

Success Story

Laserline relies on visualization,
control and operating panel
from KEBA



KEBA®

Automation by innovation.

The complete package, consisting of control, operating panel and visualization, offers advantages on all levels.

Interview partners

Mr. Stefan Aust (Dipl.-Ing., Industrial Engineer) –

director of project management / marketing at Laserline

Mr. Kai-Uwe Löhle (Dipl.-Ing.) – director of development for control and automation technology at Laserline

The interview was conducted by **Ms. Claudia Sakuler (Engineer, MA)** – marketing communication at KEBA

You are a manufacturer of diode lasers for materials processing and use KEBA products – what role does KEBA play in your systems?

Aust: In addition to the laser itself, the system control is one of the most important components of our diode lasers of the LDF series, and the control that we use is of the latest system generation from KEBA. Our laser systems consist of individual subsystems, such as power supply and cooling. The heart of the system is the laser head; the intelligence is located in the control. This enables perfect interaction of the individual components.

Why did you search for a new solution?

Löhle: We decided to look for a new solution because we wanted to improve service and reduce the susceptibility to errors. We also wanted to lower costs. To reduce the costs for cabling, for example, we switched to a bus system.



Stefan Aust, product manager, and Kai-Uwe Löhle, director of development at Laserline

How did you become aware of KEBA?

Löhle: First, we analyzed the common bus systems available on the market and decided for EtherCat. It was important to us to select an open system in order to avoid being bound to just one supplier.

The CODESYS program system is also supported by numerous control manufacturers. Here, it was important to us that the code be reusable and that, if necessary, we be able to switch to another hardware platform with just a few changes to the interface. If this should make sense from a technical or economical perspective.



At the end of our research, only two providers came into consideration, one of which was KEBA. The reason we opted for KEBA was the versatile and sophisticated visualization solution.

You were looking for a modern visualization solution that is fit for the future. Why did you decide for KEBA?

Aust: The decisive factor for choosing KEBA was the complete package, consisting of control, operating panel and visualization.

What distinguishes KEBA from competitor offerings?

Aust: In addition to the technical advantages comes the fact that, with KEBA, we have found a suitable partner on a financial and logistical level. By purchasing control, operating panel and visualization, a very attractive price level could be achieved. We examined that in great detail and then decided to work together with KEBA.

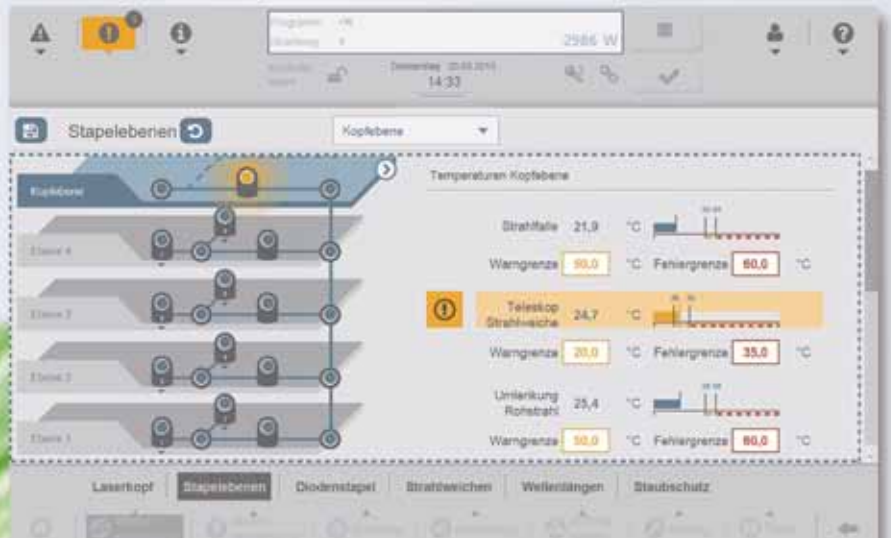
Fact box

CODESYS is a software platform for many different tasks in industrial automation. The tool offers the user integrated solutions for his work. These include:

- ✓ Security features for safeguarding the source code
- ✓ Library concept for reusing application codes
- ✓ Integrated compiler for many CPU platforms



Kai-Uwe Löhle with the KeTop 200



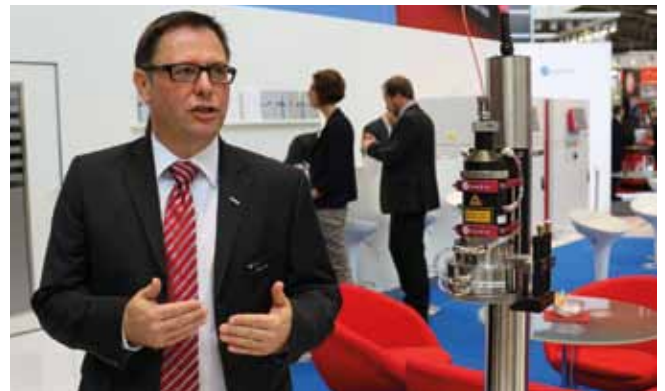
The operators benefit from outstanding ergonomics and usability

You were originally looking for a stationary panel. Why did you then opt for the mobile KeTop 200 with the KeView Style visualization?

Aust: The base costs of a system are very important to our customers. In the current product generation, we always have this cost factor with the permanently installed stationary panel. On the competitive market, such cost advantages are rare for competitor systems that are designed without their own operating unit. To be able to offer our customers a more flexible solution, it is now possible to optionally select the panel. In our diode laser system of the latest generation, we can operate six to ten lasers with just one mobile panel. That is, of course, an enormous cost advantage that we can pass on to our customers.

How is it possible to replace many stationary panels with one mobile panel? How can that be handled in the operating process?

Aust: Because the panel is generally only used during installation, maintenance or troubleshooting, it is not necessary to equip every laser system with an operating panel. The service technician only connects the panel to the respective device when it is needed.



Stefan Aust with processing optics from Laserline

How did you go about designing the user interface? Were you able to implement your corporate design?

Löhle: With respect to visualization, we liked the fact that it can be designed very flexibly – with almost no limits. There are standard functions and one can very easily create everything that is not included by default. This gave us a great deal of flexibility. We were also very pleased that the visualization was truly implemented in the Laserline style.

Maximum freedom in the visualization design

How satisfied are you with the UI* design, and have you had any feedback?

Löhle: The first impression is very good, both at Laserline as well as with our customers. I am convinced that we are on the right path. We will not be able to make a concrete statement until our diode laser has been tested in operation by our customers.

Aust: When introducing a new system, there is always a hurdle that must be overcome: how can we reach persons who have worked for years with the old system? These operators have become accustomed to the old systems over the years and initially hesitate at the thought of a change. It was, thus, all the more surprising to find in recent days that

existing customers, long familiar with the old system, are open for the new one. Following a demonstration lasting just a few minutes, customers have said that the operation is better than before. I think that we can get people excited about the newly designed user interface, many operations are now easier and more reliable.

How was the collaboration with KEBA?

Löhle: I found the collaboration to be very good. Right from the start, we had a contact partner who truly took a vested interest in our project. And, if things happened to get critical, it was clear that everyone was fully committed. Such phases occur in every project, but I think we managed them very well.

Aust: I believe that the collaboration also functioned very well because KEBA and Laserline have similar structures. We both communicated very openly with each other from the start. The other partner was always included in the latest developments and decisions. Here, two companies came together that are a very good match for one another.



Screenshot of Laserline startup screen

*User interface



Cost and time savings through fast troubleshooting

Why did you decide to collaborate with KEBA and a user interface designer and what were the benefits to you?

Aust: For the development of our new user interface, it was clear to us from the start that we needed to bring the requisite expertise on board. The user interface designer's eye for ergonomics and usability was very important to us. The UI designer questioned our requirements with respect to the end user and thereby always brought us back on track. In addition, the acceptance is much greater when an external specialist presents and arguments the user interface design.

How can I imagine the development process?

Löhle: We created the first overviews of the visualization with wireframes. Like a technical sketch, wireframes are a rough concept for a possible visualization system.

Fact box

✓ **Mean Time Between Failures (MTBF)** is the term describing the **average time between failures**.

The operating time here refers to the time between two successive failures of a unit that is to be repaired. The higher the MTBF value, the "more reliable" the device.

They contain the functionality and the arrangement of the components without the final visual design. With the help of this wireframes, it was possible to represent and discuss the visualization interface.

For your customers, the fast availability of the devices is very important. What needed to be taken into account here in the UI design?

Aust: In our applications, an availability level of more than 99% is required. It is important here that, in the event of an error, the user be able to identify and respond to the error extremely quickly. The information that the operator urgently needs should be available to him quickly, without a great deal of cognitive effort and without needing to read detailed operating manuals. Our new system guides the operator through the process and, together with his technical knowledge, he can then rectify the error as quickly as possible. In production, every minute of downtime costs a great deal of money.

Löhle: We currently have a MTBF that is in the range of several 10,000 hours. The goal is to achieve a MTBF time of 30,000 hours in this project. It is important here that the operator quickly be able to find his way in the visualization and be able to respond properly and quickly in a critical situation.

Reliability through high availability and diagnosis options



In addition to the overview masks for the normal workflow, are there other masks for making process settings or performing evaluations?

Löhle: The diagnosis area is still in development and will be expanded greatly in the future.

Aust: During operation, it is very important to be able to understand errors. Even if only to verify that problems are not caused by the laser. Intelligent tools are, of course, needed here that tell us exactly what happened at this point in time and where the error originated.

Are other projects with KEBA planned?

Aust: At the moment, nothing concrete is planned yet, but we are, of course, considering further developing the new system over the entire product line. We now have a good platform upon which we can build.

Löhle: The new system gives us many possibilities for expansion and to round out the product somewhat. ■



Laserline GmbH – Laserline is a leading manufacturer of diode lasers for materials processing. Applications of the lasers include welding, hardening, heat treating, brazing and cladding.

Founded in 1997, Laserline was a pioneer in the field of diode lasers for industrial materials processing. Today the company has a staff of 220 as well as numerous international subsidiaries and representatives who are responsible for globally active customers.



Automation by innovation.

KEBA AG – KEBA AG is an internationally successful electronics company based in Linz/Austria with subsidiaries all over the world. KEBA has been developing and producing inventive automation solutions for 45 years for industrial, banking, services and energy automation branches.

With its 940 employees, the KEBA Group stands for experience in the development and realization of complex automation solutions and is a guarantee for the highest quality.

Fit for the future with KEBA.

KEBA AG was founded in 1968 and is an internationally successful electronics company headquartered in Linz (Austria) with branch offices worldwide. In line with its credo, "Automation by innovation" KEBA has been developing and producing inventive, top quality automation solutions for 45 years for industrial, banking, services and energy automation branches.

Indeed, as a result of competence, experience and courage, KEBA is the technology and innovation leader in its market segments. Extensive development and production expertise have proved a recipe for highest quality.

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