

automationX
Solutions beyond the limits!

L A R G E

A U T O M A T I O N N E W S

Take it to the next Level

CONTENT

AutomationX Extends its Range of Services to Include Grid Control Technology1

Clean Air Comes a Little Closer with Environmental Traffic Control Systems1

Precision Landing at Deutsche Milcafe 2

Energy Optimisation – automatically better2

AutomationX Controls Tyre Pyrolysis Plant in Cyprus2

Different Plant Sections Uniformly Automated – A Contradiction in Terms? . . .3

New Software Version automationX 4.8 on the Market3

Partnership with AGRO-3 Sealed3

AutomationX as an Art Gallery4

Into the New Year with the Sound of Jazz4

Credits4

AutomationX Extends its Range of Services to Include Grid Control Technology

AutomationX acquired the grid automation division of HERESCHWERKE Automation GmbH at the beginning of April 2009.



This division will now be managed as an independent subsidiary by the name of aX grid solutions gmbh with its headquarters in Grambach/Graz. In addition

to the headquarters in Austria, there are also two branch offices in Germany - one close to Frankfurt and one in Hanover. aX grid solutions gmbh employs over 25 staff overall.

The company focuses on the development of products and the implementation of projects in the field of grid automation for electricity, gas, heat and water supply systems and environmental processes. Beyond this, aX grid solutions gmbh will continue to develop and support the RESY grid management product which is already widely in use.

This new branch of business will not only significantly strengthen the development skills of AutomationX in the field of automation products but it will also be able to show a huge gain in expertise due to

the well trained and experienced employees.



More detailed information about the range of services and references for aX grid solutions gmbh is available at: www.aXgrid.com.

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Clean Air Comes a Little Closer with Environmental Traffic Control Systems

Environmental protection - an important topic for successive generations both now and particularly in the future. The emission of particulate matter particularly in the winter months presents legislative authorities with a challenge. In order to meet this challenge, the Federal Immission Control Act - Air Pollution specifies, among other things, the limit values for air pollution. This Act also includes the directive for enforcing speed limits on motorways if the limit value for the level of pollutants is exceeded. This is implemented in traffic control systems (TCS) by using what are known as dynamic road signs on which, in addition to speed limits, it is also possible to display traffic tailback warnings and information about the state of the carriageway.

The Project

The Austrian Motorways Finance Company ASFINAG awarded the Styria Environmental TCS and the West Tyrol Environmental TCS project to ALPINE-ENERGIE Österreich GmbH, as a part of which AutomationX was commissioned with implementation of the control technology. Our scope of service in this case included the supply of all system components, commissioning of the network and all overhead displays in addition to implementation and commissioning of the interface to ASFINAG's traffic management and information system (TMIS).



Overhead Displays at Motorway A2 Picture: Foto Peter Melbinger

The Technology

The aXtraffic product series developed by AutomationX in accordance with the TLS2002 standard, which is used for data acquisition and as data concentrators, forms the key element of the traffic control systems.

The measuring data determined at the route stations, such as pollutant load, temperature, humidity or traffic density, is recorded by the data concentrators and transmitted to ASFINAG's traffic control computers where it is also evaluated. The speed limits are switched on based on the pollutant measurements at the measuring points existing in addition to traffic data acquisition along the route, as described above, and a corresponding switching algorithm already implemented at ASFINAG. The overhead displays indicate the speed limits calculated by the switching algorithm.



aXtraffic Module aXTCS 100C

The Race Against Time

With a running time of only six months, project implementation was very concentrated in terms of time.

The software was configured and the switch cabinets were built during the 12-week preparatory phase.

The 34 overhead displays were commissioned within a period of six weeks. Ultimately, it was possible for the Styria environmental TCS project to be successfully completed on 15.12.2008 and for the system to go on line.

At this point praise must go to the project team which had up to 15 members and which handled the project professionally and on schedule, thus contributing indirectly to a reduction in the emission of particulate matter.

AutomationX Controls Tyre Pyrolysis Plant in Cyprus



TechTrade Tyre Pyrolysis Plant in Cyprus

Pyrolysis is the thermal decomposition of organic materials in the absence of oxygen or other reaction partners. Vapour or inert gases may be added to the pyrolysis reactor which is common in order to minimise polymerisation of the short-chain reaction products.

Waste (in this case shredded scrap tyres) with a high calorific value is too good for traditional waste incineration and ought to be subjected to pyrolysis. This waste fraction is also described as refuse-derived fuel (RDF) or solid recovered fuel (SRF) due to its high calorific value.

Pyrolysis takes place in hermetically sealed, rotary kilns with indirect heating which thermally decompose the raw material, homogenise it and convert it into gas and coke. The pyrolysis gas generated is cooled down in this plant and the long-chain substances are condensed. The pyrolysis oil generated is approximately comparable to heavy fuel oil. The remaining process gas is combusted into hot flue gas in a combustion chamber and thus supplies the process heat for pyrolysis. What is known as a heat recovery steam generator with associated turbine generator set may be connected downstream to generate electricity.

Compared with traditional waste incineration, the process described above takes place at considerably lower temperatures and generates significantly fewer harmful substances such as nitrogen oxides (NOx) for example.



3D-Simulation of a Pyrolysis Plant

TechTrade is a leading supplier of rotary kiln systems and its main business focuses on the chemical industry and environmental technology.



Precision Landing at Deutsche Milcafe – Changeover of an Existing Control System to automationX



In 2007 Fest AG, a longstanding system integrator of AutomationX, was involved in the project for automation of the spray drying and agglomeration plant of Deutsche Milcafe in Rathenow and implemented the project to their utmost satisfaction. The main contractor was Anhydro A/S (Denmark).



Premises of Deutsche Milcafe in Rathenow

The Company

Under the name “Molkerei- und Trockenwerk Rathenow/Havelland”, the present enterprise of Deutsche Milcafe with its headquarters in Rathenow was one of the former German Democratic Republic’s showcase companies. In the intervening period and with the help of its experienced employees, the company has been renovated and developed into a state of the art company.

As part of the cafea Group (headquartered in Hamburg), one of the most important suppliers of instant coffee as well as specialities containing coffee and cocoa in the own brand names sector, Deutsche Milcafe now produces instant coffee drinks, such as cappuccino, iced coffee and drinking chocolates, competitively and at a high level of quality.

The Partnership between AutomationX and Fest AG

Fest AG, as a longstanding system integrator of AutomationX, implements complex projects in the field of automation and drive technology in virtually all industrial sectors. When implementing projects, in addition to systems by other suppliers, Fest AG uses AutomationX’s

software system on one hand, falling back on the other on AutomationX’s programming services in the case of capacity bottlenecks. The company, which was established in 1972 and is part of the Schmidt-Kranz Group, is now represented in Germany, Austria and Russia with a workforce of almost 150.

The Project Aim

The aim was to achieve increased productivity and product quality in addition to improving operational safety and reliability for Deutsche Milcafe by means of plant modernisation and automation, which of course included the replacement of outdated hardware products.

Why AutomationX?

The AutomationX system had already proven itself in various companies of the cafea Group in the past. Based on this positive experience, Deutsche Milcafe decided to use our system again.

Focus on Quality

A great deal of quality-relevant data is acquired automatically during the highly automated production process. In the case of manual entries, the user is guided by means of simple, clearly laid out screen dialogues.

The production and quality data acquired is stored in our database-based production management system aXproduction and is used to reproduce various processes from which it is possible to extrapolate opportunities for optimisation.

The summarised data for tracking is passed on via an interface to the SAP system, which Deutsche Milcafe uses among other things for order management as well as for pro-

duction planning and higher-level production tracking, and is stored bundled with the packaging quantities produced.

Availability is Appreciated

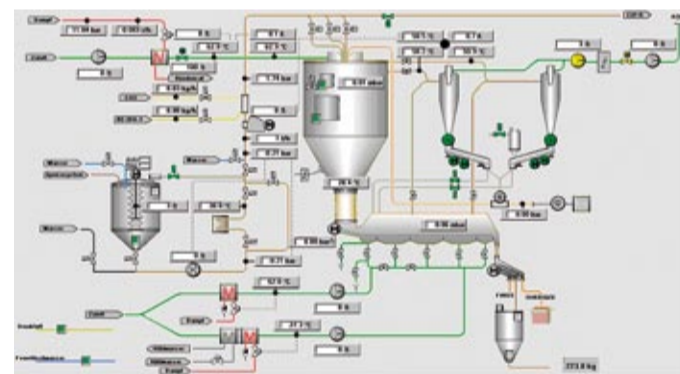
The server-based AutomationX control system implements virtually 100% availability with minimum technical and monetary expenditure.

Two servers work in hot-standby mode, which means that if one server fails, the second seamlessly takes over the control tasks.

The operator stations in the control room and in the plant were equipped with thin clients. Communication from the redundant server pair to the I/O modules is effected via several completely independent Profibus lines. This ensures a high level of availability regarding communication.

Shortest Implementation Times – Simulation as a Guarantee for Success

There was only a three-week shutdown available for installation and commissioning of the modernisation measures. As the AutomationX software can also be run in simulation mode, it was possible to test and log all functions prior to going live. As a result, it was possible to ensure the correctness of the program and to stick rigidly to the deadlines despite the short time frame for commissioning.



SPS Process Diagram

Energy Optimisation – automatically better



Stora Enso Sachsen Mill recycles waste paper for paper production. Around 20% of the recycled fibres (deinked pulp) are dried by means of gas-heated air, compressed into bales and sold to other paper mills. The remaining 80% of deinked pulp is used to manufacture approximately 340,000 tons per year of high-quality newsprint.



Stora Enso Plant in Saxony

Since an eMPC solution (enhanced model predictive control) has been successfully controlling the entire waste paper treatment process (deinking) since the end of 2007, the decision was made in summer 2008 to optimise fibre drying in what is known as the flash dryer.

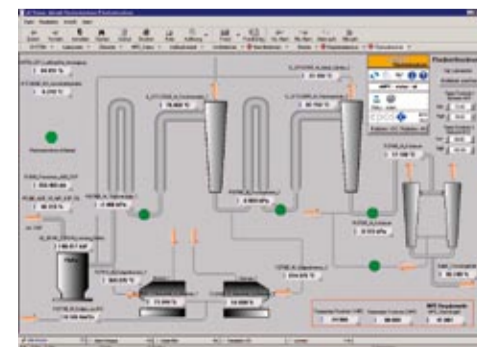
The pressed fibre pulp with a residual moisture of approx. 55% is dried to a max. 18% final moisture in two drying tubes switched in series.

To this end, fresh air which is drawn in as the drying medium is heated to around 100°C in each case using a 10 MW gas burner and blown into the dryers. The result: the dry matter content of the deinked fibres can only be determined by means of laboratory samples downstream of the baler. This is extremely critical as bales which are too wet become worthless due to rotting.

Using the eMPC solution, the process parameters for initial moisture and production quantity, environmental conditions (air temperature, humidity) and process parameters (e.g. burner temperature) are recorded, the target variable for dry matter content reported by the laboratory is monitored continuously and the gas consumption of the two burners is adjusted for optimum efficiency. There is a rapid reaction to increasing temperature and decreasing atmospheric humidity

and the target variable is kept close to the required value.

The saving on natural gas which amounts to approximately 10% corresponds to the average consumption of 170 households. As a result, the eMPC solution flash dryer can make a significant contribution to energy and cost optimisation at Stora Enso Sachsen Mill and the solution has refinanced itself with a few months due to the savings.



Visualisation of the eMPC Solution Flash Dryer



Different Plant Sections Uniformly Automated – A Contradiction in Terms?

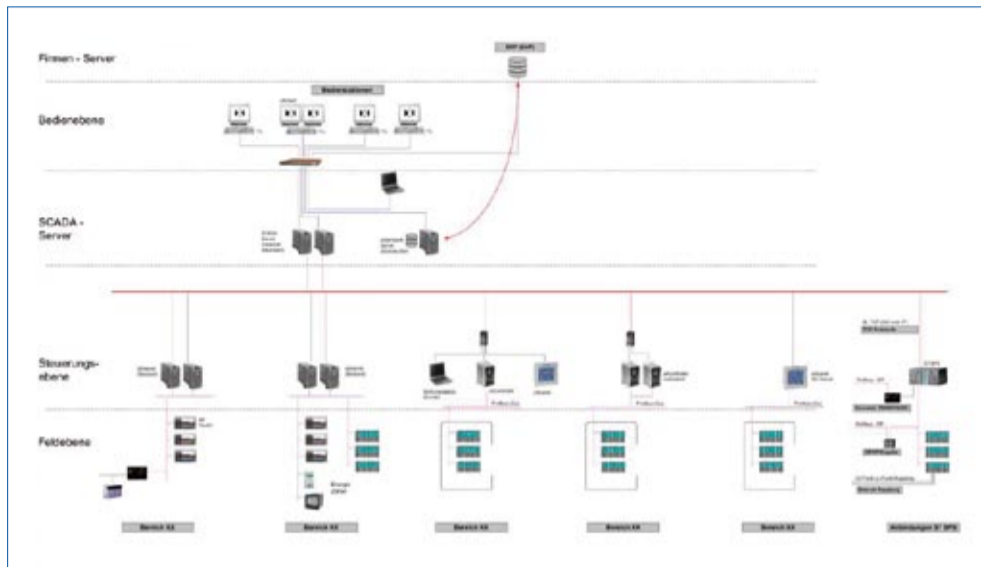
The foundation stone for developing the company was laid when Europe's largest tungsten deposit was discovered at Mittersill in the Austrian province of Salzburg in 1967. The Wolfram Bergbau- und Hütengesellschaft [Tungsten Mining and Metallurgical Company] (now Wolfram Bergbau- und Hütten-GmbH Nfg. KG - abbreviated to: WBH) emerged in 1975 in the wake of extensive preparatory work.

Tungsten - Versatile in Use

Tungsten is essential to present-day high-tech industry due to its special properties. It has the highest melting point of all metals and as a result it is ideally suited to high-temperature applications in energy and lighting technology not to mention the aerospace industry. Its extremely high density, comparable to that of gold, is used as a flywheel mass, counterbalance or vibration absorber in aviation, automotive, sports and telecommunications technologies. It serves as a substitute for lead and shields against radiation in medical technology.

In conjunction with carbon as tungsten carbide, it has a hardness similar to that of diamonds and forms the basis of state-of-the-art cutting and drilling tools for the processing of metal, stone, timber and plastics. The range extends from capillary drills for electronic printed circuit boards to tools for drilling road and railway tunnels.

Tungsten is omnipresent in our highly engineered world. Frequently going unnoticed, it is the basis for maximum performance and efficiency in many key technologies.



Control System Concept

The Project

AutomationX has been a supplier of automation solutions at the Bergla plant of WBH in West Styria since 1997. Now, as a result of constant expansion at the site, the company is switching over to equipping new plants with autonomous control systems.

Data integration into the higher-level control system, however, is being carried out in a consistent manner in the form of what are known as "distributed automation classes". It is possible in this way to utilise the advantages of local and distributed systems effectively and sustainably. A basis for setting up the link to the ERP system (SAP), as required, is also being created during restructuring of the automation landscape. The database-based MES solution aXproduction has already been installed with this in mind. Maintenance information is used for scheduling activities, combining staff deployments and increasing the service life

of equipment. The data for maintenance information is processed in an initial step, signals from the linked plant sections are recorded and ultimately outputted as a trend. The operator also has access to alarm and status information in a standard format.

In conclusion it may be said that above all the new architecture in automation brings benefits for the operator, in this case for Wolfram Bergbau- und Hütten-GmbH Nfg. KG, in the form of:

- **Continuity**
(a system from visual display to terminal)
- **Uniformity**
(one environment for visualisation and control)
- **Scalability**
(existing plants are extended in continuous operation)
- **Openness**
(standardised interfaces to the field level and to ERP systems)



New Software Version automationX 4.8 on the Market

The new automationX version 4.8 was released at the beginning of May. From now on, new automationX licences are available only for this version due to technical circumstances.

As a result and as an automationX customer, you will receive a large number of expansions with full compatibility to the previous versions. The stability and functionality of the server and client systems

has been increased once again due to the use of new X-server software. A new optimised licence model will make it easier to calculate licence requirements.

The foundation stone for supporting the latest operating systems has also been laid in automationX 4.8 so that you will be equipped for the future. This means that the Windows Vista, Windows 7 and

Windows 2008 Server operating systems will be supported from aX4.8 SP1 on. automationX will be even more powerful as a result since all the main memory installed will then be used in the X64 operating systems.

A new era in field bus communication is also dawning with implementation of the real-time Ethernet protocol XLINK. So now you can use aXlink100 devices that will enable you to integrate up to 32 Profibus masters into your system via Ethernet.

The extended trend functionalities such as trend archiving and trend export will enable you to process I&C data specifically and to export it for long-term archiving. These functions offer more facilities for plant and system analysis and are also used for process optimisation, which can now be carried out directly in automationX thanks to integration of the advanced process control classes.

More detailed information may be obtained on request from:
support@automationX.com

www.automationX.com

automationX

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Partnership with AGRO-3 Sealed

AGRO-3, a well-known Russian one-stop outfitter for bakeries and butcher's shops, decided to enter a partnership with AutomationX.



F.l.t.r.: Thomas Mühlehner (AutomationX), Gennady Petrov and Sergey Kosinov (AGRO-3)

The contract for the system partnership was finally signed at Modern Bakery in October 2008, a specialist exhibition within the Agroprod mash foodstuffs trade fair in Moscow. So now AGRO-3 controls its mixing and metering systems using the system by AutomationX.

Following a one-year selection process on the part of AGRO-3, our system was able to win through against the competition. Our partners were persuaded particularly by the multilingualism and simplicity of both programming and operation.

The first project - modernisation and expansion of an industrial bakery in Tver (Russia) - is just being implemented. The first basic program has been created independently following a one-week induction of AGRO-3's programming team in Moscow. During a further training course at our premises in Graz, knowledge of the aXproduction-based recipe management system was passed on and has already been implemented in the project referred to above.

The automationX software system is already in use in Russia in several



Wholesale Bakery, provided by AGRO-3

applications in the building materials and steel sectors. Our existing and future customers will now benefit from AGRO-3's local service as a result of the partnership.

We wish our partner every success and above all hope this will open up new market opportunities thanks to our software.



AutomationX as an Art Gallery



F.l.t.r.: Franz Rindler (AutomationX), Sabine Schilcher-Asen, Herbert Ritter and Gerhard Maitz (M&R)

„Art washes from the soul the dust of every day life.“

(Pablo Picasso)

With this in mind, the premises of AutomationX were transformed into an art gallery at the beginning of October last year.

Graz-born artist Sabine Schilcher-Asen, who has already shown her work in numerous exhibitions both at home and abroad, presented her abstract images to our customers and business partners in the AutomationX offices on 9 October 2008. The event was rounded off by music and culinary treats which added to the overall enjoyment of our guests. From then on there was nothing to get in the way of a pleasant evening with an artistic atmosphere.

Into the New Year with the Sound of Jazz ...

Another social event took place at the beginning of this year. For the second time, AutomationX issued an invitation to attend a relaxed New Year's Brunch in Graz.



Jazz Sounds at our New Year's Brunch

Numerous customers and business partners took up our invitation on 22 January 2009 and travelled to Graz to start the New Year with us at our brunch.

We welcomed our guests at our premises at 9 am. After morning sustenance in the form of coffee and cake, our managing director, Mr Franz Rindler, gave our guests a brief review of the past year and also outlined the outlook for the coming year in addition to introducing

new products and projects. Following this general information, our guests split up into groups in the various presentation rooms where they learned in greater detail about our I&C system, our project at Uzin Utz AG and the use of advanced process control in biodiesel plants.

When the presentations were over, the event moved smoothly into its sociable, relaxed phase. A bus took us all to the bottom station of the Schlossberg funicular in the centre of Graz and we travelled up on it to the city's landmark, a tree-clad mountain topped by the Schlossberg castle. The three-man trio which was to accompany us musically throughout the brunch session was already waiting for us in the restaurant on the Schlossberg. The buffet with its Styrian delicacies was also perfect in every way.

Even though the weather put a spanner in the works and the view over Graz was unfortunately denied us due to the fog, we spent a few convivial and companionable hours with our guests on the Schlossberg.



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Did you know ...

... that the rolls and bread products, which were sold on the fan mile during the European Football Championship 2008 in Austria, were produced with the help of an AutomationX control system?

... that within the scope of the Styria environmental traffic control system, the "Luft-100er" (restricting traffic speed on the motorway to 100 km/h) was active for a total of 1,673 hours?

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