CUSTOMER PROFILES | NEW TECHNOLOGY | PRODUCTIVITY | FLEXIBILITY

POWER LINE

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#11

THE POWER OF CONNECTIONS

THE IMPORTANCE OF SPEAKING THE SAME LANGUAGE

POWER LINE is a **Prima Industrie** publication.

YOU AND (A) I

WHY CONNECTIONS ARE STILL THE BEST THING THAT MAKES US UNIQUE

Connections matter more than ever today. After the social isolation experienced due to the health emergency, we have realized even more how important it is to be connected to others and to belong to a community. The boom of systems for simplifying and speeding up communication and collaboration among people, companies, and things is a clear sign of how connections are increasingly at the core of any social, work-life, or industrial activity.

This issue of Power Line is dedicated to the power of connections and the importance of building strong teams. Connections and teamwork refer not only to people but also to machines. I am very proud of our close-knit teams of employees around the globe, who share their knowledge and specializations to connect our products in the most efficient and flexible manufacturing systems.

Reading the customer stories in this issue, you'll discover how, in different parts of the world, not only people, but also machines, work together like a squad with the common goal of increasing productivity, efficiency, and quality. Our machines are talented champions when they work alone, but they are even stronger when they play as a team with the customer's whole factory, digitally directed by software for the best game strategy.

New means of communication have profoundly affected the way we connect with each other. Our Prima@Home platform periodically broadcasts live streaming demos, events, and webinars and connects people to share technological and application knowledge and experience. Smart solutions for digital customer support are increasingly revealing their potential.

Physical places are also important for teamwork. Our eight plants on three continents work like interconnected innovation hubs specialized in different technologies. Our Collegno headquarters, the central hub, is being further expanded and improved. In the same area in which our Tech Center and Advanced Laser Center are located, a new manufacturing plant is rapidly taking shape. We look forward to opening its doors to all of you soon.

Finally, this magazine is a channel we use to inform and connect people in the industry.
For this reason, in this issue, we ask your opinion to further improve the connection.
On page 31 you'll find a link to a brief survey.

Thank you in advance for your valuable feedback.

Ezio Basso
CEO Prima Industrie

CONTENTS

DECEMBER 2020 | ISSUE 02 | VOLUME 11

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THE POWER OF CONNECTIONS

THE MOST SUCCESSFUL LIVING BEING

Compared to most animals, human beings seem like the perfect prey. Slow in running and swimming, unable to fly or hold their breath long underwater, covered with delicate skin and devoid of natural weapons, this species is so defenseless it seems destined for rapid extinction like the dodo, the aurochs, and the tarpan. Contrary to all expectations, however, the human species has become the most successful living being in the history of the planet. Hostile, dangerous, and hidden environments have not stopped its advance; there is no corner of the world that has not been colonized or at least visited by this stubborn beast. And starting on April 12, 1961, with the first voyage of the Soviet cosmonaut Yuri Gagarin, it began to colonize the rest of space.

If not its physical capability to prevail, then what was the single competitive advantage that made the human species "unbeatable"? There can be little doubt that the answer is a complex, articulate language. By communicating, recounting, exchanging information, negotiating, and sharing experiences, human beings learned to work as a team, creating synergies that multiplied the strength of the group.

Thus, they were able to make the most of individuals' characteristics and knowledge, generating a continuous flow of learning, evaluation, and reaction that far exceeds the sum of the strengths of the individuals. The same thing is true for machines, which, linked together by intelligent software that makes them "talk", can form intelligent systems capable of dividing tasks, exploiting specializations, and sharing data and forecasts.

"At the start of 2020 Prima Power quickly revised and adapted its way of working to preserve the team spirit that has always distinguished us."

THE IMPORTANCE OF SHARING A COMMON LANGUAGE

The Tower of Babel episode describes how the only way to block a huge undertaking is to confuse the language of the people involved. Unable to communicate, they lose their way.

For this reason, we constantly work to build a common language with our collaborators, our suppliers, and above all, our customers around the world. Doing so is a way to manage a team as large as our business, so that everyone can always contribute to doing business on a grander scale.

Industrial challenges are no different either, as the very high complexity of technologies, production planning, investment optimization, and cost containment make it impossible for one person to manage a business alone. It is necessary to build experienced and involved teams to seize opportunities with the most suitable resources by combining experience, knowledge, instinct, and critical skills.

TEAMWORK MEANS SHARING THE SAME INDUSTRIAL CULTURE

At Prima Power, teamwork is not only an essential principle, it is also — and above all — a concrete way of working. As a global player, the company recognizes the value of teamwork by establishing itself as a body capable of bringing together the best and most suitable tools for each challenge. All over the world, with every interlocutor we are committed to adopting a common language to advance our idea of industry. A language that is also a way of doing things. A way of dealing with difficulties and successes based on the principles of sharing, listening, comparing, paying attention to details—even those most rooted in the human soul: the beauty and strength of ideas. However, teamwork is not and cannot be just a word, a principle, a good purpose. Team spirit must be built day by day through sharing industrial culture, respecting different points of view, mediating the inevitable contrasts, and working together to present a solution and not a problem.
Teamwork needs a protected, stimulating environment to be productive. For this reason, the three key words, the three pillars, of the work that we want to continue to support are mutual trust, an open mind that breaks down prejudices, preconceptions, and habits, and an intense desire to participate, grow, and innovate.

The product family that best embodies this way of thinking is the System. The ability to conceive, design, and build production lines in which many different Prima Power products intersect and work together—requires complex teamwork and the intense circulation of skills and knowledge, all related with different accents and in different cadences that ultimately compete to achieve the same objectives of quality, efficiency, sustainability, and innovation. Here too, the keystone of a production system is its intelligence, the "thought", in this case represented by the software, that is able to understand the context, deploy the right forces for each task, and guide actions in the most effective way possible.

Mutual trust, an open mind and an intense desire to participate, grow and innovate are the main pillars of successful teamwork.

2020: A YEAR FULL OF TEAMWORK CHALLENGES

At the start of 2020, the industry seemed firmly on a steady path of innovation and improvement. Technology, digitalization, and globalization seemed sufficient tools to face increasingly complex challenges such as those of sustainable and fruitful growth. Instead, the 2020 will be remembered for a long time due to a global pandemic that violently shuffled the cards of a game that had seemed unassailable. Everything and everyone have been touched by it, and with dramatic effects. Covid-19 now figures in the planning of governments, international organizations, businesses, communities, families and individuals. We have all had to deal with it. What seemed simple has suddenly become complicated, sometimes impossible. Relationships, contacts, and collaborations have suffered a sudden and apparently irremediable slowdown. We can no longer shake hands. We can no longer meet, we can no longer compare. What will become of our teamwork?

And so after a moment of understandable displacement and difficulty with the planet's plunging into pandemic, Prima Power quickly revised and adapted its way of working to preserve the team spirit that has always distinguished us and in which our heritage of ideas and solutions resides. **Taking advantage of the opportunities offered by digital technologies and our colleagues' spirit of adaptation, we have begun to plan, confront, and assist our customers with equal effectiveness, discovering and exploiting new opportunities, and unexpected avenues**. New assistance systems have been developed to take advantage of cutting edge technologies such as IoT and augmented reality; Prima@Home platform webinars, conferences, product launches were born, thanks to one of those insights that make you ready for the worst scenarios. The nucleus of Prima@Home, created to optimize the global launch of the new Prima Power products, has rapidly developed into a real interactive platform that allows to be connected with colleagues, customers, suppliers and partners.

COLLABORATION AND INTUITION: THAT'S HOW WE DO IT

This new way of working and collaborating is a constant challenge that forces us not to let our guard down in finding new solutions, adapting, and reacting to obstacles with speed and precision. Herein lies the great value of teamwork: challenges and difficulties can be faced by working in synergy with different sensitivities, experiences, and approaches: a way of collaborating that helps to find solutions that would be surprising and unthinkable to one person working alone.

In a time when social distance needs to be increased, it is necessary to be able to provide ideas and intuition. These are the contributions that each of us is able to make, not so much to the reconstruction of the world and industry as they were, but to the construction of a new conception of business, relationships, production and sustainability. We, all together, are not afraid of what we will remember as the greatest challenge of our lives.

Prima@Home platform webinars, conferences, product launches were born, thanks to one of those insights that make you ready for the worst scenarios.

A COMMON LANGUAGE, GREAT ACCOMPLISHMENTS

"This integration more than tripled the amount of sheet metal that could be processed up to that time."

THE ITALIAN COMPANY ASTRA AND PRIMA POWER SHARE THE SAME APPROACH IN THEIR WORK, GIVING PARTICULAR ATTENTION TO INNOVATION AND SUSTAINABILITY. A PARTNERSHIP THAT GUARANTEES GREAT SUCCESS.

Astra specializes in the design and processing of metal carpentry, mainly producing stainless steel components ranging from semi-finished to finished products. Established in 1991, the company has always aimed to meet the highest standards of quality while following the foresight of founder Rudy Peruzzetto, who identified stainless steel as the technological material of the future.
On this basis, resources were immediately directed towards demanding sectors such as the hospital and pharmaceutical industry, and in 1997, production was expanded for the first time.
In the same year, a partnership also began with Electrolux Professional, a global leader in household appliances and equipment for professional use, for which Astra also became a certified supplier.

"The significant operating results we've achieved," says Peruzzetto, *"have allowed us to further expand our production capacity to a total that today stands at 6,000 indoor square meters and just as much outdoor space divided between three plants in San Polo di Piave, in the province of Treviso."*

Expansion of the company has always paralleled its drive towards innovation and sustainable development (for example, the new warehouse is powered by renewable energy sources). Particular care for the environment is also seen through the gradual replacement of the entire fleet of machines with increasingly eco-friendly models. **This fleet today ensures an efficient, high-performance production process in which all technologies, from laser cutting to punching, bending, paneling, and even the automatic storage system, are all supplied by Prima Power, the Machinery Division of Prima Industrie Group**.

FROM SMALL BATCHES TO MASS PRODUCTION

Today, Astra works for the hospital/pharmaceutical sector, as well as for large professional installations (washing, cooking, and refrigeration solutions) and the naval sector. The labyrinth filter for Sabik industrial hoods is its own product, conceived and created by Rudy Peruzzetto himself, which demonstrates the company's know-how and ability when it comes to supporting the customer with their finished products. There are countless other examples of this in stainless steel, as well as in galvanized steel, aluminum and copper.

Prima Power's BCe bending center offers the ideal solution for those who, like Astra, deal with single pieces, small batches, or mass production.

"About 80% of what we process is stainless steel," specifies Peruzzetto, *"and we normally work with thicknesses up to 5-6mm, although our equipment allows us to process even over 10mm. We are able to manage 1, 10 or 100 pieces with the same flexibility as thousands of pieces."*

In this regard, the company's first production breakthrough occurred over a decade ago with the purchase of the first SG8 1530 combined punching/right angle shear machine from Finn-Power. **This move more than tripled the amount of sheet metal that could be processed. A further decisive step was taken about a decade ago with the introduction of a high-performance laser cutting system, a Prima Power 2D fiber laser, a 3 kW Platino complete with LST palletizing/stacking robot for automatic piece selection, and an eP 1030 electric press brake**. The most recent installation of the BCe 2720 panel bender took place only a few months ago, along with the Night Train FMS automatic storage system, which includes a LU6 loading/unloading robot to serve the laser cutting machine.

HIGHLY FLEXIBLE BENDING CENTER WITH THE SAME PRODUCTIVITY

Prima Power's BCe servo-electric bending center offers the ideal solution for those who deal with single pieces, small batches, or mass production. In fact, this panel bender aims to combine the benefits of panel bending — i.e., flexibility, precision, and high quality — with a semi-automatic but highly productive process where the machine is always running thanks to the LUT loading and unloading table.

"Our decision to opt for a new, higher-performing panel bender," Peruzzetto explains, *"is based on our experience over the last decade of how difficult it is to find specially qualified personnel. This skills shortage can occasionally jeopardize the company's future vision or, at least, change its growth path. I therefore chose to focus on a different bending technology, where programming and automation are the basis of productivity."* This technological equipment has significantly expanded the production potential for the company, which can now process larger formats.

(From left) Andrea Corrà, area agent for Prima Power (D.O. Studio Srl); Rudy Peruzzetto, owner of Astra; and Marco Ghirardini, Prima Power area manager.

PROCESS EFFICIENCY (ALSO) STARTS FROM MANAGEMENT OF THE RAW MATERIAL

Astra recently integrated the new Night Train FMS automatic storage system, complete with Prima Power LU6 loading/unloading robot, into the Platino Fiber laser machine. The owners decided on this investment to optimize sheet metal management, which has exceeded 100,000 kilograms per month for some time now, equaling about 200 pallets in continuous assortment and rotation.

The new automatic storage system has been linked to the internal management software and keeps track of all movements from a 4.0 perspective. *"The effectiveness and value of the investment," observes Peruzzetto, "didn't take long to show itself. In fact, in the first month after commissioning, laser production has almost doubled, while also minimizing downtime due to the management of raw materials. So the need to create order and keep the material under control brought with it additional, indirect benefits, for instance saved floor space that was previously occupied by the various pallets of sheet metal, either in transit or waiting to be processed."*

Thanks to the loading/unloading robot and the stacking system, the new Prima Power FMS can also be fed with pre-cut, semi-finished products, which can then be processed at a later stage.

"In short," adds Peruzzetto, *"automated storage has become the beating heart of our internal workflow. This technology allows you to rely on continuous, unsupervised processes and on an increase in productivity and efficiency with the same workforce. Thanks to the new Night Train FMS, we can now plan unmanned production over three shifts, while sorting the pieces that are already stacked at the end of the shift and ready for further processing. My goal is to pursue automation wherever possible, to allow staff to work better while increasing our production capacity."*

This search for greater efficiency and competitiveness is reaffirmed by new projects under development that will connect other systems to the automatic storage in the future.

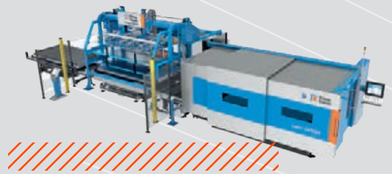
Translated extract from "Ordine ed efficienza guidano la produttività" by Gianandrea Mazzola, published on Lamiera magazine 11/20. Read the article in Italian:

The machine fleet at Astra allows the company to carry out the entire product manufacturing process from sheet metal cutting to bending operations, as well as finishing the material.

LASER AUTOMATION

IS A MATTER OF TEAMWORK

In any game, good teammates are needed to achieve the best results. And when it comes to production, squad formation is defined according to the characteristics of the match. For laser processing, you can count on a wide range of elements that can be connected to obtain the production cell most suitable to your needs.



COMPACT SERVER

Simple, user-friendly, cost-effective loading/unloading system for handling blanks and processed sheets suitable for short periods of unattended production. This solution is meant for thicknesses ≤15 mm when no production mix is required. Optional additional pallet for Manual Part Sorting available.
Specialty: the smallest footprint on the market.

COMBO TOWER LASER

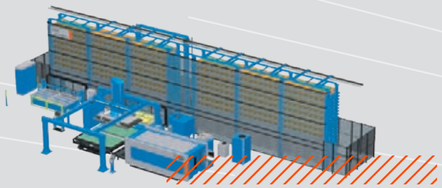
Flexible storage system with integrated loading and unloading features to make different materials automatically available whenever needed. Optimal solution for lights-out production. Optional second shelving unit available.
Specialty: fully automatic for flexible, lights-out production.

LST – AUTOMATIC PART SORTING

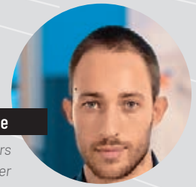
LST is a compact, high-performance automatic stacking robot. It efficiently picks the parts and sorts them into stacks ready to use in subsequent process steps.
Specialty: automation of the entire working cycle for unmanned production.

NIGHT TRAIN CONNECTION

This automation module connects the laser machine to the Night Train storage for automatic material and information flow from programming to production reporting. Optimum solution for all productivity levels and system sizes.
Specialty: practically unlimited capacity, easily expandable by adding storage blocks.



PRECISION IS THE KEYWORD



by Stefano Gecchele
Prima Power Panel Benders Product Manager

IN RESPONSE TO MANY CUSTOMERS' REQUESTS, PRIMA POWER HAS DEVELOPED SOLUTIONS LIKE DABA AND API FOR THE BENDING QUALITY CONTROL, TO GET THE MOST PRECISE BENT PART

One of the goals of many customers is to reduce the number of attempts to produce a bent part within tolerance; the ideal being that every part, even a prototype, is good.

Prima Power responds to these needs with a technology called **DABA** (Dynamic Adjustment of the Bending Angle). DABA's features make it a unique technology in the field of automatic sheet bending:

- **servo-electric movement** of the bending parts for high precision and absolute reliability of the bending process;
- assembly, alignment, and calibration procedures that guarantee **repeatability** in the behavior of the machine, and the consequent iterations of the results;
- **TMDB** (Technological Material Data Base), a database with more than 20,000 corrective bending data, manages material variables such as material type, tensile strength, thickness, anisotropy, and part variables like dimensions and bending angles.
- an **advanced interpolation algorithm** for the automatic generation of bending corrections for parts with material or part properties that are not exactly matched in the database;
- the ability to precisely measure the **thickness** of the blank through a **TMS** (Thickness Measurement System), and to dynamically adapt the bending parameters accordingly.

We recently introduced a new patented solution for angle control called **API** (Advanced Profile Inspection).

This option consists of a **camera** placed on one side of the machine and a **light** on the opposite side. The system is capable of **measuring the angle of a bend** and ensuring that it **reaches the target angle within the required tolerance**, thanks to iterations of measurement, correction, and checks. The guaranteed angle accuracy is between ±0.5° and ±1°, depending on part geometry.

The operator can **select the bends** they want **to measure and the criteria for the measurements** (all parts, only the first part, applying the corrections to the next parts, or every X parts). Corrections can be saved in the TMDB, and real angle measures can be viewed and exported. API is thus also a tool for certifying production quality and monitoring the process and the machine.

Example of a bent panel without (left, both photos) and with application (right, both photos) of the corrections imported from the TMDB.

A NEW, CONNECTED METAL ADDITIVE MANUFACTURING PRODUCT FAMILY

by Paolo Calefati
Head of Additive Manufacturing and Innovation at Prima Industrie

Prima Additive, our division specialized in solutions for metal additive manufacturing, offers a complete range of AM machinery for Powder Bed Fusion (PBF) and Directed Energy Deposition (DED) technologies that draws on the Prima Group's long experience in laser technologies and automation.

The latest product, recently presented at the BIMU trade show in Italy, is the Print 150 series for PBF applications. The new family features a cylindric volume of ø150 mm x h160 mm and includes three models—Sharp, Genius, and Green—specialized for different applications and productivity levels also thanks to the use of the specific laser configurations Single, Dual, and Green (for pure copper processing).

The Prima Additive 150 series is Industry 4.0-ready and allows for the integration of monitoring sensors and connectivity via different standards for Internet of Things (IoT) functions. Among these is MindSphere, the industrial IoT ecosystem from Siemens, through which it is possible to connect all the machinery in the same factory to the same cloud platform and so leverage the huge volumes of data generated by the IoT through advanced analytics.

The comprehensive range of PBF and DED solutions for every metal additive manufacturing requirement, and the in-depth technological and application support, both before and after purchase, make Prima Additive a real innovation partner that ensures a profitable and fast transition to additive.

Sharp, Green, Genius: the new Print 150 series.

CAN CONNECTIONS BE

THE BIG ENABLER FOR GROWTH?

HALTON'S KAUSALA FACTORY AND THE PRIMA POWER TEAM SHOW HOW

The Halton Group is the world's leading provider of indoor air solutions for the marine, health, foodservice, and buildings industries. The company, owned by the Halttunen family and headquartered in Helsinki, Finland, has production facilities in France, Germany, the United Kingdom, the United States, Canada, China, and Malaysia, and R&D facilities in eight countries. Halton also manufactures products under license in South Africa, Mexico, New Zealand, and Australia.

The group employs approximately 1,600 people in over 37 countries, with a turnover in 2019 of €237 million. Halton has always closely monitored its productivity, costs, and the value its products provide to customers. **The company has its sights set on growth, and a big enabler for growth is cost-efficient sheet metal production that can be scaled across the world, if necessary.** The company wanted to partner with a global machine supplier that could facilitate this growth.

Prima Power manufacturing line connected to the automated storage system Night Train significantly increased Halton's production capacity.

In Finland, Prima Power has been Halton's partner for a long time. The partnership between the two companies is a success story made by a strong culture of connections where competencies, trust, and sense of belonging work together to create the best outcome for customers.

"We had already invested in the current automated storage system, Night Train, in 2007. At that time, two punching/shearing machines and a panel bender were included in the system, and the investment paid off within 18 months," explains Kari Virkki, production technology manager at Halton Kausala factory.

SAVINGS AND EFFICIENCY FROM MULTIPLE ANGLES

Savings were made by minimizing coil-line length loss and capitalizing on the purchase prices of coil material as compared to sheet metal material. Furthermore, the efficiency of the right-angle shear meant that more parts could be brought to the nest, the sheet-frame volume could be minimized, and machine processing time for sheets could be optimized and shortened. Similarly, the quality of the parts and their performance during assembly improved significantly, as the nibbling marks left by the turret punch press disappeared when the company implemented right-angle shear technology.

The answer to the question of whether it was worth investing in automation and using Night Train storage automation and right-angle shears was obvious: *"It definitely was. With our current capacity, we would probably need five standalone machines and 15 separate operators in three shifts to replace our two right-angle shears. In addition, we would need a forklift operator for each of the shifts to transfer sheets from one location to another. Five standalone machines would also require individual tools, meaning that tool costs would be ridiculous when compared to our current situation. We would not have achieved our current level of storage space savings, nor would we have the requisite inventories. The sheets and parts remain in storage, and we know the exact contents and volume in storage at all times. Also, our raw material does not get damaged on the storage shelves, and our production facilities are kept clean. We have been extremely satisfied with the benefits of the Night Train storage system and right-angle shears. We would not be able to keep up with our current part volumes without them,"* says Virkki.

The Halton Group manufactures indoor air solutions for marine, health, foodservice, and buildings industries.

INVESTMENT IN REPLACEMENT

Based on this great experience, they made an investment in 2018 to replace their right-angle shear from 1997 and panel bender from 2003 with new machines. The bending center was replaced with the Prima Power EBe6, which offers a bending length of 3,350 mm, and the right-angle shear was replaced with the Shear Genius 1530, equipped with a new rotating ram head. Both of the machines were integrated into the existing Night Train automated storage system.

"The machines were replaced on time, and production was able to be resumed quickly. We have achieved the huge targets that we set for the investment. These included flexible mass production enabling increases in part volumes and amount of new products produced, greater capacity and quality, as well as cost efficiency. All of these outcomes directly improve our competitiveness. We have also achieved significant savings in energy efficiency and maintenance costs for both of the machines. Tool costs associated with the right-angle shears are also very reasonable. We now have more capacity available, so we do not have to run close to maximum capacity as we did before the investment. This increases our reliability," continues Virkki.

> *"We are extremely satisfied with our collaboration with Prima Power. Their machines are ideal for our kind of production."*

***Kari Virkki**, production technology manager at Halton Kausala factory.*

"The goal was to save 30% of our working time by updating the machines. According to our calculations, the result actually exceeds the goal."

Each year, approximately 2,000,000 kilograms of material is run through just one right-angle shear. In square meters, this amounts to 360,000 m^2, and the materials used are 0.7–1 mm thick.
The current manpower requirement for the Prima Power system is two employees per shift. A total of seven employees are currently operating and programming the machines for 24/7 production.

"The Night Train automated storage system is a very sensible investment for any sheet metal factory that has a large production capacity, where employees work in multiple shifts and there are several machines."

"We are extremely satisfied with our collaboration with Prima Power. Their machines are ideal for our kind of production. With them, we can access all the services we need quickly and from one place. I can recommend Prima Power as a partner," concludes Virkki.

Watch the interview to Kari Virkki, production technology manager at Halton Group. The video is in Finnish with English subtitles.

"The goal was to save 30% of our working time by updating the machines. According to our calculations, the result actually exceeds the goal."

An example of a Halton product for indoor air solutions.

MACHINE OPERATOR'S EXPERIENCE

JARI LAINE, AN OPERATOR AT HALTON, SAYS THAT THE SG1530 IS MORE PRODUCTIVE AND REQUIRES LESS WORK.

"The new right-angle shear's waste sorting is very efficient and more compact. The waste sorting is also faster: we punch-cut the clamp strip into the waste, and it is automatically transferred into the clipper. The SU part-sorting unit has also performed well in unmanned operations. The TULUS interface is very clear and easy to use. With the new machine, the number of Multi-Tools has also increased and they are a great way to reduce setup times in production. ***Thanks to the brush tables, the noise level near the machine is low and the surface quality of the components is better.*** *Because we use pre-painted material straight from the coil, a scratch-free surface is crucial to us. The sheet-metal loading cycle is also clearly faster than that of the old SG6 machine.* ***The machine runs better, it's faster, easier to clean, and the sounds caused by the hydraulics have disappeared. The run-through times for nests are approximately 33% faster,"*** says Laine.

THE HEART OF THE SYSTEM

Discover the New Shear Genius EVO Sustainable Power

Shear Genius, the combined punch-shear system and the ideal blanking solution for rectangular parts and panels, has further evolved.
The new Shear Genius EVO achieves significantly higher output and lower cost per part, meaning far more sustainable fabrication.

HIGHEST OUTPUT – SUSTAINABLE FABRICATION

The main benefit of the Shear Genius EVO is undoubtedly its considerably higher production capacity.
When the machine is integrated into a PSBB manufacturing line for the production of big panels such as door leaves and elevator panels, the productivity is even doubled.
This impressive improvement is made possible by the new sheet edge measurement device, which allows for highly efficient part nesting, shorter process time, and increased sheet utilization; and the clamp strip destroyer, which removes the last part from the table in the blink of an eye, greatly reducing the loading time of the next sheet.

LOWEST COST PER PART - SUSTAINABLE FABRICATION

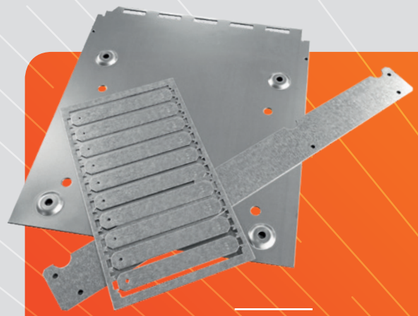
The core element of the machine remains its servo-electric technology, which allows for sustainable manufacturing through reduced energy consumption, no oil use, and raw material savings. All this is in line with Prima Power's strong commitment to balance high productivity with low impact on the planet; an objective that has been epitomized in our Green Means© concept.

The shearing process is the most reliable method for separating parts from the sheet. When blades are down, it is 100% certain that the parts released are of high quality, making this technology a key factor for unmanned lights-out production.

The Shear Genius EVO integrates multiple work stages into one and can be easily connected to automation systems in order to automatize the materials and parts flow and further increase output.

With these improvements, the new *Shear Genius EVO* is now inevitably the world's most productive, sustainable manufacturing method for rectangular panels and components.

Watch the recording of the Shear Genius EVO launch event held on 5 November 2020.



Combined punch-shear technology is the highly productive solution for rectangular parts and panels.

FLEXIBILITY IS THE POWER OF GIANTS

HOW PRIMA POWER PSBB HELPS POWER GENERATION GIANT BUILD FLEXIBLE MANUFACTURING SYSTEM

Headquartered in Spain, with eight production centers and 13 subsidiaries worldwide, and a global network made up of 1,000 employees who work closely with more than 130 distributors around the world, Himoinsa, part of the Yanmar Group, is one of the top global giants in the design, manufacture and distribution of power generation equipment. They produce everything from diesel and gas generator sets to lighting towers and hybrid generator sets ready to be incorporated into solar power systems.

Founded in 2006, Himoinsa China (HCN) is located in Changzhou, Jiangsu Province. Its facility covers a total of 60,000 m^2, with 200 employees and a yearly productive capacity of 12,000 units. In 2007, HCN purchased a Night Train FMS system from Finn-Power (now named Prima Power) for mass production of standardized products.

"At that time, standardized products were quite common. With the huge storage volume provided by Night Train storage, we can store many raw materials for large-scale production. So we can get, let's say 1000 sheets at the same time. It saved a lot of time in loading and unloading operations and greatly increased our efficiency. After 13 years, it still works well," explains Miguel Utrillas, General Manager of HCN.

"Thanks to the automatic PSBB line, we almost don't need to outsource any part fabrication."

Meanwhile, HCN had to purchase many fabrication parts from external suppliers before another new PSBB line was put into production in 2019.

Himoinsa products are widely used in a range of applications, such as events, oil & gas, construction, mining, IPP, water treatment, and as temporary standby power for shops, hospitals, hotels, data centers, telecommunication, rental companies, etc. **The group is producing more units in China year by year, and offer generator sets from 3 to 3,000 kVA and lighting towers of various specifications. They are in a highly competitive industry in China, and their customers have special, custom needs for each project**.

"To have a competitive advantage over local and overseas competitors, we are manufacturing in-house all the components of a generator set, including chassis, fuel tanks, and complete canopies," Utrillas adds.

During the past decade (and after traditional industries like machine tools, real estate, the related iron & cement, and textiles), rapidly growing industries like semiconductors, airports, data centers, 5G, AI, IT, and banking in China have continued to stimulate the economy. The revenue from APAC (without India and Central Asia) increased from less than 10% of global revenue in 2013 to 21% in 2018. **HCN needed a new, more flexible manufacturing line to respond to the increasing customer requirements for different specifications and quantities**.

"In 2019, we invested in a PSBB line by Prima Power and a double coating Paint Line," explains Utrillas. "The global strategy is to use the same manufacturing equipment and the same production standards to produce the same quality in all of our plants.

You could buy the same product worldwide, manufactured in Spain or in China, with the same quality and to the same specifications. Thanks to the automatic PSBB line, we almost don't need to outsource parts fabrication, and we are no longer worried about any potential uncontrollable risks related to fabricating, welding, and painting. We can design and manufacture from as few as one piece to more than 10,000 pieces of parts on the new line with higher production efficiency, much lower cost, more measurable quality, and shorter delivery time. Although two FMS lines are running in the metalworking shop, one worker is enough to watch them in one shift. We can send more workers to the assembly lines to enhance the output," says Utrillas. *"And it makes our plant layout tidier and more human-friendly."*

Since 2008, salaries in China have been increasing. To hire a skilled operator for a bending machine or servo-electric shear machine costs 800-1,400 USD per month in East China. And many factories can't hire and retain enough educated young workers born after the 1990s.

Left: *Containers for IDC Data Center in China.*

Bottom: *Miguel Utrillas, General Manager of HCN showing the PSBB manufacturing line installed at Himoinsa China.*

> *Due to the excellent service of Prima Power China, the new PSBB runs at least as fluidly as planned, and possibly better than imagined.*

"Besides the reduction in huge labor costs," continues Utrillas, *"the PSBB line also ensures the stability of quality and delivery, which is of vital importance to power generation sets and lighting towers. Himoinsa (Hispano Italiana de Motores Industriales SA) was founded in 1982 and its headquarters, which covers 65,000 m², is now in San Javier. We first bought Prima Power sheet metal forming machinery in the 1980s in Spain. At that time, the laser and plasma machines did not even exist, and when they came out, they were very expensive. We didn't have so many products then, so the punching machines plus press brakes and shearing machines were enough. The cooperation between Himoinsa and Prima Power was perfect, since both were transnational companies. When Himoinsa came to China in 2006, we chose to buy the Night Train FMS.* ***Our goal is that the standards and quality of the products manufactured in different production centers have the same high level, so we have installed machinery made by Prima Power at every production center.***"

Most of the products made by HCN are generally used in extremely cold/hot (50°+), humid, rainy, windy, snowy, super-silent, or no-failure-allowed conditions. Therefore, they need the best waterproof, rustproof, and soundproof fabrication metal boxes for our generator sets and lighting towers.

"Although there are many FMS line suppliers available in China nowadays, we still believe that Prima Power is the best and safest choice for us, based on many careful investigations and previous experiences. ***Due to the excellent service of Prima Power China, the new PSBB runs at least as fluidly as planned, and possibly better than imagined. The new line saves 20-30% of energy compared to the old one. The savings in materials is also obvious due to higher nesting utilization and fewer skeletons and punching scraps.*** *Our clients include the world-famous Alibaba Group, the largest online sales group and Wanguo Internet Data Centers; as well as Huawei and other telecom companies. The emergency power supplied by HCN is required to prevent any loss of data or functionality of databases in case of power failure. We cannot risk any mistakes since it could possibly cost millions in losses for these clients."*

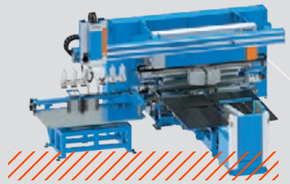
Above: *Lighting tower Apolo 4006 front panel.*

Right: *The line includes one punching-shearing cell Shear Brilliance 1530, one PSR8 Picking and Stacking Robot, one EBe3320 servo-electric panel bender, and one Combo Tower 1540.*

FOUR TEAMMATES OF THE EBe

FOR THE LOADING AUTOMATION

Prima Power offers a wide range of loading automation options for the EBe, the fully automatic panel bender.



LOADING TABLE

This is the basic automation for the standalone EBe. It consists of a floating table where a stack of blanks is placed above a pallet, and has double sheet detection and a thickness measurement system.
Specialty: for serial production.

DCC – DIRECT CONNECTION CONVEYOR

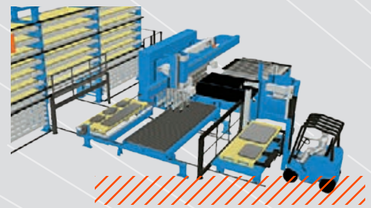
This is the automation that connects the panel bender to other machines in line, in order to create systems like PSBB (punching, shearing, buffering and bending). Parts arrive one by one on this fixed conveyor, where they are centered and, if necessary, turned by means of the BTD (Bend Turning Device).
Single blanks can be added to/removed from the process from an external table.
Specialty: cost-effective automation for lines.

PCD – PICKING AND CENTERING DEVICE

PCD is a further step in bender loading automation, thanks to its wagon, where stacks of different parts can be placed anywhere. With the PCD, the bender can work as a standalone cell, and is ready to be connected to any Prima Power blanking machine (punching, combi, shearing, laser). Optionally, the customer can choose two wagons for double capacity and loading in hidden time.
Specialty: full flexibility.

NIGHT TRAIN CONNECTION

The PCD described above can be used to connect the EBe to the Night Train (as well as to any third-party storage).
The wagon carries NT cassettes underneath the PCD for continuous flow.
A second wagon on the front side can be used to feed the bender with blanks coming from external cutting processes.
Specialty: unlimited parts feeding.



LET'S GET PHYGITAL!

In these days of social distancing, we have embraced the full communication approach of the "phygital"– a combination of the online and offline worlds that offers the best and most comprehensive customer experience.

After several months of exclusively digital events during the forced stop, we've once again been able to return to some live experiences in total safety, opening our Tech and Demo Centers around the world to small groups of people and participating in the first exhibitions after the lockdown. It has been a real pleasure to have direct interaction with our visitors at MWCS in Shanghai, and BIMU in Milan.

Beside these events in physical places, our virtual events and webinars have continued tirelessly. In the last six months on our Prima@Home platform, we broadcasted 15 online event sessions with nearly 3,500 registered participants. Thanks to smart formulas, we discovered that these virtual interactions are an extremely efficient, safe, and sustainable way to keep connections open, and we'll continue to use them even when the health emergency is finally resolved.

The boundaries between online and offline worlds have been almost erased. What we are building is an ecosystem where all communication channels are integrated. Virtual and augmented reality are commonly used during our physical events to widen the scope of the customer experience, and our Demonstrators are always available for online live demonstrations customized for customers' applications. Our participation in virtual exhibitions like the EuroBLECH Digital Innovation Summit and Formnext Connect is also meant to maintain relations with our sector through mixed experiences.

Digital, physical, phygital – whatever the place, we are there and we speak the same language.

"The boundaries between online and offline worlds have been almost erased and what we are building is an ecosystem where all communication channels are integrated."

Above: *MWCS exhibition in Shanghai, 15-19 September 2020.*
Bottom: *One of the virtual events on the Prima@Home platform.*

FACING ADVERSITY AND WINNING

ELM MACHINING SUCCESS STORY WITH PRIMA POWER EQUIPMENT

How many job shops could lose a customer that accounted for 98% of their business and recover in just a few years? Elm Machining was faced with that scenario several years ago. The company confronted this threatening challenge by making some hard decisions, placing additional emphasis on fabrication, investing in the proper equipment, and dedicating itself to the hard work that it took to not only survive but prosper.

INVESTMENTS IN QUALITY PARTNERSHIPS ARE THE KEY TO EXCELLENCE

Elm Machining was founded 40 years ago in Elmhurst, IL near Chicago. At the time, Elm was mainly a tool & die and metal stamping operation. The company expanded and grew over the years, and in 2005 Elm Machining moved its facility to Eufaula, AL, when its largest client also moved down to the area.
"In 2012, the large client announced that it was moving its operation to Mexico, and they would no longer require our services," reflects Scott Aimone, Elm president. *"This client represented roughly 98% of our business, and the announcement came as quite a shock since we had just been awarded the company's vendor of the year award. At this time, we had just purchased a laser and a press brake to complement our straight side and GAP punch presses.*
We were new to the fabrication part of the business. We were also at a low point in the company. During this pivotal period, we needed to make decisions and investments to push the company forward and regain the business we had lost."

Scott Aimone, president of Elm Machining.

Aimone notes that most of the time when he was quoting jobs, he was competing with another job shop that had a turret punch press, a larger press brake, a faster laser, with higher capabilities when it comes down to timing. *"We decided that we needed a turret punch press to obtain a competitive edge in the market."*

SERVO-ELECTRIC TURRET PUNCH PRESS

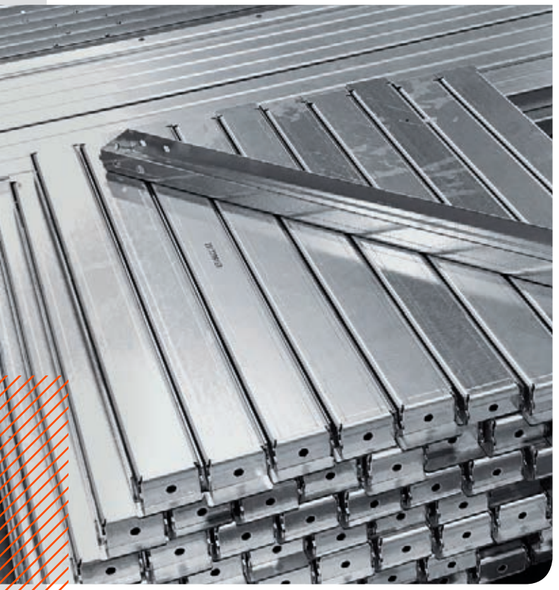
Elm Machining compared the features and benefits of several turret punch press builders. In 2014, the company purchased the E5x from Prima Power. **With the E5x by Prima Power, servo-electric punching productivity is available in a flexible and affordable package. It has been designed to be user friendly with versatile capacity.** Prima Power's machine control and user interface software with a touch screen panel ensure fast setup and convenient operation. The machine can process full 1,250 mm x 2,500 mm sheets without repositioning and makes nesting of the part more efficient and economical.

Other features of the servo-electric turret punch include:

- Extremely high servo-electric accuracy for less scrap, more production, and excellent forming and marking capability
- Fully-programmable punching speed, upper and lower limit of stroke
- Programmable Clamp Setting
- Robust O-frame design for perfect tool alignment and less wear on the punching tools
- Touch screen and Tulus Lite user interface
- Average power consumption of 4 kW for less energy use

"In addition to the Prima Power, we also looked at competitors' machines," explains Aimone, *"but there weren't as many customization features in their models that would fit our needs as a job shop.*
The biggest selling point of the Prima Power turret punch for us was the multiple Auto-Index stations that tremendously reduced the cost of tooling for us. We purchased the turret to acquire new business and possibly take some work from our other machines and transfer it to the turret. When the machine was installed, our clients began asking for quotes. This was a huge pivotal point for our company when all that business was transferred to us.
Prima Power turret punch press has doubled our business.
It has also made us more competitive in the market when it comes to pricing and lead times."

Above: *Prima Power servo-electric turret punch press*
Bottom: *Servo-electric press brake eP-1030*



AUTOPOL OFF-LINE PROGRAMMING

AutoPOL is an easy-to-use and effective tool for off-line programming of Prima-Power eP-Brakes. Sophisticated bending simulation makes it possible to shorten set-up times and ensure that the bending task can be performed. 3D models can be created with AutoPOL's designer program or they can be imported in 2D and 3D-format from practically any CAD program.

"In addition to the eP-1030, we also have an older hydraulic press brake," says Aimone. *"The reason that we purchased the eP-1030 was the result of all the extra business that came in because of the turret punch press. The feature that I like best about the eP-1030 is the servo-electric operation. I also like the AutoPOL program. It is one of the best programs for forming software that I ever used. Also, the user interface is a huge plus. It's very simple to use for my operators to read and adjust. The eP-1030 has expanded our capabilities to form larger parts and has increased our precision and quality."*

A WINNING COMBINATION

"Prima Power servo-electric punch press was the impetus for our increased production business," continues Aimone. *"Before the E5x, our business was about 98% lighting. It allowed us to enter several new industries such as construction, industrial air compressors, electronics, heat transfer, and others. The E5x also made us more competitive in this market. We grew substantially with Prima Power punch press. We were in a 20,000-square-foot facility from 2005-2017. In 2017, we moved to our current location, a 40,000-square-foot facility. That's how quickly we had to move to a larger facility and how quickly we regained the business we had lost. To keep up with demand, we added a second shift in 2018."*

NO COVID-19 SLOWDOWN

"We have been very fortunate that our business has not been affected by COVID-19," explains Aimone. *"Business has gone up. We have a very good mix of clients in both industrial and residential. It was a very odd thing to see this year because we typically have a busy season with both. We received letters from our clients that we were an essential part of their business and they were considered essential businesses. Eufaula, AL is a small town and COVID-19 didn't affect us as hard as it has other cities and states."*

A GREAT PARTNERSHIP

"When we purchased the Prima Power equipment it increased our sales by 50%," says Aimone. *"The following year sales increased by another 50%. Today, we are almost at full capacity running double shifts on both the E5x and the eP press brake. In 2018 - 2019 our growth was 20%. And from 2019 – 2020 we are at a 13% growth. We are receiving more requests from clients than we can fill. That is why we are considering the new laser and press brake soon."*

"The Prima Power machines have helped our business," concludes Aimone. *"These were big purchases for our company at that time when we were at our worst, and this a major turning point that helped us gather the competitive edge. We would not have been able to increase the business as much as we have without the Prima Power machines. The Prima Power turret paid for itself within two years. The eP-1030 payback was less than a year."*

> *"The biggest selling point of the Prima Power turret punch for us was the multiple Auto-Index stations that tremendously reduced the cost of tooling for us."*

eP-1030 PRESS BRAKE

Elm Machining purchased the Prima Power eP-1030 servo-electric press brake in 2017. **Prima Power has applied a servo-electric drive system on the eP-Series press brake. It is a fast, accurate, non-hydraulic bending solution. The innovative machine concept combines productivity, accuracy, flexibility, and reliability with high respect to ecological aspects that the company calls "Green Means©".** The concept offers both sustainability and manufacturing efficiency and productivity. It also means greater versatility, lower power consumption, less maintenance, and no oil to purchase or to get rid of. Besides, easy programming and outstanding accuracy eliminate waste production. The net result is the ability to form higher-quality sheet metal parts at a lower cost.

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.

> *We would not have been able to increase the business as much as we have without the Prima Power machines.*

Left: *Elm Machining services such industries as lighting, construction, industrial air compressors, electronics, heat transfer, and others.*

Bottom: *The company chose a Prima Power turret punch press to obtain the competitive edge in the market.*

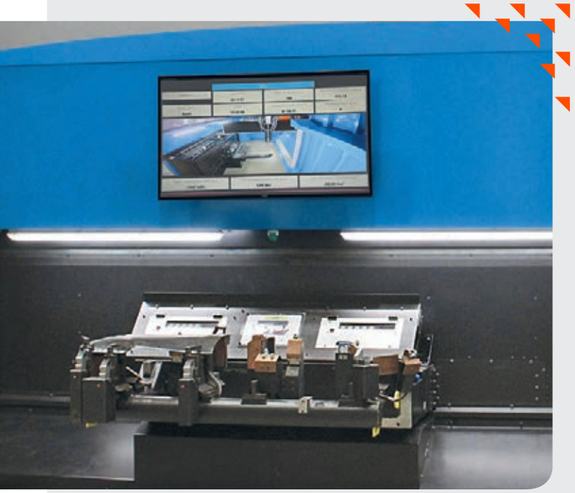
MACHINE DATA MONITOR FOR 3D LASER MACHINES

by Ivana Montelli
Prima Power SW Product Manager

Smart and connected machines collect a huge amount of real-time process and manufacturing data. For all production and factory staff, it is extremely useful to have this data available at a glance.

Nowadays, customers consider it especially important to have all key data on machine production and consumption quickly and easily accessible.

Machine Data Monitor, our new software for 3D laser machines, can manage all useful data and information and, thanks to its responsive technology, display them on any kind of device (computer, tablet, smartphone). To make things even easier, a new 50" monitor is available on the machine front to keep data under control at all times, even when you are just passing by the machine.



A LARGE AMOUNT OF DATA IS COLLECTED AND DISPLAYED BY THE INFO PANEL:

Production Data
- Date & Time
- Alarm
- Current status
- Current part-program
- Batch production order
- Parts produced for current production order
- Expected parts
- Part cycle time

Machine Consumption Data
- Energy
- Laser gas
- Assist gas

Media Data
- Part Preview
- Camera showing the machine working
- Fixtures

POWER LINE READER INTEREST SURVEY

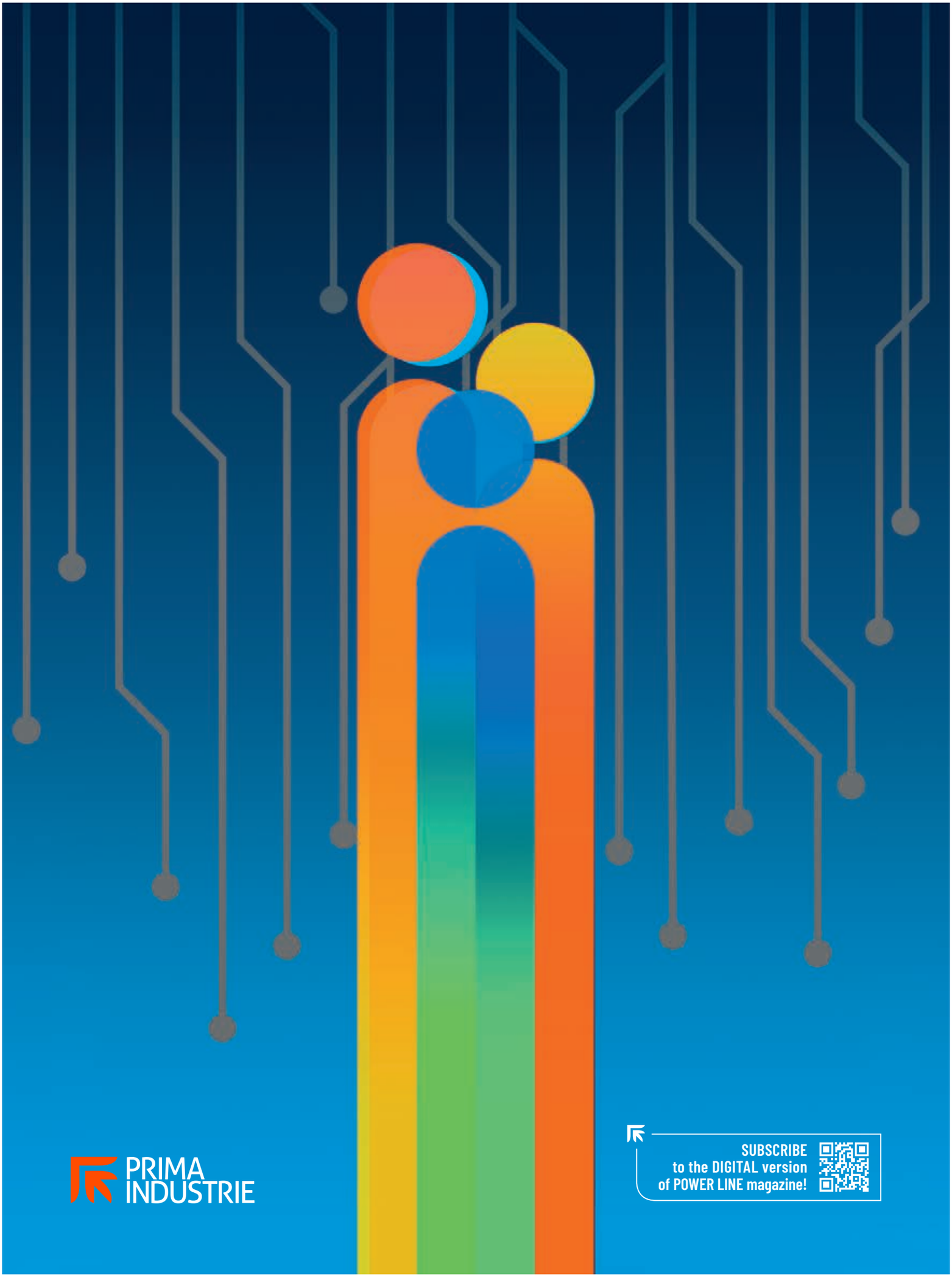
We consider the Power Line magazine a valuable tool to connect us to our community.

Our goal is to publish a magazine that is interesting and relevant to your needs. But in order to do this we need to know something more on your preferences and interests.

We are asking for just a few moments of your time to hear your opinions. By completing this survey, you're helping us gain an understanding of what you expect to see in these pages.

Thank you, we really appreciate your time and support.

Please complete the survey, it should take no longer than three minutes. Your input is very important.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