LASERPOINT

The Laser Magazine by eurolaser

16th edition / March 2014

eurolaser
Partner for your success.

Prototyping with eurolaser technology

tesa® - Global manufacturer of self-adhesive system solutions

MDF - printed and laser cut

Save time with shuttle table system and camera

Simple calculation

PLANNER – The software module for calculating machining time

Drawing upon experiences

Dear customers and business partners, dear interested parties,

2014 is set to be a very special year for eurolaser GmbH. We are celebrating our twentieth anniversary.

We can proudly look back on many exciting and successful projects. Just in time for the start of the new year, we presented our new laser systems to you. This was an important step into the future for us.

This success would not have been possible without you, our customers and partners. We have been able to develop practical solutions because you continue to challenge us, ask questions and put our laser systems through their paces on a daily basis. Technical improvements, practical options and numerous new ideas have been developed following suggestions from the market.

We would like to thank you for this and encourage you to continue to provide us with ideas of how to optimise our laser systems, offer you efficient technology and confidently look to the future.

I, Matthias Kluczinski, hope you enjoy reading this.

We listen

YOUR IDEAS – YOUR MACHINE – YOUR BENEFITS

For almost 20 years, our laser systems are leading on the market, now we are entering the next evolution step of laser technology. With the new series, we bring the future of the laser systems to the present. We would like to thank you for the great suggestions to elaborate this market-driven system solution. Your latest laser system development is available now!

Our new products were introduced to the public for the first time at the in-house Laser Fair in September 2013. Three of the six new models were presented initially.

New ideas for your production

The expandability of the laser systems has always been of major importance in developments. The new models are again based on a modular design, so that users can always be offered the right solution for their specific applications. The ability to use mechanical tools in parallel to the laser is of particular interest. This allows even greater flexibility in processing. There are also specific solutions, which were developed simultaneously, such as the Shuttle Table System, which allows loading and unloading during the cutting process. The new laser systems also offer fully automatic processing of textiles, including unwinding and winding. Our popular automations for a better efficiency are still available for our customers. Many small ideas and adaptations simplify system operation, reduce running costs and optimise the machining processes in terms of output and handling.

Presentation of the new laser systems at the in-house fair

Combined usage of laser and mechanical tools

Prepared for the easy installation of a CCD camera

Simplified system operating

- Usage of market tested Zünd tools parallel to laser
- Process monitoring by acoustic machine feedback
- Simplified focusing and stepless electronically adjustable z-axis

Extended equipment (from now on integrated)

- Pilot laser for simple material positioning
- Prepared for the easy installation of a CCD camera
- Process gas control (for optical cutting results)

Elaborated concept

- Optimised vacuum table
- Larger and thicker materials can be processed
- Quick acceleration
- Low-wear and maintenance-friendly construction
- Modular design for multifunctionality and expansion options

eurolaser lays the groundwork for the years ahead with this future-oriented range of processing machines and once again raises the bar for the market.

Only the high performers will prevail!

Prototyping with eurolaser technology

tesa® - GLOBAL MANUFACTURER OF SELF-ADHESIVE SYSTEM SOLUTIONS

Many private customers know tesa® mainly through the self-adhesive tape that is used daily in offices, homes and gardens. The name tesafilm® is so well known, that it has even become one of the few brand names to make it into the definitive dictionary of the German language: Duden. However, the company tesa® SE has a lot more to offer. With more than 7,000 products developed and manufactured there, the company is active in a wide range of markets worldwide. Over three quarters of its total turnover comes from special system solutions for industrial customers.
tesa® sees itself as an industrial partner, and works with customers to analyse production processes in order to create tailor-made solutions for improving efficiency or optimising the end product. The aim is to reduce costs, optimise processes and thereby improve end products for industrial customers in numerous sectors.

The range of applications for special adhesive tapes is immense. It ranges from the printing and paper industries, via precision die-cuts for the precise adhesion of electronic components in mobile phones, digital cameras or LCD screens, to counterfeit-proof, laser-etched labels.


Fixing without fittings


LED bonding


Adhesive power on different materials


Joining of lighted signs

Among the most important target markets for the company, which has its head offices in Hamburg (Germany), are the automobile sector and the electronics industry. Modern cars can contain up to 50 different products which are manufactured by tesa®.
Since 2010, tesa® has been using a eurolaser system for prototyping in its Converting Center in Hamburg. On the laser system, new and existing products are tested to see whether they can withstand the use of a laser, and tailored for test purposes.

Since 2011, tesa® and eurolaser have further extended this collaboration. In close collaboration, even before being officially released onto the market, many innovative products have been tested for laser cutting capacity in the eurolaser applications laboratory. Innovative laser technology is increasingly being introduced to the market, both for prototyping and for production. In order to provide customers with relevant information, knowledge of these production methods is indispensable. By exchanging experiences, the experts from both companies are able to increase their know-how in specific, relevant areas. Following successful test results, the products tested were certified by eurolaser. ■

tesa SE
Quickbornstraße 24
20253 Hamburg
Germany

MDF - printed and laser cut

SAVE TIME WITH SHUTTLE TABLE SYSTEM AND CAMERA

Our miniature bus was made on our new laser systems, kindly supported by our client Werkhaus Design + Produktion GmbH. The trademark-protected interlocking MDF system of Werkhaus provides an easy assembling.

Due to its versatility, MDF can now be found in numerous products. Furniture, displays, shop and exhibition stand construction, ornaments and toys are just a selection of the long list of applications.
Laser technology is becoming increasingly popular when processing this material, because this technique is ideally suited for cutting MDF. Today, eurolaser systems are not only used in the production of small, but also of large quantities.

In our example, a 3.2 mm strong MDF board (medium density fibreboard) has been printed with the motif of our event bus. The fiducial marks are read by our POSITION^{plus} camera detection system and processed in such a way that the cutting takes place precisely on the print contour.

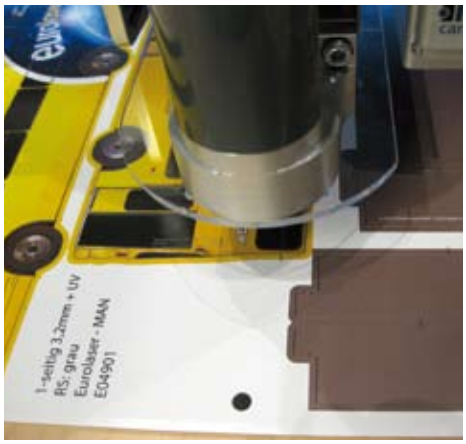
Advantages of the eurolaser technology in this example:

- **Exact cut along the print contour**
- **No chips and dust**
- **Loading and unloading during laser cutting, using the Shuttle Table System**
- **Table change only takes approx. 4 seconds**
- **No need to clamp materials**

The parts of the bus are not completely cut out of the base plate. Small connecting links prevent the parts from falling out, but allow them to be removed for later assembly by using light pressure.

Loading and unloading of the laser system takes place in parallel with processing, because the table top can be exchanged within a very short time using our Shuttle Table System. This allows the rapid production of our individual pen box in eurolaser design.

The original eurolaser event bus has served as a model for the small MDF version



3 IN 1

USE THE BEST RANGE OF TOOLS IN PARALLEL TO THE LASER!

A processing machine that is uniquely versatile in its variation possibilities. This modular design principle allows us to open completely new manufacturing horizons for our customers. The question is no longer laser or flatbed cutter, but rather: Which two tool modules should I install in parallel to the CO_2 laser?

Laser + two mechanical tools

This gives you:

- up to three tools in parallel on one machine
- a range of tools with uncountable possible combinations
- high-quality, market-tested tools from Zünd Systemtechnik AG
- maximum versatility
- additional options for combining the high-quality camera for printed materials with all tools
- high speed and stability in the machining process
- bayonet lock for fast tool changes

Maximum versatility and the right tool for every application!

The modular design of the laser systems now makes it possible for the user to utilise up to two mechanical tools parallel to the laser. Customers can avail of the entire high quality tool range produced by Zünd Systemtechnik AG of Switzerland. In addition to milling tools, countless knives and scoring, marking and stamping tools are available. This provides the ideal opportunity to combine the advantages of different processing methods - all on just one machine.

Additional processing possibilities for your production:

- Mitre cuts and V-grooves
- Milling grooves
- Bevels
- Counterbores and blind holes

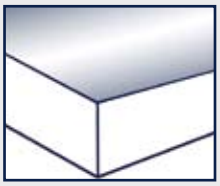
Extend your machining and material options without expensive additional investments. The modularity of the eurolaser systems means you can fulfil every customer wish and are at home in every market.
The tools can always be retrofitted, if required. Even with 'older' models of our laser systems, you have the possibility to use the mechanical tools. We are happy to help you!

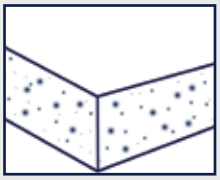
Bevels | Milling grooves | Mitre cuts and V-grooves | Counterbores and blind holes

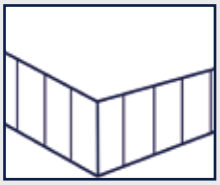
Routed groove and laser cut outer edge

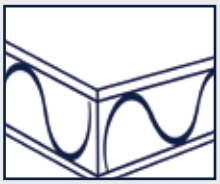
Additional materials:

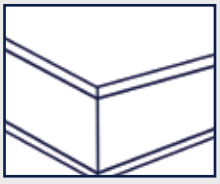
PVC plates, foils and foams


Teflon® and metal coated materials


Thick PU foams


Polycarbonate


Cardboard in sandwich design


Composites

schäfer® vollendet.

Successful eurolaser customers

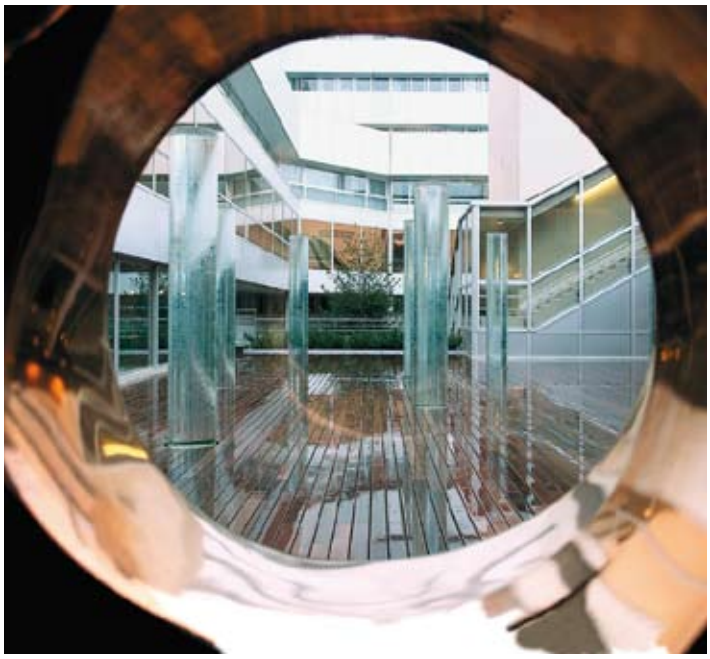
SYSTEM SOLUTIONS OUT OF SEMI-FINISHED PLASTICS

Plastic is a material that we just cannot do without, one that has become an integral part of our daily lives. The innovation potential of this material is still very high. The development of new raw material components combined with sophisticated processing technologies mean that more and more tailor-made solutions are being made available for new fields of application. Good prospects for anyone who is well versed in this segment!

Schäfer Kunststofftechnik GmbH is a specialist when it comes to the high-quality processing of semi-finished plastic products. For over half a century now this innovative family-run company has been processing many different kinds of plastics, PMMA, PC, PVC, PP, PETG and many more, and has developed to become a brand name for top quality whose reputation has spread far beyond the borders of Germany.

Schäfer counts a flair for innovation, flexibility and service among the most important ingredients for sustaining success in such a face-paced environment. A wide range of products and services also plays a vital role here. Machinery and plant engineering is another major field of business in addition to top quality products for medical, laboratory and dental technologies. In order to set itself apart from the profile of a classic processor of plastics, Schäfer supports its customers as a system partner, developing optimum cost and material constructions in conjunction with customised logistics and maintenance services. The combination of function and design is the key element in the construction of individual cover hoods and cladding.

But even object and lighting design are also among the core business activities at Schäfer Kunststofftechnik. In particular, the material properties of acrylic (PMMA) can be exploited to achieve fantastic effects in architectural constructions as well as in trade fair



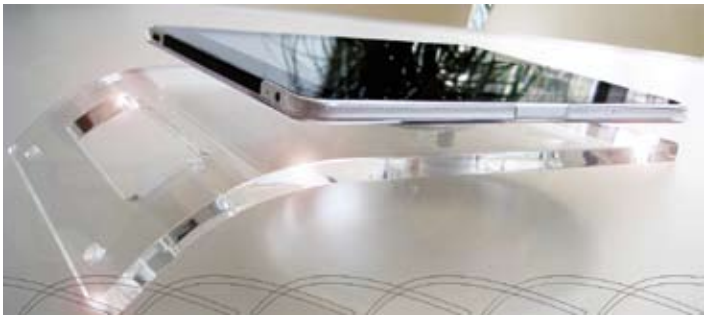


Image sources, i.a. Schäfer Kunststofftechnik GmbH

and shop construction.
In order to meet the high expectations of its customers and to be well equipped for future developments, the company has invested systematically in the further development of different approaches to solutions, technology and processing methods in the last few years. Meanwhile, over 700 tons of raw material a year are processed in the two locations in Germany and in Switzerland in order to fulfil the more than 8,000 orders that come in from approximately 900 customers. The technical equipment at Schäfer Kunststofftechnik also includes a laser system from eurolaser.

Here is what Mr Schmied, the technical manager at Schäfer, has to say: *'One of the best decisions we have made in recent years was to purchase a eurolaser system. The state-of-the-art laser system runs in two shifts and saves us an awful lot of time, money and stress. We have also been able to expand our range of products and services thanks to the unique possibilities offered by laser technology and have increased quality as well. A purchase that quickly paid off and one that we would opt for again, every time.'*

If the target they set themselves 'to integrate innovations into existing processes at a very early stage and to create value-driven innovations ourselves' is to be achieved, then it is necessary to invest in sustainable technologies. Laser makes an important contribution in this respect. Schäfer Kunststofftechnik sets new standards in quality, expertise and service and will continue to play a leading role on the plastics processing market in future as well with its innovations and first class products.

Schäfer
Kunststofftechnik GmbH
Allmendgrün 3
77799 Ortenberg
Germany
www.schaefer-vollendet.de

Global Formula Racing puts its trust in eurolaser

LASER TECHNOLOGY PROVIDES FOR MORE EFFICIENT BATTERY SOLUTION

Global Formula Racing is an international collaboration between the former BA Racing Team from the Duale Hochschule Baden-Württemberg-Ravensburg (DHBW-R), Germany, and the Beaver Racing Team from Oregon State University (OSU), USA. The starting pistol for this innovative global collaboration, which is the first and, to date, only one of its kind in the history of both American and European Formula Student racing, was fired in 2009.

Combined experience, shared resources and collective German and American expertise should result in a vehicle that will earn an international reputation - with success. The design, manufacture and testing will take place at both universities, separated by nine time zones and more than 8,700 km. The unique supply chain management of Formula Student plays a very important role in this. Likewise the English language, which has been set as the team language to ensure a comprehensive flow of information across national borders.

In the first joint season in 2010, an identical combustion engine vehicle was built at each university, and this laid the foundation stone for the designs in the following years, as well as the future collaboration. This common basis has been used since the 2011 season to design and build two cars - a combustion engine variant at the OSU campus in Corvallis, Oregon, USA and an electric vehicle at the DHVW-R campus in Friedrichshafen, Baden-Württemberg, Germany.
For the current season, too, the DHBW-R team is building an electric vehicle. An essential component, to which particular attention is paid, is, of course, the battery (or accumulator).
The battery system is based on a 450 volt concept and is built into a battery container comprising a base body and a lid. The battery container holds eight battery packs connected in series, each of which accommodates 12 serial and 2 parallel cells in an L-shaped, sintered protective case.
The cells are connected to the cell contacts on the top of the protective case by circuit boards made of silver-coated aluminium. In order to protect the individual battery packs in the event of an accident, protective film made from the flame retardant material Lexan FR60 is used.
For this, three different films were designed in the CAD: one which is folded and bonded then clipped over holes in the protective casing; one which is stuck to the inside of the protective case; and one which is likewise stuck to the sintered lid of the battery packs. Their task is to delay the spread of fire to other battery packs in the event that the battery catches fire, and the film should also protect the lid against any short circuits which might be caused

by tools falling into the battery container.
The company eurolaser enabled us to assemble this precisely thanks to high precision laser cutting of the Lexan film.
'The laser cutting enabled us to reduce working time to a minimum, and to build the battery system productively and within the timetable.'
Andreas Ott | GFR - Battery Mechanical Team

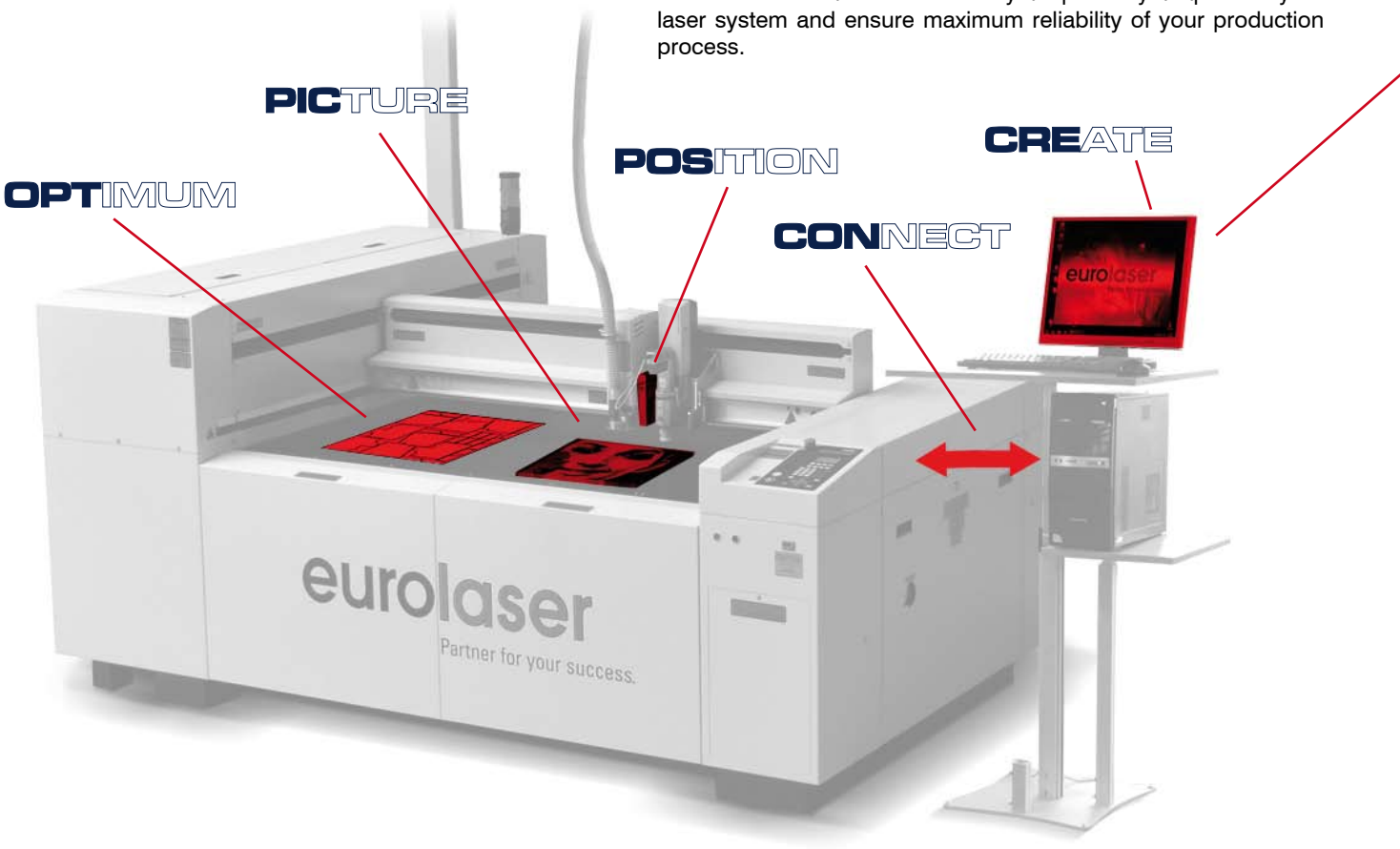
The Global Formula Racing Team would like to thank the company eurolaser most sincerely for its support and hopes to enjoy continued collaboration in the future.
We at eurolaser also wish the team from DHBW-Ravensburg all the very best and success in the head-to-head race!

Laser cut lexan foil as precise battery casing

LaserScout

THE SOFTWARE FOR YOUR LASER SYSTEM

Make use of the full potential of your laser system with the help of our software modules. They are perfectly adapted for your laser system and ensure maximum reliability of your production process.



An overview of the LaserScout software modules:

CONNECT
is our front-end software for controlling and monitoring the laser system. It contains the software module PLANNER to calculate the practical processing time.

CREATE
is our design and process planning software for the generation of job files. It contains the software module PLANNER to calculate the practical processing time.

POSITION +
is the software package for finding registration marks through a CCD camera and it takes part of our optical recognition and positioning system (POSITION^{plus}). This software package includes the modules CONNECT as well as PLANNER (calculation of the practical processing time).

PICTURE +
is the software package to implement frames in the pixel format and it takes part of our engraving option (PICTURE^{plus}). This software package includes the modules CONNECT and CREATE.

OPTIMUM
is our nesting software by the help of which your cutting files will perfectly be placed on the material. You save material, time and thus, money.

NOW WITH THE NEW MODULE ‘PLANNER‘

NEW

PLANNER

The software module LaserScout PLANNER enables you to estimate expected machining times realistically, without cutting any samples. You can generate profitable calculations quite simply and avoid any miscalculations. The calculation of machining time generated by the PLANNER module can be used very flexibly.

You can estimate the expected output time very early on during data generation. The software module can also be used on an independent PC without the need of any data connection with the laser system.

Simple calculation

PLANNER – THE SOFTWARE MODULE FOR CALCULATING MACHINING TIME AND COSTS

Your advantages:

- **Simplifies the pre-calculation of machining time**
- **Easy to operate**
- **Time calculation is based on your own job-related parameters**
- **Jobs already calculated are recorded and can be called up again at any time from your database**
- **Calculation can begin very early on during data generation**
- **PLANNER is compatible with our previous software versions***

We would be pleased to advice you on our software solutions!

Call us:

+49 (0)4131 9697-500

* not applicable for raster engravings

eurolaser - Personalities

New recruitments

Name	Profession	Start of employment
Manuela Klappa	Production	11.11.2013
Juan Luna	Sales Manager BeNeLux	01.12.2013
Andreas Schimpl	Sales Manager Austria	01.12.2013
Grit Klauß	Logistic Coordinator	01.12.2013
Andreas Lehn	Construction	01.12.2013
Christian Jobmann	Service Technician	09.12.2013
Sandra Karp	Purchase Assistant	01.01.2014
Maximilian Ristock	Process planning	01.01.2014
Christian Ehlers	Project Manager	01.01.2014

Anniversaries

Name	Time in company	Start of employment
Vanessa Krull	10 years	01.09.2003
Stefanie Lübberstedt	5 years	01.09.2008
Eder Quiroz	5 years	06.01.2009


Stefanie Lübberstedt


Eder Quiroz

New trainees

Name	Training course	Start of employment
Eike Christian Tunder	Industrial clerk	01.08.2013
Rebecca Freiling	Industrial clerk	01.08.2013
Melanie Bengsch	Industrial clerk	18.11.2013
Luca Scholz	Specialist for warehouse logistics	01.08.2013
Sanjin Petkovic	Specialist for warehouse logistics	01.08.2013
Hans-Ulrich Niehaus	Mechatronics	01.07.2013
Tobias Kröpke	Mechatronics	01.08.2013
Alen Sinanovic	Mechatronics	01.08.2013
Kim Dittmer	Student for BA Marketing	01.11.2013

Examinations passed

Name	Profession	Date
Aike Schwebke	Specialist for warehouse logistics	22.01.2014
Dawid Kobylka	Mechatronics	14.01.2014

DATES

INPRINT 3D
InPrint in Hanover (DE)
08.-10.04.2014

FESPA DIGITAL 2014
Fespa Digital in Munich (DE)
20.-23.05.2014

28 BIEMH INTERNATIONAL MACHINE-TOOL EXHIBITION
BIEMH in Bilbao (ES)
02.-07.06.2014

Fakuma
Fakuma in Friedrichshafen (DE)
14.-18.10.2014

eurolaser Partner for your success.

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