

CUSTOMER PROFILES

NEW TECHNOLOGY

PRODUCTIVITY

FLEXIBILITY

POWER LINE

JULY 2020
ISSUE 01

VOLUME
#10



PROXIMITY /DISTANCE

#STAYSAFE #STAYPOSITIVE #STAYCREATIVE

Something authentically great is happening
that will profoundly change the industrial world
and the lives of each of us.



POWER LINE is a Prima Industrie publication.



DISTANT BUT NEXT TO YOU

**DISTANCE IS BACK
(AND PROXIMITY HAS NEVER BEEN SO IMPORTANT).**

Until a few months ago, we were used to considering everything close: any place on earth was easily reachable, the marketplace was fully global, air miles were quickly collected. Distance had been almost erased, also thanks to the spread of web-based technologies, distant worlds have been brought together.

Because of the current travel restrictions and social distancing today, the distance has returned, becoming a vital practice that allows us to do things safely and safeguard our health and the health of others. Yet more than ever, we need a feeling of closeness, community, empathy, and participation.

In this unprecedented time of history, thanks to creativity and technology, we have managed to do almost everything from our home: planning, working, organizing video calls with our colleagues and with loved ones, setting up a personal gym, cultivating our passions, and learning new things. **We have adapted and evolved.**

Our glocal approach to the market has proven successful. Also thanks to growth mainly achieved through mergers and acquisitions, today our industrial and commercial footprint is widespread and well distributed throughout the world. This organization allowed us to continue producing in the plants that were not involved in the lockdown and to manage the installations through the local branches thanks to advanced applications for distance training and collaboration.

In this issue of Power Line, we will tell you how we have faced this extraordinary and challenging period in Prima, and what we did to stay next to you through it all. Thanks to our determined team, who have resiliently and creatively continued their activities, to our local organizations, who have remained close to our customers, and to our advanced technologies allowing safe, contact-free relationships, without losing the essential human touch. **Thus, we have made the impossible possible, we have stayed close despite the distance.**

Ezio Basso
CEO Prima Industrie

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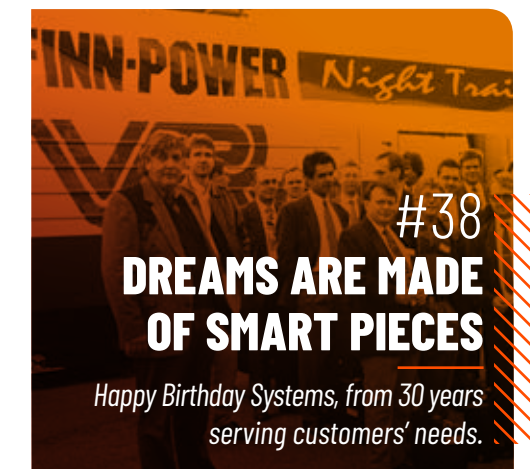
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THE STORYTELLER

MEET THE HEART AND SOUL OF POWER LINE'S 29 YEARS

A NEW COVER AND A NEW DESIGN FOR THE PRIMA POWER COMMUNITY MAGAZINE STARTED BY ROBERT KOLCZ NEARLY 30 YEARS AGO.

When Robert took up the post of chief editor of Power Line, who knows if he imagined that it would become such a long adventure. In March 1991 Robert got a call and heard these words: "How about taking charge of our magazine?" Since then, Robert has written articles, coordinated editorial contributions, visited hundreds of customers to collect their testimonials, and revised the content of 56 issues.

Conveying a sense of belonging is a gift granted to those who deeply love their work and have a talent for listening to others with empathy. Robert is one of these people.

His passion has transformed the Power Line into a place to meet and get to know each other with more than 2000 pages of our history. This was a huge job for which we can never thank him enough, and of which we are very proud.

Together with Robert, we also wish to thank all the customers who have contributed to the magazine with their stories over the years. They are the heart of the magazine: stories of customers who have chosen our partnership and our technologies to face their challenges. Stories of successes and shared pride we will continue to tell long into the future.

Over time, the design of the magazine has evolved, its name has changed, and it has also started to be circulated online. What remains unchanged is the spirit with which the magazine was born: the desire to be in contact with the community formed by the users of our products



and by those interested in our world and our technologies. Starting from this July issue, there have been some changes in the editorial staff of the Power Line.

The role of editor will gradually be passed on to the team that Robert has collaborated with for several years. This will give him the opportunity to continue working on the magazine he created and pass on his unique experience to other people in the group. He will continue to give his valuable contributions to the magazine and to write stories about our customers from North America.



Above: *The Finn-ish Line* first number, in 1991 and the last issue of *Power Line* in 2019. Left: Robert Kolcz working on *The Finn-ish Line* in 1997.

POWER LINE NEW IDENTITY

THIS MUST BE THE PLACE FOR OUR TIMES

"Home is where I want to be. Pick me up and turn me round", so begins the lyrics of the Talking Heads famous song. It was written in 1983, and although the words remain the same, their meaning has become undeniably different.

These peculiar days have taught us the value of digitization. Dematerialized information travels faster and reaches more people. It seems that this moment marks the swan song of traditional communication, the one that traveled on paper, told in thoughtful articles, and brought to life by editorial effort. Actually, it is right now that a printed magazine reveals all its power: be the physical and symbolic space in which people can touch their sense of belonging to a community. **So, at the dawn of the 29th year of its life, we decided to give our Power Line a new identity.**

We are living in extraordinary times when there is an even greater need to understand ideas, new industrial challenges, and the daily life of our businesses.

The new Power Line design pushed even further in the direction of a relevant, reflective, in-depth communication, with an approach that focuses on major issues and concrete solutions. It is a reading experience that demands



greater attention from both editors and the readers.

Power Line is reborn, even more essential, with a new layout, with new topics, linked by a central theme that for each issue acts as a guide to this new experience of knowledge.

The new approach also welcomes the positive solutions offered by digital: multimedia insights for key articles, interactions, and soon the opportunity to participate in reflections with tools that will help us to eliminate distances among us.

In short, these are the times when we cannot—and do not—want to miss a single tool of knowledge such as the Power Line, and we gladly share it with you.

PROXIMITY /DISTANCE

#STAYSAFE #STAYPOSITIVE #STAYCREATIVE

by Ezio Basso

Prima Power

EXPERIENCING DYSTOPIA¹

One can imagine a world in which books are banned and that a task group is dedicated to the burning of the surviving volumes. One can imagine a government capable of monitoring citizens at all times without providing freedoms. It is not difficult to imagine complicated "futures," different from the world in which we live. Indeed, it is a daily struggle for an entrepreneur to imagine the worst-case scenarios, and to be prepared for them in time.

DYSTOPIA [noun]. - Prediction, description or representation of a future state of affairs, with which, contrary to utopia and mostly in open controversy with trends felt in the present, situations, developments, highly negative political-social and technological structures are prefigured (therefore equivalent negative utopia): the d. of the most recent science fiction literature.

But it is one thing to imagine, and another to exist in such a scene, developing ideas and solutions on a daily basis to safeguard the lives of our collaborators and their businesses. As administrators, we know that the unexpected can happen, and the best of us are ready to roll up our sleeves, find ingenious, quick solutions, and be able to surmount adversity.

But the current situation is different. Adversities we have faced in the past have had two main characteristics: a force majeure (a flood, an earthquake, a fire), and being limited to a specific geographical area. The Covid-19 pandemic that began spreading in December, has thousands of entrepreneurs facing an utterly new

Epidemics are crises. During crises, a lot of commonly held beliefs are questioned, and the status quo can be thrown into question, too.

Alexandre White
Johns Hopkins University sociologist
and historian

dystopia. The origin, course, and consequences of the disease are still uncertain, and the damage is international. This means that entrepreneurs cannot expect aid from abroad, and that the already complicated situation can be further compounded, with short and long term consequences not readily foreseeable.

DISTANCE / PROXIMITY

The harshest threat of the current pandemic is to our health and our lives. We must redefine proximity and distance. We have always been aware of how vital these two concepts are in the planning, organization, and logistics of industrial work, but never has this combination become so central to our private life and our business.

¹There are two allusions to well-known narratives: *Fahrenheit 451* by Ray Bradbury, from which a film by Francois Truffaut was made, and *1984* by George Orwell, perhaps the most famous dystopian story.

We are habitually cooperating among colleagues over the world, also sharing knowledge with customers and platforms as Prima@Home. But that's not all.

I write these words from home in a studio that, in the past, I used only in the evenings and weekends. Now it is my new makeshift office. In this new environment, my work mixes with the daily life of my family, and I consider the way we see business changing, for myself and many of our managers who are living and working like I am. With some modifications, our work can continue efficiently. But what about the operating staff? The people who carry out their duties in the field. Those who cannot take their work home because they have to stay close to the machines to build them, test them, make them operational, and maintain them. How can those workers fulfill their work duties, give of themselves, and, at the same time, abide by the new working regulations we have needed to put into place?

DEDICATED TO DISTANCE

There is no simple answer. The digital world has taught us that distance is relative, and for this reason we have long focused on the development of tools that allow us to "relativize" distance. Software that enables you to control the production and the maintenance of the machines remotely, which also allows you to "relativize" production time by predicting maintenance moments. We are used to collaborating with colleagues all over the world, sharing knowledge with customers and platforms as Prima@Home. But that's not all.

Something great is happening—a historical moment that will profoundly change the industrial world and the lives of each of us. This is why we have decided to dedicate this entire issue of Power Line, in its redesign, to the combination of distance/proximity.

We are working on transforming distance into a value. As always, we want to share our thoughts, our ideas, our solutions, and also our concerns.

Home is our new office with tools that allow us to "relativize" distance with our collaborators and customers.



DISTANCE IS RELATIVE

Darwin said, "the ability to survive is linked to the ability to adapt to the characteristics of the environment." The same happens in businesses. We have to make distance and proximity two strengths of a new way of thinking about collaboration, production, and logistics. Although it is estimated that the Spanish Flu Pandemic of 1918-1920 had claimed more than 50 million victims, it is considered a forgotten tragedy.

It is called cultural amnesia when society metabolizes an adverse event and ignores it to move forward. The same, I imagine, will happen with the Covid-19. But from this experience, it will be good to learn something. It will be useful to take advantage of this moment of crisis to rethink our way of doing business and building profitable relationships. This issue of the Power Line is our contribution to the hope and concreteness of a new way of doing business.



NEAR OR FAR?

IT DOESN'T MATTER, WE ARE ALWAYS @HOME.

In the difficult moments of the coronavirus emergency, our commitment to remain close to our customers has never been stronger. In order to do this, while guaranteeing everybody's safety and health, and respecting anti-Covid measures, we had to think of new tools, which would allow us to have proximity even from a distance. One of these new tools is our **Prima@Home digital channel**, which projects the Group's communication beyond geographical borders and barriers.

The result of a process developed over the past few years and of the increasingly global dimension of the Group, Prima@Home is our new streaming platform, designed to offer a complete range of services: from live formats such as events, demos, webinars, presentations and training courses, to live video demonstrations of the Group's products, and the "on demand" streaming of a wide variety of content.

The new tool, which integrates with all of our other traditional communication channels, is able to highlight the potential of the digital—a direct connection with our Technology Centers in Italy, Finland, China

and the United States.

This allows us to show the capabilities of our machines to our customers and prospects all over the world and to guarantee continuous and efficient assistance, despite restrictions on travel and distancing.

We look to the future with optimism and energy and strive to be quick and innovative in adopting the most modern tools and to be always "Next to You". **Prima@Home is our contribution to a new sustainable restart.** We break down the distances and barriers of our Tech Centers to welcome customers wherever they are, and at any time.

The platform has already hosted numerous virtual demonstrations of our products for customers around the world and the live streaming of three events designed for a worldwide audience and therefore organized in two distinct sessions during one day—in order to reach customers globally by covering different time zones.

The first event was held on May 14, with a Virtual Open House dedicated to Systems, in which the operation of the machines



and lines located inside our Technology Center in Seinäjoki (Finland) were presented via live footage, followed by a demonstration of the potential and versatility of our software solutions.

The interest in this event was so great that it sold out immediately. Feedback from participants was very positive, and many questions were received during the Q&A session included in the event.

On May 28 a second event took place, a Virtual Open House dedicated to the main Prima Power and Prima Additive solutions. This was an opportunity for us to present our entire range of products: from laser systems for industrial applications to sheet metal working machines and additive technology—a truly global event in which the Prima Industrie management presented the innovations and technological expertise of the Group in a TV talk-show style.

Prima@Home projects the Group's communication beyond geographical borders.

Prima@Home hosted also the international product launch of the new LASERDYNE® 811 together with the opening of the brand new Laserdyne facility in Minneapolis (MN). Further to the forum-style presentation and demonstrations of the new machine, during the virtual open house it was possible to experience the external and internal tour of the building with the use of a drone.

These virtual and innovative formulas allow you to continue learning about us and our technologies, without losing the richness of interaction.

You can continue the Prima Power experience wherever your workplace is, and whenever you need it.

A **Prima@Home** live streaming open house at our HOTC in Italy.



Visit the Prima@Home official website



Discover our live streaming demos



VISION

AN ALL-HUMAN DRIVE TOWARDS EVOLUTION.

Lieven Louagie
Prima Power Senior
Sales Manager Benelux

Wido van den Bosch
Brink Industrial
General Manager
/co-owner

Andre Knol
Brink Industrial
Operational Manager
/co-owner

DISCOVER THE BRINK INDUSTRIAL AND PRIMA POWER PARTNERSHIP: A SUCCESS STORY MADE OF HUMAN CONNECTIONS.

Wido and Andre smile from their PC screens, not unlike the informal meetings they used to have in the break room over a hot coffee, although now—since the beginning of the Covid-19 pandemic—each meeting opens with the same exchange: “Can you hear me?”, “Loud and clear, Wido!”.

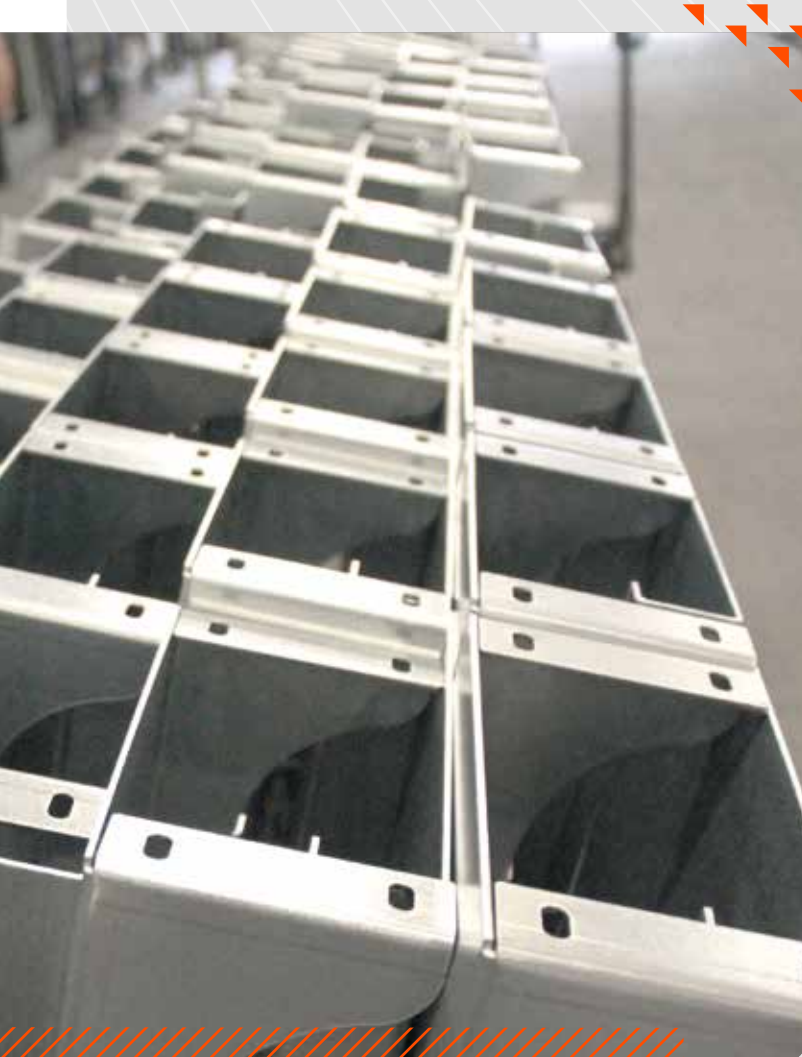
Their availability and kindness are always the same. Lieven is expected with the warmth of one of the family. They are happy to meet again and to talk about partnership that **Brink Industrial** and Prima Power have established years ago. Despite the extraordinary situation that the pandemic has imposed upon them—a massive use of technology and virtual connections, their relationship has become even closer.

How did you join the Brink group?

WvdB: Our company was established in 1903 and specialized in deep drawing and metal spinning. Around 2000, it was acquired by the Brink family as an industrial supplier of ducts and pipes, which were the main activity of this factory in the past. I joined Brink in 2013, buying almost half of the shares (the other half was owned by Mr. Wim Brink) and assumed the management of the company.

The two companies have always adopted an innovative approach to business and for both Brink and Prima Power, the vision has always been clear: build a sustainable future through smart technologies and human connections.

From left to right:
Andre Knol, Lieven Louagie
and Wido van den Bosch.



How did the idea of focus the business on waste bins come about?

WvdB: We started to focus more and more on the waste bins because of the circularity aspect. I'm very much into sustainability and I saw huge market for separating waste. We manufacture litter bins with our own brand, Lune, and now we are the market leader in that field of business in Holland and we are expanding rapidly in Europe. Some other circular projects are the server basins for Asperitas, a Dutch cleantech company leader in immersion cooling technology and the medical trays we supply to the company named Van Straaten Medical, a Dutch manufacturer of surgical instruments and disposables.

Distance imposed by Covid-19 and other challenges of the pandemic revealed the quality of human relationships and the importance of smart technologies.

What strengths convinced Brink to choose Prima Power as supplier?

AK: When I joined Brink two years ago, together with Wido we started to consider what we should do for the future and we understood that we needed to invest in new, smart machines that could allow us to increase productivity, smart industry is very important for us, together with circularity. We researched the possible options for the new machine and we understood that what we needed was a Prima Power line. In this machine we found something unique for the smart industry which allows us to enter new markets and gain new customers.

Diversification is important, also in this crisis, some sectors are thriving and others collapsing, so you need to be able to switch between those sectors.



Disinfection column with touchless waste bin by LUNE: circular, hygienic and future proof.



and it is very efficient in the use of material and creates less scraps. This investment will help us to manufacture products based on the concept of circularity, of which modularity is an essential aspect: we need to be able to separate the parts composing the product again and the line allows us to create all types of connections between the parts.

Connections, once again, was the added value that bring Prima Power on Brink's top of the list of suppliers with the LPBB new line. LPBB stands for "Laser cutting + Punching + Buffering + Bending" and integrates servo-electric punching plus fiber laser cutting (Combi Genius), servo-electric bending (EBE), automatic and versatile material flow and smart software. This combination allows for very fast reaction times requested by modern production.

What is the aspect that you appreciated most of all?

WvdB: When we visited Prima in Finland, we saw a truly integrated system. The competitors have the same elements, but they are not connected in the same way. With the LPBB we have all of the elements integrated into one line, and they talk to each other perfectly. It is high-tech, but it's not a closed box, and if in the future we want to interchange one of the items within the line, for example a bigger laser, it will be possible. We cannot optimize the line only for one or two products, we need to be flexible and be capable of manufacturing different kinds of products for different kinds of sectors. Diversification is important, also in this crisis, some sectors are thriving and others collapsing, so you need to be able to switch between those sectors. As all sheet metal companies see a decline in the order intake due to the pandemic, the new production line will bring us new opportunities. We are working with a new customer in Germany who came to us thanks to the machine. We strongly believe that this system gives us an important competitive advantage, because it makes us super-flexible, super-fast and price competitive. What we see now is that many companies which had offshored some productions are now reshoring them because the Covid-19 response caused huge problems in their supply chain. With the new line we are ready to satisfy their needs.

WvdB: In the choice of a supplier the technical and commercial side is very important, but we are a family owned company, and for us the relationship aspect is fundamental. This is also something we looked at during the purchasing process, the interaction between our points of contacts, and also compared with the competition, Prima was excellent. We had some challenges because of Covid-19, since our machine was being delivered when the crisis started. The discussion with Prima on this aspect has been perfect. We were both realistic and we came to a deal very quickly and it is also very encouraging to see how things are excellently managed during a crisis.

LL: It is a partnership. We had challenges due to Covid-19. The Finnish team flew in to install the machine and few days later they had to fly back home because of the government request. Together, we had to find solutions on installation and payment terms. Now the line is installed and operative.

What aspects guided you in choosing the LPBB new line?

WvdB: There were several reasons why we decided to invest in the new line by Prima Power: first, it's an Industry 4.0 automated line that allows us to reach the quality and repeatability required by our customers. Secondly, the line is highly flexible so we can manufacture different parts on the same sheet and diverse products at the same time. Last but not least sustainability—the LPBB consumes very little energy, reducing our CO₂ footprint,



Above: Shuttle system for sterile containers designed and produced by Alvi.
Bottom: LaForce doors and frames are widely used in healthcare facilities.

MORE STORIES FROM THE HEALTHCARE LANDSCAPE

PRODUCTION OF TRANSPORT TROLLEYS FOR HOSPITALS AND NURSERY HOMES.

The Italian company **ALVI Srl** manufactures transport trolleys for the hospitals, nursing homes, laundries, hotels, and textile industries.

The products, in aluminum and stainless steel, are exported all over the world and processed thanks to a performing combined punch/shear system **Shear Genius S68** integrated with an advanced material flow management featuring automatic picking and stacking and small part sorting unit.

"The Prima Power system – declares **Fiorenza Viazzo**, CEO of Alvi – helps to further increase our competitiveness by providing process speed, finishing quality and greater flexibility in terms of workable materials".

High volumes, a high degree of automation to manage unmanned shifts in a reliable and safe way, low energy consumption and reduced maintenance costs are the main advantages provided by Prima Power that Alvi values.

MANUFACTURING OF CUSTOM DOORS FOR THE HEALTHCARE SECTOR.

LaForce, Inc. is one of the largest U.S. distributors of commercial doors, frames, and hardware and building specialties. Its products can be found in a variety of healthcare facilities, hospitals, nursing homes, clinics, schools, office buildings, etc.

"Shear and punch fabrication of sheet metal parts at LaForce more than triples thanks to implementation of a new servo-electric punch-shear combination machine **Shear Genius S6e**" declares **Brad Johnson**, LaForce industrial engineer and continuous improvement coordinator.

The machine features automated sheet loading, as well as programmable and automated part removal and sorting. And, according to Johnson, "all of that automation enables minimal setup times and lights-out unmanned operations, resulting in finished parts with a dramatic reduction in scrap and manual labor".

Read the Alvi full article on Prima Power site.

Read the LaForce full article on Prima Power site.

ALWAYS CONNECTED

How Prima Power's digital services takes care of you.

ALL PRIMA POWER REMOTE ASSISTANCE SERVICES PROVED TO BE FUNDAMENTAL DURING THIS PERIOD, BY CANCELING OR REDUCING ON-SITE INTERVENTION TO A MINIMUM.

Covid-19 emergency response and all the travel restrictions that have ensued have highlighted the usefulness of digital tools, further accelerating a trend towards the virtualization of many activities that were already widely underway.

As a global high-tech machinery manufacturer with customer proximity as a core value, Prima Power has always believed strongly in these tools, and was among the first in its sector to offer customers remote assistance, as early as the mid-90s.



Since then, technology has evolved enormously and us with it.

Today our service product portfolio includes several online assistance packages, from the traditional telephone support to the most innovative digital systems, which allow us to solve many technical problems without the need for physical presence. The customer can choose the packages that best suit their production needs.

TELEPHONE AND LIVE CHAT SUPPORT - SPECIALIZED AND FAST

The telephone support service is organized over several shifts to ensure the best coverage with skilled personnel capable of providing technical assistance on our machines. Furthermore, live chat service is available from our website (primapower.com) for more general information. Live chat is a service available 24/7, all over the world. Visitors to our site can start a conversation directly with a Prima Power person or write

an email for questions about support services, spare parts, applications, commercial information, or any other topic regarding our technologies, and it will be resolved quickly.

TELESERVICE - REMOTE TECHNICAL SUPPORT

In the event of anomalies on the customer's machine, with remote monitoring tools, it is possible to speed up the troubleshooting phase to ensure a quick return to maximum performance.

This service allows us to maximize customer productivity by reducing downtime. When the intervention of a technician is necessary, Teleservice enables you to prepare it at its best and further improve its efficiency.

REMOTE CARE - REAL-TIME REMOTE MAINTENANCE AND DIAGNOSTICS

Remote Care is a Prima Power IoT product, which collects machine behavior data from sensors, cameras, CNC, and PLC and transfers it

New technologies such as IoT, augmented reality and mixed reality allow us to be next to the customer in seconds, regardless of how far away our desk is.



Above: AR application by Prima Power.

to the cloud. A web application makes it available to our service technicians for advanced diagnostics and real-time monitoring of the system. The warranty includes this service and, after this period, customers can opt for an on-demand service or a subscription that provides for machine monitoring and a monthly report.

With Remote Care, you have an overview of the individual machine's condition and the production as a whole. The collected data produces efficiency reports that includes an analysis of machine downtime, alarms, and machine condition. Upon request, Prima Power specialists can analyze the material, prepare a summary, and suggest actions to improve the overall efficiency of the production process.

Data security and confidentiality are essential for Prima Power. A secure connection ensures the remote access to the machine, and a certified and reliable cloud service protects the collected data. Our policies also provide access to the device only for certified personnel.

AUGMENTED REALITY REMOTE ASSISTANCE - EFFECTIVE AND IMMEDIATE COLLABORATION

Thanks to this service, the customer's technicians, equipped with smartphones or tablets, can communicate remotely and share video images in real time with our experts.

Without moving from their desk, our technicians can observe the problem directly on the customer's machine, accurately diagnose the problem and give clear instructions to the technician in the field, even by inserting drawings and notes directly on the images shared in real time on the screen of the customer's technician.

This service ensures rapid recovery of production and avoids unnecessary travel expenses.



Above: mixed reality application with HoloLens for remote training and maintenance.
Bottom: AR remote collaboration tool via mobile or tablet.

During the most severe restrictions during phase 1 of the Coronavirus emergency response, this remote collaboration tool was essential for carrying out installations.

Our commissioning departments have had the opportunity to support service personnel remotely, not specialized explicitly in these activities, with extreme efficiency. Our augmented reality assistance made it possible to utilize the staff closest to the customer while respecting the severe restrictions in terms of travel and transports during lockdown. This solution was successfully adopted for installations at several customers in different markets in Europe, Asia, and the US.

PROPRIETARY APPLICATIONS WITH MICROSOFT HOLOLENS - MIXED REALITY AT THE CUSTOMER'S SERVICE

HoloLens are technological glasses made by **Microsoft**, which allow physical reality to interact with holograms. Thanks to proprietary applications loaded on these glasses, Prima Power applies the enormous potential of mixed reality to remote assisted training and maintenance activities.

With hands free to operate on the machine, technicians receive support during training or maintenance remotely in an environment rich in information, such as digital manuals or 3D models and animations for assembly instructions and parts replacement.

HoloLens applications allow the creation of realistic and immersive presentations and simulations of our products and their operation, with the possibility of "entering" the machines and seeing their internal mechanics. They also make it possible to place the machine inside the customer's factory virtually, a possibility that is extremely useful when defining the layout, to preview the system in the final production environment, and experience the design before purchasing the product.

The new AR applications we have are truly amazing. It is like being able to teleport to the customer's site and be next to him to show how to perform an operation on the machine. It's like being there and seeing what he sees.

Andrea Corino
Prima Power Local Project Manager



OLD AND NEW ARE THE BEST FUTURE

WELCOME TO OUR DIGITAL TAILORING.

EISENWERK WITTIGSTHAL GMBH INVESTS IN A PUNCH-LASER SYSTEM SO AS TO BE READY FOR THE DIGITAL FUTURE.

"We are more a manufacturer of tailored products than a series producer," says **Jochen Browa**, Managing Director and, together with his wife, owner of **Eisenwerk Wittigsthal GmbH** in Johanngeorgenstadt in the Erzgebirge region. The company, with its focus on system hardware for building installations, does a lot of sheet metal processing, so it was logical to expand into sheet metal-related contract manufacturing. To this end, Eisenwerk Wittigsthal invested in a **Combi Genius** punch-laser system from Prima Power last year.

The name Eisenwerk Wittigsthal may be familiar to people in East Germany, not just because the company has been in existence for 366 years, but because it was the largest supplier of wood-fired enamel water boilers in the 1980s. Anyone who wanted to have a warm bath in former East Germany relied on these boilers.

At times, up to 250,000 boilers were produced annually, and more than 4 million units were sold in total. Shortly before the fall of the Berlin Wall, preparations had been made at the Johanngeorgenstadt plant to produce components for the East German Trabant minicar – but nothing came of that.

After German reunification, orders dropped dramatically, and the company had to wait until 1992 to be completely restructured and realigned, following its takeover by entrepreneur Winfried Friedrich.

Eisenwerk Wittigsthal developed into a supplier of pre-assembled building system solutions with its core business being measurement, distribution, and control systems. These measurement systems and distributors are installed in surface-mounted or flush-mounted sheet metal cabinets. When Winfried Friedrich retired in 2008, Jochen Browa and his wife took over the company. They bolstered their work in the ventilation sector, pushed ahead with contract manufacturing in the sheet metal sector, and developed the company into a business that today employs 60 people and generates a turnover of around €10 million per annum.

OLD AND NEW AUTOMATION

During our tour, Jochen Browa showed us the 55.000 m² area. Our first stop was at the production facility of the wood-fired water boilers that are automated with the technology of the time. Once or twice a year, the presses and the enameling line are started up for about seven weeks to produce the 3,000 to 4,000 water boilers, which are still in demand today. After all, 10% of company turnover comes from this – a small but significant share, with 75% of turnover deriving from building systems hardware. The remaining turnover is shared by ventilation technology and contract manufacturing in sheet metal.

"We have about 5,000 items on our price list," says Jochen Browa with a smile, "however, customers often order 5,000 components that are not on it. Our customers appreciate the fact that they get tailored solutions from us". Adaptations include both purely geometric adjustments of standard catalog solutions and completely new designs.



Thomas Giering, operator of the Combi Genius system, demonstrating the punching tools turret.

This is proof of the professional competency found in the company, which is also used in its contract manufacturing.

Jochen Browa sees the potential for expansion in the contract manufacturing of more extensive series and standard parts. "For this, however, we need a flexible and automated solution that is also Industry 4.0 capable."

Jochen Browa's idea is a configuration app that a customer can use to design his unit on his smartphone, sending the order directly to the machine. He estimates that it will take another ten years to implement the project, however.

Firstly, implementation involves enormous costs for a medium-sized company. Secondly, his "customers come from a rather conservative industry and do not jump on board every bandwagon that passes by."

However, the roadmap is now set, and Eisenwerk Wittigsthal GmbH invested around 2 million Euros last year towards this goal.

One of these investments is the fully-automated punch-laser system from Prima Power. "First, we only bought the punch-laser system, but then the interfaces to the warehouse and the bending machine followed." The fully automated punch-laser bending line will be implemented as soon as the products are available.

YEARS OF GOOD EXPERIENCE

The planned new plant is the result of many years of partnering with Finn-Power, now a company of the Prima Group. "We have worked with a punch-nibbling machine from Finn-Power for more than 20 years. For this reason, we had contact with Prima Power. We were satisfied with the system, and after 23 years in operation, we were able to resell it fit for production," says Jochen



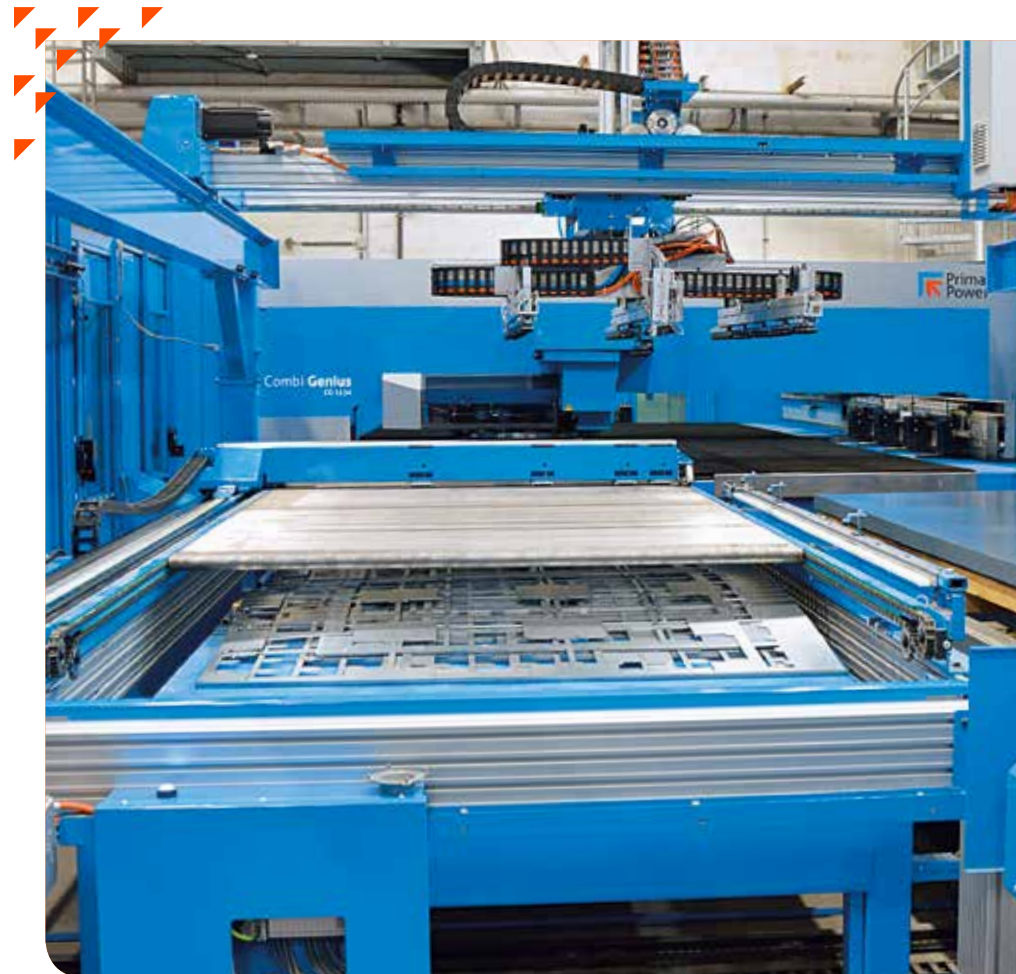
The laser system used is a 3 kW CF fiber resonator system made by Prima Power. The optimized cutting head, the collimator, beam guidance, and cutting parameters ensure high cutting quality and speed. Various devices simplify the operation of the laser system.

LOADING AND UNLOADING SYSTEM


Punched parts are unloaded via a 500 mm x 500 mm parts flap. For laser parts, there are two parts flaps at 300 mm x 400 mm for fast sorting, and 800 mm x 800 mm for more significant components. However, most parts, are loaded and unloaded by a Cartesian robot with a highly flexible system of suction beams. Packs of sheets are brought into the machine's working area during production time. Then, the Cartesian robot adequately handles loading and unloading. In cutting mode, the Cartesian robot removes the finished components directly after the last cut and stacks them at predefined coordinates.

CONTROL, PROGRAMMING AND OPERATION

"We were also persuaded by the system's simple operation," says Robert Wiegand. "This applies both to direct operation at the machine and to programming. It's surprisingly straightforward despite the system complexity." The Combi Genius system is operated via a touch screen control panel. With four cameras to control the interior of the system and monitor the machining process, the operator can check both machine settings and job lists for a clear view of the tool turret with all tools used, as well as the parameters



of the laser head. The operating system and the NC Express e3 programming system work together seamlessly. You can use a barcode reader to enter job orders created by the NC Express e3 into the job list. The Task loader automatically selects them from the database and inserts them into the job list with all the required additional information such as NC program, tool, or material. Robert Wiegand adds that over and over, he is amazed to see how precisely the timings calculated during programming correspond to the real production time on the machine, even for complex parts. "This is of enormous importance for high-volume production, where a cent or fractions of a cent often make the difference." He adds: "The machine mainly operates automatically without intervention. If the NC programs are properly set up and tested, then the machine may run until the stack of sheets in the machine is used up without having to do much checking." The fact that the Combi Genius system may also be operated via smartphone is another indication that Eisenwerk Wittigsthal GmbH is moving towards digitalized manufacturing and industry 4.0. Jochen Browa is definitely looking at expansion to a fully interlinked punch-laser bending line.

Translated, edited, and reprinted with permission by Blech, June 2019 ("Mit dem Stanz-Laser fit für die Zukunft" by Volker Albrecht). Read complete article: 

Browa. They obtained various quotes before the investment decision was made, and price also played a role. "But in the end, after two visits to Prima Power in Finland, I was confident that the automation would work as assured."

The system now installed is a Combi Genius machine, a servo-electric combined punch-laser system with completely automated handling. "A combined punch-laser system fits our product best, which includes forming, embossing and threading and often many holes in the components," explains Robert Wiegand, Head of Production at Eisenwerk Wittigsthal. "In the ventilation sector, for example, we also have multi-hole parts which we sometimes use nine-hole tools for – tools that punch nine holes at once. In this application, even the fastest 2D laser system can't keep up." To make optimum use of the system, Robert Wiegand has a simple guideline: Holes and inner contours are punched, outer ones are cut with the laser system.

VERSATILE PUNCH-LASER COMBINATION SYSTEM

The Combi Genius system at Wittigsthal uses a punching tool turret with 16 index positions and a laser head, including a 3kW fiber laser system.

A total of up to 384 simple or 128 rotating tools can be stored in the turret. "For this purpose, we can continue to use all tools from the old system, including the costly embossing tools," explains Robert Wiegand. Additional special tools, as well as multi-tools, are provided. Both the old multi-tools and rotatable ones can be used with a force of 300 kN available for punching. Roll beads, gills, and similar shapes can be formed up to a height of 15 mm.



A classic product: More than 4 million units of Eisenwerk Wittigsthal's wood-fired water boiler have been installed.

"We were also persuaded by the system's simple operation. This applies both to direct operation at the machine and to programming. It's surprisingly straightforward despite the complexity of the system."



HEAVY METAL AND SILICON VALLEY

PRIMA POWER ENHANCES JOB SHOP PROFITABILITY IN THE LAND OF INNOVATION.

BIG ACHIEVEMENTS THROUGH INNOVATIVE SHEET METAL FABRICATING MACHINES

Since **A & J Precision Sheetmetal Inc.**, San Jose, CA, first opened its doors in 1995, the company has earned a stellar reputation as a leading job shop producing high-quality precision parts in the demanding Silicon Valley. Over the 25 years, A & J has evolved from a one-person shop to a facility of 26,000-square-feet and 60 employees. According to Amrik Atwal, CEO, today A & J has 80 active customers in such industries as semiconductors, networking systems, 3D printing, and medical equipment.

Atwal and his wife Jagtar run the company with their son Suki, VP operations. *"We have many smart high-tech customers in the Silicon Valley that keep coming up with new ideas and products,"* explains **Amrik Atwal**. *"Our challenge has been to keep up with technology to provide the best quality parts to this market."*

To meet this challenge, A & J has purchased a wide array of fabricating equipment over the years. The company's relationship with Finn-Power, now Prima Power, goes back to 1995 when the company purchased its first Finn-Power turret punch press, the hydraulic TP2525. This relationship has grown over the years and includes several E5 servo-electric turret punch presses and an E6 Compact Express purchased in 2012. From 2016 to 2018, A & J also purchased three **Prima Power eP servo-electric press brakes**.

"We have many smart high-tech customers in the Silicon Valley that keep coming up with new ideas and products. Our challenge has been to keep up with technology to provide the best quality parts to this market."

EASE OF PROGRAMMING & MAXIMUM PRODUCTIVITY

An operator-friendly 17" Touch Screen user interface leads to a significant improvement of data input rates and a considerable reduction in programming time. 2D graphical programming with automatic bending sequencing will assist in making even first-time operators productive. The eP Press Brake features the advantages of high acceleration, deceleration, and fast response times of the servo-electric drive system. Compared to conventional brakes, considerable productivity increase can be reached; reduction of cycle times by up to 30% and more is the reality. *"These press brakes have reduced our set-up times and have dramatically increased accuracy,"* says Amrik Atwal.

COMBI GENIUS®

Most recently, A & J purchased the **Prima Power Combi Genius** in 2019. A modern combi machine uses numerically controlled, servo-electric axes, which provides outstanding energy efficiency, low maintenance requirement and high speed of operation. The cornerstones of its productivity include large tool capacity, the full range of tools available and easy and fast set-up change. As the best laser power source for the combi machine, the precise fiber laser has very high efficiency. Its highest utilization degree is conveniently suitable for material thicknesses less



PRIMA POWER eP PRESS BRAKES

Prima Power eP Press Brake technology is based on a rigid 0-frame which guarantees the alignment of the tool even in case of stress deformation since there are no horizontal displacements. The position of the upper beam, upon the one lower, is measured by dual Y1 and Y2 linear encoders that are attached independently of the machine frame and are bed referenced. This design isolates ram positioning accuracy from any deflection in the side frames under load and maintains accurate positioning even during off-centre bending operations. Ram repeatability on the eP-Series is ± 0.005 mm.

The Combi Genius CG 1530.



Above: Combi Genius CG1530 at work.

Bottom: Operator loading an eP-0520 press brake.

than 8 mm. Forming and other auxiliary work stages and ease of use are additional factors reducing the manufacturing cost per component, thus making the Combi Genius machine a productive and competitive manufacturing solution.

STATE-OF-THE-ART FIBER LASER CUTTING

Combi Genius combines the benefits of this punching performance with the latest in fiber laser cutting, raising the productivity of the highly versatile integrated manufacturing concept to a new level. As the laser source, is available a fiber resonator of either 3 kW or 4 kW. The optimized cutting head, collimator, transfer fiber and cutting parameters ensure a very high cutting quality and speed. A secure cover protection system around the machine is specially designed for the requirements of the combi machine. The cover protects from any scattered radiation of the fiber laser but allows loading, unloading and maintenance procedures for the operator as smoothly as possible.

NO SET-UPS

The unbeatable tooling concept by Prima Power is a time-saver – no extra stops for tool changes, no set-ups – all tools are active for immediate use.

- Customizable turrets
- Compatible with different tool manufacturers
- Multi-Tools®
- Index tools
- Intelligent ram

“We discussed purchasing a combi machine for several years,” explains Suki Atwal. “We had a couple of jobs that we were running on the turret punch press, and the secondary operations were very time consuming that slowed down the entire process. These large parts were heavy material, and our operators were breaking out parts. By the time the machine would run one sheet, it would take the people the same amount of time to shake out the parts, deburr them, and prepare them for the next operation. So that was what started the conversation. I began the research, and we started looking into other process options.”

A & J chose the Prima Power Combi Genius that was installed in 2019. “Currently, we have two different customers that have high-volume jobs,” continues Suki Atwal. “We use the Combi Genius on unique jobs that also have odd contours and a lot of tapping requirements. There are parts that we do on it today that we could not have done before purchasing the Combi Genius.”

“We run the Combi Genius 24/7,” adds Amrik Atwal. “During the night and weekends, it runs lights out. We have one job that has three different size taps that we can do very efficiently

on the Combi Genius. Previously, we had to do two of the taps by hand, a very time-consuming procedure. It would take 24-30 hours to complete the job. With the Combi Genius, it now takes only eight hours. We have the capability of six different sized taps on the Combi Genius. Our quality has also improved. If before we were punching, today with the laser cutting on the Combi Genius, there are no micro joints to clean up.”

Another feature that A & J likes about the Combi Genius is the automatic loading and part stacking.

The LST is a compact, high-performance automatic loading and stacking robot. The LST loads the sheets into the machine, picks the parts and sorts them to stacks to be used in the following process steps. Its entire working cycle is automatic. “The stacking has been a great help,” says Suki Atwal. “The LST allows our operators to use larger-sized sheets more safely and efficiently.”

BOTTOM LINE

“We estimate that our ROI on the Combi Genius is 18-24 months,” concludes Suki Atwal. “There are several new jobs where the Combi Genius has cut our lead time in half. We are sending these parts to Mexico for assembly. We see another Combi Genius in our future. Over the years, we have been able to grow because we’ve had the right people and the right equipment. We have grown along with the different generations of Prima Power equipment. Every time Prima Power introduced new technology, we realized that it would be beneficial to many of our customers. For the past five years, we have purchased a new Prima Power machine each year. Why? Because they do what they are supposed to do: produce cost-efficient, high-quality parts.”

/// We run the Combi Genius 24/7. During the night and weekends, it runs lights out. We have one job that has three different size taps that we can do very efficiently on the Combi Genius. ///

Right: Suki Atwal (left) and the A&J CEO Amrik Atwal (right).
Bottom: The Combi Genius laser head while processing a part.



CONTINUAL PROGRESS IS A STATE OF MIND

**WE ARE PROUD TO OPEN
THE NEW PRIMA POWER LASERDYNE FACILITY.**



In these times where, for many, the natural attitude is to stop, **Prima Power Laserdyne announces the relocation and expansion of its manufacturing and operations facility**, moving from the present location in Champlin, Minnesota, to a new facility in Brooklyn Park, Minnesota, a milestone achieved thanks to the generative force of a great group which focuses on helping their customers overcome laser processing challenges and enabling their customers to be more successful.

The innovative facility includes all manufacturing, research, office, customer demonstration, service, and user training space. The new facility is being converted to the specialized production requirements of the Prima Power Laserdyne systems. The LASERDYNE® and Prima Additive DED additive manufacturing machines are built and tested in the new facility.

Giovanni Zunino, President of Prima Power Laserdyne, stated, *“Prima Power Laserdyne continues to bring new technology into the global Aerospace and the precision laser processing markets. With the continued growth of 3D laser processing, Prima Industrie, our parent company, is investing in Prima Power Laserdyne and the North American operations. We must maintain our worldwide market leadership in these sectors. A critical component is having a facility customized to fully support the domestic and international needs for 3D laser processing and DED additive technology.”*

Dr. Aaron Montello, Operations Senior Manager, is quoted as saying, *“The enlarged manufacturing space will provide the operations team with the capacity needed to meet increasing demand while also improving operational efficiency. Prima Power Laserdyne is a technology leader and key supplier in the precision 3D laser processing market. Now, including the addition of DED additive manufacturing machine production, we have the space required to support our customers with an even wider range of laser processing solutions.”*



**FOR MORE INFORMATION
ABOUT PRIMA POWER LASERDYNE PRODUCTS AND SERVICES:**

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- +1 763-433-3701
- Prima Power Laserdyne 7105 Northland Terrace North, Brooklyn Park, Minnesota 55428, USA.



Previous page and above:
The new Prima Power Laserdyne facility in Minnesota.

The new facility will have dedicated customer service, machine demonstration, and training areas.

Mark Barry, Vice President of Sales and Marketing, commented, *“Whether the process requires welding, drilling, cutting, or DED additive manufacturing, companies worldwide have depended on our expertise and advanced material knowledge to develop and put into practice a laser solution that helps them be more successful in their business. As Prima Power Laserdyne continues to develop new equipment and laser solutions, we must have sufficient space to demonstrate and train our customers on the best laser processing techniques and solutions for their processes.”*

Mr. Barry added, *“Prima Power Laserdyne’s 40+ years of material and laser expertise is directly applicable to additive manufacturing. No other company offers a complete range of expertise, knowledge, 3D laser process systems, experience, and capability.”*

The facility has been open for customers since March 1, 2020, at the new address: 7105 Northland Terrace North, Brooklyn Park, Minnesota 55428, USA.

Prima Power Laserdyne has developed **proven laser processes for a wide range of materials**: nickel-based alloys (e.g., Hastelloys®, Inconels®, Waspalloys®, Haynes®, wrought, cast and single-crystal alloys), titanium alloys, stainless steels, high carbon steels, cast iron, hot-stamped steel, aluminum alloys, copper alloys, and other specialty materials.

GET ON THE TRAIN FOR INNOVATION

First stop is Lasertech Metal Works,
Peachtree City, Georgia.

When **Randy Williams** opened his job shop, he was already a seasoned fabricator. "I grew up with metal fabrication," explains Williams. "My dad was an aerospace engineer who built trampolines part-time when I was ten years old, and I helped build parts in the basement. His business evolved into making Ferris wheels and other portable amusement rides, but the liability insurance eventually became too challenging for the small company."

Williams eventually opened his job shop in 2001 with just a laser and a press brake. As the company grew, he incorporated it in 2007.

Today, **Lasertech Metal Works** is transitioning from a 40,000-square-foot building in Fayetteville, GA, to a 60,000-square-foot facility in Peachtree City, GA with plans to add another 20,000 later this year.

Lasertech Metal Works services such industries as food service, energy, auto racing, shooting ranges, movies, and architecture.

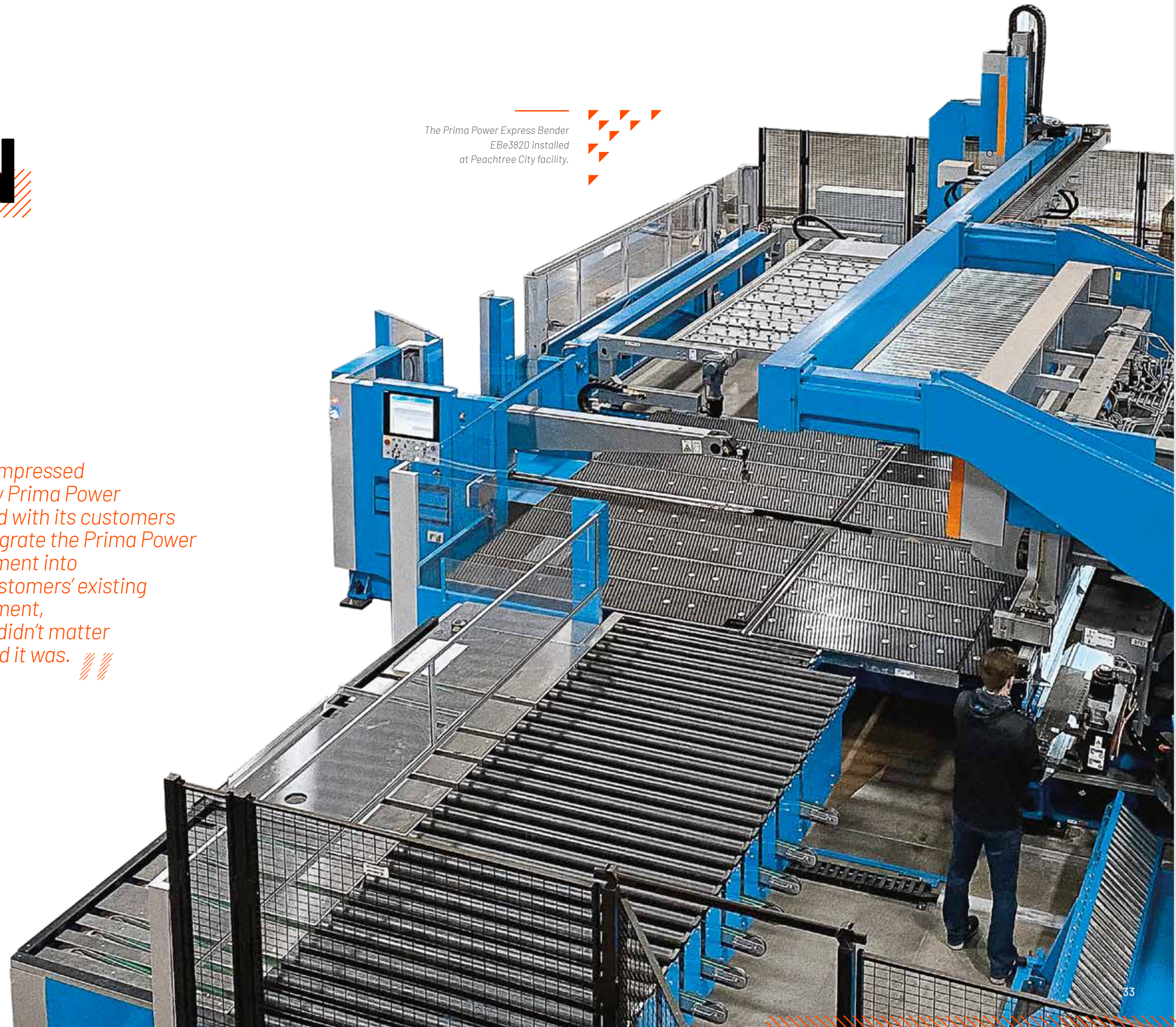
The company has an impressive arsenal of metalworking equipment, including laser cutting, forming, punching, welding, machining, grinding, and powder coating. Its most recent purchase was the **Prima Power EBe Express Bender** in 2019.

"I was looking at benders for about eight years," says Williams. "I knew that I wanted a bender, but having the volume to keep it running was a big factor. By 2019, our customer mix created an optimal time for justifying the bender."

Williams conducted extensive research before his purchase. "I went on a few tours to see other bender installations at other customers," continues Williams. "I was impressed by how Prima Power worked with its customers to integrate the Prima Power equipment into the customers' existing equipment, and it didn't matter how old it was. Other machine builders were giving me a window of a few years

I was impressed by how Prima Power worked with its customers to integrate the Prima Power equipment into the customers' existing equipment, and it didn't matter how old it was.

The Prima Power Express Bender EBe3820 installed at Peachtree City facility.



at the age of our equipment. We looked at other bender builders, but we needed the flexibility of Prima Power."

EBe EXPRESS BENDER: PRODUCTIVITY, QUALITY, REPEATABILITY

The EBe servo-electric panel bender is a bending solution designed specifically for each fabricator's production requirements to achieve maximum productivity, quality, and repeatability. The bending operation is fully automated, from the loading of flat punched parts to unloading the finished product.

The EBe is available in models with a bending length up to 149" (3,880 mm) and a maximum opening height of 8" (203.5 mm). The new construction features actuation of the bending blade movements (vertical and horizontal) by NC servo axes instead of hydraulic cylinders. Another NC servo axis also makes the upper tool movements. Prima Power EBe provides the high bending quality required in demanding applications. Precise control of bending axes ensures quality, fast and smooth bending motion, programmability, and rigid construction that is immune to variation in thermal conditions.

"The EBe features that immediately attracted us were the automatic tool change, elimination of timely setups, the ability to kit, and the automation," says Williams. "The ability to bend large panels was another major factor in our decision. Prima Power was the only bender that could handle 12' material while maintaining flange height and gauge capability. These large parts can weigh up to 120 lbs. Before the Prima Power Express Bender, it would take five people with the press brakes hours to complete the job, now it takes two people just minutes. The software was also another driving factor being very intuitive and easy to process. We also liked the servo-driven machine compared to the hydraulic."



Above: The Express Bender EBe3820 at work.

Right: The EBe provides the high bending quality required in demanding applications.



BENDING AUTOMATION: THE EASY-TO-USE HIGH TECHNOLOGY

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

"The EBe has given us the ability to be competitive on jobs that were previously out of our range, such as a part with multiple setups," explains Williams.

"For example, we had this one job with a part that we build that has this challenging radius on the front on one bend that required two setups.

There was no way around it.

We took on the part because it is one of our largest customers, and the part grew, and it became more of a frustration point for us. On the EBe, however, we can accomplish the bend in one setup. Large parts with negative bends are a huge factor for us. These parts have to be flipped and turned, which takes a great deal of space, energy, and workforce to perform.

The EBe does it in a fraction of the time. Parts with multiple bends represented another challenge. We have a couple of parts that have 8+ bends, and some of those are negative bends.

These parts were a headache to bend on the press brake because the operator had to form it, flip it, and turn it and then stack the part. The machine is not running while the operator is trying to stack the part. **With the Express Bender,**

the machine is running while the operator is stacking the part so the efficiency is just fabulous.

Another aspect that I particularly appreciated about the Prima Power Express Bender is how they staged their material because they understand that the machine needs to be moving."

LESS TIME, MORE PRODUCTIVITY

"For the parts that we run on the Express Bender, there is no comparison for productivity with the press brakes," says Williams. "We are having a hard time feeding it because it is so efficient. On the generator enclosures we are bending, it would take four people several days to form these parts on the press brakes. With the EBe, we do them in less than a day with two people. As a result, we can also repurpose machines to other jobs that would normally be running on the larger press brakes, and the operators don't get worn out. We are not staffed to have four people on our press brakes. It was inefficient and challenging with scheduling production, not to mention the increased quality and consistency in the tolerances in parts with the EBe Express Bender."

CUSTOMER SERVICE, THE EXTRA GEAR OF PRIMA POWER

"Prima Power has been very open and accessible with us", concludes Williams. "Prima Power service technicians are always genuine and realistic. Our goal is to add a Prima Power punch/laser soon. We are very excited about the future."

Before the Prima Power Express Bender, it would take five people with the press brakes hours to complete the job, now it takes two people just minutes.



Randy Williams (right) and Chad Earnest, plant manager.

GENERATION 811



Discover
LASERDYNE® 811,
the next generation
in laser processing
systems.



LASERDYNE® 811 is the latest product from **Prima Power Laserdyne** for precision laser processing supporting high speed and high-volume manufacturing. The system has the necessary flexibility and precision for welding, drilling, cutting, and DED additive manufacturing for small to medium-size workpieces with much higher dynamics. Each axis (i.e., X, Y, Z) has higher than 50 m/sec velocity and acceleration of 1.2 g, and the working envelope, with 1100 x 800 x 600 mm (41.5 x 31.5 x 24 inches), is optimized for industry-leading floor space efficiency.

S94P controller provides full control over the entire system and processing parameters to maximize the process quality while providing some of the fastest laser processing in the industry. It can give a real-time pulse by pulse control, including the shape of each laser pulse. The S94P controller supports more than seven axes of simultaneous motion and easily integrates with various automation solutions to load and unload components and subassemblies, i.e., robotic loading, automated stock feeders, turn-table, or input/output feed platforms. Included with every Prima Power Laserdyne

system is the full suite of smart techniques to optimize the laser process, shorten cycle times while improving the process quality and consistency.

BeamDirector® provides access to hard-to-reach places in the workpiece, precise beam positioning, and most considerable flexibility in a 5-axis laser system. BeamDirector also supports a 90° laser process - normal to the surface - to 10° of a part along the surface. With BeamDirector and the LASERDYNE nozzles, one can transition from welding to cutting/drilling and vice versa in seconds, providing the ultimate solution in system flexibility.

LASERDYNE 811 supports Industry 4.0 through the use of MTConnect real-time parameter and data streaming along with built-in SPC process data storage capability.

Prima Power Laserdyne has proven laser processes for a wide range of materials: nickel-based alloys (e.g., hastelloys®, inco-nels®, waspalloys®, Haynes®, wrought, cast and single-crystal alloys), titanium alloys, stainless steels, high carbon steels, cast

iron, hot-stamped steel, aluminum alloys, copper alloys, composites, and other specialty materials.

Prima Power Laserdyne has over 40 years of experience building world-class laser processing systems. **The Laserdyne Application Group™** has helped many organizations work through difficult challenges by implementing novel laser processing solutions for a wide variety of metallic and nonmetallic materials.



Left: LASERDYNE® 811 at work.

Bottom: DED Additive Manufacturing application.

Previous page: The new LASERDYNE® 811.

KEY APPLICATIONS

WELDING: LASERDYNE systems deliver a very controlled beam and energy to the workpiece enabling complex geometries to be welded both with and without filler material. This functionality translates into repeatable welding processes and high-quality parts. With optimal fiber laser parameters, the welding process can be very tightly controlled and previously difficult to weld materials are now routinely welded. Examples: LASERDYNE systems can weld thin aluminum strips to thin copper strips, weld small wall battery cells, and hermetically sealing the battery pack quickly and efficiently to helping lower the production cost of the new electric vehicles.

DRILLING: The precision of the BeamDirector enables the fiber lasers, adequately controlled, to very quickly drill holes in the workpiece through percussion drilling or trepanning. By delivering the laser energy to the workpiece through multi-axis machines, the holes can be drilled into the workpiece at varying and shaped angles. Many EDM processes have been converted to fiber laser drilling. Examples: effusion cooling holes, filtration components, diffusers, and nozzles.

CUTTING: LASERDYNE systems have provided product development engineers with increased design flexibility to reduce the number of parts and improve the overall quality of the final product. Many automotive and general manufacturers use laser cutting processes to shorten cycle times and deliver the needed edge quality. Examples: trimming and cutting-in the basic or complex shapes of tubes, hydroformed, deep draw die, or stamped parts to create better and more cost-effective solutions.

DED ADDITIVE MANUFACTURING: Precise and real-time control over the powder deposition, laser power, shield gas control, and five-axis powder delivery system enable the powder to be fused into a wide variety of custom parts allowing to rebuild various metal surfaces according to the OEM dimensions and specifications. Various worn tools and components can be rebuilt to extend the life of the machine. Examples: parts not easily or not cost-effectively made by conventional manufacturing processes like shaft rebuilds, worn surfaces rebuilds, turbine blade repair, and custom shaped housing/shields.

DREAMS ARE MADE OF SMART PIECES



Left: Night Train to Seinäjoki in 1994.

Right: Ojala Group was the very first Finnish customer of the Night Train FMS® in the beginning of the 90's.

Bottom: Current Prima Power automatic manufacturing line PSBB.



Happy Birthday Systems, from 30 years serving customers' needs.



A huge success doesn't come without an authentic revolution. From the very beginning we designed Systems to meet customers' current and future needs, leaving room for updates and expansion of the machine fleet.

Systems are assemblies in which two or more different machines are combined to form a functioning unit that has a greater overall productivity than the individual machines.

We invested in this strategy to be the world's leading system supplier for years, and our efforts have not been in vain: today we proudly celebrate the 30th anniversary of Prima Power Systems.

THE PATH TO THE SYSTEM

The first punching machine was unveiled in 1983. The machine was a success in its own right but in 1985, due to customer demand, loading and unloading devices were added to the punch press. This new model was called the Finn-Power FMM, Flexible Manufacturing Machine. The method of saving material by cutting workpieces along common cutting lines was first implemented in 1987.

The technique made use of an angle-shearing unit, which was attached to the side of the punch press. The unit cut the pieces off of the frame and carried them forward by a conveyor, a technique still used today in our Shear Genius right-angle shearing machine.

In 1989, the punch press was combined with a laser source, and the essential combi machine was born, and would come to be known as Combo.

The automated storage supply of raw materials to manufacturing units, make the machines operational 24 hours a day.

THE FIRST GENERATION

30 years ago, in 1990, the storage concept was developed even further, and the Night Train was born—a system in which a hoist moves horizontally between storage blocks. This basic concept is still in use today, after a lot of further development, and is known as FMS - Flexible Manufacturing System. It features two or more machines connected to the storage to form a fully automated production system. The Night Trains are now in their sixth generation of development

and the longest trains can have several machines and production lines integrated on both sides, and may exceed 100 meters in length.

The first bending center with automated process was launched in 1993 and together with the storages, the right-angle shears and the combi machines still make up the backbone of Prima Power systems.

THE LAST DECADE

The last 20 years have seen a huge amount of progress in the field of automation. From 2010 onward, the number of FMS deployments has continued to increase. The machining capability of the manufactur-

ing lines has increased over the years, and we are now able to punch and bend sheet that is up to 169.29 inches (4300 mm) long, and store and handle sheets of three different sizes (1530, 1540 and 2040) in the Night Train storage. This makes us the best in the world in this particular area.

The most common Prima Power automatic manufacturing line is PSBB, i.e. Punching, Shearing, Buffering and Bending. In this line, the punching/right-angle shearing machine handles the punching and the cutting of workpieces and part flow to the automatic panel bender is regulated via a buffer.

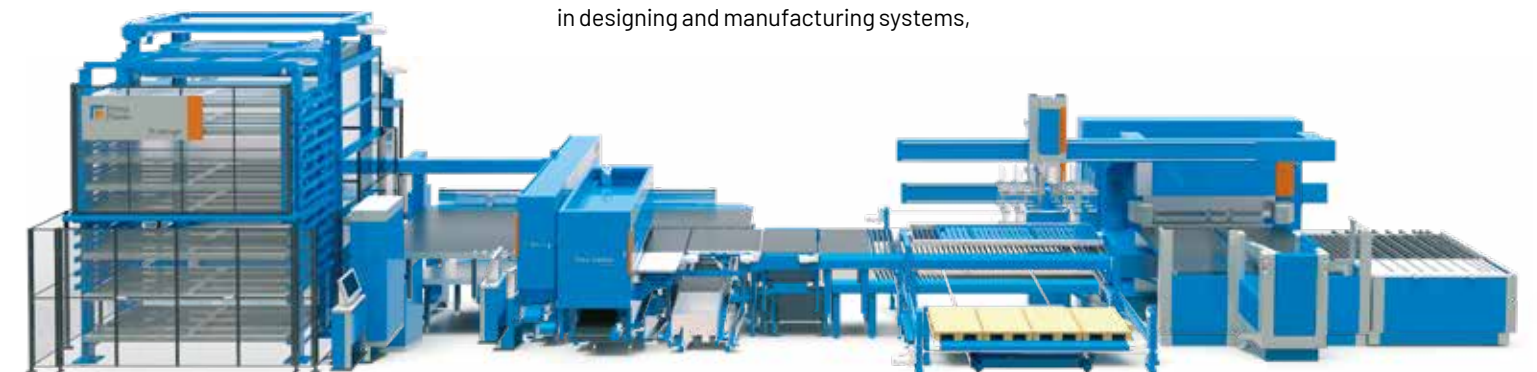
WHY WE ARE THE WORLD'S LEADING SYSTEM SUPPLIER

We have a long and successful history in designing and manufacturing systems,

and as a single supplier, we are able to offer a complete service to meet the needs of our customers. This complete service includes machines, automation, storage solutions, software, tools, maintenance and other services, all under the same roof.

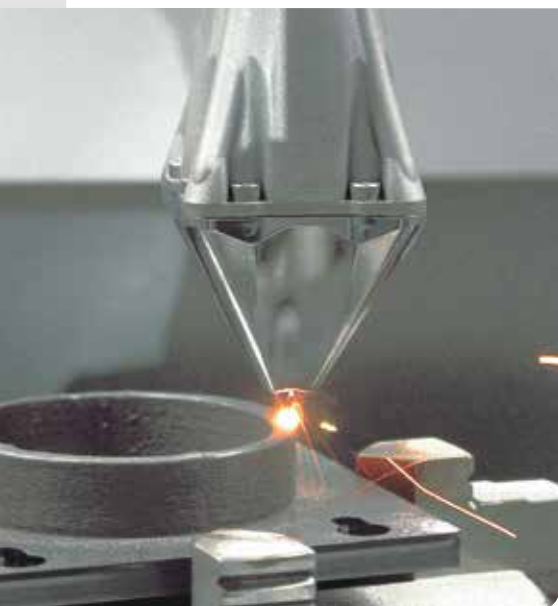
Not many other operators in the world can offer the same in the global market, and provide such a diverse array of technologies as punching, laser cutting, right-angle shearing, bending and combination machines.

We also offer integration into ERP systems, which can, for example, optimize sheet usage and create production queues, as well as create reports from machines back to ERP. Time will tell whether we will be able to offer equipment for the entire factory workflow by the 2040s.



BECOME AN ADDITIVE THINKER

It's a brave new world, it's time to improve your skills with Open Additive.



Additive manufacturing is a disruptive technology and requires the introduction of innovation models. Companies that want to exploit its full potential must go through a radical paradigm shift in product design and production process.

Prima Additive is committed to advancing the industry by reducing barriers to entry in Additive Manufacturing and creating a real business partnership with customers. In addition to turnkey solutions, we provide customers with instruments and expertise to determine if moving to Additive Manufacturing can bring a competitive advantage and how to do it in the fastest and most profitable way. In particular, the key factor for successful integration of AM into the industrial context, is the validation of application case studies.

We strongly believe that the best models for managing innovation today are open, collaborative and decentralized. That's why we have created the network of Prima Open Additive Labs, a community of qualified partners (universities, public and private research centers, innovation hubs) who

support us in assisting customers in the use of this technology.

PRIMA OPEN ADDITIVE LABS PROVIDE APPLICATION SUPPORT FOR CUSTOMERS IN AM DESIGN, PROCESS ASSESSMENT AND VIABILITY, PROTOTYPING, TESTING AS WELL AS QUALIFICATION AND TECHNOLOGY TRANSFER.

The Prima Open Additive Labs enable a co-innovation process. They guarantee that potential customers receive qualified contact points—physically close, and with synergistic skills—to effectively respond to the needs of each market in every region.

Supported by the Labs, customers not only purchase highly advanced technological solutions, but acquire a partner that offers advice and expertise both before and after the purchase. A partner that ensures the transition to Additive Manufacturing is expertly managed by achieving benefits quickly. If you are interested in assessing opportunities and measuring the potential of Additive Technology, contact us, and we will find the closest and most suitable Lab for your needs.



A partner that ensures the transition to Additive Manufacturing is expertly managed by achieving benefits quickly.



Above: Paolo Calefati, Head of Additive Manufacturing and Innovation at Prima Industrie S.p.A. Left: Powder Bed Fusion application. Previous page: Prima Additive DED machine at work.

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MASTER BENDCAM

by Ivana Montelli

Prima Power SW Product Manager

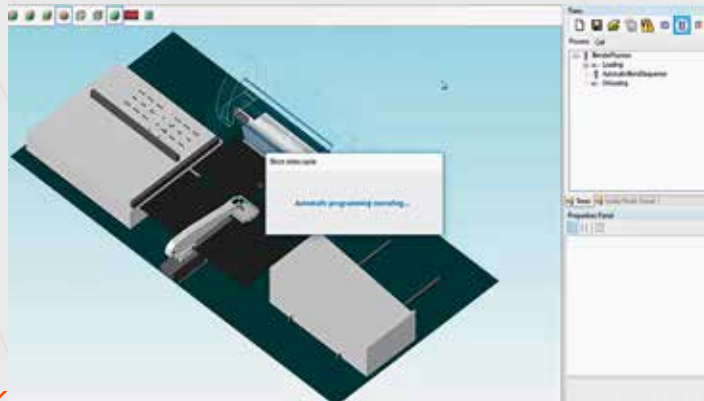


AUTOMATIC PROGRAMMING

With the Automatic Programming it is possible to generate the bending program for a Prima Power panel bender with an automatic process. Starting from the part's geometry, the SW takes care of the required machine configuration, computing the bending sequence, simulating the cycle and checking (and preventing) collisions. This provides solutions for the following computations:

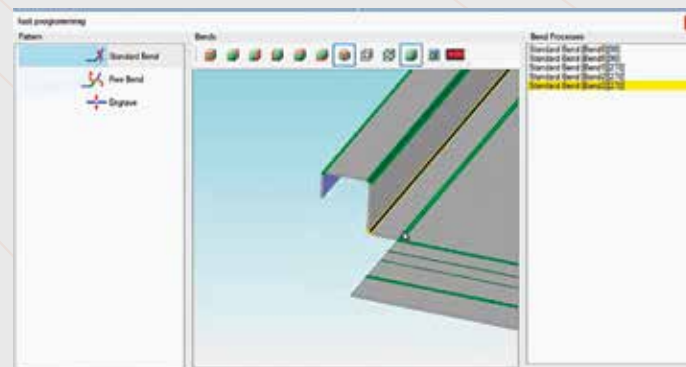
- Configuration set (ASP, AUT, clamp, centring pins, ...)
- Bending sequence
- Bending and preparation phases for each step of the bending sequence

The software makes the job for you.



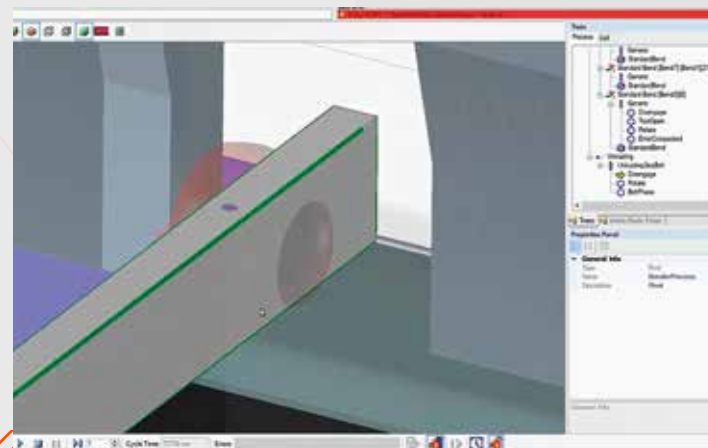
FAST PROGRAMMING

With Fast Programming, it is possible to generate the bending program by setting the bending sequence in a simple and graphic way, the system will then take care of program creation, cycle time simulation and collision check. You set the process and the software supports you for an easy and safe programming experience.



COLLISION CHECK

With Collision Check, it is easy to detect possible interferences between tools, machine and parts with the following direct benefits: less trials at the machine, correct parts faster, no damage to the machine or parts, safely run machines, productivity improvement. The software works for a safe programming and an increase in productivity.



Next to you is not just our slogan.



We never stop being next to you.

Now, more than ever, we are committed to supporting our customers with safe, effective and sustainable solutions: IoT and AR technologies for specialized remote assistance, live streaming of demos and events with our Prima@Home, the platform created to be always with you.

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