



## Industry 4.0 Software Solutions

Setting new standards in Industry 4.0 Software Solutions,  
IIoT Platforms and Multi-Enterprise Applications

# CLEVERDIST helps you to...

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Train and certify your teams, guiding them during their first project so **you have a successful enrolment and quickly develop your region.**

Develop compelling PoC/Pilot projects in a very short time, so **you maximize your customer engagement.**

Speak C-level finance, operations and IT language so **you shorten your sales cycles and generate confidence from your customer.**

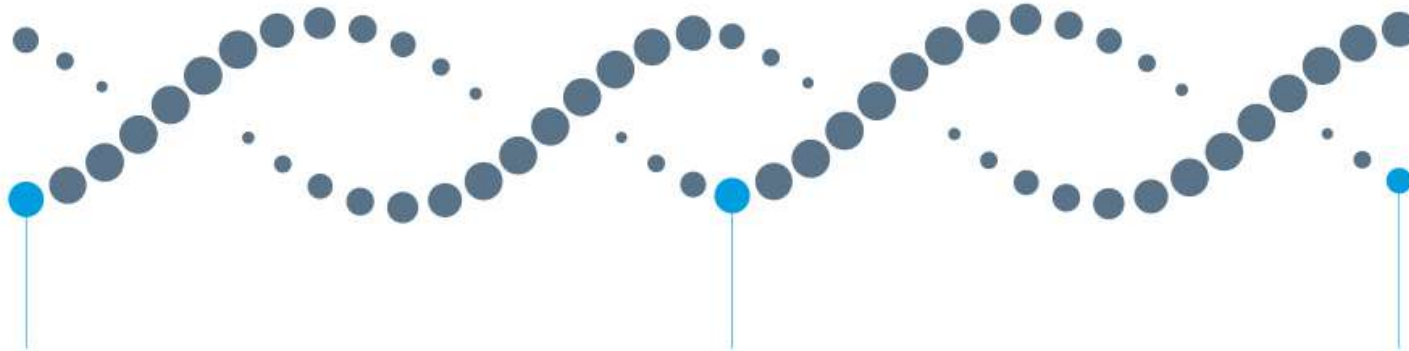
Develop specific features or entire large projects so **you focus on your core business.**

Create engineering productivity tools for your vertical so **you become highly competitive and make large savings on engineering and maintenance.**

Upgrade your engineering processes with modern tools and techniques so **you guarantee fast, traceable, high quality development, even with remote or distributed teams.**

## / CLEVERDIST D.N.A

Our staff has many years of experience in the design and development of control systems for the world's most advanced scientific experiments and industrial infrastructures with requirements covering today's Industry 4.0 demands.



### Our DNA

is rooted in the world's most advanced High Energy Physics laboratory: The European Centre for Nuclear Research (CERN).

### Our Know-how

and expertise combines a strong research background with industrial knowledge and profiles (e.g. former GE, Siemens, McKinsey).

### Our team

has a successful track record providing consulting and software solutions for Industry 4.0 in Infrastructure, Mobility, Energy and Manufacturing.



## **/ CERN EXPERIENCE**

Our Cleverdist consulting and product teams include former lead architects and developers of CERN LHC CMS Experiment Data Acquisition and Control Systems.

### **Unprecedented amounts of data to manage**

60 Million data acquisition channels with a total throughput of 2000 TB/s.

### **World's Largest Industrial Control Systems (ICS)**

10 Million tag Industrial Control System based on SIMATIC WinCC Open Architecture.

### **Pioneers at integrating ICS with modern IT**

High Availability cloud-based automated control system infrastructure.



/ CLEVERDIST **Solutions**

## Successful WinCC OA Enrolment

Included in an effective package, we train teams and guarantee their success on their first project

Enrolling a company or team in a new technology can be a smart strategic decision to increase competitiveness... we help to make that process risk-free.

Cleverdist has exclusive knowledge and accreditation to provide **WinCC Open Architecture Certified trainings**. In addition, we combine this in a package that includes guidance to **guarantee success in the first WinCC OA project**. Making the right architecture choices from the beginning, unblocking technical issues and contributing with our own extensive WinCC OA software assets.

Our trainers at Cleverdist have a deep theoretical knowledge in WinCC OA and have up to **20 years of continuous experience designing and developing WinCC OA projects** of all sizes and across different verticals. They not only train teams in WinCC OA but also help them navigate through the multiple options and make sure development best practices are adapted to your team's specific needs, your company development culture and the sector where you operate.

## PROPERTIES OF Turbine1

Turbine name: Turbine 100

Reaction power: 400.00 MW

Type: Charles Fournier 1000

Rated speed: 1.00 1070

Current status: In order

## WinCC OA PoC and Pilot Projects

We create compelling PoCs and effective Pilot projects generating customer engagement and more opportunities

A PoC can be important to demonstrate not only WinCC OA features but also the capability of the proposed integrator to use it efficiently. Pilot projects need to prove that end-customer goals can be achieved within the available time and budget.

At Cleverdist we develop compelling PoCs in a matter of 2-3 weeks. Our PoCs build upon the native features and extensibility of WinCC OA, provide a modern User Interface and are customized to fit to end-customer's corporate identity so they immediately feel it is theirs. When required, we quickly integrate interactive 3D models of machines or sites that are animated with live WinCC OA data and alarms. PoCs can also include business and control logic as required.

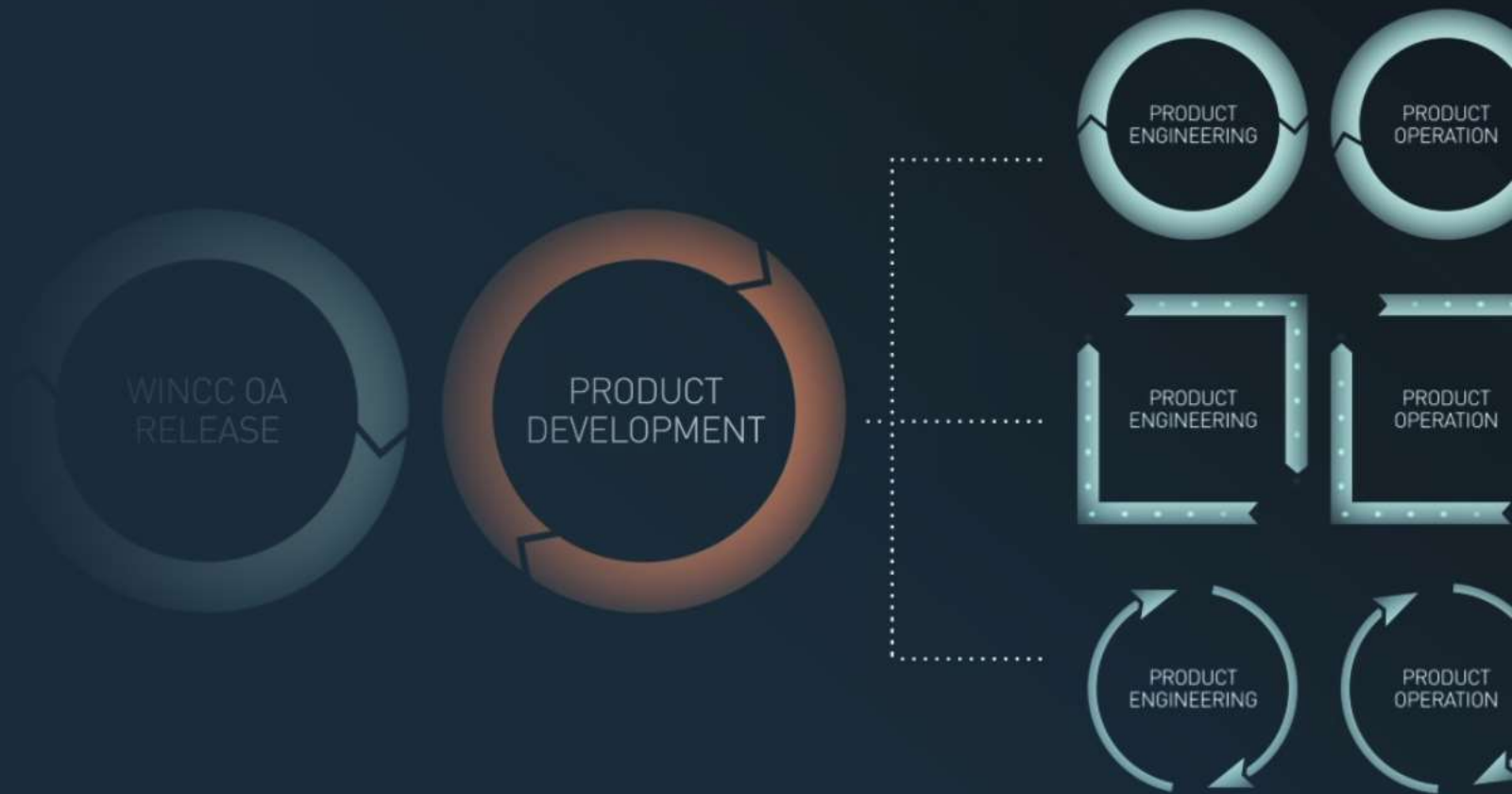
End-customer satisfaction is guaranteed with our PoCs, often shortening sales cycles and leading to the acquisition of larger projects by system integrators using our help.

## From Projects to Frameworks

We create WinCC OA Frameworks for leading companies in different sectors

Industrial Software projects are traditionally implemented by the repetition of tasks from project to project. This approach is cost ineffective and reduces standardization between systems making them difficult to maintain and adapt. Efforts and budgets are spent on maintaining multiple different commissioned systems rather than capturing and quickly implementing new ones.

We help our customers and their partners to create WinCC OA engineering software frameworks that encapsulate the commonalities and **minimize the engineering time and effort required to complete a project**. Furthermore, this approach results in standardized systems that are much **easier to maintain and modify**. Using this approach, our customers centralize the development of their ICS solution, which is then configured by engineering teams for each site and project. This enables the quick rollout of new installations and features to keep systems state-of-the-art, efficient and competitive.







## SmartNodes++ for WinCC OA

We help system integrators at becoming more competitive by doubling their project productivity

SmartNodes++ encapsulates advanced WinCC OA functionality in an intuitive suite of 6 modules that cover the whole development and engineering lifecycle. Its features boost programmer's and engineer's productivity, **halving development and maintenance cost.**

SmartNodes++, already used by System Integrators and Siemens regions, provides a robust way to engineer systems of any size. Its Object-Oriented approach allows to package device data with its functionality, so business and control logic can quickly be developed in a structured and testable fashion. This approach favors reusability, reduces the amount of code needed and provides portability between team members and across projects.

SmartNodes++ is the ultimate bridge between IT and OT. Its 6 modules cover each aspect of a project scope, from defining the data and behavior of devices, to the mass engineering and configuration of projects. Teams can split the work across the modules to focus on their IT or OT strengths.

## Build end-customer business cases

We speak Finance, IT and Operations C-level language and transform their needs in suitable business cases

Knowing the technology and technical needs is good. However, in many cases an end-customer needs to understand what is their payback and ROI for each of the features you propose.

Our rich background, including Finance, IT and OT profiles, allows us to interface with end-customers to understand their main problems and needs. We identify the corresponding savings or additional sales opportunities, determine related risks and finally define a list of priorities and suitable business cases for the development of Pilot features. These business cases include the cost of development of each of the features as well as the development time required. Overall, this provides end-customers with the tools to control their investment, which assists faster decision-making.

Overview

Dock

Tank to Tank

Truck loading

## ALERTS

Currently active: 2

## OPERATIONS

Running operations: 0

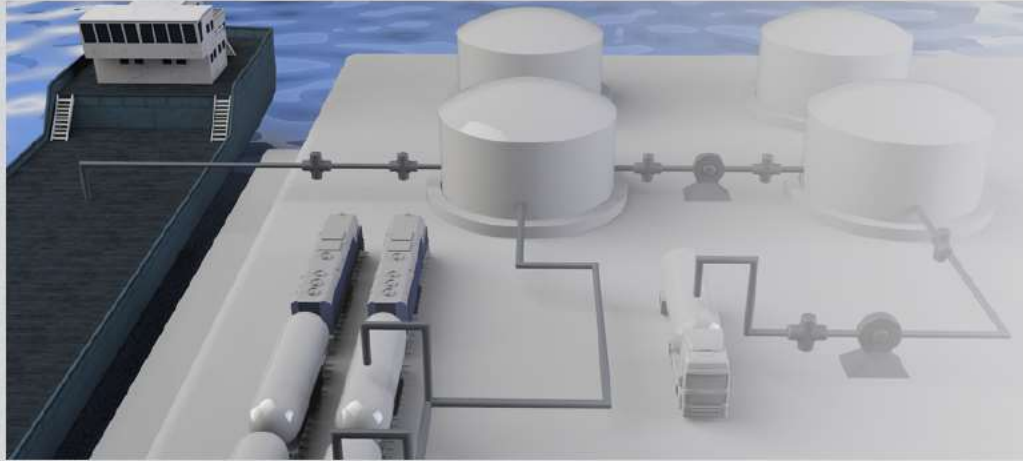
## MOVEMENTS

Today's Output: 45.1 Kg

Today's Input: 13232.1 Kg

## CUSTOMIZATION

## TERMINAL OVERVIEW



## ONGOING OPERATIONS



SHIP



TRUCK



TRAIN

## MES/MOM features in WinCC OA

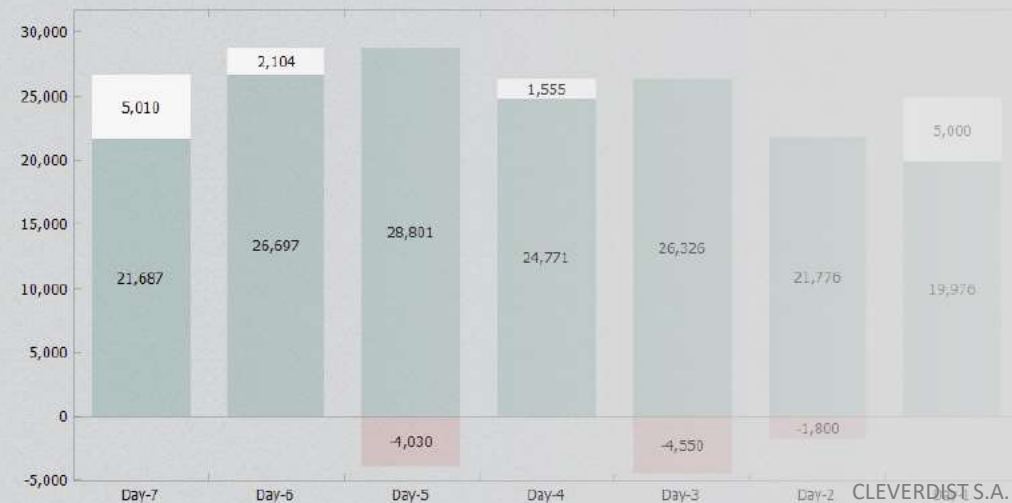
We quickly develop customized MES/MOM-like functionality within WinCC OA

An MES or MOM is a very powerful tool for production systems where integrating the shop-floor or plant with operation management can bring a big value. On the other hand it can be a big investment in terms of implementation, configuration and maintenance.

We help to develop specific customized MES/MOM features inside WinCC OA, significantly reducing the implementation and configuration costs in comparison to a full MES implementation.

A dedicated MES/MOM might still be required for some projects needing to comply with specific standards or having the scale to make cost-efficient use of a full MES. Frequently, it is fast and profitable to combine the MES with custom features developed in WinCC OA. Cleverdist has extensive experience in the use of the rich and open API of WinCC OA, which is ideally suited to make this connection.

## TREND VIEW





# Enhance WinCC OA User Interfaces with powerful interactive 3D models

ZoomIn3D from Cleverdist provides intuitive representations of OT data

ZoomIn3D allows to import 3D models from numerous industry standard 3D formats and optimizes them for use inside WinCC OA operation panels where they can be animated with events and alerts.

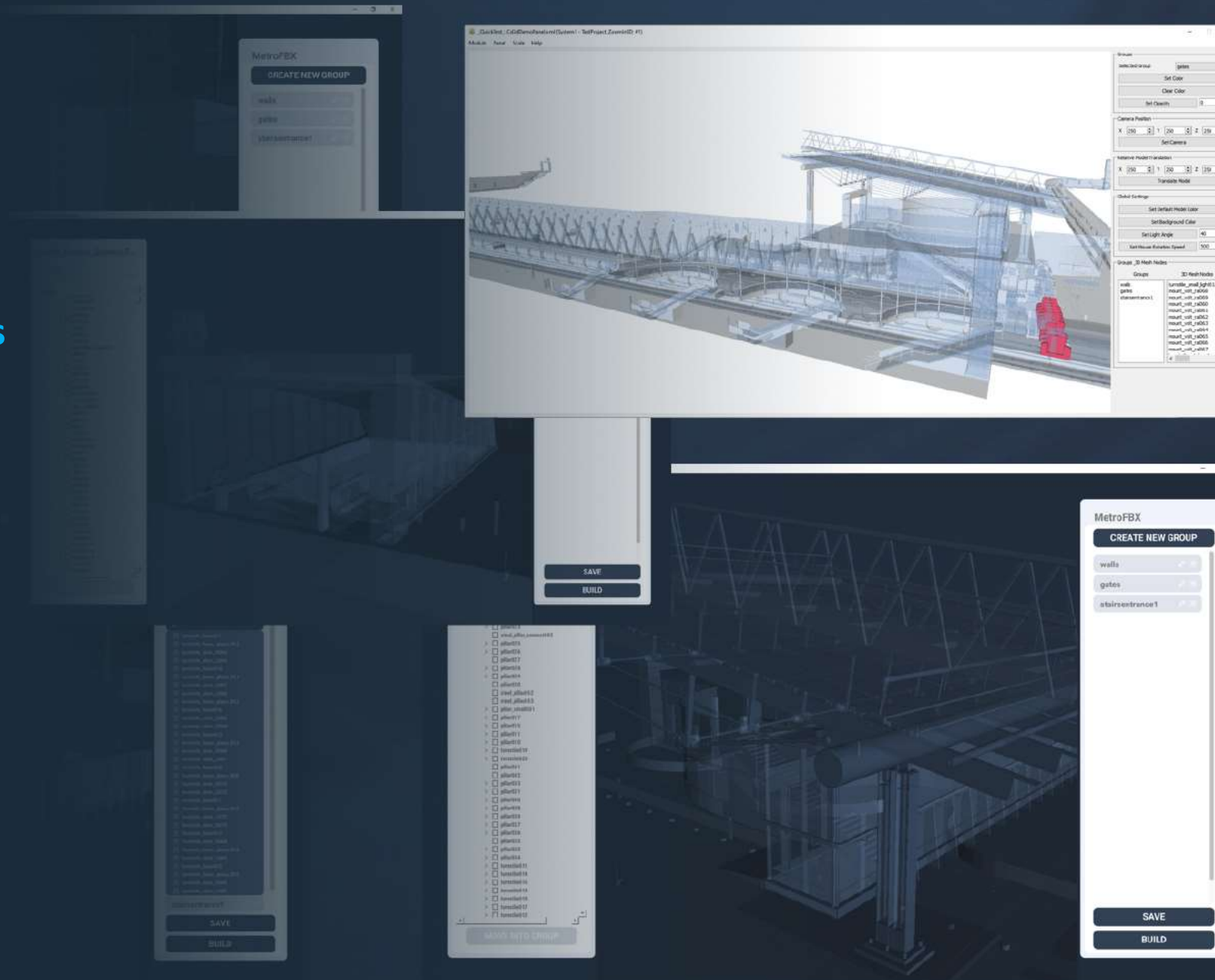
Customer's immediate improve their sales pitch but ZoomIn3D provides additional valuable benefits:

**Infinite viewpoints.** Zoom, rotate and move around your 3D models to provide unlimited new views of your data.

**Spatial correlation.** Instantly recognize spatial patterns to effectively find value in large sets of data.

**Better decision making.** Gather new insights with your data visualization to improve the speed and accuracy of decision making.

**More efficient maintenance.** Localize faults in familiar 3D representations to guide rapid maintenance interventions.







## Meet project deadlines

We help in crashing and fast-tracking any project involving WinCC OA and surrounding technologies

Regardless of the skills and competences of a team, a project can always go off track. We have proven experience at fast-tracking and crashing projects, especially those involving WinCC OA technology.

Our specialists at Cleverdist are not only fast at programming and engineering with WinCC OA but, leveraging their long experience (from 10 to 20 years), they are good at identifying alternative options to achieve the fastest results. We are also very efficient at supporting systems integrators in the interaction with their end-customers in order to control the expectations while ensuring full satisfaction. Often, we develop or supply ad-hoc tools to speed up and improve the productivity of system integrator teams.

Having our team jumping on board your project, even at a late stage, is a **warranty of meeting your deadlines.**



## Multi-Enterprise Applications, IIoT Platforms and Cloud-based ICS

Our patented secure data sharing enables our users to safely share data with partners outside their enterprise

MEIOTE is Cleverdist's platform to rapidly connect, monitor and control assets and processes. With broad support for industrial communication standards, it can **efficiently integrate and digitalize ICS equipment and link to existing business applications**. Available also as a service, MEIOTE minimizes infrastructure costs and upgrades as our customers expand their digital transformation.

MEIOTE combines Industrial Control System and IIoT platform technologies together with **patented technology for ensuring data traceability & protection**. MEIOTE provides each data contributor with control and management of all possible consumers of their information and any derived work. Our disruptive multi-enterprise approach **unleashes the value of automated process and cyber-physical data streams shared across every stakeholder in a supply chain**.

## CLEVERDIST **References**

## VOPAK TERQUIMSA – PETROCHEMICAL STORAGE

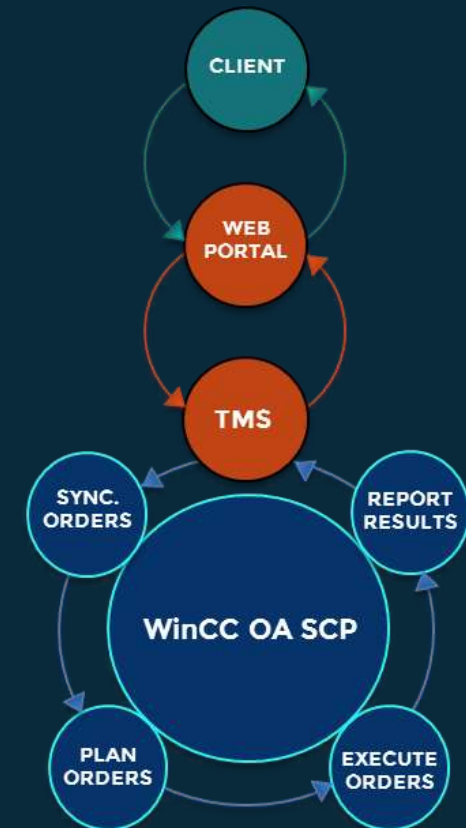
### FULL PROJECT DEVELOPMENT WITH MES-LIKE FEATURES

Cleverdist designed and developed a new WinCC OA Plant Control System. The new system integrates with all plant subsystems (including ERP) and provides a new operations application layer, which helps to plan, schedule and trace the different types of plant operation.

The Plant Control System developed by Cleverdist provides a complete digital twin/shadow of the piping system and equipment of the terminal, including both automated and manual equipment. When planning operations, the digital twin of the piping network enables the selection of any feasible path, without being constrained to a set of pre-defined paths.

#### IMPACT

- Digital twin of piping network tracks usage and availability of all assets
- Live visibility of ongoing operations for customers via enterprise web portal
- Digitalized work orders, order execution, reporting and ASTM calculations
- Training of end-customer to increase their autonomy
- Regional System Integrator trained to take over support and maintenance





# SIEMENS MOBILITY - DIGITAL STATATION MANAGER

## ENGINEERING FRAMEWORK DEVELOPMENT

We assisted Siemens Mobility in Germany with the development of a new Engineering Framework to quickly develop WinCC OA Digital Control Systems for the full infrastructure of Metro and Rail network systems.

Based on our experience of developing WinCC OA-based frameworks, the WinCC OA HQ in Austria recommended us to support Siemens Mobility Rail/Metro HQ in the development of a framework to simplifying the engineering and modeling of whole metro or rail systems. The objective was to provide a wizard guided tool that would enable engineers to configure a whole system without having any specific knowledge of WinCC OA. In addition, this approach of using a standard framework keeps software consistency across their different installations worldwide.

### IMPACT

- Accelerated delivery of projects, through simpler project configuration
- Centralized software solution for easier maintenance and faster support response
- Framework knowledge transferred to Siemens R&D
- Siemens engineering teams trained to configure projects autonomously
- First projects already commissioned



In 2018 Siemens Gamesa Hamburg office requested support from Cleverdist to speed up development to meet their critical deadline for finalizing a brand-new Industry 4.0 Solution for the planning, engineering, monitoring and control of Wind Parks.

A group of Cleverdist Industrial Software specialists provided support to a Siemens Gamesa team in the German city of Hamburg over a period of six months. This team was developing a 4.0 Wind Power solution with a state-of-the-art architecture and design, applying the best programming and engineering practices and making use of the very latest Industrial Software solutions and features. The project had very tight deadlines and expertise was required immediately with a very short time for onboarding. Our teams integrated smoothly with Siemens Gamesa teams, tools and best practices.

### IMPACT

- Doubled project velocity (x2 productivity)
- Solved critical software-tech issues
- Deadlines met





# SYSTEM INTEGRATOR FOR SPAIN-BASED WORLD LEADER IN RENEWABLES

## SUPPORT FOR SYSTEM INTEGRATOR PROPOSAL

In 2019 on request of a Spanish company – world leader in renewables – we helped their supplier to prepare a roadmap and architecture for the renovation of the Control Centre software. This software concentrates the information of their power plants and centralizes operations and maintenance. The customer requested WinCC Open Architecture to be the core software solution.

With our experience in very large and highly geographically distributed systems we proposed a scalable, modular and maintainable software architecture for this solution. In addition, we advised our customer on how to integrate modern IT continuous integration and continuous development techniques into the project.

### IMPACT

- Sound architecture and great end customer acceptance
- Robust development cycle to avoid production interruptions



# SIEMENS MOBILITY INTELLIGENT TRAFFIC SYSTEMS

## SUPPLY OF SMARTNODES++ AND CONSULTING

Since 2019 Siemens Mobility ITS R&D team is using SmartNodes++ for the development and engineering of their traffic and tunnel control solutions. SmartNodes++ ensures a common approach for all developments and provides the tools needed to efficiently implement projects with automated generation and testing.

SmartNodes++ integrates into the robust IT-style project execution processes of the Siemens Mobility ITS R&D team. They benefit from the project development and engineering features of SmartNodes++ alongside the support, maintenance and additional features included in Cleverdist's product roadmap. We continue to support the team with specific feature development and these developments are easily integrated because the common foundation on SmartNodes++ ensures compatibility.

### IMPACT

- Boost productivity at each stage of project development
- Focus on specialist domain by minimizing efforts on project tooling software
- High quality projects by integrating with automated build and test environments
- Enable parallel development of features across multiple teams
- Ongoing consulting delivers features on-demand with ensured compatibility





## RALLYTECH – COPENHAGEN OFFSHORE PARTNERS

### WINCC OA ENROLMENT PACKAGE AND PROJECT AWARD



In 2019 a COP System Integrator – RallyTech in Taiwan – requested our services to ramp up their knowledge in WinCC OA, create a PoC to validate the technology and approach with COP, and provide them support during the development of a new control system for wind turbines and substations.

Cleverdist frequently provides support to Industrial System Integrator companies in different countries. We proposed RallyTech a package to quickly increase their team competences and create a PoC that would guarantee customer satisfaction. We hosted a training and workshop for COP and RallyTech in our office in Switzerland. We trained and certified their engineers in SIMATIC WinCC OA and we developed a PoC application for COP approval. We are currently supporting RallyTech in the development of the full solution.

#### IMPACT

- Full project awarded to RallyTech with support of Cleverdist
- PoC generated acceptance and confidence
- RallyTech engineers acquired a high degree of development autonomy





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ISO 27001  
INFORMATION SECURITY  
MANAGEMENT SYSTEM



ISO 9001  
QUALITY MANAGEMENT  
SYSTEM