

**When the heat  
is on – we'll keep  
you in control  
That's smart  
control**

# CHP solutions



## What is combined heat and power (CHP)

CHP (or cogeneration) is the use of a generator to produce both electricity and useful heat at the same time.

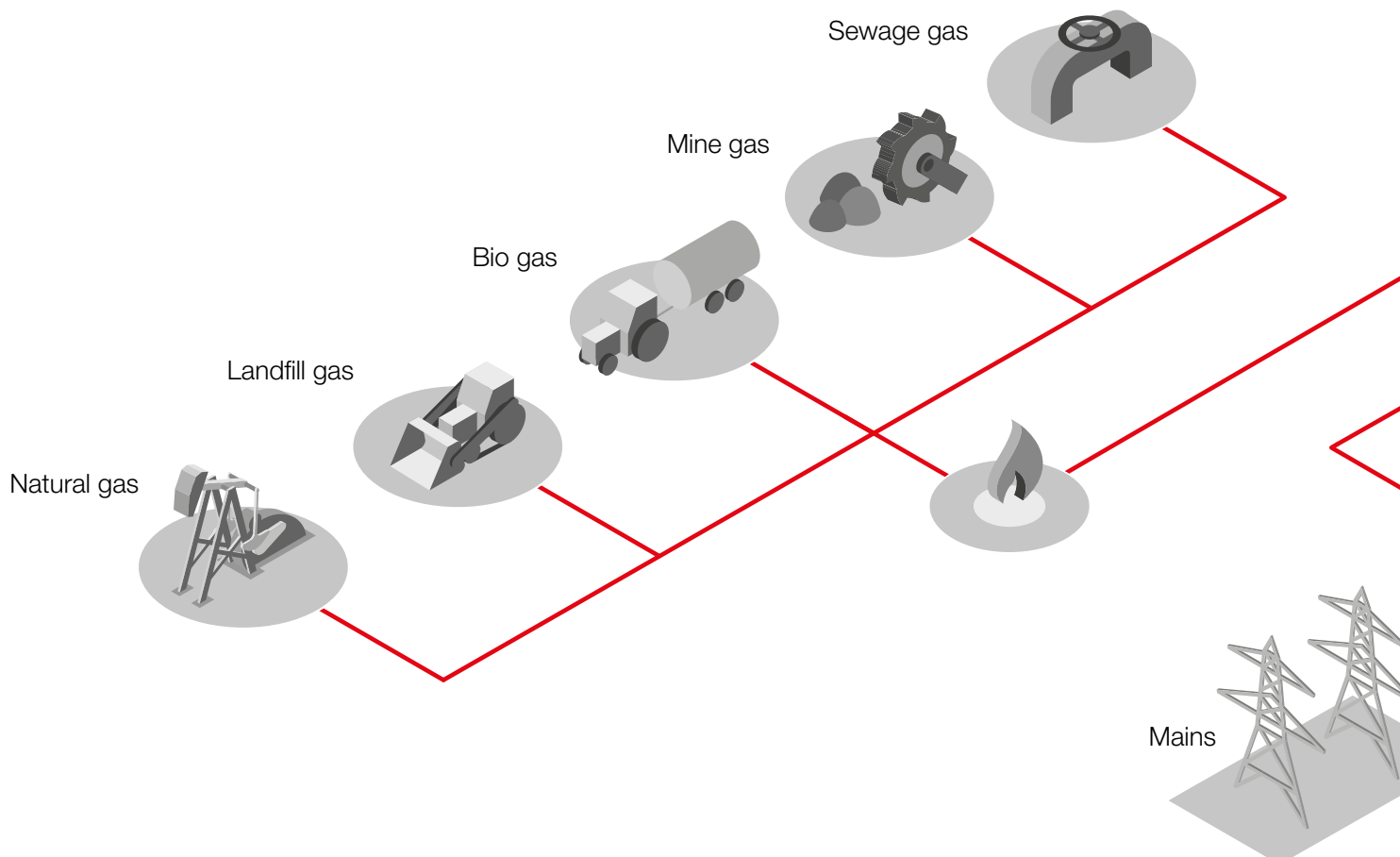
CHP is a more efficient use of generating electricity as it uses the heat produced from the electricity generation which is usually discarded as waste heat.

Similarly, CCHP, (combined cooling, heating and power) or trigeneration is the use of a generator to produce cooling, as well as heat and electricity.

CHP reduces carbon emissions and fuel consumption significantly compared to the separate means of conventional generation via a boiler and power station.

CHP is often the measure that offers the most significant single opportunity to reduce energy costs, to improve environmental performance and to meet energy efficiency requirements.

## How does it work?





# ComAp

## How ComAp fits into your CHP application?

ComAp offers globally recognized control solutions for gas engine generator set applications in the range of about 10 kW to 2 MW.

Our controls perfectly suit packager and aftermarket requirements for safe and reliable operation and efficient utilization of heat, cold, and electrical power.

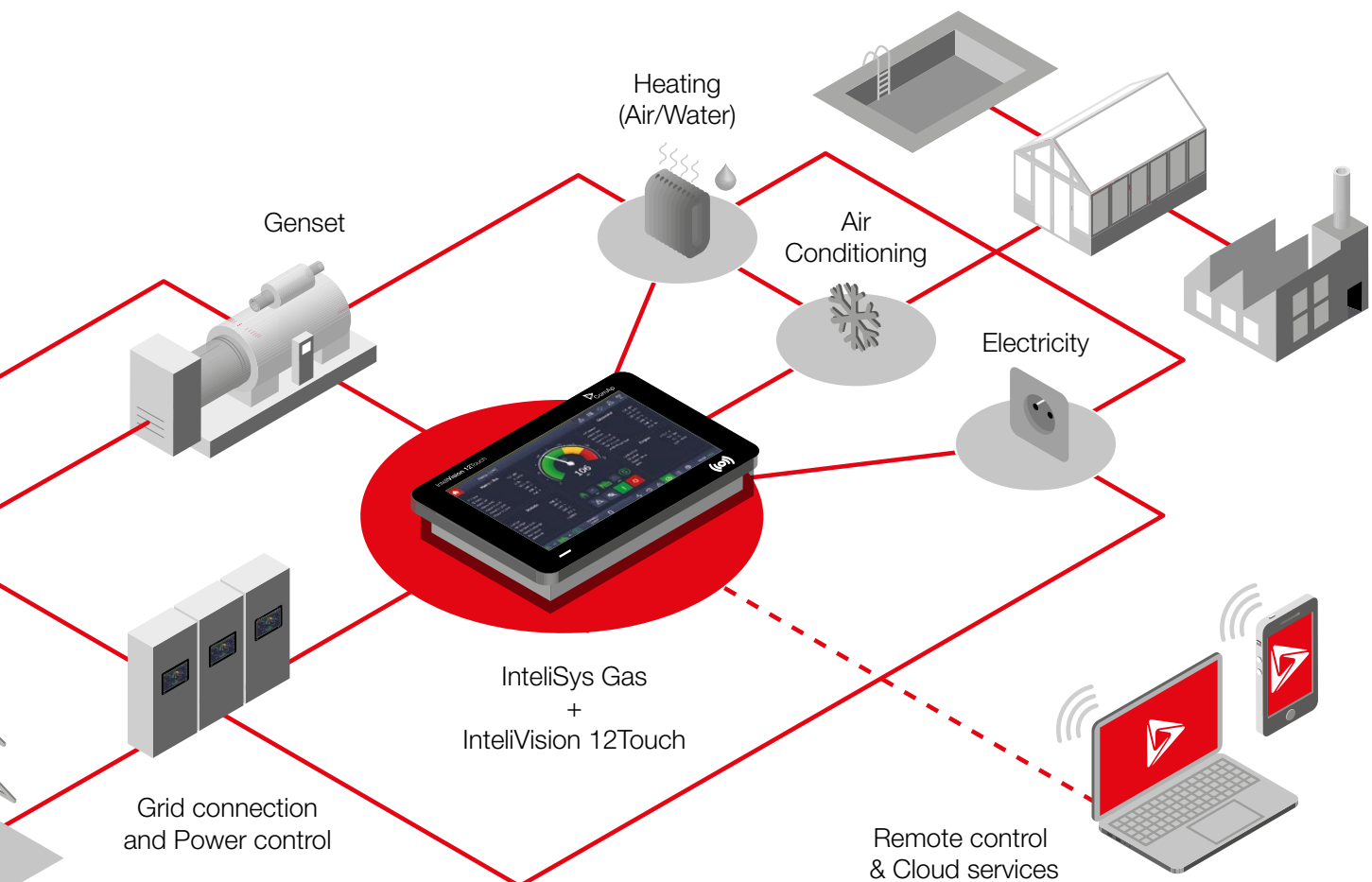
## What ComAp solution brings to you?

- > Preconfigured, ready-to-run solution package with industrial grade hardware
- > Flexibility for your own customization with less effort
- > Easy integration into your CHP application, meeting all relevant industrial standards
- > Easy to use tools for configuration, scaling and operation of the control system
- > Central SCADA system including communication to engine and plant
- > Integrated remote control features for data and alarm management
- > Time saving for configuration
- > Cost saving during commissioning
- > Dedicated products and services for safe and efficient plant operation
- > You can better focus on your application, by reduced engineering efforts

ComAp is a dynamic international company with a solid reputation for bringing intelligent electronic engine and management solutions to the power generation, industrial engine and related equipment market.

With over two decades of continuous innovation behind it, ComAp has become the market leader for delivering outstanding reliability, great flexibility and excellent value in the engine control sector.

ComAp's extensive global distributor network means that products are locally available in more than 100 countries, spanning every continent in the world. Through our professional and highly dedicated global distributor network we can satisfy customers' needs, however challenging.

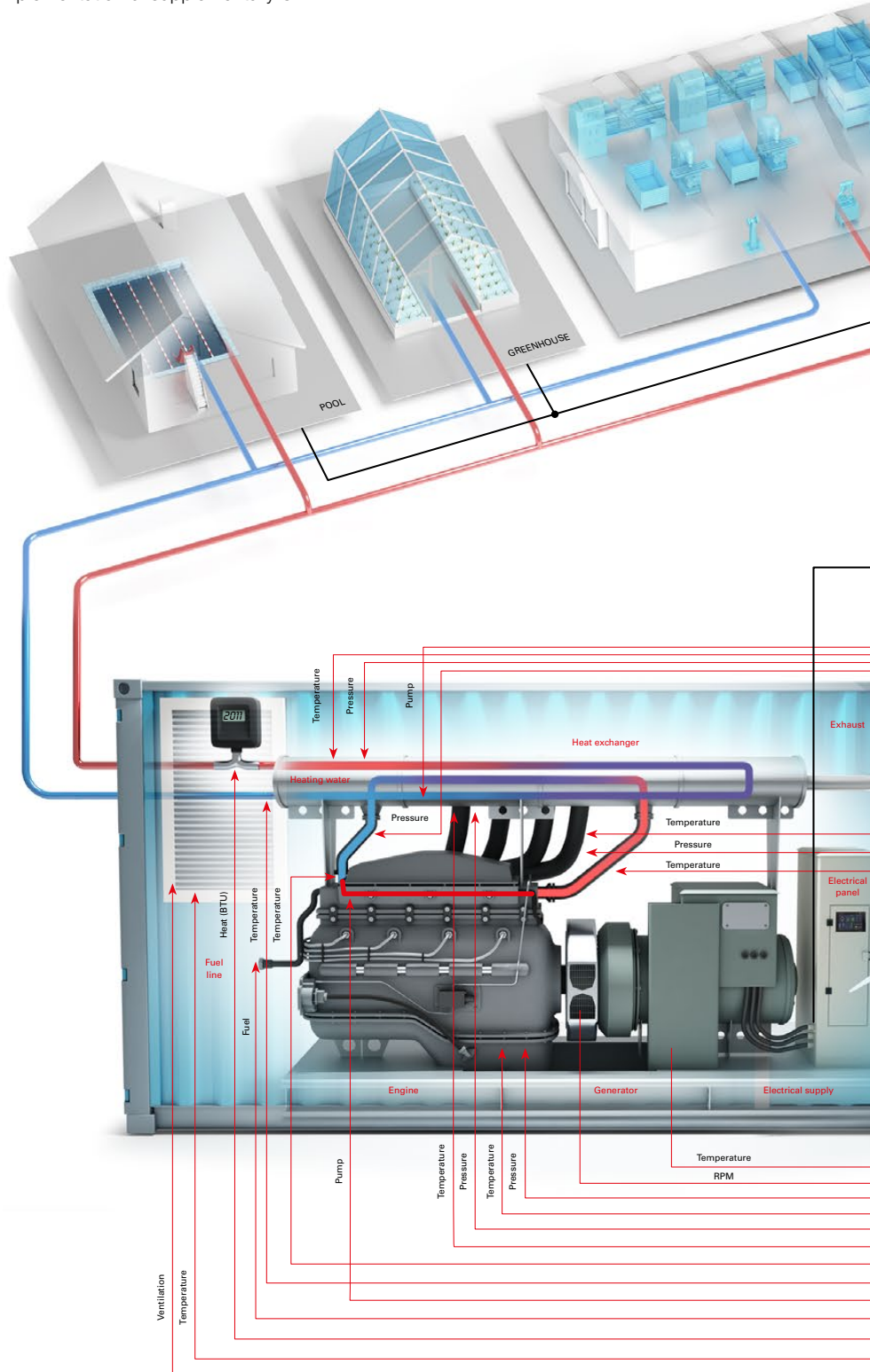


# ComAp control solution

## Configure the system to your needs

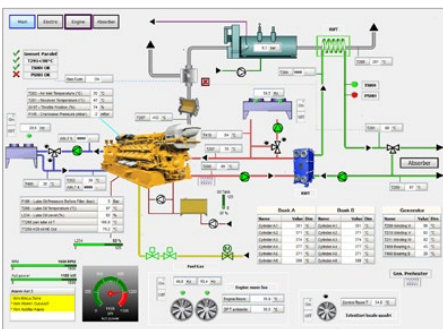
- > Full access to control, monitoring and protection of the generator set and the heat circuits
- > Control all required peripherals like fans, coolers, pumps, and valves.
- > Run precise diagnostics by using our alarm and event tracker
- > Remote control and data management features fully integrates the CHP into the overall system
- > Adjust the system behavior using a powerful PLC, or simply use pre-defined functions
- > Scale the system based on your application
- > Multiple display language options
- > Get your installation safely connected to the grid, with our mains protection features
- > Communication protocols like J1939, Modbus or CAN are ready for implementation of supplementary CHP products like: ignitions, AFR control, exhaust gas analyzers, etc.
- > Always stay connected with your application using ComAp's range of monitoring capabilities: IntelliMonitor, WebSupervisor, or our iPhone or Android application

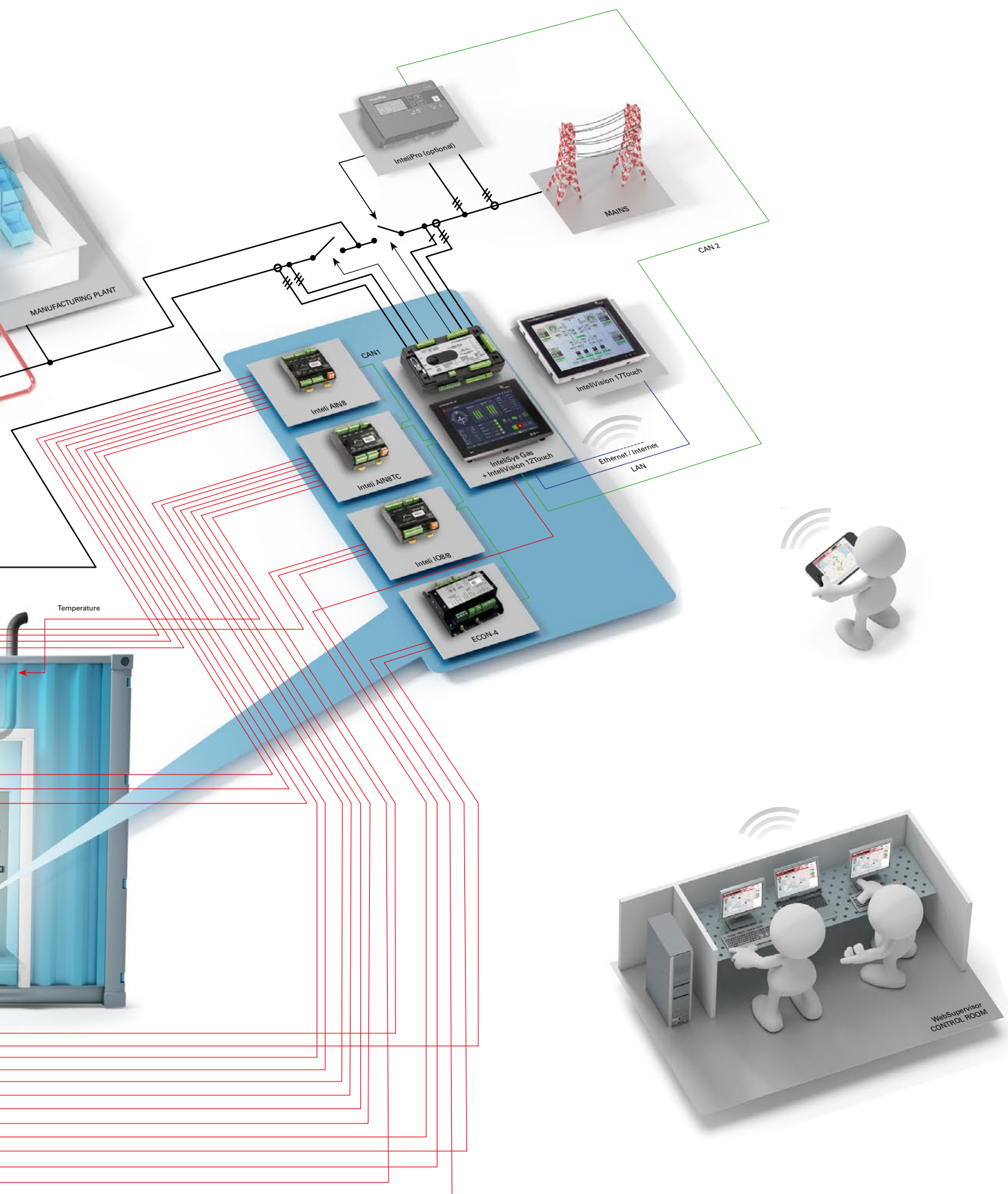
Discuss your individual requirements with ComAp representative and get most of your CHP functions to be viewed and control from one place!



## ComAp SCADA

- > Built your installation by our software, just Drag & Drop preconfigured graphic objects or your own graphics
- > Create the complete plant control on the display







# References

 Germany

**Uhlmann**

## Configuring for bi-fuel operation

AVS supplied two CHP units, with a total output of 720 kW, to this manufacturing plant. The unique thing about this installation is that it is capable of simultaneously using two types of gas – biogas and natural gas – for power generation. Normal operation is 100% biogas but the engines can also operate in a bi-fuel mode. Configuration of the PLC to run the CHP generator in this way is possible through IntelliSys<sup>NT</sup> BaseBox and IntelliVision 8, whose further benefits include extensive data logging which is used to monitor the plant continuously for maintenance reasons.



Watch the project video!

[youtube.com/ComApControlSystem](https://youtube.com/ComApControlSystem)



 Italy

**San Giuseppe Hospital**

## Effective control anywhere or anytime

This complete and customised solution, installed by INSO, controls the CAT 3152E engines and heat recovery system, providing 2,400 kW of electricity plus hot and chilled water for the entire complex. A roof-mounted photovoltaic plant supplies extra energy. The solution features a ComAp IntelliSys<sup>NTC</sup> BaseBox and SCADA pages, with support, and an advanced remote communication primary control module.



Watch the project video!

[youtube.com/ComApControlSystem](https://youtube.com/ComApControlSystem)



 Czech Republic

**TEDOM**

## Customisable control solutions

Vlado Murar, Marketing Director:

“TEDOM specialises in developing customer-specific cogeneration solutions across a number of own-branded packages, such as its Cento and Quanto lines. Within each package, TEDOM incorporates a control system called Procon Sight – a customised solution built to meet TEDOM’s particular product requirements using the IntelliVision 8-colour display and a unique own-label fascia design.”



# Key products

## InteliSys Gas

InteliSys Gas is a new addition to the InteliSys family of ComAp controllers. This controller is specially developed for the gas engine market. The InteliSys Gas helps to improve safety and efficiency of the complete plant operation, whilst also being easy to use, and meeting all industry standards.

- > Power management, grid connection and heat/cold circuit control
- > Preconfigured ready-to-run solution package with high flexibility for individual customization
- > Easy configuration, scaling and operation of the control system
- > Higher efficiency of PLC Editor with more power, more blocks and better flexibility
- > SIL standards for Oil & Gas and CHP applications
- > Integration of language packages and clear text messages for convenient handling of the controller
- > More intercommunication to third party products, like ignition, and speed governors for centralized data management



## InteliVision 12Touch

An industrial grade touch-screen display with graphical user interface similar to smart-phones and tablets. This touch based display gives users easy and clear access to relevant application information on a 12inch high resolution screen. The InteliVision 12Touch has advanced security features including user access settings and NFC or USB login to allow for control and monitoring for a variety of users and security clearances.

- > Chemically strengthened front glass
- > Touch based interface, support for multi-touch gestures
- > Casing manufactured from a single piece of aluminum alloy with IP65 kit available
- > 4GB internal storage and USB connectivity for data logging and management



## ECON-4

ECON-4 is digital speed governor dedicated for speed control of gas or diesel engines. ECON-4 guarantees precise and fast speed control in island and network parallel operation. ECON-4 can control different types of actuators which makes it a general speed controller for almost every actuator on the market for engines in range of multiple MWe.

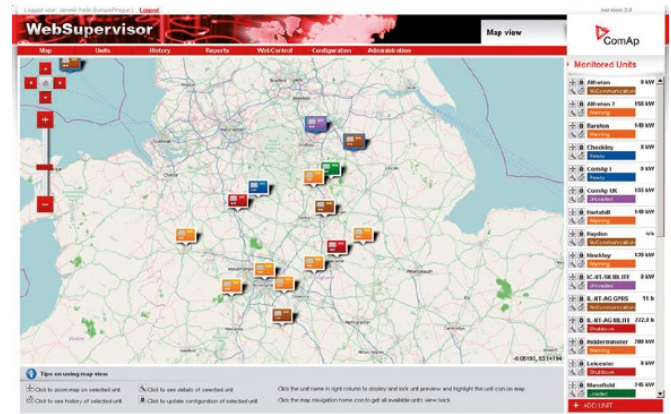
- > Greater stability for gas engine applications
- > Improved protection against tripping because of under/overshoot conditions
- > CAN connected with the gen-set control system which reduce and simplify the wiring and commissioning work



## WebSupervisor

WebSupervisor is cloud-based system designed for monitoring CHP installation via the internet. This system offers a number of beneficial features that help optimize service and diagnostics requirements.

- > Fleet remote monitoring and control
- > Data is periodically updated to database server
- > Automatic generation of reports - User defined XLSx files
- > Access from any web enabled device such as PC, tablet, smartphone, etc.
- > No issues with firewalls, VPN settings, etc. with our AirGate Technology
- > Available in various languages





# Product overview



## IntelSys Gas

- > Preconfigured CHP controller for gas engine generator set applications



## ECON-4

- > Speed governor tailored to the dynamic of gas engine



## WebSupervisor

- > Cloud based system for remote monitoring and controlling of ComAp controllers



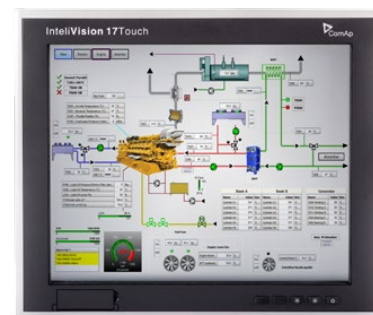
## IntelVision 8

- > 8inch easy to use Plug & Play color display



## IntelVision 12Touch

- > 12inch industrial grade touch Plug & Play display



## IntelVision 17Touch

- > 17inch touchscreen display unit designed for complete monitoring and control of cogeneration installation



## InternetBridge-NT

- > Communication module with cellular/ethernet connection



## Intel IO8/8

- > Plug & Play CAN connected binary inputs/outputs and analog outputs module for all industrial sensors



## Intel AIN8

- > Plug & Play CAN connected 8 analog input channels and 1 rpm/impulse input module for all industrial sensors



## Intel AIN8TC

- > Plug & Play CAN connected 8 analog input channels module for measuring temperature by thermocouples



The heart of smart control



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### Local distributor / partner:

