

CUSTOMER PROFILES

NEW TECHNOLOGY

PRODUCTIVITY

FLEXIBILITY

POWER LINE

2024
ISSUE 01

VOLUME
#18



ON THE CUTTING EDGE

ADVANCED TECHNOLOGIES AND NEW FRONTIERS
IN SHEET METAL CUTTING



POWER LINE is a publication of Prima Power,
a brand of Prima Industrie Group.



CUTTING THROUGH COMPLEXITY

ADDRESSING TODAY'S CHALLENGES WITH TARGETED DYNAMIC SOLUTIONS



Giovanni Negri

CEO Prima Industrie

As industrial manufacturing evolves, companies confront **rising complexity and shorter lead times**. The growing demand for bespoke products requires rapid adaptation to new customer needs while maintaining high standards of efficiency and quality. This complexity is intensified by fierce global competition that demands continuous innovation while managing costs, a significant shortage of skilled labor and the need to adopt sustainable practices.

We understand that meeting these challenges goes beyond having state-of-the-art sheet metal working machinery: **it requires targeted dynamic solutions. Advanced technologies are needed to level up production processes with an integrated and modular approach**. This allows companies to scale gradually, aligning growth with available financial resources and market demands. Such strategic flexibility is essential to stay competitive in a fast-changing industry.

This issue of Power Line focuses on **advanced cutting technologies, including 2D laser cutting, punching, and combined systems** – essential tools for managing today's manufacturing.

Guided by customers' experiences and our in-house expertise, we explore which cutting technology best suits specific requirements to effectively simplify today's complexities.

This edition also introduces "**Sheet Metal Inspirations**", a new column showcasing designers who push the limits of creativity with sheet metal, demonstrating the potential of our technologies. Through their experiences, we aim to spark your passion for the artistic and functional possibilities of advanced sheet metal processing, which blends industry and art, precision with creativity.

We are committed to streamlining your processes, ensuring your success in the ever-evolving world of modern manufacturing.

Targeted dynamic solutions allow companies to scale gradually and stay competitive in a fast-changing industry.

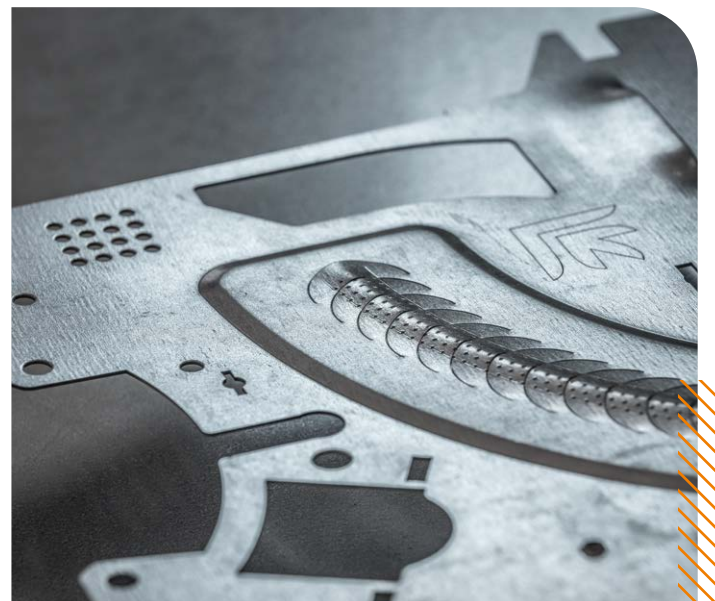
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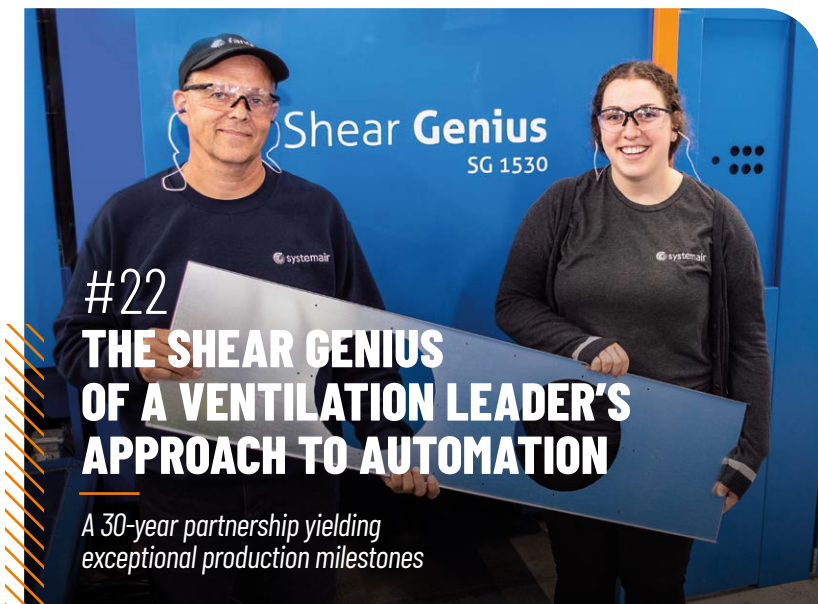
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ON THE CUTTING EDGE

ADVANCED TECHNOLOGIES AND NEW FRONTIERS
IN SHEET METAL CUTTING



INSIGHTS FROM OUR EXPERTS **GIULIO AMORE**, PRIMA POWER 2D LASER
PRODUCT MANAGER, AND **MARKO PIIRTO**, PRIMA POWER PUNCH, COMBI,
SHEAR AND TOOLING PRODUCT MANAGER

The global sheet metal fabrication services market, valued at US\$ 4.2 billion in 2022, is forecasted to reach US\$ 6.1 billion by 2031, according to Transparency Market Research (2023)¹. This growth is driven by increasing demand for lightweight, strong, and precise components across sectors like construction, aerospace, and defense.

The 2023 Sheet Metal Machinery Market Report by Cognitive Market Research² highlights that the **metal cutting equipment segment is experiencing higher growth rates compared to forming, welding, and other segments**. This is largely due to the evolving demands of the automotive and aerospace industries which require precision, efficiency, and the ability to work with advanced materials. With new materials entering production, sectors such as vehicle electrification and smart machinery are expected to fuel the demand for innovative cutting technologies. The HVAC sector continues to be a significant trend, while the construction and infrastructure industries are also expanding. As these sectors continue to push the boundaries of design and functionality, **manufacturers must level up their facilities to accommodate the production of more complex and specialized parts**.

To better understand the trends driving sheet metal cutting industry and help businesses navigate the array of technologies at their disposal, we consulted our experts Giulio Amore and Marko Piirto from Prima Power. Their insights help clarify the main forces shaping the industry and how to effectively use advanced cutting technologies for growth.

¹ Source: Transparency Market Research, December 2023

² Source: Cognitive Market Research, Sheet Metal Machinery Market Report, 2023

In your experience, how have you seen customer needs change over time? Are there any emerging trends on the rise?

Marko Piirto - *Punch, Combi, Shear*

In recent years, there has been a growing **need for holistic efficiency**, which includes reducing electrical and gas consumption, optimizing materials, and streamlining production flows. Consequently, there has been a significant rise in demand for high-level automation across various industries. Modern sheet metal factories now require automation from the workshop floor to back-office functions. Even smaller manufacturers, once discouraged by cost and complexity concerns, are now recognizing the **economic feasibility and simplicity** of today's solutions. Leveraging our extensive expertise, we provide sustainable digital production solutions and a comprehensive 360-degree view of the production process.

Giulio Amore - *2D laser*

Today, there's a significant market **focus on automation and integration**, areas in which we have always excelled and that are deeply embedded in our DNA. Our expertise lies in seamless machine integration, particularly through direct line automation, a key factor in choosing our machines. Unlike other solutions on the market that simply connect machines to a warehouse, our unique feature offers direct line integration from blanking to bending, effectively functioning as a complete logistics center. Additionally, there's a growing shift towards **interconnected smart factories**. Initially, the focus was on connecting machines; now, it's about leveraging this connectivity to enhance efficiency and minimize maintenance.



Marko Piirto

*Prima Power Punch, Combi, Shear
and Tooling Product Manager*

What are the unique advantages offered by 2D laser cutting and combined (punch-laser and punch-shear) technologies for sheet metal cutting?

Marko Piirto - *Punch, Combi, Shear*

Our combined solutions offer remarkable **accuracy and high tonnage capacity**. Furthermore, employing **fully servo-electric** technology, our punch-shear and punch-laser solutions deliver a significant **reduction in the cost per part**. Finally, our modular design allows for seamless expansion, from standalone setups to fully automated systems. Integration is an invaluable benefit across all our solutions, not limited to combined technologies.

Giulio Amore - *2D laser*

2D laser technology offers exceptional material flexibility, handling **various shapes, thicknesses, and geometries with just one tool** and without the need for extensive setup. Whether it's thick mild steel, up to 30 mm, or thin stainless steel at just 1 mm, a 2D laser handles it all, from aluminum to brass, copper, and various steel types. This versatility has fueled its success over the past few decades, along with its **precision, speed, and easy integration with automated systems**. Moreover, with fiber laser technology, significant energy-saving benefits are obtained.

What are the typical industries and applications where punch-shear and laser cutting technologies are preferred, and what are their respective advantages in those contexts?

Marko Piirto - *Punch, Combi, Shear*

Defining sectors can be tricky as both technologies are widely

used across various industries. However, for clarity, I can make some examples. **Punch-shear technology is prevalent in HVAC and steel door manufacturing**, handling thin, pre-painted, zinc-coated, or perforated materials, often in square shapes or panels. High capacity and automation are vital in these segments, making punch-shear the preferred choice for productivity and cost-effectiveness. **Combi laser technology excels, for instance, in kitchen product manufacturing**, dealing with thin materials and complex shapes, including decorative and sensitive materials like copper or brass. It excels in crafting radius curves and complex corners, which can be challenging with punching. For simple cuts or intricate shapes, 2D laser cutting is the most cost-effective. However, **punching technology comes with a lot of different processes** such as threading, offset forming, and tool marking that can significantly increase the added value on the part.

Giulio Amore - *2D laser*

Both combined and 2D laser technologies offer equal precision across various materials. However, cutting speed depends on the specific shape, geometry and thickness. For single and standard geometries, punching is faster, whereas **lasers are quicker for multiple complex profiles**. Punching technology handles thicknesses from 1 to 8 mm, while **2D laser offers a complete thickness range and excels from 4 mm up to 30 mm**.

For thicknesses above 8 mm, 2D laser technology is often the only solution. Concurrently, the production of a multitude of parts with varying specifications and low batch numbers per part represents a significant challenge. In such instances, 2D laser technology offers a highly flexible solution that minimizes setup time, allowing for the optimal utilization of its capabilities.

How is Prima Power integrating emerging technologies like Internet of Things (IoT), Artificial Intelligence (AI), and machine learning into its offerings?

Marko Piirto - *Punch, Combi, Shear*

Our machines are at the forefront of Industrial IoT solutions. We provide standard connectivity solutions to enable our customers to **access all the data generated by our machines and seamlessly integrate it into an IIoT application**. Prima Power also offers a dedicated solution for production data analysis. This enables our customers to make daily decisions based on real-time data rather than assumptions.

Giulio Amore - *2D laser*

AI plays a pivotal role in our software and technology, particularly in maintenance. Our dedicated tools are designed to collect, profile, and analyze vast amounts of data. This data-driven approach enhances machine uptime and performance, making preventive maintenance a reality. Machine learning algorithms run continuously in the background of our software to provide reliable automatic programs and efficient tool selection.

What advice would you offer to manufacturers looking to integrate advanced cutting technologies into their operations or to upgrade their current cutting technology?

Marko Piirto - *Punch, Combi, Shear*

When considering the adoption of cutting technologies, conducting a feasibility study is crucial.

At Prima Power, we guide our customers through this process, analyzing production flow from final product to individual parts, assessing features like forming shapes, threading, and corner complexities. We also assess the customer's expectations regarding production capacity, level of automation, and output with the new machinery. **The feasibility study ensures that the chosen system aligns with both current production requirements and future needs**. It's essential to envision how today's investments will shape future operations and to build a roadmap accordingly. We're committed to assisting in this process and offer expandable solutions to accommodate future growth.

Giulio Amore - *2D laser*

Regarding 2D laser technology, if manufacturers haven't considered integrating fiber laser technology or updating their systems in the past five years, now is the time. About 15 years ago, we saw the shift from CO₂ to fiber lasers, which have since matured significantly. Therefore, if you are still using outdated lasers, **it's time to explore newer options, along with integrating automation and connectivity**. This shift requires upskilling workers to handle advanced technology. My advice to manufacturers is to **invest in enhancing their workforce's skill sets** and assess the benefits of adopting state-of-the-art fiber laser technology. In doing so, they should choose solutions offering a native integration with scalable automation that can fit today's needs and be ready for tomorrow's ones.

Giulio Amore

Prima Power 2D Laser Product Manager



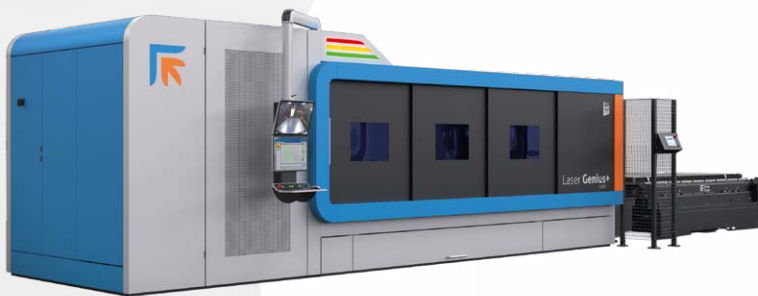
EVOLVING WITH PRIMA POWER CUTTING TECHNOLOGIES

MODULAR AND HIGH-PERFORMING SOLUTIONS TO SUPPORT FUTURE GROWTH

Our leading-edge cutting technologies are engineered to **empower your business's growth trajectory**, offering modular and high-performing solutions designed to meet your evolving needs. With a **focus on flexibility and seamless integration**, our cutting solutions harness the power of automation and software to deliver exceptional performance.

Whether our customers require punching, laser, or combined technology, we have **all the tools in-house to cater to their needs**. They can choose the solution that best matches their unique requirements while also strategically gearing up for a productive future.

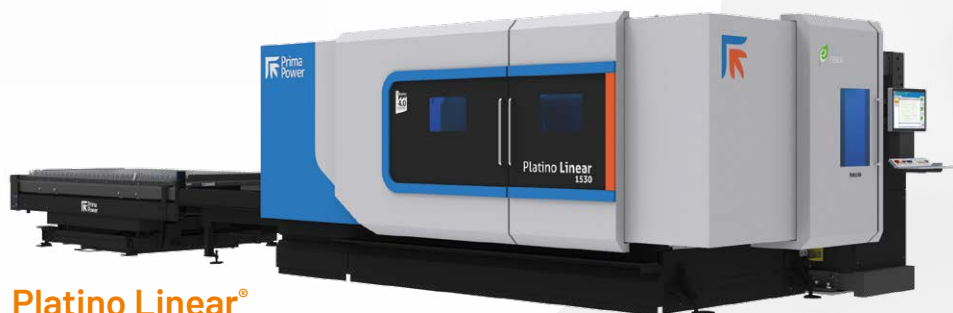
2D LASER



Laser Genius®+

/// We were impressed with the technical ability of the Laser Genius+, its **speed** and the **quality** of its cuts. The increased capability and **flexibility** of laser cutting has allowed us to cut down on costs and production times and broaden our client base. ///

Danny Wheldon,
Managing Director PAB Coventry Ltd (UK)

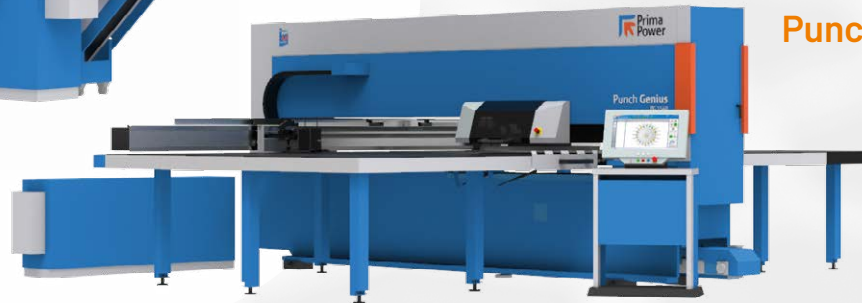


Platino Linear®

PUNCHING

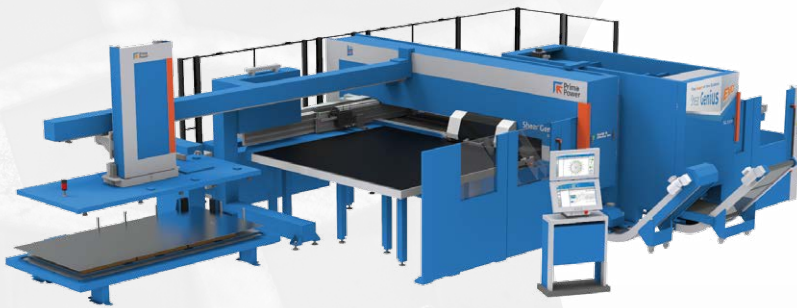


Punch Sharp



Punch Genius

PUNCH-SHEAR



Shear Genius[®] EVO

/// We now use the Shear Genius to fabricate **square and rectangular parts**, all day long. We also use the machine to perform a number of forms for knockouts and embossments, so we always will need to have **forming capability**. The machine is capable of transforming parts to final production stages without the need for secondary operations. ///

Dudley Lawson,
President C & I Enclosures, Alabama (USA)



Shear Brilliance[®]

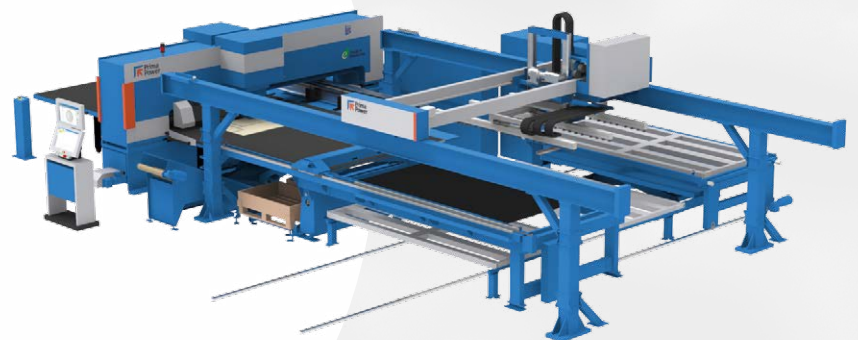


Combi Sharp[®]

/// In the last few years the quantity of parts requiring **both cutting and forming** had grown a lot. This involved first performing the cutting operations on a laser machine, then moving the parts to the punching machine to perform the other operations. We realized that the Combi Genius was the perfect machine for us as it allowed a **reduced production time** of more than 60%. ///

Stefano Vavassori,
Sole director DAV (Italy)

PUNCH-LASER



Combi Genius[®]

THE ART OF METAL MASTERY: THE DE CASTELLI STORY

AN INTERVIEW WITH FRANCESCA CELATO AND FILIPPO PISAN, DE CASTELLI MARKETING MANAGER AND DE CASTELLI ARTISTIC DIRECTOR, HEAD OF THE R&D DEPARTMENT

De Castelli, rooted in Treviso, Italy, has been exploring metal's expressive potential across four generations, blending artisanal techniques with industrial methods. In its beautiful creations, **metal emerges as a protagonist: a medium rich with aesthetic possibilities.** With prestigious partnerships and awards, like the Archiproducts Design Awards 2023 for the Folio table, De Castelli showcases its commitment to innovation and ongoing research.

De Castelli, a brand synonymous with the Celato family's rich heritage. Could you share more about the company's journey?

Since its inception, De Castelli has led the way in metal craftsmanship, dedicated to unlocking its full potential.

Established officially in 2003, the company's roots are deeply intertwined with the **enduring legacy of the Celato family, its founders, whose metalworking heritage traces back to the late 19th century.** With strong ties to the Veneto region, they initially specialized in agricultural tools, before expanding into copper and brass homeware and distillation equipment. Guided by CEO Albino Celato in the mid-1990s, De Castelli embarked on a period of significant growth, investing in cutting-edge metalworking machinery. Today, the company **blends traditional craftsmanship with modern technology,** utilizing CNC machines, lasers, bending systems, and other equipment to craft unique products.

How does De Castelli set itself apart in the market?

Primarily, we prioritize staying contemporary. De Castelli consistently engages with designers and architects to anticipate trends. Extensive collaborations expand our perspectives on metal, shaping our product range. Equally significant is the role of research: despite our deep expertise, **working with a single material prompts constant exploration for new ideas.** Our work embodies a fusion of art, community, research, and traditional techniques reimagined for contemporary contexts.

What qualities or features do customers typically seek when considering De Castelli products?

Our main audience includes architects, and De Castelli showcases its capabilities and expertise while highlighting the vast potential of metal. **Our clients value craftsmanship and each piece's**

The Folio table, a rational sculpture crafted from brass slabs, earned De Castelli the 2023 Archiproducts Design Awards for its innovative design and creativity.





Francesca Celato, De Castelli Marketing Manager
and **Filippo Pisan**, De Castelli Artistic Director, Head of the R&D Department

uniqueness. We merge artisanal techniques with an industrial mindset: design is industrial, but production maintains an artisanal touch. Each piece carries subtle variations, reflecting our craftsmanship and unique identity, almost elevating them to artworks.

What are the key technical challenges in metalworking and what expressive potentials does metal offer in the field of design?

Metal, valued for its technical properties like rigidity, strength, and ability to shape intricate forms, has long been used in design and architecture. **Once seen as merely structural, we opted to highlight its aesthetic potential through a play of contrasts.** Despite its weight, we infuse our creations with a sense of lightness. Often perceived as cold, we've integrated metal into domestic settings, evoking warmth and comfort through oxidation. Material is central to our work, going beyond function. Rather than hide it, we accentuate its defining features, like oxidation. We even accelerate this process to achieve pre-oxidized finishes, a testament to our reverence for the material.

What types of metals do you work with, and what metalworking techniques do you utilize?

Our main focus is on **premium metals like copper, brass, and steel**, sourced in sheet form to match our processing methods. These metals offer versatility in size and thickness and align with our array of technologies. We start with sheet metal, going through laser cutting, bending, rolling, shaping, padding, hand-hammering, and welding, before oxidation.

What are the current trends in your industry?

In recent years, there's been a notable **convergence between design and art, driving demand for unique, customizable products.** Meeting specific client needs sets products apart, a level of customization not achievable with mass production. Moreover, there's a **rising focus on sustainability** in materials and manufacturing, aimed at reducing environmental impact and promoting reintegration into the production cycle.

How does De Castelli ensure sustainability in its production cycle?

De Castelli is deeply committed to sustainability throughout its production process. First of all, our **products are designed**

/// **Metal has long been used in design and architecture as a mere structural element, we have chosen to highlight its aesthetic potential.** ///

for longevity, reducing the need for replacements. We **manage waste meticulously** by segregating material scraps, and recycling them in a closed-loop system, conserving resources. Our advanced water management system efficiently reuses water in oxidation processes, minimizing overall consumption. We're also transitioning to fully recyclable paper packaging to reduce plastic use, aligning with our sustainability goals while delivering quality products.



In De Castelli's work all the defining features of metal, such as oxidation, are accentuated.

PRIMA POWER MACHINERY UTILIZED BY DE CASTELLI SRL

- Platino Fiber 2D laser machine with Compact Server and third additional loading/unloading station
- FBe Fast Bend 3320 servo-electric panel bender

ELEVATING PRODUCTION WITH 2D LASER CUTTING TECHNOLOGY

AN ITALIAN FAMILY BUSINESS ENHANCES EFFICIENCY PARTNERING WITH PRIMA POWER: THE GUIDA SRL EXPERIENCE

Extract from an article published in May 2024 on Deformazione magazine.

WITH A PARTNERSHIP SPANNING SINCE 1997, GUIDA SRL HAS RECENTLY INTEGRATED PRIMA POWER'S PLATINO LINEAR 1530 LASER MACHINE, DOUBLING CUTTING SPEED AND CUTTING ENERGY COSTS BY 50%.

What advantages can a laser cutting machine provide? Simone and Luca Guida, leading their family business Guida Srl, long-time clients of Prima Power, share their insights. **Their latest investment is in a fiber laser cutting machine: the 8kW Platino Linear 1530, Prima Power's newest addition to the market.**

Established in 1987 in Turin, Guida Srl was founded by Francesco Guida, venturing into the realm of sheet metal processing. Today, Francesco collaborates with his sons, Simone and Luca, who are assuming leadership roles within the family enterprise. *"We are a small artisanal business," says Simone Guida, "my father started it with three employees and a couple of machines; today we're a team of 15, using various machines for laser cutting, bending and welding. Our work is divided into departments: 2D laser cutting, where we have a CO₂ laser machine, a fiber laser and one for tube laser cutting; bending, with 6 press brakes and three dedicated staff members; and then welding, assembly and painting."*

Francesco Guida with his sons **Simone** (left) and **Luca** (right).





The Platino Linear laser machine integrated with a two-tower Combo Tower Laser increased the company's capabilities and efficiency.

Prima Power involved us and other producers in developing this machine: we provided a list of suggestions, which were integrated into the design of the Platino Linear 1530. This highlights Prima Power's responsiveness to its customers' needs.



COMPANY HIGHLIGHTS

GUIDA SRL

LOCATION: Turin, Italy

FOUNDED: 1987

FIELD OF BUSINESS: Sheet metal processing

PRIMA POWER MACHINERY

- 4kW Platino laser machine with vertical automated storage
- 8kW Platino Linear 1530 fiber laser with Combo Tower Laser (2 Towers)

For 27 years, Prima Power has been integral to the journey of Guida Srl. It all began in 1997 with the acquisition of a **2.5kW CO₂ Platino series laser machine**, featuring automatic pallet change. "My father," continues Simone Guida, "proudly recalls that the Platino laser we bought from Prima Power was the third one ever produced. In 2008 we upgraded to a 4kW Platino laser machine with vertical automated storage, which allowed us to expand even more." The company recently enhanced its laser cutting capabilities with the addition of the Platino Linear 1530 fiber laser, further enhancing production capacity. "Prima Power involved us and other producers in developing this machine," explains Simone Guida. "We provided a list of suggestions, including a 3-meter front opening, which were integrated into the design of the Platino Linear 1530. This highlights Prima Power's responsiveness to its customers' needs."

BOOSTING EFFICIENCY WITH PRIMA POWER'S PLATINO LINEAR 1530

Prima Power's Platino Linear 1530 laser cutting machine, with an 8kW fiber power source, handles 3,000x1,500 mm metal sheets with ease, all within a compact design. This machine improved the company's production and workflow efficiency.

CUSTOMER STORY

“Platino Linear 1530,” affirms Simone Guida, “stands out for its incredible flexibility thanks to its fully unrestricted front opening essential for swift sheet loading. To maximize productivity, we have integrated two automatic towers with 46 cassettes. This has significantly enhanced our competitiveness and opened up new market opportunities.”

Platino Linear 1530 is generally used to cut mild steel up to 20 mm in thickness, aluminum and stainless steel up to 15 mm, copper and brass up to 6 mm, for a wide range of sectors. *“We specialize in the industrial sector,” explains Luca Guida, “where we build machine parts, guards, panels and cabinets. We also engage in packaging and furnishings. This diversification ensures a constant workflow without interruptions in production. With the introduction of the Platino Linear, we expect a significant boost in our production capacity, thanks to its unmatched speed and flexibility.*



/// With the introduction of the Platino Linear we have doubled our cutting speed compared to before



*The machine allows us to achieve remarkable precision even with thicker materials and has substantially increased our speed: **we have doubled our cutting speed compared to before**”.*

Another significant advantage of Platino Linear is **its linear motors, which reduce the need for maintenance** to practically zero. *“This was one of the main reasons we chose this machine,”* observes Simone Guida. *“**The lower the maintenance a machine requires, the more we can produce.**”* Its **energy efficiency was another determining factor.** *“The fiber laser,”* explains Simone Guida, *“only uses power while cutting, resulting in **enhanced cutting performance and a simultaneous reduction in energy costs of around 50% for both electricity and gas**”.*

With the Combo Tower, management and monitoring of automated storage is highly intuitive.





The 3-meter front opening of the Platino Linear was one of the requirements gathered from manufacturers, including Guida Srl, during Prima Power's machine design phase.

A VISION OF EXCELLENCE THROUGH ORGANIZATIONAL STRENGTH

Guida Srl looks to the future with determination, firmly observing a fundamental principal: organization. **"The production landscape has changed,"** remarks Simone Guida. **"Whereas we once handled large-volume orders, we now encounter requests for smaller batches with varying lead times. As subcontractors, we have to be flexible and ready;** this is only possible with good internal organization. We aim to instill our commitment to organization in our customers, fostering a shared dedication to excellence."

Guida Srl's future projects are well defined. **"First and foremost,"** explains Luca Guida, **"we would like to remain a small business, while strengthening it through constant technological upgrades. We're considering integrating a robotic cell and a semi-automatic panel bender from Prima Power.** These days cobots (collaborative robots) allow for small batch production in a very simplified manner; before, programming a traditional robot was complicated and costly, to the point of not being sustainable for small orders. Integrating a cobot into our bending and welding departments would make us even more competitive."

/// The fiber laser only consumes power during cutting, resulting in a reduction in energy costs of around 50%.



Scan the QR code to watch the video interview.



EVOLUTION EMPOWERED BY COMBINED CUTTING SOLUTIONS

THE TRANSFORMATIVE POWER OF INNOVATION AND LEADERSHIP IN THE SHEET METAL INDUSTRY

REFLECTING ON TECHNOBLECH'S JOURNEY, PIONEERING MANAGING DIRECTOR RON FRIEDL SHARES THE COMPANY'S EVOLUTION FROM CRAFTSMANSHIP TO CUTTING-EDGE AUTOMATION.

Known for its superior craftsmanship in producing high-quality metal parts, Technoblech has seamlessly transitioned into a beacon of flexible serial production under the visionary guidance of **Ron Friedl**, its **dynamic managing director**. The evolution was significantly bolstered by two Prima Power's Combi Genius systems, marking a pivotal chapter in the company's journey to become a **state-of-the-art manufacturing powerhouse**.



Ron Friedl, Managing Director of Technoblech.



CRAFTING PRECISION THROUGH INNOVATION

Since its inception in 1989, Technoblech has carved its niche as a dependable provider of sophisticated metal components, catering to prestigious clients across various sectors, including medical and movie technology, electronics, laboratory and measurement technology as well as mechanical engineering.

The company's commitment to excellence is reflected in its **impressive annual production of around 10,000 different products, manufactured in batches of between 1 and 5,000**, using a wide range of materials such as steel, aluminum, stainless steel, and copper. The company offers a complete suite of services that includes development, laser cutting and punching, bending, welding, milling to surface finishing.

Extraordinary flexibility and reaction time are among the main strengths of the company: until recently, these were achieved with the commitment of employees and manned working shifts. Ron Friedl's arrival heralded a new era of efficiency and innovation at Technoblech, with **a focused strategy on digitizing and automating manufacturing processes.**

"I see our further growth potential above all in flexible, cost-efficient contract manufacturing of larger series and of sample parts," Friedl remarks.

/// The combined Prima Power punch-laser system Combi Genius 1530, with its fully automated handling configuration, allows us to do laser cutting and punching in one operation. ///

COMPANY HIGHLIGHTS

Technoblech GmbH

LOCATION: Arnbruck, DE

FOUNDED: 1989

FIELD OF BUSINESS: production of tools and sheet metal parts

PRIMA POWER MACHINERY

■ 2 Combi Genius 1530

■ Loading and stacking robot LST

CUSTOMER STORY

THE INTEGRATED AUTOMATION ADVANTAGE

Technoblech's specialty is the processing of sheet metal panels with dimensions of up to 3000 x 1500 mm and with a material thickness of up to 6 mm. Here, **the Prima Power Combi Genius CG 1530 with integrated loading and stacking robot LST has been a game-changer for Technoblech**, enabling the company to process large sheet metal panels with unmatched efficiency.

*"The combined Prima Power punch-laser system Combi Genius 1530, with its fully automated handling configuration, seemed **the best and most cost-effective solution**. It is a universal talent that allows us to do laser cutting and punching in one operation. The machine allows us to guarantee **precise and on-time implementation of all our requirements, no matter how complex**," notes Friedl.*

For Ron Friedl, the capacity of the die turret is a real competitive bonus of the machine: in total, **up to 384 single or 128 rotating tools can be stored in the punching tool turret with its 16 indexing positions**.

The LST Loading and Stacking Robot offers a high degree of autonomy, increasing productivity and reducing production costs and turnaround times.

The system, featuring a LST robot designed for high-performance loading and stacking, **needs minimal human intervention, allowing continuous three-shift operations**. This high level of autonomy enhances productivity and significantly **reduces production costs and turnaround times**.

PRIMA POWER COMBI GENIUS 1530: SOPHISTICATED TECHNOLOGY, SIMPLE PROGRAMMING

While the 4kW fiber laser ensures the **high availability of the system with minimal maintenance**, the machine features simplify the operation of the laser system and ensure that there is a minimum of manual process interruption. The integration of features like Lens protection glass and the LPM laser plasma monitor bolsters the system's reliability, **minimizing downtime and maintaining consistent quality**.

*"A decisive advantage of the system is its simple programming. This applies to both operation and programming. **My employees got the grips with programming very quickly and, despite the complexity of the system, achieved excellent quality with it right from the start**," Friedl points out.*





The Combi Genius operates largely autonomously without any manual intervention.

A touchscreen control panel operates the machine: here, **the operator can check machine settings as well as job lists quickly and easily.** Four cameras are in the working area to survey the manufacturing process. In addition, a tool management system, among other things, records the number of strokes performed and displays appropriate maintenance information.

“This has significantly reduced our cost per part because the work pieces are produced quickly, easily, and precisely,” adds Friedl.

A VISION OF INNOVATION AND EXCELLENCE

Under Ron Friedl’s leadership, Technoblech has not only preserved its core values of quality and craftsmanship but has also embraced the possibilities of automation, setting a new standard in the sheet metal industry: a shining example of how manufacturing can evolve to meet the demands of modern industry, ensuring that **even in the face of rapid technological advancement, the spirit of craftsmanship continues to thrive.**

/// A decisive advantage of the system is its simple programming. This has significantly reduced our cost per part because the work pieces are produced quickly, easily, and precisely.



“Our Prima Power machines already operate largely autonomously without any manual intervention. Once the NC programs are properly set up and tested, the machine can run until the stack of sheet metal in the machine is used up, without much monitoring. This, and the combination of multiple operations in one machine, makes the Prima Power machines unbeatable when it comes to versatility and flexibility.” says Ron Friedl.

THE SHEAR GENIUS OF A VENTILATION LEADER'S APPROACH TO AUTOMATION

A 30-YEAR PARTNERSHIP YIELDING EXCEPTIONAL PRODUCTION MILESTONES

HOW SYSTEMAIR'S ADOPTION OF PRIMA POWER'S MANUFACTURING LINE INTEGRATING SHEAR GENIUS & EXPRESS BENDER REVOLUTIONIZED PRODUCTION, DOUBLING CAPACITY WHILE ENHANCING PRECISION AND PRODUCT QUALITY.

A leading global supplier of high-quality ventilation, heating, and cooling products and systems, Systemair's extensive product range is a key element in its success story. Headquartered in Sweden, the company has operations in 51 countries in Europe, North America, the Middle East, Asia, Australia, and Africa.

Systemair's relationship with Prima Power can be traced to 1994 when the first punching/shearing Shear Genius cell with automatic stacking was delivered to Systemair Denmark (previously Danvent A/S). Over the years, **this close cooperation thrived with new investments, machine transfers, service, and training.** Today, Prima Power equipment serves many of the company's 26 factories across 18 countries.



Ron Gallant, fabrication/maintenance manager, and **Sylvie LeBlanc**, production manager, inspecting a part produced through Shear Genius punch/shear combination.



Express Bender can be configured with different loading options for connection with other Prima Power machines. The Systemair SGe & EBe system has allowed the company to double its production.

THE CHOICE TO EVOLVE BY INTEGRATION

Systemair's two factories in Canada – one in Tillonsburg, Ontario and one in Bouctouche, New Brunswick – use identical Prima Power **Shear Genius (SG)** cells and **Express Bender (EBe)** automated benders, **integrated into a PSBB (Punching, Shearing, Buffering, Bending) flexible manufacturing line.**

The Systemair facility in New Brunswick purchased its first Shear Genius in 2007. According to **Ron Gallant, fabrication/maintenance manager**: *"A strong demand for additional production capacity led the company to purchase a system composed of a new servo-electric Shear Genius and an EBe automated bender in 2018. We also added Prima Power servo-electric press brakes in 2012, 2014, and two more this year."*

Today, the 13,000-square-foot Systemair facility in New Brunswick employs 220 workers and is currently **running at full capacity.**

"We are now operating 24 hours per day with our current equipment," notes **Sylvie LeBlanc, production manager.**

COMPANY HIGHLIGHTS

SYSTEMAIR AB

LOCATION: Sweden, with 26 production facilities across the globe. The system described in the article is installed in Bouctouche, New Brunswick (CAN).

FOUNDED: 1974

FIELD OF BUSINESS: ventilation, heating, and cooling products and systems

PRIMA POWER MACHINERY IN THE TWO CANADIAN FACTORIES

2 PSBB lines integrating:

- Shear Genius (SGe) combined punch-shear system
- Express Bender (EBe) panel bender



Systemair's EBe is equipped with a PCD picking and centering device and a multi-functional table for parts positioning and centering.

/// The Shear Genius allows us to run lights-out over the weekend and have parts ready for bending by Monday morning.



UNLOCKING PRODUCTION POTENTIAL WITH SHEAR GENIUS

With the Shear Genius concept, the goal is to provide a **machine capable of transforming a full-size sheet into finished parts**.

These parts can be moved to the final production stages for direct integration into the final product assembly.

The Shear Genius (SGe) can perform the most demanding jobs with minimal set-up times and lights-out unmanned operations, thus increasing material productivity through efficient and versatile nesting programs.

"Since our parts are fairly square and rectangular in shape, the Shear Genius is ideal for our product line," explains LeBlanc.

*"We have different products that require many diverse tools, and having **the three Multi-Tools and the auto-index stations** allows us to produce a variety of designs. From an engineering standpoint, we don't feel limited. Today, we are challenging engineering a little bit more to increase our throughput."*

The SGe eliminates wasteful skeletons and costly secondary operations, such as deburring; the same clamps that hold the sheet for punching also hold it for shearing.

"The Shear Genius is a big advantage," continues LeBlanc.

*"It has eliminated shaker parts and tabs by **producing a finished part ready for stacking and bending without the need for secondary operations.**"*

In essence, the Shear Genius allows the automated process to begin with a full-sized sheet of material and end with a finished part after **automated loading, punching, forming, shearing, and unloading – all in one operation**.

"The Shear Genius allows us to run lights-out over the weekend and have parts ready for bending by Monday morning," adds Gallant.

"We also purchased a coil feeder in 2018 to load both Shear Genius cells. This saves us 15-20% on metal, not counting labor and material handling savings."

/// The Prima Power Shear Genius & EBe Express Bender system allowed us to grow 20% per year over the past five years. We were able to double our production.



EXPRESS BENDER: IT'S A BENDING REVOLUTION

The servo-electric Express Bender is a bending solution designed to enable each production's requirements to achieve maximum productivity, quality, and repeatability. EBe provides the high bending quality required by demanding applications with fully automated bending operations, from loading flat-punched parts to unloading the finished product.

Systemair's EBe features a PCD (picking and centering device) and a multi-functional table for positioning and centering parts.

"Today, a part takes 30 seconds to set up with the Express Bender, while it took 10-15 minutes on the press brake," says Gallant, "and we achieve more consistent quality with the panel bender. It also allows us to do precision hemming on our doors."

TAKING THE EFFICIENCY LEAP WITH PRIMA POWER

"We gained 50% additional capacity with the Prima Power Shear Genius & EBe Express Bender system," notes LeBlanc.

"This purchase allowed us to grow 20% per year over the past five years. We were able to double our production."

"We have enjoyed a very good relationship with Prima Power," concludes LeBlanc. "Prima Power technology has allowed us to produce a lot more and grow as a company, but also, from an employee standpoint, to work safely and more comfortably."

Shear Genius can perform demanding jobs with minimal set-up times and lights-out unmanned operations, thus increasing material productivity



PUNCHING FORWARD: LEADING MANUFACTURING INNOVATION

**CHINESE INDUSTRY LEADER PARTNERS WITH PRIMA POWER
TO FORGE A NEW FUTURE IN INTELLIGENT CUSTODY AND DELIVERY**

WITH PRIMA POWER'S INTEGRATED PUNCHING SOLUTIONS, ZHILAI SCI AND TECH HAS REDUCED LABOR NEEDS AND STREAMLINED DELIVERY TIMES, ACHIEVING HIGHER PRODUCTION CAPACITY, PRECISION AND QUALITY.

Innovation has the power to reshape production paradigms and redefine industry benchmarks, as demonstrated by Zhilai Sci and Tech Co., Ltd, a Chinese company that embraced integrated cutting-edge technology. This bold move not only expanded the company's global reach but also fortified its position as a frontrunner in the industry.

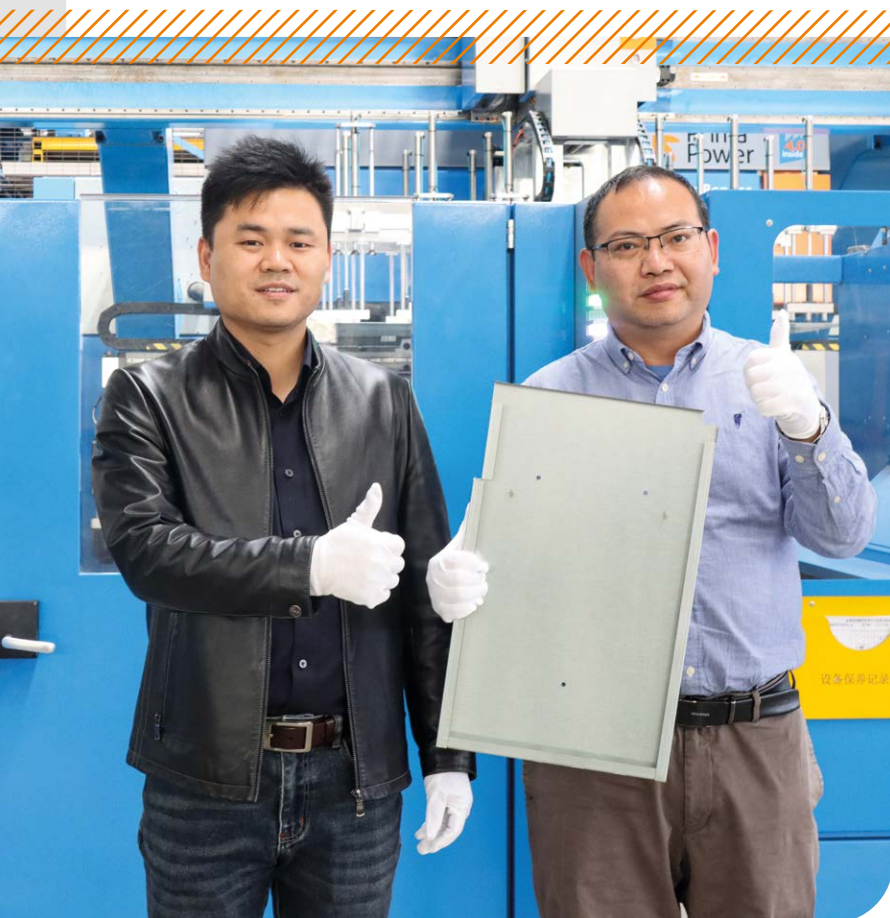
DRIVING INNOVATION: ZHILAI'S STORY

Founded in 1999 and headquartered in the dynamic city of Shenzhen, **Zhilai Sci and Tech stands as a pioneering force in intelligent custody and delivery.**

The company is renowned for its quick delivery capabilities, adherence to international product quality standards, and efficient after-sales service system.

With its diverse product portfolio and professional industry solutions, **Zhilai Sci and Tech offers efficient circulation products for express parcels, intelligent terminals for storing and preserving fresh food, one-stop industry solutions for intelligent vending, and intelligent transportation hardware and software.**

As a result, the company has established deep cooperation with leading companies in various industries worldwide.



Mei Yushan, General Manager of Hubei Zhilai (left)
with **Dong Yihua**, Prima Power sales manager.

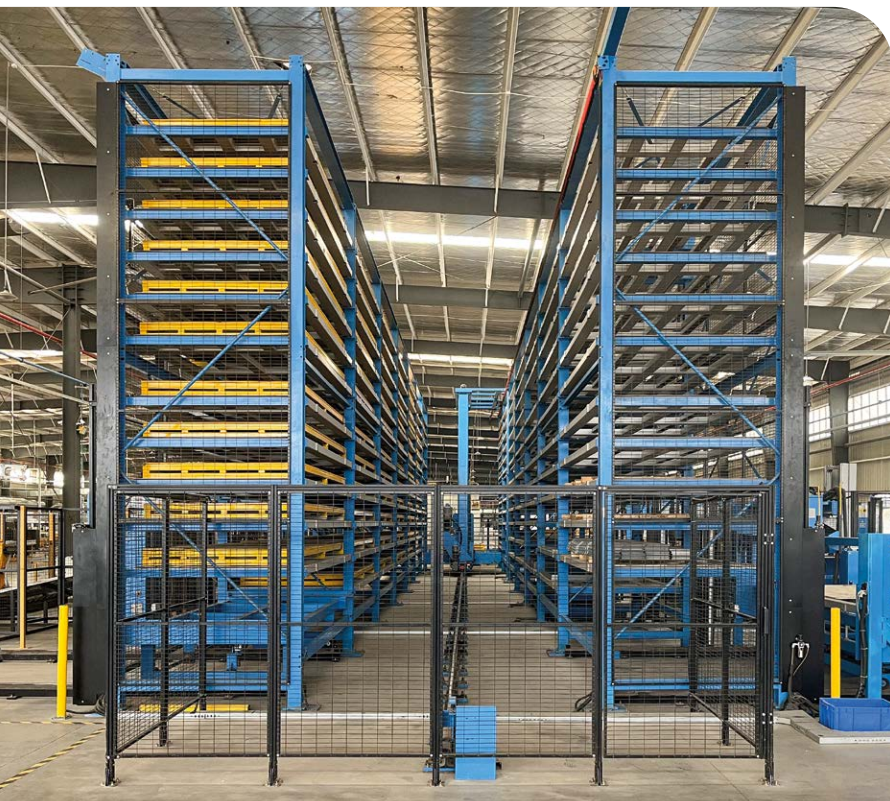
Zhilai has acquired 6 Prima Power punching machines and one Prima Power FMS Flexible Manufacturing System.



/// The goal was to ensure superior product quality and manufacturing efficiency. After an extensive market study and assessment, we chose Prima Power as our partner, through their Asia Pacific Factory in Suzhou, leveraging their advanced technology in smart factories.



The fully automated FMS system has significantly reduced operator labor intensity.



Zhilai is driven by a vision to **lead the future of technological applications in delivery systems, with the aim of enhancing convenience across all aspects of human life.**

Fostering a culture of teamwork and employee empowerment, **the company leverages cutting-edge technology and continuous improvements to achieve its goals.**

Over the years, Zhilai has established itself as a **reliable provider of integrated solutions in intelligent custody and delivery,** serving customers both domestically and internationally with unwavering reliability.

FORTIFYING GLOBAL LEADERSHIP THROUGH ADVANCED MANUFACTURING

In 2013, Zhilai expanded its manufacturing capabilities by establishing Hubei Zhilai Sci and Tech in Xianning City, Hubei Province. **The introduction of the Prima Power's fully automated Flexible Manufacturing System (FMS) in 2021 notably amplified Hubei Zhilai's production capacity to 240,000 units annually.** Today, Zhilai Sci and Tech's global footprint extends to over 50 countries, with branches and subsidiaries from Hong Kong to Seattle.

COMPANY HIGHLIGHTS

Zhilai Sci and Tech Co., Ltd.

LOCATION: Shenzhen, China

FOUNDED: 1999

FIELD OF BUSINESS: intelligent storage and delivery equipment for goods

PRIMA POWER MACHINERY

- 6 Punch Sharp 1225 punching machines
- FMS including:
 - Punch Genius 1530 punching machine
 - Express Bender 2220 panel bender
 - LST Loading and Stacking robot
 - Night Train FMS® automatic storage



The Prima Power manufacturing line installed at Zhilai is connected to the Night Train FMS® automatic storage.

Mr. Mei Yushan, General Manager at Hubei Zhilai, underscores the strategic importance of adopting the Prima Power FMS: **“With evolving market demands, our company faces the challenge of meeting diverse customer needs both in terms of quality and quantity.** Zhilai Sci and Tech aims to advance its intelligent production and manufacturing by **prioritizing enhancements in production efficiency, shortening time-to-market, and facilitating rapid product iteration and updates.** These strategies are vital for consistently strengthening the company’s core competitiveness.”

Zhilai Sci and Tech strategically invested in state-of-the-art production equipment and implemented a rigorous training program to enhance workforce expertise, all aimed at achieving their objectives. “The goal was to ensure superior product quality and manufacturing efficiency,” – adds Mr. Yushan. “After an extensive market study and assessment, **we chose Prima Power as our partner,** through their Asia Pacific Factory in Suzhou, **leveraging their advanced technology** in smart factories.”

In response to market demands, Zhilai Sci and Tech focuses on customized products with a small batch, multi-species production model. However, this approach presents challenges like short delivery cycles, labor intensity and expertise, and quality control risks. **Integration of Prima Power’s FMS has been pivotal, reducing labor intensity, transit times, and streamlining operations.**

Zhilai is committed to centering its development on innovation, continuously enhancing quality and service standards, delivering superior solutions, and advancing the company’s sustainability and global market leadership.

This has enhanced production data accuracy, ensured product quality, and minimized quality control risks. **The adoption of Prima Power machinery has notably boosted production efficiency and product quality for Zhilai Sci and Tech,** due to their energy efficiency, stable quality, high precision, and user-friendly interface.

Mr. Yushan further praised the Prima Power FMS system for its critical role in **reducing manual labor, improving personnel safety, eliminating human errors, and achieving significant cost savings and productivity enhancements.** Highlighting the alignment of Prima Power equipment with Zhilai’s need for efficient delivery, **Mr. Yushan referred to Prima Power FMS as a transformative tool that adapts to Zhilai’s core objectives and industry requirements.**

SETTING NEW STANDARDS IN INTELLIGENT MANUFACTURING

Zhilai's partnership with Prima Power has led to the introduction of **six sets of Prima Power Punch Sharp punching machines and one Prima Power Flexible Manufacturing System**, with ongoing plans to expand these capabilities further. The initial setup included Prima Power's state-of-the-art **Punch Genius series** fully servo electric CNC punching machines and the servo electric **Express Bender EBe series**, complemented by a **Night Train automatic storage**. This automated equipment facilitates **unmanned production, rapid part transmission, automatic punching and high-speed stacking, ensuring scalability for future expansion.**

Over the past four years, **Prima Power's machinery has consistently demonstrated remarkable efficiency, boasting reliable performance, extended uptime, high precision, flexibility, advanced automation, and minimal labor requirements.** This has empowered Zhilai to optimize production capacity and meet customers' stringent quality standards. Prima Power's sales and after-sales teams have been instrumental in supporting Zhilai's FMS, ensuring peak performance and timely achievement of objectives.

Zhilai Sci and Tech places a strong emphasis on scientific and technological innovation, enhancing its core R&D capabilities.

With a skilled team boasting 46 invention patents, 362 utility model patents, 111 design patents, and 188 software copyrights, the company is a leader in innovation. Moreover, **Zhilai is expanding into new industries like household storage and healthcare services** through its subsidiary, Zhilai Medical.

Looking ahead, Mr. Yushan radiates optimism and confidence about the company's future: **"Zhilai is committed to centering its development on scientific and technological innovation, continuously enhancing product quality and service standards, delivering superior products and solutions, and advancing the company's sustainability and global market leadership."**



Scan the QRCode to watch the video interview



CHINESE VERSION



Zhilai Sci and Tech's product portfolio includes a wide range of solutions in the field of intelligent custody and delivery.



STREAMLINING SHEET METAL PROCESSING

Francesca Pacella

Prima Power
SW Product Manager



EMPOWERING OPERATORS WITH EASY-TO-USE AND INTEGRATED SOFTWARE SOLUTIONS

PRIMA POWER'S INTUITIVE SOFTWARE ENVIRONMENT SIMPLIFIES OPERATIONS AND HELPS BUSINESSES OVERCOME THE CHALLENGES ASSOCIATED WITH FINDING SKILLED WORKERS

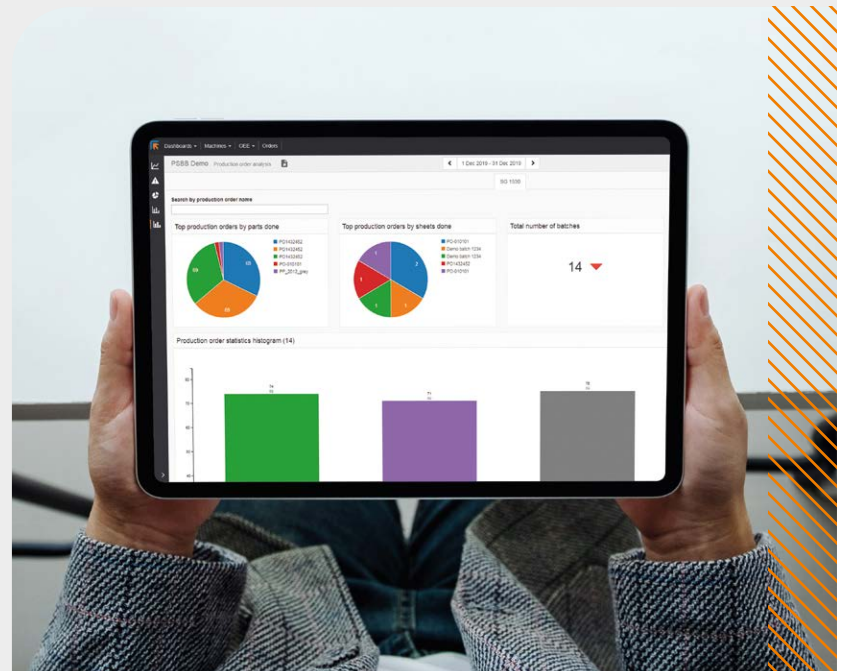
In the realm of industrial manufacturing, **finding skilled operators for sheet metal processing machinery may pose a significant challenge**. At Prima Power, we recognize this issue and prioritize simplicity as the cornerstone of our solution. We aim to provide operators with a single, integrated software environment with an intuitive interface that guides users, even those with limited experience in the field.

Our solutions are designed to help operators feel comfortable in navigating complex technologies and accelerate their learning curve. With HMI Tulus and CAM NC Express, we have created **a software ecosystem that seamlessly integrates various technologies**, allowing operators to move effortlessly between different functions.

In today's fast-paced manufacturing landscape, it's essential to allow operators to concentrate on non-repetitive tasks. To address this need, our software focus on **automating programming, leveraging machine learning algorithms** to optimize part layout on materials. This minimizes waste and maximizes material usage, allowing programs to be executed with minimal supervision from expert operators.

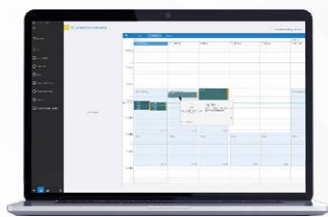
The holistic view provided by Prima Power integrated software ecosystem allows for a comprehensive and cohesive

understanding of all ongoing operations. Data-driven decision making involves leveraging integrated software, like Tulus Analytics, to **access a unified pool of data from various sources, enabling informed decisions and better outcomes**. Tulus Office integrates functionalities such as production planning, machine monitoring, and quality control into one platform. It provides a **comprehensive view of operations and facilitates parts tracking and real-time feedback for improved production management**. Our integrated and user-friendly software solutions simplify sheet metal processing operations and help businesses overcome the challenges associated with finding skilled operators. Our goal is to **lower technological barriers in order to enhance the efficiency and productivity of our customers' operations**.



PRIMA POWER SOFTWARE SOLUTIONS: ALL IN ONE

CONTINUOUS AND INTEGRATED PRODUCTION FLOW



1

PLAN PRODUCTION PLANNING Tulus® Office

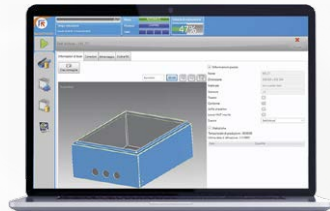
- ERP bidirectional communication
- Production schedule based on deadlines and machine availability
- Fully automatic production programming



2

PROGRAM CAD/CAM & SIMULATION NC Express

- CAD/CAM for programming 2D laser, punching, shear and combi machines, bending and automations
- Automatic programming and integrated solutions
- Dedicated solutions for 3D laser and bending machines



3

RUN INTUITIVE INTERFACE Tulus® HMI

- Pivot point of a holistic software ecosystem
- Closed loop between programming software and machine data
- Intuitive and user-friendly interface



4

CONTROL MONITORING AND REPORTING Tulus® Office

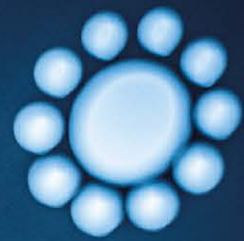
- Real time machine production status overview
- Customized report about production and machine performance
- Data visualization and customized dashboard for business intelligence solutions



5



TRUST SECURE DATA-DRIVEN SERVICE Remote Care

- Secure machine data collection for quick interventions
- Privacy compliance and cybersecurity certification
- Proactive intervention for machine downtime recovery



 **Prima
Power**

*Partner with the knowledge and dynamism of Prima Power.
Evolve by integration*

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