straton
Universal control and strong connections.

EMBEDDED FIELD BUS CONTROLLER | SOFT-PLC | SCADA LOGIC

straton

do it your way

SCADA Logic, Soft-PLC, embedded field bus controller: straton is the universal perfect solution, with its excellent connectivity and elegant flexibility. straton is able to use communication hardware by all major manufacturers – from Hilscher or HMS to Woodhead and Phoenix which creates real independence and freedom of choice for the design of control solutions. This means there are no constraints when choosing which PLC hardware or which operating system you wish to use.

straton.

FOR FLEXIBLE, SECURE AND CONNECTIVE CONTROL.

In use the simple handling and the quick results provided by straton are very convincing. This is just one of the results of the large system library and the seamless integration into the zenon HMI/SCADA system.

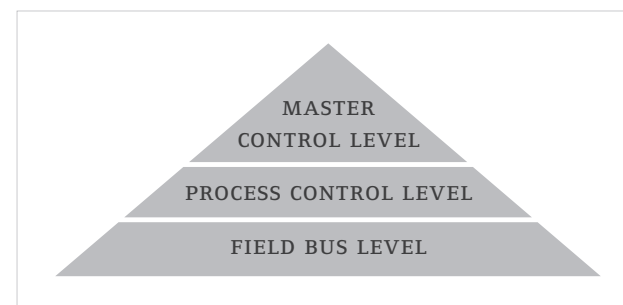straton delivers advantages at all automation levels. On the:

▸ master control level

as SCADA Logic: with its redundant operation, straton provides maximum reliability.

▸ process control level

as Soft-PLC: featuring platform independence and maximum connectivity.

▸ field bus level

as I/O controller: straton is available as an out-of-the-box PLC from various hardware manufacturers.

MASTER
CONTROL LEVEL

PROCESS CONTROL LEVEL
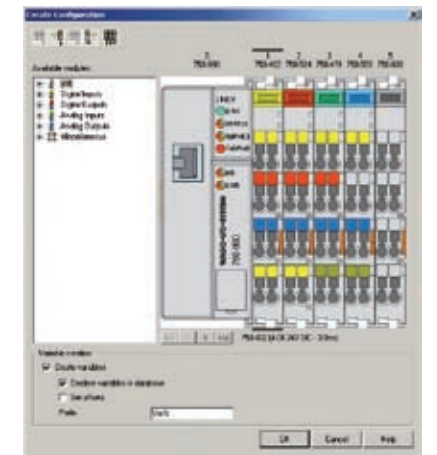
FIELD BUS LEVEL

straton embedded.

FOR INTELLIGENT HARDWARE WITH DIRECT CONNECTION AT THE FIELD BUS LEVEL.

On the I/O level, straton works as an intelligent field bus controller. straton reads directly from physical inputs and also writes directly to physical outputs.

straton is included as a ready-to-use solution in many components of major hardware providers such as Wago and Advantech. There is no need for a separate installation. Just unpack, connect and power up the device. Setup is both fast and secure using graphical configuration tools.

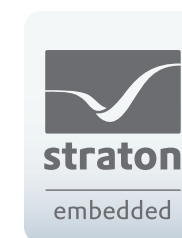### OPEN, RELIABLE CONNECTIVITY

Many different protocols are available for connecting to other systems – whether they are on the same level or on a higher level of the automation pyramid:

▸ straton Binding
▸ straton SCADA protocol (T5 protocol)
▸ Profinet
▸ Modbus
▸ IEC 60870
▸ IEC 61850

The decentralized design of straton ensures continuous system operation, even if there is a failure in adjacent areas – a big advantage of field bus controllers.

Many industries, including food & beverage and automotive, benefit from straton's open design and connectivity. With straton, you will obtain an affordable piece of technology that creates reliable applications and that has proved to be an excellent team player working with many different hardware systems.

Visualization via a web browser for simple remote access and affordable visualization

straton
embedded

straton Soft-PLC.

INDEPENDENT REAL-TIME CONTROL.

At the process control level, straton is the strong, real-time capable control unit in the form of a soft-PLC. At this level, straton acquires and transmits its data through field buses. At the same time, it allows connections to a supervisory SCADA system or to a remote control center.

The straton soft-PLC works with all Windows operating systems – from Windows CE or XPe to XP and Vista – and supports non-volatile data storage. Its online change function allows changing of parts of the PLC program during operation without having to stop processes.

On the system level, special software development toolkits are available for adding function blocks, field bus connections and I/O connections.
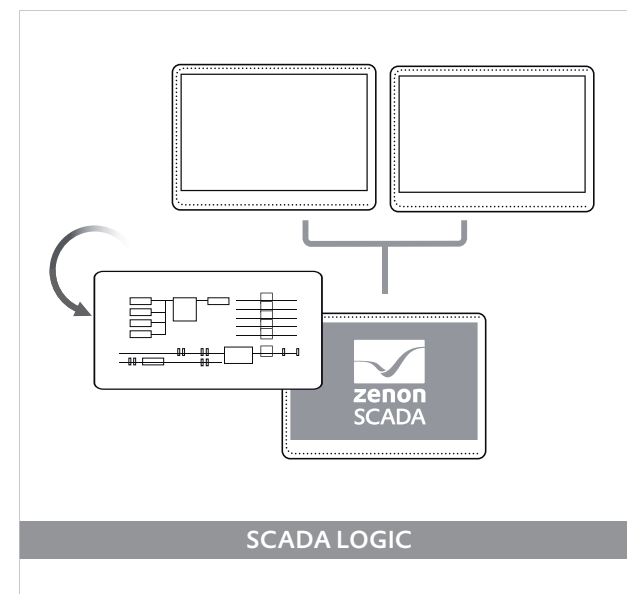
VERSATILE, EFFECTIVE AND HIGHLY AVAILABLE

straton makes it very easy to run HMI and PLC in one system. Its redundant operation guarantees maximum availability, ensuring a clear overview and saving costs.

A variety of protocols can be used for connecting to systems on the same level or on a higher level, for example:

- straton Binding
- straton SCADA protocol (T5 protocol)
- IEC 60870
- IEC 61850
- Weihenstephan Standard
- Modbus
- CANopen
- Profibus
- Profinet
- EtherCAT

straton's versatility and connectivity is a big advantage for users in any industry. In the Energy, Water or Utilities sectors in particular, straton's RTU functions and hardware independence play an important role.

The integrated blue screen management function ensures a fail-safe system. If the Windows operating system stops, straton keeps running; offering maximum reliability and availability.

Variable status information can be processed directly in the PLC application. This gives you the ability to exclude variable values with a negative quality bit or with an out of date or invalid time stamp from your PLC calculations.

Used as a Soft-PLC, straton is suitable for use in many industries because it is a real-time deterministic solution.

straton SCADA Logic.

YOUR POWERFUL COMPUTING CENTER AT THE SUPERVISORY LEVEL.

Integrated into COPA-DATA's zenon SCADA system, straton also works as the computing center. The powerful interface between zenon and straton guarantees optimum real-time behavior and allows the processing of large amounts of data in a short time.

For reliability purposes, master control systems often have a redundant design. The straton SCADA Logic also follows this philosophy and can run in a redundant configuration without any problems.

SCADA LOGIC

INTELLIGENT AND EFFICIENT

As pure SCADA logic, straton connects to the processes via zenon; therefore no parallel communication is required. However, if there is a requirement for straton to communicate directly with the plant for communication purposes, you can set up parallel communications easily. straton concentrates the intelligence of a system in the master control system; all functions of a PLC can therefore be used directly in the master control system.

Status information such as quality bits or time stamps is available in zenon as well as in the straton SCADA Logic, which increases the reliability of the information provided by the application. The straton SCADA Logic can either launch along with the operating system, like a soft-PLC, or it can wait for the call by zenon. If zenon shuts down, the user can either choose to keep straton running or to allow straton to shut down simultaneously.

straton SCADA Logic is particularly useful for two tasks:

1. IDENTICAL CONTROLS FOR SIMPLE MAINTENANCE

In the process control level, you can often find many identical control units with the same role. One of these units – usually unit one – takes over additional central tasks. This makes maintenance less easy. Changes cannot simply be copied between the units. If you hand over these central tasks to the SCADA Logic, you will regain the benefit of identical projects on the process control level that are easier and faster to maintain.

2. FREE CHOICE OF LANGUAGES

The integrated zenon VBA makes it easy and efficient to process data in zenon. However, VBA is not always the ideal choice. For example, VBA may affect process resources. Many users also prefer an IEC 61131-3 language to VBA – or maybe require the possibility of cyclical data processing. The straton SCADA Logic provides all five 61131-3 languages and allows for resource-saving cyclical data processing.

> " *The integrated solution supplied by COPA-DATA works reliably in our very complex project. Our employees can very quickly adapt to it and are today able to further develop the system. The visualization possibilities are excellent and the trend monitoring supports us in optimizing the conveyor system, in analyzing alarms and back ups and in optimizing our potential.* "

Zoltan Ponty, Engineering Graduate, Head of Motor Handling Audi Györ

straton Gateway.

TIGHT CONNECTIVITY TO A WIDE RANGE OF INTERFACES AND PROTOCOLS.

straton – One solution for many industries.

STRATON DELIVERS POWER AND RELIABILITY TO MANY INDUSTRIES, SUCH AS ENERGY, FOOD & BEVERAGE AND AUTOMOTIVE.

The main advantage of straton as a soft-PLC and SCADA Logic is high connectivity. The following protocols are available for standard PC/CE interfaces:

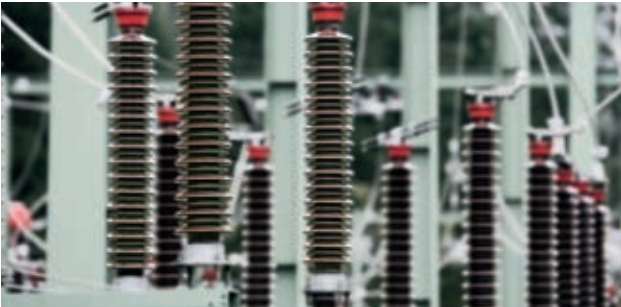| PROTOCOL	CONNECTION TYPE	
IEC 60870-101		Slave
IEC 60870-104		Server
IEC 61850	Client	Server
Modbus TCP/UDP	Client	Server
Modbus ASCII/RTU	Master	Slave
OPC		Server
Profinet IO RT	Controller	Device
Weihenstephan Standard	Client	

Additionally, straton allows the use of communication components such as the following manufacturer's PCI cards:

MANUFACTURER	PRODUCT
Bihl+Wiedemann	AS-i-Master
Hilscher	CIF
HMS	Anybus
Phoenix Contact	IBS PCI
Woodhead	Applicom Direct-Link

straton covers all important field bus protocols used in industrial automation.

STRATON AND ENERGY

When used in energy applications, straton is the perfect solution as a bay controller, control computer or RTU. Its IEC protocol, the handling of the variable status and additional features such as FBD/ function chart, CFC, CFC line signal status and CFC data type line colouring create the perfect conditions for a safe and secure control and command input.

STRATON AND FOOD & BEVERAGE

In the food & beverage area, straton specifically takes on important tasks in the Line Controller. With its Weihenstephan standard driver it connects easily and plays a major part in the calculation of OEE figures.

STRATON AND AUTOMOTIVE

The automotive industry also benefits from straton as sequential control system, as a head controller or within the control computer. Its seamless redundancy plays an as important role as the step sequence control or the display of real time values from the step sequence in the zenon SCADA picture.

Rapid project development.

If you need excellent programming results in a short time, the engineering tool has a decisive role. straton is easy to learn, requiring only a little configuration and ensures quick implementation.

INTEGRATED ENGINEERING

The straton workbench – an intelligent and flexible IEC 61131-3 programming environment – is integrated seamlessly into zenon: delivering considerable advantages for engineering tasks. Redundant variable pools or variable list imports (data point list imports) are no longer necessary. With a few mouse clicks in the straton workbench, the user can configure the data to be shown in zenon. This applies to all data types – basic IEC data types as well as complex data types such as structures or arrays.

Instances of user-defined function blocks can be mapped to structure variables in zenon with a single mouse click. This allows the display of values of an instance in a zenon symbol, for example.
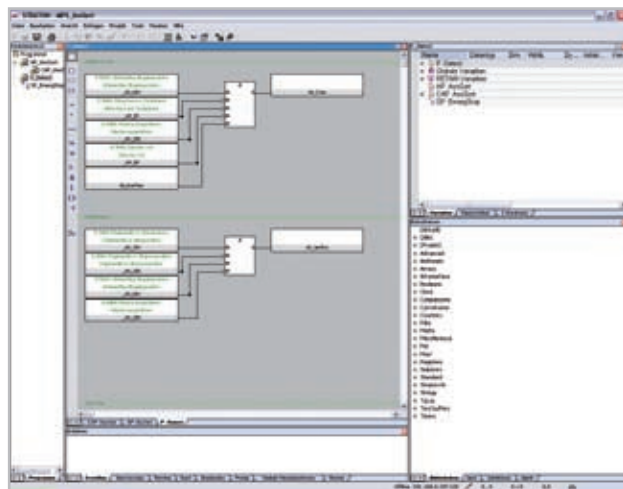
AUTOMATIC ENGINEERING

If you need to create a large number of similar projects, in an efficient and time-saving way, you can make use of the automatic engineering features of zenon and straton. Via the Windows Automation Interface – or COM interface – you can develop VBA or C# applications that create complete or partial zenon and straton projects. In this way you can create projects without having to code them again and again, risking numerous errors. Our customers are already saving up to 90% engineering time!

PROGRAMMING LANGUAGES

Simply install and start programming – the straton workbench is easy-to-use and efficient. No additional project configuration or complex tree structures are required. The workbench supports all five IEC 61131-3 programming languages.

The auto-complete feature of straton speeds up the programming process even more. The use of data type prefixes allows the definition of the data type of variables (data points) automatically.

FBD	FUNCTION BLOCK DIAGRAMM
LD	LADDER DIAGRAM
ST	STRUCTURED TEXT
IL	INSTRUCTION LIST
SFC	SEQUENTIAL FUNCTION CHART

MANAGING THE LIBRARY

There are two basic ways of managing libraries in straton:

▸ link POUs from other projects to the new one in order to reuse them.

▸ use the straton library manager to create and manage central libraries that are imported into the workbench library like standard building blocks.

DISTRIBUTED ENGINEERING

With distributed engineering, straton drastically reduces engineering time. Application teams can work on the same project, programming the PLC application and the SCADA application in parallel.

CONVERSION FOR FLEXIBILITY

With the straton workbench you will always be able to program in the language that you prefer at any particular time, even if other parts of the programs were written in a different language. straton makes this easy because its programme converter can translate from one language of the IEC 61131-3 to another at any time.

SOURCE/ CONVERSION	FBD	LD	ST	IL
FBD		✓	✓	✓
LD	✓		✓	✓
ST	✓	✓		✓
IL	✓	✓	✓	

straton Runtime.

PERFECT COMMUNICATION WITH ZENON HMI/SCADA.

straton is a perfect fit for direct communication with the master control system zenon. It supports both spontaneous event-triggered data traffic and cyclical scanning.

The advantage of spontaneous data traffic is that value changes will be transmitted to zenon immediately. This means that the communication line will only be used when required, which is perfect for small amounts of rapidly changing data (up to 5000 changes/sec).

With cyclical data traffic, data will be transmitted at fixed intervals, which is useful for large amounts of data, keeping an eye on performance.

Faultless delivery.

straton provides many ways of performing in-depth tests of PLC applications. Errors will be found quickly and reliably – long before the project is running in the field.

SIMULATION AND DEBUGGING

With the straton offline simulation you can test the logic you created before putting it into real operation. You can also connect it to a zenon application that requires testing. This results in a dynamic zenon application – without an actual connection to the real process via the straton field bus drivers. In offline simulation and online debugging, all features necessary for this are available:

▸ Single cycle operation
▸ Single step operation
▸ Break points
▸ Variable forcing
▸ Test recipes
▸ and much more.

LOGGING WITH THE ZENON DIAGVIEWER

If there are any problems, the zenon Diagviewer will inform you about the events of the straton Run-time systems and their driver connections. It will deliver all relevant diagnosis information of the complete automation unit: from zenon to straton. This "Single Point of Diagnosis" keeps debugging efforts to a minimum.

PLC ONLINE DIAGNOSIS IN ZENON

The PLC online diagnosis complements the debugging features of the straton workbench with the possibility of displaying the online values of the PLC code in a zenon picture.

Control perfectly.

If you need perfect control, straton is the perfect choice – as SCADA Logic, soft-PLC or embedded field bus controller.

With its excellent connectivity, high flexibility and simple handling, it guarantees secure and fast engineering; and its independence from hardware and operating systems liberates you from any proprietary 'shackles'. See how straton supports your projects with reference projects and your own tests: contact *test-straton@copadata.at* to request more information.

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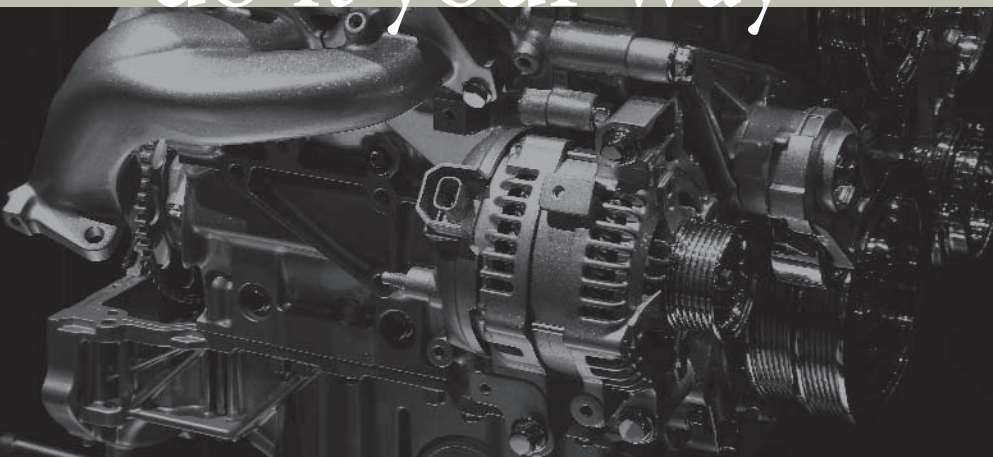t +1 (973) 920-7882
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