

All Operations can be Optimised.

A presentation of Cactus UniView.



CACTUS
UniView

We help our clients secure and optimise operations for all those things we take for granted: access to water, energy and safe transport. Socially critical functions with high demands on operational reliability. Our clients have something else in common: business activities that favour a long-term sustainable society. The cactus was our inspiration when we named our company. It lives and thrives in environments that are harsh and demanding – just like our systems.

Vital infrastructure is close to our heart.



As a company, we have been working on the Swedish market for longer than many others. Work with us and you will therefore be working with some of Sweden's most highly experienced project managers, system developers and automation engineers.

We delivered our first system back in 1974.

We deliver systems for our clients' core businesses. This, coupled with our in-depth understanding of the client's reality and a high level of service, has led to uncommonly long-lasting relations. Several of our clients are in their fourth generation system.

We have a low staff turnover, with many working here for 20, 30 or 40 years.

The benefits of merging.

Our company is a fusion of two of Sweden's most highly acclaimed automation companies: Radius Control Systems and Cactus Automation. We are biggest in Sweden in water and sanitation plants, and a prominent player in the energy and railway sector.

Our size and our customer base mean peace of mind for you and our other clients. As well as geographical proximity, since we operate from five locations. We are

now focusing on developing the next generation of operational computer systems. The merger lays the ideal foundation for our continued evolution.

The art of running projects.

Our project management ability has become something of an institution. It encompasses everything from punctual implementation of the highest quality, to keeping to agreed budgets. Our long experience of building reliable systems means our installations maintain excellent availability.

We are certified to ISO 9001:2008.

Service and support – on all levels.

We are keen to ensure that you, the customer, are happy with your system. Particularly as we take long-term responsibility. Our long-lasting relations are testament to our customers' appreciation of our service and co-operation.

Some of our customers even talk about a sense of family. You get to know the people working on your particular project.



Water and sanitation. Half of all Swedes have their water treated by a plant controlled by a Cactus system. Read more on page 4.



Electricity networks. Powerful, scalable, flexible, reliable systems for remote control of power distribution. Read more on page 6.



District heating and combined power and heating. Systems for controlling and monitoring production and distribution. Read more on page 7.



Railways. New technology enables more frequent services, lower operating costs, reduced impact on the environment and more efficient operation. Read more on page 8.



Industry. Complete systems for various industries in need of operation monitoring. Read more on page 10.



Biogas. Biogas plants place special demands on operational computer systems. We were there from the start. Read more on page 11.



Do you work in water and sanitation? At Cactus UniView we know your process and your everyday reality. Half of all Swedes have their water treated by a plant controlled by a Cactus UniView system. We work with more than 60 local authorities, making us biggest in water and sanitation in Sweden.

Monitoring and control of water and sanitation.

Our systems are among the most cost effective that can be installed. This is partly evidenced by the fact that some local authorities are now asking us to install their fourth generation system. We have been able to upgrade and reuse all our products in new environments for over 30 years.

All of this is included in what we call investment protection.

We share your challenges.

Since the beginning at Sydvatten's Ringsjö water works in 1974, a further 60 or so municipalities have chosen our system. This collective experience is quite simply unique, so you can trust us to help you with your facilities and your challenges.

- Just a handful of Sweden's 290 municipalities are showing growth. Taxation income is falling. Demands on cost cutting are increasing. Meanwhile, necessary investment in operation is increasing. We can help you with this equation.
- Many of Sweden's water and sanitation plants were built in the 1960s and '70s. The pipe networks are even older. The infrastructure is ageing and maintenance costs are rising. Planned maintenance is often replaced by unscheduled maintenance, but there are solutions.

- Many water and sanitation personnel will be retiring in the next five years. Much of the knowledge is currently in people's heads and in various uncoordinated folders. Knowledge transfer is everything.
- Heightened environmental requirements, the Water Directive and new water authorities. New legislation is devouring time and bringing new demands that have to be fulfilled. All challenges we are used to.

Operational computer systems and sub-stations.

The Cactus UniView system concept includes our main operational computer system. Various functions and equipment can be connected to it.

- Integrated sub-stations for control and monitoring.
- Redundant and distributed systems.
- PLCs and instruments – both new and existing. There are some 60 protocols available.
- Leak monitoring including loggers and flow meters.
- Maintenance systems.
- Case management and experience data bank.
- Connections to business systems and GIS.







Electricity network owners need to manage their networks more efficiently and minimise the impact of power cuts. Many Swedish power customers therefore use our powerful, scalable system for remote control of their power distribution.

Remote control systems for power distribution.

Thanks to new technology, small network owners can now access the same functionality as their larger counterparts. We offer systems that can be quickly and easily configured and installed according to the size of your facility.

How to keep investment costs down.

You can keep investment costs down by exploiting the life left in your existing equipment and connecting it to Cactus UniView's remote control system. The system can then be supplemented with new terminals of any make.

Connects to existing systems.

You can connect the system to most RTUs, PLC systems, databases and business systems. Consequently, as a power

distributor you can keep your existing system and expand it with new systems best suited to your needs.

Turnkey systems

Network owners who use our products and systems manage their networks more efficiently. Our clients include Lunds Energi, Umeå Energi, Borås Energi, C4 Elnät and Växjö Energi.

As a Cactus UniView customer you have access to our extensive knowledge of controlling power plants. You have a single partner to talk to: we deliver complete, turnkey systems including hardware, engineering, installation, commissioning, training, documentation and service.





District heating, district cooling and combined power and heating are important parts of our future society. The transition from oil to renewable and recovered heat is reducing Sweden's carbon dioxide emissions year on year. However, there are challenges.

District heating, combined power and heating.

The industry is being affected by a warmer climate, energy rationalisation and the fact that new buildings have less of a heating requirement.

Knowledge of your process.

We offer complete control and automation deliveries up to and including the turnkey facility. But that's not enough.

Knowledge is needed of your process to ensure the technical solutions genuinely deliver optimal functionality that works. We have that.

Several tailored solutions have been developed to optimise production according to weather forecasts, raw

material prices, facility status, fuel stocks and market prices.

Comprehensive reports are formulated to support reporting to the relevant government authorities.

High reliability and stability.

We have long experience of delivering to district heating plants and can offer tried and tested systems with a high level of reliability and stability.

Just ask some of our clients: Falbygden Energi, Hässleholm Miljö, Tekniska Verken i Linköping, Mölndal Energi, Katrineholm Energi and Landskrona Kraft.



Traffic Management Systems have become something of a speciality for us at Cactus UniView. We delivered our first one to the Roslagsbanan line at StorStockholms Lokaltrafik in the early 1990s. Nowadays we also offer TMS as well as CTC systems.

Traffic Management System.

There are tremendous opportunities for optimising rail bound traffic all over the world. Investments in new technology enable more frequent services, lower operating costs, reduced impact on the environment and more efficient operation.

Egenutvecklade programvara.

Cactus UniView's Traffic Management System (TMS) is tried and tested, complete and has the capacity for virtually any facility, however large it may be. Using our own software we create customised solutions that are highly appreciated among rail operators, primarily in Scandinavia.

These are mainly regional railways characterised by high requirements for integrating old and new technology.

ERTMS systems for the Swedish Transport Administration.

We have developed and delivered a system to one of Sweden's two pilot lines for ERTMS L2 on the Haparanda Line. The line connects the Finnish and Russian railway networks with the Swedish and Norwegian networks.

ERTMS is a joint Traffic Management System for Europe and it is being introduced to create cross-border rail services and strengthen the competitiveness of the railway. The EU has decided that ERTMS is to

be introduced where new lines are built or in major refurbishments. In Sweden, ERTMS is planned to be introduced up until 2030.

Cactus in Denmark.

Our systems control a considerable part of the rail traffic on the Danish island of Zealand and are also being rolled out in Jutland. Reusing existing relay interlocking systems is a cost-effective way of modernising the railways. The upgrade also lays the foundation for improved punctuality and integration with the transport system as a whole.

Service and support – on all levels.

We are keen to ensure that you, the customer, are happy with your system. Particularly as we take long-term responsibility. Our long-lasting relations are testament to our customers' appreciation of our service and co-operation. Some of our customers even talk about a sense of family. Some of our customers have been with us 20 or 30 years.

Thanks to our ability to complete projects with total control over time frames, with the promised functionality and within the agreed budget, we have gained continued trust from the Trafikverket, StorStockholms Lokaltrafik, Lokalbansen and Banedanmark.





Changing engines mid flight. Upgrading and commissioning an entire system without disruptions or shut-downs tends to be the rule rather than the exception for us and our customers. We take care of everything from project planning to the finished plant.

Our tradition of fast, secure upgrades also means that you, the client, need only commit a minimum of resources from your organisation.



All industry has a need for operation monitoring and automation. It increases production, reduces waste and increases availability. Our customers can mainly be found in traditional industries such as food, chemicals, automotive, paper and pulp.

Operation monitoring for automation and industry.

We help you achieve full control over your facility. Some 60 protocols enable a central interface where all the necessary information is presented uniformly, whatever the make of equipment.

Hard and soft aspects alike.

We perform complete deliveries with comprehensive computer and PLC systems, automatic control cabinets and communication equipment, right down to transmitters and control devices in the process.

However, our delivery also includes the soft aspects. We are responsible for project management and take part in project planning. Documentation, training and service are other services we offer to help ensure a successful end result.

Standardised according to your preferences.

We have long experience in developing SCADA systems. For us, a SCADA system is one that gives you the level of monitoring and control you require in order to improve your safety and productivity. It also means a system that is scalable and standardised and can be plugged into your current equipment.

We know that your operation places some special requirements – listening is one of our specialities. It is a vital quality in meeting your needs.





There is growing interest in biogas. And no wonder, because biogas is one of the cleanest vehicle fuels there is. However, biogas production places some tough demands on operation. One of the world's largest biogas production plants for motor traffic opened in Linköping in 1996.

Operating systems for biogas plants.

Linköping was a pioneering project that entailed great risks, but which genuinely succeeded: Cactus was there then, and remains there now as more and more plants are opened up.

The big winner is the environment.

With biogas, emissions from a single bus decrease by 1.2 tonnes of nitrogen oxide and 90 tonnes of carbon dioxide a year.

Biogas also has another property that is hard to ignore: it is produced from waste that would not be used for anything else. Ethanol, on the other hand, is made from crops that are affected by grain prices.

Simple concept, complex operating system.

The principle is the same as in nature when plants and other organic matter decompose. The difference here is that it takes place under controlled conditions in a digestion chamber, and the gas that forms is harnessed and used.

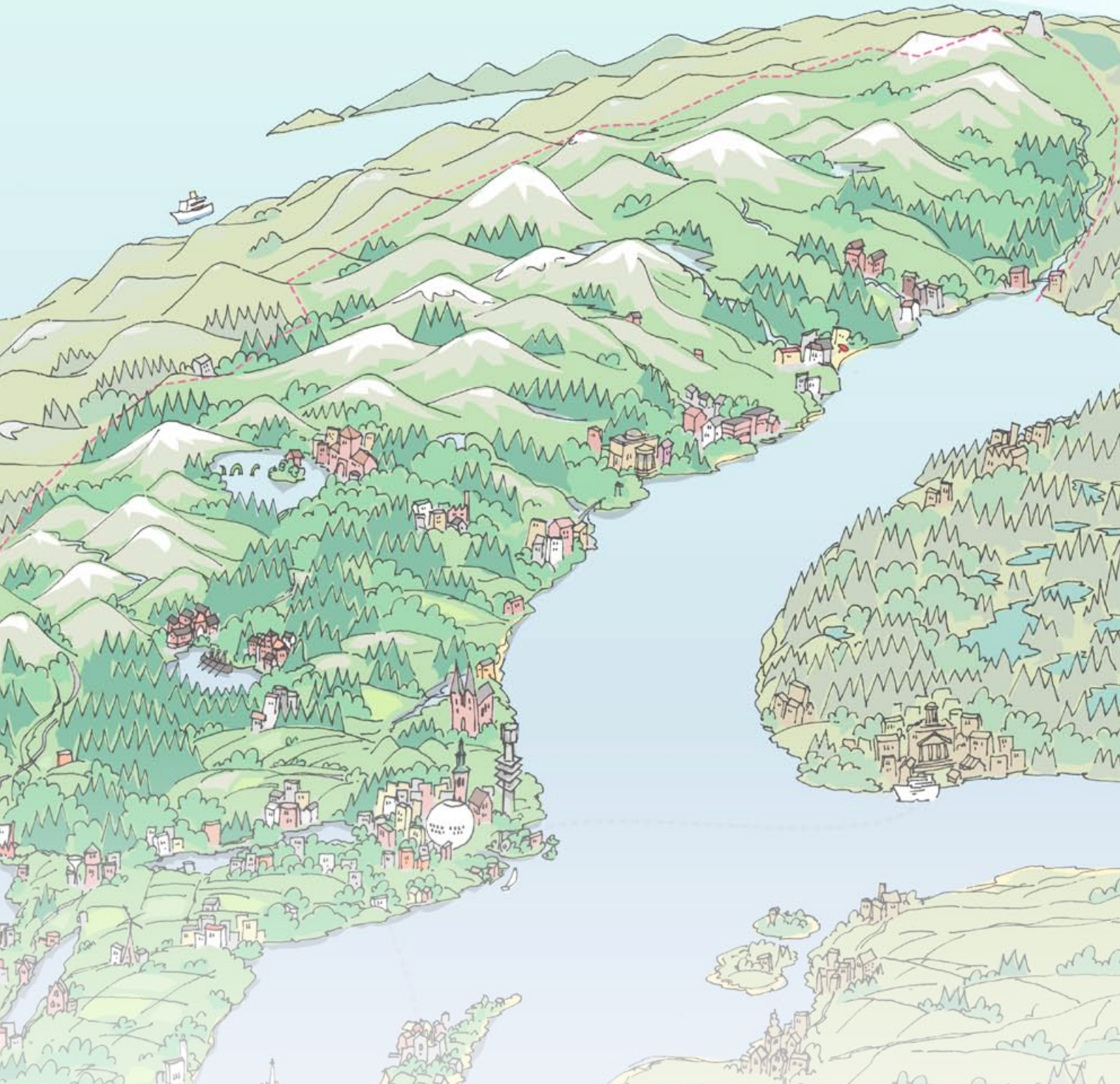
One of the most common ways of producing biogas is using waste sludge from a wastewater treatment plant. Many treatment plants have their own digestion chambers, and all that's needed to make vehicle gas is a cleaning system. It's here that our knowledge and experience are invaluable.

We operate from five locations.

Our customers are everywhere.



ENERGY: Akademiska Hus Göteborg, Alingsås Energi Elnät, Alvesta Elnät, Bjäre Kraft Ek. förening, Borås Energi, Brittedals Elnät Ek. Förening, C4 Elnät, Falbygdens Energi, Forsmark F3, Hässleholms Miljö, Katrineholm Energi, KMW Energi, Landskrona Kraft, Linde Energi Elnät, Lunds Energi, Mellersta Skånes Kraft, Mölndal Energi, Nybro Energi Elnät, Nynäshamns Energi, OKG O2+O3, Perstorp Fjärrvärme, Perstorp Specialty Chemicals, Ringsjö Energi, Stenungsunds Energi & Miljö, Sölvesborgs Energi & Vatten, Tekniska Verken i Linköping, Umeå Energi Elnät, Växjö Energi Elnät, Ystad Energi, Ängelholm Energi. **INDUSTRY:** Dynea Ireland, Dynea Norway, Dynea Vietnam, Elkem Aluminium (Norge), Ellco Food, Kävlinge, Elmia Jönköping, Gelita Sweden, Stidsvig, Metso Fibertech Sundsvall, Perstorp Specialty Chemicals, Sapa Div Service Finspång, SMHI Norrköping, Swedish Space Corporation Ågesta, Svensk Depåautomation, Svenska Lantmännen Ek. förening Norrköping, V&S Absolut Spirits Nöbbelöv, Volvo Cars Göteborg, Värmlands Kalkningsförbund, Västervik Fiskerifabrik. **WATER AND SANITATION:** Ale kommun, Alvesta kommun, Avesta kommun, Bergen kommune (Norge), Borgholm kommun,



Botkyrka kommun, Citytunneln Malmö, Drammen kommune (Norge), Falu Energi & Vatten, Finspång kommun, Gislaved kommun, Grums kommun, Gästrike Vatten, Göteborgs Vatten, Halmstad kommun, Hammarö kommun, Haparanda kommun, Hudiksvalls kommun, Höganäs kommun, Karlstad Grums VV-förbund, Karlstad kommun, Kils kommun, Kristinehamns kommun, Kumla kommun, Kungälv kommun, Köping kommun, Lidingö stad, Nacka kommun, Norrköping Vatten, NSVA, Helsingborg, NSVA, Landskrona, NSVA, Åstorp, Nynäshamns kommun, OKG Vattenverk, Oskarshamn kommun, Oxelö Energi, Partille kommun, Piteå kommun, Roslagsvatten, Salem kommun, Sel kommune (Norge), Stockholm Vatten, Svedala kommun, Sydsvatten, Sölvesborg Energi & Vatten, Tekniska Verken i Linköping, Telge Nät, Tjörn kommun, Trelleborg kommun, Uppsala Vatten och avfall, Vaggeryd kommun, VA-Syd Lund, VA-Syd Malmö, Vattenfall Stenungsund, Värnamo kommun, Västervik kommun, Växjö kommun, Öckerö kommun, Örebro kommun. **RAIL TRANSPORT:** Banedanmark, Lokalbansen, Storstockholms Lokaltrafik, Trafikverket. **BIOGAS:** NSR Helsingborg, Svensk Biogas, Uppsala Biogas.

Made in Sweden.

Cactus UniView's systems are scalable – from small to large facilities. From basic processes to Sweden's largest and most complex plants. Always with the same stringent demands on availability and reliability.

We build system solutions based on our own software, where the solutions have been migrated to new platforms for more than 30 years. Consequently, you can rest assured that the system you choose will last at least another generation.

Main systems that allow a full overview.

For closer integration between overriding systems and the process, the system can then be expanded with DCS functionality.

This means that SCADA and DCS can be combined into a hybrid solution that takes the best from both worlds – in one and the same system.

Our systems can communicate with virtually any external equipment: PLCs, RTUs, sub-stations and instrumentation. In all some 60 protocols have been developed.

We therefore have a good foundation for putting together a uniform shared system, whatever the make of your facility's existing equipment.

DCS for efficient maintenance.

Cactus UniView's system with DCS ensures a homogeneous solution for the highest security, positive cost development and efficient maintenance. Dedicated sub-stations that are closely integrated in the central system make for superbly simple maintenance and support.

Thanks to uniform system design, control is carried out consistently. The same principles, the same terms – regardless of the level in the system. Everyone understands how it works. The number of administration errors is minimised. The control elements are also portable to new generations of DCS stations.

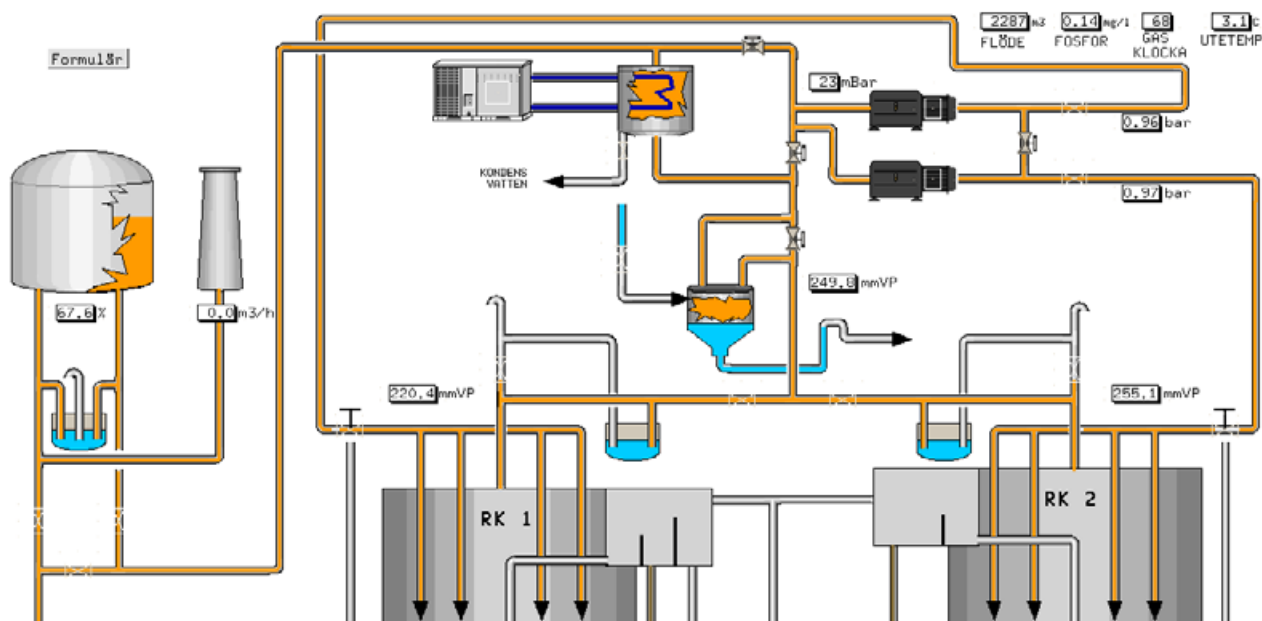
This ensures a positive cost development which goes on improving the longer you own the system.

Always high reliability.

Thanks to the high level of integration, communication between the server and sub-stations can be designed and executed with a high degree of reliability. The systems are robust and have integrated solutions for authorisations between systems, and these are updated on an ongoing basis. This also ensures high safety for server-server/ workstation communication.

With these systems we offer remote support 24/7, extremely high capacity and advanced solutions for redundancy and reliability.

SCADA	Supervisory Control And Data Acquisition
DCS	Distributed Control System
PLC	Programmable Logic Controller
RTU	Remote Terminal Unit



Our service agreements.

To meet your specific needs and demands for service and maintenance, Cactus UniView offers three different service level agreements: Bronze, Silver and Gold. All three levels include:

- A dedicated contact person.
- Phone advice.
- Simple fault reporting via phone, fax and e-mail.
- Remote assistance.

Gold level

Service 24 hours a day, all year round.

The agreement is adapted to your needs. A selection of services:

- Fault reporting 24 hours a day, all year round.
- Fault diagnostics within one hour of reporting a fault.
- Preventive checks several times a week.
- Testing of backup tapes.
- Follow-up meetings several times a year.
- Security updates.
- Testing of redundant server system.



Silver level

Service during office hours but also on weekends.

The agreement is adapted to your needs. A selection of services:

- Fault reporting 08.00-17.00 and on weekends.
- Fault diagnostics within two hours of reporting a fault.
- Preventive check once a week.
- Follow-up meeting once a year.
- Security updates.
- 20% discount on our courses.



Bronze level

Service during standard office hours.

The agreement is adapted to your needs. A selection of services:

- Fault reporting during Cactus UniView office hours.
- Fault diagnostics the day after reporting a fault at the latest.
- Follow-up once a year.
- 10% discount on our courses.



As a company, we have been working on the Swedish automation market for longer than many others.


Work with us and you will therefore be working with some of Sweden's most highly experienced project managers, process engineers, system developers and automation engineers.

We delivered our first system back in 1974. Thanks to extensive specialised know-how, we create systems and deliver turnkey solutions that help our customers optimise and control socially critical operations.

You can rely on us, we know your business. Thinking beyond.

The enduring cactus was our inspiration when we named our company.

The cactus thrives in environments that are harsh and demanding – just like our systems. We are proud to supply systems that promote a sustainable society.



www.cactusuniview.com

CACTUS
UniView