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## “No man is an island...”

...Particularly when it comes to engineering:  
Project Status Manager integrates external data automatically and securely

**Desert islands might be beautiful and one-off, but they are lonely places. And whilst there might be such things as “one-off” solutions for people’s life choices – as described so impressively by John Donne and J. M. Simmel, for example – or for the lifecycles of machines or plants, they don’t make life any easier. On the contrary!**

If an engineering system is to simplify the life (or work) of a plant designer, “one-off” solutions must be avoided at all costs. At the very least, they must include bridges. AUCOTEC created Engineering Base (EB), an exceptionally integrative platform, for this very purpose. Not only does its central, collaborative data model simplify work by minimising the effort involved in liaising or making corrections, or by its function and template orientation; another key focus of EB lies in its receptivity for connections to further tools, e.g., for 3-D software or the customer’s own ERP.

### Integration ability

Plants and machines are becoming increasingly complex. Even before the emergence of Industry 4.0, the number of special tools and additional solutions required for product lifecycles began to rise sharply. As a result, integration ability in engineering became even more significant, a fact also reflected in the further development of EB, which accounts for roughly 85% of AUCOTEC’s new business and is hence the company’s most successful CAE system. Because only a universal solution which is able to manage data and closely link projects across all disciplines – even external ones – will provide the necessary consistency and overview to master future engineering challenges efficiently.

### No compromises

“Integration competence is the key to being able to realize the concept of a complete digital

twin of the plant in the engineering process,” explains Uwe Vogt, Executive Officer for Engineering at AUCOTEC. Unless all data can be integrated into one plant, this vision can never be realized. But in the process, it’s important that valuable data does not end up in “dead” containers where it generally loses its stored logic. Nor is there any point creating one blanket system for all trades. “We want planners, designers and project managers to always be able to use the optimal tool for the respective discipline. Excellent special solutions are available; a blanket tool can only ever be a compromise,” Vogt emphasises.

### Forgetting about worrying about forgetting

AUCOTEC’s software developers have now created a new module for EB which – besides automating the system’s own workflows – is also able to control data transfer with all types of external systems. The Project Status Man-

ager, which was first presented to the public at the Hannover Messe (Hanover Trade Fair) 2017, thus guarantees that the central documentation is always up-to-date and different versions are not confused. Interfaces and approval mechanisms are decidedly easier to handle thanks to customisable automatisms. This considerably improves the quality of the data.

“Openness for integration is crucial, especially in relation to Industry 4.0, but it is the automation of data integration which completes the solution,” said Uwe Vogt. According to him, the new Project Status Manager, which can be adapted completely freely and thus in a future-proof manner to every workflow, is another level within the integration concept. As a central management tool, it helps to increase security and save time. “Users no longer have to worry about forgetting steps

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## “More digital, more personal”

Dear readers,

“Electrical light was not invented by perfecting the candle.” I believe that this aphorism hits the nail on the head with regard to our day and age. Thinking outside the box, adaptability and boldness are the hallmarks and challenges of our increasingly digitalized world. It is a world that calls for completely new development and production processes which, above all, do justice to the drastically increasing complexity around us. This Info Paper also reports on promising and encouraging ways to face the challenges of digitalization.

Software is digital by very nature, but some is more “digital” than others. This can be seen

in the networking of processes, or in the synergy created by central data storage. As with Engineering Base (EB). At the same time, integration ability is one of the key features which makes our software and your engineering processes “more digital” than others. For example, when you incorporate EB in your tendering stage, or when you integrate external data automatically, as described above.

But we wouldn’t be AUCOTEC if we didn’t also continue to attach special importance to personal contacts and face-to-face support for our customers, even as the pace picks up in the field of digitalisation. This is reflected in our new strategic partnerships in Australia, Indonesia and Russia (see page 2).

Whether you are a pioneer in the digital world, or still looking for your own personal path towards transformation, AUCOTEC can support you, digitally and personally – all around the globe!

Yours faithfully,  
**Markus Bochynek**  
Executive Officer



We are looking forward to meeting you!

Hanover,  
24 - 28th April, 2017  
Hall 6 / Stand K 28

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or mixing up versions," explained Vogt. A large German machine manufacturer is already putting this tool into practice for data exchange with SAP.

**Added value from 3-D through to simulation and production**  
EB already combines inherently diverse dis-

ciplines such as basic and detail engineering, and even does so simultaneously. But AUCOTEC's integration package also includes connections to various ERP, PDM/PLM and automation systems, to [all standard 3-D tools](#), and even to [predictive maintenance solutions](#) (see Info Paper 1/2016), simulation or production.

AUCOTEC takes several approaches to integration: a large number of prepared links can simply be used as standard connections for 3-D, PDM or ERP systems amongst others. Some links, for example, to the offline editing of EB data by suppliers with external systems, can be very easily configured without any programming knowledge. There is also

an option in EB for implementing customized integrations such as web services for mobile maintenance, for example, via .Net. Where necessary, AUCOTEC can assist customers here with the necessary programming knowledge. As a result, sturdy bridges are built, creating added value for all involved – no matter how remote the island.

## Engineering for high-flyers

Experts from the aerospace industry meet at the AUCOTEC Technology Day

**At the seventh AUCOTEC Technology Day, experts from Airbus Defence & Space, the OHB System AG, Thales Alenia Space, Sysberry and CADPart spoke about how they tackle the increasingly complex challenges of harness design for the aerospace industry. Participants from Germany, France and the Netherlands came to Hanover for the event in January.**

### Secure database for mass data

All experts identified the need to cope with the enormous amounts of data involved in the design of complex aerospace projects. The speakers all use the Engineering Base (EB) platform. The consensus was that EB's database-driven nature was THE precondition for efficiency – including consistently assured data quality even with very large amounts of data – as well as for the top-down approach required in system engineering.

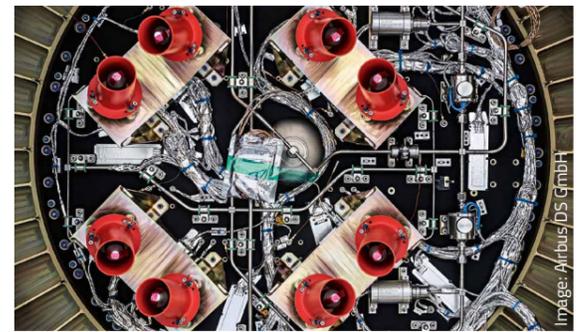
At the outset, the Executive Officer for Engineering, Uwe Vogt, emphasized: "The development of Industry 4.0 does not stop at aerospace. Due to complexity, time pressure and a lack of resources, a new approach needs to be taken to development processes – moving away from a rigid document-centred approach towards data centralization."

### Top-down from system engineering to production

The aerospace experts used practical examples to illustrate how this can work. Their different engineering priorities demonstrated the range of possibilities of data-driven work and open software architecture. The speakers highlighted a whole range of advantages: from supporting the top-down approach for illustrating the various degrees of detail through to EB's flexibility and minimizing interfaces and manual work. And: it was pointed out that, instead of having to adjust the design process to the system, EB adapts to each workflow. All of these benefits save time and improve quality from the initial system concept to production, and not only for those involved in the construction of satellites and space shuttles.

### 3-D consistently integrated

The major value of significantly reduced manual labour was also confirmed by Sysberry, an engineering service provider with a wealth of experience in aerospace. The company also praised EB's particular adaptability to customer specifications. And Catia experts from CADPart explained linking the EB harness design to mechanical engineering via the Harness Integration Manager (HIM Pro). It enables an automated, bi-directional data exchange



> More than: 1,500 connectors, 46,000 contacts, 4,400 cable segments, 330 drawings – cabling of the Airbus satellite EarthCARE with AUCOTEC's EB

between 2-D and 3-D. In this manner, both sides can use the optimized functions and merge their data in a secure process.

"I was thrilled with the implementation of HIM," said one participant who, like everyone else, not only listened attentively, but used the breaks to engage in intensive discussions and make individual enquiries. "The day was highly interesting. I was surprised by the number of participants from the most diverse companies in the aerospace sector."

## "Because we need EB's ingenious concept in our region too"

New AUCOTEC partnerships in Australia, Indonesia and Russia

During the course of the last business year, AUCOTEC gained no fewer than three new international partners. All now rely on Engineering Base (EB).



### Durgeshan Naiker, Managing Director of iEngineering Australia in Sydney

"We entered into a partnership with AUCOTEC because we realized our need for EB's ingenious engineering concept in our region. This platform is one of the best engineering and design systems in the world, and is suitable for a wide range of industries. EB simplifies work processes, improves quality and productivity, minimizes errors and saves our customers time!"

> Durgeshan Naiker



### Adrian Champion, Country Manager for Indonesia, for Adhinata Consulting, Jakarta:

"The engineering market in Indonesia is growing. So we wanted to equip ourselves with the most modern, future-proof tool. We believe in EB and the AUCOTEC team. Which is why we're proud to be in partnership with AUCOTEC."

> Adrian Champion



### Oleg Fedorov, Business Area Manager for RTSoft, Moscow, Russia:

"Digital design is immensely important for RTSoft. Amongst other things, we develop new solutions for microgrids and for controlling energy supplies from renewable resources, as well as the corresponding maintenance applications. AUCOTEC not only has decades of experience in the energy sector, but also a state-of-the-art software platform, so we regard this partnership as highly promising."

> Oleg Fedorov

## Everything under control with the Token Model

New licence model increases flexibility for users and makes costs more transparent

Project requirements can change, again and again. Above all, service providers need to be in a position to react flexibly at all times – which includes equipping their planners with the necessary software licences. Major companies face similar challenges during long phasing-in periods for new software. Initially, just a few key users require extensive, high-grade licences. Later, the work is distributed amongst more people, some of whom require only a limited number of functions for their particular area of expertise.

The new Token Business Model by AUCOTEC is particularly effective for both scenarios. This business model involves buying a certain number of virtual tokens for a specific period of time. The more extensive the software, and the more users involved, the more tokens will be required. These tokens cover software (SW) and service for the specified period, and authorise users to access an unlimited number of different SW modules provided they are in possession of sufficient tokens. When the software is started up, the according

number of tokens are surrendered; when the programme is closed, the same quantity are returned to the pool.

### More flexibility, more cost transparency

This enables companies to decide for themselves which type of software to deploy, the scope in which to use it, and the number of users. The same access rights apply hereby to all new products and packages, even if these do not yet exist when the contract is signed.

This SW leasing model offers maximum flexibility on the one hand, and optimum transparency on the other. Thanks to the fact that user behaviour can be analysed, costs can be clearly linked to particular customers or projects. However, those who work long-term on clearly defined tasks which rarely vary will generally fare better by purchasing the software and a maintenance contract in the classic way. If you are unsure, please talk to your personal contact at AUCOTEC, who will be most happy to help!



Image: iStock.com/baona

# Strong connection

## New component in EB's integration concept: link to SAP ECTR

**SAP is one of the world's largest software manufacturers, and the number one in Europe. SAP products are accordingly widespread. This highly complex software for business processes has countless points of contact with engineering. It processes the master data generated there, is able to administer all documents from planning and design, and can also be used for maintenance purposes or for data analysis for predictive maintenance.**

But using SAP requires considerable expertise. To help engineers get to grips with this software and minimize mistakes, the DSC Software AG developed the Engineering Control Center (ECTR). This amalgamates data and functions from heterogeneous applications with SAP PLM in a consistent way, without

requiring the user to understand SAP itself. The user-friendly interface is yet another component in the integration concept of Engineering Base (EB). The new "docking" option enables designers to access all SAP PLM functions via the system with which they are familiar.

### Trouble-free with the PSM

The EB-ECTR link enables users to work in both systems without losing sight of the bigger picture or compromising data consistency. Each software "knows" about the other. Status is synchronized, and documents are transferred from EB to ECTR. One key feature in this is AUCOTEC's Project Status Manager (PSM, see page 1/2) which manages the relevant status transitions for EB and automatically carries out all operations to-

wards the ECTR. Here, users can clearly define which status changes should be made and what needs to be delivered when. Before conducting any operation, the PSM checks whether the EB and ECTR status tally with each other.

This ensures that data is always consistent. Hence, EB users no longer have to worry about consistency, nor about filing documents in ECTR/SAP. Whilst the PSM conducts and controls the status transitions, all necessary steps are automatically completed in the background. Hence at the end, the project is completely mapped in ECTR and the document archive neatly organized.

# From a special requirement to a standard solution

## André Lidolt, Head of Professional Services, talks about proximity to customers and the new quick-response task force for rapid integration and customization



> André Lidolt

**Lidolt, a graduate electrical engineer, began working for AUCOTEC in 1997 as an account manager. He was then appointed Quality Manager for Engineering Base in the development division, later heading this division for four years. In 2013, André Lidolt took over the management of Professional Services. This brought him back into closer contact with customers all around the world.**

### Mr Lidolt, what's special about your department?

Its proximity to customers and its flexibility, I'd say – not to mention the high level of expertise! We offer customers the entire portfolio of services for our software, from implementation through to training sessions and integration projects. So of course we need to have a keen understanding of customer requirements. However, customer support has changed radically in recent years. Flexibility was, and continues to be, a major requirement. So we've responded by becoming considerably more flexible.

### What has changed in the field of customer support?

Projects have become much more complex. When a customer launches the cross-discipline Engineering Base (EB) platform, it normally affects more than one department. And these departments may even be located in different countries, which requires a decidedly international approach. This approach is also necessary given that an increasing number of our customers are "global players".

The integrative aspect of our work has also grown considerably – integrating external systems such as SAP, automation tools and so on, in other words. Our responsibility with regard to the IT environment of EB has also increased. This concerns Citrix optimization or performance analyses, for example, which are part of the implementation process. On top of this,

we're increasingly called to provide more consultation services than initial briefings, and far more of our training sessions have to be tailored to customer requirements.

### How have you responded?

Partly by restructuring and introducing new processes, and partly by recruiting and training more staff. As a result, we now have a wonderful blend of experienced colleagues and recent graduates with fresh, innovative ideas. This is what makes us so strong.

### How does this impact your services?

Our portfolio of services has expanded greatly. Beginning with classic hotline support, which is naturally still an important part of our service, to process consultation, customization and highly tailored training sessions which take real customer data and internal workflows into account, to standard product seminars, developments via VBA and C#, and complete project management. This covers all levels, from "kick-off" to "go live". But the most striking changes here have been the huge increase in individual adjustments – which require even closer customer contact – and the growing demands of internationalism. Because many of the customers we support operate on a global scale.

### To cater to these demands, you created a quick-response task force, the "Individual Solutions Team," one year ago. Why?

The main reason was that planning the further development of standard software is geared towards rigid version cycles. Assessing individual customer requirements and implementing them "in passing" was becoming increasingly challenging. Basically, individual requirements were constantly competing with strategic standard developments, which were just as important. Issues which really ought to have been dealt with quickly often got caught up in a complicated prioritization process, or quite simply came to grief because product management and the development division didn't have the capacities to deal with them. So something had to change.

To respond to customer requirements faster and more flexibly, the development division assigned a team of employees to work on individual solutions. The new team is highly agile and liaises in part directly with the customer. The developments conform to the same guidelines as for the overall EB development, but prioritization has changed. Thanks to the fact that we now have a dedicated and separate team for the purpose, customer requirements are no longer channelled into the standard process, but are dealt with directly in our Professional Services department – in accordance with their level of urgency.

### What exactly does this Individual Solutions Team do?

The team focuses exclusively on customer-specific developments. Most cases centre around integrating third-party systems such as PDM/PLM, automation systems or the customer's own tools. But other cases involve workflow wizards, import/export functions for Office products or special data output formats for customer reports.

### What have you achieved since establishing this quick-response task force?

In the past year, we've been able to respond very promptly and satisfactorily to a large number of customers. Besides finding solutions for the issues detailed above, the new team has also dealt with the ECTR link and Project Status Manager. Both have now become standard solutions, so easier for all customers to adapt.

Requirements from projects can now be implemented much faster, and customers benefit from improved engineering efficiency. This enables us to live up to our claim faster – that we're not satisfied until the customer is satisfied.

### What projects are next on your list?

That depends on what customers need. We're flexible.

Thank you very much for this interview, Mr Lidolt!



Image: Haas Food Equipment GmbH

## New recipe for efficiency

### Haas standardizes its engineering processes with AUCOTEC

Haas Food Equipment GmbH, with approximately 1,650 employees, is one of the world's leading manufacturers of plants for the bakery, confectionery and dairy industries. The Austrian head office is supported by subsidiaries in Europe, the U.S., Brazil and China as well as by other sales offices and representatives. Its portfolio ranges from mixing systems via industrial ovens up to the packaging prepress stage. Haas' "Recipes for Efficiency" are characterized by three supporting features: the product and process development, superior technology as well as comprehensive service. AUCOTEC provides the perfect additional element with Engineering Base (EB).

#### Easier, faster, better: the recipe is working

Haas' engineering experts are dispersed throughout the world. Distributed project editing was performed until recently with three different tools. "With EB, we have succeeded in achieving a seamless global presence. With easier, faster engineering, standardized documents and work methods, better data quality,

streamlining of the IT environment – everything in four business units in just one year," enthused Michael Eder, Head of IT CAD/CAE Solutions at Haas. He added that EB's recipe for more efficiency was also working due to another ingredient, the SAP interface which was tailored specifically to Haas.

#### Original ingredient swapped for single source of truth

The "transformative ingredient" for this is EB's database orientation. As a "single source of truth", EB creates unique data consistency in engineering – also simultaneously – across disciplines and borders. Everyone involved accesses the same data model, and each change is immediately visible in every representation of the changed objects. In parallel, the CAE experts gradually refine the digital model with their respective specialist knowledge.

"EB enables a global standard, which reflects the valid standards at the same time," said the Department Head. The "re-

source sharing" simplified not only the multi-site work. Standardized templates also significantly increased the quality of circuit diagrams and the efficiency of their generation. "The future use of the Advanced Typical Manager will further accelerate the design process."

#### Designer's perspective prioritized:

##### SAP link milestone

The implementation of an SAP-EB link that is very much in keeping with the "Haas way of working" was almost even more important for Haas. "It really is a milestone," said Michael Eder. His conclusion: "We now have a perfectly tuned, modern complete solution, all colleagues are thrilled with the SAP link. It prioritizes our designer's perspective; thus the engineers can concentrate on their engineering tasks. This is also reflected in quality and efficiency."

## Centralized engineering for satellite wiring

### OHB chooses AUCOTEC system for its harness sector

**OHB System AG, one of the three leading aerospace companies in Europe, has opted for the support of AUCOTEC in designing its satellite wiring harnesses. Engineering Base (EB) is the perfect platform for defining and calculating all electrical system connections in a centralized manner according to OHB.**

The company belongs to the listed high-tech group OHB SE, in which around 2,000 employees work at sites in Bremen and Oberpfaffenhofen. OHB is specialized in high-tech solutions for aerospace, science and industry with more than three decades of experience. Low Earth Orbit and geostationary satellites constitute its core business. The Galileo navigation satellites, weather, environmental and telecommunications satellites are, among other things, as much part of its portfolio as the collaboration with the International Space Station (ISS).

#### Reliable data

Andreas Lindenthal, Management Board member of OHB System AG, referred to the decision in favour of EB as follows: "We need absolutely reliable and consistent data at all times for each user. The new system, which we use exclusively in

the entire harness area, is ideally equipped to meet this need with its central database."

All wiring harness details of a satellite project, whether airworthy or test cable, are stored in EB's data model. In multi-user mode, it is possible to work at various points in the process in the same project; users see their colleagues' results immediately, regardless of where they work. This avoids discussions, multiple entries and errors.

#### Extending usage

Mass data – an everyday challenge with 15,000-20,000 pin-to-pin connections to several 100-pin connectors per satellite – can be easily managed using purely alphanumeric editable Excel-like spreadsheets. The results are immediately displayed automatically in the corresponding graphics also. According to OHB, EB is characterized as much by automated test runs as well as easy exchange with subcontractors or downstream applications, for example, 3-D and PLM, as by the Windows-like approach, which makes the system easy to learn.

Initial projects have already been implemented at the two



Image: OHB System AG

OHB sites in Bremen and Munich. AUCOTEC very competently assisted in the adaptation of EB to specific OHB requirements for these projects. Even wider use of the platform is planned for the years ahead according to Andreas Lindenthal. Furthermore, there is already a plan to harmonize the engineering processes of OHB and the company which was integrated some time ago, Kayser-Threde.

And furthermore ... the following companies, among others, have recently opted for AUCOTEC:



Coroplast Fritz Müller GmbH & Co. KG  
Wuppertal | Germany



DDT GmbH  
Marienfeld | Germany



GERS SA  
Cali | Colombia



Global Hydro S.A.S.  
Medellin | Colombia



HMV Ingenieros Ltda. Chile  
HMV Ingenieros Ltda. Sucursal Perú  
Santiago de Chile and Lima



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