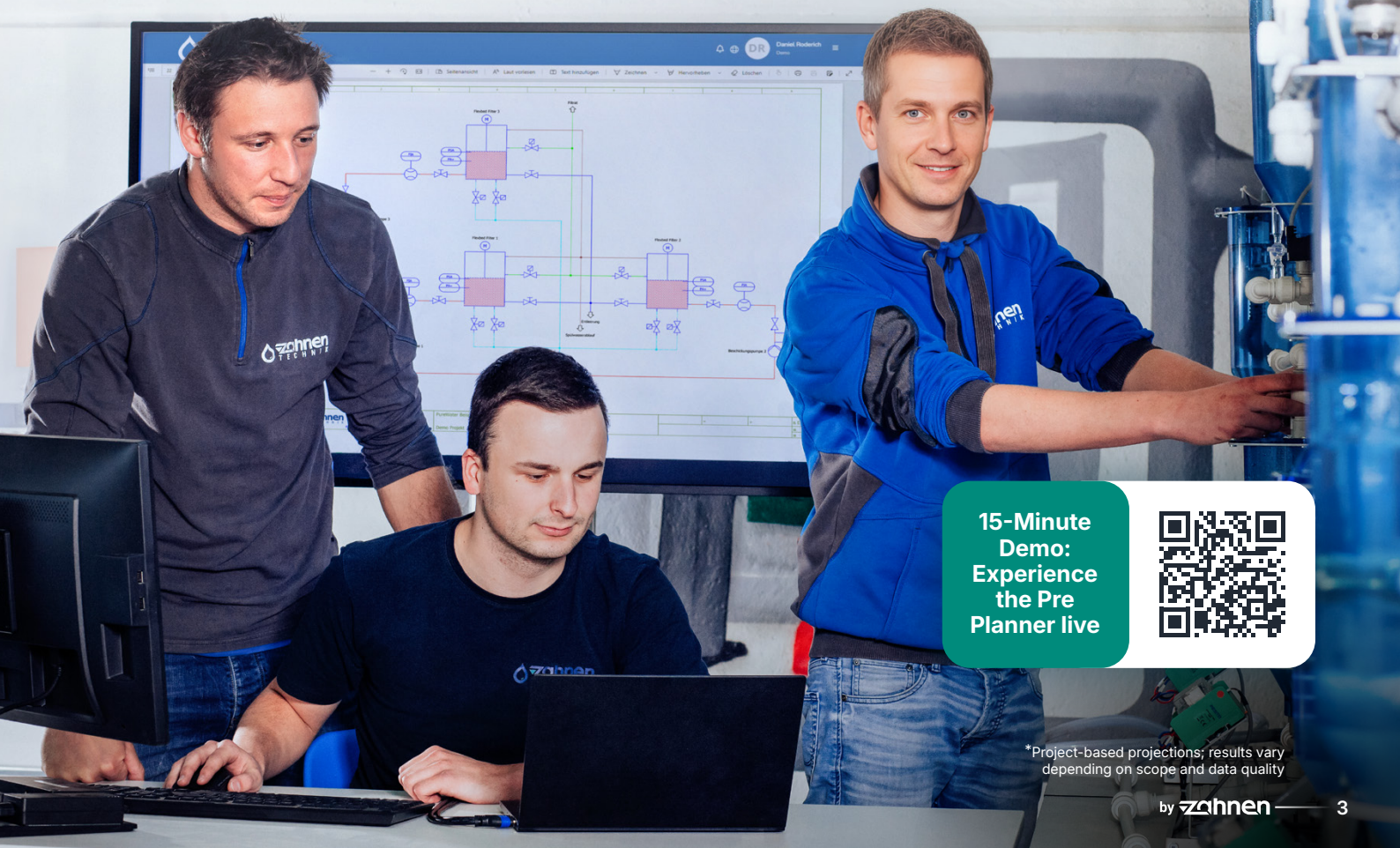
**Expertise at the
touch of a button**



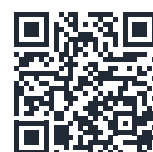
**Immediate increased
independence**



**Quick project kickoff
thanks to standardized
pre-planning**



**15-Minute
Demo:
Experience
the Pre
Planner live**

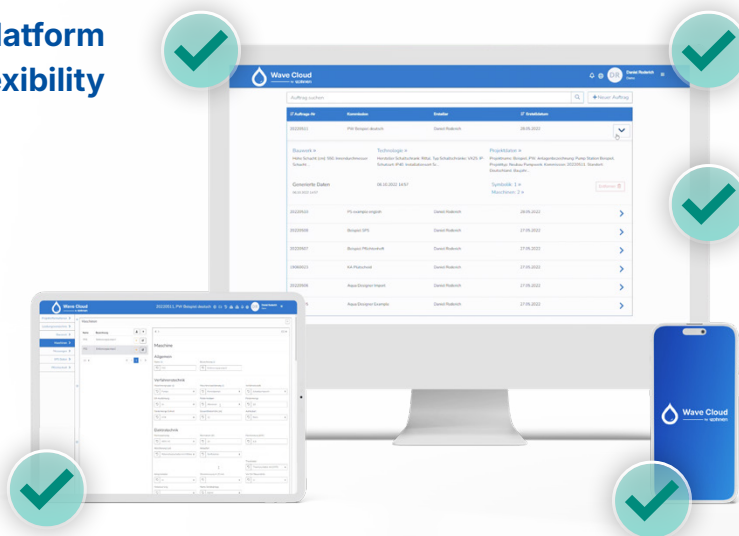


*Project-based projections; results vary
depending on scope and data quality

Digital solutions tailored to your needs.

Custom configuration
based on customer requirements

High platform
flexibility



Integration with
existing systems
(interfaces to ERP, among others)

Flexible adjustment to
customer processes

Single Source of Truth
as a central database



Smart Planning

Work together
and see changes
instantly.



Part of the Wave Cloud platform

Seamlessly integrated into a
certified system environment.



One cloud, one database

Everyone involved has access to
the most up-to-date version.

Smart document output



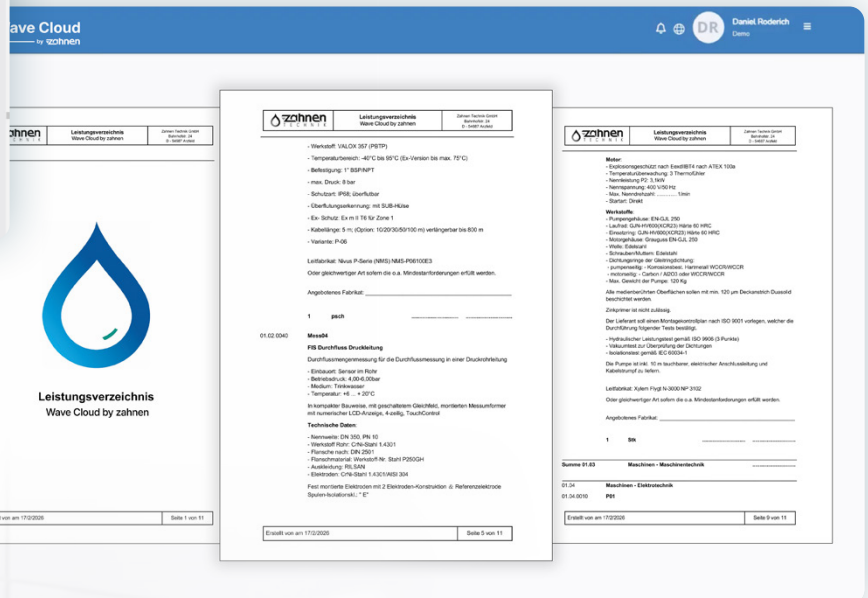
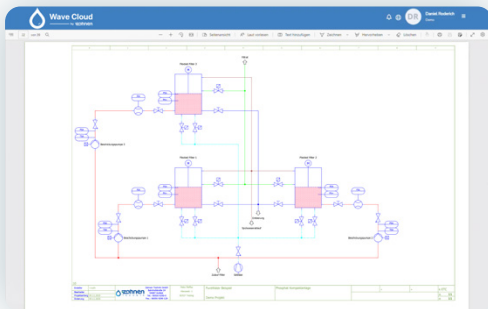
Get Started with the Pre Planner

Full data consistency at every step



Integrate systems

Seamless interfaces with your existing IT systems (ERP/CRM/CAD)



POSSIBLE DOCUMENTS

Bill of quantities

P&ID

Construction specifications

and much more

Interfaces for generation



Interfaces



How to get your own Pre Planner

How do you preserve valuable expertise & make it accessible for the entire team?

With Wave Cloud, we transform your unique business processes into an intelligent, digital environment.



Pre Planner
by **zahn**

1

ANALYSIS

Wave Cloud Workshop

Our experts and your project team define your requirements directly on-site.

- **SCOPE DEFINITION**
Defining your requirements for the platform.
- **FRAMEWORK**
Definition of interfaces and user groups.
- **CONCEPT**
Development of a detailed implementation concept for your custom Wave Cloud application.

2

IMPLEMENTATION

Building your solution

We build your custom configuration and make your knowledge accessible.

- **KNOWLEDGE STANDARDS**
Joint definition and digitization of your standards
- **EARLY PROTOTYPING**
We integrate user feedback at an early stage to ensure the solution is optimally aligned with your day-to-day operations.
- **CUSTOM CONFIGURATION**
Development of a custom interface tailored to your specific needs.

3

GO-LIVE

Training on the Job

Once the system is handed over, your Pre Planner will be there to support you in every project.

- **INDEPENDENT WORK**
Intuitive use of the platform by your team.
- **CONTINUOUS OPTIMIZATION**
Ongoing development of features.
- **SUPPORT**
We guide the rollout and ensure quality.
- **USERS & LICENSES**
Unlimited users and a flexible licensing model.

ERROR-FREE STANDARDIZED TENDER DOCUMENTATION

Example of success Kommunale Netze Eifel

The goal was to eliminate the need for external engineering services by standardizing and digitizing the process of assessing existing systems, planning and tendering for new plants.



- Many systems in need of replacement
- No technical standards for electrical and mechanical engineering
- In some cases, documentation is minimal
- Recurring tendering tasks without a standardized structure

100 % Structure

GUIDED ASSET INVENTORY

Complete, validated recording of all asset data

TECHNICAL MODULAR SYSTEM

Streamlined standard for Electrical and Telecontrol Technology

Automated Tender

BOQ & COST ESTIMATE

Generated directly in GAEB X82 & X83
Building specifications automatically in docx format

One central platform

DIGITAL DOCUMENTATION

Texts, documents and images available in centralized form



Benefits FOR KNE

- ✓ Significantly faster planning of new plants
- ✓ Consistent, high-quality bid documents
- ✓ Standardized technology for efficient operation
- ✓ Secure budget planning through integrated cost estimation
- ✓ Nonsistent standardization across all construction projects



Guided inventory assessments and standardized technical specifications within a modular system streamline our planning, bidding, and equipment selection processes.

THE SOLUTION SIGNIFICANTLY IMPROVES EFFICIENCY AND QUALITY IN OUR PLANT MODERNIZATION EFFORTS.

Expertise in pre-planning & tendering.

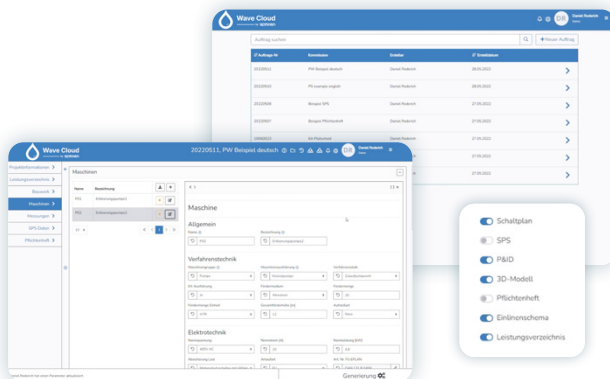
We support your water treatment system throughout its entire lifecycle.



Wave Cloud
by **zahn**



Seamless flow of information from the initial sketch to the digital twin.



Control Cloud
by **zahn**



Takes over intelligent monitoring during operation.

Your Benefits IN FOCUS

- **PRESERVING KNOWLEDGE, FIGHTING THE SKILLS SHORTAGE**
Practical knowledge is stored in a structured digital format and remains within the company, independent of individual employees. At the same time, structured processes boost the efficiency of existing teams.
- **SAVE TIME & REDUCE COSTS**
Routine tasks are automated. This reduces manual effort, minimizes errors by providing a single source of truth, and frees up time for strategic tasks.
- **MAKING COMPLEXITY MANAGEABLE**
All work steps are logically linked within a single system: transparent, traceable, and structured.

4 Wave Cloud Modules



Pre Planner by zahn

Planning

Preliminary process engineering and technical specifications form the digital starting point.



Detail Engineer by zahn

Engineering

Takes the Pre Planner data and automatically generates CAD Drawings and lists for electrical, mechanical, and automation engineering. Precise and compliant with standards.



Sales Manager by zahn

Sales

Utilizes technological tools to quickly configure and price products and systems during the sales process.



Asset Manager by zahn

Operation

The central, intuitive documentation system. This is where all data from planning and construction comes together to ensure the efficient management of the plant over decades.

Wave Cloud is much more than just software



Specifically developed for water and waste water technology, based on over 500 completed projects.



Tailored precisely to your company, your processes, and your technical standards.



Stored in the cloud (Germany), accessible from anywhere, and secure.



Daniel Roderich

Product Manager
Wave Cloud
by zahn

Platform effect

One-time data entry, lifelong benefits.

We eliminate data loss at interfaces and integrate planning, engineering, and operations into a highly efficient, future-proof system.

Water treatment with decades of experience

We are passionate plant engineers

Driven by our vision that everyone has the right to have clean water, Zahnen Technik develops holistic solutions for water and wastewater technology. Founded in 1958, we combine technical expertise, innovative strength, and experience from over 500 projects to ensure water quality and design plants that are both efficient and sustainable.

Our practical experience in the water sector forms the foundation of our Wave Cloud platform.



Zahnen core values

- Effective innovation
- Sustainable value
- Real reliability



CORE COMPETENCIES

Innovative solutions for a safe & sustainable water supply



Digitalization

Efficient planning & reliable expert knowledge with Wave Cloud & Control Cloud



Process Engineering

Reliable process solutions for water & wastewater treatment plants



Standardization

Consistent standards for quality, efficiency, and reusability



Mechanical Engineering

Construction & manufacturing of mechanical system components



Electrical Engineering

Planning & implementation of smart control and automation systems

For over 68 years, we have been combining process engineering with innovative project management.

With a nationwide presence

As part of Deutsche Wasser Holding, we combine local expertise with nationwide reach, drawing on over 1,000 completed projects

100 %

specialized in

water & waste-water systems



Deutsche Wasser Holding

Arzfeld

zähnen
TECHNIK

Rödermark

KURT FREUDENBERG
Technik für Wasser & Abwasser

Bayreuth

KWT ZWT

Eisleben

AWT

Jüterbog

AUGUST FREBE
Wasser- & Abwassertechnik seit 1889

Rahden

HIK
HOCHWASSER- & KROBENTEN- & KRAFTTECHNIK

Request a workshop

- Gather requirements
- Define specific benefits
- Establish a roadmap





**Because everyone has a
right to have clean water.**

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