TRUe

THE MAGAZINE FOR SHEET METAL EXPERTS

#10 2023 BEGINNINGS

TRUMPF

Uncovered roots, whether at the base of a tooth or a tree, or as a part of a family's heritage, can reveal fundamental truths. **Real strength** is often buried far below the surface. Certainly, the foundation of a healthy tree is found **deep within** the root structure. A symbol of **stability and growth**, the visible tree is just part of the overall structure. A hidden network of roots spreading underground supports the whole tree, bringing the food and water necessary to **support life** and **transform** it into something magnificent. That is the power of beginnings.

ABCs form the **building blocks** of the English language we use to share our thoughts and emotions. Together the twenty-six letters of the alphabet create a seemingly **endless opportunity** for word creation. While the letter A starts the alphabet and Z marks the end, it is important to remember that sometimes an ending can become the beginning of something new. **Linked together** in different forms, letters are the **foundations** of the words we use to tell our stories. From start to finish, these fundamental elements help us to communicate effectively and translate ideas into action.


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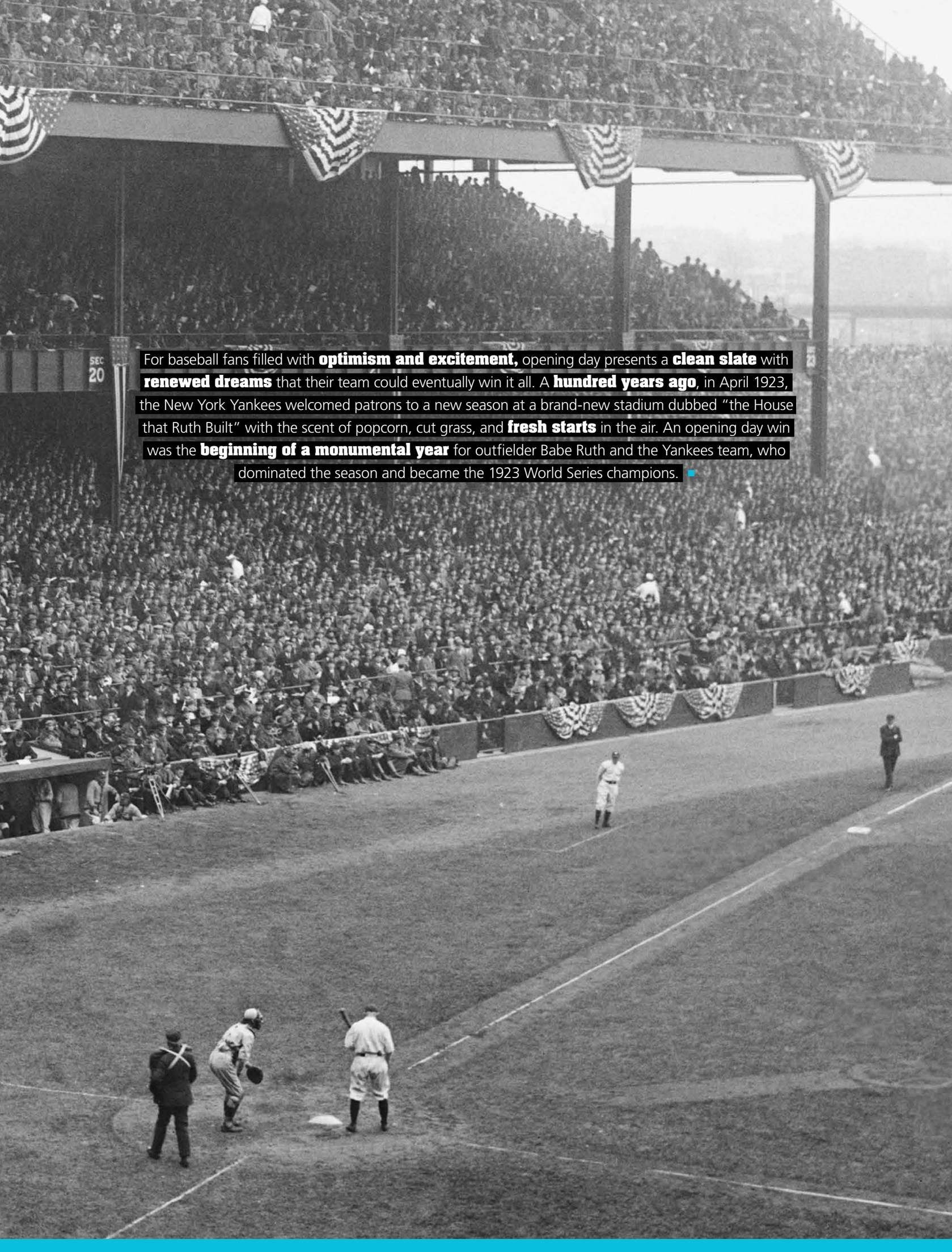
18
SEC.
19



For baseball fans filled with **optimism and excitement,** opening day presents a **clean slate** with **renewed dreams** that their team could eventually win it all. A **hundred years ago**, in April 1923, the New York Yankees welcomed patrons to a new season at a brand-new stadium dubbed "the House that Ruth Built" with the scent of popcorn, cut grass, and **fresh starts** in the air. An opening day win was the **beginning of a monumental year** for outfielder Babe Ruth and the Yankees team, who dominated the season and became the 1923 World Series champions.

As we reflect on 100 years of TRUMPF, we **celebrate the "beginnings"** - new locations, new technologies, and new customers - that have been important to our company history and continue to shape our future. ■

As we commemorate one hundred years of TRUMPF, we celebrate our beginnings. We look back at our start in a small workshop in Stuttgart, Germany in 1923 and consider the foundational values that still define our company, but we also mark the "beginnings" that took place along the way. New locations, new technologies, and new customers – each origin story helps to shape both the past and future of the TRUMPF Group.

The customers highlighted in this issue of the TRUe – also family companies operating since the early part of the 20th century -- share a long and successful history with TRUMPF. The first story traces the roots of O'Neal Manufacturing Services back more than one hundred years to Birmingham, Alabama. Since then, the company has experienced remarkable growth in North America and recently observed a milestone: the installation of TRUMPF's largest press brake in the United States at its location in Pittsburgh, Pennsylvania. From there, we travel across the Great Lakes to Brillion, Wisconsin to the Ariens Company, another family-owned manufacturing business passed down from generation to generation. Founded in 1933, the outdoor equipment manufacturer remains dedicated to craftsmanship and a culture of continuous improvement that plows a successful path into the future.

In this TRUe, we take a trip down the TRUMPF memory lane and recall how the company -- and technologies it brings to manufacturing customers around the world -- have expanded since 1923. From producing flexible shafts for dentistry to investing in quantum technology, innovation has always been at the heart of our growth. Follow the landmark developments in the company's journey from Germany to the United States (and across five continents) during the last hundred years. Of course, the beginning of our relationships with customers is an important part of that history, and often, their firsts were our firsts too. We recount some early customer installations and milestones in TRUMPF's fifty-four years in North America.

This issue's Smart Savings column reminds us to consider sustainability as we grow and think about innovative approaches to sheet metal design. Smart Part Consultant, Taylor Wright, shows us why we might want to examine how we can make legacy parts even better in the future. Inventive and more environmentally friendly technology is making manufacturing more sustainable for the next generation. These new ideas not only save energy and material costs, but they also help shape the milestones ahead of us in ways we will be proud to look back upon.

We are bringing that future-oriented approach to manufacturing to our TRUMPF campus in Farmington, Connecticut. In the next year, we will finish construction of our latest Smart Factory (the second here at TRUMPF's North American facilities and the fourth onsite at TRUMPF globally) which will be a working model of connected manufacturing. We look forward to meeting with customers who are writing the next chapter in their own company histories to discuss the role TRUMPF technology can play in it.

LUTZ LABISCH, PRESIDENT & CEO

TRUe

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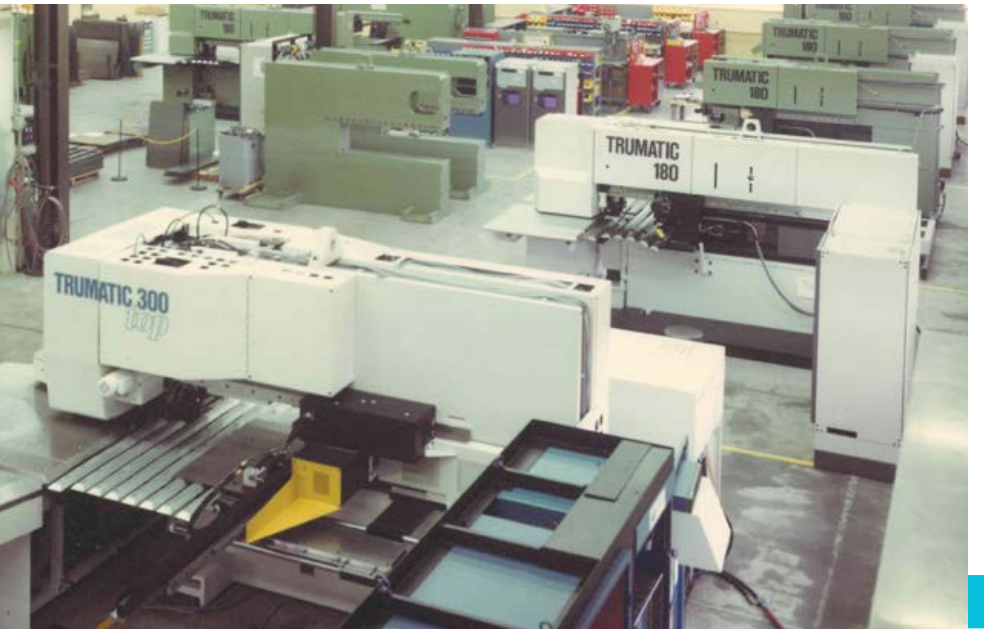

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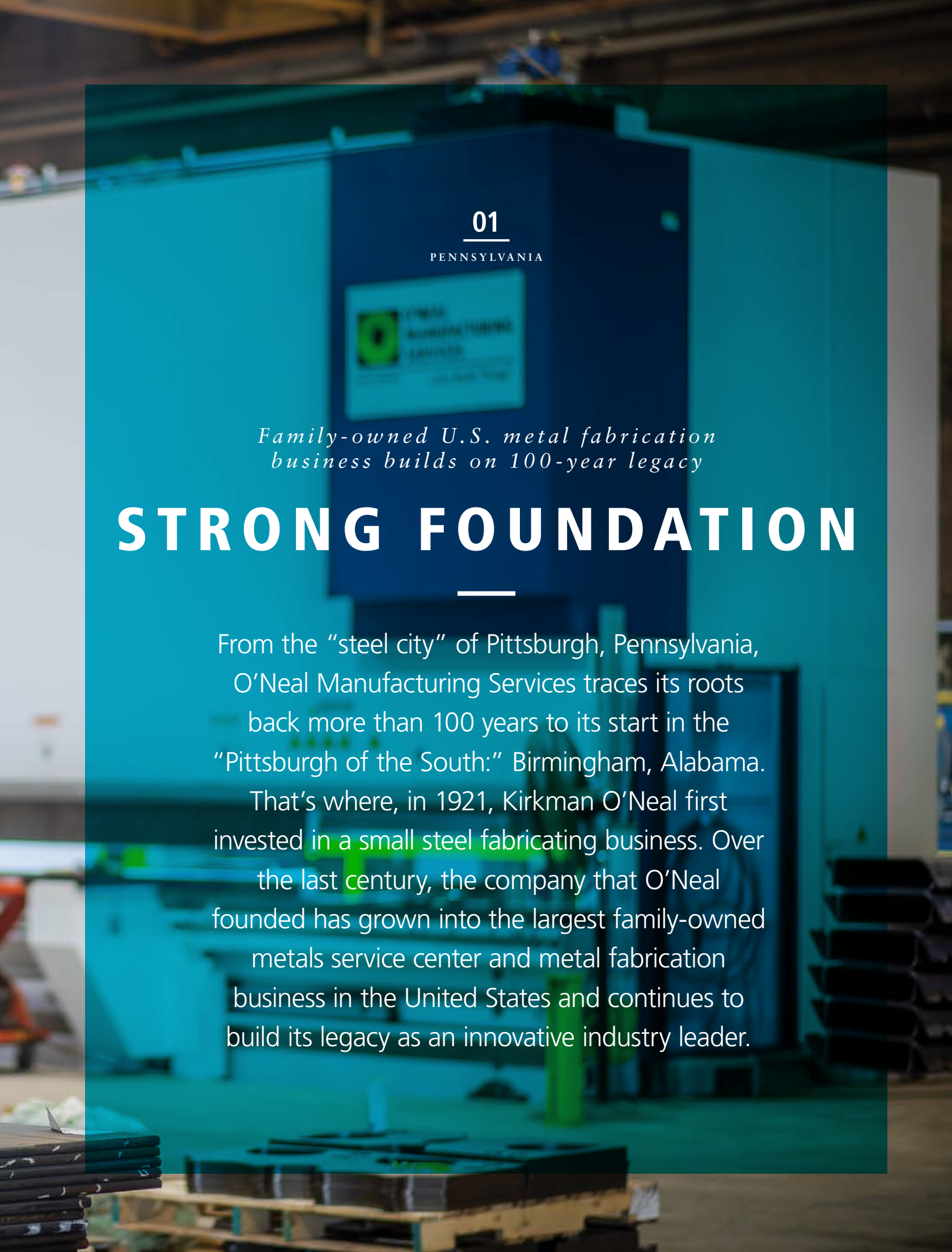


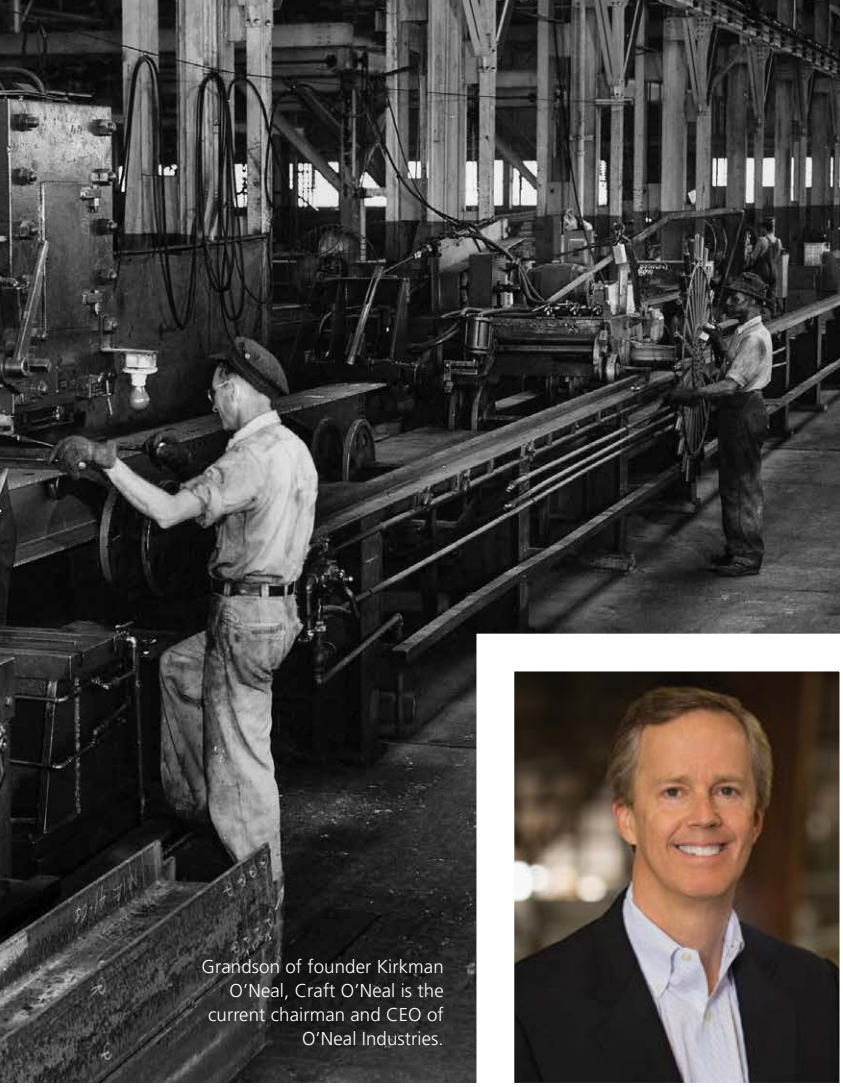
01

PENNSYLVANIA

Family-owned U.S. metal fabrication business builds on 100-year legacy

STRONG FOUNDATION

From the "steel city" of Pittsburgh, Pennsylvania, O'Neal Manufacturing Services traces its roots back more than 100 years to its start in the "Pittsburgh of the South:" Birmingham, Alabama. That's where, in 1921, Kirkman O'Neal first invested in a small steel fabricating business. Over the last century, the company that O'Neal founded has grown into the largest family-owned metals service center and metal fabrication business in the United States and continues to build its legacy as an innovative industry leader.



Grandson of founder Kirkman O'Neal, Craft O'Neal is the current chairman and CEO of O'Neal Industries.

Family tradition

Today, O'Neal Manufacturing Services (OMS) carries on the tradition of customer-oriented metal fabrication services. OMS also keeps focused on the efficient and innovative solutions that are characteristic of the family of businesses under the umbrella of parent company, O'Neal Industries, which is still managed by Kirkman O'Neal's descendants. "Family has been the dominant force behind the endurance, growth, and success of O'Neal Industries," explains OMS Director of Sales and Marketing Michael Richey. "Four generations of the O'Neal family have continuously guided the business from its beginning. Inherent in the organization's philosophy is the belief that the company itself is a family. All employees are members of that family."

"As part of the O'Neal Industries family, O'Neal Manufacturing Services is proud to be North America's premier fabrication company, offering multi-stage processing capabilities and repetitive parts production for original equipment manufacturers requiring large-scale manufacturing support," adds Richey. "By functioning as an extension of each customer's business and providing a complete supply chain solution for unprecedented production efficiency, OMS has established a formidable reputation among OEMs as a reliable resource for large-scale and labor-intensive jobs that require specialized facilities and a high degree of manufacturing expertise."

Built of steel and hard work

At the turn of the 20th century, the "magic city" of Birmingham, Alabama was beginning a dramatic transformation from farmland into booming industrial center. America was changing rapidly too, and Birmingham was perfectly positioned to meet the nation's growing need for steel. Kirkman O'Neal, with his experience as a naval officer in World War I and work in a U.S. Steel shipyard, recognized the opportunity he saw for metal fabrication in his hometown. In 1921, O'Neal purchased Southern Steel Works, a small steel fabricating business focused on customers whose material needs did not meet the high-tonnage minimums that large steel mills required at the time.

From the start, the company's success was built on a strong work ethic, perseverance, and commitment to excellence. Just five years after the company began, a Birmingham newspaper quoted Kirkman O'Neal as saying, "We turn out each piece of work and each contract the very best that can be done." His grandson, the company's current Chairman and CEO Craft O'Neal echoes a similar sentiment today. "We've seen many changes and faced many challenges in our industry," he says. "Our record of success has come through navigating the opportunities that hard work brought our way, by embracing amazing advances in technology, as well as through the efforts of the exceptional people we've been privileged to work with."

Spreading roots

For more than a decade, OMS has provided comprehensive manufacturing solutions to customers in a wide range of industries including agricultural equipment, material handling, construction, renewable energy, and others. Since its inception, OMS has continuously expanded, and its facilities now cover more than 1.5 million square feet of space in the United States and Mexico. Richey adds, "OMS has ten locations across North America committed to safely providing expert metal fabrication solutions from highly skilled teams with advanced equipment who offer the highest level of quality and on-time delivery."

To meet customer requirements for high quality metal fabrication services and manufacturing solutions, the OMS team employs the industry's most advanced manufacturing equipment and processing capabilities. And of course, that includes technology from TRUMPF. More than thirty-seven TRUMPF flatsheet laser cutting machines, tube laser cutting machines, and press brakes are used at OMS facilities in Alabama, Iowa, Indiana, Kentucky, Ohio, Pennsylvania, North Carolina, Texas, and Monterrey, Mexico to support work done for large OEMs and contractors.

"Our record of **success has come through** navigating the opportunities that **hard work** brought our way, by embracing amazing **advances in technology.**"

Heavy investment

OMS Pittsburgh's relationship with TRUMPF traces back more than seventeen years to the purchase (made by a company later acquired by OMS) of a TRUMPF 4,000-watt CO_2 laser cutting machine with LiftMaster for automated loading and unloading. This initial investment was made in response to customer demand for precision laser cutting services. The laser cutting machine is now just one of the many owned by the company, but OMS's latest cutting-edge technology investment is a flexible large format bending machine from TRUMPF. In April 2023, OMS installed a TruBend 81000 - the biggest TRUMPF press brake in the United States -- in Pittsburgh, Pennsylvania. The impressively large and highly flexible TruBend 8000 series machine was a perfect addition to OMS Pittsburgh's precision bending capabilities.

Large parts are important to the work done at 240,000 sq. ft fabrication center in Pittsburgh, which serves OEM customers in the heavy construction, bridge, rail, truck and trailer, marine, and power transmission industries, so the oversized capacity of the TruBend 81000 was an important factor. The press brake enables OMS to accurately bend nearly any application, even components up to 23 feet long. "The overall size of this press brake combined with its incredible accuracy provides us with even more production repeatability for large, formed parts," says Gus Cassida, OMS general manager in Pittsburgh.

Advanced technology

The fine points and technical details, Cassida points out, were as important to OMS's decision as the massive 1,100-ton press force of the large bending machine. "The TruBend 81000 is not just a big press brake, it's a very advanced press platform that allows for much-improved production control, repeatability, scrap reduction, and improved production output," he says. "We reviewed and considered large press brake options from multiple manufacturers, but it was technical advancements that TRUMPF offered above and beyond the capacity of this press that separated their machine from the others. The advancements in programming, tooling, extended opening and throat depth, heavy-duty bending aids, and automatic laser-controlled bending assistance are just a few of the reasons we decided to partner with TRUMPF."

"This TRUMPF press brake is a game-changer for our business," Cassida says, "The TruBend 81000 will allow OMS to expand our large part business with our current customers while growing our position with new customers and new markets."

> **"Even after 100 years, we continue to** feel small enough to treat customers like family, but big enough to **get the job done."**

Building for the future

Just as it has done during the company's long history, the fabrication business continues to grow. This year, OMS projects overall revenues of more than $360 million, and more than $45 million in Pittsburgh alone. So, what is the company's secret to staying successful over so many years in business? Hard work and resilience are part of the formula, but so is a flexible attitude and willingness to implement new technology to meet future challenges.

"For over a century, O'Neal industries has adapted to the changing world around us, embracing and furthering technological change, and always looking ahead to whatever the future holds," says ONI Chairman and CEO Craft O'Neal. "We're still getting started, with fresh thinking, always looking ahead, and preparing for the future. Even after 100 years, we continue to feel small enough to treat customers like family, but big enough to get the job done."

A Closer Look At

TruBend 8000 Series Press Brakes

With a 34-inch open height and a stroke of 27 inches, the TruBend 8000 bending machines offer a highly efficient way to bend very large parts, allowing workers to easily bend and remove workpieces that require a large box height. The press brake is available with numerous optional extras designed to facilitate the bending of heavy parts. These features include a bending aid that makes operators' lives easier by automatically supports the workpiece during the bending process. Machines can also be equipped with a special tool clamp for high tonnage applications.

24"
High resolution realistic 3D display

+/- 0.3
of accuracy with ACB Laser

600 tons
Heavy Duty Clamping up to 600 tons per foot

20"
Bend boxes up to 20 inches deep

With a press force going all the way to 1,100 tons, the TruBend 8000 is an efficient powerhouse that has no trouble processing long, thick pieces of sheet metal. The machine is also suitable for bending high-tensile materials such as Hardox or Weldox engineering steels. Station bending is another option available with the TruBend 8000. By moving workpieces from one station to the next, each equipped with different upper and lower tools, workers can tackle a range of parts and bending operations without having to change the machine setup for each operation. This makes the TruBend 8000 particularly suitable for companies that bend large parts in small batches, including fabricators in vehicle manufacturing, mechanical engineering, and building services. This model is also a great choice for general purpose work in job shops.

The TruBend 8000 Series comes with TRUMPF's tried-and-tested TruTops Boost bending software for offline programming. The machine operator simply uploads a 2D or 3D model of their part into the program. Then, the software independently creates a 3D simulation including collision monitoring, which the operator can then adopt for the bending process, either in its entirety or with minor manual changes. TruBend 8000 machines are also designed to facilitate the trend toward greater sustainability in manufacturing. Users can choose to equip their machine with an on-demand drive, which automatically adjusts the motor's revolution speed to the movement of the press beam. As well as limiting noise generation, this feature can also reduce energy consumption by up to 26 percent.

The customer

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Pittsburgh Facility

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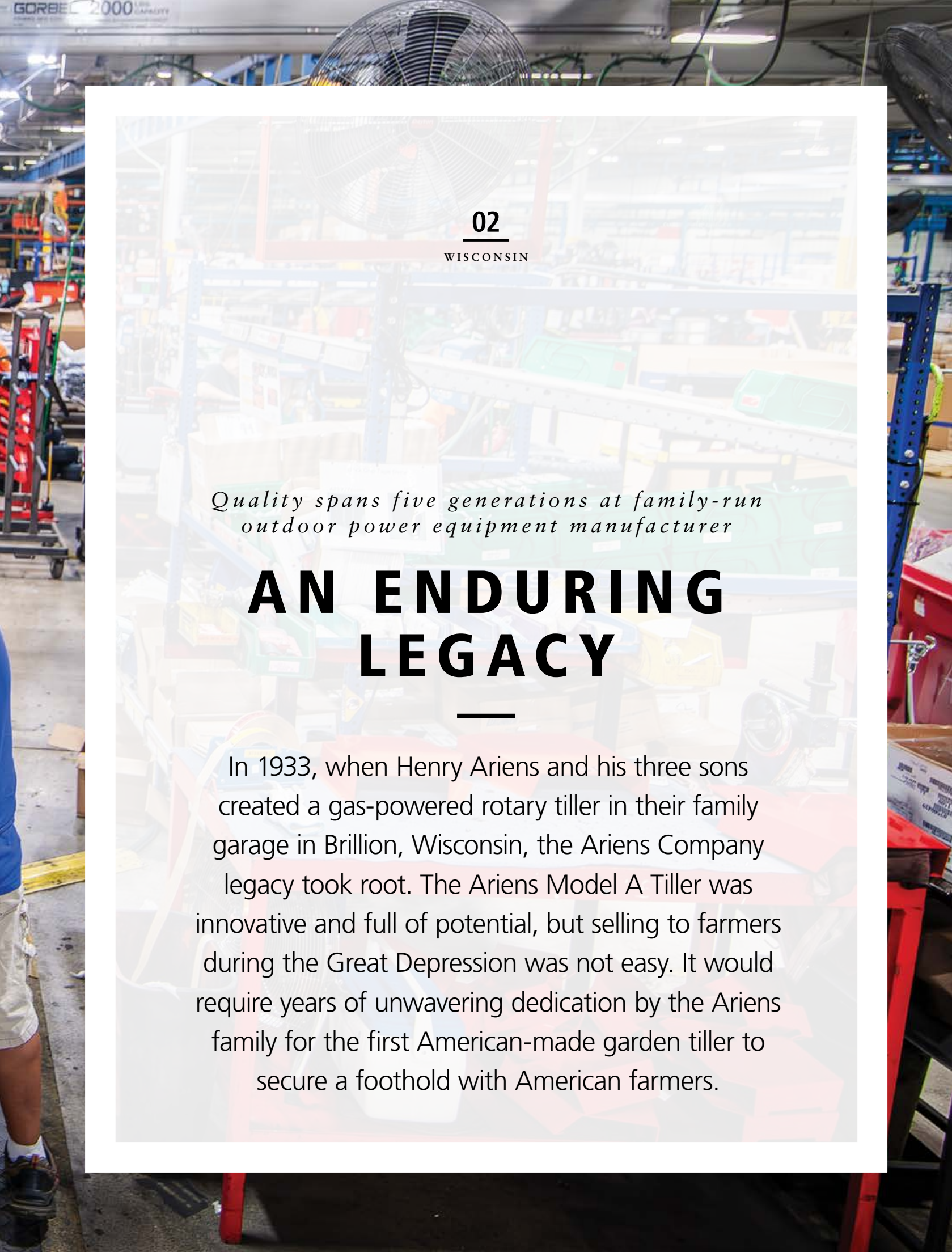
Ambridge, PA 15003

Phone: 724-251-2002
www.onealmfgservices.com


ARIENS
60



02

WISCONSIN

Quality spans five generations at family-run outdoor power equipment manufacturer

AN ENDURING LEGACY

In 1933, when Henry Ariens and his three sons created a gas-powered rotary tiller in their family garage in Brillion, Wisconsin, the Ariens Company legacy took root. The Ariens Model A Tiller was innovative and full of potential, but selling to farmers during the Great Depression was not easy. It would require years of unwavering dedication by the Ariens family for the first American-made garden tiller to secure a foothold with American farmers.

Generations begin anew

From its humble beginnings, AriensCo has grown to be a leader in outdoor power equipment for industry. The fifth-generation family business is now led by CEO Dan Ariens. As it was handed down, each generation moved the company forward by approaching new opportunities with the same gusto as Henry and his sons. "After all, our name is riding on it," the AriensCo's motto states.

AriensCo now employs approximately 2,000 people, mostly in the United States, but also in Norway, Germany, and the United Kingdom. Company headquarters remain in Brillion, Wisconsin, where many of the products are currently manufactured. Additionally, a new manufacturing and warehouse facility opened in Fayetteville, Tennessee to support its Gravely brand of commercial outdoor power equipment and the new Gravely AXIS™ Mini Skid Steer line.

"Six new automated bending cells achieve **higher consistency**, eliminate human error, and **minimize risk of injury.**"

AriensCo Director of Manufacturing Engineering Mike Jannusch

In a manufacturing space for spare parts and service, the TruArc Weld 1000 handles one-off production and small batch sizes.

Lawn and snow

Building AriensCo into the powerhouse it is today required both a commitment to the past and eyes on the future. Thoughtful product developments, acquisitions and expansions have systematically built both the "snow side" of the business and its "lawn and garden side." In terms of units produced, Ariens snow equipment slightly outperforms its lawn and garden sector, but seasonal demands and changing weather patterns can influence the exact split year-to-year.

All Sno-Thro® and other snow equipment is produced in one building, while lawn and garden products are manufactured in another. The TRUMPF fabricating equipment is primarily found in the latter. According to Director of Manufacturing Engineering Mike Jannusch, this is because "the process, design, and parts dictate it." Even though more than four million snow blowers have been manufactured, these parts are less varied and often stamped. When AriensCo began selling in big-box stores, it significantly expanded options for lawn and garden products. This resulted in a wider array of parts, and the need for flexible fabricating equipment to make them more quickly.

Known for a quality that spans generations, AriensCo also has a separate manufacturing space to support spare parts and service. Here, the TruArc Weld 1000 automated welding cell handles one-off production and small batch sizes. "Our service program is more extensive than what you typically see in our industry, and the ability to physically program the TruArc Weld by touching off the part as opposed to doing it all offline is especially beneficial," says Jannusch.

Pivoting on zero-turn

As the established "King of Snow," AriensCo saw potential to gain market share in lawn and garden with its zero-turn mowers, a product line it introduced in 2003. "To capitalize on the rising demand, we needed to increase capacity – and that's when the relationship with TRUMPF really developed," recalls Manufacturing Engineering Technician Chad Nicklaus. The company purchased its first TRUMPF 2D laser cutting machines and continued to invest as it "rode the wave of zero-turn demand," Jannusch explains.

Five years ago, AriensCo began a complete plant transformation at the lawn mower facility in Brillion. It was strategically outfitted with TRUMPF technology, including TruLaser machines with automation and storage systems, automated TruBend bending cells, and a TruLaser Tube 3000. The new automation propelled lean manufacturing efforts while the TruLaser Tube, used to laser cut the main frame rails for zero-turn mowers, reduced three operations down to one.

This new beginning was an immense undertaking for a company that produces hundreds of lawn mowers every day; sometimes running machines 24/7. "The quality of hands-on training was a deciding factor in the matrix, as was reliability, lead time and scalability. TRUMPF even helped us find ways to alleviate downtime while we were installing machines," Jannusch asserts. "TRUMPF's online technical support has been an asset, and we take full advantage of training programs to increase the knowledge base within our four walls."

"We needed to increase capacity – and that's when the relationship with TRUMPF really developed."

AriensCo Manufacturing Engineering Technician Chad Nicklaus

Changes around the bend

During the plant transformation, TRUMPF's automated bending cells replaced aging press brakes. "Our demand was creeping up as labor was more difficult to acquire," Jannusch recalls. Six new automated bending cells now process half of the lawn and garden parts. The TruBend Cell 5170 expertly handles mower decks and other large parts while smaller parts are assigned to a TruBend Cell 7036 for its speed advantage. Integrated technologies such as ACB Laser control parts to tighter tolerance – a necessity for laser welding.

Compared to a manual operation, the bending cells achieve higher consistency, eliminate human error, and minimize risk of injury. "Our mower decks are fabricated not stamped, which is a significant differentiator for our customers," explains Jannusch, but these parts are heavy and cumbersome to handle on a manual press brake – even with two operators. "Now, a talented operator can work two or three machines, which is a real benefit when we have a labor shortage," Jannusch asserts, and the job is less physically demanding.

Monitoring flow

AriensCo uses its new Oseon software to monitor machine uptime across its Brillion facility and plans to also take advantage of material management capabilities at the new factory in Tennessee. "It seems we can always keep building on our TRUMPF technologies, and while we don't use Oseon to manage the whole shop floor today, we continually look to optimize our process to deliver quality products, on time, and within the margins – and we know that TRUMPF will help us step toward that final state," Jannusch explains.

For today and tomorrow

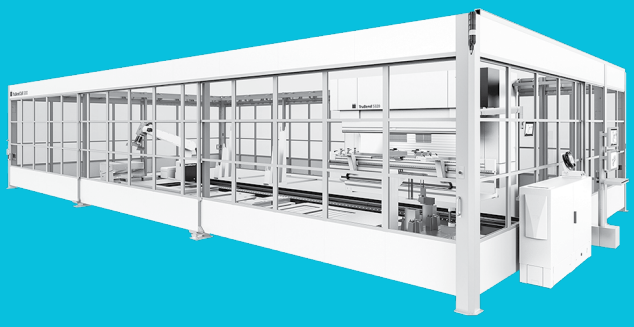
At company headquarters, the original factory building has been converted into a museum complete with a replica of the family garage where the Ariens Model A Tiller was born. Historic pictures, vintage equipment, and memorabilia explain how AriensCo equipment has shaped landscapes over the last 90 years. Above all, craftmanship remains deep rooted in the Ariens family line.

While the company's immediate focus is on its new facility in Tennessee, leadership is also steadfast in preparing for future generations by way of thoughtful product development. This includes battery-powered options and new lawn mowers for commercial and medium residential markets. By growing and pruning the product portfolio, investing in new technologies, and pursuing new business opportunities, each new generation has found innovative ways to generate new growth.

"We continually look to optimize our process to deliver quality products, on time, and within the margins – and we know that **TRUMPF will help us step toward** that final state."

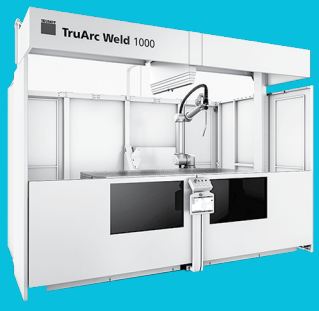
In Brief

The Ariens Company Machine Portfolio



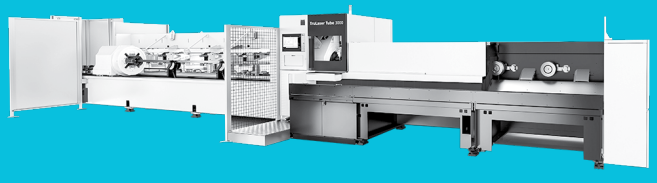
TruBend Cell

TRUMPF's easy-to-program, fast automated bending cells are perfect for high-volume and flexible forming. Users can choose the TruBend press brake and BendMaster automation combination that best fits their part mix and shop floor. The integrated technologies help achieve a higher level of quality and consistency than manual bending.



TruArc Weld 1000

The TruArc Weld 1000 automated arc welding cell is ideal for high mix, low volume production. A collaborative robot makes it fast and simple to program and run, even for operators with limited experience, and enables fabricators to easily add automated welding to the shop floor.



TruLaser Tube 3000 fiber

The TruLaser Tube 3000 fiber provides fabricators with a cost-effective solution for laser tube cutting even when the machine is not fully utilized. Integrated technologies facilitate easy setup, efficient loading and unloading, and high precision and reliability when cutting.

Oseon Software

Oseon software is a comprehensive software solution that enables a seamless and optimized workflow throughout the process chain. Oseon connects the job order and workflow and guides the user through the production process. The standard interface is simple to integrate into existing systems, including logistics, material flow, production and other interfaces.

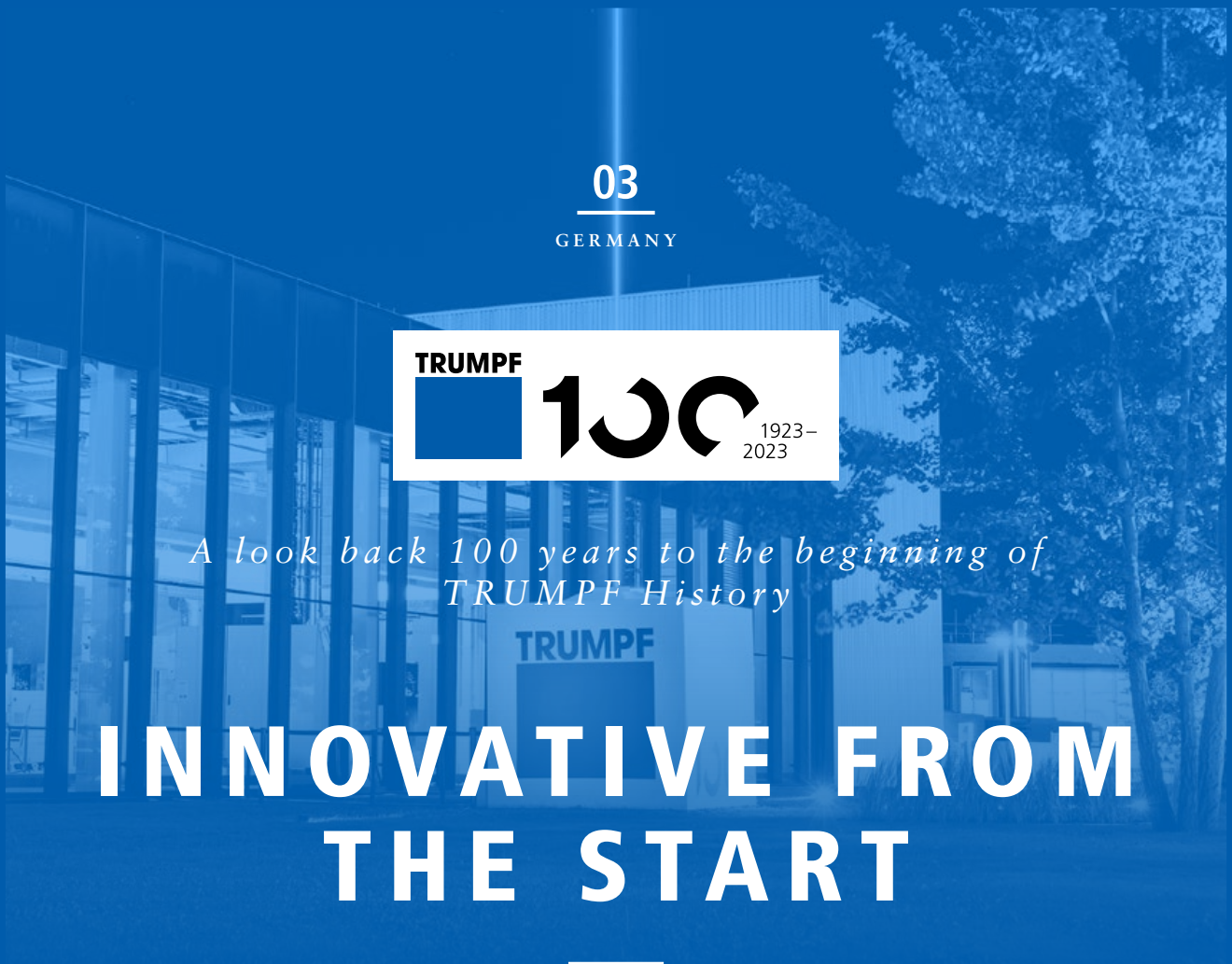
The customer

The Ariens Company
Mike Jannusch, Director of Manufacturing Engineering

655 West Ryan St.
Brillion, WI 54110

Phone: 877-291-7294
www.ariens.com

For more product information, visit www.trumpf.com



03

GERMANY

TRUMPF 100 1923–2023

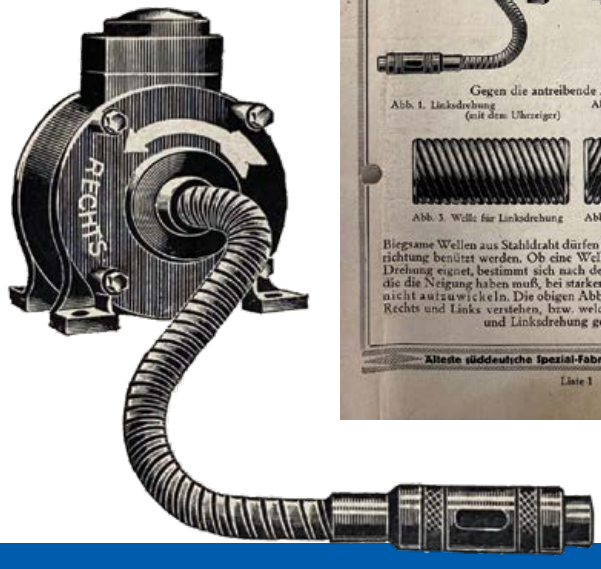
A look back 100 years to the beginning of TRUMPF History

INNOVATIVE FROM THE START

Every day marks a new beginning. TRUMPF's journey began in a suburb of Stuttgart, Germany in 1923, when Christian Trumpf acquired the workshop of Julius Geiger GmbH. In the hundred years that followed, TRUMPF technology has transformed and shaped the manufacturing industry. From flexible shafts to machine tools, laser technology, 3D printing, EUV, photonics, and quantum technology, TRUMPF has expanded across many business divisions. Today, TRUMPF is a global company with seventy-three locations across five continents. A passion for innovation has led TRUMPF to become a leader in the manufacturing world.

Christian Trumpf buys Julius Geiger GmbH, based in Stuttgart, Germany. The company's first logo refers to the flexible shafts produced for dental practices and printers.

1923




JULIUS GEIGER
STUTTGART

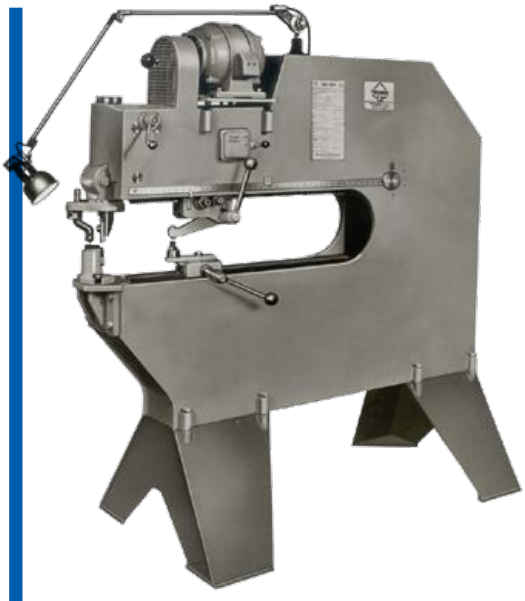
Biegsame Wellen

VORZÜGE:
Höchste Lebensdauer – Starke Bewegungsfähigkeit
Das Resultat dreißigjähriger Erfahrung

Gegen die antreibende Achse gesehen
Abb. 1. Linksdrehung (mit dem Uhrzeiger)
Abb. 2. Rechtsdrehung (gegen den Uhrzeiger)
Abb. 3. Welle für Linksdrehung
Abb. 4. Welle für Rechtsdrehung

Biegsame Wellen aus Stahldraht dürfen nur in einer bestimmten Drehrichtung benützt werden. Ob eine Welle sich für Rechts- oder Linksdrehung eignet, bestimmt sich nach deren äußerer gewickelten Lage, die die Neigung haben muß, bei starker Beanspruchung sich zu- und nicht aufzuwickeln. Die obigen Abbildungen zeigen, was wir unter Rechts und Links verstehen, bzw. welche Wellen für Rechtsdrehung und Linksdrehung geeignet sind.

Älteste süddeutsche Spezial-Fabrik für biegsame Wellen
Liste 1

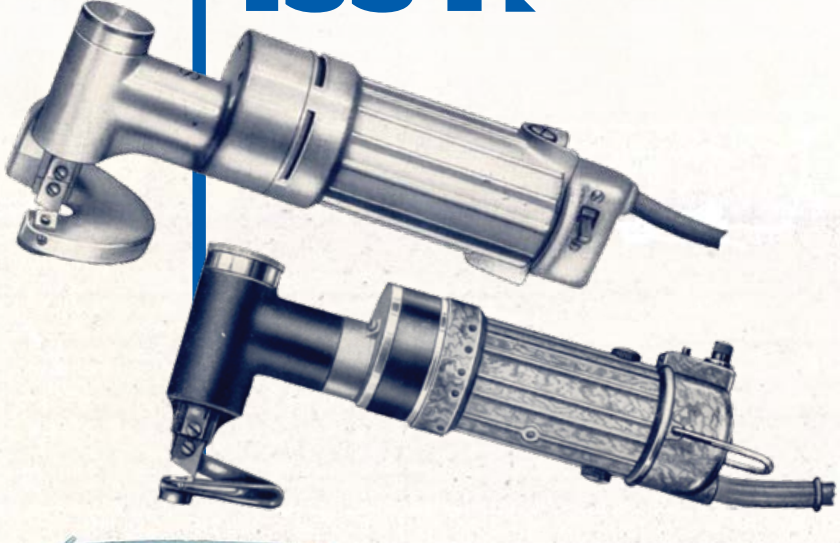


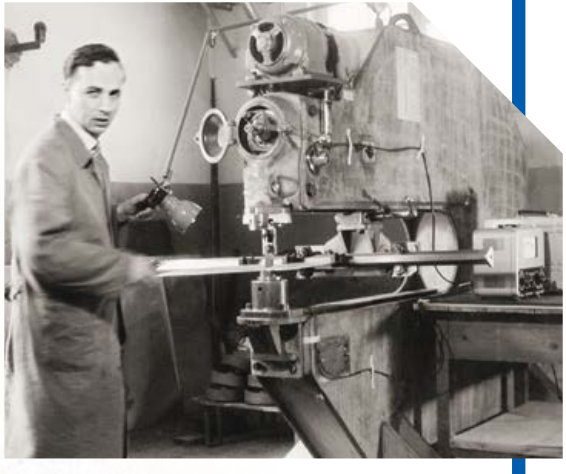
1950

Financial success comes after the introduction of an innovative new product: the TAS 4 curve shears, a stationary punching and nibbling machine.

The first motor-driven hand shears for cutting sheet metal are launched, the first of many robust and durable power tools. Three years later, the company is renamed TRUMPF & Co.

1934



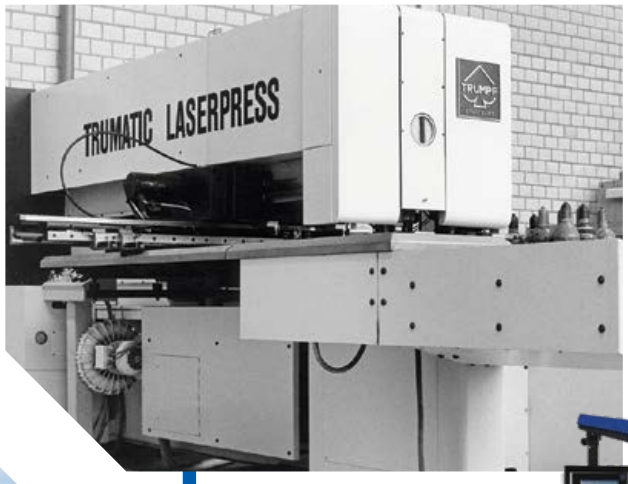


1961

Having worked at TRUMPF from 1956 to 1958, Berthold Leibinger returns to take over the engineering department, and the list of inventions and patents grows. Six years later, in 1967, TRUMPF introduces the first sheet metal processing machine with numerical continuous path control to worldwide acclaim.

Six years after its first foreign subsidiary opens in Switzerland, TRUMPF establishes a second in Farmington, Connecticut. Today, TRUMPF's North American division is the largest outside Germany.

1969



1979

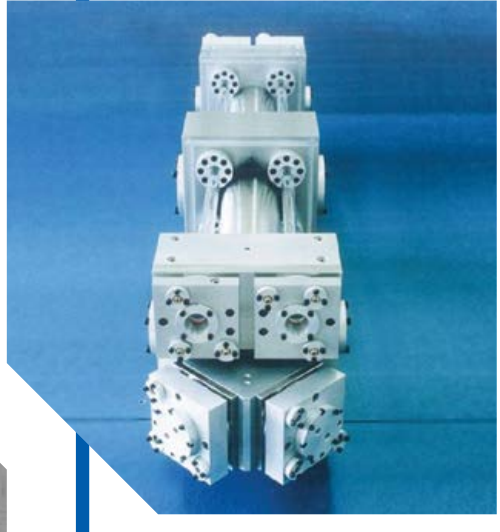
A new era of machines begins. The first combination punch laser machine is introduced and uses externally-produced CO_2 lasers with 500 and 700 watts of power.

TRUMPF incorporates bending technology and a year later, the company starts production in Austria of the TrumaBend V50 press brake.

1990

Berthold Leibinger becomes the managing director of TRUMPF after his godfather, Christian Trumpf, chooses him as successor. TRUMPF headquarters moves from Weilimdorf to its current home in Ditzingen, Germany.

1972



TRUMPF

TRUMPF

1985

TRUMPF develops and produces its own CO_2 laser resonator, the TLF 1000, with a beam power of more than 1 kilowatts. That same year, TRUMPF changes the color of its machines from green to blue and white, and adopts its current logo to convey a solid foundation and timelessness.

TRUMPF enters the business of extreme ultraviolet lithography, or EUV, to help produce the latest generation of microchips with a wavelength of 11.5 nanometers (just 1/20,000th of a human hair)!

2014

2002

TRUMPF opens a state-of-the-art Laser Technology Center in Plymouth, Michigan to research and test applications of lasers in manufacturing industries from automotive to medical.

2017

Outside Chicago, a new TRUMPF Inc. Smart Factory lets people experience connected manufacturing systems in a real-life environment. In 2024, they'll open another in Connecticut. In 2019, TRUMPF extends from East coast to West with a Technology Center in California.

After 40 years of leadership, Professor Berthold Leibinger hands over the day-to-day management of the company to his daughter Dr. Nicola Leibinger-Kammüller, son-in-law Matthias Kammüller, and son Peter Leibinger.

2005

Now, and Into the future

TRUMPF continues to develop innovative new technology, branch out in fields such as additive manufacturing, EUV, and quantum technology, and achieve the unthinkable.

A look into TRUMPF's past reminds us that there are no limits to what can be achieved tomorrow.

The TRUMPF centennial film

Would you like to learn more about the company history of TRUMPF? View the "We are 100" anniversary film and dive deeper into a century of TRUMPF history.

A Look Back at How TRUMPF Began Growing in the United States

TRUMPF customers, and their stories, are a vital part of the company's 100 year history. Whether they remember a first big machine purchase, transformative new technology, or how their relationship with TRUMPF began, each customer memory is an important milestone in the company record. When TRUMPF's North American subsidiary, TRUMPF Inc. celebrated its 50th anniversary in 2019, customers across the United States recalled the following memories of their shared history with the company.

California

Familiar with TRUMPF from his time at Volkswagen, Manfred Frischmuth, the owner of precision sheet metal fabricator Will-Mann Inc., purchased his first TRUMPF machine, a V130 press brake, in 1996.

Kansas

In 1999, Grain Belt Supply Company Inc. first chose TRUMPF laser technology to produce its heavy-duty grain handling equipment "cheaper, better, faster." Today laser cutting machine technology assists the company in growing and diversifying beyond just the agricultural industry.

Nebraska

3 years after Roland Temme founded TMCO in 1974, he saw his first TRUMPF punching machine and worked to turn his dream of owning one into reality. The eventual purchase was followed by many more, including one of the first lasers in Lincoln.

Wisconsin

Shortly after 9/11, Troy Berg bought Dane Manufacturing and discovered TRUMPF at the 2001 FABTECH show in Chicago. He bought his first TRUMPF machine after a German technology tour in 2002 and now has TRUMPF Smart Factory setup

Nevada

Since their 2017 grand opening, Las Vegas-based Precision Tube Laser has taken the world of laser tube processing and social media by storm, adding multiple TRUMPF machines and more than 50,000 followers.

Arizona

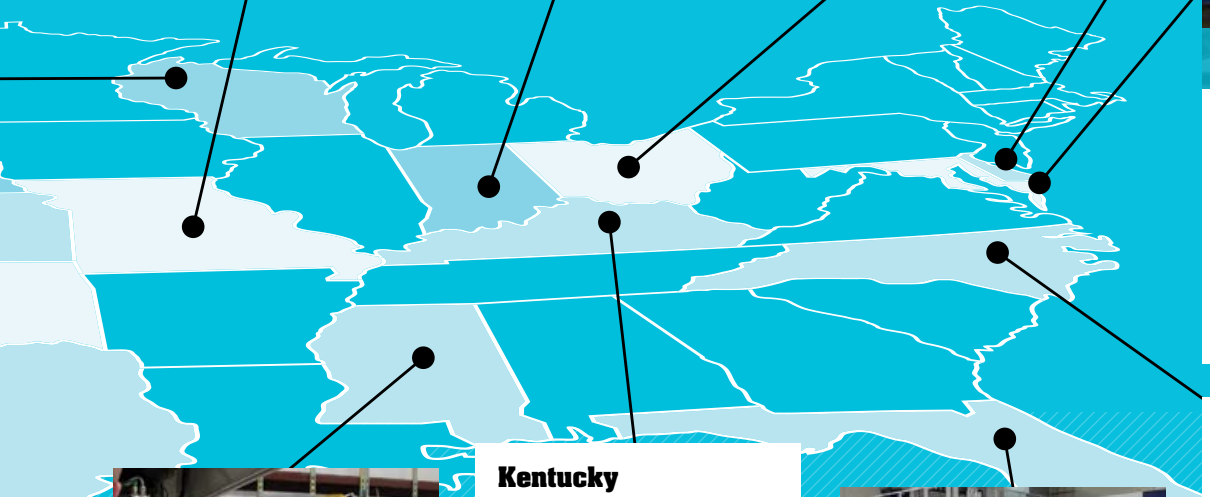
Tucson job shop The Metal Man/TMM Precision has transitioned from decorative metal artwork to a wide variety of fabrication services since its original laser machine purchase in 1998.

Texas

Located near Dallas, Regal Research and Manufacturing Co. first became a TRUMPF customer with the purchase of a punch machine in 1987 and since then has bought more than 30 machines.

Oklahoma

In 2000, Laser Specialties was persuaded by TRUMPF's innovation, technology and speed to switch laser suppliers and replace eight competitor laser cutters with TRUMPF machines.



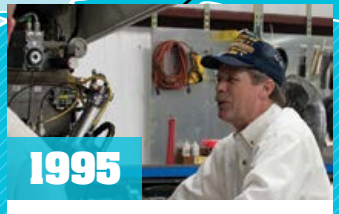
Missouri
Haake Manufacturing Company decided to invest in new machinery to stay ahead of competitors and began with a punching machine in 1985 – the first TC 240 R in the Midwest – followed by continual updates including the first LaserCat, 3kW TC L3030, V130 press brake, laser and punch combinations, and fiber lasers.

Indiana
Touring TRUMPF's Connecticut facility gave General Stamping & Metalworks President John Axelberg the confidence to buy his first TRUMPF press brake, a V230, in 1998 and today his company owns more than 30.

Ohio
Beginning with a hand beveller in the late 1960s, Thieman Quality Metal Fab Inc. was an early adopter of TRUMPF technology, including the first sheet metal processing machine with continuous path numerical control and the TRUMATIC Plasmapress 300 combination punching, nibbling, and plasma cutting machine.

Maryland
EDCO has produced quality "rental tough" small construction equipment for 60 years, but a 2011 investment in TRUMPF laser cutting technology completely changed what it could do for customers, and created the opportunity to launch EDCO Fabrication in 2013.

Delaware
Miller Metal Fabrication was inspired to purchase its first TRUMPF laser cutting machine after seeing a 2006 TRUMPF advertisement in *The Fabricator* magazine.



Mississippi
Bryan Hawkins couldn't get his former employer to invest in TRUMPF machinery, but when he started Hawkeye Industries in 1995, his first purchase was a TC 500 R punching machine.

Kentucky
Jim Hafendorfer originally discovered TRUMPF punching machinery at IMTS 1996 and soon after, he formed Louisville-based Hafendorfer Machine Inc. to expand into contract manufacturing.

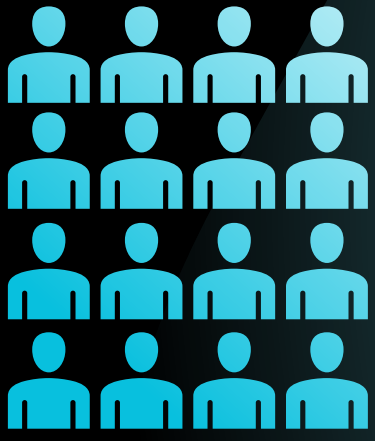
Florida
In 2021, southern Florida shop 247 Manufacturing chose TRUMPF's TruLaser 1030 fiber and TruLaser Weld 5000 when they were ready to make a splash in the manufacturing industry.

North Carolina
Family-owned Southern Fabricators began their relationship with TRUMPF after the purchase of a laser cutting machine following a 1991 German technology tour.

Check it out!

NEW LEASE ON LIFE FOR PRE-OWNED MACHINES

Whether books, clothes, or cars, eco-conscious consumers are increasingly scouting out **second-hand** options. The same applies to pre-owned production machinery, which gets a second lease on life at the TRUMPF Machine Refurbishment Center. Refurbished with original parts, the machines are put back on the market in an **"almost new" condition.** Customers can benefit from the latest technologies while helping to save resources.



16 employees

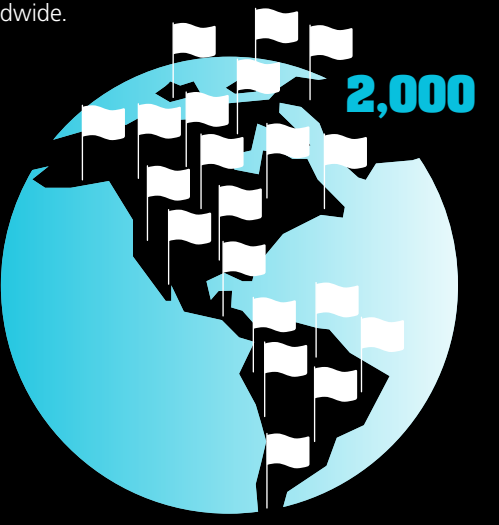
The **16 employees** at the TRUMPF refurbishing plant in Connecticut, process some **50 machines** per year.

50 machines/year

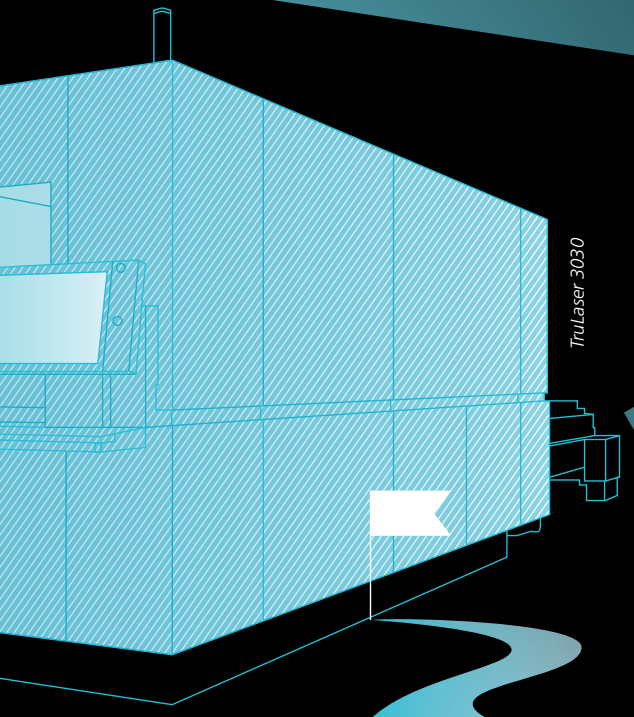
According to a TRUMPF survey, **85 percent** of refurbished machines continue to operate reliably for **at least ten years** after purchase by the new owner.

The production of one ton of steel emits approximately 1.4 tons of CO_2, depending on the method used. Sheet-metal processing machines often weigh **more than ten tons**, so it makes sense that carbon-conscious companies would want to use machines for their entire lifetime.

TRUMPF has installed more than **2,000 pre-owned machines** at customer sites worldwide.



The TRUMPF Machine Refurbishment Center stands behind the quality of its refurbished pre-owned machines by offering a **warranty of at least six months** on every machine.



20 t

less CO_2

Sheet metal fabricators that opt for pre-owned machines instead of new ones can save money and reduce carbon emissions. By sidestepping the energy-intensive production of raw steel for the machine body and eliminating the other downstream manufacturing processes, buyers of pre-owned machines can save **about 20 tons of CO_2**.

48,000 mi

Let's look at an example:
Machines like the TruLaser 3030 weigh about twelve tons. Just by recycling the machine body, companies can save about 16 tons of CO_2. That's equivalent to driving **over 48,000 miles** in a mid-range car.

TECH+

SHORT CUTS

Interesting. Worthwhile. Surprising.

Bend oversized material easily

With a 34-inch open height and a stroke of 27 inches, the TruBend 8000 bending machine offers a highly efficient way to bend large and high tonnage parts, allowing workers to easily bend and remove workpieces that require a large box height. The machine can also be equipped with a bending aid that makes operators' lives easier by automatically positioning the workpiece. Starting with a press force of 440 tons, all the way to 1,100 tons, this new generation of press brakes is an efficient powerhouse that has no trouble processing short, thick pieces of sheet metal. Users can choose to position multiple upper and lower tools next to each other to process a wide range of parts without changing the machine setup each time. The machine can also be equipped with an on-demand drive and frequency converter that automatically adapts the speed of the motor to the current application. This feature can reduce energy use by up to 26 percent!

New TRUMPF laser blanking system saves material and CO_2

The trend toward high-mix, low-volume production is gaining momentum, and TRUMPF has responded by launching its TruLaser 8000 Coil Edition. Using laser blanking methods, this system provides fully automated processing of up to 25 tons of sheet-metal coil stock. The machine handles every step in the process – from unwinding and aligning the coiled metal to removing and sorting the finished parts using a robot. Sheet metal fabricators typically rely on press lines to manufacture high volumes, but producing and retrofitting bending tools for new product variations is an expensive and time-consuming business. In contrast, laser processing straight from the coil saves time, costs and material. The production system is fully automated and includes an innovative transport system to keep material moving quickly through the cutting process, with impressive gains in productivity. The system is available for purchase in North America.

Expertise at your fingertips

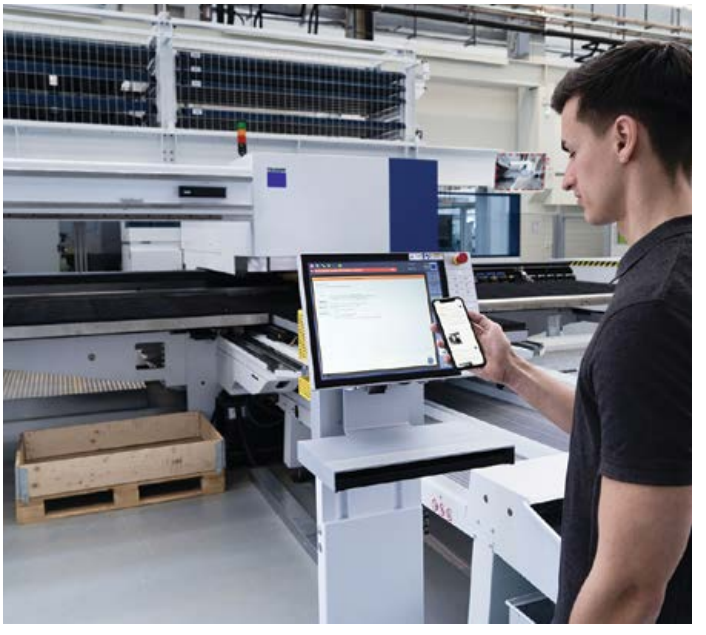
Designed to increase knowledge and productivity, three free web tools and downloadable apps from TRUMPF – the PunchGuide, BendGuide and WeldGuide – are now available. Leveraging decades of technical experience, these programs provide customer access to seminars, workshops and application information that build expertise in punching, bending or welding. The PunchGuide web application features clear and practical tips and tricks, as well as step-by-step instructions to inspire creative sheet metal part designs that save time and money. The PunchGuide app can also perform specific sheet metal production calculations. The BendGuide app provides virtual assistance by facilitating calculations of press force, tool weight, die width, open height check, and with other suggestions for innovative sheet metal bending. The WeldGuide shares exclusive tips for laser-compatible component and fixture design and helpful examples of productive laser welding.

BIZ+

SHORT CUTS

Easy purchasing with the TRUMPF e-shop

A machine is always part of a process – and many of these processes can be digitized through the MyTRUMPF customer portal. One highlight of the portal is the TRUMPF e-shop, which was recently completely re-designed. Offering a range of useful machine filters and intelligent features, the e-shop makes it easier for users to find, select and order original parts. Each customer will find that the portal is individually tailored to their specific machinery. This customized page saves time, but also eliminates errors by ensuring that each machine is matched with the correct, original parts. Users can search in three different ways: by category, by entering text, or by referring to an "exploded view" of the machine.



Smart logistics partnership for the factory of the future

TRUMPF and STOPA, one of the leading manufacturers of automated storage systems, will work even closer together to offer customers a more comprehensive range of efficient, sustainable, and productivity-enhancing solutions in the future. STOPA's automated storage solutions are used in a variety of settings, including TRUMPF Smart Factory designs. STOPA systems enable customers to load and unload machines automatically and significantly reduce non-productive time by connecting machines to form logistics networks. STOPA storage systems are versatile enough to meet the growing challenges of modern smart factory environments and can also be seamlessly integrated into existing factories. Their benefits come to the forefront when combined with TRUMPF's Oseon software, which is designed to make production planning and control even simpler, up to and including fully automated operation of the sheet metal fabrication process.

New wave for West Coast office

The TRUMPF Technology Center in Costa Mesa has a fresh, new look. The California facility, which demonstrates and trains customers on the latest TRUMPF technology, has a new site manager, Andreas Holzki, as of July 1, 2023. Holzki previously served as head of TRUMPF's Global Sales Excellence program. He joins an experienced West Coast sales team that includes TRUMPF veteran Pat Grace, who became Regional Sales Manager after the retirement of Larry Johnson and serves the states of California, Nevada, New Mexico, and Arizona. In January, Joshua Van Hee moved from applications into a Regional Sales Manager role to assist TRUMPF customers in Washington, Oregon, Idaho, Montana, Wyoming, Utah, and Colorado.

SMART SAVINGS: TRUMPF PART OPTIMIZATION

Higher quality at lower cost. Through part-design workshops and consulting, TRUMPF teaches users how to get the best out of their machines and parts to make their production more efficient and cost-effective. In each issue, TRUe looks at a different part to illustrate how this process works.

This issue:
The origin of a design

During a successful product's lifecycle, there is a moment where all the major manufacturing kinks have been worked out and a viable production method is reached. Often, once a stable condition has been reached, this is last time that the design is revised or analyzed. No one wants to be responsible for fixing something that is not broken! Such legacy designs can exist in a product portfolio for decades without changing significantly and usually become the basis for other design decisions.

The world of sheet metal manufacturing does not stand still and manufacturing methods from TRUMPF are continuously being updated and changed for process improvement. Legacy designs can be a barrier to up-to-date product designs and modern manufacturing. If we look at a camping stove as an example, we can see that many decisions were made due to the basic manufacturing methods used to achieve a functional product.

Taylor Wright
Mechanical Project Engineer
& Smart Part Consultant

Smart Part Consulting consists of reviewing parts and assemblies at the customer's site and teaching their team how to optimize sheet metal designs for production using their equipment. In addition to consulting, Taylor Wright teaches a three-day course called Sheet Metal Design offered at the TRUMPF training facilities in Farmington, Connecticut and Costa Mesa, California. Customers can sign up using the training portal or by calling 860-255-6068.

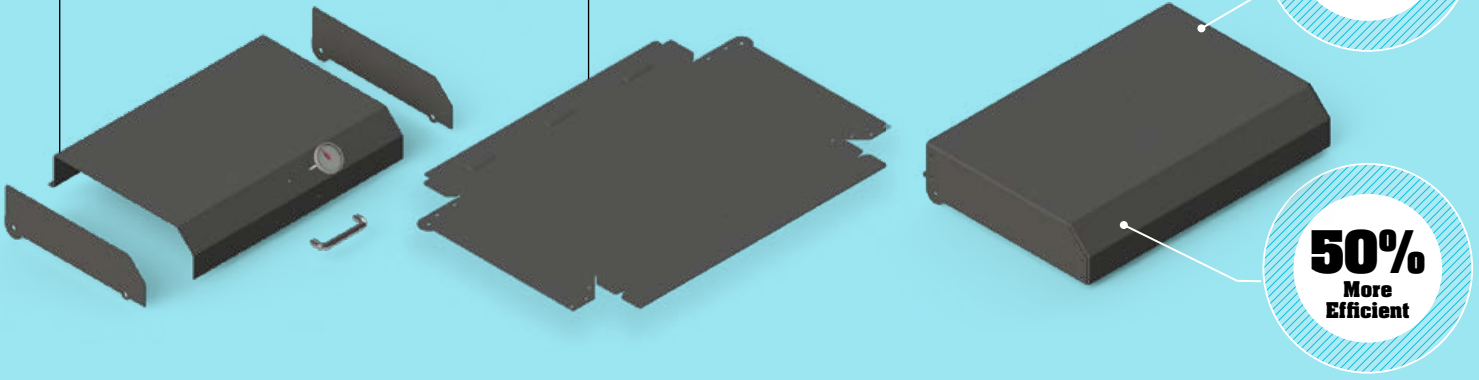
Compensation for loose tolerances, the use of complex fixtures and jigs, along with multiple fabrication steps for each subassembly means more waste and more potential for quality issues.

If the legacy design for this stove is stripped down to its form and function, the product can be redesigned using fewer parts for production (without fixtures) and with far fewer quality issues. These changes reduce the carbon footprint of the product, while maximizing the profit margin. Purchased parts such as the handle can now be brought in-house to gain more flexibility in the design and reduce supply chain headaches. A new design, updated for production on a TruMatic punch-laser combination machine along with a TruBend press brake, can revolutionize the process while producing a superior sheet metal product. All it takes is a look back at where the part began and a courage to transform.

Original Design
3 parts, 4 bends
Manufacturing Methods Used: Laser Cutting, Bending, Fixturing/Welding
Cost: $61.25
Estimated Production Time: 24 min.

New Design
1 parts, 6 bends
Manufacturing Methods Used: Punch/Laser, Bending
Punch Tools: MultiBend, Louvre, Extruded Tap, Countersink
Cost: $38.50
Estimated Production Time: 12 min.

Better fabricated part



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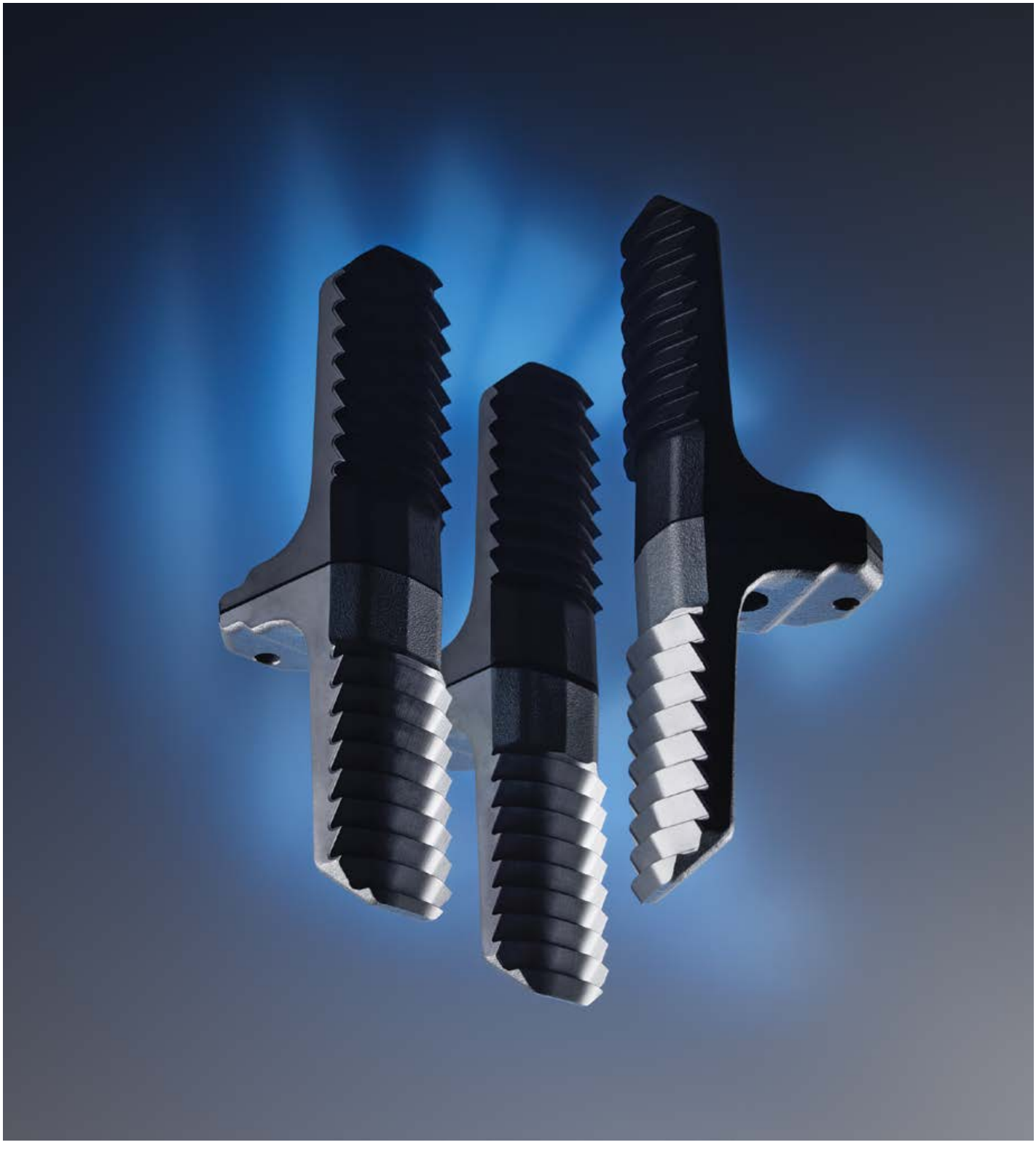
pARTgallery



Just like new. This picture shows a cleaning component of the TruTool TSC 100 slat cleaner in a completely new light. The TruTool removes slag, which accumulates during the laser cutting process, from the slats of a flat sheet laser machine. The two rows of teeth on the cleaning tool clamp onto the slat and slide upwards to scrape off the slag. Photographer **Bernd Telle** has taken this tool out of its familiar environment and shown it from an entirely new perspective.

New Beginnings

On January 20, 1961, John F. Kennedy became the 35th president of the United States. From outside the U.S. Capitol in Washington, D.C., President Kennedy opened his inaugural address with the following message: *"We observe today not a victory of party, but a celebration of freedom--symbolizing an end as well as a beginning--signifying renewal as well as change."* He continued, *"Let the word go forth from this time and place, to friend and foe alike, that the torch has been passed to a new generation of Americans."*

Around that same time, a new era also began for me and my family. In July of 1960, my family (I was not born yet) moved from Wisconsin to Washington, D.C., so that my father, John Doar, could begin a new career at the U.S. Department of Justice. The civil rights movement had captured the nation's attention and soon the young president's brother, Robert, and my namesake, Burke Marshall, became my father's new colleagues. This momentous time in history had a lasting positive effect on the whole world.

We all benefit from new beginnings. As a global company, TRUMPF encourages its employees to reach out and explore new responsibilities, under different leadership, and in different parts of the world. Our dedicated employees are given the opportunity to experience a new beginning in their TRUMPF career. I have colleagues here in Connecticut who lived for many years in Switzerland or Austria before coming to America. Other colleagues have joined our Canadian office from Turkey and Iran, and a Brazilian applications engineer now works with colleagues from Germany in our advanced Los Angeles Technology and Customer Center.

Beginnings often foster innovation, change, and a sense of optimism that difficult problems can be solved. New starts can stimulate a community of energy and passion, and generate a sense of fulfillment, and even happiness. Instead of thoughts of drudgery or exhaustion, a beginning can inspire a new attitude toward progress, and testament to hope.

Summertime at TRUMPF ushers in an eager, enthusiastic, smart and positive crop of interns working in production, service, sales, marketing, finance and administration. The lunch line grows longer, and the outdoor tables are full of new friendships and stories. The liveliness isn't just among the interns – throughout our campus there is an abundance of action and energy. Just as one TRUMPF fiscal year ends and another begins, existing projects gain increased momentum and new projects come into bloom.

The summer also brings a surge of new TRUMPF machine deliveries and installations to our customers across North America. For some, it may be the fourth, fifth, or even twentieth (!) TRUMPF machine. For others, it may be their first machine. But regardless, each delivery symbolizes a beginning, and an additional way to tackle the work ahead. The truck arrives, the riggers are scheduled, the foundation is prepared, the utilities are connected, and the precise and careful work of our devoted service technician begins.

TRUMPF turned 100 this year. Yes, it is a time to reminisce and celebrate our great family company, its incredible achievements, and the amazing enabling technology and services we provide our customers. It also leads us to wonder – with confidence – what is next? At TRUMPF, we know we have only just begun.

-Burke Doar

TRUe #10

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