



Continental Automotive GmbH



Time and resource scheduling at the EMC laboratory

The 24 employees active at the EMC laboratory at Continental Automotive GmbH in Regensburg, Germany, conduct around 5000 separate tests each year. They examine the electromagnetic compatibility of electronic devices and components for the automotive industry that are either built into motor vehicles or, like remote keys, indirectly associated with the vehicles. They test the electromagnetic radiation and resistance to electromagnetic fields, and also the capacity of the devices to work when there are disturbances in the vehicle's onboard electrical system.

The goal is to ensure that external and internal electronics, such as engine management systems, anti-theft devices, steering wheel locks, airbags and remote keys, do not influence one another or could even result in functional failure. While the EMC laboratory is primarily a Continental in-house laboratory that starts playing an

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Norbert Hensengerth, Manager EMC Laboratory
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active role during a product's development stage, it also conducts acceptance measurements as an independent accredited test laboratory. If a system involves components from external suppliers, the laboratory can also go into action for these external customers. Around 30 percent of the orders come

from the company's other locations. The handling and input for in-house orders, which are similar to those for external customers, are always the same, regardless of whether they are from the same location as the laboratory or from other parties.

The initial situation

Continental Automotive GmbH's EMC laboratory in Regensburg has seen rapid growth in recent years. Starting out in the year 2000 with around 10 workstations and 16 employees the laboratory now counts 22 employees at some 15 workstations with roughly 30 computers. Just five years ago, the entire scheduling was handled completely by MS Outlook. The years have seen one system change after another and the introduction of new versions. Keeping an overview of all of the measuring stations was increasingly, and even practically impossible at times. The laboratory would have reached its performance limits sooner or later with Outlook. The alternative idea up for discussion was to introduce a standardized project planning tool. The disadvantage would have been that such a tool would not have been designed with the laboratory's specific requirements in mind, and therefore the laboratory's processes would have had to have been adapted to suit the standard tool. After evaluating all of the framework conditions, the EMC laboratory saw only one ideal solution: a uniform planning tool that focused on the processes in a test laboratory. Originally the main criterion to be met by the software was only optimization of the scheduling, with the goal of transparent tracking of planned and ongoing projects and their individual tests and a constant overview of the utilization and availability of all resources. This was a simple matter for dacore Datenbanksysteme AG, who at that time already had more than five years experience in implementing these test laboratory requirements in their TLP (TestLabPlus) laboratory management systems.

The solution

The software from dacore was individually developed to meet the requirements in the EMC laboratory, and then installed at 15 workstations within a period of roughly one and a half years. Outlook is still in use, but only for internal communication in the meantime and not for laboratory operations. As the users in Regensburg soon discovered, they needed help in more than just scheduling: tools for order and equipment administration were also called for. Since 2008, three other modules have joined the scheduling module:

- Equipment management
- Project and order management and
- Activity allocation.

But the number of users and workstations was also increasing. The fact that dacore offers individual software at a fixed price is another selling point for the client. Because software licensing fees naturally always factor into the equation. During the preliminary planning, careful consideration was given to the philosophy of the "complete package": would it be better to buy a software package without additional licensing fees, regardless of the number of workstations, or instead to choose more economical software with routine licensing fees? The software is running on all 30 computers in the laboratory today without causing any extra costs.

The advantages

The effort for scheduling dropped by 33 percent, while the input for tracking projects and tests was down by roughly 30 percent. The laboratory team has a complete overview of all orders, projects and individual tests, at each workstation and at all times. The processes have become more transparent, and the employees have warmly accepted the software tool. At the same time, the laboratory has not necessarily seen a reduction in the effort for the entire order handling process, because now it is possible to acquire, link and evaluate substantially more data for each test process in the same time. The users in the EMC labor profit:

- from the consistently up-to-date overview of the deployed resources and their utilization

- from crucially shorter times for planning orders
- from the associated transparency that this entails (the link with the hourly records makes it possible to directly assign the performance provided to the individual orders, which previously was possible only through SAP accounts, with no direct reference to the order)
- from the ability to react to changes in customer requirements far more rapidly and with much greater flexibility.

Planned quality time frames are met, regardless of the start of qualification. And the solution also satisfies another important criterion, which was put forward during the software launch in an agreement with the works council: the database does not allow evaluations of data in terms of individuals.

dacore services and technical installation

- Requirements analysis
- Generation of requirements specifications
- Development of the TLP software (TestLab Plus)
- Client capable system
- Multilingual user interface
- Client-server solution with Oracle database
- System installation and launch
- Technical support

Outlook

Starting in 2010, integration of the "test report creation" process should make order processing even more effective and transparent. Plans are to build on this and integrate a document management system for administering test reports. Further in the future, a web interface could also simplify communication with internal customers and make order acceptance and awarding possible by Internet.

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