

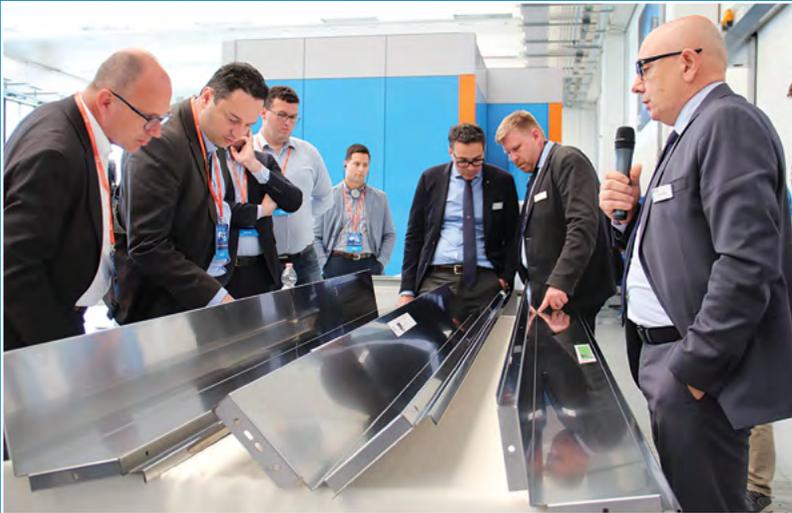
POWERLine

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CUSTOMER PROFILES • NEW TECHNOLOGY • PRODUCTIVITY • FLEXIBILITY

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Publication

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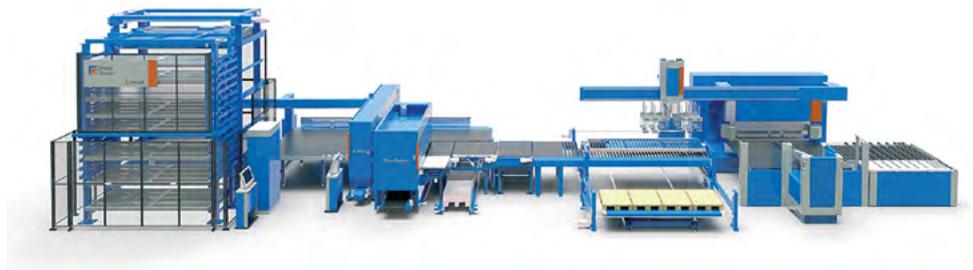
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Simplify Complexity – The Role of a True Partner in Today’s Manufacturing Scenario

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



Manufacturing systems are getting more and more complicated. They manage many tasks, they have to be perfectly integrated and establish a seamless communication with other machines, management software, and the entire factory. They have to be smart in order to exchange and process a huge amount of data. They have to be highly productive and highly flexible at the same time. They have to grant maximum availability in order to avoid any interruption, and the list could still continue.



Today, customer challenges are more complex since they have to meet several internal and external requirements. Internally, production should be lean and automated, meaning orders should be generated automatically to the production. Orders for complete product assembly from the ERP need to separate simultaneous tasks for sheet metal part blanking and bending, external components order, welding, painting, assembly, and packing. Externally, the requirements are handling several single kit orders, cost and delivery time estimations, short delivery time, and minimizing the production costs.



Prima Power has a reputation for strong R & D investment in automation of the complete manufacturing process. ERP order management can be seamlessly connected to PowerProcessing MES software, which divide all production tasks for different factory departments. This can be followed and monitored by Tulus Routing interface. Sheet metal components can be single kit or big batches. Automatic programming can provide programs for punching and bending, parametric or piece by piece. This provides optimizing for either production performance or sheet utilization rate, even by connecting a cut-to-length line as part of the system.

The automatic production line can operate completely unmanned in a continuous flow directly from punching to bending or with different configurations where complex assemblies can be managed. Prima Power’s intelligent warehouse system keeps the raw material available, sheet by sheet or in complete stacks. All machines will automatically report back to the ERP system when production is finalized and all parts orders have been produced.



Underpinning this capacity of making complex things simple, is our customer approach. Since we work closely with the customer before the order, planning the productivity and automation level, and collaborating in the

designing phase and manufacturing process of the piece to be produced, we are able to provide a solution customized to their needs and optimized for their application, whatever the industrial sector they operate in.

In this issue of *Power Line*, you’ll read many success stories of customers using our products to win their business challenges. They came to us with complex and composite tasks, which required high-tech and sophisticated solutions, but they needed these solutions to be as simple and lean as possible. This is what we did for them. Complexity made simple.



At Prima Power, we consider our responsibility is to make all these complicated tasks easy, transparent, and cost-effective for our customers. Our innovative and advanced technologies are designed to answer all customers’ requirements in the most efficient way.

Deluxe Sheet Metal Processing

By Norbert Novotny, Engineer at x-technik

The construction phase of the new Biohort manufacturing site in Herzogsdorf (Upper Austria) lasted just over a year. With cutting-edge industry standards and optimized process cycles, the specialist for storage space solutions created new resources for further growth with the new Plant 2, an addition to its Neufelden headquarters. The result was a 12,000-square-meter site that was built using Prima Power's most advanced manufacturing technologies with a view to creating one of the most modern sheet metal processing centers in Europe.

"The result was a 12,000-square-meter site that was built using Prima Power's most advanced manufacturing technologies with a view to creating one of the most modern sheet metal processing centers in Europe."

Biohort GmbH, based in Neufelden, Upper Austria, is one of the European market leaders in metal storage solutions. The product portfolio includes high-quality tool sheds, practical storage boxes for outdoor use, and other useful garden additions such as raised beds.



For decades, Biohort GmbH has been developing and manufacturing high-quality sheet metal storage solutions. With the additional plant in Herzogsdorf, which was opened last October, valuable resources for further business growth were created.

In as early as 1995, Dr. Josef Priglinger was entrusted with managing the production of metal storage sheds in the former standard steel plant located in Niederwaldkirchen. Two years later, he took over 100% of Biohort standard steel shares. Since then, the company has been under the Priglinger family's control, jointly run by father and son – graduate engineer Maximilian Priglinger. "The products which our customers will enjoy for decades are created thanks to sophisticated design, high-quality materials from certified suppliers and Austrian premium processing standards. That is why, in all truthfulness, we grant a 20-year warranty against corrosion," explains Maximilian Priglinger.



(from left to right): Graduate engineer Maximilian Priglinger, Erich Dannerbauer (both Biohort), Michael Pröll (Prima Power) and graduate engineer Johannes Zauner (Biohort).

Immersed in Greenery

The past two decades have been a true success story for Biohort. 15 to 20% annual growth rates, however, caused the production department in Neufelden to face ever greater challenges in terms of manufacturing capacity. To prepare for the future, in 2016 it was decided to build an additional production plant to meet production flows.

Biohort invested around 20 million euros in the new location, thus certainly opening another brilliant chapter in the company's success story. The groundbreaking ceremony for the construction of the Herzogsdorf plant took place in July 2017. "Today, we are faced with the results and can rightly state that we own the most modern sheet metal processing plant in Austria," said Priglinger with justified pride.

Rethinking Production Processes

"Planning the plant was not just about building a new hall," reports plant manager Johannes Zauner, a graduate engineer who has headed the project from the beginning.

"Manufacturing processes were rethought from start to finish and partly rescheduled. Then the building was built by leveraging on production steps...not the other way around. As a result of the throughput levels implemented, processes are extremely efficient."

Last October, the production line was started with Biohort leisure time storage container boxes. The variety of products is planned to be gradually expanded. As a next step, for example, the production of LoungeBoxes, HighBoards and raised beds will be relocated to Herzogsdorf. "We expect an annual processing volume of around 1,600 tons of sheet steel, which corresponds to around 50,000 items," said Zauner. At the Neufelden site, a total of 7,600 tons are processed per year.

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Deluxe Sheet Metal Processing

Continued from page 3.

"After intensively comparing suppliers, Prima Power came out on top of the list with a completely networked production line consisting of a fully-automatic sheet metal warehouse, a punch-shear combination system, and a fully-automatic bending machine."



The fully-automatic Prima Power bending machine, the EBe 5.3, is supplied with punched plate blanks from the Night Train via the PSR picking and stacking robot for optimal production flow.

Impressive Networked Production Technologies

One thing was clear to those responsible from the beginning: to ensure the long-term success of Biohort, the new plant had to rely on innovation and state-of-the-art technology. After intensively comparing suppliers, Prima Power came out on top of the list with a completely networked production line consisting of a fully-automatic sheet metal warehouse, a punch-shear combination system, and a fully-automatic bending machine. "In addition, Prima Power has enabled us to integrate third-party machines into the system as well. For example, our robotic shear feeding system also communicates with the sheet metal warehouse and is supplied with materials," Zauner explains.

Automatic Material Supply

The production process starts with the automatic storage of raw material into the fully-automatic metal warehouse "Night Train Brilliance" by Prima Power. This facility not only ensures optimal storage but is also linked to the manufacturing systems and transfers sheet metal parts according to a predefined manufacturing process. The 50-meter long Night Train has 560 storage box locations (each with a four-ton capacity) to store



To punch the required parts, the Shear Genius punch-shear combination system by Prima Power was chosen. Connecting another punching machine would still be possible. (Pictures: x-technik)

raw materials and finished stamping blanks. If necessary, the sheet metal warehouse in Herzogsdorf can be extended by an additional 30 meters.

To punch the required parts, the Shear Genius punch-shear combination system by Prima Power was chosen. "For Biohort products, a punch and shear system is ideal, as most of the manufactured components have a basic rectangular shape. By first punching and then splitting these parts in the same process with an integrated right angle cutting shear, the greatest economic efficiency can be obtained," says Michael Pröll, Prima Power Austria area manager.

Scratch-Free Punching and Storage

Furthermore, the Sheet Floating System of the machine prevents sensitive surfaces from being scratched. "In this special punching mode, sheets can slide over the raised brush table. We mainly process hot-dip galvanized, polyamide enamelled steel sheets in finished color and without protective foil. That is why it is especially important for parts to go into production without any scratches," explains Erich Dannerbauer, deputy technical manager at Biohort.

The picking and stacking robot PSR also handles materials extremely gently when unloading the machine. The PSR automates the return of punched parts into the Night Train. "Depending on the part and on the processing steps that are expected to follow, the stacking robot precisely sorts parts into the respective storage boxes, making optimal use of the stacking area," says Dannerbauer.

Fully-Automatic Bending

On the other side of the Night Train, next to the raw material storage stations, the robotic shear feeding system, and a mechanical press brake, there is EBe 5.3, a fully-automatic bending machine by Prima Power. It is directly connected to the Night Train, the machine is also powered by a PSR picking and stacking robot with already punched plate blanks.

Especially in box manufacturing, as is the case with Biohort, the bending cell can really prove its strengths. "In addition to short set-up times, a big advantage is that you can make any shape – not just simple chamfers, but also bending radii. And that with only one tool set. In addition, it can be quickly adapted to different product sizes," says Dannerbauer. Everything has been prepared for future products: as for special shapes or to bend fish plates, non-rotating tools are also available.



The EBe can really prove its strengths, especially in box manufacturing.



50-meter long Night Train Brilliance has 560 storage box locations (each with a four-ton capacity) to store raw materials and finished stamping blanks. The PSR gripping and stacking robot (right) automates the return of punched plate blanks into the sheet metal warehouse.

Optimized Production Flow

The absolute highlight of this state-of-the-art sheet metal processing line is the continuous flow of production which, after goods receipt, is mostly fully automated. The metal sheet is automatically requested by the punch/shear combination system and, after being processed by a robot, it is placed on the material box and stored back into the plate blank warehouse as a blank. Thereafter, both the bending machine and the additionally connected shear feeding system will require the necessary parts from the warehouse, which are then automatically prepared.

"We can guarantee that materials are brought into production scratch-free. That was a great challenge for our own high quality standards."



For the production of parts such as this body (left) or the new Floraboard (right), the new bending machine requires less than a third of the time needed by conventional press brakes to do the same job.

"By selecting Prima Power, we are pleased to have chosen a system supplier to successfully handle such a large, challenging project, and who we can continue to rely on in the future."

From there, the finished parts will reach the assembly or packaging lines and then the finished goods warehouse by means of container trolleys. Apart from that, no transport activities, such as those performed by a forklift, will be carried out during the entire manufacturing process. "We can guarantee that materials are brought into production scratch-free. That was a great challenge for our own high quality standards," admits Erich Dannerbauer. And managing director Maximilian Priglinger concludes: "By selecting Prima Power, we are pleased to have chosen a system supplier to successfully handle such a large, challenging project, and who we can continue to rely on in the future."

Platino Fiber Laser – Illuminating Presence at Lighting Products Manufacturer

When Meyer and Ida Cohen founded Meyda Tiffany as a family hobby of making stained glass windows in the early 1970s, it is doubtful that they ever thought it would evolve into America’s manufacturing leader of custom and decorative lighting.

Today, Meyda continues to operate as a family-run business, with the Cohens' son, Robert at the helm, and grandsons Max, Chester, and Ben by his side. The firm engages leading architects, designers, lighting showrooms, electrical distributors, and homeowners around the globe while participating in major industry events throughout the nation.

The Meyda family of companies has evolved and today includes Meyda Tiffany Lighting, Meyda Custom Lighting, and 2nd Ave Lighting. All are based in a 180,000 square-foot corporate headquarters and manufacturing facility in Yorkville, New York. With many years of designing, engineering, and manufacturing expertise, Meyda develops innovations, technologies, and value that include architectural lighting for any budget or economy. Meyda offers American-made capabilities to create distinctive architectural lighting, from an entire series of luxurious luminaries to that one-of-a-kind masterpiece for residential, hospitality, and other commercial environments.

“We go into any direction that calls,” explains Bob Cohen, president. “We service the hospitality industry – hotels and motels – restaurants, casinos, entertainment, private residential homes, theaters, senior living facilities, etc. There is no order that we won’t entertain. We quote every job that comes our way.”

Meyda business involves 70% custom steel work and 30% Tiffany stained glass products. For many years the company fabricated the steel work through the use of a plasma cutter as well as a great deal of hand work.

“We process a great deal of copper and brass,” explains Chester Cohen, production manager. “We purchased our second plasma cutter in 2004 because fiber laser technology was not quite available. By 2017, we realized that we needed to upgrade our plasma cutting machine. After considering replacing it with another plasma machine or a water jet, we made the decision to purchase a fiber laser.”



The Platino Fiber Laser allowed Meyda to enter new markets and the company can now manufacture more contemporary products that entail clean, straight thin lines in architectural looking fixtures.



From right to left: Bob Cohen, president with his two sons, Max Cohen, director of hospitality marketing and Chester Cohen, production manager.

Platino Fiber Laser

Meyda contacted 13 different fiber laser manufacturers of all sizes. After visiting many different laser manufacturer showrooms and comparing technical data, Cohen chose the Prima Power Platino Fiber laser.

The Platino Fiber Laser cutting machine is the perfect balance of innovation and experience. This product combines state-of-the-art efficiency and ecological fiber laser technology, with the proven reliability and flexibility of the Platino platform. Platino Fiber is available with high brilliance, energy efficient fiber lasers from 2 - 6 kW power. The cutting head, designed and manufactured by Prima Power, is equipped with a single focus lens and is suitable for all production needs.

“We chose the Platino Fiber Laser because we needed a production machine,” continues Chester Cohen. “We didn’t want to have an entry level machine. We wanted to avoid the larger laser companies for fear of becoming part of a large conglomerate of customers waiting for a service tech to show up. And the smaller companies didn’t have the resources to provide proper service. We were happy with Prima Power because we felt like they had the business strength to support us, but they didn’t have the overwhelming volume to forget about us when we needed them.”

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 Platino Fiber cuts various thicknesses, up to 20 mm of mild steel, with efficiency and quality. Numerical control, operator interface, and programming software are user-friendly and smart tools, which are developed and manufactured by Prima Power.

"If there is a service problem, they find us a service tech within an hour. We get a call back and they work through a number of options quickly to diagnose the problem."

"The Platino has performed as it was sold," explains Cohen. "It wasn't oversold. It's a fast machine that performs incredibly well. The performance and the quality of the parts have saved us so much time in downstream operations, such as bending, post-cutting clean up, etc., because there is virtually no slag to worry about. It consistently performs well and the service is spot on. If there is a service problem, they find us a service tech within an hour. We get a call back and they work through a number of options quickly to diagnose the problem. In one instance, we weren't even down and a Prima Power service tech showed up to make sure our problem was solved."



The Platino Fiber Laser cutting machine is the perfect balance of innovation and experience. Meyda defines the shuttle table as a fantastic tool to keep the machine running efficiently.

"We could not have produced these parts in-house prior to purchasing the Platino Fiber Laser. In addition, 2018 was a banner year for the manufacturing side of our business. We would not have survived without the Platino, which exponentially reduced cutting time."

The fiber laser allowed Meyda to enter new markets. "We can now manufacture more contemporary products that entail clean, straight thin lines in architectural looking fixtures," says Chester Cohen. "We could not have produced these parts in-house prior to purchasing the Platino Fiber Laser. In addition, 2018 was a banner year for the manufacturing side of our business. We would not have survived without the Platino, which exponentially reduced cutting time."

Other features of the Platino Fiber Laser that Cohen likes include:

- The shuttle table is a fantastic tool to keep the machine running efficiently.
- The controller is very user friendly, and it doesn't take an engineering degree to operate the machine.
- The accuracy of the parts

"The Platino Fiber Laser has taken our company to the next level," concludes Chester Cohen. "It helps us meet tight lead times because we aren't fighting with parts once they have been cut or having to clean and rework them. Secondary operations time savings was the biggest benefit that we saw, after switching from the plasma cutter. Having them come off the table and bringing them to a fabricator so they could go

straight to their operation was really an important step for us. Another thing that we started doing was incorporating indication timing tabs so that we could line up components that have to mate together for spacing issues. Part fit up was made much easier between the Platino and the engineers understanding of what the capabilities were and learning how to use them."

Impressive Growth

"From a sales standpoint, if you tell a customer that you are using a laser to manufacture product, it sends a message that we have credibility in the industry as a go-to source of quality and reliability," explains Max Cohen, director of hospitality marketing. "It speaks to our capabilities as a company. I like the laser because it makes our products easier to sell. Going from plasma to laser was a big step. Customers love the fact that lead times are now more manageable and we are able to meet deadlines easier."

Prima Power Targeted Industrial Sector Events



Recently, Prima Power hosted two events: “Prima Power Metal Furniture”, dedicated to metallic furniture, and “Elevate Your Business”, focused on elevators and escalators. This is a winning formula that brings together the operators of a specific sector to illustrate through seminars, demonstrations, and real simulations of production the most recent solutions for sheet metal processing for their industry.

The events organized by Prima Power, dedicated to the main industrial sectors in which sheet metal products are used, continue with success. This is a winning formula that brings together the operators of a specific sector to illustrate through seminars, demonstrations, and real simulations of production the most recent solutions for sheet metal processing for their industry.

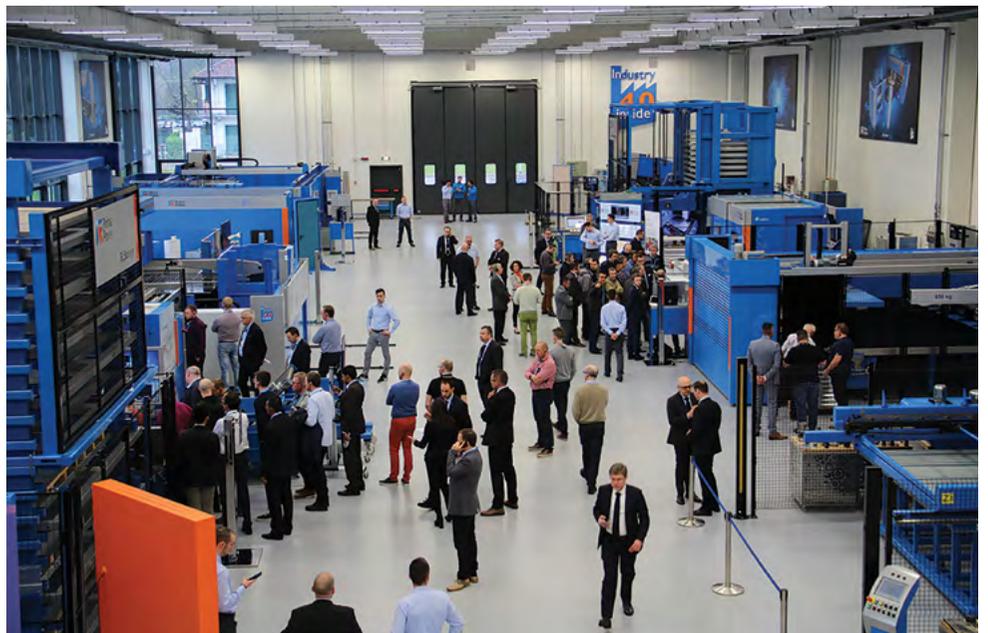
Recently, Prima Power hosted two events: **Prima Power Metal Furniture**, dedicated to metallic furniture, and **Elevate Your Business**, focused on elevators and escalators. Last year, Prima Power also hosted **Open Steel Door**, along with open days dedicated to other industrial sectors. Generally, these targeted events have attracted over 1,000 visitors in our Headquarters and Technology Center based in Collegno (Torino).

For the Prima Industrie group, to which Prima Power belongs, the Construction & Building and Steel Furniture & Panels sectors represent approximately 28% of consolidated turnover. The quota of this sector’s turnover grows significantly

if the subcontractors totally or partially operating in this activity are also included.

These industries are rapidly growing and changing and the request for metal parts is increasing, with growing demand for premium products in terms of aesthetics, finish, and design.

The other key factor is sustainability: metal parts are an eco-friendly choice and an alternative to plastic or wood consumption and deforestation. Moreover, the use of pre-painted sheets eliminates painting and washing from the production process, further reducing the environmental impact and production times and costs. Prima Power is able to offer the perfect solution for every production need, with flexible and precise machines, developed to process pre-finished and pre-painted materials. Our innovative



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technologies can cut, punch, and bend most of the metal parts used in these sectors.

Efficient in stand-alone versions, Prima Power machines are unbeatable when combined in one system. The entire process of manufacturing is reduced to a single step, with fully-automated operating cycles that allow fabricators to quickly switch with maximum flexibility from one product to another.

The flexible Prima Power production systems such as PSBB line and LPBB (Punching - Shearing or Laser - Buffering - Bending) are the ideal solution for kit production into a single flow, which provides semi-finished products using a Kanban system and customized products on a "make-to-order" basis. The Prima Power lines generate complete and high-quality products, easy to assemble without the need for screws and rivets or additional processes such as welding, painting, and washing.

During the events, Prima Power 4.0 software solutions were demonstrated, for performance control and intelligent management of production based on data collected from machines. Also featured were Virtual and Augmented Reality technologies with Microsoft HoloLens, for the most advanced service and knowledge sharing applications.



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**Elevate Your
Business**



**Metal
Furniture**



**Steel
Doors**

Please scan the QR codes to watch a video of events.

NEW
PLANT

Prima Power Opens New Manufacturing Plant in Seinäjoki, Finland

Prima Power has opened a new site in Seinäjoki, in Western Finland. Finn-Power Oy, the company of Prima Industrie Group manufacturing Prima Power turret punch presses, combination machines, and systems, relocated its manufacturing plant and Tech Center from Kauhava into a brand new facility in Seinäjoki.

The 20,000 square-meter facility was commissioned by the Seinäjoen Yrityskiinteistöt (company owned by the City of Seinäjoki) and built by Lujatalo Oy for an overall investment of around € 20m. The new factory was specially designed and built for Finn-Power Oy purposes, which rented it on a long-term basis.



The more than 250 guests who took part in the two-day event attended presentations and speeches and were accompanied through a guided tour of the innovative factory.

The new location, in operation since November 2018, was officially inaugurated on March 21, 2019 in the presence of the Speaker of the Finnish Parliament Paula Risikko, the Mayor of the city of Seinäjoki Jorma Rasinmäki, the Italian Ambassador Gabriele Altana, the Chairman of Prima Industrie Board Gianfranco Carbonato, the General Manager Operations of Finn-Power Oy Jarmo Mursula, along with other authorities, international customers, partners, and press representatives. An open house dedicated to Finnish Prima Power customers took place the following day.

“For a company, it is a very rare occasion to have the opportunity to build a completely new factory,” states Jarmo Mursula. “We have now had that possibility and are very pleased and grateful for it. For Finn-Power Oy, the opening is also the occasion to celebrate its 50-year anniversary. A book on the history of the company was released at the opening event and it is one of our ways to thank all people who have worked for this company during its half-century journey.”

More than 250 guests took part in the two-day event and attended presentations and speeches and were accompanied through a guided tour of the innovative factory.



The new facility has 400 employees divided between plant and office responsibilities. As all companies of the Prima Industrie Group, Finn-Power Oy is strongly focused on innovation – 20% of the workforce is dedicated to R&D activities.

The Seinäjoki plant manufactures all Prima Power punching, punching/shearing, punching/laser-cutting, and automation equipment as well as systems for the global market. Around 450 machines and automation equipment are delivered from the Finnish factory annually. The new premises, consisting of over 20,000 square meters, include a production plant (13,530 m²), offices (5,585 m²), and a showroom (1,550 m²). Compared to the previous facilities, the production capacity in the new plant is increased by 40%, thanks to a 30% increase of the production space, improved internal logistics, modern technology, and an increased height of the building, where tall storage systems can be assembled in all parts of the hall, and hoisting of machinery can be easily performed with big cranes.



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Prima Industrie Group places special attention on the energy efficiency of its sites. The new Headquarters & Technology

Center in Torino, Italy, was built in 2016 with “green” materials and is self-sufficient in terms of energy, thanks to photovoltaic and solar panels, a geothermal system, and a home automation system to reduce waste.

The new Finnish production plant in Seinäjoki was built on this model. This building is in Class A and has a high energy efficiency. It was built with the most innovative “green” technologies and is equipped with an efficient heat recovery system, low-energy windows, and solar panels. The part of the building hosting the offices was designed with a “horse shoe” shape, in order to allow as much natural light as possible. A modern lighting system adapts to daylight so that the best possible working conditions are always granted. Compared to the previous facilities, there is a reduction of 40% in heating energy.

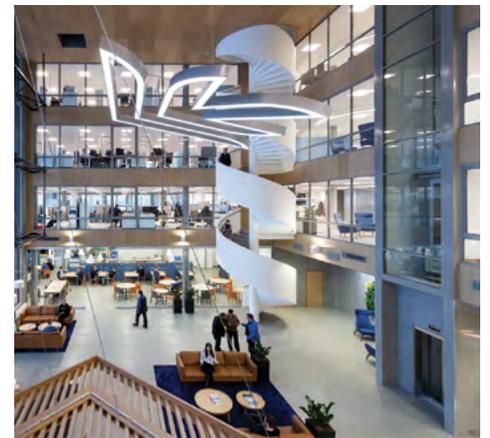


Jorma Lillbacka (left) founder and former owner of Finn-Power, attended the open house festivities.



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“The unique experience in a comprehensive range of technologies and the global extension of our industrial and commercial footprint are primary strengths for our group,” concludes Gianfranco Carbonato. “For this reason, I’m extremely proud to celebrate the 50-year anniversary of Finn-Power Oy and the opening of this brand new, efficient, and modern site. The decision of building a new plant for Finn-Power testifies our confidence in the future of this company, within Prima Industrie Group, in the new era of digital revolution and intelligent automation. Our group is at the forefront of these new technologies, which will strongly impact all manufacturing sectors in the future.”



The Chairman of Prima Industrie Board, Gianfranco Carbonato, made an address at the open house and greeted dignitaries, customers, and guests.

Finn-Power Oy has been part of the Prima Industrie Group since February 2008 and is included in the Prima Power Machinery Division. The Group has more than 1,800 employees around the world, over 13,000 installed machines in 80 countries and eight manufacturing facilities in Europe, China, and the US. In 2018, the Group reported another record year with revenues up by 3.9% to € 467m. The revenues of Finn-Power Oy in 2018 were € 161.4m.



Please scan the QR code to watch the Finn-Power 50 years video.

**NEW
PRODUCT**

Laser Genius by Prima Power with 10 kW Fiber Laser for Maximum Performance Even on High Thicknesses

The high-performance Laser Genius fiber laser machine with 10 kW laser improves its performance and cutting quality, even on thick materials.

Laser Genius offers quality, accuracy, and productivity without compromises on the entire range of thicknesses thanks to the better integration of all the machine components. It combines the flexibility of Prima Power laser machines with productivity and efficiency, achieved through the innovative use of materials such as the carbon fiber carriage and the synthetic granite frame. Efficiency is further improved by the high dynamic linear motor which contributes to increased productivity up to +20% compared to conventional transmission systems. The 10 kW fiber laser improves the performance of Laser Genius in terms of cutting speed and quality, even on thick materials.

The machine is accurate and repeatable in the cutting and positioning of the laser head thanks to the effective CNC management of the linear drive, which allows excellent cutting quality and dynamics on all materials.

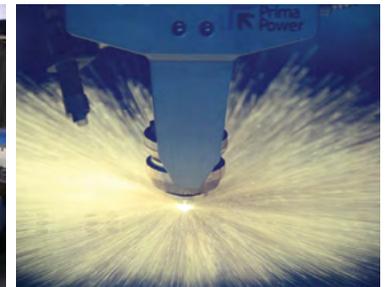
The technological core of Laser Genius is the laser head, a mix of innovation and technology, designed and developed to provide maximum efficiency, flexibility, and reliability. The Prima Power fiber laser head has adaptive optics for automatic management of focal position and diameter, and for fast, reactive, and accurate stand-off measurement.

In order to best meet the various production needs, Laser Genius can be integrated with optional suites: SMART Cut, which allows a cycle time reduction up to 30% in case of thickness up to 6 mm and high pressure cutting; MAX Cut, which allows a cycle time reduction up to 40% for thicknesses from 6 to 25 mm and oxygen-assisted processes; NIGHT Cut, for complete control during unattended operations; CONTROL Cut, which allows the process to automatically adapt to the machine configuration and the status of the devices; NOZZLE CHECK and OPC BY CAMERA, which further increase productivity and precision.

Laser Genius can also be equipped with a wide range of automation modules for loading, unloading, storage, sorting,



and stacking. The Prima Power line for the automated sheet metal flow, including Compact Server, Combo Tower Laser, LST, and the connection to the Night Train FMS, makes the machine an ideal system for continuous 24/7 production of two-dimensional pieces for every production requirement.



Prima Power offers high productivity and flexibility benefiting the wide range of markets in which its products are used. The machines offer the highest standards of reliability and are suitable for mass production. The components to be processed can vary considerably in terms of dimensions and thickness, depending on the reference market and whether they are structural components or aesthetic panels. Laser Genius with 10 kW laser is particularly suitable for the agricultural industry, earth moving, railway, and sub-contracting sector, where high productivity and flexibility are required and in which it is important to be able to cut even the highest thicknesses.

In addition to Laser Genius, Prima Power's complete range of 2D laser machines includes the Platino 2D laser machine, in fiber and CO₂ version, and the new Laser Sharp, available in size 2060 and equipped with fiber laser up to 10 kW, ideal for medium and large format sheets.

**NEW
PRODUCT**

Combi Sharp...Integrated Punching and Laser Cutting at an Affordable Price



The Combi Sharp offers superior manufacturing economy. The punching and laser cutting combi machines were introduced to the Prima Power product family in 1989. It was noticed that combining different work stages accelerated the manufacture of the final product and reduced the production costs.

Accurate Forming and Marking

Forming, marking, and other auxiliary work stages are enabled by accurate ram control. These, together with the ease of use, are other factors that reduce the manufacturing cost per component, making the Combi Sharp a productive and competitive manufacturing solution.



Proprietary Software

Special attention has been paid to the ease of machine setups and programming. Combi Sharp comes with a touch screen and Prima Power Tulus® Software.

Reliable and Safe Laser Cutting

Combi Sharp includes many safety systems to improve laser cutting performance and reliability. The lens protection window (LPW) prevents dust and spots on the lens. The laser process monitor (LPM) follows the cutting process and restarts it if necessary. The lens condition sensor (LCS) informs the operator when the lens requires changing.



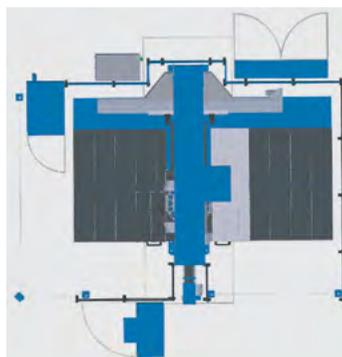
Unbeatable Tooling Concept

Prima Power turrets allow a customizable amount of tools and index stations with selectable Multi-Tool® layout. The turrets are also compatible with other tooling types.

A modern combi machine uses numerically-controlled, servo-electric axes, which provide outstanding energy efficiency, low maintenance requirement, and a high speed of operation. The cornerstones of its productivity include a large tool capacity and a wide range of special tools available with easy and fast setup change. As the best laser power source for the combi machine, fiber laser has a very high efficiency. Its highest utilization degree is up to 8 mm material thickness.

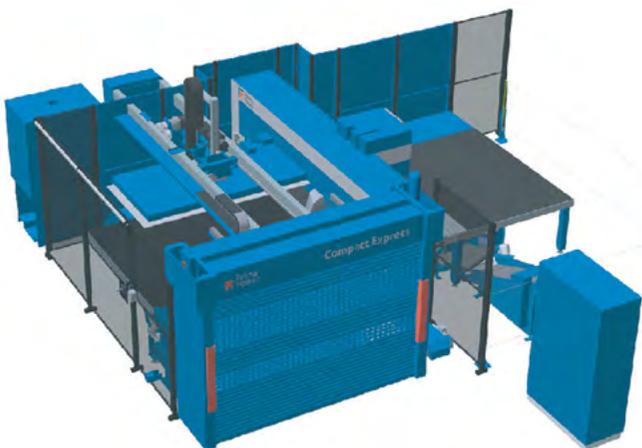
Automation

The Compact Express is a fully-automated material handling device and has the fastest sheet loading and unloading cycle in the market. Double sheet detection and sheet centering ensure a secure and continuous machine operation. Due to its compact construction, the automated Combi Sharp does not require much more floor space than the machine itself...but it dramatically increases productivity.



Modularity is Power

In the core of the machine is Punch Sharp, a modular solution that can expand into a combi machine for future production to fabricate more complex parts.



Automation as a Competitive Edge

by Davide Davò and Giancarlo Giannangeli

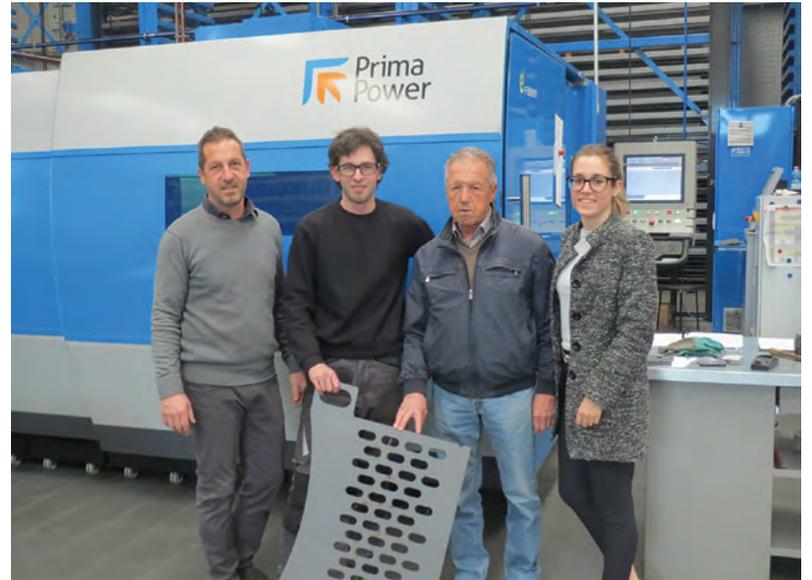
Thanks to integrating a Prima Power fully-automatic laser cutting system, consisting of a 6 kW Platino Fiber 2.0 laser cutting machine, along with a Night Train automated warehouse, Carpenteria Metallica Depedri has been able to increase productivity by 30%.

The activities carried out by a subcontractor are definitely complex, since they require the ability to combine production quality and the flexibility to switch into completely different batches in terms of size, materials, geometries, and speed to ensure timely deliveries to customers with increasingly tight time frames. These are critical issues that Carpenteria Metallica Depedri faces daily and can be successfully addressed due to its 60 years of business experience and supported by technologically-advanced sheet metal working machinery.

History of Growth

Carpenteria Metallica Depedri began operations in Villa Lagarina (Trento, Italy) in 1961 by mainly focusing on the construction of prefabricated metal structures and buildings of various types. In 1978, the company moved to its current location and started to expand the sheet metal working business. Never losing sight of its aim to meet customers' needs as timely and efficiently as possible, the company made significant investments in equipment. This focus on technological innovation became Depedri's strength: new manufacturing processes were soon developed and launched by the company. This expansion resulted in enlarged facilities, a production boost, and a steady increase in turnover – even during the recent economic downturn.

Today, this company is a reference partner for a variety of applications in the sheet metal industry, including the assembly and finishing of heavy-duty structures. In addition to cutting, the company offers extremely accurate bending with its two 80 and 150 ton eccentric presses. It can perform a wide range of



Carpenteria Metallica Depedri is a family business. From left to right: Franco Depredi, owner, son Andrea, Franco's father Aldo, founder of the company, and Franco's daughter Laura.

machining operations, including sheet metal stamping, even in the most demanding applications.

Ongoing Innovation

Depedri has gained great experience by increasingly establishing itself as a reliable, competent partner. While remaining a small company with less than 25 employees, its reliability and market focus have entitled it to gain the trust of large local companies operating both at national and, in particular, international levels in several diversified industries (lifts, shelving, furniture, doors, stoves, bathrooms, agriculture, and many others). Franco Depredi is the owner of the company founded by his father Aldo. Today, Franco's children, Andrea and Laura, also work at the company.

"Thanks to this system, we can now manufacture workpieces at a 10 times faster speed than the previous machine."

To be capable of acquiring orders in a competitive and fast-paced market, leveraging excellent technologies is a top priority, along with a need for the company to be organized in such a way as to effectively manage and fulfill orders. The Trentino-based company has renewed its equipment in the last few years, starting with an E6x punching machine with a Prima Power Compact Express. It is a system able to process single workpieces or series. Process control and accurate diagnostics ensure top-quality machining and scrap minimization, thus combining the highest productivity with an efficient



The Platino Fiber 2.0 laser machine's productivity is further enhanced by the combination with a Prima Power Night Train FMS warehouse, to manage the sheet metal to be loaded as well as handling the finished parts, which makes it an extremely efficient system.

management economy. The system has 60 tool stations, including threading tools, and variable height or continuous deformations. The machine is also equipped with a Compact Express automatic loading and unloading system.

A Strong Relationship

The relationship between Depedri and Prima Power has continued to grow over the years. "Before making our choice, we had been carefully observing Prima Power's machines, even during trade exhibitions, finding a good quality/price ratio and satisfaction from their users," explains Depedri. "These aspects, combined with a number of major features, convinced us to select a Prima Power turret punch press five



The introduction of this fully-automated laser cutting system makes it possible for Depedri to offer great cutting quality for steel, stainless steel, aluminum, copper and brass.

years ago, and to consolidate our relationship over time by later purchasing a laser cutting machine that has been operating successfully for nearly two years. As a result, we managed to enlarge our customer base, meeting all work requests, and boosting turnover by over 30%."

Platino Fiber 2.0 laser machine's productivity, is further enhanced by the combination with a Prima Power Night Train FMS warehouse, to manage the sheet metal to be loaded as well as handling the finished parts, which makes it an extremely efficient system. The introduction of this fully-automated laser cutting system makes it possible for Depedri to offer great cutting quality for steel, stainless steel, aluminum, copper and brass, with a wide range of automatic changeover nozzles suitable for any application. The Platino Fiber by Prima Power can cut any steel and stainless steel profiles up to 20 mm and 15 mm thicknesses respectively. Cutting is done with no burrs on corners or edges, with a minimum heat supply on the workpiece. This is accomplished with a new fiber laser head and adaptive collimator, equipped with a single lens for cutting sheets of any material and thickness. The quality of the marking feature allows logo creation, inscriptions, and minute details.



The Trentino-based company has renewed its equipment in the last few years, starting with an E6x punching machine with a Prima Power Compact Express.



"Prima Power is just what we needed to face the challenges in the field."

High Level Automation

The Prima Power Platino Fiber Laser is equipped with high power 6 kW laser source, a configuration unusual among subcontractors. It was a choice dictated

by the opportunity to machine different volumes, and thus, immediately expand the customer base. The automatic sheet management system — called Night Train FMS for its ability to operate night and day — connects machines, programs, and processes in a single platform. The warehouse actions can be optimized based on other processes. The system supplied by Prima Power can ensure high-level automation. "Thanks to this system," says Depedri, "we can now manufacture workpieces at a 10 times faster speed than the previous machine. This allows our machines to operate unattended even during night shifts. There has been a dramatic change in manufacturing methods. Previously, we found it hard to find sheets or workpieces, as materials were stored in the workshop in bulk. Today, everything is accurately arranged, with operators really benefiting from this. Through a wide range of software-based data on the materials, we can decide strategic stocks well in advance, thus avoiding excessive or wrong purchases. Larger manufacturing volumes with less space requirement, shorter operating times in production changes, and for new products, virtually zero set-up times, rapid and automatic switching from one product to another... Prima Power is just what we needed to face the challenges in the field."



“Prima is next to you”— with this slogan Prima Power presented its extensive product line at the Lamiera fair in Milan from May 15-18. The Lamiera exposition is the most important Italian event dedicated to the sheet metal forming machine tool industry and to all innovative technologies related to the sector.



Prima Power exhibited the many ways in which it is close to its customers. Thanks to the breadth and depth of the product range, Prima Power technologies and solutions meet the needs of all companies, whatever the sector in which they operate, the size, the geographical location, the investment possibilities, the application and production needs.

The Prima Power technologies exhibited gave concrete answers to the current trends in the manufacturing sector and to the new challenges that today's market presents, such as the production flexibility to manage batches of all sizes and to work every type of piece, regardless of size, shape, material, thickness, and treatment.

The Prima Power product line exhibited included: The 10 kW Laser Genius fiber laser with the Compact Server loading/unloading station. This configuration, presented for the first time in Italy, enhances the versatility of the machine by increasing the range of material thicknesses, and the flexibility in the handling of raw and processed sheets.

Also for the first time at an Italian fair, the Prima Power Combi Genius combined punching/laser cutting machine was presented with a new eye safety protection mounted around the cutting head, which avoids the use of protective walls around the machine. The advantages of this solution are greater accessibility and visibility of the system and simplified installation.

Also featured was the BCe Smart servo-electric panel bender, characterized by ease of use, ergonomics, flexibility, safety, and reliability. Innovative safety devices active through laser scanners, programmable light references for simple-piece positioning, barcode reader, and ATC system for automatic setup are some of the intelligent systems that are featured on the machine.

Prima Power also showcased the Prima Power eP-1030, versatile servo-electric press brake. Well known for its excellent combination of tonnage and working capability, in Milan the machine was shown in a full-optional configuration.

The software plays a fundamental role in the range of Prima Power products, as it allows the connectivity and the data exchange that are at the base of the digital transformation

of the production and efficiently manages all the possible combinations among the different technologies. Visitors watched demonstrations of the new parametric functions of MasterBend, the new UI for Tulus Performance Reporting, the new cloud-based application Tulus Analytics, which offers customers a variety of analyses derived from machine data, and the Augmented Reality application with Microsoft HoloLens, based on the most advanced mixed-reality technology.



During the show, visitors could also attend demonstrations of Virtual Reality and Augmented Reality applications.

Prima Power offers the advantages of the one-stop-supplier: complete responsibility for the success of the production solution and a single point of contact for maintenance and assistance through the entire life cycle of the product.



Prima Power Suzhou recently held its fourth successful Open House event. This event featured specialized customer targeting, advanced ability, and design, and most importantly, increased machine performance and functionality.



Prima Power Suzhou presented demonstrations on a full line of products, including: the Bend, the Combi, the Laser, the Press, the Punch, and the Shear. Also, thanks to our VR technology, visitors were able to enter a virtual manufacturing world to experience the Prima Power systems in operation. Over the two days, Prima Power Suzhou hosted more than 150 visitors from over 100 companies.

During the event, Antti Kuusisaari, Vice President System Sales, and Roberto De Rossi, Business Development Manager, made presentations on various market segments where there is need for specialized products with higher capabilities and advanced quality. It was evident to the visitors that Prima Power's product line, ranging from stand-alone machines to fully-automated systems does satisfy the market needs for high-quality products.



During the Prima Power Open House event, customers were able to see the scope and capability of the complete Prima Power product line and learn why we say: "Prima is Power". That's also the reason why, year after year, we build on the tradition of the Open House event. The Open House allows our customers to experience first hand the features and benefits of the Prima Power system.

Geographically, 65% of the visitors of the Open House event come from the Yangtze River Delta which includes Jiangsu Province, Zhejiang Province, and Shanghai city. Yangtze River Delta is the most developed area in terms of economic range and growth where nearly half of the top 100 counties of China are located. It has a strong industrial base with approximately 100 industrial parks, each of which has an annual output value exceeding 10 billion RMB.

Servo-Electric Bender & Shear Brilliance Brings Higher Efficiency and Productivity to Quebec Manufacturer

Established in 1924, Montel pioneered high-density mobile storage systems providing cost-efficient storage solutions using less space, and established a global network of authorized Montel distributors. The company serves clients through a network of authorized distributors throughout North America, Central America, Europe, and the Middle East.

Prior to becoming North America's leading manufacturer of mobile systems, the company had acquired nearly 40 years of experience in the electrical industry, including extensive involvement in the construction of generating stations and power grids for world-leading hydro-electric plants.

A manufacturer of products for office, institutional, museum, industrial, retail, and even residential applications, Montel's achievements include some of the most prestigious projects in North America and around the world. The product line includes: mobile shelving systems, heavy-duty mobile racking, static shelving and racking systems, vertical farming systems, art racks, workstations, workbenches, and cabinets.



Pierre Gagnon, methods and process technician (left), and Kevin Baker, technical manager, believe that both the Prima Power BCe and SBe have increased Montel's efficiency and quality and helped the company sell into new markets.

In order to manufacture their storage systems, Montel has accumulated a wide array of fabrication equipment, including: punching, bending, welding, laser cutting, roll forming, and powder coating. In 2014, the management of Montel purchased the BCe Process Bending Center from Prima Power.

BCe Process Bending Center

The operation of the BCe is semi-automatic. It is a productive solution for small batches as well as for serial manufacturing. Total manufacturing time is shortened as the loading operation is simultaneous with the unloading of the ready-bent component.

The BCe configuration consists of a basic unit (bending press and a programmable manipulator with rotator) plus loading table with a brush top, a programmable part feeder, and driven rolls in the unloading table which are the material handling modules.

According to Kevin Baker, technical manager, Montel purchased the BCe to obtain a bending machine that provides quick setups for medium run orders. "We also wanted a servo-electric machine with more flexibility to make special bends," explains Baker. "The BCe has saved us material and time in making the assemblies. It has also increased our productivity, quality, and consistency."

"The loading and unloading features are just perfect for us," adds Pierre Gagnon, methods and process technician. "We have many parts that are last bend down, and the BCe is the best machine on the market for these kinds of bends. And the BCe is very ergonomic for our operators. It has dramatically reduced the number of shoulder and back injuries our employees experienced with the conventional press brakes."



The operation of the BCe is semi-automatic. It is a productive solution for small batches as well as for serial manufacturing. Total manufacturing time is shortened as the loading operation is simultaneous with the unloading of the ready-bent component.



"On some parts, the BCe has saved us more than 50% in production costs. It has allowed us to be more competitive in some new markets, such as reinforced shelving."

"The machine has performed very well for us. It has been very good for both high- and low-volume runs," continues Baker. It has replaced 2-3 press brakes. On some parts, the BCe has saved us more than 50% in

production costs. It has allowed us to be more competitive in some new markets, such as reinforced shelving. We have also improved our quality. The parts coming off the BCe are easier to assemble due to the consistent high quality of the bend."

Shear Brilliance

In order to meet their growing production needs, Montel management purchased a refurbished Shear Brilliance SBe6 in 2018.

The integrated punching-shearing concept has been championed by Prima Power since 1987, and more than 2,000 integrated punching-shearing cells have been installed all over the world. The inherent benefits of the process have translated into superior manufacturing economy in varied applications.

The new Shear Brilliance is based on the very latest in composite materials, servo-electric technology, and linear drives to achieve truly impressive performance values which translate into a new level of productivity in versatile, flexible fabrication.

"The SBe has replaced a CO₂ laser and an older stand alone turret punch press," says Baker. "For a part with many holes, it is a lot faster than a laser. Punching is very fast on the SBe. In addition, there are no skeletons, no shaker parts, and less scrap. And the loader and unloader make it much easier and ergonomic for the operator."



"Punching is very fast on the SBe. In addition, there are no skeletons, no shaker parts, and less scrap. And the loader and unloader make it much easier and ergonomic for the operator."

"The SBe's large turret, combined with the Multi-Tools, gives us access to the many punching tools," adds Gagnon. "We also have upforming available with the SBe that we will implement in the near future."

Other inherent benefits of modern servo-electric technology are operation economy due to low power consumption and low maintenance requirement, as well as excellent accuracy in all the versatile capabilities. Prima Power modularity allows the fast high-precision manufacturing of components that



The new Shear Brilliance is based on the very latest in composite materials, servo-electric technology, and linear drives to achieve truly impressive performance values which translate into a new level of productivity in versatile, flexible fabrication.

Other Shear Brilliance highlights include:

- Loading in masked time – more production time available
- Hit speeds up to 1,300 hpm – fastest hit rate available for fabricating full format sheets
- 3,100 mm common working area – punching and shearing without repositioning
- More force (35 tons) – Complicated contours with one hit
- High tooling capacity – huge savings in set-up times, flexibility in production
- Supreme positioning speed, accuracy, and precision – Time savings and improved quality during processing

also require forming – even bending – tapping and marking in a single, flexible cell and a fully-automatic process. Finally, by its very nature, the integrated punching-shearing concept can bring savings of 10% to 20% in raw material consumption. Even more saving can be achieved by using the optional cut-to-length line.

"Both the SBe and the BCe have increased our efficiency and quality and helped us sell into new markets," concludes Baker. "Our total experience with Prima Power has been very positive. They have been very reliable and provide a good solution to any question that may come up. If we ever need help, Prima Power is there for us...they are all in."

Automation & Cooperation... Building Blocks to the Future for Finnish Manufacturer

The Finnish company PRP was established in 1987. It has specialized in manufacturing products for the construction industry, such as building facades, roofs, etc. The company also manufactures its own product line for industrial protection (e.g. protection cabinets around machines). PRP has manufacturing facilities in five different locations in the mid and southern parts of Finland: Seinäjoki, Vaasa, Porvoo, Pori, and Tampere.



Machine operator Jere Lilli (left to right), managing director Ossi Viljanen, and Prima Power sales manager Ilkka Hunnako discuss the bending capabilities of eP2040 press brake.



The biggest leap in PRP's production development was made in 2017, when the company invested in a Prima Power Shear Brilliance punching/right angle shearing unit with STS stacking automation.

The company started as a small, traditional tinsmith shop employing two people. In 2004, the company started to expand and flourish as it moved its operations to Seinäjoki. The floor space multiplied and PRP's own product line played a larger part in the company's operations. As a result, the number of personnel increased. In 2007, led by Ossi Viljanen and Matti Yli-Sikkilä, the company started to concentrate more strongly on the façade business and façade assembly. In addition, the product variety in this sector was increased and more challenging building projects were selected. The latest and the biggest leap in production development in the company's history was made in 2017, when the investment in a Prima Power Shear Brilliance punching/right angle shearing unit with STS stacking automation and a FastBend panel bender took place. At the same time, the press brakes were modernized. In the Porvoo facility, a Prima Power C6 punching machine was acquired as a stand alone unit to support production and reduce manual labor.

Cornerstones of Business

There are three cornerstones in PRP's business: projects, contract manufacturing, and PRP-Private service and industrial protection. The common factors in all these different focus

areas are manufacturing technologies and materials (steel, aluminium, and glass). This ensures an efficient use of the investments and the ability to balance the relation between its own product and customer product manufacturing.

PRP is devoted to overall customer satisfaction and partnership. Service attitude, professional skills, and quality all have a crucial role. The company does not just want to be a supplier or a purchaser, but a partner who has an active role in enabling their customers'

success and good result. Consequently, PRP has many long-term customer relationships that have evolved from very small projects into main partnerships. PRP-Private is a concept, where contract manufacturing customer service is customized and full-scale. The service includes development of the entire operation and PRP participates in the development work of the customer to ensure that all benefits in product manufacturing are utilized.

The turnover of the company has increased remarkably over the years and after the first decade the growth has been very strong. The investments in production efficiency



The façade panels of the new Prima Power Seinäjoki factory were manufactured by PRP on Prima Power machines.

and increased automation have had a specific role and have assisted in gaining a new level in the company's operation. Currently there are 90 employees but in high-seasons the number exceeds 100.



ProCab protection cabinets are PRP's own production and are also used by Prima Power.

Prima Power – a Clear Winner

Planning of the investments in production was started in 2013, and at the same time the strategic targets for the following 5 years were set. The thread running through the plan was the management of entities. Different alternatives on the market were thoroughly examined and evaluated.



PRP is located near to Prima Power's Seinäjoki factory in the Seinäjoki Rovos area. In their own facilities all façades have been manufactured using their own manufacturing methods and design.

"When making the final decision, the most important arguments were the efficiency and features of the machines, systems and automation, and ensuring reliable service and maintenance," explains Ossi Viljanen, managing director of PRP. "We also wanted our customers to take part in this decision and wanted to hear their input in the developing needs concerning their products. In this way we could ensure an efficient introduction and utilization rate for the investment."



The semi-automatic FastBend panel bender is an essential part in the production of facade panels.

The thorough evaluation finally ended in announcing Prima Power as the clear winner in the competition. An important factor was the ability of Prima Power to understand the needs of their customers and a burning desire to help to select the best solution considering the resources.

Fruitful Cooperation

Cooperation and openness with Prima Power finally led to establishing the ProCab product family. It also influenced the overall development of the protection and made installation work at customers' sites easier. ProCab is also Prima Power's choice for protection cabinets around different machine models.

"Prima Power's service was very assuring. We were especially convinced about the response time that was promised in problem situations, the coverage of the service agreement, and the easiness of cooperation."

The ProCab product family consists of soundproofing industrial equipment, operator protection cabinets, protection of welding and grinding work places, and accessories for work places.

"Thanks to the cooperation with Prima Power, we have developed from a small job shop into a leading company in our sector utilizing automation."

According to Viljanen, the cooperation with Prima Power has been very educational. "Through Prima Power we have gained international operation and knowledge about this sector. When selecting the right supplier and partner, one very important

Continued on page 22

Automation & Cooperation... Building Blocks to the Future for Finnish Manufacturer

Continued from page 21

factor is the reliability and availability of service and tooling support. Prima Power's service was very assuring. We were especially convinced about the response time that was promised in problem situations, the coverage of the service agreement, and the easiness of cooperation. Another important detail was that the supplier has an understanding of our yearly schedule and they could schedule the machines' yearly services accordingly, influencing the normal operation of our factory. A specialty in our operation is that we need special tooling with a very short notice and Prima Power has responded to these needs in an excellent way," continues Viljanen. "Thanks to the cooperation with Prima Power, we have developed from a small job shop into a leading company in our sector utilizing automation. We have also gained many good contacts through Prima Power. These are values that only few machine and equipment manufacturers can offer."

Future Plans

Viljanen sums up the future plans: PRP will continue to develop its manufacturing operations further and there is a plan – or a dream – to realize still one more big investment and acquire a combi laser for its Seinäjoki facility to be connected to the current manufacturing line.

"This would further expand our customer base and bring a new range to our manufacturing capabilities and the possibility to boost our production," reflects Viljanen. "However, we are moving forward with profitability ahead, so the most important thing now is timing. We have to take into consideration the big investment recently made and the dramatic growth of the organization that in part is testing our ability to utilize all efficiency and to aim for the future. We have always set big goals for ourselves and we have always reached them."

The ERP system functioning as the core of PRP's production management is stabilized and all information is collected into one system. Concentration on Prima Power machines also enables the new development in the near future of the Power Processing manufacturing management software by Prima Power to be taken into use. That will improve production efficiency and make manufacturing also easy to manage.

"Management has a big influence in production, and thus, combining machines and information systems has opened new possibilities in developing efficiency and profitability," concludes Viljanen. "We see that this kind of development will be the cornerstone of Finnish companies in general in the future."



All PRP's bending machines were modernized with new models in 2017. Bending plays an important role in the production processes.

FACTS OF PRP

Established in 1987

Sector: Steel, aluminium, and glass products for construction business

Personnel: 90 (during high season over 100)

Facilities: Seinäjoki, Vaasa, Porvoo, Pori, and Tampere

Prima Power investments:
2017

- Shear Brilliance punching/right angle shearing machine SBe8 with STS8 stacking automation equipment (sheet size 1.5m x 4.3m)
- FastBend panel bender
- C6 punching machine
- Several press brakes

2018

- Turnover: 13.6 M €

2019

- Power Processing manufacturing management system

NC Express e³ Premium edition: When MetaData integrates CAD to manufacturing

By Ivana Montelli, SW Product Manager, Prima Power



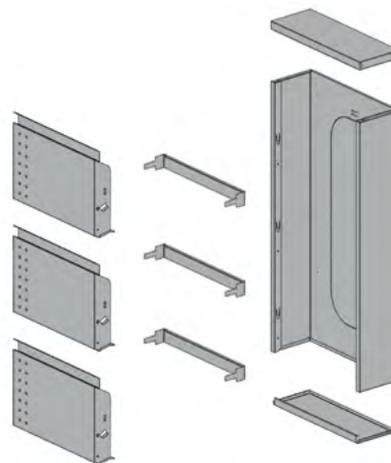
One of the last gaps between product design and sheet metal manufacturing can be closed by utilizing Metadata in 3D models. When Metadata is properly set in a design phase, correct manufacturing data through to NC Express e³ CAM software can be acquired. Metadata can include the following:

- Material code
- Logical part name
- Tag sheet metal parts
- Routing info
- Bending info

Typically, such information has been the responsibility of the CAM programmer to manually enter during the part preparation phase, based on his experience or some other reports. Today, the part preparation phase can be automated through Metadata from a CAD model and we can reduce the possibility of human error.

Interpreting Metadata is included in the latest NC Express e³ Premium edition.

Properties	
Name	817-S45
Material	DX51
Meta data	
Bend Allowance	0.481549
Bend Radius	0.000500000016
Bends	6
Bounding Box Area	0.2269597580081152
Bounding Box Area-Blank	0.1938991129790516
Bounding Box Length	0.4942460348459605
Bounding Box Width	0.4592040036878611
Component Type	0.000000
Cost-TotalCost	0.00
Cut Outs	14
Cutting Length-Inner	0.7681237112187729
Cutting Length-Outer	2.2571146647936304
Description	Sheet
Mass	2.4428185849608268
Material	AISI 304
QUANTITY	1
SW-Author	
SW-BOM Part Number	817-S45
SW-Comments	
SW-Configuration Name	Default&It;As Machine...
SW-Created Date	7-Jul-18 4:01:06 PM
SW-File Name	817-S45-001-10 Rev_ FI AT



Prima Power SW products at Lamiera Exhibition

Prima Power experienced a successful Lamiera exhibition with software demonstrations. Featured software included: NCExpress, Master BendCam, Tulus Office, Remote Care & Hololens Augmented Reality.

Today's fabricators seek innovative, optimized, and automatic functions at CAM Level: easier and faster interconnection between Prima Power machines and the customers' ERP systems.

In addition, customers have understood the importance of an advanced service for analytics and diagnostics via remote access. Also featured was the IoT (Internet of Things) product, Remote Care, providing BigData analysis, which is another added value that today's customers demand.



Smart Bending Investment for UK Manufacturer

West Midlands-based, Midland Tank and Ironplate Ltd (MTI) has recently completed the investment and installation of a new Prima Power BCe Smart 2220 Panel Bender at its factory in Birmingham, adding a significant new dimension to the company's range of sheet steel processing capabilities.

The Prima Power BCe Smart 2220 has a maximum bending length of 2,250 mm and height up to 204 mm and is able to automatically position, bend, and manipulate sheet metal parts for a fully-automatic bending process. This creates the required bends and forms on all edges and produces the finished part to a high degree of accuracy and repeatability thanks to its servo-electric drive system. A wide variety of bend profiles are fully achievable with the machine, including conventional single bends, compound and re-entered bends, flattening, and radial forming in materials up to 3 mm in mild steel, 2 mm in stainless steel, and 4 mm in aluminium.

The BCe Smart has a highly robust and stable design consisting of a static machine frame on which a moving C frame is mounted to hold and control the bending blades. A versatile



The Prima Power BCe Smart 2220 has a maximum bending length of 2,250 mm and height up to 204 mm and is able to automatically position, bend, and manipulate sheet metal parts for a fully-automatic bending process.

upper tooling system is utilized for clamping while a manipulator arm automatically rotates and positions the part for every bend. A brush-top loading and unloading table provides both optimum support and scratch-free material movement.

The ergonomic and easy-to-use design of the machine is a key feature for safe and easy loading by the operator. The loading and unloading tables include a split, fold-

down design, meaning that new parts can be placed on the table for processing and completed pieces can be removed without the operator having to lean excessively into the machine – extremely important for both health and safety and for operational efficiency.

"We decided on the Prima Power solution, not only because of what the machine had to offer in terms of its capabilities, design, and performance, but also because of our relationship with Prima Power and the excellent service support that we have always received."

The BCe Smart also features an active safety system which further enhances the machine's ease of use by using laser scanning technology to start the bending process automatically after loading, as soon as the operator is clear of the safety area and without the need for any buttons to be pressed. After creating a job queue on the integrated Prima Power touch screen control and loading the part, the machine takes over – centering the piece and executing the required bends on each edge, then returning the completed part to the table for collection by the operator. There is no limit to the number of bends on each edge, and the design of the upper and lower tools provides maximum support of the material during bending, while being of a design profile that avoids interference with existing features or previously produced bends.



A wide variety of bend profiles are fully achievable with the BCe Smart, including conventional single bends, compound and re-entered bends, flattening, and radial forming in materials up to 3 mm in mild steel, 2 mm in stainless steel, and 4 mm in aluminum.

The programming of the machine is undertaken via the Prima Power Master BendCam software which is supplied as standard on the machine. Using an intuitive, simple-to-operate graphical display, this generates the full bending program from the drawing of the part, which can be drafted within the software or originate from a variety of common CAD packages. The system is able to simulate the bending process and undertake collision checking for process verification before committing to production. Also included is a teach programming ability, as well as bend angle correction via an integrated database, manual axis control, and tooling management – providing the operator with a simple but powerful system with which to program and manage the machine.



The BCe Smart has a highly robust and stable design consisting of a static machine frame on which a moving C frame is mounted to hold and control the bending blades. A versatile upper tooling system is utilized for clamping while a manipulator arm automatically rotates and positions the part for every bend. A brush-top loading and unloading table provides both optimum support and scratch-free material movement.

The BCe Smart is available with a range of optional elements for increased efficiency, flexibility, and to ensure the suitability of the machine for each customer's particular needs. For MTI, the machine was specially configured with *narrow profile* upper clamp tooling, required for the bending of a particular door frame element that had bends in very close proximity to each other.

A normal part of the appraisal process for a Prima Power Panel Bender is to undertake a review of each customer's component drawings and ensure that there are no complications or special requirements. For MTI, this process identified that one specific part had close proximity bends which could not be produced with a standard configuration. The solution was to equip the machine with the specially produced, narrow profile tooling, allowing the part to be clamped and bent on the machine without any issues, and also permitting the production of future parts with similar designs.

"Our need was to automate and improve the process for our steel door blanks and bars," comments MTI's managing director, David Cox. "We needed something that would fulfill these needs and allow us to increase our production volumes. The use of a panel bender was something that we had been considering for around 10 years and the BCe Smart is a great solution that additionally gives us the flexibility to undertake other work over a broader range of products."

MTI has been a customer of Prima Power for many years and has two Prima Power Platino 1530 2D Lasers. "We decided on the Prima Power solution," continues David, "not only because of what the machine had to offer in terms of its capabilities, design, and performance, but also because of our relationship with Prima Power and the excellent service support that we have always received. The project for the BCe Smart has been a great experience and the machine will revolutionize our processes. We are really impressed and very happy with the machine."

"The project for the BCe Smart has been a great experience and the machine will revolutionize our processes. We are really impressed and very happy with the machine."

With the machine now fully operational and in production, MTI has been able to fully realize all of their initial project requirements and to produce the full range of parts that were to be processed on the new machine. Additionally, the flexibility and efficiency that their new BCe Smart brings has opened up new opportunities and increased capacity for additional production in the future.

Metal Spinner Job Shop Embraces Laser Next 3D Laser

In 1981, Kevin Harberts was part of a three-person group that founded Iowa Metal Spinners, Inc. In 1997, Harberts became sole owner and the company officially changed its name from Iowa Metal Spinners to KRYTON Engineered Metals in 2011. Two years ago, the growing company expanded to a second location in Cedar Falls, IA with an additional 30,000 square feet of space designed for assembly work. Today, KRYTON is a thriving job shop serving a diverse customer base. From metal spinning and laser cut metal products to fully-finished metal fabrication, KRYTON delivers exceptional quality metal fabrication and manufacturing.



Ian Davis, utility supervisor (left), and Bret Clikeman, engineer, researched a number of different options but decided that for safety, part accessibility, and ergonomics the Prima Power Laser Next turntable was the answer.

“We have increased our fabrication capacity to support the spinning process,” explains Bret Clikeman, engineer. “We went from a small, hand-spin shop to robotics and automation. We started doing 5-axis laser work to support our spinning products about six years ago to trim the parts from the spinner and also add holes and contours. Today, nearly 30% of our products need laser work. A few years ago, we purchased a used 5-axis laser machine, which is no longer viable. We had a major problem: the laser company told us they would no longer support us on maintenance. So we were forced to start looking for another 3D laser because we could not send out 30% of our parts to a subcontractor.”

KRYTON’s old laser had a single bay and was too slow to keep up with production needs. After much research and 3D laser comparisons, KRYTON chose the Prima Power Laser Next 2130. “We grew by 20% last year, and we were feeling the heat for more capacity,” says Clikeman. “You can only open the door and process the part so fast. When you’re opening the door and loading a part, the laser isn’t running parts. We were looking for a machine that could load a part while it was running a part. There are a number of different options to achieve this, however the Prima Power turntable was very fast, and it offered very good part accessibility. For safety and ergonomics, we believed that the Prima Power Laser Next turntable was the answer.”



Laser Next

In developing Laser Next, Prima Power has focused on the achievement of the following main benefits for the user:

Maximizing throughput with a dramatic reduction of cycle times. During the last 10 years, the performance of Prima Power 3D laser machines for automotive applications has been growing steadily. With Laser Next, a fundamental step forward was made: productivity on a typical benchmark component (B-pillar) was raised by 25%. In other words, four Laser Next systems produce as much as five machines of the previous model.

Space-efficient layout both for stand-alone and multi-machine configuration. Space is money, and a well-conceived layout helps save square meters and optimizes plant logistics.

The compactness of the installation further enables installing more machines, since you can have up to three units, one next to the other, connected to the same magnetic scrap conveyor, with no need of excavation works. Given the same area, in fact, it is possible to install more machines (e.g. four Laser Next instead of three units of the previous model).



The linear motors on the main axes and the direct drives on the laser head, combined with advanced control systems – guarantee the highest performance, consistently with the utmost precision.

Improved Overall Equipment Efficiency (OEE). For Laser Next, Prima Power capitalized on its experience of hundreds of installations for the 24/7 manufacturing of high-strength steel components. Every detail was studied and developed to maximize machine uptime. Maintenance was also lowered and simplified to reduce non-productive times and the need of specialized resources dedicated to these activities.

"It is an impressive piece of equipment. I really like the tremendous capacity of the turntable design. It has opened up other doors for us."

New Technology

"We did a huge amount of research prior to purchasing the laser," continues Clikeman. "So we could compare the different lasers side by side, we reviewed all technical aspects of the lasers, including service and training. The Laser Next was installed in November of 2018. It is an impressive piece of equipment. I really like the tremendous capacity of the turntable design. We can do an outside diameter of 63 inches. It has opened up other doors for us. We now have new customers coming to us because we have this capacity...and we have this added capacity to sell."

"Comparing the older laser we had before to what we have now with the Laser Next is like going from the industrial age to the internet age."

"Comparing the older laser we had before to what we have now with the Laser Next is like going from the industrial age to the internet age," adds Ian Davis, utility supervisor. "We are going from a single cutting station to the Laser Next. It has improved our productivity tenfold. With the Laser Next dual cutting tables, we are able to pull a part while another part is running. That is a huge improvement for us."

Training & Service

"Prima Power provided a completely better training program than the other laser companies that we talked to," says Clikeman. "They made multiple visits for training to help us to fully learn how to utilize the machine. We talked to current Prima Power customers, and asked about service. Their comments matched what Prima Power was telling us. Some of the other laser companies that we've worked with do not provide



The Laser Next family 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 range of applications in addition to hot stamped or metal spun parts. What really sets this product apart is the combination of the highest productivity and efficiency with all-round flexibility.



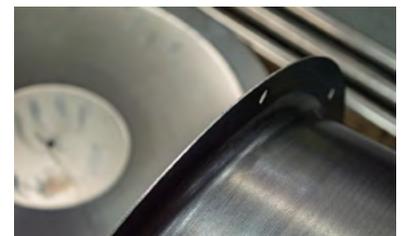
that level of service. In a small shop like ours, there is no redundancy. We don't have two machines in case one breaks down. We have to have our machine running or the train stops."



When you're opening the door and loading a part, the laser isn't running parts. Kryton was looking for a machine that could load a part while it was running a part. The company chose the Prima Power Laser Next.

"Prima Power's turnaround time is one of the best in the industry. If the Prima Power service technicians can't answer the phone immediately, they call us back within the hour."

"Tech support is very important," agrees Davis. "Prima Power's turnaround time is one of the best in the industry. If the Prima Power service technicians can't answer the phone immediately, they call us back within the hour. If we needed a part, the most we had to wait was two days. We've waited as long as a month for parts from other laser manufacturers."



Kryton management believes that the Laser Next cut quality is the best they have seen. The company now cuts aluminum by using high-pressure air cutting... and there is no burr. Kryton no longer has to do any secondary deburring operations.

"The Laser Next is like a race horse – it runs fast all the time."

"The Laser Next is like a race horse – it runs fast all the time. We were running much cruder equipment in the past," concludes Clikeman. "Today we are now selling extra capacity because it gobbles up the work as fast as we can feed it. The reliability of the Laser Next has been very good and the cut quality has been the best we've seen. We are cutting aluminum now and we are using the high-pressure air cutting, and there is no burr. We don't have to do any secondary deburring operations. That is a huge savings."

Prima is Here – Meet Us at the Forthcoming International Exhibitions

We have a special relationship with our customers: we really know their needs and we are always available for them, providing technical solutions to their demands.

For us to be close to our customers means, first of all, offering efficient technological solutions aimed to their sector and their specific application.

We offer support and expertise with our advanced technologies throughout all the project phases, truly listening to the customer's needs.

Come and visit us during the next international trade fairs in China, Germany, and the US, and find out what Prima Power can do for you and your business.

Prima is here, always by your side.

MWCS

Date: September 17-21

Venue: Shanghai

Booth: 2H-A218

- Servo electric panel bender BCe Smart + robot
- Combined punch/laser Combi Sharp
- 2D fiber laser machine Laser Sharp 2040
- SW corner

Info: sales@cn-primapower.com



Blechexpo

Date: November 5-8

Venue: Stuttgart

Hall 3 – Booth 3504

- 2D fiber laser machine Laser Genius with 10 kW + Combo Tower Laser
- Combined punch/laser Combi Genius 1530 with CF 4kW + LSR (Loading, unloading and stacking robot)
- Servo electric panel bender Fast Bend FBe5
- eP1030 Genius + Automatic Tool Change
- SW corner

Blechexpo



Info: info@primapower.com

FABTECH

Fabtech

Date: November 11-14

Venue: Chicago

Booth # A2941

Open House at Prima Power Showroom in Arlington Heights, IL, November 11 & 12

- Combined punch/laser Combi Genius with CF 3kW+ Compact Express
- 2D fiber laser machine Laser Genius 1530 with 10kW+ 2-shelf Compact Server
- Servo electric Press Brake eP0520
- SW corner

Info: us.sales@primapower.com

System Tour 2019



From last June 10-14, Prima Power sponsored an event for our customers from around the world. The event focused on automated sheet metal production lines used in various industries with eight Prima Power customer companies in Finland.

During each customer visit, the group saw different combinations of automation devices and production methods. They were able to discuss the automated systems with Prima Power management and see the punching and shearing machines and the combi lasers with automated material handling, connected to automatic panel benders and intelligent warehouse systems.

This was Prima Power's 7th Systems Tour. This year participants came from 19 different countries and represented 46 different companies. In total, there were 102 participants, including the organizers.

The final stop of the tour was the brand new Prima Power factory in Seinajoki where the latest sheet metal production technologies were demonstrated. The latest software solutions were also presented: how to manage orders directly from ERP systems, just-in-time kit production, and a complete production reporting system with the latest Industry 4.0 connections.



Major Fiber Laser Efficiencies Start With Piercing

Laser cutting and drilling processes for 2D and 3D parts begin with piercing which governs the overall quality of the feature. If the pierce is clean and robust, the stage is set for a clean hole or cut.

Importance Of Clean Piercing

The fiber laser is intrinsically more energy efficient than previous generations of gas and solid state lasers. Since energy is a major component of operating cost, the fiber laser has made laser processing more economical – opening new applications.

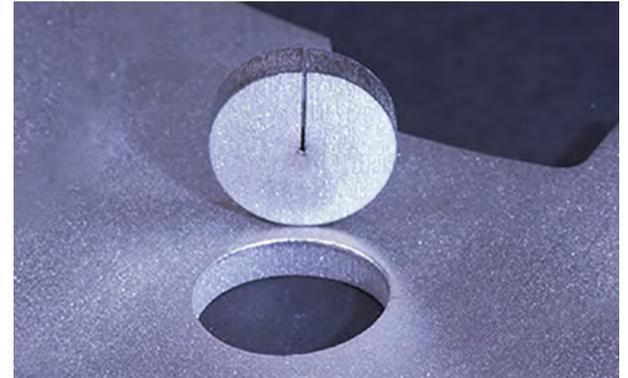
High power QCW fiber lasers have dramatically increased the efficiency of laser processes more than ever. With average power up to 2 kW, QCW fiber lasers have a wide range of pulse parameters, and speed to change laser speed and laser conditions for increased quality and new capability for cutting, welding and drilling.



Intricate features with precise positioning and dimensions are possible using the SmartPierce™ laser process.

That is where the importance of advanced integrated laser and process control enters the picture. **Prima Power Laserdyne seized the opportunity QCW laser systems provided and multiplied the potential with its Smart Techniques™.** This was possible because quasi-continuous wave (QCW) fiber lasers operate in both CW and high peak power pulsed modes. The peak power in QCW mode is up to ten times higher than the average power, allowing the system to do much more, especially when operating with Laserdyne's SmartTechniques.

Working smarter, not just harder, starts with Laserdyne's advanced integrated control of all laser, motion, assist gas, and process sensors along with its unique processing techniques. SmartPierce in particular is impacting 3D laser processing in leading manufacturing industries.



Prima Power Laserdyne 430 with BeamDirector® and SmartPierce™ software ensures a clean hole and cut.

Laser system operating costs are a major consideration for every manufacturer. Considering that QCW fiber lasers provide much lower electrical usage, no replacement consumables, much lower overall maintenance, and little lost time due to warm up, using systems with SmartTechniques makes more sense than ever. It starts with Laserdyne's advanced integrated control of all laser, motion, assist gas, and process sensors, along with its unique processing techniques, particularly SmartPierce.

SmartPierce™ Is A Prerequisite To Successful Cutting And Drilling

Clean, robust piercing sets the stage for a clean hole or cut. If the pierce is poor or incomplete, there is significant opportunity for poor cut quality and a failed cut. A robust pierce is a prerequisite for every reliable laser cutting and drilling process.



SmartPierce is equally effective for thick or thin metals with a debris-free, clean pierce. Pictured behind the laser trepanned hole is the slug from the hole. The clean, narrow pierce leads to a well-controlled, high-quality hole with negligible debris.

SmartPierce contributes to a robust pierce by optimizing pierce parameters as the process progresses through the thickness of the material. In thin metal, the impact can be significant, particularly in terms of quality as measured by cleanliness of the finished part. For thicker materials, the opportunity for both increased throughput and improved quality can be much greater.

Ways SmartPierce Leads To Increased Productivity

There are three important ways in which SmartPierce with the high power QCW fiber laser increases productivity: (1) By

reducing the time to complete the pierce, (2) By reducing the distance of moves from the pierce point to the cut profile, (3) By reducing, or eliminating deburring, and removing debris of cut and drilled parts.

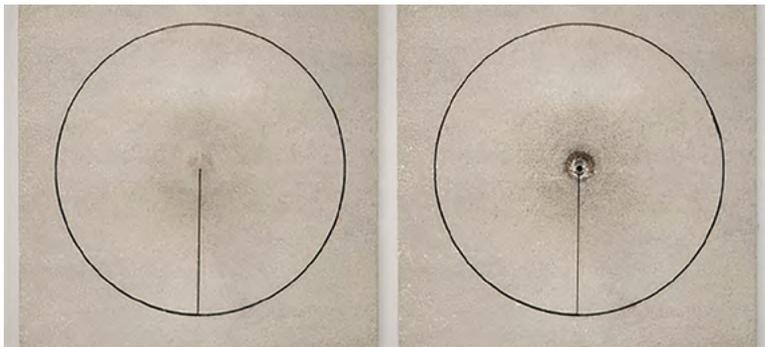
Reducing The Time To Complete The Pierce Minimizes Material Removed

The main laser parameters for piercing are pulse width, peak power, and pulse frequency. Assist gas type and pressure are also important to achieve minimal pierce time without compromising quality.

With SmartPierce, laser parameters are optimized as the pierce cycle progresses through the thickness of the material to control the removal of laser-melted metal. This optimization minimizes the volume of material removed and maximizes the material removal efficiency with depth. For example, pierce time for 9 mm thick carbon steel is 2 seconds with a standard continuous wave (CW) piercing process. With SmartPierce, piercing takes just 0.5 seconds.

Piercing On The Cut Profile Reduces Cycle Time

With a smaller, more controlled pierce point comes an ability to start the cut near the cut line. It is customary to pierce at or near the center of a feature to be cut, then move to an edge of the profile and follow the profile to make the cut before returning back to the pierce point.



Laser cuts in 10 mm thick 304 stainless steel. The pierce point with SmartPierce (left) is the same diameter as the cut width (kerf). Using a traditional piercing method with fixed laser parameters (right), the pierce diameter is much greater compared to that using the SmartPierce process.

When cycle time is a priority, the distance of a move is minimized while ensuring that the pierce related debris is contained within the scrap. The shorter the distance between the pierce point and the profile, the shorter the cycle time while eliminating additional moves.

Also SmartPierce minimizes the diameter of the pierce point. This means that piercing can begin on the profile edge.

Piercing Reduces And/Or Eliminates Post Processing Of Cut And Drilled Parts



Photo shows slugs from precision cutouts of airfoil shapes and round holes in 3.5 mm thick stainless steel. The clean, high quality start is made possible by the LASERDYNE SmartPierce™ process.

Minimizing debris created during piercing reduces or eliminates the need for post-cut finishing of the surface. SmartPierce minimizes the amount of debris within the slot and previously cut slots, also minimizing cleaning prior to secondary operations such as brazing or welding.

Controlling Piercing Debris Improves Quality

Better control of piercing with SmartPierce and the QCW fiber laser reduces the amount of debris that is formed. Until the pierce is completed, all of the material in the pierce volume must exit from the top surface. This melt expulsion involves molten metal particles being ejected from the pierce volume. By minimizing the amount of this debris, SmartPierce helps to produce high quality parts with good surface appearance, pierce consistency, and no part distortion.

SmartPierce enables drilling a pattern of 1,940 holes of 0.4 mm diameter holes at 0.8 mm center-to-center spacing in 1.5 mm thick stainless steel. Holes were drilled in less than 0.5 sec per hole while avoiding distortion of the part or plugging of previously drilled holes with drilling debris.



SmartPierce Expanded Capability Includes A Wider Range Of Materials

The SmartPierce ability to produce dense patterns of small features has created new opportunities with more materials. These include intricate patterns in spray nozzles and spinnarets and the fabrication of filters in a variety of materials and three-dimensional shapes. Changing laser parameters in microseconds has enabled production of distortion-free parts with clean, debris-free holes.

Additional SmartTechniques™ Enable New Applications

In addition to SmartPierce, the SmartTechnique suite includes SmartRamp™, SmartSense™, SmartPerf™, SmartShield™, and SmartStop™. With LASERDYNE'S advanced, integrated control of all laser motion and process sensors along with these unique processing techniques, users will achieve groundbreaking results.



THE BEND



THE COMBI



THE LASER



THE PRESS



THE PUNCH



THE SHEAR



THE SYSTEM

With over 40 years of experience and 360° know-how developing all the key components within the group, Prima Power is a one-stop supplier providing a full range of Industry 4.0 compliant cutting-edge technologies and smart software solutions, with a high level of integration and automation, to meet any sheet metal manufacturing need.



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Editor Robert Kolcz
 Technical Editor Lutz Ehrlich
 Contributing Editor Italy Simona Di Giovanni
 Contributing Editor Finland Piia Pajuvirta
 Contributing Editor China Amanda Sun

bob.kolcz@primapower.com
lutz.ehrlich@primapower.com
simona.digiovanni@primapower.com
piia.pajuvirta@primapower.com
amanda.sun@cn.primapower.com