TRUe

THE MAGAZINE FOR SHEET METAL EXPERTS

03#2018 AMBITION

Some tough situations tempt many of us to simply quit. But what if that isn't an option? **The answer is ambition:** a character trait that pushes people to **overcome remarkable challenges.** Ambition is essential in ice climbing – one of the most extreme sports imaginable – but also in business, where entrepreneurs must often **rise above** themselves to master challenges. ■

Although the exact number of tries has been debated, ranging from **1,000 to 10,000 attempts,** it's safe to say Edison **tried and failed** a whole lot before he successfully created his beacon of light. His response to his repeated failures? "I didn't fail 1000 times. The light bulb was an invention with 1000 steps." This is a perfect example for ambition. The most certain way to succeed is always to **try just one more time.** ■


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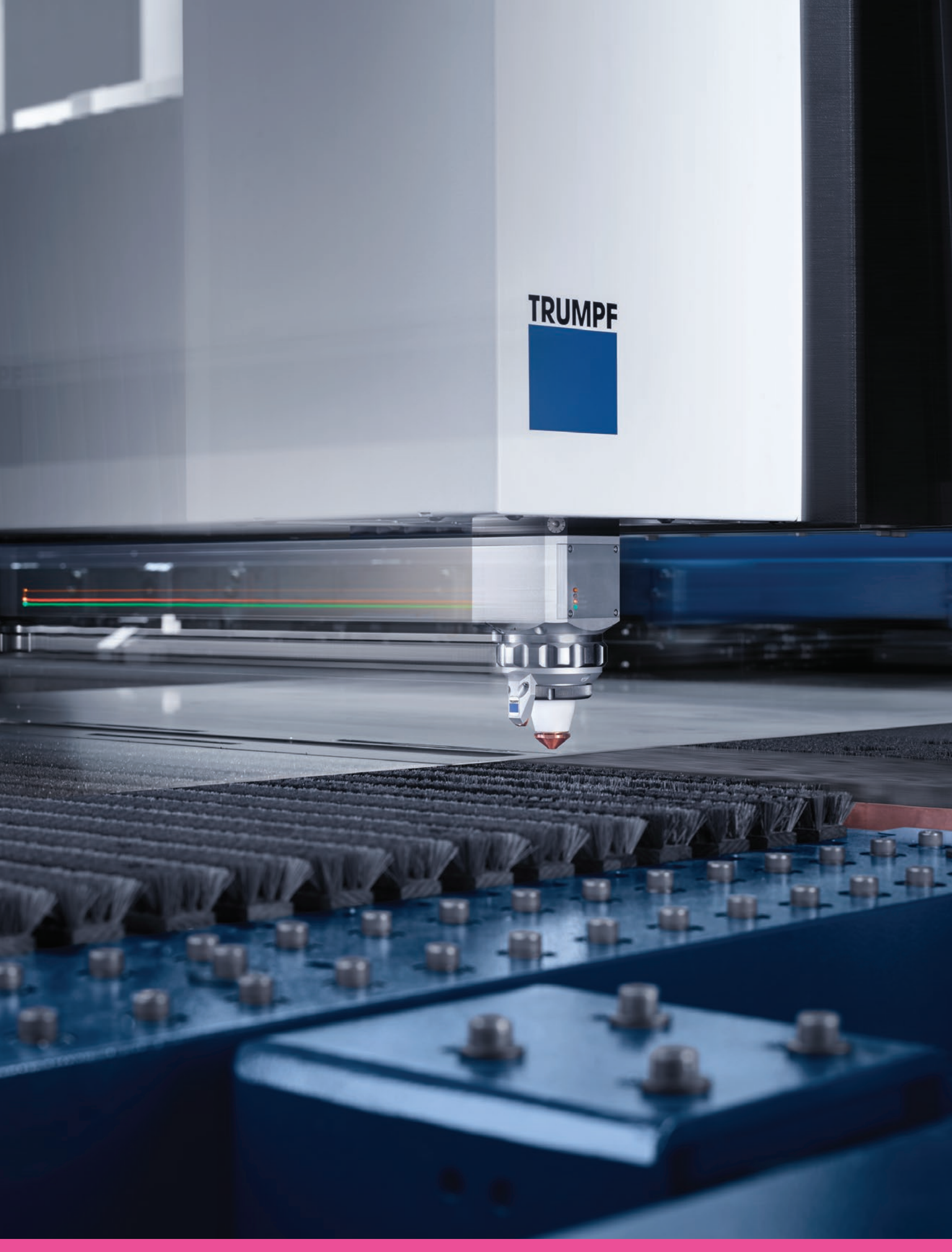
Ambition means regularly **setting new goals**. In the last 100 years the automobile has drastically evolved. Automotive engineers optimized performance, improved safety, and reduced fuel consumption and emissions. Nowadays the automobile finds itself in a **complete transformation** from a mechanically operated device to a driving data machine: many car manufacturers are already working on concepts for autonomously guided cars. This **ambitious venture** would change the traffic in our cities entirely and help to facilitate our daily lives. A big change enabled by **Digital Transformation.**


TRUMPF

Today, technology is **continuously advancing**. It is important for TRUMPF to **strive** for further development of technology to drive the future of advanced and flexible manufacturing **all across the world.**

This issue of TRUe recognizes two TRUMPF customers. Each have chosen different paths to success, but each possessed the ambition necessary to grow their companies into what they are today.

After enduring financial and personal hardships over the course of two decades, Rogelio Cisneros has not given up – his devoted family, employees and customers are very glad he didn't. EZI Metales is one of the most trusted and respected sheet metal fabrication shops in all of Mexico. Rogelio and his family management team continue to look forward to the company's future and with his two daughters now by his side, EZI Metales future looks even brighter.

Custom Metal Designs, a manufacturer of innovative conveyor equipment, is certainly familiar with taking what may seem like "unjustified" risks. Steven Grimes, has ambitiously upgraded the company's entire line of laser cutting, punching, and bending equipment. This decision demonstrates the company's drive to expand their business capabilities from primarily manufacturing of conveyor equipment to a more balanced mix of contract manufacturing.

TRUMPF's ambition is to provide solutions to the most vexing challenges facing sheet metal fabricators. The introduction of the TruLaser Center 7030 into our North American Market is the culmination of an over 10-year effort to find a solution to one of the biggest headaches in fabrication– sorting laser-cut parts. The TruLaser Center 7030 not only allows users to sort laser-cut parts into bins, but also has the ability to stack them onto pallets. This machine is ideal for Industry 4.0 and TRUMPF's TruConnect solutions while allowing operators the freedom to tend to other tasks in their sheet metal operations.

As TRUMPF continues to move forward, we pledge to remain committed to providing our customers with the latest technology to further advance their business goals and to tackle the challenges that they face as sheet metal fabricators.

PETER HOECKLIN, PRESIDENT & CEO

TRUE

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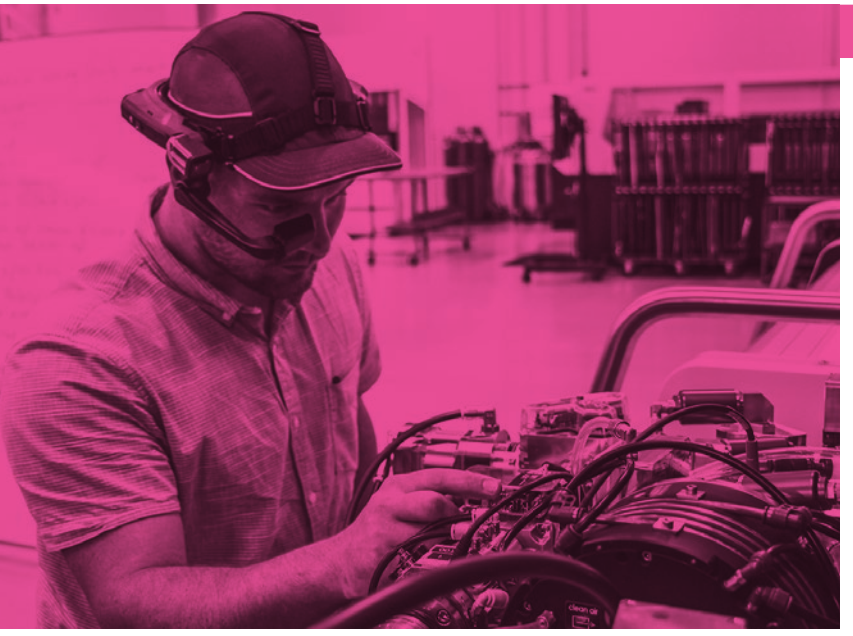

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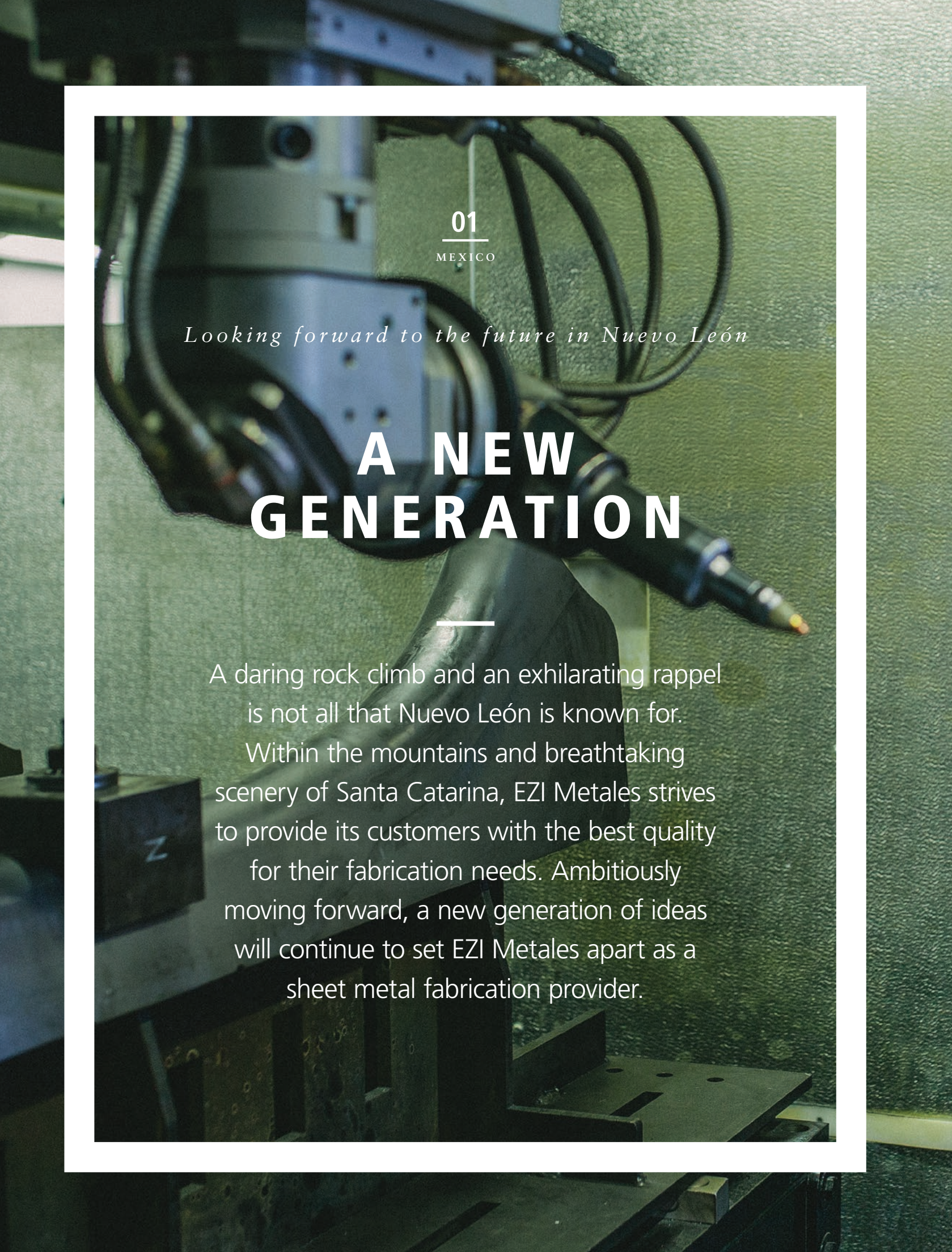


01

MEXICO

Looking forward to the future in Nuevo León

A NEW GENERATION

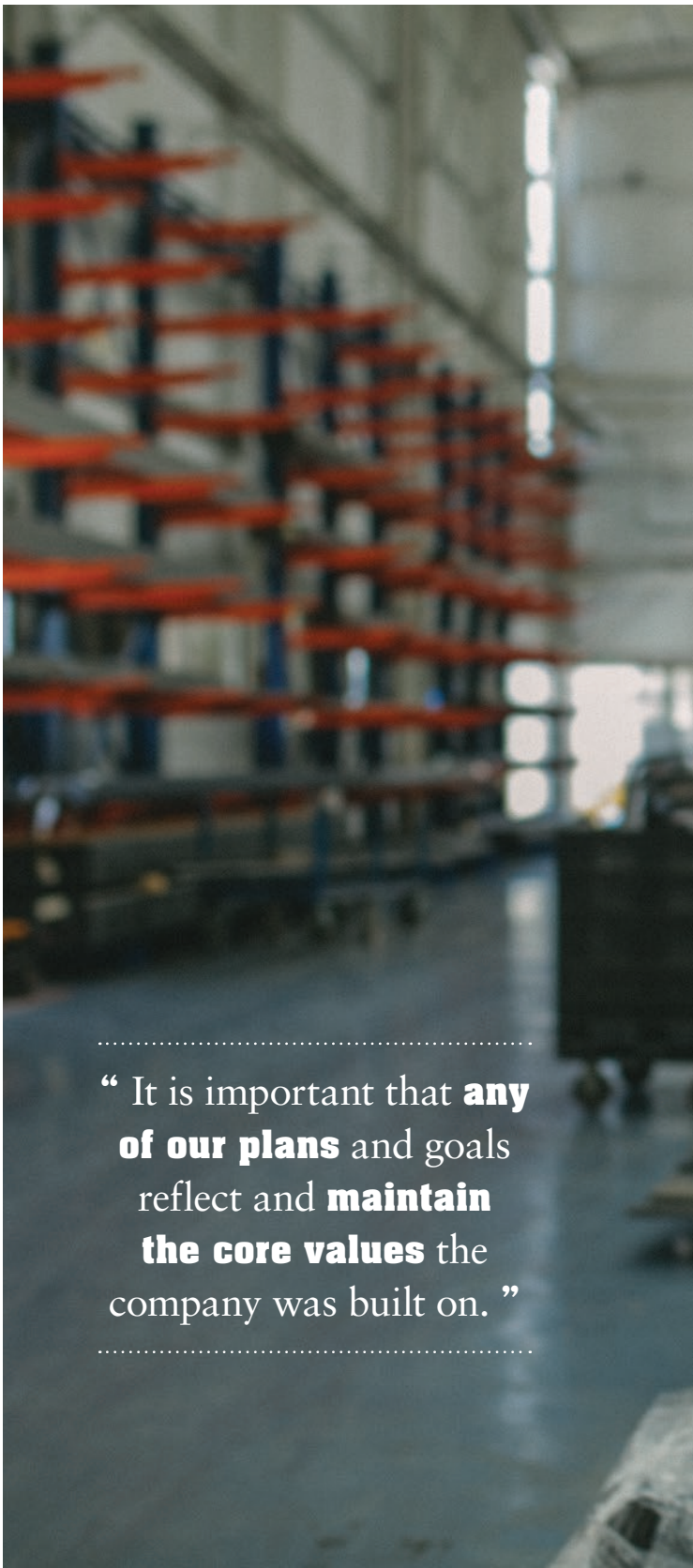
A daring rock climb and an exhilarating rappel is not all that Nuevo León is known for. Within the mountains and breathtaking scenery of Santa Catarina, EZI Metales strives to provide its customers with the best quality for their fabrication needs. Ambitiously moving forward, a new generation of ideas will continue to set EZI Metales apart as a sheet metal fabrication provider.

With a clear idea of wanting to become an entrepreneur but a blurred vision of how to do so, Rogelio Cisneros put his background in Mechanical Engineering and passion for the sheet metal world to the test. He set out to begin a sheet metal fabrication company of his own– but not everything went as planned. In 1994 EZI Metales, named for Rogelio's wife Elisa Zertuche Izazaga, was faced with the Mexican financial crisis.

Despite this hardship, Rogelio's vision did not fade. "I saw the opportunity to establish a business where there were only a few good players," said Cisneros. Without any major responsibilities and at just 25 years old, he ambitiously set out to pursue his goals. "I had to continue with a very limited budget and a lot of discipline to help me through the bad years," Cisneros recalls – but in 1996 his hard work would transform into his reality. EZI Metales was established with just 8 employees and the hopes to become a leading provider in sheet metal fabrication.

Moving Ahead

"Basically from 1996 to 1999 we saved all of the money that we could to purchase our first laser machine," said Cisneros and in 1999 the first laser from TRUMPF arrived. As the company's customer base began to grow, EZI Metales' capabilities grew with them. In 2000, a TRUMPF punch and press brake arrived and three years later a second operation in the Monterrey area was ready for business. It was soon after in 2004 that EZI Metales introduced welding for their customer's fabrication needs. Business was increasing rapidly, and Rogelio knew that the company needed to keep up. Following this realization, EZI Metales invested in TRUMPF's TruLaser Cell 7040 as well as TRUMPF automation. Since then, the company has also added TRUMPF's tube laser technology to their fabrication capabilities. Today, 30 TRUMPF machines, 600 employees, and the continuous help and support of family and past and present collaborators, contribute to more than 20 years of success for EZI Metales. Rogelio remains optimistic for the company's future, but he is not the only one. His daughters, Barbara and Andrea Cisneros, have a few ambitious goals of their own when it comes to their future with the company.



" It is important that **any of our plans** and goals reflect and **maintain the core values** the company was built on. "

A New Generation

Not everyone who grows up around a family business, dreams of taking part in it. Especially today where endless opportunities open doors to many different career paths. Barbara and Andrea Cisneros however, look forward to their future within their father's company. "I am preparing myself with the basic knowledge on as many important topics as I can," explains Barbara, "my ongoing bachelor's in Industrial and Systems Engineering helps me to develop the vital knowledge within the manufacturing and administration areas." While she is gaining classroom experience, Barbara also utilizes the opportunity to learn manufacturing and administration practices firsthand at EZI Metales. "A goal of mine is working beside my father and applying everything I have learned to the future of the company." Alongside Barbara, her younger sister Andrea shares similar aspirations surrounding her future, as well as the company's.

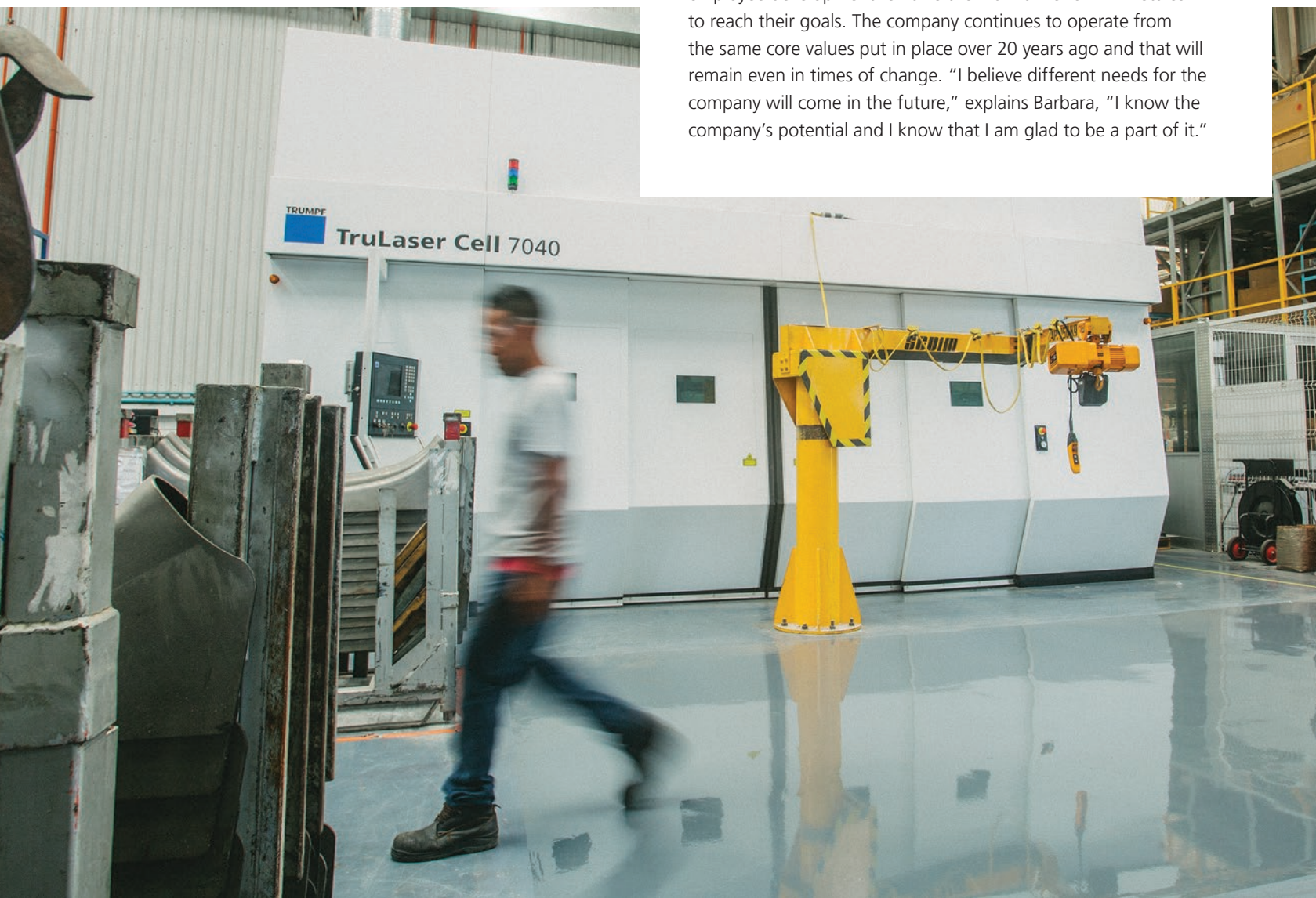
"I am finishing my high school studies so that in the future I can begin my work with EZI to develop exciting new plans and build new goals for the company," says Andrea. "It is important that any of our plans and goals reflect and maintain the core values the company was built on." With their core values and mission in place, EZI continues to achieve success with OEMs for construction, and customers within the agriculture, trucking, medical, aerospace and environmental industries. Proud of the relationships they have built with their customers, Rogelio and his daughters continue to look ahead at their next steps.

> “ We bring **two generations of ideas** to the table, **two ways of doing things**, two different views ”

The Vision

Finding ways to obtain a competitive advantage and set your company apart is not an easy feat. Not too far in age from when their father decided to begin his company, Barbara and Andrea recognize the importance of industry innovation and keeping up with fast paced change to differentiate EZI from other sheet metal fabricators. The creation of a company product line is one example of an ambitious goal these two young women have. “We bring two generations of ideas to the table, two ways of doing things, two different views,” explains Barbara. “My father is very open to different and new ideas which is a positive for the company.” When you combine over 20 years of experience with young and innovate ideas, it is something for both the company and its customers to look forward to.

“I know that EZI will continue to grow in many different ways and areas,” Andrea says. “The company is capable and ready for exciting changes.” EZI Metales looks forward to maintaining and growing its relationships with current customers and to building new relationships as well. The continuous use of technology and employee development remains the main drive for EZI Metales to reach their goals. The company continues to operate from the same core values put in place over 20 years ago and that will remain even in times of change. “I believe different needs for the company will come in the future,” explains Barbara, “I know the company’s potential and I know that I am glad to be a part of it.”



In Brief

EZI Metales' Machine Portfolio

TruLaser 5040 fiber

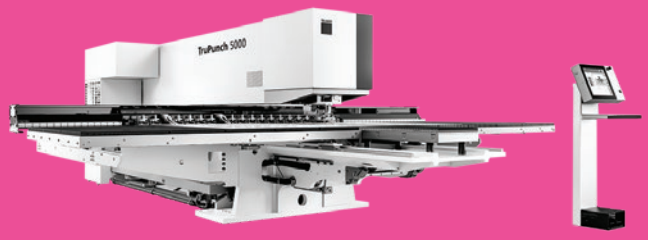
The TruLaser 5040 fiber's high processing speed and reproducible high part quality is noticeable even on complex contours. With the machine's solid-state laser, users can achieve excellent feed rates.

TruLaser Cell 7040

The TruLaser Cell Series 7000 laser system offers the flexibility to change between cutting, welding, and laser metal deposition of two or three-dimensional components or tubes.

TruLaser Tube 5000 fiber

The TruLaser Tube 5000 fiber achieves record speeds. It takes full advantage of the strengths of solid-state lasers. For the user, this means short processing times for a wide range of tubes and profiles.



TruPunch 5000

The TruPunch 5000 sets new standards for productivity. It produces a wide range of parts quickly with flexibility and maximum precision and process reliability. Individual automation solutions maximize the throughput, particularly during multiple-shift operation.

The customer

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- TruLaser 5040 Fiber
- TruLaser Cell 7040
- TruLaser Tube 5000 Fiber
- TruPunch 5000

To extend your application spectrum, **TRUMPF offers other suitable product enhancements** for every machine.

02

FLORIDA

Achieving ambitious plans in Oakland

BOLDLY MOVING FORWARD

Not everyone comes to central Florida dreaming of retirement. Some arrive with more ambitious goals, such as launching manned aircraft into space or building the world's largest theme parks. Based in Oakland, Florida, Custom Metal Designs, Inc. is confidently implementing its own future-oriented vision. The family-owned company is streamlining and automating production of its conveyor systems and contract manufacturing work and upgrading its entire line of laser cutting, punching, bending and other equipment.

Custom Metal Designs' leaders have never been afraid to take risks that bring audacious ideas to life. When company founder Saul Grimes worked at a business that sold equipment to the citrus industry, automated conveyor systems were considered a radical concept and potentially risky investment. Although his employer decided it no longer wanted to take a chance on them, Saul resolved to manufacture his own systems. He started Custom Metal Designs in 1972, a year after nearby Walt Disney World opened, when citrus groves and family-run dairy farms still dotted the landscape and the plastic bottle business was expanding.

"When my dad saw an opportunity, he jumped at it," says Steven Grimes, current president of Custom Metal Designs. "Our company was one of the first to introduce conveyor systems to move milk bottles across a plant. My dad would go into dairy plants and see people carrying boxes of bottles all through the facility from the trucks to filling machines. He understood the business and how to make it better. His driving desire was to build systems and customer relationships to last a lifetime."

> " We knew as **we moved into the future**, the way to stay ahead of the curve would be to **streamline our fabrication platform** and develop a more automated plan. "

Advancing Business

Over the last 46 years, the company gained expertise in moving plastics. Today, Custom Metal Designs produces innovative conveyor equipment such as palletizers for automated stacking of bottles and other products on pallets, annealing units to prevent problems with blow-molded bottles, and bagger and debagger/destacker systems for easier loading and unloading of products. It develops customized conveyor systems for a variety of companies, including large grocery chains and manufacturers of bottles for the dairy, household cleaning, pharmaceutical and other industries. But conveyor system work is cyclical. To keep its 85 skilled workers employed and fabrication equipment running during quieter times, the company expanded into contract manufacturing. That business grew too and now significantly contributes to the company's nearly $12 million in sales.

"Two years ago, our business was 80% conveyor manufacturing and 20% contract manufacturing," explains Grimes. "Our contract fabrication work started as a small job shop but multiplied with bigger customers and larger volumes. Now, we're closer to a 60/40 split and working toward 50/50. We knew as we moved into the future, the way to stay ahead of the curve would be to streamline our fabrication platform and develop a more automated plan."

Visionary Investments

Investing in advanced technology has always been part of the company's forward-looking approach. Grimes recalls his father's first hydraulic punching machine purchase. At the time, the technology was an ambitious leap forward and Grimes's father found it difficult to justify the cost. Yet, in retrospect, he acknowledges it was necessary to build many of the customized systems the company produced.

"Sometimes the justification isn't there, and you need to have a vision of where you want to go," says Grimes. "My team says I'm 'the dreamer' and it's true I have a 'if you build it, they will come' mentality. I have to be practical, but I often wonder, 'if we put in that machine, what kind of business can we get?'"

Building Capability and Capacity

State-of-the-art fabrication machinery helps Custom Metal Designs continue to produce high quality work on time for its customers, which can vary from aerospace and switchgear manufacturers to theme parks. It also adds capabilities to respond to more customer requests. For example, purchasing a TruLaser 2030 Fiber flat sheet laser cutting machine made it possible to accommodate new work from a customer that won a big contract and doubled its production needs. Then, a TruBend 5130 was added to keep up with the high productivity of the laser and prevent backups at the press brake. Additional press brake and punching machine technology also create opportunities to assist customers.

"New technology opens the door to new work," Grimes adds. "The fiber laser allows us to cut faster and thicker material and do things we couldn't do with our CO_2 laser, like cutting aluminum and copper." The investments also fit with the company's emphasis on partnerships. "We're not in it to land an order, we'd rather land a relationship," he emphasizes. "We want to be a one-stop shop, but it's about more than providing products and services. We strive to partner with our customers and build strong relationships. We're in it for the long haul."

> " We're not in it to land an order, **we'd rather land a relationship** "

Supporting Promises and Production

Each conveyor system is unique, and the custom nature of the work makes relationships even more critical to the company's success. Grimes explains, "to say things will always run perfectly isn't realistic, but we stand behind every job. If there is a machine not performing up its requirements, we stay until the customer is satisfied and happy."

Such responsiveness is an essential part of maintaining partnerships and production. Grimes points out that his dairy, bottle, and other manufacturing customers cannot afford to shut down production. The same is true for Custom Metal Designs. "It's critical that our machines are running effectively so we can continue to make parts," says Grimes. "I feel confident that if there's ever an issue, TRUMPF will make it right. They're much more responsive than vendors I've had in the past. And I like that most of what I need is made here in United States. I can get new punch or press brake tooling in two to three days."

> " I feel confident that if there's ever an issue, **TRUMPF will make it right.** They're much more responsive than vendors I've had in the past. "

Aspirations for the Future

Next generation approaches continue to drive the ISO-certified company. The company is helping bottle manufacturing customers with large-scale, money-saving, and plastic-reducing lightweight bottle conversion projects. "We're bringing new ideas to the table to convert systems to improve handling of lighter and more delicate bottles," says Grimes. "We're also working with contract manufacturing customers to innovate their processes to save production time and costs."

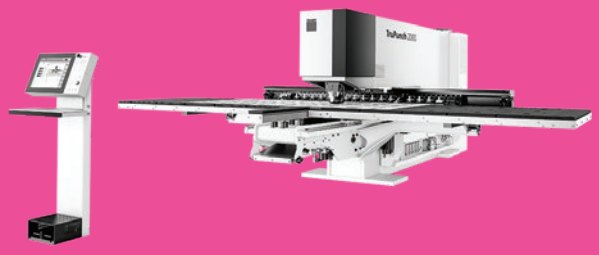
Custom Metal Designs is helping its ambitious customers better automate their processes to address changing labor availability and future needs. Likewise, TRUMPF is helping the company to streamline and automate its own fabrication process, and keep up with its annual average 20% growth. "While looking for new fabrication machinery, we wanted a company who would partner with us," says Grimes. "TRUMPF plays an important role as we redesign our shop flow and move forward with our plans for the future."

In Brief

Custom Metal Designs' Machine Portfolio

TruLaser 2030 Fiber

A fast, productive and compact laser cutting machine, the TruLaser 2030 Fiber employs a TruDisk laser to cut a variety of materials reliably and consistently. A LiftMaster Shuttle can be added to automate loading and unloading of parts.



TruPunch 2000

The compact TruPunch 2000 punching machine has the speed, precision and flexibility to process a wide range of parts. The machine's unique punching head and tool cartridges expedite setup and reduce downtime between runs. Optional automation can be added.

TruBend 5130

The TruBend Series 5000 press brakes are capable of highly productive and accurate bending, and due in part to tool setup and other machine design features, offer the flexibility needed for diverse part production.

TruBend 3100X

An excellent first press brake or basic addition to your precision bending lineup, the TruBend Series 3000 combines TRUMPF quality and simple operation with an attractive price-to-performance ratio.

The customer

Custom Metal Designs, Inc.
Steven Grimes, President
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Oakland, Florida 34760

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www.custommetaldesigns.com

- TruLaser 2030 Fiber
- TruPunch 2000
- TruBend 5130
- TruBend 3100X

To extend your application spectrum, **TRUMPF offers other suitable product enhancements** for every machine.


TruDisk

03

CONNECTICUT

Helping Customers Faster -
With The Knowledge Of Thousands

AMBITION IN FARMINGTON

The days of technical service and customer support being a reactive mission are long gone. Digital solutions and data analytics help companies to pinpoint and tackle problems before they even arise. Sound simple? It should be, at least for the customer who makes use of it. TRUMPF's ambition to work diligently on introducing smart services aims to help customers drive down costs, and more easily and conveniently access information

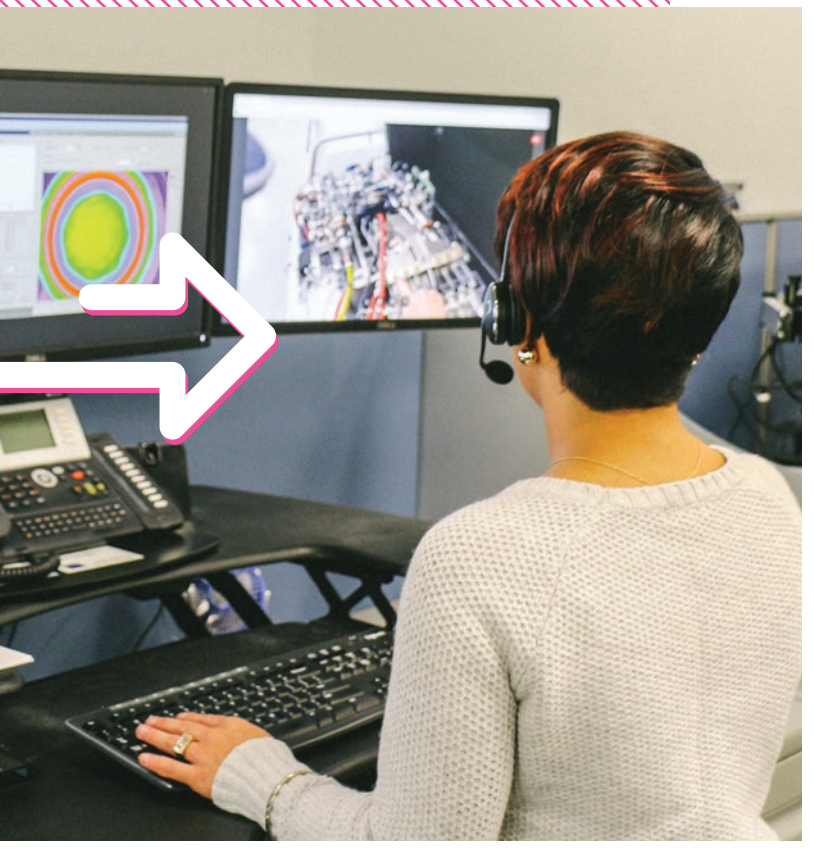
During an interview with James Rogowski, Vice President of Technical Services at TRUMPF Inc. Jim discussed what it means to digitalize a department that is constantly moving. He describes how TRUMPF's customers benefit from digitalization and what his vision for a truly "smart" service organization is.

TRUMPF was among the first companies in the industry to use smart glasses. How did you come up with the idea?
TRUMPF has always strived to make processes their own and even more efficient, as well as to help customers through lean production processes or the use of digital solutions. I had read about smart glasses online and their potential for all kinds of applications and immediately recognized the value for the customer; a technical expert virtually onsite with no waiting time or travel costs. I knew that we had to use them in our technical service department.

Why did you feel that smart glasses were a move in the right direction?
TRUMPF strives to be close to its customers, which might be a bit easier in the Netherlands rather than in the USA or Canada due to the sheer size of the countries. That's why we're using this wearable technology - they provide a virtual means of getting a highly qualified service engineer on site, right there on the customer's factory floor. Smart glasses help us to help our customers faster. They are practical in an industrial environment, and also help us to understand our customer's problems better than over the phone or via email because we see what they see – right when it is happening. Customers or technicians can perform tasks hands-free with the guidance of in-house experts.

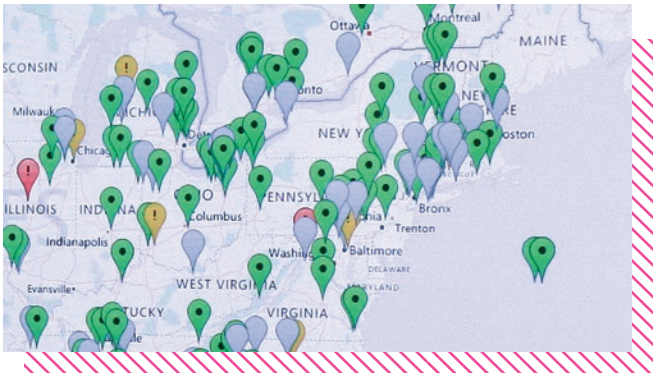
Have you noticed positive feedback from customers or do they prefer to see someone on site to solve their problem?
We are seeing some customers who immediately understand the idea and recognize the advantages of the glasses and others that still prefer to talk to someone in person. The beauty is, we will always offer both. Making our customers comfortable with the new technology is our priority so it was important to make sure our colleagues were comfortable with it as well. It certainly took some time and communication to bring this new technology to our team with well-established processes and roles. After communicating our objectives, our team now better understands what we are working towards and next steps can be taken more easily.

And what are the next steps?
As a company, we are working on digitalizing many of our processes. This is commonly referred to as the fourth industrial revolution or Industry 4.0. Just imagine how your private life has already changed with something as small as the smartphone, we hardly do anything without it anymore. Similar to the smartphone, there is great potential of digitalization within our business environments. We are currently working on connecting our customer's machines to a cloud platform which allows us to monitor the machine status live, in real time. For example, is a program running? Are there error or warning messages?



A Technical Expert provides remote machine support via TRUMPF Smart Glasses.

Could you elaborate on what is done with this data?
By analyzing the data that we receive from connected machines and combining that with existing historical data we have collected, we can begin to detect patterns. It really is a crowd sourcing project. If we can make use of the data of the thousands of machines that are out in the field, we become smarter. This will then allow us to reach out to our customers before they even run into a problem, so they can adapt their configuration. Our main goal - drive down costs for our customers by increasing the uptime of their machine. In addition, we also want to become more transparent as an organization.



> “ Our main goal - **drive down costs** for our customers **by increasing the uptime** of their machine ”

In what ways are you hoping to achieve transparency?
Most of us are overwhelmed by everyday business and consumed by our email inbox. We want to simplify our customer’s interaction with us – for example by including consumption data or service reports for each machine in our customer portal, myTRUMPF. Or by introducing our service app that has information on the customer’s case. We want to use these technologies to create platforms where customers can easily access information in one place to provide them with a positive and convenient TRUMPF experience.

Smart Glasses, Cloud Connection, Condition Monitoring – all of these might be topics that are new for the machine tool industry. But if you direct your attention to Silicon Valley, they seem to already be further ahead.
Yes, they obviously are, and I am grateful for that because they’ve forged a path we can follow. We embrace innovation however we don’t need to be the first to do something. We strive to be the first within our industry to do it right. This is to ensure that our customers see a real benefit. Things like augmented reality or pure virtual reality are in our future and we are already thinking of implementing solutions and want to move quickly with these initiatives. We have more than 200 pairs of smart glasses in the field and more than 300 machines are already connected to our cloud. We want to increase these numbers significantly within the next year, so that even more customers can benefit from these smart solutions. In the meantime, we will also work to create additional use cases for smart glasses and other digital service tools.

With all of the digital advancements, will the need for people in Service diminish?
All of our experience shows that when a new technology is successfully embraced, it has triggered more growth and created new jobs. Experts agree that the human-machine interface is a key aspect of Industry 4.0. Digitalization does not mean that we will eliminate humans in our processes, but it eliminates non-value adding operations which in turn improves our performance overall.

Sounds as if you enjoy what you are doing?
Definitely. Especially, because it helps our customers - and allows TRUMPF to grow with them.

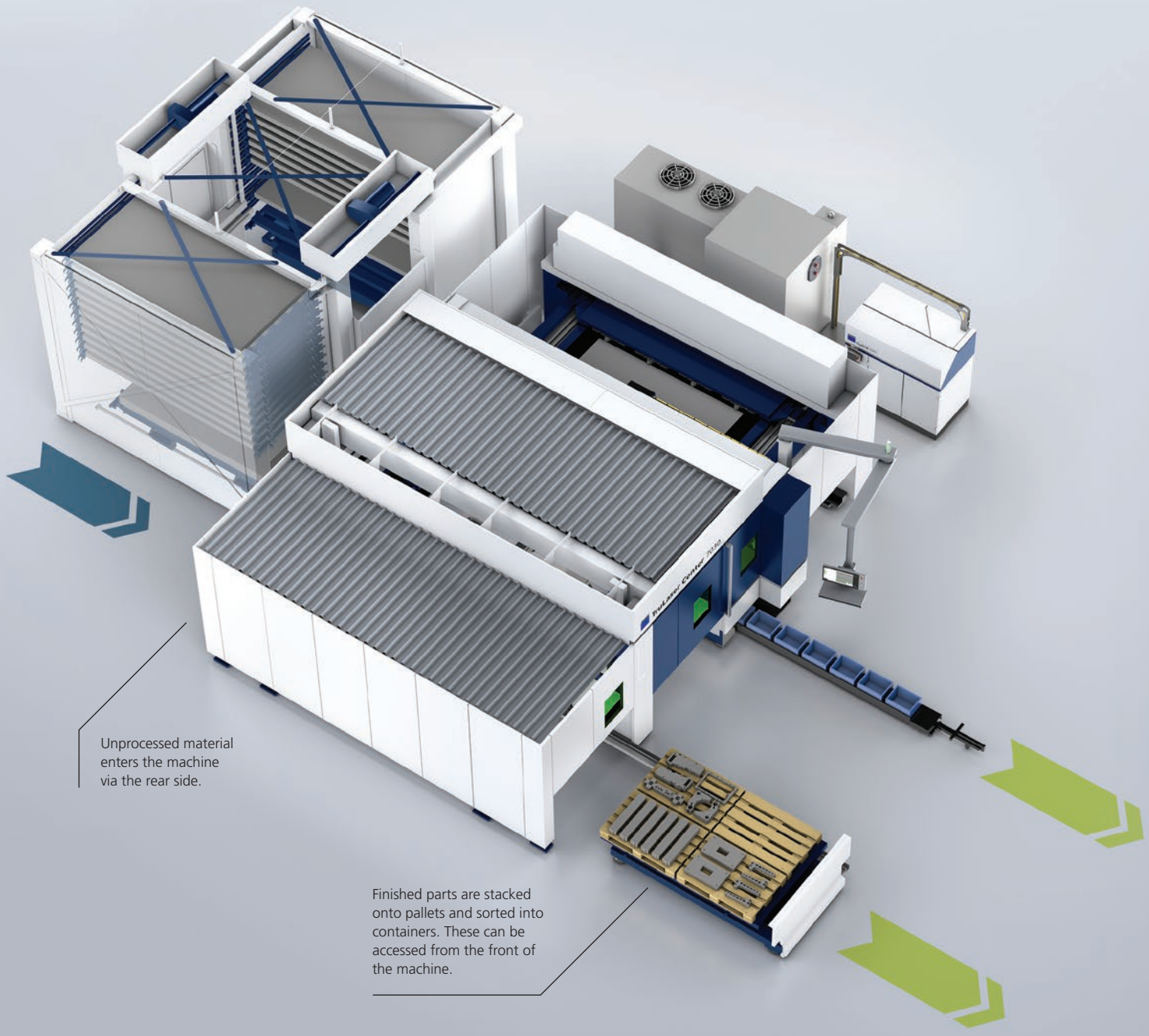
04

FUTURE

New Technology in North America

AN EFFICIENT WAY TO HANDLE LASER-CUT PARTS


TRUMPF
TruLaser Center 7030



Sheet metal fabricators are presented with a diverse range of fabrication jobs, many of which require laser cutting. When presented with these jobs, programmers are required to generate the NC code that will drive the laser cutting machines, while operators work to get raw material delivered into the machine and perform any setup functions required. Once the equipment has completed the cutting work, the next phase of the process begins: Separating finished parts from scrap skeletons so they can be moved on to the next production step. Fabricators everywhere are familiar with this process and the effort that it entails, but what if this scenario could be simplified? What if all of these functions could be performed by the laser cutting machine, eliminating all of the indirect effort required for this value-adding step? The TruLaser Center 7030 introduces new opportunities to those fabricators seeking a better way to cut and sort sheet metal components.

The Manual Process

A major challenge facing sheet metal fabricators is the throughput of current solid-state lasers - the more material these machines are capable of processing per hour, the more difficult it becomes to keep pace via manual removal of parts and scrap skeletons . Aside from being a bottleneck to production and increasing the idle time of the laser, manual removal also poses safety risks. Incidents such as injury while over-extending due to reaching for and lifting material, or cuts from handling sharp edges, are common examples of safety risks that material handlers will face. The high performance of current laser cutting technologies effectively means that the limitation on cutting productivity is no longer the cutting process itself. Rather, solid-state technology has shifted the burden to material handling, and simply making manual part removal processes faster is not a feasible option. Automation systems designed around conventional laser cutting machines generally do not address this problem directly, or if they try to, end up losing the flexibility required for high-variation production. Completely new automation concepts are needed to provide hands-free material handling plus the flexibility to efficiently cut small batches of parts with high-variation.

An Automated Solution

As the word "Center" in the name implies, TRUMPF's TruLaser Center 7030 is designed to be a truly full-service laser cutting machine, which means all operations required for laser cutting are handled by the machine: Programming and nesting, raw material loading, as well as finished part and scrap skeleton sorting. TRUMPF's SmartLift and SortMaster Speed make it possible to automatically remove laser cut parts from the scrap skeleton while the TruLaser Center 7030 remains at work. SmartLift consists of 180 freely-positioning pins, that lift cut parts out of the scrap skeleton from below, where each individual pin can lift up to twenty-two pounds of material. Simultaneously, the SortMasert Speed holds parts from above using its suction plates, to ensure parts are guided vertically out of the sheet: This eliminates the risk of parts tilting and becoming trapped during the removal process. The SortMaster Speed is equipped with three suction plates and can sort and stack parts onto a maximum unloading area of 5 by 15 feet. Both the SmartLift and SortMaster Speed work together to achieve a process-safe solution. The TruLaser Center 7030 also has an ejector cylinder attached to its cutting head which can press very small laser-cut parts down and out of the nest. Scrap slugs and slag are diverted into the scrap cart, while the small parts are caught by a retractable sorting flap and then distributed into up to eight different containers utilizing TRUMPF's SortMaster Box Linear.

The SmartLift and SortMaster Speed work together to remove and sort laser-cut parts.

TECH+
SHORT CUTS

Interesting. Worthwhile. Surprising.

TRUMPF's 2000th TruBend 7036

TRUMPF in Austria recently celebrated the production of its 2000th TruBend 7036 machine. This machine was unveiled to the North American Market in 2008. Since then, this compact, electric machine has been busy helping users bend workpieces. One of the key benefits of the TruBend 7036 is its highly productive processing of small parts. It also offers a carefully crafted ergonomic design: users benefit from a tiltable control panel and the option of operating the machine sitting down. Ten years after its launch, the TruBend 7036 remains one of the most popular choices in TRUMPF's range of bending machines.

Online, offline- TecZone Bend

Programming bending machines is a whole lot easier with TecZone Bend. You can use the software to automatically create a recommended program based on 2D and 3D data – including NC code. TecZone Bend also generates a 3D simulation, including collision monitoring. And you can still adjust bending programs manually. New: TecZone Bend has been added to the TruTops Boost design and programming software package, so users can program bending parts in a matter of seconds – either at their desk or on the shop floor.

The new TruLaser Cell 5030

Fabricators seeking a new dimension in laser cutting will want to experience the new TruLaser Cell 5030. Equipped with a solid-state TruDisk laser, flying optics and state of the art NC controller and motion unit, the TruLaser Cell 5030 delivers a production increase of over 200 percent compared to typical hybrid machines - while saving 50 percent in operating costs. Automatic focus position adjustments ensure constant quality across different materials and thicknesses without manual intervention. The innovative X-Blast technology allows the machine to cut at double the nozzle distance to achieve continuous high-quality 3D cutting. This advanced processing technology developed for TRUMPF's high-performance 5-axis product line ensures process reliability and flexibility. It is ideally suited for small and medium lot sizes and for applications where components are frequently changed. With the intuitive teach pendant and touchscreen operation, you can easily optimize your process with the TruTops Cell software and technology database. The TruLaser Cell 5030 is the ideal introduction to flexible 2D and 3D laser cutting.

BIZ+

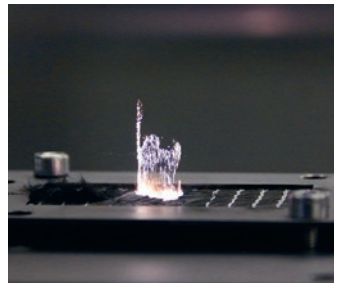
SHORT CUTS

TRUMPF Inc. Training Award

TRUMPF received the 2018 Exemplar Honorable Mention Training Organization Award from The International Association for Continuing Education and Training (IACET) for its Apprenticeship Program in Farmington, CT. The mission of the IACET is to advance the global workforce by providing the standard framework for quality learning and development through accreditation. The TRUMPF Training Center is an IACET certified training provider. TRUMPF's Apprenticeship Program, which is acknowledged by the Department of Labor, continues to grow. This two-year program began with just two Apprentices in 2014 and now has 13 as of 2018.

TRUMPF Celebrates 95th Anniversary

This year TRUMPF is celebrating 95 years in business, a path that has seen it evolve from hand shears for sheet metal cutting, to a fully-fledged international technology company. In 1923, Christian Trumpf acquired the mechanical workshops previously occupied by Julius Geiger GmbH in Stuttgart. In 1950, Berthold Leibinger joined the family-run business as an apprentice. Over the decades to come he would shape a successful future for TRUMPF and transform the sheet metal and laser industries with his visionary ideas. His daughter Nicola Leibinger- Kammueller has served as Chief Executive Officer since 2005, writing her own chapter in the company's ongoing success story. A book telling the full story of how the company evolved is due for publication by the end of this year.



TRUMPF Keeps Growing

TRUMPF has acquired the laser manufacturer AMPHOS, strengthening its portfolio of laser products and technologies. AMPHOS was founded in 2010 as a spin-off of RWTH Aachen and the Fraunhofer Institute for Laser Technology ILT. AMPHOS develops and produces ultrashort pulsed lasers with high output power for manufacturing and research applications. Ultrashort pulsed lasers are especially important in electronics manufacturing, where they are used to produce items such as printed circuit boards and displays. At the heart of AMPHOS lasers is a technology known as InnoSlab, which will allow TRUMPF to tap a whole new range of parameters for its ultrashort pulsed lasers.

A Successful Year

In fiscal year 2017/2018 TRUMPF was able to increase sales by about 15 percent, to 4.3 billion dollars. The top three markets for TRUMPF were Germany, China, and the United States. TRUMPF Inc. sales grew by over 21 percent to 699 million dollars from last fiscal year. TRUMPF has seen growth surrounding additive manufacturing, and has continued to invest in digital connectivity as well as the expansion of TRUMPF locations.

Aha!

FABRICATION MILESTONES-LASER-CUTTING

A look into a few of TRUMPF's most significant steps in the development of laser-cutting for sheet metal fabrication

1979

TRUMPF enters the world of laser technology. The company presents the first TRUMATIC 180 LASERPRESS combination punch laser machine. The beam sources are CO_2 lasers with a power of 500 and 700 W from the USA.

1985

TRUMPF's first self-developed and produced CO_2 laser, is created and used on the TRUMPF LASER TLF 1000. It has a beam power of over 1 kW and is the first compact laser resonator to feature radio-frequency excitation (RF excitation).

HAAS Strahltechnik develops and presents the first fiber optic cable for industrial use. Its yellow color has remained the norm to this day.

1987

TRUMPF's introduces the TRUMATIC L 3000 flatbed laser machine with flying optics. Instead of the workpiece being moved, the processing head "flies" over the sheet.

1989

At the EMO in Hanover, the first "folded" laser is presented in a TRUMATIC 240 LASERPRESS. To this day, it is the best-selling multi-kilowatt laser.

2009

TRUMPF presents the first highly brilliant multi-kilowatt industrial laser with high-performance laser diodes as a direct beam source.

2010

The TruLaser 5030 fiber is launched. This machine offers a highly economical solution for optimizing productivity with the solid-state laser. The TruDisk solid-state laser offers up to three times higher feed rates.

2013

The introduction of Brightline fiber lowers cost of operation, while increasing productivity. The TruLaser 5030 fiber is launched. Outstanding part quality in both thin and thick sheet metal is achievable.

2018

TRUMPF introduces its patented Highspeed Eco. With the touchdown nozzle, Highspeed eco increases speed, while reducing the user's gas consumption by 70%

#03

pARTgallery

La tecnología transformada en arte. Presentar piezas desde una nueva perspectiva es lo que hacemos en cada ejemplar de TRUe. Esta imagen muestra **discos de sensores de herramientas de doblado** como jamás los ha visto anteriormente. Aislando este repuesto de TRUMPF de su ambiente normal, el fotógrafo **Jürgen Herschelmann** nos permite verlo desde una perspectiva totalmente nueva.

AMBITION

Thomas Edison is known for the light bulb, an invention that brought light into our homes and factories. He didn't succeed on his first try. Edison is known for saying it took him over 10,000 filaments before he produced his electric light. What drove Thomas Edison to stay at it and not give up when others doubted him?

The youngest of seven, Edison was competitive and ambitious. He was always comparing himself to his two big entrepreneur rivals, Alexander Graham Bell with his telephone and George Eastman with his photography. He admired his mentors Rockefeller, Carnegie, and Frick. But rather than just refining raw materials, he built a product that reached the masses and increased their prosperity. Like Bell and Eastman, Edison created a brand-new industry.

In 1881, Edison opened business offices at 65 Fifth Avenue in New York City. At the same time, he established the first incandescent lamp factory across the Hudson River, in Harrison, New Jersey. Edison was laying the ground work for the world's greatest public utility known today as Con-Edison. At the same time, he was winning customers such as George Eastman the founder of Kodak in Rochester, New York.

Here is an excerpt of a letter Eastman, the customer, wrote to Edison, his supplier in 1884:

"We would say that the Plant you put in for us is giving good satisfaction and answers the requirements of our business for a steady uniform light. All of our chemical work is done by artificial light and we run your machine twelve or more hours per day. We usually run about twenty-five lights and we have turned our armature down twice in the time that has passed since it was put in."

Today the lighting industry continues to thrive with manufacturing companies across North America producing lighting products using Edison's invention. These lights are shrouded with intricate shapes of sheet metal to optimize glare control, achieve snap-in installations, one-handed relamping, and enhanced aesthetics to blend into - not distract - from the surrounding architecture. If you want to see for yourself, go visit Edison Price Lighting in Long Island City and ask for Emma Price. Her grandfather started in stage lighting illuminating New York's great theatres and museums and Emma's grandmother named her son after Thomas Edison.

Edison, like Eastman, had a large aperture for life. He was a great industrialist because he overcame technical difficulties with new solutions that had important purposes. Not only did he possess the drive to conceive, he also had the determination to persevere.

"Many of life's failures", Edison wrote, "are people who did not realize how close they were to success when they gave up."

Burke Doar

PERSEVERANCE

TRUe #03

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