

The new Delphin Data Center



High performance **DAQ software**

Process and measurement data management for local & decentralised applications



Delphin Data Center – PERFECT **SOFTWARE** FOR

Measurement sites located around the world, centralised measurement data management, location-independent data access – these are the new standards in measurement technology.

The Delphin Data Center is a PC and server software for Windows and Linux for worldwide measurement connectivity and management of plants, machines and test stands regardless of the age, location and interfaces of the different data sources. The Delphin Data Center performs all the tasks of centralised DAQ measurement data management, ranging from distributed and source-independent data acquisition, loss-free data compression, pre-processing, encryption and storage through to the instant worldwide provision of real-time and historical measurement data.

How does the measurement data get from the point of acquisition to the user? How is the data synchronized? Where is it stored? This is what the new Delphin Data Center is all about. Delphin Technology has made its central measurement data management even better.

Project planning and turnkey implementation from a single supplier – including hardware, software and application development.

Worldwide **measurement** and centralised **analysis**



For Windows / Linux PCs and server

PROCESS DATA MANAGEMENT



Delphin Data Center product highlights

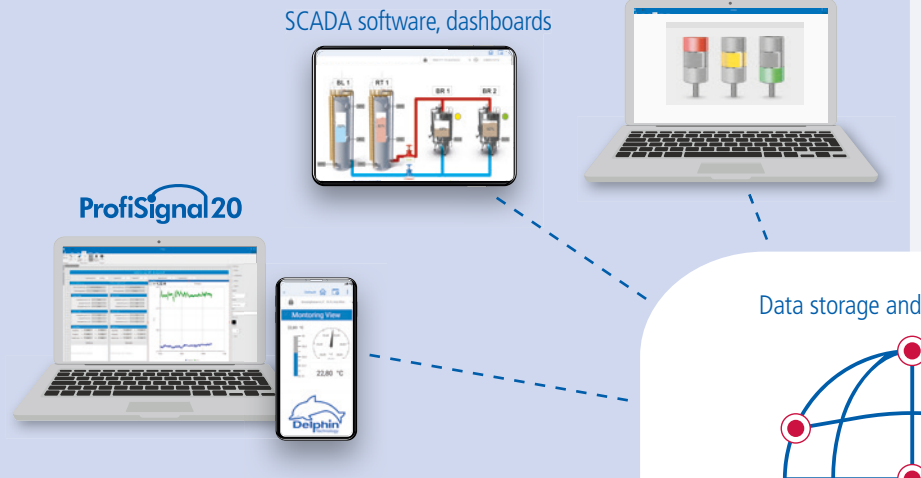
- Centralised data acquisition from distributed sources
- Interface versatility for both data acquisition and visualisation
- Loss-free data compression
- Long-term archiving
- Special data preprocessing via software channels
- High-performance data archiving with instant access
- Smooth transition from online to historical data
- Continuous and batch-based archiving, evaluation and report generation
- Automated export of measurement data and characteristic values
- Centralised alarm management with multiple messaging options
- Audit trail for FDA-compliant data acquisition
- Platform-independent access via individually configurable dashboards using ProfiSignal 20
- Processing of up to 100 million data records per second
- Easy to use, setup with no programming required
- Installation on both Windows and Linux systems
- 64-bit software capability for maximum performance
- Secure data transmission due to SSL encryption
- Access via any number of clients (license packages)
- New business models possible via selective user access rights

Delphin Data Center – **FUNCTIONS** FOR BUSINESS

Analysis & monitoring

Location- and platform-independent access to any measurement data collected anywhere around the world for portrayal via measurement technology and SCADA software. Alarms can be text messaged and emailed.

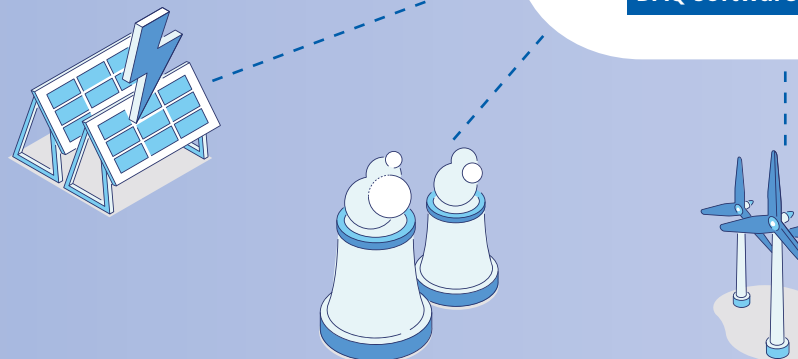
Analysis & monitoring



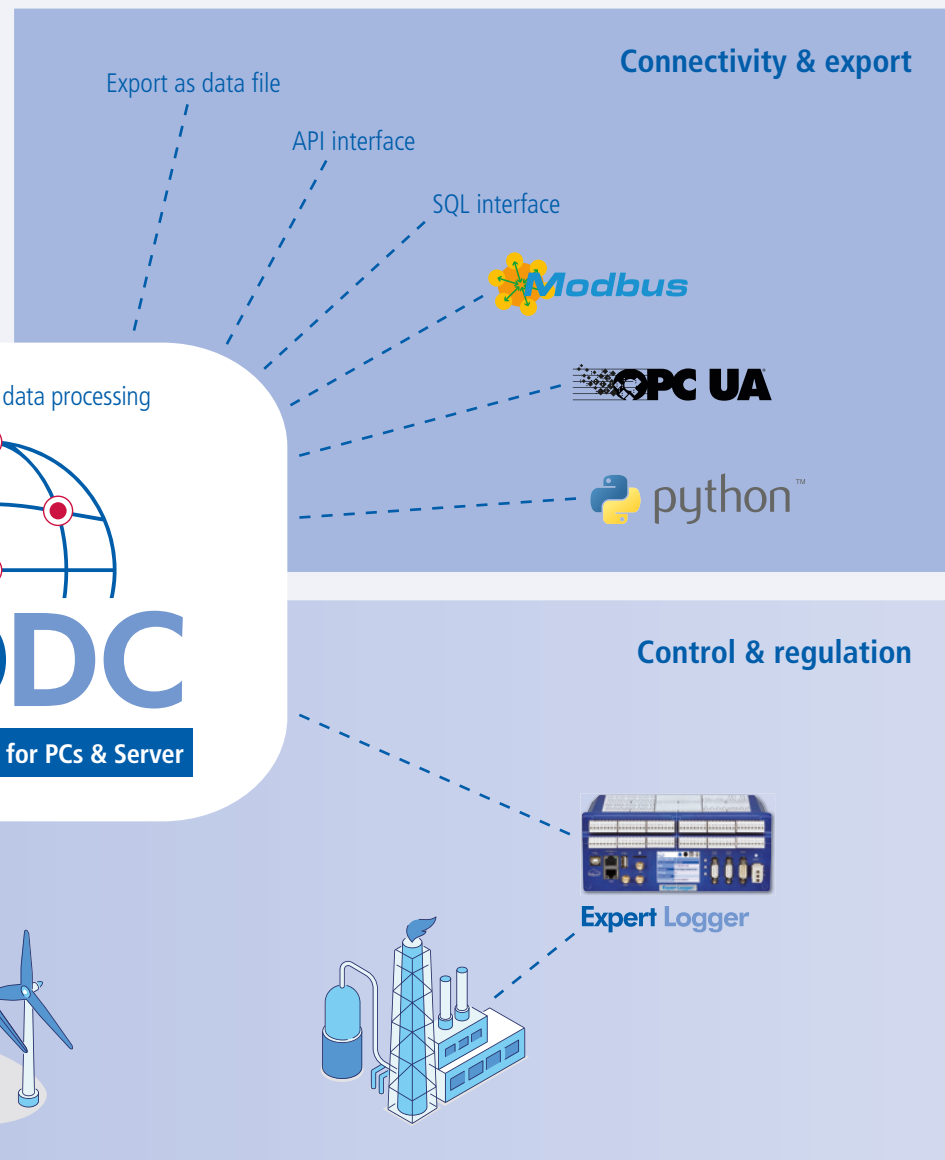
Data acquisition

Centralised recording, analysis and storage of decentrally acquired data from any data source: automation and measurement equipment, protocols and sensors.

Data acquisition



SUCCESS



Connectivity & export

The Delphin Data Center enables data from any source to be synchronised, linked and analysed. A wide range of interfaces are supported for both data acquisition and visualisation.

Control & regulation

Automation, regulation and control of measurement and control processes. Directly via the Delphin Data Center or via Delphin's ICA devices.

Delphin Data Center – FASTER, SAFER, BETTER THR

Data security

Measurement data requires tamper-proof transmission and fail-safe storage. The Delphin Data Center supports SSL-encrypted data transmission and enables measurement data located around the world to be centrally stored, as continuous data streams as well as time-controlled data scheduling.

Interfaces and synchronisation

Data sources are often highly heterogeneous. PLCs and other field bus participants communicate via Modbus TCP, OPC UA or other protocols. Sensors deliver fast and slow measurement data in different formats. The Delphin Data Center enables data from any source to be synchronised, linked and analysed. To maintain flexibility for data visualisation and analysis, the DDC also supports a wide range of communication output options via standard protocols such as OPC DA, OPC UA, Modbus TCP, SQL and individually configurable interfaces via API, Python or ASCII DLL.

Any installation site

The Delphin Data Center can be installed in the cloud as well as on any server. Both Windows and Linux systems are supported. This allows any set-up to be realised, e.g. also with a NAS drive acting as a centralised data server.

Ultra-high performance

A specially developed binary measurement database enables the Delphin Data Center to synchronise, process and store up to 100 million measurement values per second from any source.

New business models

Having sold machines and systems around the world, how can manufacturers now expand their business models? Quite simply by also offering customers condition monitoring of the products they have purchased. This requires data acquisition at the assets located around the world as well as centralised data analysis. The results are then made available to customers with specific recommendations for action. The Delphin Data Center performs centralised management of the data collected from all over the world.

Customer testimonial:

“We have been using the Delphin Data Center for years and are currently converting to the new 64-bit version. The system is highly stable despite the complexity of our test stand application and we are achieving 99.99 % availability in measurement data acquisition. In large-scale measurement processes, more than 240 A/D converters are used to acquire data from several thousand physical sensors at sampling rates of between 1 and 100 Hz. Including all calculations, this results in more than 20,000 channels that are processed by the Delphin Data Center, stored and distributed to connected systems.”

OUGH **NEW FUNCTIONS**

Overview of new functions

Delphin Data Center

- ⊖ 10 million records per second
- ⊖ Installation for Windows systems
- ⊖ 32-bit support
- ⊖ Cross-system user administration
- ⊖ API interface
- ⊗ No OPC UA interface
- ⊗ No data encryption

The new Delphin Data Center

- ⊕ 100 million records per second
- ⊕ Installation for Linux and Windows systems
- ⊕ 64-bit support
- ⊕ Selective user access rights
- ⊕ Python & API interfaces
- ✓ OPC UA client interface
- ✓ SSL encryption

Delphin Data Center – DECENTRALISED MONIT

A municipal wastewater company operates 18 pumping stations that are used to regulate water levels across the entire system.

Requirements:

The water levels at the pumping stations needed to be centrally monitored. Condition monitoring for the pumps was also required. Access to all measurement data and control of the pumps needed to be possible from the central control room as well as from mobile devices. Data transmission was to be encrypted via LTE.

Solution:

Delphin Technology's Loggito Logger hardware has been installed at each pumping station to monitor water levels and the condition of the pumps. Data undergoes temporary fail-safe storage within the device. Data transmission is SSL-encrypted via LTE to a central Delphin Data Center. The data is synchronized and stored redundantly and made available for instant visualisation both in the control room and on tablets or smartphones and regardless of location. ProfiSignal 20 is used as platform-independent measurement technology software.

Customer benefits

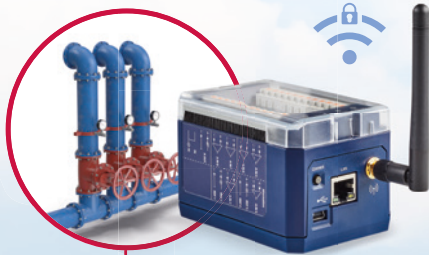
"The Delphin Data Center saves time and money. Measuring points at different locations can be analysed in combination rather than separately. Service technicians no longer have to travel to separate installations but can access the measurement data regardless of location."

Decentralised monitoring For 18 pumping stations



Control room/data centre
Delphin Data Center
ProfiSignal 20

ORING



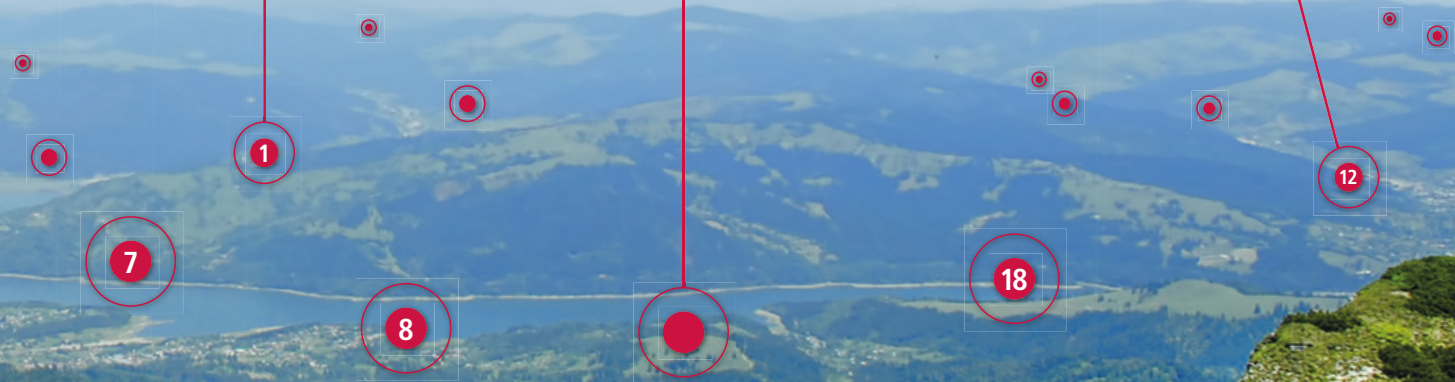
Pumping station 1
Loggito Logger



Pumping station 12
Loggito Logger



Mobile technician
ProfiSignal 20



Delphin Data Center – SELECTIVE DATA ACCESS

Requirements:

A construction machinery manufacturer wanted to expand its business model by no longer just selling machines to customers, but also offering them full condition monitoring. Every customer was to get access to the data on the machines they had purchased and be notified about upcoming maintenance work.

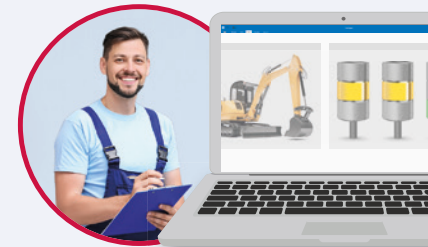
Solution:

An Expert Vibro with extra channels was installed as standard in each construction machine to record measurement data relevant for condition monitoring and to provide temporary fail-safe storage within the device. Rapid vibration measurements as well as slow operating parameters are recorded, partially via special, sensor-specific protocols. The data is then transmitted via LTE to a server belonging to the construction machinery manufacturer and where the Delphin Data Center is installed. The Delphin Data Center then centrally manages the measurement data, synchronising it, storing it redundantly and analysing it until specific recommendations for action can be made. Customers then receive information about their machines. A user filter ensures that each customer only has access to the data of their own machines.

Customer benefits

“The construction equipment manufacturer has expanded its business model to include ‘Condition Monitoring as a Service’. Customers are informed about the current condition of their construction machinery anytime and anywhere, and receive specific recommendations for any required action.”

Selective access by excavator owners to data on the condition of their machines



Customer 1

Excavator manufacturer's central DDC as data and monitoring centre

Excavators of one manufacturer from various customers around the world



AS A BUSINESS MODEL



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