



# Think ahead!

## High time for more automation in engineering



*Maintaining competitiveness means not only in Germany: Automate, automate, automate! The manufacturing chain has already reached a very high degree of automation in most companies. Yet the engineering process is characterized by huge deficits. Engineering Base (EB) from AUCOTEC mends this problem. The ability of EB to operate over different fields of application and AUCOTEC's 25-year experience in the various engineering fields are the prerequisites for a totally new synergistic effect.*

### Engineering under pressure

To increase the manufacturing productivity, most enterprises have long carefully analyzed and optimized the details: the tools involved as well as the complete process chain. This manufacturing optimization often also increased the development expenditure, however. Moreover there are the increased pressure for finishing the projects, the pricing pressure when buying components and increased compliance with customer requests. All this causes a tremendous pressure on the engineering department. The automation of the engineering job in particular becomes ever more urgent due to both the lack of engineers on the job market and the costs of highly qualified personnel.

### The magic word is "interdisciplinary"

To carry on with the automation, so successfully achieved in manufacturing, in like manner also for the engineering job, means investing in counseling and tools. Up to now this was primarily done separately in the individual departments and engineering fields. Although this has locally led to considerable optimization, this development already reaches its limits because it has been exploited to the full. Highly specialized tools have been in use for a long time. A full view of the complete engineering process in all fields of application involved reveals the resulting system disruptions, which unnecessarily thwart the productivity gained. Therefore thinking and projecting beyond one's own field of activity has become indispensable. "Interdisciplinary" is the formula for increased efficiency in engineering.

### No secrets!

AUCOTEC has become aware of this in due time and has dealt with the problem with its database-driven, highly flexible platform Engineering Base. During the preparatory work AUCOTEC's planning professionals realized that the tools and process chains actually used by the enterprises in the various engineering fields are surprisingly little known.

Before an engineering job can be successfully automated, transparency is what is needed. All processes must be analyzed and largely standardized. The active support from all staff members involved is mandatory.

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## Editorial

Dear readers,



"Think ahead", postulates the title of this new INFOpaper issue because we believe that limits can be overcome once they are recognized. Innovation capacity and flexibility are particularly important in difficult times. Today enterprises with highly integrated, consistent processes profit disproportionately from the positive business development that we note particularly in our large client base in the mechanical engineering and plant construction field.

AUCOTEC supports you too – according to the guideline "Create Synergy - Connect Processes" – in integrating hitherto separate fields of application within your product development process chain. The basis is our platform Engineering Base, the result of decades-long project experience.

Ever more customers from different branches of industry follow this path in the framework of a partnership with us and thus develop potentials that make their processes more flexible and efficient and their business more profitable.

AUCOTEC is a future-proof partner for this: After a level development in the last fiscal year we realize this year – also due to the far-sightedness of our highly qualified staff members – a distinct two-digit growth.

Yours truly,

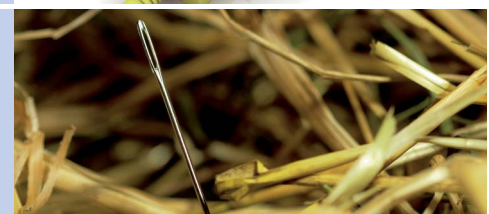


Uwe Vogt  
Board of Directors

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This also means that staff members must disclose their know-how about the processes. Only if all of them comply can the processes be successfully interconnected and thus the engineering job as a whole be made more efficient. For many companies with design and development departments of their own this means a major challenge. AUCOTEC supports these companies with know-how, counseling and the appropriate tool. Thus the competence defined in our leitmotif "Create Synergy – Connect Processes" becomes our customers' benefit.

### Less becomes more

The tool used is an important keyword: Even highly efficient special tools in the individual

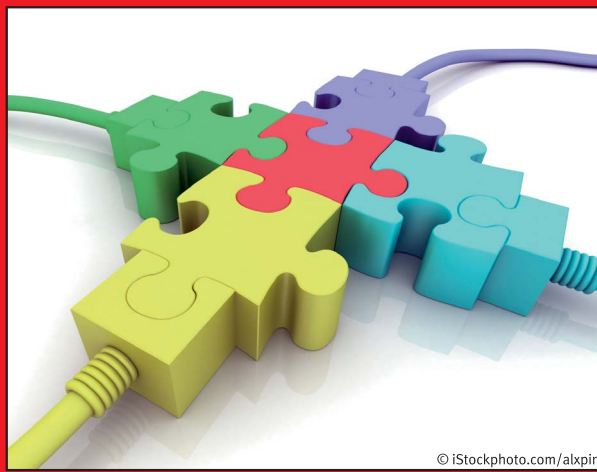
fields of application do not know the requirements of the departments involved, nor are they capable of communicating with them. In this way an interconnection of the different engineering processes is impossible. To prevent the above-mentioned data discontinuities, on the one hand a common data stock is required and on the other hand the ability of an interdisciplinary software package to be seamlessly integrated into an existing IT scene. EB is currently the only tool that can do this. Redundant acquisition and maintenance of the data is avoided, with reduced expenditures for personnel, agreements, administration, and lower costs. The highly qualified engineers can devote themselves to important future-oriented tasks. A higher-order synergy develops that by far exceeds the usual savings of time and costs in individual departments. This ensures competitiveness in the long run.

# Be done with the interface chaos!

## Manufacturer-independent data format AutomationML for the consistent exchange of engineering data

The unique synergy effect made possible by the interdisciplinary, simultaneously operating software platform Engineering Base can be further expanded if the data of the various planning systems for a project are moreover exchangeable. Whether a 3-D, simulation, documentation or manufacturing tool: For each single tool one usually needs individual interfaces for the tools to understand each other. The manufacturer-independent data format AutomationML (Markup Language) is the optimum solution for avoiding the implied multiple administration.

In the engineering process chain for planning technical facilities, today usually very specialized programs from different manufacturers are used. The majority of these programs uses proprietary formats for storing the data and offers only insufficient options for data interchange. This prevents a consistent engineering process chain and is together with the constant increase and repeated change of the data the reason for a number of problems that can result in high costs.



### Speaking one language

AutomationML is an XML based data format enabling the exchange of engineering data in heterogeneous tool environments. This includes for example also the data for mechanical and electrical design, the HMI development, PLC programming or robot control. AutomationML™ describes the components of a

technical facility as objects. Each object can be part of another object, can contain additional objects and have connections to other objects. Thus e.g. one can describe an electrical cabinet with all of its devices, cable ducts and wires down to the single contact sleeve in any degree of detail. AutomationML combines several standards: CAEX (IEC 62424), COLLADA (Khronos Group) and PLCopen.

### Faster and safer

This consistency, achieved with a single, common AutomationML interface that enables data exchange over the entire process chain and all programs and fields of application concerned, renders the time-consuming development and administration of individual interfaces superfluous. Moreover Automation ML reinforces the special synergistic effect of EB, which with its simultaneous and interdisciplinary method of operation also saves error-prone multiple entries and time-consuming agreements.

For further information about AutomationML please refer to: ([www.automationml.org](http://www.automationml.org))



## Learning is like rowing against the current – as soon as one stops, one is driven back (Laotse)

### AUCOTEC Academy with a new training magazine for 2011

Rapid technological advances and increasing internationality demand the projecting engineers to not only have expert knowledge and flexibility but also to be familiar with up-to-date information about the entire lifecycle of complex systems. The new AUCOTEC Academy takes these requirements into account.

Be it product-independent training or expert

knowledge about how to fully exploit the comprehensive features of the AUCOTEC software package: The new training magazine 2011 informs about the complete contents and the target groups of the comprehensive seminar offering.

### Webinars: Training at one's own desk

Entirely new in the program are the online training courses of the AUCOTEC Academy. They meet the requirements of all those whose work load actually leaves no time for advanced training. With the advanced microMeet technology, AUCOTEC takes the appropriate training course directly to your home desk.

You can find the current training course dates **here:** ([www.aucotec.com](http://www.aucotec.com))

# Finding without search, changing without repetition: Highly efficient planning thanks to manufacturing units in a database spanning several projects



The variety of the machines within a facility can be immense. Moreover the individual plant components and the complete plant are worked out and operated by different persons and departments. Here it is important to keep an overview. This also because machines of a given type are often used repeatedly in a plant.

The management of all projects of a plant in a common database creates the necessary clarity and a unique consistency at the maximum possible speed. Since multiple entries are superfluous, the danger of transmission errors is eliminated. At the same time this method of operation tremendously accelerates the planning process. Only Engineering Base (EB) is able to produce this safety and efficiency. The comfortable

user management of EB also contributes to this, it prevents unintentional changes by unauthorized persons.

### **One item changed – all items changed**

Despite the uniform data storage the individual machines of a project remain fully capable of navigating: Each plant component (e.g. machines, mounting plates or mounting racks) and each version status is a unit in itself – a so-called manufacturing unit – and the database connects plants and machinery. The combination of all plant-relevant data in the form of such units in only one database makes finding all machines used in a plant exceedingly fast – similarly to finding all plants where a particular machine was used. If there

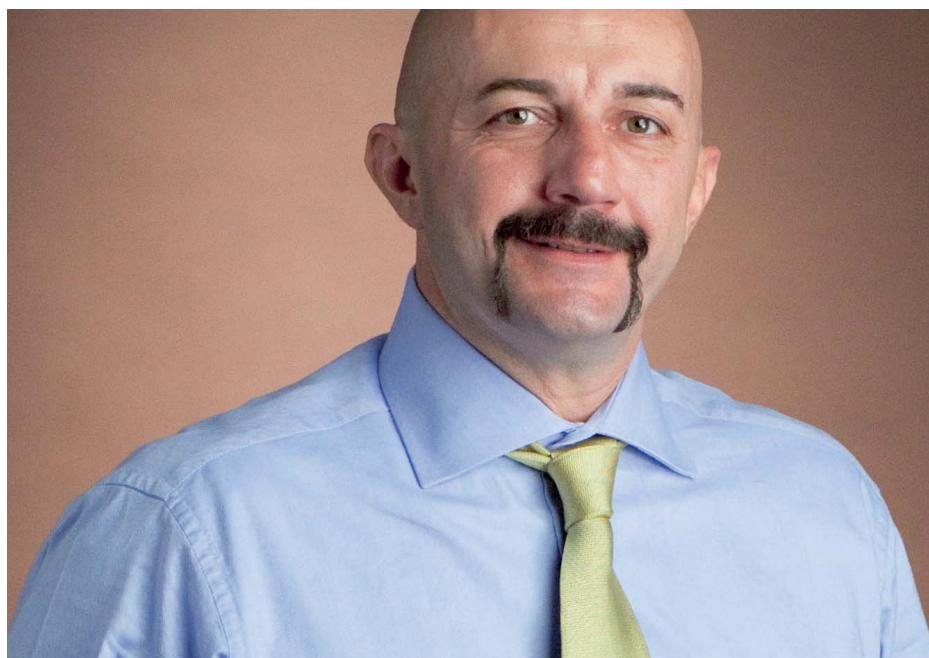
are changes of this machine type, they are immediately applied to all instances of this type in all projects and plants respectively. Thus EB makes referencing between the projects incredibly simple.

### **Creating resources**

Fast retrieval is the key for highly efficient maintenance and minimum downtimes also for the end user. The Mechatronic Explorer of EB combines mechanical and electrical design data from different E-CAD and M-CAD systems and directs the fitter directly to the problem. Printed documentation is a thing of the past – just as highly qualified designers on a time-consuming search or laboriously changing a machine type in each single project. That creates resources for the essential work.

## “Simplicity wins!”

Interview with Marco Della Torre (40), international consultant, supervises AUCOTEC products since 1992



**Mr. Della Torre, you have been traveling for AUCOTEC International Presales all over the world since 2006. Which are the topics that are most on people's minds especially abroad?**

After four years I don't view myself as an expert for the international markets, particularly because the topics are sometimes quite different depending on the local conditions. However, there are goals that I encounter everywhere: Increasing the quality and productivity – if ever possible in the short term – but also simple, safe and unambiguous communication between the locations and with the suppliers of an enterprise.

**What is the situation with respect to the topic “degree of automation”?**

If one looks at the technologies for production facilities, machines and the like, I think that globalization has meanwhile resulted in more or less the same level – in some countries with a giant leap over complete technology generations. Yet there are differences in the manufacturing efficiency. Don't misunderstand me! I'm not saying that their results are bad but they don't pay so much attention to the optimization of workflows and production processes.

On the whole automation has globally undergone many changes and adaptations in recent years. The emerging markets have realized its importance. Therefore people there now also invest in ultra-modern engineering tools.

**How do you view the future of the foreign automation market?**

Today's far-sightedness and investments are tomorrow's market share! The emerging markets that count on industrialization must increase the quality of their products and offer their customers an increased assortment. Here further automation is indispensable for improving the safety of the development processes and for using the limited resources as efficiently and sustainably as possible.

It will be similarly important for manufacturers all over the world to work with standardized modules and to improve the communication between the parties concerned. Moreover manufacturers will have to improve their own development potential to remain competitive. Automation would create resources for this.

At the latest when a company cannot distinguish itself in the market by means of efficiency or quality, offers such as online or remote maintenance become extremely important. Since reliability and low down-times are the profit potential per se, safety is a basic requirement. And automation here provides distinctly more safety.

**Is AUCOTEC prepared to meet this future?**

Absolutely yes!

**What is the evidence for this?**

It is Engineering Base! AUCOTEC understood earlier than others that simplicity wins – we have realized this especially by means of our international experience. Again and again our customers confirm that EB's ease of operation and the Microsoft standard components reduce the introduction period and make the everyday handling fast and safe – in many countries the training problem has thus lost much of its former scare. Moreover EB is a system that is open to all imaginable and unimaginable future developments. It quasi learns as it grows and adapts to any situation or IT scene.

**Isn't that also true of other tools?**

Only partially. No other tool with such complex features can be learned and operated as easily. And there is another thing that makes EB outstanding, especially when it comes to long-term business decisions: EB's ability to allow simultaneous and interdisciplinary operation, and that over the entire life cycle of a plant. The cooperation renders the tool really superior – but also its user! AUCOTEC permits the enterprises to get a view beyond the limits of the individual fields of application and to gain considerable profit from the fact that all data relevant for engineering is available for editing on a single platform. The use of EB alone already creates a distinct improvement of the engineering process compared to conventional CAE tools. Thus it is a pleasure to face the future.

**Mr. Della Torre, thank you for the interview!**



# Sound development in engineering:

**Fastest possible system introduction and short throughput times at a leading pharmaceuticals packaging company**



The Swiss Dividella company develops top-loading solutions for fully automated packaging of injection vials, ready-to-use syringes and other products such as tabletblisters that are difficult to stack. Moreover Dividella, which belongs to the Körber group, is the leading system supplier of innovative wallet machines. The Körber group employs about 9,500 staff members worldwide. Its reference list reads like the Who is Who of the pharmaceutical industry – with names such as Bayer, Glaxo Smithkline, Novartis, Roche or Sanofi Aventis.

## New challenges

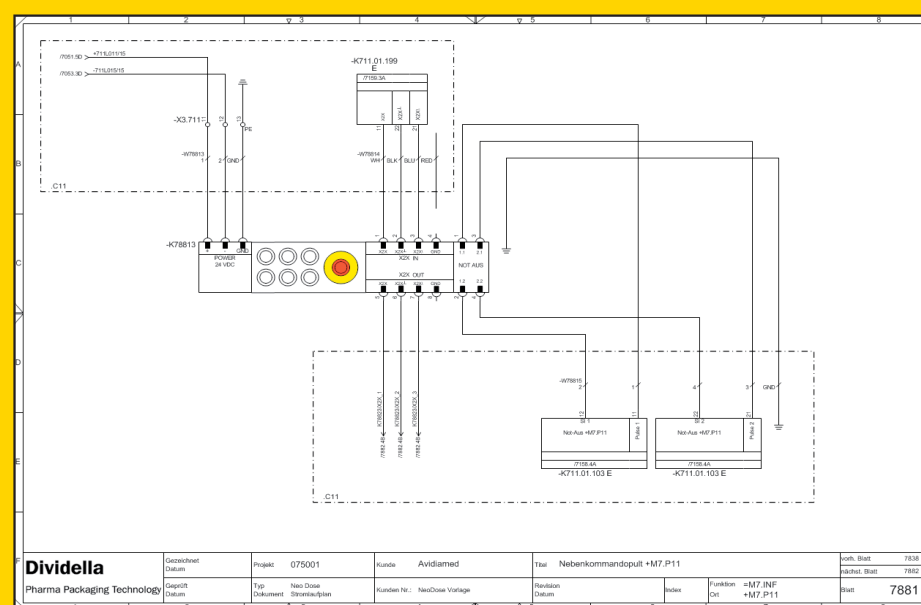
Diverse modifications in the structure of the engineering jobs such as the integration of the pneumatic and electrical design into a consistent documentation, the new function-oriented representation, the interfacing with the ERP solution P2plus and a multifarious modular system also required a new approach for the planning software. Following long-standing valuable experience with the engineering tool ELCAD from AUCOTEC, the packaging professionals thoroughly analyzed the situation together with AUCOTEC's Swiss partner, rotring data AG. Result: The ultra-modern, database-driven and object-oriented platform Engineering Base proved ideal for the new engineering approach and Dividella's modular machine concept.

## Record-breaking

Reto Gubser, in charge of the electrical engineering at Dividella: "The various wizards and worksheets and the modern, Office-compliant user interface greatly increase the clarity and simplify the modular design; especially with recurrent subassemblies we save a lot!" One thing has particularly impressed the design specialists: "We have introduced EB in a record time. Together with rotring data we could introduce and train EB within a very short period of time and could immediately realize the first project with about 500 servo and stepping motor axles", thus Gubser enthusiastically.

## Let the future come

Therefore also the older machine types are now revised with EB. "Thus we can optimally meet the increasing demands of our customers for greater consistency", Gubser continues. "The comprehensive, intelligent documents, combined with the most advanced work comfort, these are things that result in distinctly shorter throughput times, and the expansion of the modular concept will advance speedily", he says, and thus views Dividella as optimally prepared for the future.



## And besides ...

... most recently among others the following companies opted for AUCOTEC:

 Bruderer Machinery, Inc. Ridgefield, USA	 Delta Infra B.V. Goes, Netherlands	 HBC-radiomatic GmbH Crailsheim, Germany	 Heicon Service GmbH Lübbenau, Germany	 HOLCIM (ESPAÑA), S.A. Madrid, Spain	 Irish Cement Ltd Limerick, Ireland
 Kunststoff-Zentrum in Leipzig gGmbH Leipzig, Germany	 Läckeby Water AB Läckeby, Sweden	 Plasan Sasa Ltd. Sasa, Israel	 Prodaisa Proveiments D'Aigua, S.A. Girona, Spain	 PRODUCTOS DEL CAFÉ, S.A. Reus, Spain	 Talleres López Palomo, S.L. Cantimpalos, Spain