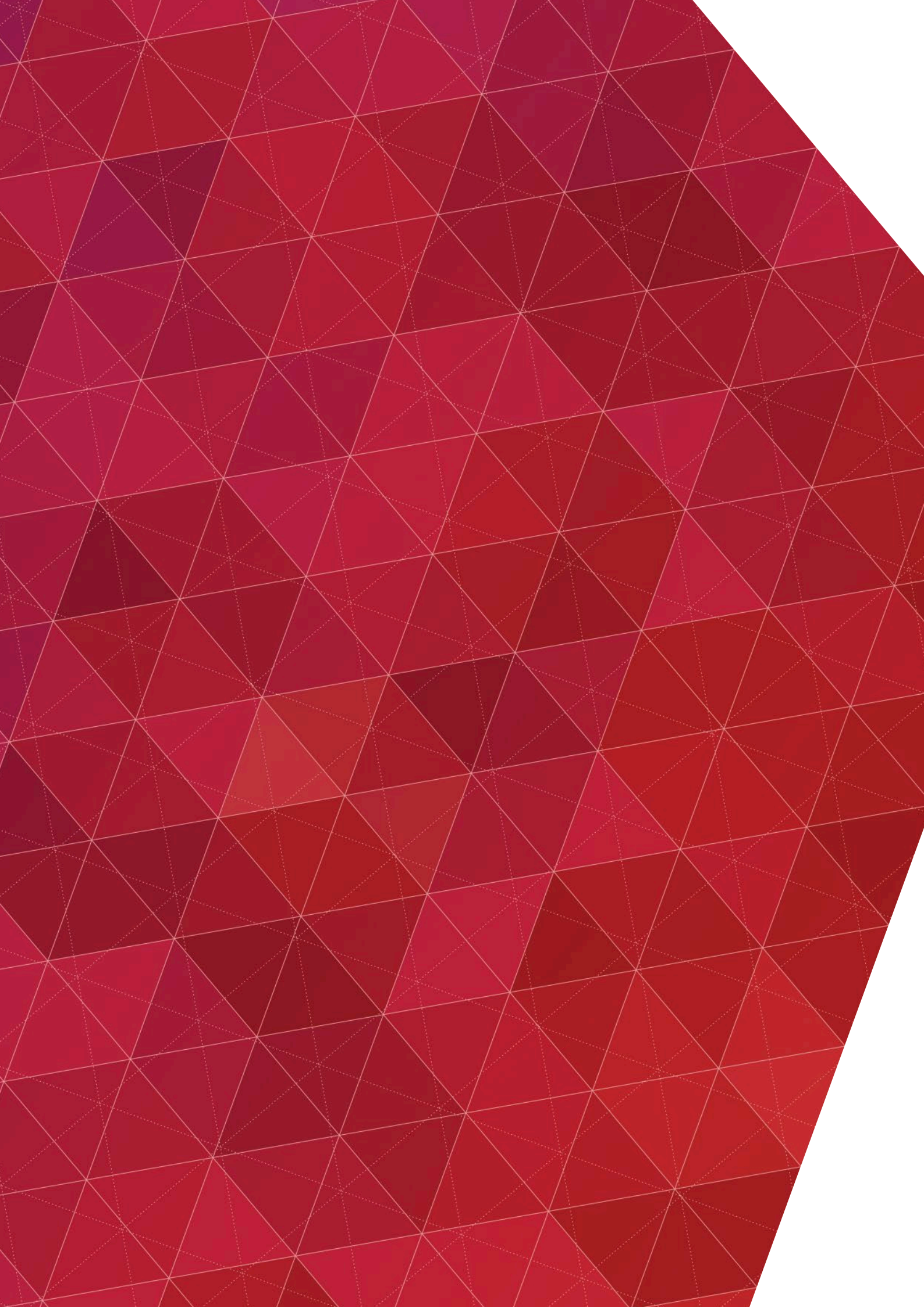


Performance
without
compromise.™

LAZER SAFE COMPANY OVERVIEW





A decorative red geometric pattern consisting of overlapping triangles and lines, located on the left side of the page.

Performance without compromise.TM

We are a technology company specialising in the development and manufacture of control, safety and operator protection systems for press brakes and related sheet metal machinery.

Our industry leading systems are designed and certified to the highest European and International safety standards. Press brakes equipped with Lazer Safe technology benefit through significantly higher levels of machine productivity and performance without compromising operator safety.

Since 1998 Lazer Safe has established a reputation as a technology innovator and an international centre of expertise that is recognised by many of the industry's most highly respected press brake manufacturers.

The Lazer Safe difference

Our OEM embedded systems have been designed to allow a high level of flexibility to meet the needs of individual press brake manufacturers. Unlike a component supplier, we provide tailored hardware and software solutions configured to suit any level of functionality, performance and price and personalised to suit the manufacturer's exact requirements.

The process begins with a visit to the press brake manufacturer to understand their specific needs. Hardware and software solutions are tailored and implemented with the assistance of our highly skilled engineering team that works closely with the manufacturer during the integration process to seamlessly blend our technology with machine design.

This technology partnership enables the manufacturer to streamline and enhance the functionality, safety and performance of every machine. Our unique approach and commitment to our OEM customers is part of our value added service and represents no additional cost to the manufacturer.



The Lazer Safe difference



World-class products

Industry leading Lazer Safe systems are available in multiple configurations at various price points to suit different international markets, from entry level economy systems through to premium level advanced systems. Lazer Safe has a solution to suit each manufacturer's requirements while providing the best features and performance versus cost. Our commitment to innovation and quality is one reason why Lazer Safe technology is recognised and respected as a leader in the international sheet metal industry.



Performance first

We understand that machine performance and productivity is of utmost importance to press brake manufacturers and users. Through dedication to continuous innovation, we develop systems that deliver the highest possible levels of machine productivity and performance. From entry level economy systems through to our advanced level, all systems are designed to enhance machine performance without compromising safety or operator protection.



Research and development

Making machines safe is relatively simple, but making machines safe and productive is the real challenge. We invest heavily in research and development programs and through collaboration with industry leading press brake manufacturers, continue to deliver the latest technology to not only improve safety and operator protection but to achieve the highest possible levels of performance and productivity for the benefit of our OEM customers and press brake users.



International markets

We partner with press brake manufacturers and export our systems to key markets around the world. Our primary markets are Europe, Japan, North America and China with secondary markets in South America, Turkey, Southeast Asia, Middle East, India and Australasia.



Unmatched customer service

Our OEM customers benefit from the highest level of support that only Lazer Safe can provide. Machine manufacturers have direct contact with the engineering team that designs and develops the products so hardware and software solutions are tailored to suit the manufacturer's exact requirements. This also ensures the manufacturer receives the very best technical support with prompt and correct answers the first time. For the manufacturer this model is more efficient than dealing through an agent or reseller. Our engineering team travels the world to support our OEM customers with supplementary support provided through our international network of specialised technical centres.



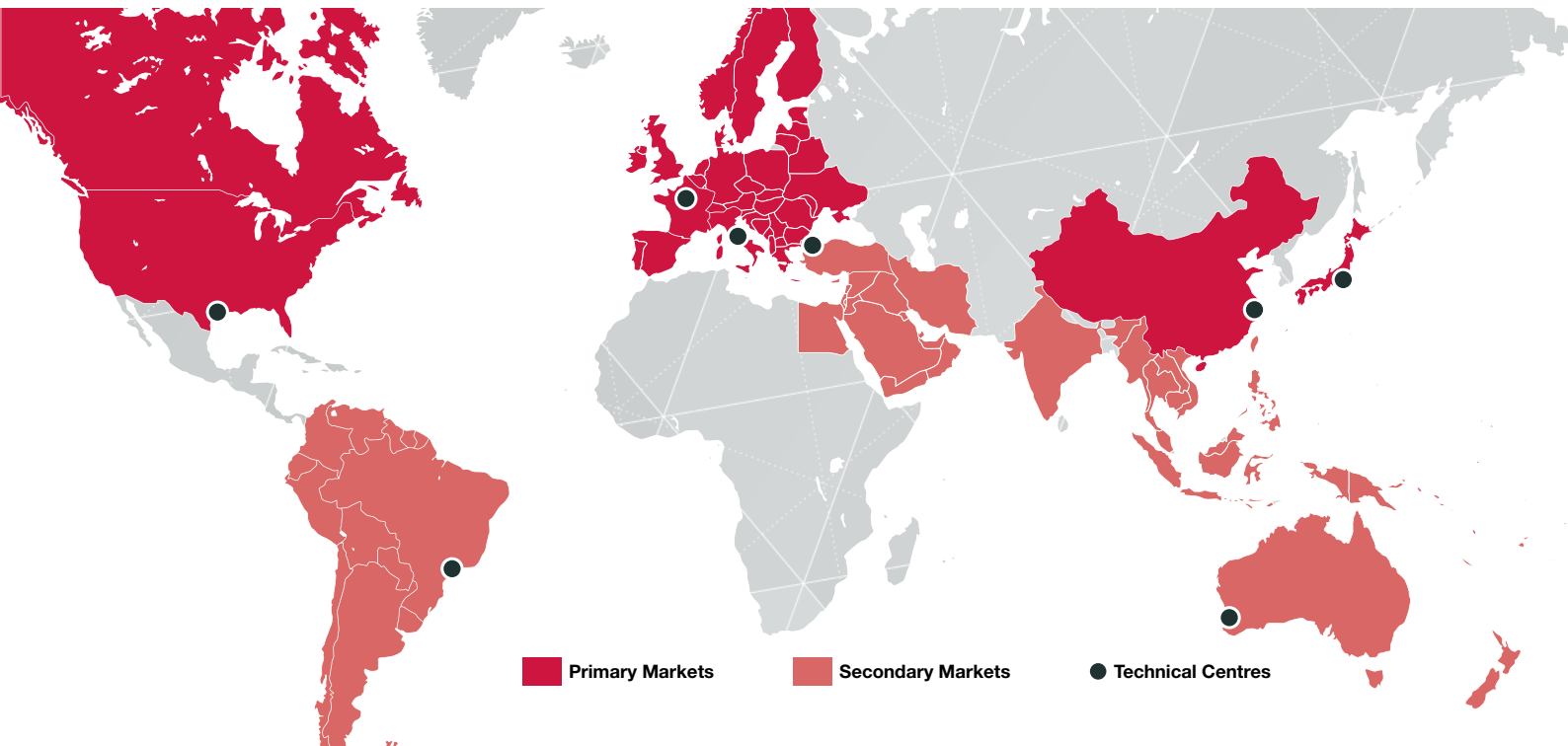
CE Certification

We recognise the importance in compliance with all international standards. Our company representatives are actively involved in a number of forums to ensure full understanding of relevant safety standards, as well as contributing to their ongoing improvement. Lazer Safe systems (hardware and software) have received CE Certification as Category 4 safety products through independent testing by TUV Nord Germany allowing products to be sold and used without restriction in EU territories. Lazer Safe systems are also designed to standards compliance for all other international markets including the United States (ANSI B11.3 – 2012), Canada (CSA Z142-10) and Brazil (NR12).

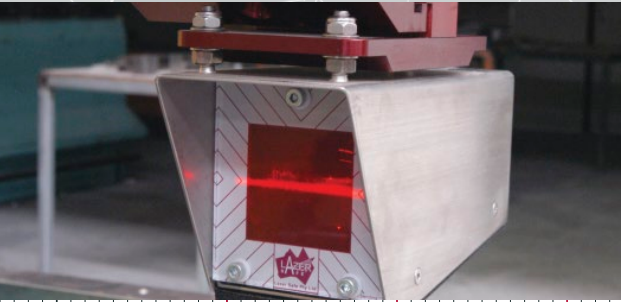


Leader in international standards

Since 2001 we have been committed to the development and understanding of European and international safety standards. We have representation on several international standards committees including the European CEN/TC committee that is responsible for the EN12622 press brake standard, in the United States on the ANSI B11.3 sub-committee, the ISO Standards Committee and also involved in a consultative capacity for other international standards committees. We also publish papers and articles developed to educate and promote understanding of these standards and their correct application.



History



1998

1998

Lazer Safe was established in Perth, Australia. The company was founded with the aim of developing a safety system for press brakes that provided a safer and more productive alternative to traditional safety methods. Lazer Safe's first laser guarding system was primarily sold in the domestic market with some exports to retrofit markets throughout Asia.



2002

2002

Lazer Safe identified substantial complementary market opportunities through extending its expertise beyond operator guarding into the wider area of overall electronic control safety systems. Supported by a Research and Development Grant from the Australian Federal Government, Lazer Safe committed to the design of a press brake specific embedded safety controller named PCSS (Press Control Safety System) together with the LZS-004 laser guarding system that interfaced with the PCSS.



2006

2006

At the EuroBLECH fair in Germany the company launched the LZS-005 camera based guarding system and introduced the first generation image processing systems (IMG-100), another industry first that combined laser guarding with digital imaging processing technology that provided enhanced functionality such as bend angle measurement, angle confirmation and angle control.

2000

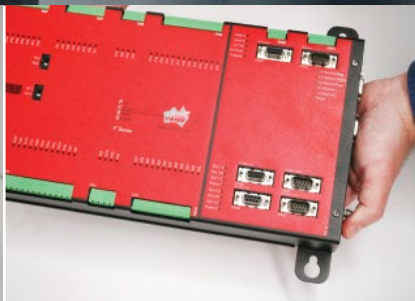
The company developed the first CE Certified laser guarding system allowing it to be sold and used in the European market. The LZS-003 guarding system innovated by offering press brake manufacturers, users and operators greatly improved safety and productivity. The LZS-003 achieved these improvements by delivering protective measures that were more responsive and efficient than existing technologies and with less intrusion on workflow. The LZS-003 system could be installed either at the time of manufacture or as a retrofit to a press brake that was already in service. By September 2000 the company began exporting and supplying systems to several press brake manufacturers throughout Europe.

2000

2004

The PCSS was released to the European market and quickly adopted by manufacturers due to its unique design that provided a much simpler and cost effective solution for machine design that enhanced safety, productivity and performance.

2004



2010

2014

2007

The second generation PCSS-F and PCSS-L models released.

2011

The company identified the need for an economical safety solution for emerging markets and started development of the LazerGuard press brake safety and guarding system. In markets where safety standards were not mandated and safety systems not implemented due to cost, LazerGuard would make it economically viable for press brake manufacturers to deliver safe machines to end users.

2014

Lazer Safe launches a new product range for OEM and retrofit markets. For the OEM market the company releases the IRIS real-time imaging system, new versions of the PCSS-A Series plus redesigned versions of LZS-004 and LZS-005 optical laser protection systems. A new range of retrofit systems is released including the Sentinel and Defender systems for press brakes, FoldGuard for folding machines and PressGuard for press brakes and hydraulic presses.

2008

At the EuroBLECH fair in Germany, Lazer Safe launched enhanced versions of LZS-005 and IMG-100. By this time Lazer Safe systems were being integrated with most of the industries' leading press brake manufacturers throughout Europe, Japan, China, Turkey and North America.

2009

In response to the GFC and decline in global press brake production, the company set about redeveloping their entire product range with the aim of producing systems with a more efficient design, increased features and performance and better value for customers. During the GFC the company maintained its commitment to innovation and continued to invest in development programs.

2012

Third generation PCSS-A Series developed.

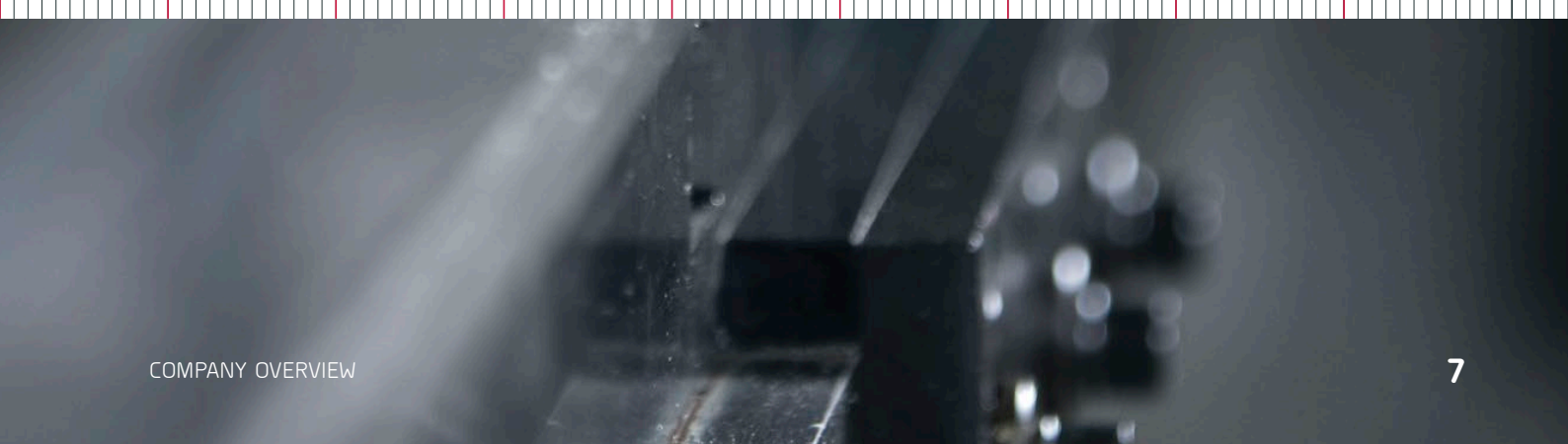
2013

LazerGuard is launched for the Chinese domestic market and adopted by leading press brake manufacturers.

The company identified the need for safety and guarding platforms for other types of sheet metal processing machinery including folding machines and hydraulic presses and began developing the FoldGuard and PressGuard systems.

2008

2012



Our board

The board of directors at Lazer Safe comprises two executive directors and one non-executive director. Lazer Safe is committed to strong corporate governance and independent views at the leadership level. In addition to the two shareholder/executive directors, the inclusion of a non-executive director has been an important part of this process since the company's inception.



Rob Appleyard
Managing Director

Rob is the founder and managing director of Lazer Safe. Rob directs all areas of the company including marketing, sales, financial management, research and development, production management and human resource management.

As a long serving member of the European CEN/TC and the US ANSI B11 committees Rob is highly regarded by the global press brake community as a leading expert in the fields of press brake safety and safety standards.

Away from the office Rob is a license holder with the FIA CAMS motor racing body and competes on the track in the Formula Ford racing championship series. He also has a long association with yacht racing and currently competes in one-design-keel boat racing. His passion for competition racing and performance vehicles fuels his relentless pursuit in developing products and technology that achieve the highest level of performance for Lazer Safe customers.



Ian Costley CA
Director

Ian is co-founder and director at Lazer Safe. His general role is a combination of marketing, sales, finance management, research and development, production management and human resource management. Ian initially held a non-executive role before taking a full time position in 2006. Ian has been the key driver of fund sourcing and structural changes at Lazer Safe since the company's inception.



Matthew Bufardecì
Non-Executive Director

Matthew has been a Non-Executive director of Lazer Safe since 2011. He also has previous involvement with Lazer Safe during his time at ANZ Private Equity which provided funding to the company. Matthew has more than twenty years of experience in corporate banking, private equity and providing assistance to mid-sized Australian businesses with funding solutions and business strategies on growth, sustainability and succession.



Our products

Our products are designed to exceed minimum safety standards requirements and feature industry leading technologies to deliver superior functionality and the very highest levels of machine productivity and performance. We offer dedicated press brake solutions for both OEM and retrofit application as well as systems that cater for the wider sheet metal industry.



Our products

OEM Embedded for Press Brakes

For press brake manufacturers we supply tailored hardware and software solutions that provide safety control and monitoring, optical laser protection, CNC communications interface, machine diagnostics and image processing technology. Our systems are comprised of two key elements – safety controllers and optics. These elements are matched and configured to suit each machine.

Safety Controllers

PCSS-A is a programmable safety controller designed to improve the performance and safety of press brakes. It provides flexibility for the press brake manufacturer and simplifies the design process by combining all related control, safety and monitoring functions into a single system and eliminates the need for complex integration of third party components and software. PCSS-A delivers an optimum balance of functionality and performance with reduced build cost.

Optics options

The manufacturer can select from a variety of optical protection and optical imaging options that connect directly to PCSS-A. No additional control hardware or software is required. These options provide flexibility and enable the highest possible levels of machine performance.

Systems

Optical Protection

Optical protection systems comprise a laser transmitter and receiver that are mounted to the upper beam of the press brake. A continuous laser field protects the zone directly below the punch tip allowing the operator to hold the work piece as the tools close at high speed. If an obstruction is detected the machine is automatically stopped. This close proximity protection allows the operator unrestricted access to the point of operation for increased productivity and unlike traditional light curtains, reduces fatigue by enabling the operator to remain standing in the same position.

Optical Imaging

IRIS is an Integrated Real-time Imaging System that provides the press brake manufacturer with greater functionality by combining optical protection with real time image processing. As a combination system, IRIS provides optical protection while the tools are closing at high speed then once the bending process starts, the optical imaging function takes over. During bending IRIS takes and processes images in real time and transfers data to the CNC system via SmartLink. The image processing system and software is fully contained within the IRIS receiver so no additional processing hardware or software is required.

IRIS optical imaging is a flexible, open platform technology that enables the press brake manufacturer to utilise the image data (via SmartLink) to implement user features in the CNC system such as Bend Speed Management, Dynamic Angle Control and Active Angle Control.

LazerGuard

LazerGuard is an embedded safety control and optical protection package for press brake manufacturers. The system is designed for non-CE markets where safety is traditionally neglected in favour of a lower machine cost. For press brake manufacturers that sell machines into territories where safety regulations are not yet mandated, LazerGuard provides an effective, low cost solution that makes it economically viable to deliver a safe machine.

Embedded OEM Systems

Safety Controllers

PCSS-A Series

- PCSS-A0
- PCSS-A1
- PCSS-A2

Optics / Optical Protection

LZS Series

- LZS-LG
- LZS-LG-HS
- LZS-004
- LZS-004-HS
- LZS-005

Optical Imaging

IRIS Series

- IRIS
- IRIS Plus

(Requires a PCSS-A Safety Controller)

Mounting Brackets for Optics (Optional)

Economy Alloy Bracket Kit

Linear Alloy Bracket Kit

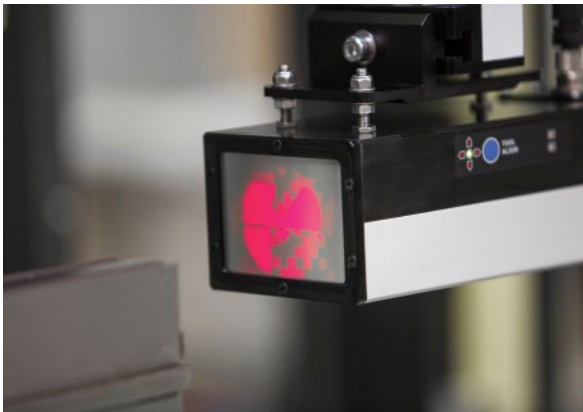
LazerGuard

Controller & Optical Protection Package

Our products

Retrofit Systems for Press Brakes

Our retrofit products are supplied, installed and supported via our international network of retrofit agents. Our agents are carefully selected and possess the technical expertise to integrate systems to most machine models. Integration services are backed up by our team of dedicated customer service engineers with over twenty years of retrofit application experience.



Sentinel Press Brake Guarding System

Sentinel is our premium level retrofit system for press brakes and provides the highest level of performance and protection than any other system on the market.

The Sentinel laser transmitter and receiver are mounted to the upper beam of the press brake. A continuous dual laser field protects the zone directly below the punch tip allowing the operator to hold the work piece as the tools close at high speed. If an obstruction is detected the machine is automatically stopped. This close proximity protection allows the operator unrestricted access to the point of operation for increased productivity and unlike traditional light curtains, reduces fatigue by enabling the operator to remain standing in the same position.

Sentinel also provides additional functionality including light curtain support for flexible dual guarding operation and monitoring of machine safety elements such as emergency stop buttons plus side and rear gate interlock switches.

Defender Press Brake Guarding System

Defender is our entry level retrofit system for press brakes. Defender is designed for emerging markets and provides a cost effective solution with a high level of protection.

The Defender laser transmitter and receiver are mounted to the upper beam of the press brake. A continuous laser field protects the zone directly below the punch tip allowing the operator to hold the work piece as the tools close at high speed. If an obstruction is detected the machine is automatically stopped. This close proximity protection allows the operator unrestricted access to the point of operation for increased productivity and unlike traditional light curtains, reduces fatigue by enabling the operator to remain standing in the same position.

FoldGuard Folding Machine Safety & Guarding System

FoldGuard is a complete safety and guarding solution designed for folding machine application. FoldGuard is available in both OEM and retrofit configurations and provides optical protection of the clamping operation, monitoring of machine operation plus management of additional machine safety elements.

The FoldGuard laser transmitter and receiver are positioned either side of the machine with floor mounted brackets. A continuous dual laser field protects the zone between the clamp to protect the operator as they hold the material while it is being clamped. If an obstruction is detected the machine is automatically stopped.

FoldGuard also provides optional monitoring of additional machine safety elements such as emergency stop buttons, foot pedals, light curtains, area laser scanners, safety mats, interlock switches and emergency kick bar.

PressGuard Light Curtain Muting & Monitoring System

PressGuard is designed for hydraulic press and press brake application. PressGuard supports third party light curtains and manages light curtain muting and automatic monitoring of speed and stop time. Where traditional light curtain control systems require periodic safety inspections to verify the stopping performance of the machine, PressGuard automatically monitors machine performance on every stop. PressGuard not only ensures continuous safe operation but eliminates the time and cost associated with periodical safety inspections.

Retrofit Systems

Sentinel
Press Brake
Guarding System

Defender
Press Brake
Guarding System

PressGuard
Light Curtain Muting &
Monitoring System

FoldGuard
Folding Machine Safety
& Guarding System

Defender Plus
Press Brake
Guarding System

Our technology

Our industry leading technology is designed to maximise press brake productivity and performance, streamline operation and enhance functionality and protection.





Our technology



FlexSpeed is an advanced high speed hardware architecture that achieves faster response time to enhance machine performance and efficiency.



Traditional safety control systems employ a combination of hardware and software processing. This inefficient process slows down overall response and reaction times and when coupled with optical protection systems leads to a reduction in machine performance by forcing the machine to operate at reduced closing speed in order to improve stopping performance and increasing slow speed travel prior to bending.

FlexSpeed eliminates these delays and imposes no restriction on machine performance. This enables machines to operate with maximum speed and efficiency.

FlexSpeed Plus features a triple processor design to increase control processing speed and efficiency by as much as 50%.

SmartLink is an advanced communication link that seamlessly integrates safety, guarding and imaging functions with the CNC system to enhance the operation, functionality, performance and efficiency of the press brake. SmartLink is compatible* with Cybelec, Delem and ESA CNC systems or can be custom integrated with proprietary CNC systems by the press brake manufacturer.



**Functionality and features will vary between CNC manufacturers.*

AutoSense is an automatic monitoring technology that tracks machine operation and performance in real time. AutoSense automatically monitors control commands, motion, direction, speed and stopping performance to maintain a high level of machine and operator protection. AutoSense also guarantees compliance with international safety standards that mandate automatic monitoring of machine overrun and safe speed.



AutoSense Plus provides additional monitoring to detect and diagnose specific machine electrical and hydraulic faults with visual alerts displayed on the CNC via SmartLink. Machine problems are quickly and easily identified to get the machine back into production with minimal downtime.

AutoSense Ultimate adds advanced Dynamic Valve Monitoring technology to automatically monitor hydraulic valves, associated control commands and machine actions. Dynamic Valve Monitoring reduces machine build cost and complexity by eliminating the need for separate monitoring systems and monitoring sensors built into the hydraulic valves. AutoSense Ultimate is available as standard with selected systems.

Optical protection systems with **RapidBend** technology employ a patented progressive muting process that enables the press brake to close safely at high speed until the tool opening is only 6mm. This reduces the slow speed travel distance to enhance machine productivity.



RapidBend Plus reduces the speed change point even further from 6mm down to just 2mm to significantly enhance machine productivity, especially in high level production environments.

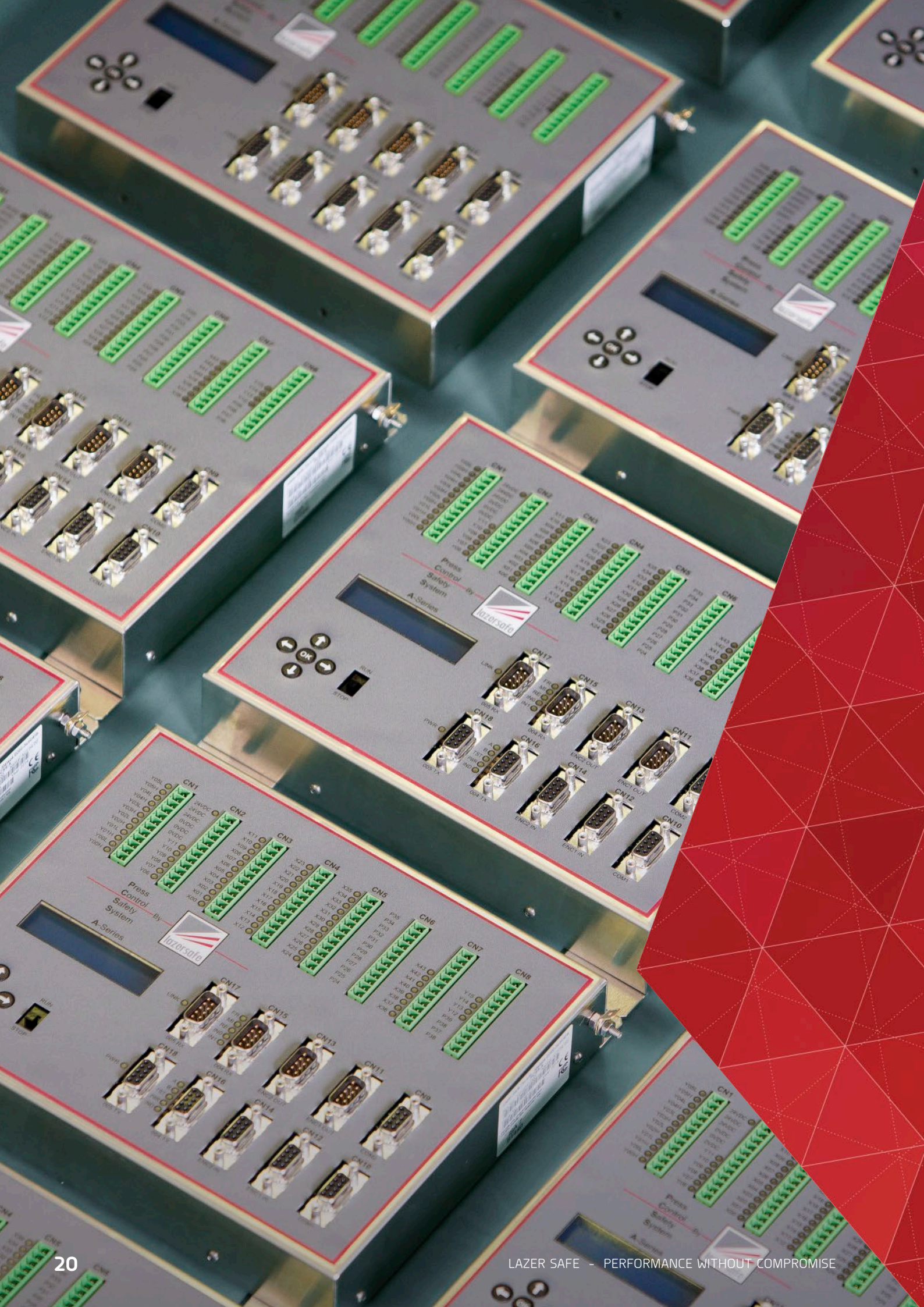
RapidBend Ultimate eliminates slow speed altogether. The tools close in high speed until the punch reaches the material surface for the ultimate high speed performance.

In comparison to other light or laser based guarding systems, RapidBend technology can reduce machine cycle time by more than two seconds per cycle. This represents a significant saving in operating time and cost. RapidBend guarantees this high level of performance irrespective of machine fast closing speed or stopping performance.

BendShield provides advanced optical protection by enveloping the punch tip with a protective field that has no gaps. BendShield has an object detection resolution of 2mm to detect even the smallest obstruction from any angle. Optical protection remains active until the tool opening is reduced to 2mm preventing fingers and hands entering the point of operation.



BendShield Plus provides the ultimate level of protection by keeping optical detection active even during the bending process. When forming small parts an advanced detection zone above the material detects fingers tips to prevent pinching hazards.



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Lazer Safe, PCSS, PCSS-A, LZS-LG, LZS-LG-HS, LZS-004, LZS-004-HS, LZS-005, IRIS, IRIS Plus, RapidBend, RapidBend Plus, RapidBend Ultimate, FlexSpeed, FlexSpeed Plus, SmartLink, BendShield, BendShield Plus, AutoSense, AutoSense Plus, Sentinel, Sentinel Plus, Defender, Defender Plus, FoldGuard, PressGuard, LazerGuard.

Patents

Lazer Safe products are subject to patents granted or applied for in various global territories.



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