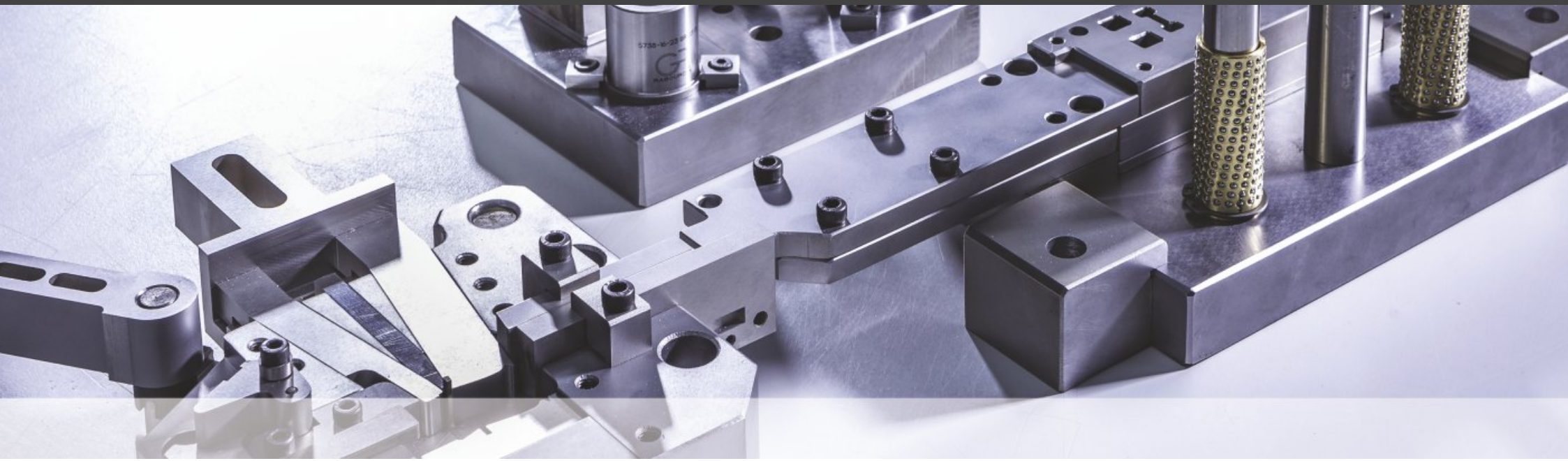
Phoenix Tooling & Development

Tool Design and Manufacture

From concept to reality

PHOENIX TOOLING

www.phoenixtooling.co.uk



Welcome to Phoenix Tooling

Established in 1990, Phoenix Tooling and Development Ltd has progressively built up a solid reputation for high quality precision press tooling, backed by an industry recognised standard for complete customer satisfaction and unrivalled service. Today Phoenix Tooling continues to lead the way in tool design and manufacture thanks to the company's program of continual investment in the latest tool room equipment, cutting edge design, development technology and its long-standing apprenticeship program.

The company's expertise in precision tooling has ensured that Phoenix is now the recommended choice for high quality, high precision press tools across a wide range of industries including world class Automotive, Aerospace, White Goods and Electronics companies, together with brand leading companies across the engineering and manufacturing sectors.

Phoenix has achieved a well-earned status for its specialist expertise in Progression, Transfer and Multi-Slide tooling, which has led to Phoenix Tooling collaborating with many leading international automatic machinery manufacturers, where the company's high standards of quality and precision workmanship are fully recognised and accredited.

Where the client’s requirement calls for Multi-Slide tooling to produce advanced forming, assembly, welding and punching technology, the Phoenix team can provide a wealth of knowledge and experience to support any venture. Having worked closely with many clients covering a variety of technically challenging projects, the Phoenix management are very proud to have consistently received the important recognition and affirmation of the company's high standards of quality, workmanship and customer care.

Based on our longstanding expertise and proven performance, the company has built up a strong reputation as a reliable and customer-oriented press tooling company, with a wide portfolio of satisfied customers and a universal seal of approval from many of the world's leading machinery manufacturers.

NPI & PROJECT MANAGEMENT

NPI

At our company, we take project management seriously. That's why we utilize a comprehensive capacity plan to ensure that all of our tools and resources are utilized efficiently and effectively. This plan is a crucial part of our project management process, as it allows us to map out each project and allocate time slots for each process involved.

Every project that we undertake is carefully entered into our capacity plan. This plan outlines the steps and processes needed to complete each project, as well as the tools and resources required for each task. By having this plan in place, we can ensure that no detail is overlooked and that each project is completed in a timely manner.

One of the key benefits of our capacity plan is that it allows us to identify any potential bottlenecks or resource constraints before they become a problem. By mapping out each project in detail, we can see where resources are needed and ensure that they are available when needed. This proactive approach helps us to avoid delays and keep our projects on track.

Another important aspect of our capacity plan is the allocation of time slots for each process. By setting specific time slots for each task, we can ensure that deadlines are met and that projects are completed on time. This level of detail allows us to optimize our resources and maximize our efficiency, leading to better results for our clients.

Our capacity plan is a living document that is constantly updated and revised as projects progress. This flexibility allows us to adapt to changes in project scope or requirements, ensuring that we can meet our clients' needs no matter what challenges arise. By continually monitoring and adjusting our capacity plan, we can stay ahead of potential issues and deliver high-quality results for our clients.

In addition to helping us manage our projects more effectively, our capacity plan also serves as a valuable tool for tracking performance and identifying areas for improvement. By analysing our capacity plan data, we can identify trends and patterns that help us to optimize our processes and streamline our operations. This data-driven approach allows us to continuously improve and enhance our project management practices, leading to better outcomes for our clients.

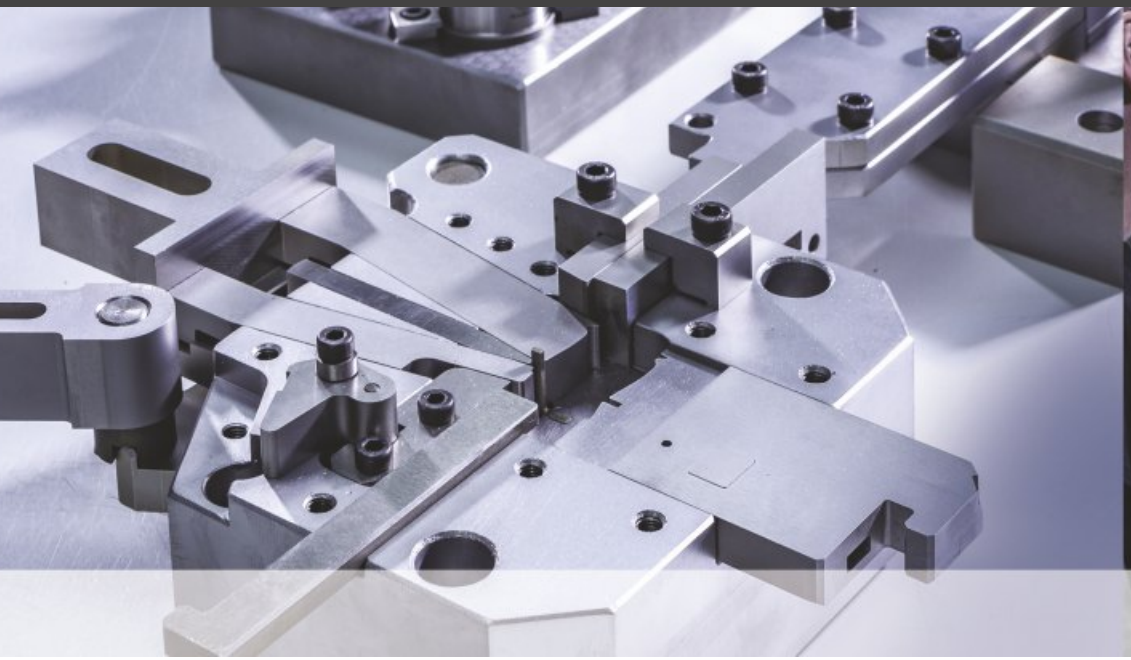
In conclusion, our capacity plan is a critical component of our project management process. By carefully mapping out each project and allocating time slots for each process, we can ensure that all of our tools and resources are utilized efficiently and effectively. This proactive approach helps us to avoid delays, stay on track, and deliver high-quality results for our clients. With our comprehensive capacity plan in place, we are able to manage projects more effectively, optimize our resources, and continuously improve our processes.

Project Management of Far Eastern Tooling Packages
Phoenix Tooling have direct experience in project managing significant Far East tooling projects. Existing partners are on hand to undertake both the design & manufacturing (under Phoenix control) tasks to ensure budget & lead-time constraints are met. The added benefit to the customer is that Phoenix has the press & toolroom equipment necessary to undertake any late modification work needed once the tools arrive in UK/Europe.

Tooling TPM Management
The management & monitoring of tooling TPM is a service that Phoenix can offer its customers. The rapid supply of tooling spares is something that Phoenix Tooling pride itself on. Tooling inventory (either raw materials, part manufactured, or fully completed) items can be stored at Phoenix ready for final machining or immediate fitting to existing tools. Each tool that is returned to Phoenix for TPM is inspected & reports created to inform all interested parties of the current condition of the tool & whether any preventative actions are needed.

Multi-slide Tooling

The Phoenix team have been designing and manufacturing multi-slide tooling for over 40 years. During this period we have successfully completed numerous **Bihler** tooling projects and to this day we continue to deliver new Bihler solutions on a regular basis. However, it is not only Bihler tooling that we have focused our multi-slide experience on. Phoenix also successfully provides tooling for **Finzer**, **Biegema** machines together with the latest technology servo driven **Itaya** multi forming machines.



Tool Design & Manufacture

As the demand for more complex parts has increased, we have continually invested in the latest 3D CAD and simulation software to demonstrate to our customers the feasibility and manufacturing process up front at the tool design stage to ensure there is full confidence prior to entering the manufacturing stage of each project. Once the design is complete, tools are manufactured using our in-house latest technology machining facilities. Tools are built and checked by highly experienced multi-slide tooling engineers prior to try-out.

Technical Support & Training

Phoenix is ready and willing to provide full technical support for your future multi-slide projects at any stage of the process. We have the capability to provide detailed training packages and our engineers have experience visiting clients both in the UK & Europe to carry out physical ‘on the press’ setting and comprehensive operator training.

Turn-key Solutions

Phoenix has a well proven track record in the provision of full turn-key multi-slide component manufacturing solutions. We have the capability of sourcing suitable multi-slide machines that can be installed at our facility, where we can then fully design, test and manufacture the tooling within our UK operations. Full commissioning of the whole press line is carried out in-house, ready for our customer to view and approve the bespoke solution ready for shipment to anywhere in the world.

BRUDERER
ONE NAME, A MULTITUDE OF POSSIBILITIES

BIHLER

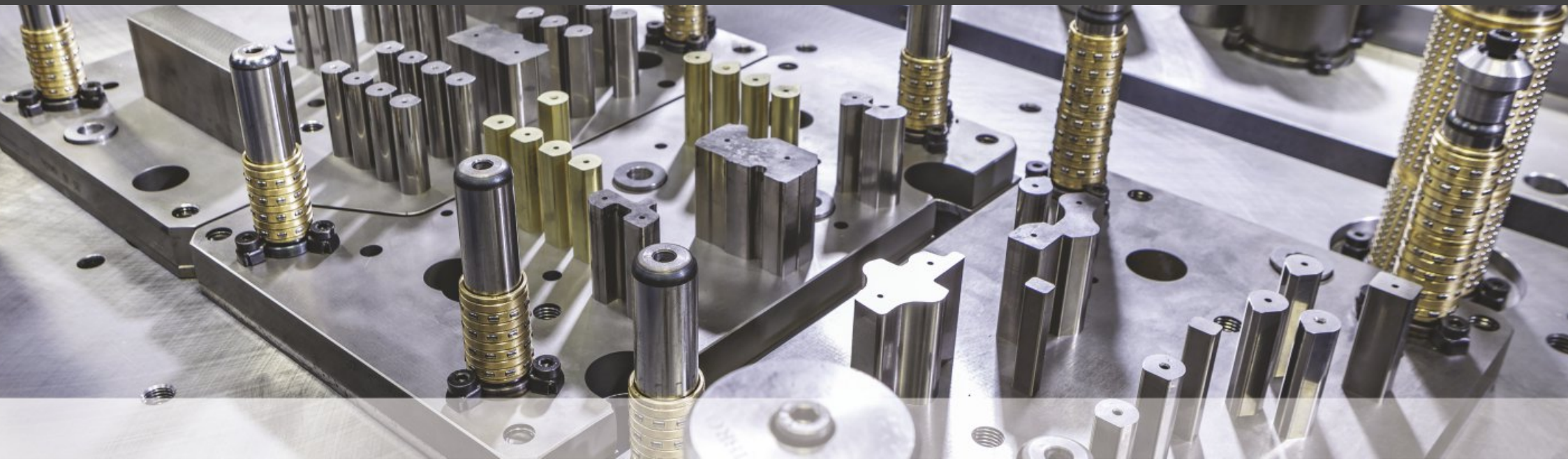
ITAYA

BIEGEMA
supplied by Bruderer UK

AREAS OF EXPERTISE

Progression Tooling

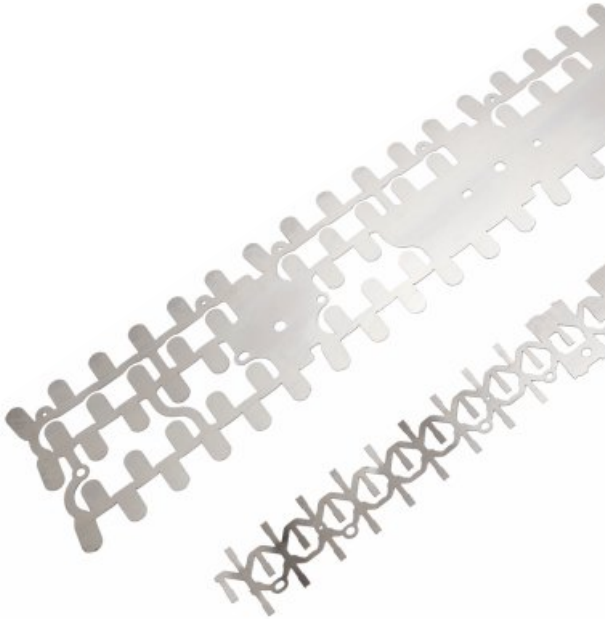
Phoenix prides itself on its reputation for delivering high quality, durable and reliable progression tooling solutions to a wide variety of industries. Whether the customer's annual component requirements are in the low hundreds of thousands or multi-millions, Phoenix has the ability and experience to deliver the most efficient tooling solution. From press requirements ranging from 10 ton to 1,000 ton, Phoenix is the trusted name that will fully tailor the design and manufacture the tooling to meet the project's highest standards.



Precision, High Speed Progression Tooling

Having invested £750,000.00 over the last 18 months with 3 of the latest technology GF Wire Erosion Machines, we pride ourselves with providing precision tooling that's supported by the latest in high speed stamping technology all over the world. Where components have microns for tolerances machines with micron accuracy are required to maximise quality, repeatability & efficiency. Phoenix provide technical support throughout the project with experienced toolmakers to advise on feasibility, tool design, manufacture processes & assembly techniques that produce our precise dies. Supporting many market sectors including Medical, Electronics, Construction, EV technologies & other alternative energy generation industries.
WHEN YOU NEED PRECISION, YOU NEED PHOENIX

BRUDERER
ONE NAME, A MULTITUDE OF POSSIBILITIES



AREAS OF EXPERTISE

Sub Assembly Tooling

Phoenix Tooling & Development is the perfect partner from which to source all your child part tooling and assembly fixtures. Our management and engineers have clearly demonstrated over the years and across many sub-assembly projects that Phoenix is the ideal partner to provide the skills and experience to professionally handle the complete tooling process through to final assembly.

The unique Phoenix team approach to each sub-assembly project begins from a completely new and innovative prospective. By undertaking the complete ownership of the final assembly, rather than taking a typical approach of only focusing on the individual pressings, enables the Phoenix team to understand any tooling complexities and thereby supply the customer with an exceptional result.

The company has purposely incorporated multiple resources into every production area to allow for numerous tools and fixtures to be processed in parallel. Phoenix utilises its data collection systems to ensure each tool/fixture within the sub-assembly project is completed on time within the whole project schedule thus ensuring that lead-times are kept to a minimum.

Jigs and Fixtures

It is quite usual for Phoenix to be approached to assist clients with the design and manufacture of various jigs and fixtures, for which the company is always pleased to be of service. Such requests may include machining fixtures, welding fixtures, assembly jigs, special purpose rigs, etc. These may be part of a tooling package that Phoenix is working on or, in many cases, a stand-alone independent jig and fixture project.

Whatever the request the Phoenix team can provide the wide range of skills and experience to deliver these engineered products. The team's wide knowledge base enables Phoenix to design manually operated and complex automatic hydraulic driven jigs and fixtures.

AREAS OF EXPERTISE

Turnkey Packages

The team at Phoenix have the ability, together with their world leading partnerships, to manage and deliver full turnkey metal pressing solutions. Whether the solution consists of simple tooling and press equipment or a fully automated production line, Phoenix is here to provide unrivalled support.

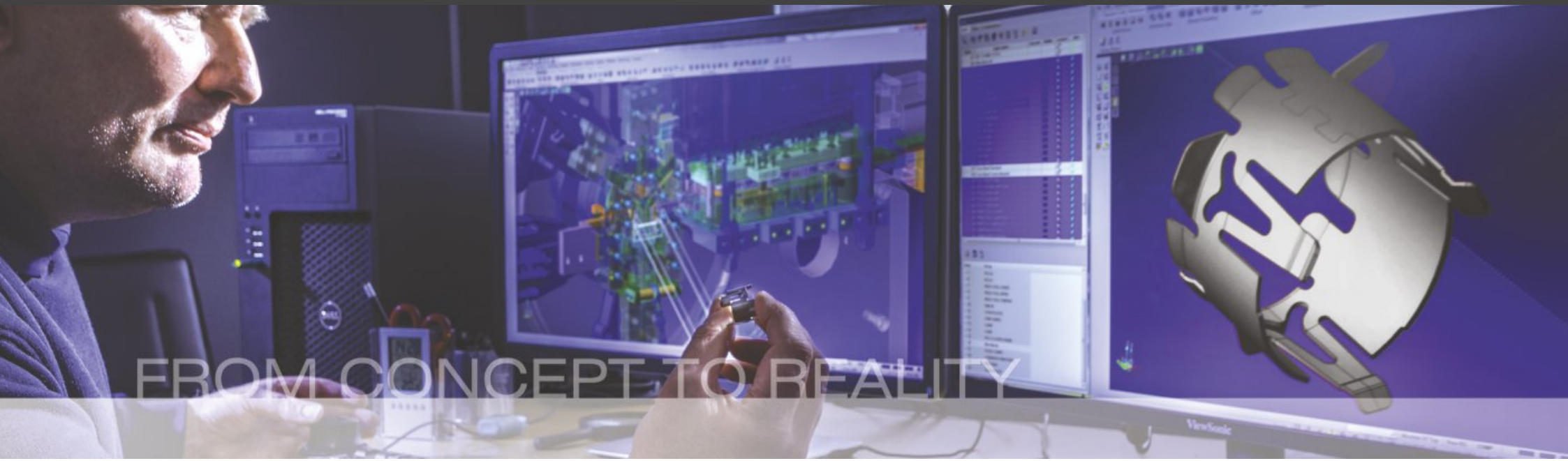
The team has a solid history of delivering bespoke solutions across Europe. The support that Phoenix can offer extends to full on-site training programmes for the client's engineers to ensure the hand-over process is seamless. The Phoenix technical team are always on hand to resolve any issues that may occur after hand-over. This service is supported by skilled advice on planned preventative maintenance systems to ensure continued production efficiencies are upheld.

Prototype Tooling

Prototype tooling and low volume manufacturing are key areas of engineering where the Phoenix team have a long-standing and proven track record of delivering fast turnaround solutions. With its fully equipped in-house facilities, Phoenix can efficiently keep lead-times to a minimum. As all processes from 3D design, CNC manufacture, CNC laser cutting, pressing capacity up to 300 ton and the latest laser scanning are all situated on-site, each project can be controlled more effectively as the risk of relying on sub-contact processes is removed.

Phoenix have completed countless low volume projects, where soft tooling has been manufactured, laser cuts produced and parts formed. Typical prototype volumes have ranged from 50 to over 10,000 parts produced and supplied in accordance with the customer's strict time-line.

In many cases Phoenix has received production tooling orders with the additional requirement of supplying "off form stage" prototypes prior to full tool completion. This useful service can be managed in parallel with full tool manufacture to ensure the customer receives both pre-build prototypes and full production tooling within the agreed time scales.



Project Planning & Control

All projects undertaken are entered onto our comprehensive capacity and scheduling plan, ensuring that all tools have detailed and set time slots planned for each process. This results in accurate and realistic lead-times being verified, at which point they can be discussed and reviewed with the customer.

Progress of each live project is reviewed weekly to ensure each project is on plan. If delays occur, management can respond accordingly to get the process back to plan as quickly and efficiently as possible.

Tool Design

Utilising our state of the art 3D CAD software we can simulate each stage of the punching & forming process. Strip layout and GA meetings take place with the customer at each stage to ensure all parties have the opportunity to provide essential and continuous input into the final tool design.

Once 3D design is complete, detailed drawings are automatically produced and sent to the manufacturing area. Once the project is complete the full updated tool drawings are sent to the customer for future reference.

Manufacture

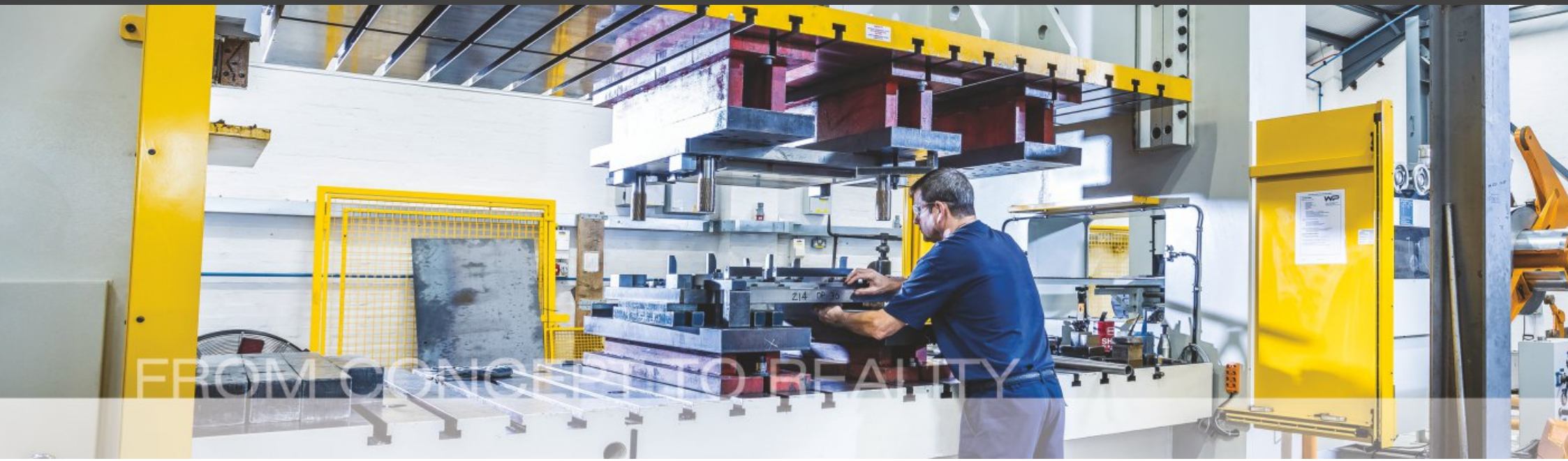
Efficient running of our CNC machines is the key to reducing manufacturing times for each tool. Careful planning, designed to achieve effective 24 hour and 7-day running ensures the most efficient time management procedure for each project. Rigorous inspection, detailed quality control and 'sign off' complete each process.

Phoenix has the ability and capacity to carry out sub-contract machining services including 2D and 3D soft and hard machining, surface grinding and high precision EDM wire eroding.

Assembly

Dedicated assembly areas, over-head cranes, multiple assembly areas and a coordinated workforce enable our skilled team of toolmakers to efficiently build different sections of the tool at the same time.

Multiple tool builds are regularly in progress at the same time. Flexible assembly equipment is used to allow efficient changes depending on tool size.



Tool Try-out

The highly experienced team at Phoenix carry out extensive try-out testing and commissioning on all new projects. The company has recently invested over £1m in new equipment, designed to ensure all new tooling and commissioning meets the exacting standards required, with each component verified against its CAD data. Customers are very welcome to view the progress of their tooling trials taking place.

To ensure that all new tooling enters full production without any issues, the company's latest acquisitions include Chin Fong GTX500D and a Tomac TLF4 coil handling equipment that allows for fully simulated mass production stamping. The new equipment enables trial tooling up to 3.5 metres in length, whilst the tonnage monitoring apparatus captures data from each stage of the press cycle.

All tools pass through an internal commissioning phase, where tools are fully tested and prepared for production. Tools can be commissioned at the customer's own premises. Our experienced engineers will work closely with the client's production team to achieve a successful handover.

Commissioning

All tools pass through an internal commissioning phase, where tools are fully tested and prepared ready for production. Alternatively, where required, tools can be commissioned at the customer's own premises. In all instances our experienced engineers will work closely with the client's production team to achieve a successful handover.

Measurements

All components can be measured using our Romer 3D laser scanning arm. Visual 3D inspection reports are provided to demonstrate measuring results. The company's recent investment in the latest scanning technology provides Phoenix with the ability to create 3D measurement reports in a matter of minutes. This facility also enables the company to provide a reverse engineering service to its customers.

Many of our customers use this reverse engineering service from Phoenix Tooling to allow broken tooling items to be converted to a 3D CAD file, allowing Phoenix to manufacture a replacement item.

Plant List

CAD/CAM
Hexagon Visi Standard & Advanced multiple products, including:
Blank development
Part feasibility & blank analysis
Part unfolding & strip design
Automated press tool design
Spring-back deformation resolution
High-speed 3-axis and 3+2 milling
Wire EDM

Machining Centres
GF Mikron VCE2000 PRO with WPT1 Work Partner
TM12i Hurco Lathe
Mazak VTC-20B
Mazak VTC-30C Twin Carousel
Mazak VTC-300C II
XYZ Mini Mill 560

Surface Grinding
Chevalier FSG-1640AD
J&S CNC 524 EASY
J&S 1400 x 3 Machines
J&S 540

EDM Wire Eroding
GF CUT P550 with ASM
GF CUT P550 x 2 Machines
GF CUT 30P
CHMER CNC EDM Hole Driller

Laser/Punch Presses
Trumpf 6000L x 2 Machines

Presses
CHIN FONG GTX500D – 3400mm bed length 1500mm bed width with Tomac 3in1 serve straightener feeder with uncoiler TLF4-800
CHIN FONG OCP 110ton Press
80 Ton Hare Hydraulic Press
GRM50 Bihler
RM40 Bihler
Trumpf CNC Trumabend V1300

Measurement
Romer 3D Scanning Arm
Swift 2 axis measuring machine running M3 metrology V1.50.14 software.
Wilson instruments Rockwell hardness machine
Eley & Warren Vertex 300 height gauge

Services

- Press Tool Consultancy
- Component Simulation
- 3D Tool Design
- Tool Manufacture
- Press Tool Repairs
- Press Tool Modifications
- Laser Cutting / Punch Press Services
- Machining 2D & 3D
- Wire Eroding
- Presswork – Small or Large Batch Runs
- Presswork Roll Feed up to 500ton
- Multi-Slide Presswork
- Romer Arm Laser Scanning / Reverse Engineering
- Press Tool Servicing
- Prototype Manufacture
- Jig & Fixture Manufacture
- Project Management of Far Eastern Tooling Packages
- Tooling TPM Management
- Bespoke Turn-Key Packages

Martin Mulvey
Managing Director
martin.mulvey@phoenixtooling.co.uk
T. +44 (0)7554 452487

Peter Marshall
Operations Director
peter.marshall@phoenixtooling.co.uk
T. +44 (0)7880 038580

Julie Green
Sales Office Manager
julie.g@phoenixtooling.co.uk
T. +44 (0)1922 743414
M. +44 (0)7581 200677

David Burgess
Design Manager
david.burgess@phoenixtooling.co.uk
T. +44 (0)1922 743414

Jonathan Boden
Tooling Manager
jonathan.b@phoenixtooling.co.uk
T. +44 (0)1922 743414
M. +44 (0)7825 537300

Meet the Team

James Lander
Senior Toolmaker

Neil Bullows
Senior Toolmaker

Ian Butler
Senior Toolmaker

Scott Manison
Senior Toolmaker

Simon Hampson
EDM & Development Engineer

Craig Jarvis
Senior Toolmaker

Simon Williams
Senior Surface Grinder

Thanos Korompilias
Toolmaker

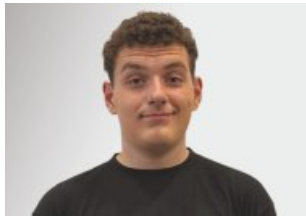
Jamie Mulvey
Toolmaker

Joshua Bennett
Toolmaker

Ryan Edmonds
Toolmaker

Tom Baran
Design Engineer & HNC Apprentice
Tom.b@phoenixtooling.co.uk

Jessica Singleton
Office Administrator,
Quality Practitioner Apprentice
jessica.singleton@phoenixtooling.co.uk



Charlie Marshall
Apprentice Toolmaker

Hayden Moseley
Apprentice Toolmaker

Telephone: **+44 (0)1922 743414** Email: **sales@phoenixtooling.co.uk** Toolmaking Team: **shopfloor@phoenixtooling.co.uk**

Accreditations

We are proud to be accredited with international quality and environmental standards including Investors in People since 1993. We were amongst the first to achieve both nationally and internationally recognised quality standards for manufacturing - BS EN ISO 9001.

INVESTORS IN PEOPLE | Gold

auva ISO 9001 CERTIFIED UKAS MANAGEMENT SYSTEMS 9963

The Metalforming Machinery Makers Association

PHOENIX TOOLING

Phoenix Tooling & Development Ltd
1 Shenstone Drive
Northgate
Aldridge
West Midlands
WS9 8TP
Phone +44 (0)1922 743414
Email sales@phoenixtooling.co.uk
Web www.phoenixtooling.co.uk

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