

# POWER *Line*

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CUSTOMER PROFILES • NEW TECHNOLOGY • PRODUCTIVITY • FLEXIBILITY

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Publication



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 Prima  
Power

# Our Concept for Success: Being Close to Our Customers

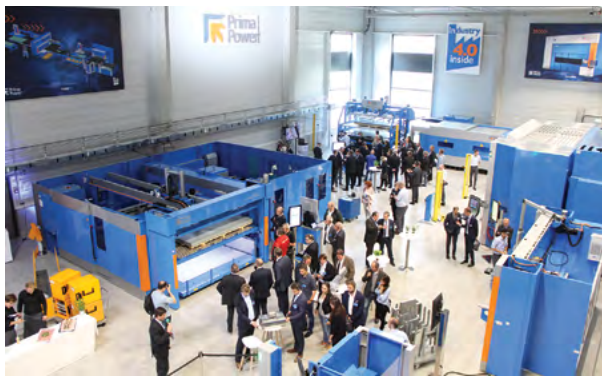
By Ezio Basso, Prima Industrie Managing Director, Prima Power Division



A continuous dialogue with our customers is the first ingredient for a successful business. We think it is vital to talk *with* our customers rather than *to* them. Their stories show us the right direction for the constant improvement of our products and services.

In order to succeed in this task, we need to be where they are, to be physically close to them. All points of contact are crucial in this process. People talking the language and sharing the culture of our customers and locations where they can directly experience our technologies are central elements.

For this reason, we are constantly working to improve all customer touch points, particularly our tech centers and our booths at the exhibitions, where interactions between customers and our people and products are more comprehensive.



In June, we inaugurated our new Tech Center in Munich. Previously placed near Frankfurt, the new Prima Power GmbH facility was enlarged and

moved to Munich, to be more centrally located to customers and prospects of the whole D-A-CH area and closer to the metal manufacturing industry. Live demonstrations of our product capabilities, cycle time studies, seminars, trainings, and events: Prima Power GmbH is now a true competence center for an all-round support to our customers.

Munich is the latest addition to our network of Technology Centers around the globe, where we host thousands of visitors every year. Our Headquarters and Tech Center in Italy (Collegno, Turin) has recently hosted two big events dedicated to the Steel Doors sector and to the launch of our new 3D fiber laser machine Laser Next 2141. The Technology Center in Finland (Kauhava) gathered visitors from 20 different countries during a successful System Tour, and the one located in China (Suzhou), dedicated to the Asian market, was the stage of the fruitful launch event of the new 2D fiber laser machine Laser Sharp. Our Tech Centers in the US (Prima Power North America in Arlington Heights, IL, and Prima Power Laserdyne in Champlin, MN) are the reference points for the North American market and cover all the technologies of the group.



Two new Prima Power facilities are under construction: the new manufacturing plant and Tech Center in Finland (moving from Kauhava to Seinajoki), and the house for Prima Additive, the new Division of the Prima Industrie Group specialized in Additive Manufacturing. We are enthusiastic of these projects and we will soon share information on their developments.

Exhibitions also offer great opportunities to meet our customers and prospects. As you will read in this issue, we will take part in three upcoming big exhibitions in Europe, China, and the US. For these important trade shows, we are working to make the visit to our booths a unique and memorable experience, showing our latest technologies and innovations in a new, engaging, and instructive way.



To improve our customer experience, we are exploiting all opportunities offered by the digital world. Our Tech Centers and our booths are equipped with areas dedicated to Virtual Reality, allowing visitors to have a total and entertaining experience of our machines. This is another way to bring our technology closer to our customers.

We are proud of the trust that thousands of customers around the globe have placed in us and we are working to deserve that trust today and in the future. For this reason we will continue investing to get closer to our customers and provide them a better and more comprehensive experience of our brand and our products.

GRAND  
OPENING

# Prima Power Opens New Technology Center in Munich

Prima Power recently opened its new Technology Center in Neufahrn, near Munich.



The new location is in the heart of the D-A-CH area. As a result, Prima Power is now able to better serve the entire German-speaking market and to be much closer to the regions where its machines are already in use or where the group envisions the highest growth potential.



"The new Technology Center serves as a center of excellence and has a strong focus on customer satisfaction," explains

Paolo Musante, Prima Power GmbH managing director. "From this location, we can offer our customers highly-efficient support, especially for the industrial areas of southern Germany, Austria, and Switzerland. Munich, as an international transport hub, is excellently connected to the European railway and motorway networks and has the second largest airport in Germany. This is very important for us as a globally active company, especially as it means we can now be reached relatively quickly and easily for our customers from other European countries as well."

Prima Power GmbH in Neufahrn employs 55 people (of which 35 are dedicated to customer support) and covers an area of 1,800 m<sup>2</sup>. Nearly half of this area hosts the Demonstration Center, where live demonstrations of our latest technologies and products can be attended by a large number of guests.

In addition to offices, two conference rooms are available with a direct view of the Demonstration Center. They are mainly utilized for events, customer visits, meetings, seminars, and also training for Prima Power engineers and employees in general.

In line with Prima Power GmbH growth strategy, the aim is to have a team of 70 employees in the new subsidiary by 2020. The expansion is mainly foreseen, in addition to sales and service, in application and training staff, to further grow as a state-of-the-art Competence Center.

The overall investment for the new Prima Power GmbH facility (including building works, machines installed at the Technology Center, etc.) amounts to 4 million euros. The D-A-CH area is strategic for the group, as it represents one of the most important markets in Europe, with 5% of revenues realized in this market and an installed base of over 1000 machines. The opening of the new facility in Munich is part of a larger plan of investments to increase its presence in the most important markets, and to expand and improve its set of Technology Centers for a better and more complete customer experience.



In the new Technology Center, the latest innovations in the Prima Power product portfolio are on display: the fastest 3D fiber laser cutting machine on the market Laser Next 1530 (the smaller sister of the recently launched 2141 version); the high performing 2D fiber laser machine Laser Genius 1530; the

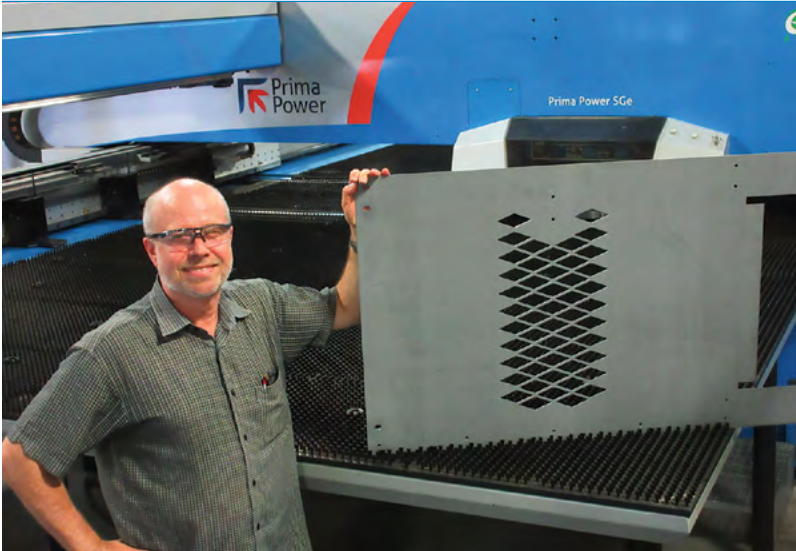


combined punching and fiber laser system Combi Genius 1530 with servo-electric technology; the highly efficient servo-electric bending cell BCe Smart; and the fast, accurate, and efficient servo-electric press brake eP-1030. All products are Industry 4.0 Inside for digital, interconnected and data-driven manufacturing.

Please scan the following QR code to watch the event video:



# Canadian Manufacturer Eliminates Bottlenecks with Shear Genius



Shaun Dooner, general manager, explains that when he looks at the SGe, he sees an endless amount of possibilities. The SGe's flexibility has allowed The Williams Brothers management team to streamline manufacturing on some product lines.

The Williams Brothers Corporation, Scarborough, Ontario, is Canada's leading manufacturer of fire extinguishers and fire equipment cabinetry. Tracing its roots to 1908, Bill Williams is the third generation owner/president of the company.

Originally founded as a fire extinguisher service company, over the past century the company has evolved into two corporations: The Williams Brothers Corporation which fabricates all the sheet metal products such as fire extinguisher cabinets, safety storage cabinets, propane and welding cages, access doors, racks, trays, boxes, etc., and the Strike First Corporation, which is Canada's largest distributor of portable fire extinguishers.

According to Shaun Dooner, general manager, the company began fabricating sheet metal products in the mid-1960s. "It all began with just a shear and a piercing machine," reflects Dooner. "And here we are today with a full-range of fire equipment and access panel product lines manufactured with technologically-advanced fabricating equipment."

The Williams Brothers Corporation added fabrication equipment through the years to fill the growing production demand. Eventually, the company began searching for increased production and easier throughput. "As the order book got increasingly full, we experienced more bottlenecks in the manufacturing process," explains Dooner. "In order to counteract the bottlenecks there is only so much you can do before you have to look at automation. At one point, a laser we had purchased went down for several weeks. That prompted our search for equipment that would allow us to increase our

throughput, reduce our error rate, increase our accuracy, and allow for better control on process flow."

In order to expedite this process, the management of the Williams Brothers Corporation attended the 2013 FABTECH Show in Toronto and purchased a Prima Power Shear Genius punch/shear combination and a Sincrono fiber laser.

## Servo-Electric Shear Genius

With the Shear Genius concept, the objective is to provide a machine capable of transforming a full-size sheet into finished parts. These parts can be moved to the final production stages for immediate integration directly into the final product assembly.

The SGe is able to perform the most demanding jobs with minimal set-up times and lights out unmanned operations. Shear Genius increases material productivity through efficient and versatile nesting programs. As loading, punching, forming & upforming, shearing, unloading, sorting, and stacking become automated, the result is a finished part with a dramatic reduction in scrap and manual labor, while increasing productivity.



The SGe is able to perform the most demanding jobs with minimal set-up times and lights out unmanned operations. Shear Genius increases material productivity through efficient and versatile nesting programs.

*"When I look at the SGe, I see an endless amount of possibilities. With its ability to create louvers and perforated standoffs, it becomes a 3-Dimensional machine. We load sheets on one side of the SGe and unload finished parts on the other side...it doesn't get much easier than that."*

"I really like the Shear Genius," says Dooner. "When I look at the SGe, I see an endless amount of possibilities. With its ability to create louvers and perforated standoffs, it becomes a 3-Dimensional machine. We load sheets on one side of the SGe and unload finished parts on the other side...it doesn't get much easier than that."

## New Applications

The SGe's flexibility has allowed The Williams Brothers management team to streamline manufacturing on some product lines. "At one time, we were building some of our boxes out of three pieces...two of them stamped on a 350-ton press," continues Dooner. "We partnered with Mate Precision Tooling to develop a snap-lock tool for the SGe that allowed us to make the three-piece block out of one sheet. The part is punched, sheared, formed, and locked on the press brake, and sent directly to the paint line. This has eliminated the hard tooling, the foot coils, the need for the 350-ton stamping press, and the spot welding to assemble all three pieces together. This has been a game changer for us, and when you are tracking delivery compliance percentages as a measure of success in your manufacturing environment, this has really increased throughput for those product lines. Because we have been able to eliminate spot welding and heavy stamping out of the equation, I have freed up capacity hours in those two departments. That has allowed me to increase throughput for spot welding parts and stamped parts. It has been a win/win throughout our manufacturing process. I couldn't have done this without the SGe and our tooling supplier."



The Prima Power Sincrono Fiber laser features 6g acceleration for processing thin sheets.

## Sincrono Fiber Laser

The Prima Power Sincrono Fiber laser features 6g acceleration for processing thin sheets. The system is two synchronized machines in one: one small, light head with high dynamics,

and one larger machine with a wide working area. The two machines are coordinated by patented algorithms for optimum distribution of movements throughout the axes. An active compensation cancels the vibrations deriving from the high dynamics.

## Servo-Electric Press Brakes

In August of 2017, The Williams Brothers Corporation's latest acquisition was two Prima Power servo-electric eP-0520 press brakes.

Prima Power has applied a servo-electric drive system on the new eP-Series press brake. It is a fast, accurate, non-hydraulic bending solution. The innovative machine concept combines productivity, accuracy, flexibility, and reliability with high respect to ecological aspects. The concept offers sustainability and manufacturing efficiency and productivity. It also means



The Prima Power eP-Brake is based on a rigid O-frame. This ensures tool alignment even under stress deformation since there is no horizontal displacement. The eP-Brake features the advantages of high acceleration, deceleration, and fast response times of the servo-electric drive system.

Compared to conventional brakes, considerable productivity increase can be reached; reduction of cycle times by up to 30 % and more is the reality.



greater versatility, lower power consumption, less maintenance, and no oil to purchase or to dispose of. In addition, easy programming and outstanding accuracy eliminate waste production. The net result is the ability to form higher-quality sheet metal parts at a lower cost.

## Maximum Productivity

The eP-Brake features the advantages of high acceleration, deceleration, and fast response times of the servo-electric drive system. Compared to conventional brakes, considerable productivity increase can be reached; reduction of cycle times by up to 30 % and more is the reality.

*"We replaced two older 2-axis machines with brand new state-of-the-art 5-axis servo-electric press brakes. We've never worked with this level of accuracy."*

"We replaced two older 2-axis machines with brand new state-of-the-art 5-axis servo-electric press brakes," concludes Dooner. "We've never worked with this level of accuracy. I also really like the safety features of that machine. The press brakes are almost maintenance free. Their repetitiveness and accuracy of .005 is impressive. We had accuracy problems with the older press brakes, so all new programs developed through R & D are scheduled on the new Prima Power press brakes."

# Automated Fiber Lasers Lower Costs While Increasing Productivity



Randy Hallman, president of Precision Laser Processing (center) purchased a Prima Power 4 kW Platino Fiber laser in July, 2017 and a 6 kW model in August, 2017.

In 1994, Randy Hallman, president of Precision Laser Processing, Sandy, UT, bought his first laser machine. Twenty four years – and nine lasers – later, the company has earned the reputation as a leader in precision cutting services. “We began our company offering just laser cutting,” explains Hallman. “Today, we have evolved into a full-service operation offering such services as bending, TIG welding, metal finishing, deburring, and a small amount of machining. Through the years, our company has adjusted its customer list to lessen the volatile ups and downs of consumer discretionary spending. Our diverse customer list of today includes OEMs in agriculture, automotive, mining, medical equipment, sign companies, etc.”

*“Once we put the first one in, we were just amazed by the increase in productivity...so we ordered another one.”*

Prior to 2016, Precision Laser Processing utilized just CO2 lasers. “It was obvious that the market was changing,” reflects Hallman. “Fiber lasers were rapidly growing in popularity, and it was time for us to make a change.” In July, 2016, the company traded in its Prima Power CO2 laser for a 4 kW Platino Fiber laser. “Once we put the first one in,” says Hallman, “we were just amazed by the increase in productivity...so we ordered another one.” In August, 2017 a 6 kW Platino Fiber laser was installed.

## Platino Fiber Laser

The Platino Fiber Laser cutting machine is the perfect balance of innovation and experience. This product combines state-of-the-art efficient and ecological fiber laser technology, with the proven reliability and flexibility of the Platino platform. It is the right choice for sheet metal manufacturers looking for a production tool which is:

- efficient, granting energy and maintenance savings
- productive, particularly on thin and medium-gauge sheets
- flexible, suitable for a wide range of materials, including highly-reflective metals
- reliable and capable of meeting any production need, with a variety of automation modules
- user-friendly, easy to install, use, and maintain



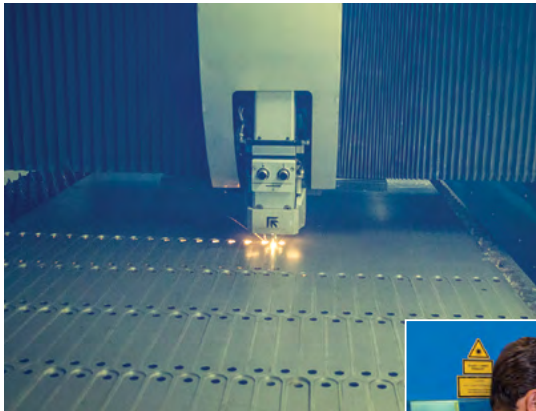
Precision Laser Processing utilized its existing Prima Power 10-shelf TowerServer automated work handling system for the 4 kW Platino Fiber (above) and purchased a new 10-shelf tower for the 6 kW model (left).



The Platino Fiber Laser can be used to cut a wide range of materials. Fiber lasers are more effective than other laser sources for cutting highly-reflective materials (e.g. aluminum alloys, copper, brass). The Platino Fiber cuts various thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.

## Flexible Automation

Precision Laser Processing utilized its existing Prima Power 10-shelf TowerServer automated work handling system for the 4 kW Platino Fiber and purchased a new 10-shelf tower for the 6 kW model.



*The Platino Fiber cuts various thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.*

*The CNC and programming software are user friendly and smart tools, developed and manufactured by Prima Power.*



Prima Power's Compact TowerServer allows easy loading/unloading for blanks and processed sheets. It has an elevator for loading and unloading the pallets on and off the tower, and features single sheet separating, control systems, and sheet reference.

The Platino Fiber is particularly suitable for lights-out operation, often performed in unattended mode. It is a fully independent machine, with no need for manual intervention during machine operation. Once the production schedule is programmed, the Platino Fiber laser takes care of the necessary settings, tip replacement, sheet change and storage, etc.

*"The thing that helps us the most is our lights-out capabilities. The two towers allow us to have higher production. We can take material right off the truck and put it directly into the 10-shelf tower instead of handling it twice."*

"The thing that helps us the most is our lights-out capabilities," says Hallman. "We have over 12 times more capacity than a job shop with one machine and one shift. That is huge for us. The two towers allow us to have higher production. We can take material right off the truck and put it directly into the 10-shelf tower instead of handling it twice.

The ease of operation is also an important feature, training someone to operate it is very simple. Our lights-out capability gives us a 30% increase in productivity by itself. That doesn't take into account the speed. For example, we cut a lot of 1/8" aluminum. We are cutting twice as fast with the fiber laser than with the CO2. The increase in production is about 50% greater than it was."

## Opening New Business Opportunities

"We are also able to attract new business with the Platino Fiber lasers, because we can now cut much thicker aluminum," continues Hallman. "We actually cut some 3/4" aluminum with the 6 kW fiber laser which we, of course, could never do on a CO2 laser. We also now have the ability to cut brass and copper with the fiber laser."



*Prima Power's Compact TowerServer allows easy loading/unloading for blanks and processed sheets. It has an elevator for loading and unloading the pallets on and off the tower, and features single sheet separating, control systems, and sheet reference.*

## Energy Savings

"Another thing that we've noticed is a substantial decrease in our energy costs," says Hallman. "When we were running three CO2 lasers, in a busy month I would see monthly bills of \$10,000 - \$11,000. We've cut that in half. Not 100% of that is attributable to the fiber lasers. For example, our compressor has a variable speed drive which helps a ton, but when you compare the CO2s to the fibers, we are using far fewer amps. We also spend less time trying to cool the shop in the summertime, because the fiber laser chillers generate virtually no heat compared to the CO2s."

## Local Service

We also have a local Prima Power service technician," concludes Hallman. "We certainly appreciate everything that Prima Power does for us. The customer service is amazing. The product knowledge is amazing. Whatever we ask for, we get. It would be very difficult to find a complaint."

**NEW  
PRODUCT**

# Prima Power Announces the New Laser Next 2141 3D Fiber Laser Machine

Prima Power is proud to present the new Laser Next 2141 3D fiber laser machine. The product is designed and developed to satisfy the needs of stamped-metal-parts manufacturers in diversified industrial sectors, such as job shops, press shops, aerospace, agricultural, and automotive. The Laser Next 2141 provides an unparalleled flexibility in terms of processes, part sizes, and configurations, combined with state-of-the-art performance, quality, and accuracy.

Laser Next 2141 was recently launched during a dedicated international event at Prima Power Headquarters and Tech Center in Collegno (To) and will be presented for the first time at an exhibition in October, at the EuroBLECH 2018.

Laser Next 2141 is the new product in Prima Power's 3D fiber laser machine range and the latest evolution of the Laser Next family. All the winning features of the Laser Next 1530 and 2130 systems, highly specialized for the processing of components for the automotive industry, are available in this new product, which is designed to be as universal and multipurpose as possible.

The working volume of this machine is the largest on the market (4140 x 2100 x 1020 mm) with a very compact footprint, and it



*Laser Next 2141 is the flexible solution with a large working envelope.*

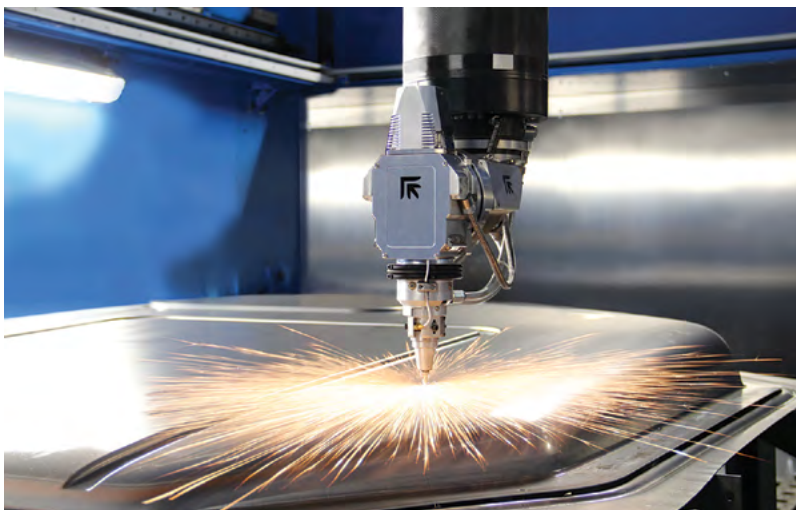
is suitable to virtually all 3D stamped and flat sheet metal part sizes. Its technological features allow it to process both three-dimensional and two-dimensional parts, and to easily switch from cutting to welding applications.

Laser Next 2141 is the perfect balance of speed, accuracy, and reliability. The linear motors on the main axes, the direct drive on the focusing head, and advanced control systems, provide the highest dynamics in its market segment, with single axis speed of 120 m/min and trajectory speed of 208 m/min. This is combined with maximum accuracy (Pa and Ps= 0.03 mm) in a very large working envelope and with the best Overall Equipment Efficiency (OEE).

## **Laser Next 2141 is available in different configurations to better suit any production.**

The standard version with **Fixed Tables** exploits the entire working envelope to process large parts and features great accessibility from all sides. With the **Split Cabin** configuration, the working volume is separated by a removable wall and a sliding roof into two halves, where the parts are alternatively processed or loaded/unloaded in total safety. In this way, machine productivity is increased and, when needed for larger parts, the wall can be removed to restore the entire working envelope.

For the fastest part handling operations without machine stops (cover-time operation), the **Turn-Table** configuration is available. This is the ideal solution for large-series production of



*Large-part processing with superior efficiency and reliability.*





*Turn-table configuration*

medium to large-size parts. The **Shuttle Tables** version allows the fast and automatic movement of parts and fixtures outside the working area from the sides or the front of the machine. This is the solution for allowing large and heavy parts to be handled outside the working area, in case of complex set-up. Combined with the Split Cabin, the Shuttle Tables configuration also allows cover-time operations.

range of applications in addition to hot stamped parts. What really sets this product apart is the combination of the highest productivity and efficiency with all-around flexibility.

Laser Next 2141 is equipped with either a 3 or 4 kW Prima Power fiber laser, featuring high reliability, quality pumping diodes, better protection against back-reflections, a patented highly-reactive electronic shutter, and a high integration into the system.



*Movable table configuration with manual or automatic movement, both in X or Y direction.*

As all Prima Power products, Laser Next 2141 is Industry 4.0 Inside and features innovative solutions for digital manufacturing and cloud-based communication. This productive and flexible machine interacts with the factory and with the whole enterprise, and customers have the power to remotely monitor, control, and predict the production process for the highest efficiency.

Prima Power's 40-year experience in 3D laser processing is really unique. Thanks to a continuous dialogue with customers and partners operating in the most diversified industrial sectors, Prima Power has learned their needs and expectations and has translated them into this new product. Laser Next 2141 will definitely help them improve their production and gain a strong competitive advantage.

**For more information**  
**[www.primapower.com](http://www.primapower.com)**  
**[info@primapower.com](mailto:info@primapower.com)**

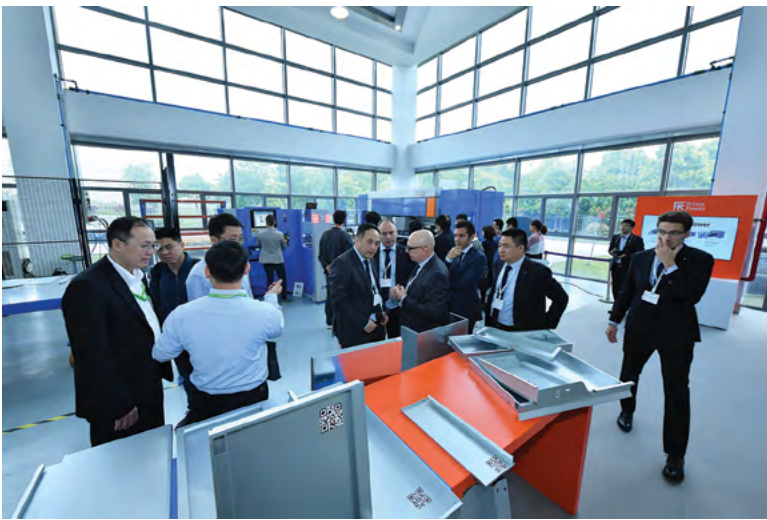
*Please scan the following QR code to watch the event video:*



*Split-cabin configuration with a removable central wall and movable roof.*

With its versatility and performance, Laser Next 2141 opens up new horizons for 3D parts processing. The Laser Next family, launched on the market in 2014, set new standards in large-series production of automotive components in terms of throughput and reliability. These unique features are also made available for small to medium-batch sizes for a wide

# Suzhou Open House 2018



Year after year, our Open House events are attracting more and more visitors from different industries. On the third edition of the event, we had 240 visitors from 120 companies operating in different sectors of the Chinese market: industrial machinery, steel doors, steel furniture, automotive, electrical equipment.

To mark this event, Prima Power Suzhou has launched its newest 2D laser product: Laser Sharp. Produced in our Suzhou plant, Laser Sharp is an affordable and reliable machine for production of heavy goods – a real workhorse for modern production sites. Its robust and sturdy construction is well-suited for heavy-duty environments similar to those often found in Chinese factories. Laser Sharp is available in two sizes (2040 and 2060) and equipped with a proprietary laser generator up to 6kW. This 2D laser machine, much like all Prima Power products, is 100% Industry 4.0 compatible.



Fan Zhimin, Prima Power Suzhou sales director says: "In a market that is focused increasingly on smartification, it is fundamental for our clients to work with a supplier that is able to provide the whole range of products necessary to create a smart factory: automated warehouse, production lines, and software to manage the whole process. Choosing Prima Power as a partner allows our customers to take a holistic approach to the Industry 4.0 concept."



This year the Suzhou showroom was equipped with three interactive touch screens, allowing potential customers to easily visualize the technical information, configurations, and videos relating to Prima Power products by simply tapping on the screen and following the intuitive user interface.

Another special addition was our innovative Virtual Reality Station, which quickly became the event highlight. Through a pair of 3D glasses our clients were able to visualize how the production line works, explore all the system details, and dive into the technical aspect of anything from the automated storage and loading of the raw material, to the bending/punching/shearing process, to the final output and new material loading— just by standing next to the TV screen.

Comprehensive production lines are currently one of the products that attract a great deal of attention from Chinese

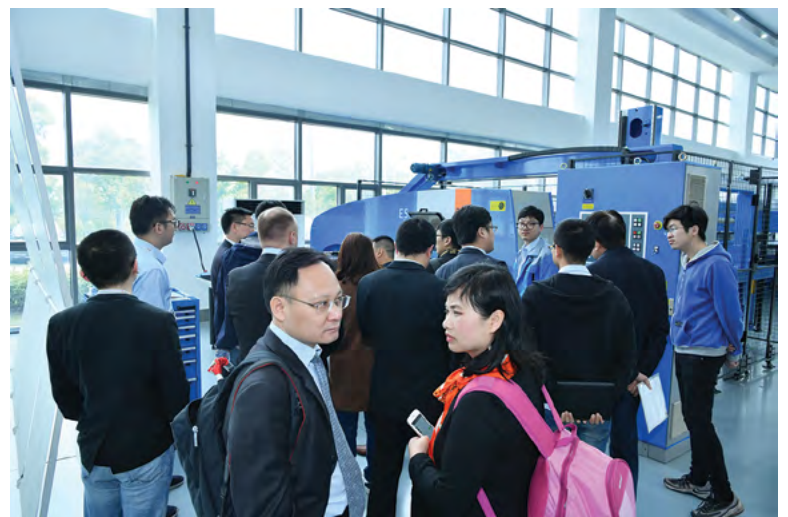
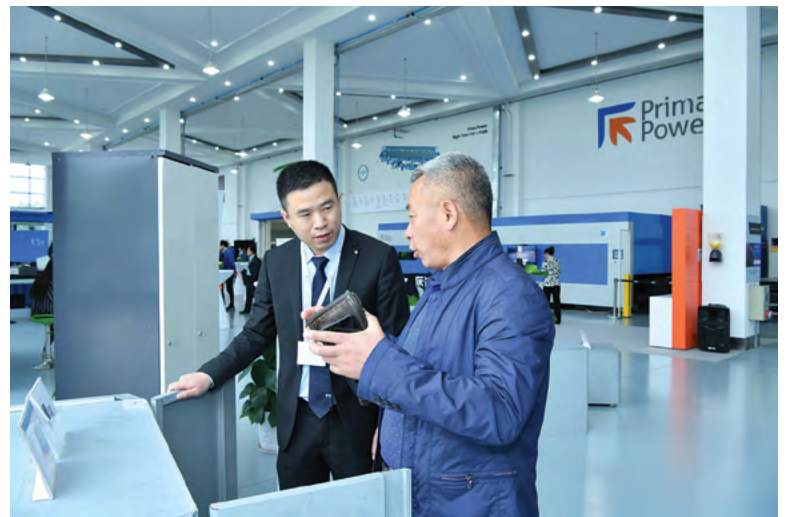
manufacturers, and yet it is not always possible for our customers to see the real system at work due to space limitations or geographical distance. Virtual reality makes this experience possible, and Prima Power is excited to provide this opportunity to its customers.

In addition, workshop sessions were held every afternoon, where Prima Power experts illustrated the latest production solutions implemented in the steel furniture automated production line.

Please scan the following QR code to watch the event video:



We look forward to hosting you at our next Open House!



# Laser Genius: Remarkable Speed, High Quality & Flexibility for UK Contract Manufacturer

Goodman Metal Works has recently taken delivery of the UK's first Prima Power 4 m x 2 m capacity Laser Genius. The advanced 6 kW Fiber Laser machine boasts a rapid cutting speed and is capable of cutting 25 mm thick mild steel and 20 mm thick stainless steel.

Established in 1964, Goodman Metal Works supplies mild steel, stainless steel, and other material fabrication services to companies throughout the UK and Europe, specializing in large metal work fabrications of up to 25 tons. The family-run business has a comprehensive range of manufacturing resources, including cutting, fabrication, machining, grinding, stress relieving, shot blasting, welding, and painting. The company is housed in an impressive 45,000-square-foot production facility, located on the outskirts of Nottingham. Goodman Metal Works' manufactured products are as diverse as the market sectors the company serves, such as construction, recycling, automotive, offshore, mining, quarrying sectors, and others. The company manufactures a range of components for power generation and renewable applications.

"Our service is based on experience, knowledge, and reliability," explains company managing director, Richard Goodman. "From one-offs to large-batch productions, we have the expertise and the systems in place to cope with all types of orders. To ensure that our customers continue to receive quality service, we employ a highly-skilled staff and invest in the best possible production aids."

## Laser Genius

The Laser Genius combines the flexibility of Prima Power's Platino machine with excellent dynamic performance and high levels of efficiency and accuracy. Thanks to the imaginative use of materials such as carbon fiber and synthetic granite, the Laser Genius is the ideal tool to enable maximum productivity in the cutting of medium-thin sheet metal.

*"In addition to the remarkable speed of the new machine, and the high quality of its output, we bought the Laser Genius because of its excellent flexibility."*

"Our recent purchase of a Laser Genius fiber laser cutting machine from Prima Power UK typifies our procurement philosophy," continues Goodman. "In addition to the remarkable speed of the new machine, and the high quality of its output, we bought the Laser Genius because of its excellent flexibility. Due to the diverse nature of our customer base, we need our manufacturing plant to be as adaptable as possible. For example, we produce and supply fully-assembled products



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for the sub-sea market, such as cable laying and safe storage solutions. In contrast, we also work with architectural designers to create stunning centre pieces and landmark structures for towns and cities."

## Accuracy, Flexibility, Speed

The machine's single universal lens, featuring a high-dynamics focal axis with 35 mm stroke, allows the cutting of all materials and thicknesses, while its optical chain is totally sealed and protected from any contamination. In addition to a quick alignment system (OPC), a Safe Impact Protection System (SIPS) protects the machine's head in the event of a crash.

A wide range of nozzles suitable for a variety of application can be automatically exchanged and a high brilliance fiber laser, from 2 kW to 6 kW, provides over 30% wall-plug efficiency, with minimum maintenance and low consumable costs.

*"The Laser Genius has the advantage of very low power consumption, minimum maintenance needs, and low consumable costs. In addition to helping us to quote competitive prices, these qualities are also ecologically beneficial."*

"Our new innovative Laser Genius machine provides the flexibility we need, with a tolerance accuracy of 0.03 mm," explains Goodman. "It is capable of accommodating large plates, up to 4 m x 2 m and multiple workloads for a wide range

of materials, including mild steel of up to 25 mm, stainless steel of up to 20 mm and aluminium up to 12 mm. The quality of our output and the speed and flexibility of our production systems assist our customers, and also allow us to be able to quote competitive prices. Our previously-used laser cutting machine was uneconomical in terms of its consumption of electric and gas. In addition, the machine's maintenance costs were continually rising. Now, the use of our recently installed Prima Power machine has considerably improved our efficiencies in all of these areas. The Laser Genius has the advantage of very low power consumption, minimum maintenance needs, and low consumable costs. In addition to helping us to quote competitive prices, these qualities are also ecologically beneficial."

### Customer Service & Intuitive Software

The innovative machine's efficiency is further enhanced by the use of high-dynamics linear motors, delivering increased productivity of up to +15% when compared to traditional systems. Dedicated software suites (SMART Cut, MAX Cut, and NIGHT Cut) optimize the laser cutting process for each application.

*"Our decision to purchase the Laser Genius was also based on Prima Power's reputation for reliability and customer service. Following a trouble-free machine installation and operator training, Prima Power's engineers have made regular visits to help ensure that we are able to maximize the machine's potential."*

According to Goodman, when compared to the alternatives, the Laser Genius proved to be the most suitable laser cutting machine for his company's needs. "Our decision to purchase the Laser Genius was also based on Prima Power's reputation for reliability and customer service. Following a trouble-free machine installation and operator training, Prima Power's engineers have made regular visits to help ensure that we are able to maximize the machine's potential. The Laser Genius' controls and software are so intuitive and easy to use, our staff has benefited from a very short learning curve. Now in full production, the machine is proving highly accurate and extremely productive."

### Economic Development

Nottinghamshire County Council supported the Goodman Metal Works purchase of the new Prima Power machine through a



*The innovative machine's efficiency is further enhanced by the use of high-dynamics linear motors, delivering increased productivity of up to +15% when compared to traditional systems. Dedicated software suites (SMART Cut, MAX Cut, and NIGHT Cut) optimize the laser cutting process for each application.*

£178,000 grant from its Economic Development Capital Fund. The Council set up a £6-million fund to help businesses in the county to grow and to create employment. The fund supports projects such as land or property developments for expansion and the purchase of new equipment and machinery. According to Councillor Diana Meale, Chair of the Economic Development Committee at the County Council: "We were very impressed by Goodman's plans to modernize and grow the company, and recognized that the purchase of the Laser Genius machine was key to his vision. I'm delighted that the Council has been able to support these plans, which include the creation of 13 new jobs in advanced manufacturing and engineering positions, in addition to apprenticeship opportunities."



*The Laser Genius' controls and software are so intuitive and easy to use, our staff has benefited from a very short learning curve.*

# Live the Total Experience at EuroBLECH, FABTECH, and MWCS

Engaging. Entertaining. Innovative. Interactive. These are just a few of the adjectives that can be used to describe Prima Power booths at the upcoming big exhibitions: EuroBLECH in Hannover, FABTECH in Atlanta, and MWCS in Shanghai.

Live demonstrations of the latest Prima Power products, supported by public and private multimedia and interactive presentations, will provide visitors the ability to discover our technologies through an amazing and engaging Virtual Reality Experience.

Highly realistic VR simulations of our machines and production lines complete the real demonstrations of our products, allowing visitors to live an immersive journey inside our machines, where they can move and use them, explore them outside and inside, and have a close look at the operations and processes. A total and amusing experience thanks to a unique mix of real and virtual worlds to discover all capabilities and benefits of our products.

These big exhibitions taking place in autumn on three different continents will host the launch of many innovations and world premiere of the Virtual Reality Experience by Prima Power.

## EuroBLECH

October 23-26, 2018  
Exhibition Grounds, Hannover,  
Germany  
Hall 12, B 146

### Exhibits:

- Integrated robotic bending system BCe Smart + eP-0520 press brake (WORLD PREMIERE)
- PSBB Flexible Manufacturing Line (NEW FEATURES)
- 3D fiber laser machine Laser Next 2141 (1ST TIME AT AN EXHIBITION)
- 2D fiber laser machine Laser Genius 1530 with LST and Combo Tower (1ST TIME AT AN EXHIBITION)
- Integrated punch and fiber cutting system Combi Genius 1530 (NEW FEATURES)
- Industry 4.0 Inside Software Solutions
- Virtual Reality Experience (WORLD PREMIERE)

Info: [info@primapower.com](mailto:info@primapower.com)



## Fabtech

November 6-8, 2018  
Georgia World Congress Center Atlanta, GA USA  
Booth #B7929

### Exhibits:

- Bending Center BCe Smart
- eP press brake
- 2D fiber laser machine Platino
- Industry 4.0 Inside Software Solutions
- Virtual Reality Experience (WORLD PREMIERE)

Info: [us.sales@primapower.com](mailto:us.sales@primapower.com)

## MWCS

National Exhibition and Convention  
Center, Shanghai  
September 19-23, 2018  
Hall 2H - Booth: A218

### Exhibits:

- Combined punch-fiber laser cutting machine Combi Sharp (WORLD PREMIERE)
- Bending Center BCe Smart
- eP-1030 press brake
- Industry 4.0 Inside Software Solutions
- Virtual Reality Experience (WORLD PREMIERE)

Info: [sales@cn.primapower.com](mailto:sales@cn.primapower.com)



# Prima Power Automated Line: Proof of Investment in Innovation

Prima Power's Suzhou factory is located in the east of China in an area that is commonly referred to as "Chang San Jiao", the Yangtze River Delta. It is one of the most commercially developed regions in the country, having the greatest concentration of advanced manufacturing facilities nationwide. This strategic geographic location enables us to easier serve our customers and ensures our ability to support machine installations both before and after sale.

This is the case of Lin Sen Purification, a Chinese company operating in the steel doors industry with facilities located a few kilometers from our plant. Their production plant totals more than 26,000 sqm and employs a team of over 250 employees, producing different types of steel doors for various applications such as kitchens, purifiers, and security doors.

"Initially, we approached Prima Power looking for an automated bending center, as we wanted to improve both our production cycle time and our door profile bending," says Xu Lijin, who has been responsible for the production in Lin Sen for over seven years.

After discussing the best configuration with Prima Power experts, Lin Sen purchased a PSBB line, which includes a SGe directly connected to an EBe 4 used for bending and punching the side profile of their steel doors.

"Prima Power equipment is the highlight of our plant,"

explains Xu Lijin."

It represents a guarantee to our customers that the company is investing in more sophisticated machinery in order to be able to support their growing requirements in the

future. In response to the installation of the automated line, we have actually received many new customer visits. It gives us an advantage over our local competitors who are not yet upgrading towards automation."

Before the purchase of their PSBB automated line, Lin Sen was able to produce 180 sets of doors per typical production day, translating to roughly 15 sets per hour. With the installation of their PSBB automated line, the production cycle has decreased to 90 seconds, bringing the production capacity up to 400 sets a day – more than sufficient to cover their current customer requests.



## Prima Power Training – Key Factor for Improvement

Since the machine installation in January 2018, Prima Power sales and aftersales local teams have been working closely with the customer to help them better utilize the machine features.

"Since we have not used this class of machinery before, our team is not familiar with all the specifications, particularly the programming aspect," continues Xu Lijin. "It is key for us to be

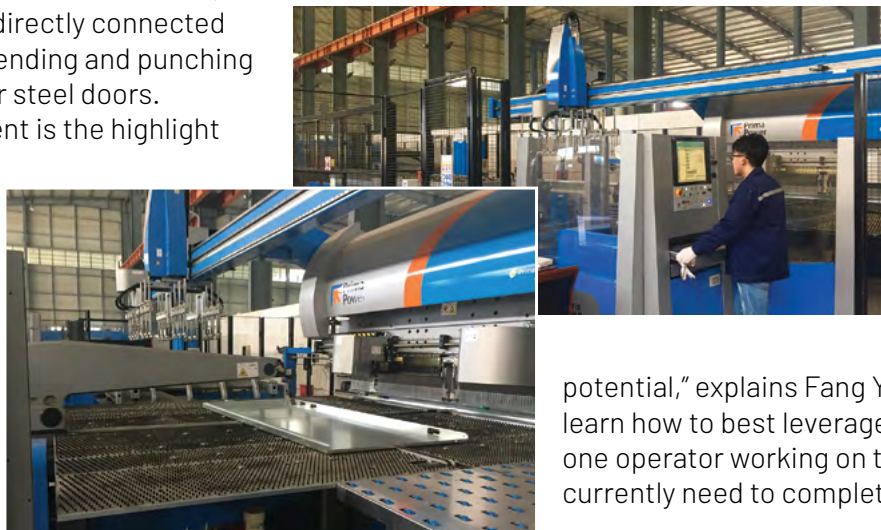
able to work closely with Prima Power aftersales support. Both local and foreign service engineers have been working with us to train our workers and decide the best programs that allow the machine to better fit our production needs."

"We are working hard to become more skilled at machine operation in order to fully master its

potential," explains Fang Yu, machine operator. "Our goal is to learn how to best leverage the machine functions and have only one operator working on the line, compared to the 4 people we currently need to complete the work."

"Both the market and national policies are now requiring all manufacturing plants to further upgrade our facilities and equipment," says Xu Lijin. "Our progressive upgrade towards smartification is inevitable, and as such, a company like us needs to invest in welding and automation."

Lin Sen chose Prima Power as a partner in order to take their first steps towards automated systems and they are committed to supporting them in the most effective way, and to set an example for other enterprises in the district.



# Platino Fiber Laser Provides Speed & Quality Needed by West Coast Job Shop

From the time he was a child, Mike Hobeck was fascinated with speed. He began his time in the *fast lane* by racing dirt bikes. The dirt bike career was interrupted several times by injuries. Hobeck then moved onto racing jet skis, reasoning that the water was a little safer than the hard ground. His love of racing led him to begin building parts for the numerous motorized vehicles he owned. And his fabricating career has been on a fast track ever since.

Hobeck began his fabricating career by working for several job shops in the Seattle and Spokane areas, followed by a stint with Boeing. He opened his own business in Marysville, WA in 1997 as a weld shop. By 1998, the company grew in size and fabricating services. Today, Metal Werks Incorporated, with its 17 employees, is housed in a 10,000 square-foot facility.

The company's experienced and motivated team produces, manufactures, and supplies OEM products and solutions to a wide variety of clients throughout the world. Customers served include such industries as: medical, energy, technology, race car parts, fish hatcheries, retail store display/point-of-purchase, food service, and many others.

*"We looked at every major laser brand on the market, and we liked the Prima Power the best."*



*The Platino Fiber laser can be used to cut a wide range of materials. Fiber lasers are more effective than other laser sources for cutting highly-reflective materials (e.g. aluminum alloys, copper, brass).*

In 2017, Hobeck began to search for a replacement for an aging used CO2 laser that he had purchased in 2008. He chose the Prima Power Platino 5kW Fiber laser. "We looked at other laser



*In 2017, Mike Hobeck, president & ceo, began to search for a replacement for an aging used CO2 laser. He chose the Prima Power Platino 5kW Fiber laser because of its open-cabin design and easy accessibility.*

companies," explains Hobeck. "The biggest reason for choosing Prima was the open cabin design. You open the doors and you can go to any part you want in that 10' bed, which is really nice. It is a single-sided gantry. We looked at every major laser brand on the market, and we liked the Prima Power the best."

## Platino Fiber Laser

The Platino Fiber laser cutting machine is the perfect balance of innovation and experience. This product combines state-of-the-art efficient and ecological fiber laser technology, with the proven reliability and flexibility of the Platino platform. It is the right choice for sheet metal manufacturers looking for a production tool which is:

- efficient, granting energy and maintenance savings
- productive, particularly on thin and medium-gauge sheets
- flexible, suitable for a wide range of materials, including highly-reflective metals
- reliable and capable of meeting any production need, with a variety of automation modules
- user-friendly, easy to install, use, and maintain

The Platino Fiber laser can be used to cut a wide range of materials. Fiber lasers are more effective than other laser sources for cutting highly-reflective materials (e.g. aluminum alloys, copper, brass). The Platino Fiber cuts various thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.





The Prima Power Platino Fiber has doubled the cut production in making parts at Metal Werks while increasing the company's quality.

*"Our biggest benefit from the Platino Fiber is that it has doubled our cut production in making parts while increasing our quality, and is the best purchase we have made at this company."*

### Best Purchase Company Has Made

"The Platino Fiber laser has zero maintenance when we compared it to the CO2 model," continues Hobeck. "It has been a very good machine. We run it an average of 12 -15 hours per day. It is a 100% healthy machine. Our biggest benefit from the Platino Fiber is that it has doubled our cut production in making parts while increasing our quality, and is the best purchase we have made at this company. As far as risk/reward, the Platino Fiber was definitely a great purchase."

*"Prima Power customer service is by far the best."*

### Customer Service

"Prima Power customer service is by far the best," concludes Hobeck. "If we have a problem today, we have a service tech the next day. The same goes for software. Prima Power provides much better service than the other machine builders we have used in the past."

Other features and benefits include:

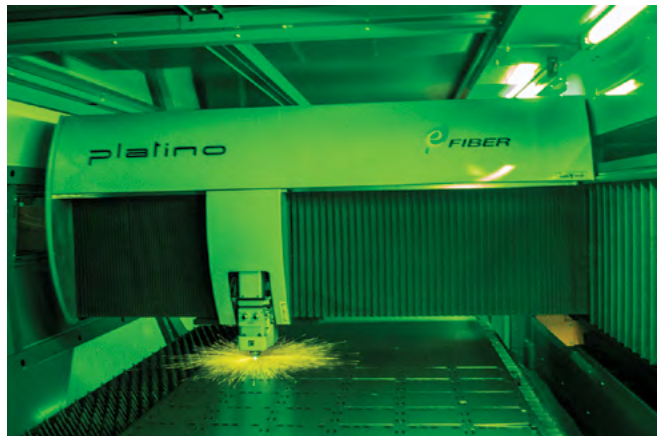
- Very low power consumption
- No laser gases
- Minimum maintenance and low consumables
- Floor space saving - compact automatic loading, unloading, and storage
- Easy and fast operating interface - fast setup
- Less energy, less waste of material, no laser gases
- Unique machine design using a synthetic granite frame offering the best thermal stability and vibration damping
- Cantilever design for maximum accessibility to the machine
- Protection cabin with roof, fiber-safe windows and fully-opening sliding doors: total safety, visibility of the work area, and accessibility
- Single-focusing lens system with automatic nozzle changer

The Platino Fiber laser has been developed to maximize customers' competitiveness according to their application. A series of option suites is dedicated to the different production needs:

**SMART Cut**, for fast cutting of thin sheets (up to 5 mm) allows a reduction of the cycle times up to 30%.

**MAX Cut**, for the fast cutting of medium-thick gauge sheets, makes it possible to reduce processing times up to 40%.

**NIGHT Cut**, for intensive production, grants a higher piercing and cutting process safety.



Metal Werks uses the Platino Fiber to service customers in such industries as: medical, energy, technology, race car parts, fish hatcheries, retail store display/ point-of-purchase, food service, and many others.

# Do the Math: Prima Power's EBe Adds Up to Higher Productivity, Quality & Savings



Yosi Shachar, general manager, explains that the EBe didn't just make his company more productive in making parts, it actually helped to facilitate production after bending because there is a perfectly steady stream of parts on their way for welding, painting, and assembly.

## Prima Power EBe

Up until last year, Global File bent all their metal on manual brake presses. In 2017, Shachar purchased an automated panel bender from Prima Power. The EBe servo-electric panel bender is a bending solution that is designed specifically for each fabricator's production requirements to achieve maximum productivity, quality, and repeatability. The bending operation is fully automated, from the loading of flat punched parts to unloading of the finished product.

The EBe is available in models with a bending length up to 149" (3,880 mm) and a maximum opening height of 8" (200 mm). The new construction features actuations of the bending blade movements (vertical and horizontal) by NC servo axes instead of hydraulic cylinders. The upper tool movements are also made by another NC servo axis.

Prima Power EBe provides the high bending quality required in demanding applications. The quality is achieved through precise control of bending axes, fast and smooth bending motion, programmability, and rigid construction that is immune to variation in thermal conditions.

"Prior to purchasing the EBe, all bending was done on manual brake presses," says Shachar.

"When your goal is to increase production, you must take the training of your brake press operators into consideration. It takes a great deal

of training time to make sure they understand what makes a good part. Unfortunately, the cost of labor in Ontario is getting very expensive. We had to increase our production. After calculating these costs, we concluded that we may as well invest in an automated machine like the EBe which is equal to six people, minus the operator. So the gain is five extra people. If you multiply this by two shifts, it's a gain of 10 people. Three shifts is a gain of 15 people. That was when the decision was made to invest in a machine that will bring us the production capability we needed, without the restrictive labor costs that are becoming a major component in fabricating our products."



The EBe servo-electric panel bender is a bending solution that is designed specifically for each fabricator's production requirements to achieve maximum productivity, quality, and repeatability.

Global Furniture Group is one of the world's leading manufacturers of office furniture solutions, including chairs, desks, workstations, and storage. The company's filing cabinet division, Global Filing, has three manufacturing plants located in Ontario, Canada. The 350,000-square foot facility in Concord, Ontario, is the most modern and is designed to build some of the company's high-end products.

"We produce a wide variety of metal cabinets," explains Yosi Shachar, general manager of the Concord facility. "We sell worldwide through the Global Furniture Group. We build metal desks for offices, schools, the military, and we have expanded lately to building a lot of garage products. We make standard products and also make variations of these products which are designed for special needs or features, and special areas where people want to use a metal cabinet that is customized for their needs. We can make in excess of 1,000 cabinets per day. Each year we go through millions of tons of sheet metal - mostly cold rolled steel and sometimes stainless steel."



The bending operation is fully automated, from the loading of flat punched parts to unloading of the finished product.



Prima Power EBe provides the high bending quality required in demanding applications. The quality is achieved through precise control of bending axes, fast and smooth bending motion, programmability, and rigid construction that is immune to variation in thermal conditions.

### Bending Automation for Productivity

An increasing number of fabricators are facing a situation, where large volumes are being replaced by the need to produce small batches on a just-in-time basis. In traditional bending with brake presses, setup times, technical limits in producing sophisticated components and the requirement for skilled personnel may prove problematic in such manufacturing tasks. Based on extensive experience applying servo-electric technology in automatic panel-bending solutions, Prima Power offers an automation solution which focuses on setup rather than material handling (loading, rotation and unloading are manual). With options ATC (Automatic Tool Change) and barcode reader, the machine makes the setup automatically and activates a new part program.

"In the dollar range that we are dealing with, many times a trained operator will find another job after a few years. The Prima Power EBe has never left us or suffered any back pain, sick days, or emergency leaves since it was installed. We trained it by programming it, and it is busy all of the time making high-quality parts."

### A Machine with Extra Benefits

"We have learned that if you have a machine or a robot that produces parts on a steady basis, it actually pushes the people down the line because the parts are coming at a steady pace, and they don't stand idle because something went wrong along the process," continues Shachar. "So the EBe didn't just make us more productive in making these parts, it actually helped to facilitate production after bending because there is a perfectly steady stream of parts on their way for welding, painting, and assembly. Once you have a steady supply of parts, there are no excuses, there are no delays, there are no stops. If you set up six brake presses to make one part, if one of them goes out of tune, every one along the line is waiting. We see not

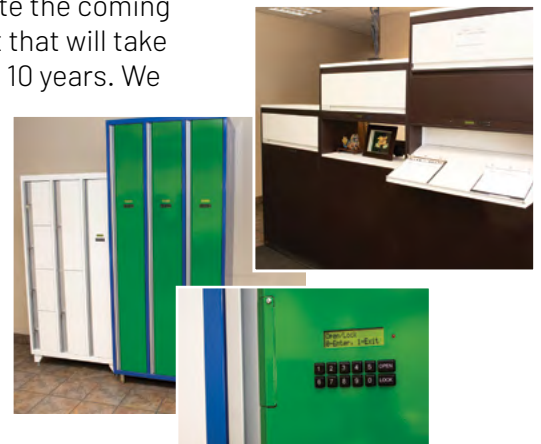
only the savings in labor, but actually a much larger increase in productivity because no one is waiting. The EBe just runs."

*"The EBe has allowed us to produce more parts with less training...and the parts are perfect."*

### New Markets

Recently, Global File has entered a few new markets because cloud-based electronic storage is increasing, reducing the number of filing cabinets on the floor. "We see the entire office module as changing a bit," observes Shachar. "Today, people like more open surfaces, more sofas, and more mingling. We started producing different products that will accommodate the coming change in the market that will take place during the next 10 years. We are focusing more

on open desks, lockers in lobbies, etc. People don't like to use key locks anymore, so we developed an electronic lock. We are putting these locks on almost every product because the industry is going keyless, but people still need very secure areas for briefcases and personal items. They sit down at a desk where they can charge their cell phones and sit on a comfortable chair or sofa and they can do their work. The new theory is the more comfortable you are, the more productive you are."



Recently, Global File has entered a few new markets because cloud-based electronic storage is increasing, reducing the number of filing cabinets on the floor. The company is focusing more on open desks, lockers in lobbies, electronic locks, etc.

*"The EBe has allowed us to stay at home with our own people, instead of going offshore, producing better parts than we have before."*

"The EBe has allowed us to produce more parts with less training...and the parts are perfect," concludes Shachar. "In today's world where labor is a huge factor in the cost of the product, the EBe has allowed us to stay at home with our own people, instead of going offshore, producing better parts than we have before."

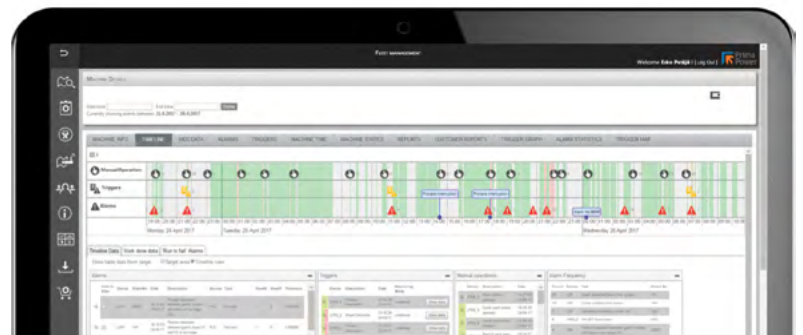
# Prima Power "Industry 4.0 & IoT" Concepts Winning Awards

By Ivana Montelli



Over the past two years, Prima Power was awarded first prize for its two new software programs at the A & T Turin Trade Fair – Industry 4.0 and IoT.

The 2017 first prize award was for RemoteCare-Fleet Management, a web application, based on a cloud platform, defined as "Software as a Service", developed for diagnostic and intelligent maintenance of the machine. It provides a huge collection of machine data and other important machine information, already elaborated and graphically organized, to support Global Service (Customer Service support), and R&D (product development).



Machines (CNC/PLC) and sensors are able to provide a large amount of data that are sent to the cloud, where dedicated technicians can access and check data to make proper analysis and diagnostics.

The timeline function provides an overview of the complete operation of the machine and devices, highlighting all the information drawn.

## Four Main Topics:

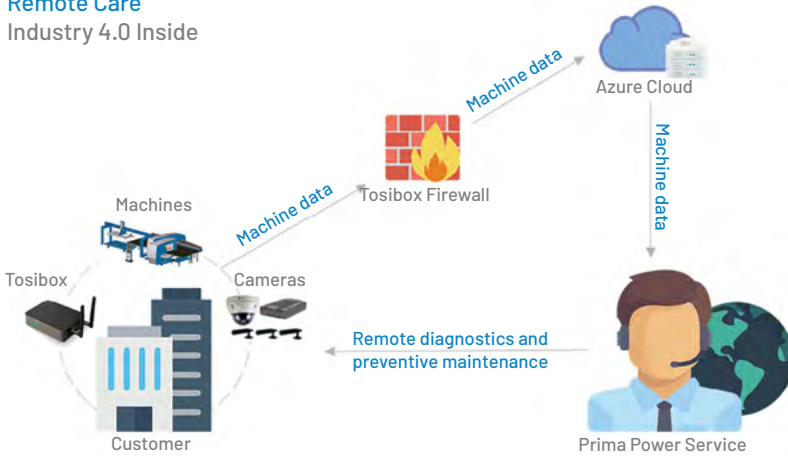
- Machine Diagnostic: Real Time reporting on machine conditions
- Machine Data & Real Time data: Trigger, alarms, manual operations
- Live Map: Real Time status and locations of customers' machines
- Video recording of trouble cases

## Why RemoteCare-FleetManagement



## How it works

Remote Care  
Industry 4.0 Inside



The 2018 first prize award was for Visio Maintenance - Augmented Realty (AR) glasses project, concept projects for Euroblech 2018.

Prima Power is always proactive on the latest technologies to keep up with the technological evolution that has greatly accelerated in recent years due to the "Industry 4.0" or "Smart manufacturing".

This project involved an intense study of actual cases experienced by our Service Departments.

Our remote assistance is based on:

- telephone communication between customer technician and our technician, with exchange of information / file / problem description
- management of remote desktop control by the technician in the office, management limited only to the control of a computer, the one on which the connection is made
- analysis of some machine-readable data, transferable via remote connection for further in-depth analysis
- the experience and expertise of assisting technicians

The possibility of being able to access only a remote desktop, although very valid, has proved over time no longer fully efficient, especially in very complex technical contexts where it is necessary to have a wider vision and perception and quickly acquire the awareness of the overall situation.

Today, with the presence on the market of high-tech devices for Augmented Reality, with a view to Industry 4.0, the new "Visual Maintenance" project is born. Benefits include:

- Smarter Technical Assistance
- Faster and more efficient assistance
- Greater satisfaction of both the customer and the assistance technician



### Indicators on HUD

Indicators and measurement that support maintenance tasks are projected to the heads-up display.



### Knowledge Sharing

Customers can record instruction videos as they carry out the maintenance tasks. Instruction videos are stored and shared by way of the Knowledge Management tool.



### Adaptive Dashboard

Dashboard adapts in to the machine status and users' location. For example, presented information alters when the machine status turns active/alarm, or when users move from one machine to another.



### Online Support Tools

Maintenance experts can support on-site service personnels via Skype. In addition to speech and video, maintenance tasks are supported by the drawing tool. For example, arrows can be used to point to the certain component.



- Direct display of indicators and measurements (machine data) on the augmented reality display
- Automatic contextual adaptation to the machine status from the user's position
- Online support: the assistance and maintenance experts, from their office, are able to support the technicians who are located at the customer also through a voice communication channel
- Sharing knowledge. While maintenance tasks are carried out, video tutorials can be recorded for subsequent training phases of maintenance technicians and staff of customer companies
- Hands-free

# LASERDYNE 795XL Fiber Laser Provides Competitive Edge To High-Precision UK Manufacturer

Paul Fabrications, established in 1937, and located in Derby, UK, is an industry leader in the design and manufacture of complex, high precision, fabricated and machined metal parts and assemblies. Paul Fabrications is a Unitech Aerospace company. Unitech Aerospace provides the aerospace, marine, medical, defense, nuclear, and rail industries with composite and metallic structures and components that meet demanding and complex requirements.

With over 185 employees operating in a 6,000 square-meter manufacturing facility in the East Midlands (UK), the company has built a reputation by successfully applying sound engineering principles to meet the ever-changing needs of its customers, while taking pride in consistently exceeding customer expectations on both delivery and quality. The company has been involved in the development of major aero-engine programs for both civil and military applications. It has honed strong expertise in the production of value-added, complex fabricated and machined components and assemblies resulting in long-term strategic relationships with leading manufacturers such as Rolls-Royce.

Paul Fabrications recently acquired the large work envelope version of the highly accurate, 6-axis LASERDYNE 795XL, ensuring the company is ahead of the curve with the latest manufacturing technology. Paul Fabrications is the first and only manufacturing facility in the UK to possess this combination of technology. The LASERDYNE 795XL incorporates LASERDYNE SmartTechniques™ processing technology for high speed, high-precision laser cutting, welding, and drilling.

The LASERDYNE equipment addition, together with its expanded and highly trained employee group, ensures that Paul Fabrications customer collaboration, transparency, and risk reduction delivers maximum on-time quality.

## LASERDYNE 795XL Fiber Laser Solutions

“The LASERDYNE system is a fantastic addition to our existing 5-axis CO2 laser technology,” explains Gary Hemmings, Paul Fabrications’ Business Improvement Director. “In certain applications, it is four times faster than technology that was available previously and gives us the ability to add enhanced features to our customers’ parts. This, along with its welding capabilities, gives us a competitive advantage on a variety of different products including transition ducts, silencers/attenuators, and combustor chambers for land and aero turbines. The acquisition of this new high-speed, high-precision percussion and trepan drilling, cutting, and welding technology is a result of our never-ending effort to procure the best manufacturing solutions for our customers.”

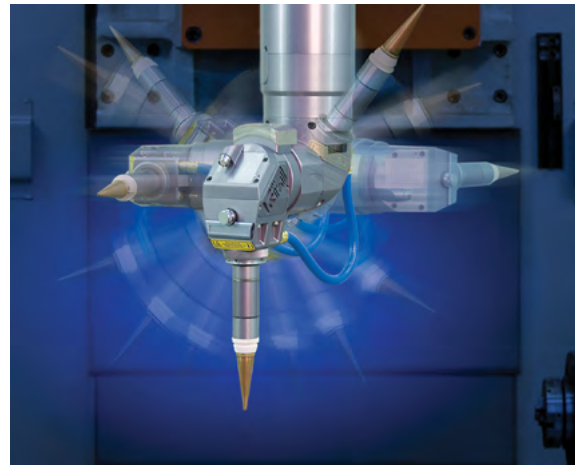


*Gary Hemmings, Business Improvement Director at Paul Fabrications, inspects the 795XL system during startup at Laserdyne's manufacturing headquarters in Minneapolis, Minnesota USA prior to shipment to Paul Fabrications in Derby, England.*

## Meeting Customers' Requirements

“Our customers have a broad range of requirements,” continues Hemmings, “from a single complex assembly to an entire program of parts needed within short lead times, manufactured over many months with multiple releases. To handle these needs efficiently, Paul Fabrications’ services encompass a broad spectrum of manufacturing capabilities, including the LASERDYNE fiber laser drilling, OGP vision inspection, Mazak Variaxis i800 mill turn center, Puma VTL and turn mill centers to our existing three, four, and five axis CNC milling and turning machines, and over 40 different processes in order to deliver “engine ready” assemblies. This includes managing a particular assembly’s exacting purchasing and production requirements from beginning to end. A recent example of this is a strategic partnership with Rolls-Royce in order to provide a turnkey new product introduction process.”

There are a number of unique capabilities with this fiber laser processing system. The 795XL, outfitted with a 15 kW QCW fiber laser, adds capacity for complex laser hole drilling at angles as shallow as 10 degrees to the surface in uncoated and thermal-barrier coated heat resistant materials.



*LASERDYNE 795XL Fiber Laser Drilling System (left) recently installed by Paul Fabrications at its Derby, England facility. The system's BeamDirector (right) provides full 3D laser beam motion for accessing hard-to-reach aerospace component locations in a single setup. This allows the most efficient use of the system's work envelope enabling processing at complex angles.*

### **Programming Design Support**

"We're operating the system for trepanning using both continuous wave and peak power pulsing," reports Sean Ahern, CAD/CAM Laser Engineer for Paul Fabrications. "We are laser processing silencers and liner assemblies made from nickel alloy C263 and C625. These materials have exceptional fabrication characteristics with excellent intermediate temperature tensile ductility and high strength. The LASERDYNE system allows us to easily achieve a tolerance range from 0.3mm down to 0.05mm on part features including inner and outer profiles and hole sizes of 0.6, 0.9, 1.5, and 2.6 mm. This is a combination of fiber laser capability, Laserdyne unique laser control software, along with the superior mechanics of the system. Laserdyne's ongoing support has also allowed us to move quickly to expand on these capabilities with the system."

### **Processing Accuracy with Automatic Focus Control™**

For Paul Fabrications, achieving a high level of accuracy from prototype to production stages and from one job to another is possible because of the LASERDYNE design that integrates all of its laser system features. Everything works together in a coordinated manner – the controller, software, motion system, laser, and process sensors. Of particular importance, are Laserdyne's software and hardware for part mapping and focus control that enhance both the quality and cycle times compared to traditional methods of production.

Among these are the S94P control, which includes a full complement of dedicated hardware and software features. These include Automatic Focus Control™ for capacitive part sensing, patented Optical Focus Control (OFC) for sensing of

non-metallic or thermal-barrier coated surfaces, ShapeSoft™ software for programming shaped holes, and multi-buffer capable mapping of part surfaces.

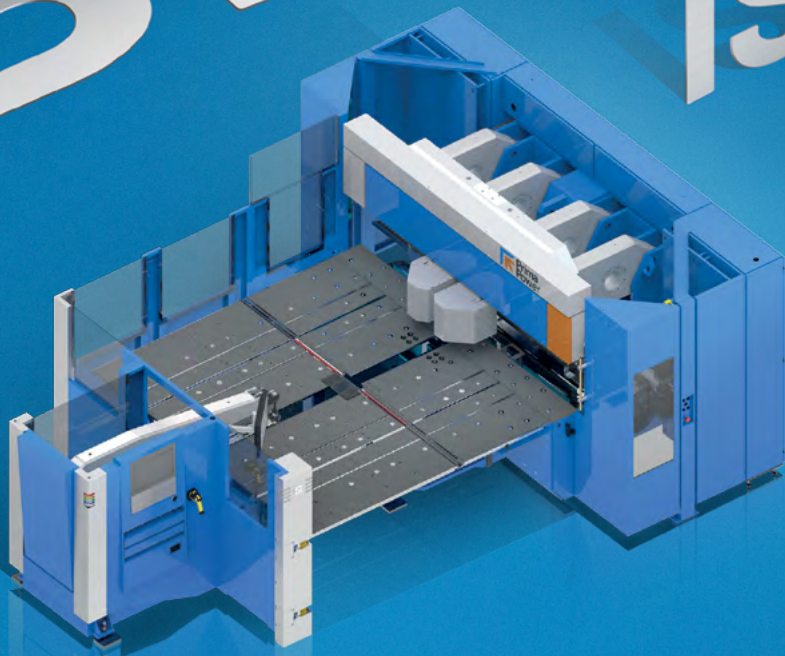
The Optical Focus Control (OFC™) / Automatic Focus Control (AFC™) feature is particularly important to Paul Fabrications' work. Continuously refined and updated so that both hardware and software are leading edge, OFC/AFC precisely guides the motion system, maintaining critical focus position and following the contour of the part, regardless of slight surface irregularities. OFC/AFC allows top machine speeds so productivity is maximized without downtime or scrapped parts.

### **Laser System Speed with Accuracy**

The new LASERDYNE fiber laser system operates at up to 800 inch/min (0-20 m/min) in all axes with bidirectional accuracy of 0.0005 inch (12.7 micrometer). This accuracy is throughout the system's 80 x 40 x 40 inches (2.0 x 1.0 x 1.0 m) work envelope, making it ideal for reliable and consistent processing of small, medium, and large-size parts. Accuracy of the new system is certified to ISO 230-1:1996 and 230-2:2006 in accordance with Prima Power Laserdyne's standard accuracy and repeatability test procedures.

After only a few months of use, Paul Fabrications' overall appraisal of the new LASERDYNE 795XL fiber laser quality is quite high. "The trepan quality is excellent with very little exit burr, or as laser processing engineers prefer to say, dross," concludes Hemmings. "Our operators like operating the system. Maintenance of the new fiber laser system hasn't been an issue. We have enjoyed a good relationship with LASERDYNE because they are responsive, flexible, and knowledgeable."

# BENDING IS POWER



## Panel Benders | BCe Smart | FBe | BCe | EBe

The Prima Power **servo-electric** bending machines line that improves productivity and efficiency. Great bending capability, high level of automation and advanced ergonomics for further safety and reliability. **Less oil usage, more energy saved, productivity maximized.**



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