GOODWIN INTERNATIONAL

GOODWIN
INTERNATIONAL LTD

GREAT BRITISH ENGINEERING

GOODWIN
INTERNATIONAL LTD

WE ARE DIFFERENT

Through sustained investment in our people, our facilities and our markets, Goodwin International is a world leader in large precision project engineering. We work hard to never lose focus of our client's requirements, offering exemplary customer service throughout your project.

Here at Goodwin International we never stand still. We are always working to improve our processes and methodologies whilst maintaining our edge and great technical ability.
This enables us to do what we love (what we do) – delivering brilliant engineering.

Standing in your shoes, why would your company want to work with anyone but the best to deliver your project?

If you think that this sounds like an all too familiar salesman's pitch, then we invite you to come and see for yourselves – come and meet our people, come and see our world class facilities and make up your own mind.

Engineering with passion.
Engineering with pride.
Since 1883.

Matthew Goodwin
Managing Director


A PRODUCTIVE & EFFICIENT
FACILITY COMMITTED TO
SAFETY, SECURITY &
CUSTOMER SATISFACTION

HEAVY
PROJECT
ENGINEERING

GOODWIN
INTERNATIONAL LTD

OFFERING A COMPLETE STREAMLINED, COST EFFECTIVE ENGINEERING SOLUTION

EXTENSIVE EXPERIENCE

Goodwin International has the expertise and facilities to engineer a wide range of products for use in many industry sectors. From concept design and procurement through to fully compliant, tested and certified products and projects.

With a working area of over 30,000m² (7.5 acres) our machine shop and assembly area are second to none. Allied to our sister company, Goodwin Steel Castings, we have extensive experience of working with specialist materials from carbon steel through to super nickel alloys and titanium.

We serve nuclear (new build, current fleet, defence and decommissioning), aerospace, power generation, offshore, petro-chemical, structural markets and renewables. We deliver high integrity precision heavy engineering projects. Right first time, on time, every time.

COST-EFFECTIVE EXCELLENCE

At Goodwin International, we offer a comprehensive and streamlined contract management service.
We provide complete design, raw material procurement and heavy precision machining, along with NDE, weld fabrication, assembly, testing, coatings, inspection and installation for the most complex and critical applications.

Our capabilities will enable your company to streamline your own resources, letting you focus on your core business strengths whilst we are providing you with the peace of mind that your product will be designed, manufactured and supplied to the exact functional specifications required, all with world class quality.

By working closely with, and involving our clients throughout the project lifecycle, we are in an enviable position to call some of the most prestigious engineering companies in the world not only customers, but long term partners.

goodwininternational.co.uk

GOODWIN
INTERNATIONAL LTD

PRECISION & QUALITY ASSURANCE

EXCELLENCE IS NOT A SKILL...
IT IS AN ATTITUDE

QUALITY
ASSURED

Goodwin International is an established ISO 9001 business and our improvement philosophy is used to monitor all processes to ensure quality in everything we do, alongside opportunities to develop our efficiency and customer service. These aims are consistently achieved by our total commitment to effective quality at every level within the business.

We are committed to providing clients with a first class engineering service through effective teamwork, quality procedures and a long-term commitment to improvement.

bsi. ISO 9001 Quality Management

FM 00343

GOODWIN INTERNATIONAL LTD
7.5 acre manufacturing facility

We hold many customer approvals, maintaining and working to complex project specifications in addition to SABRe, AQAP, Defence Standards, GS3003 and GS3001. Our work is regularly within the confines of RCC-M and ASME codes. Goodwin adopt through life risk management at holistic, project and product levels and feed learning from experience (LFE) into each new project.

We provide documentary evidence and life time quality records commensurate with the contractual requirements and market sector. Goodwin understands that the value of quality assurance and evidence of compliance is of a firm equal to the component parts in a highly regulated, technology and specification driven industry. It is quality assurance and control which sets Goodwin apart from our competitors.

We undertake contractual quality planning to adapt our quality management system to the project requirements. Quality plans will be prepared at the commencement of all projects and we will also develop and submit any special process documents that are required.

At Goodwin we have a culture where everyone recognises that we are all responsible for quality and that this is paramount to our success.

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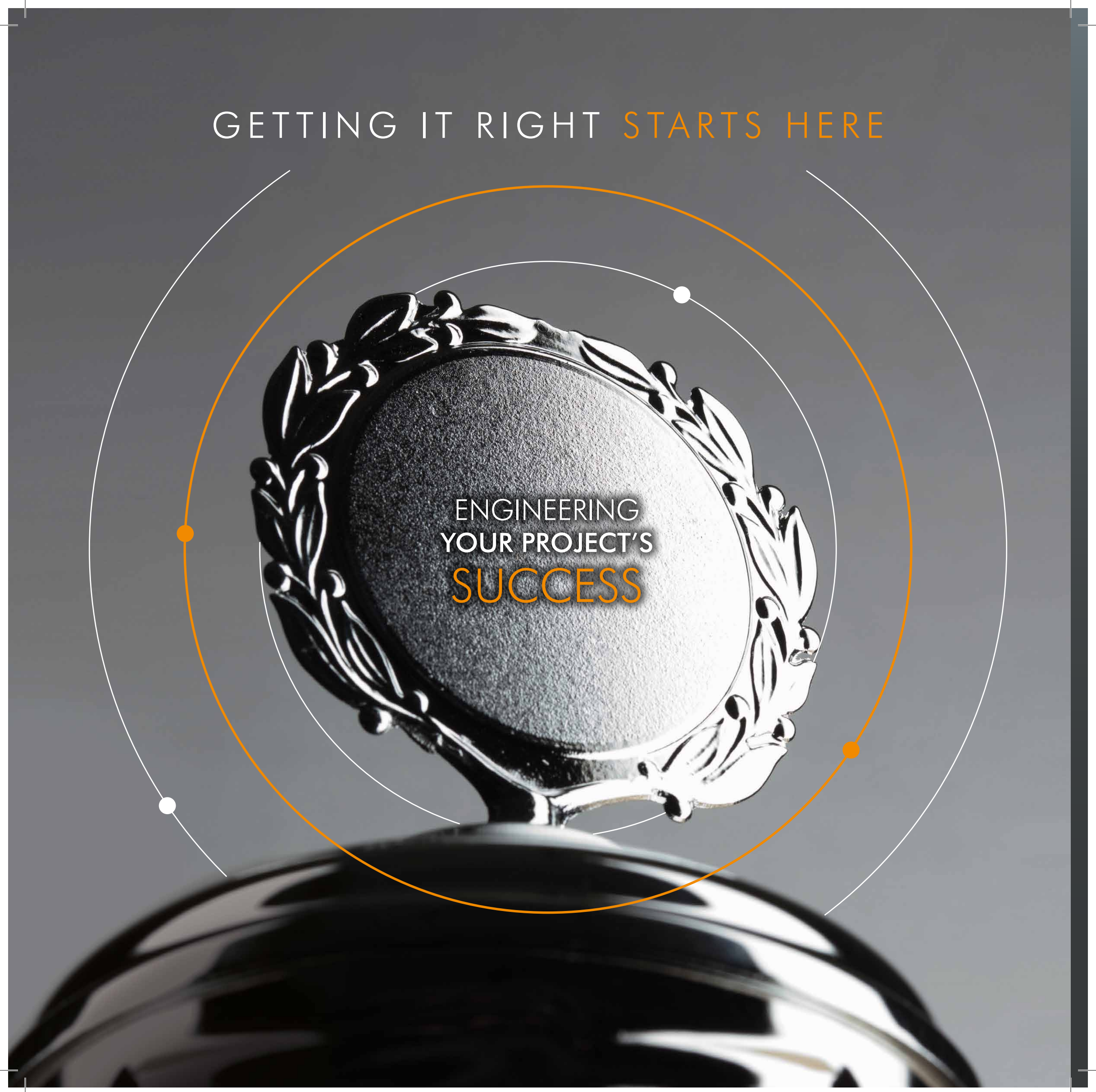
GETTING IT RIGHT STARTS HERE



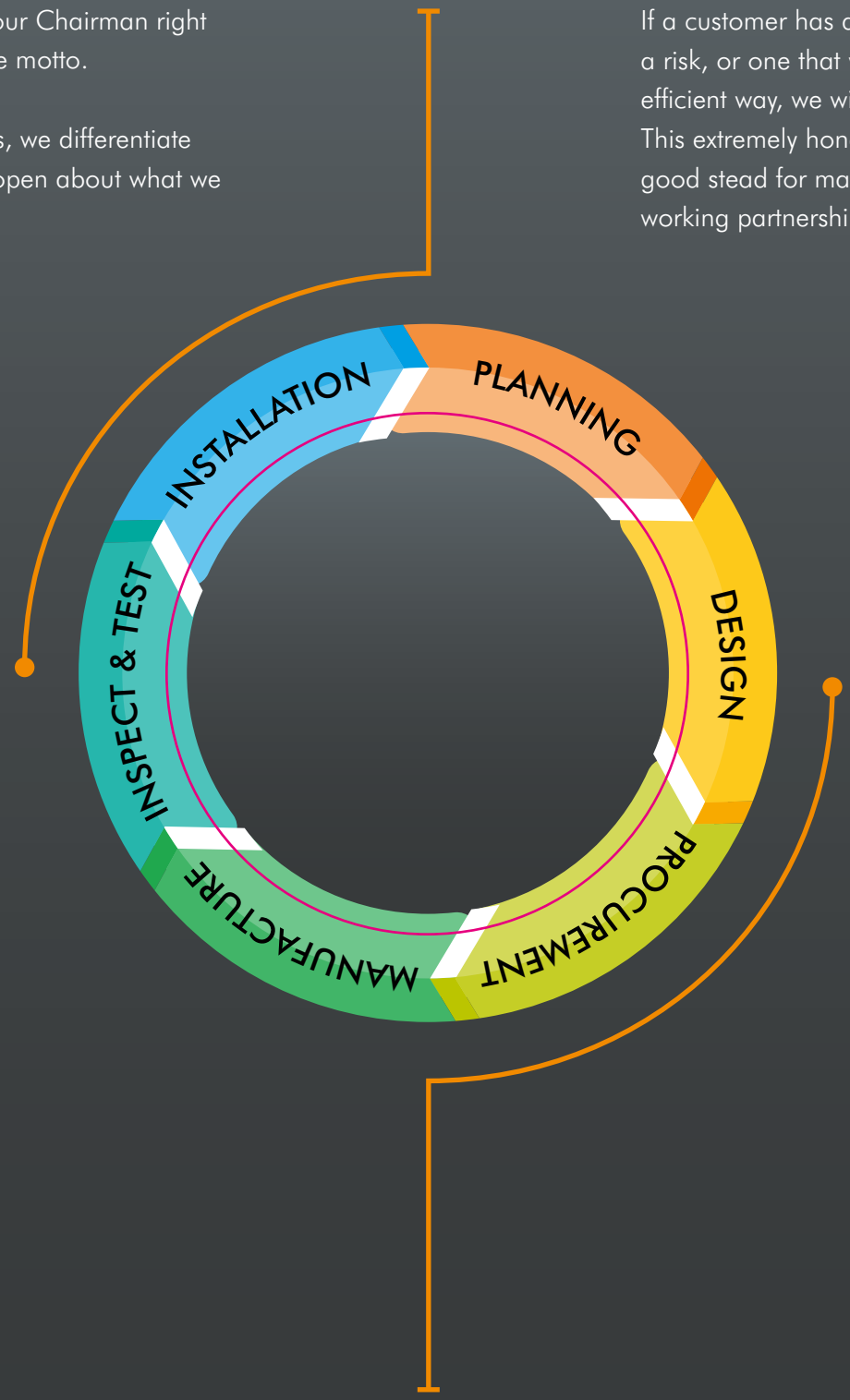
ENGAGE WITH GOODWIN

"say what you do; do what you say"

Everyone at Goodwin International from our Chairman right down to our apprentices live by this simple motto.

Living by this and sticking to our principles, we differentiate ourselves from our competition. We are open about what we can achieve.

If a customer has a requirement that we believe could pose a risk, or one that we believe could be achieved in a more efficient way, we will propose an appropriate alternative. This extremely honest and open approach has stood us in good stead for many years allowing us to develop long term working partnerships with our clients.



EXCELLENCE IS NOT A SKILL
IT IS AN ATTITUDE

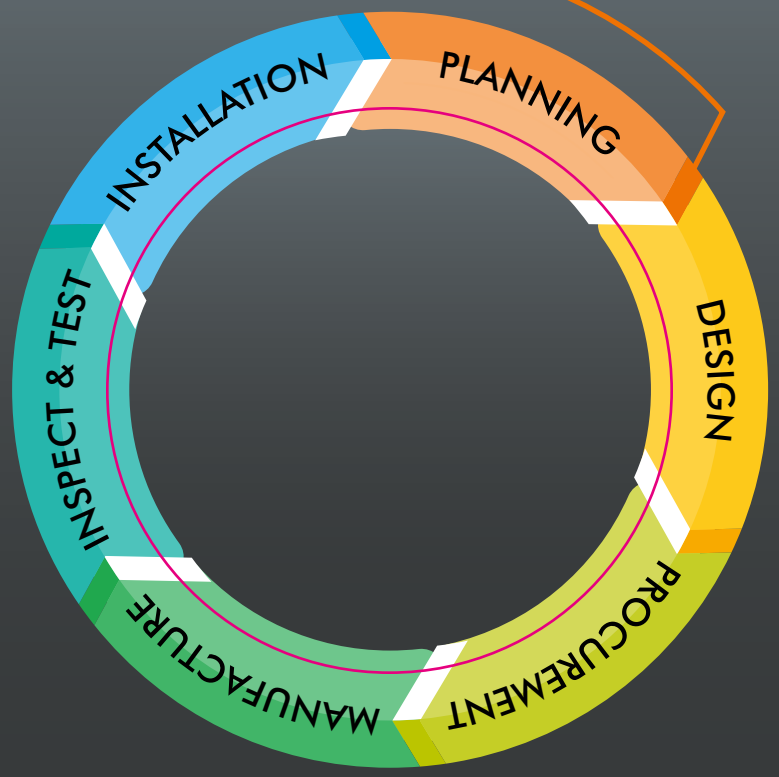
PLAN FOR SUCCESS

At the commencement of each project we hold a multi-disciplinary PFMEA (Process Failure Mode Effect Analysis) meeting with contributions from all key stakeholders. We look at all aspects of a project - from inception to successful completion identifying any known or perceived risks throughout. We then incorporate all of the learning from experience that our organisation can bring to the table, allowing the project to run with upmost efficiency.

UNLESS A PLAN HAS SOLID FOUNDATIONS
& INCORPORATES LIKELY RISKS OF A PROJECT;
IT IS GENERALLY NOT WORTH THE PAPER IT IS PRINTED ON

The outcome of the PFMEA is the basis from which we perform our high level project risk assessment – identifying areas where contingencies will need to be incorporated into the project plan. This allows us time to prepare in advance, therefore counteracting the level of perceived risk for all involved. After all, our aim is to deliver each project on time by following an appropriate plan producing world class products within an agreed budget.

Due to the scale of the projects that Goodwin International is involved in, we have developed a complete and comprehensive systematic approach to project risk management. This is just part of the value added service that comes with working with us.

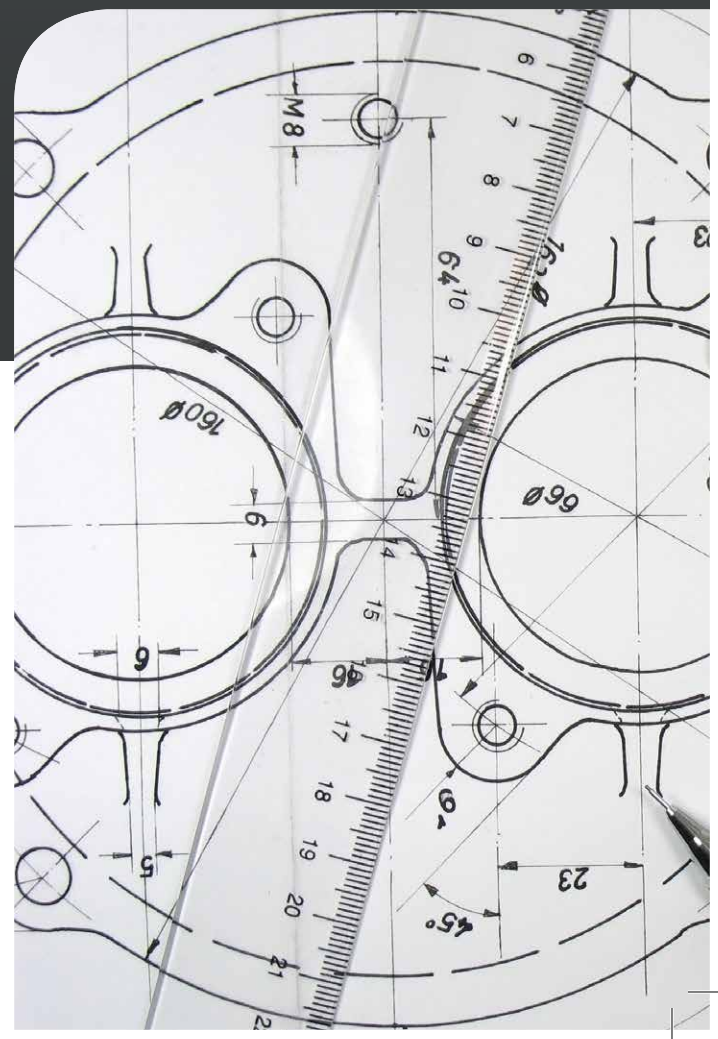


Risk management requires the involvement of the entire project team and it is essential that the team understand the project baseline, the risks anticipated as well as the mitigation strategies.

We relish the opportunity to assist our clients in realising their vision through our planning capabilities. For complex projects, our planning software of choice is Primavera P6, which is Oracle based and is aligned with our Oracle mainframe. However alternative software can be utilised to suit specific customer project requirements so that it can be directly fed into your master schedule.

QUALITY IN DESIGN

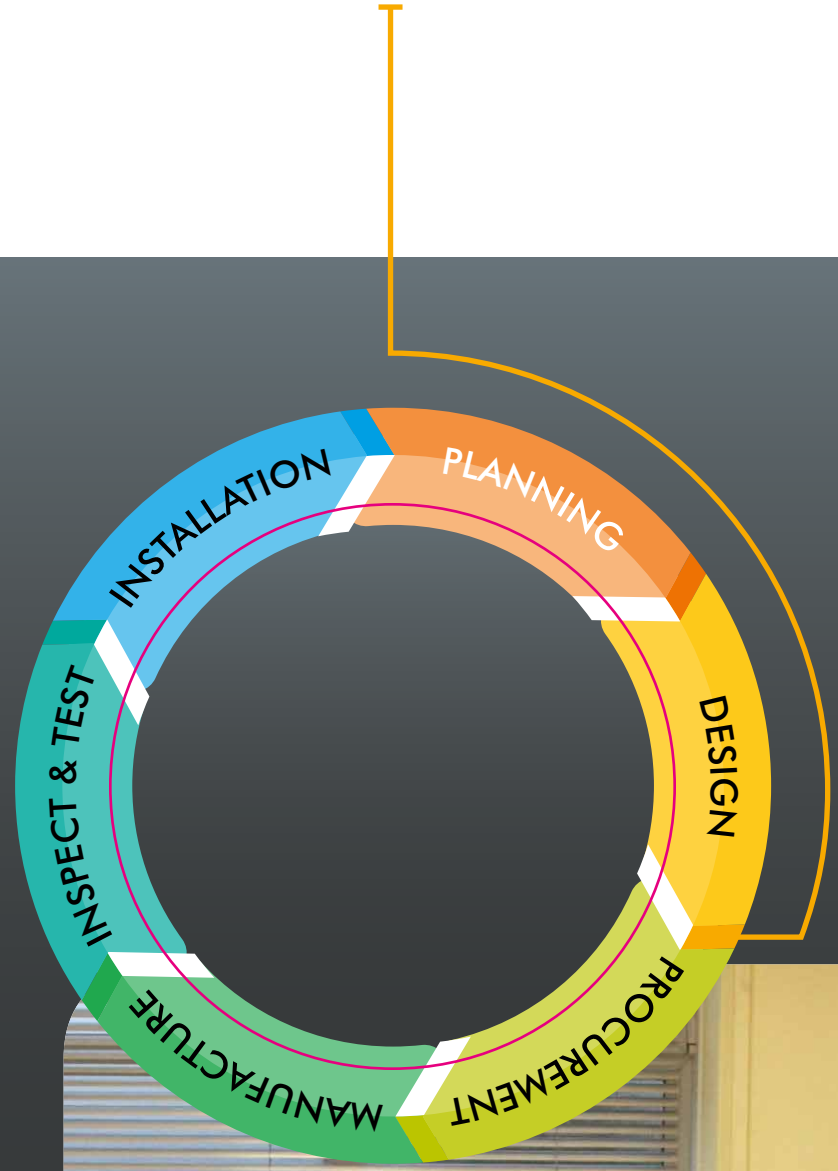
In order to maintain our position as a global supplier to high profile customers, we pride ourselves in delivering a promise of absolute confidentiality and security when dealing with sensitive or special projects. We have the required facility to undertake critical defence contracts, with secure areas in design, documentation, engineering and manufacturing with access restricted to security cleared personnel only.



EVERYONE WANTS A RIGID PRODUCT DEFINITION
WE UNDERSTAND THAT THIS IS A LUXURY AND ARE ADEPT AT MANAGING CHANGE SHOULD A PROJECT EVOLVE

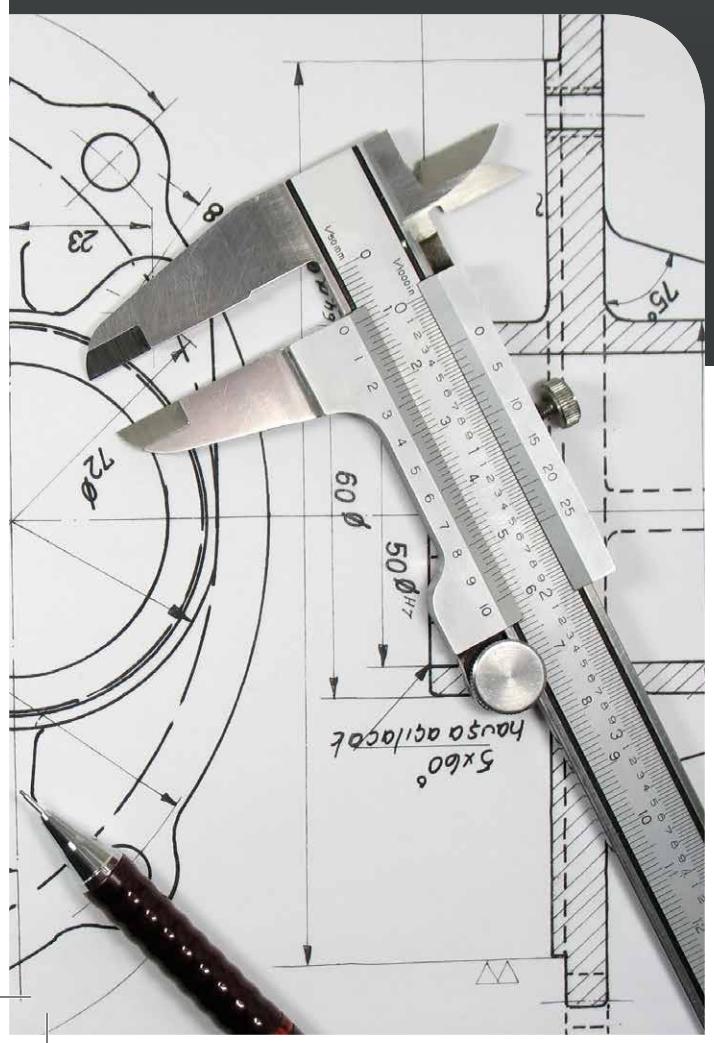
Our design teams undertake the following design:

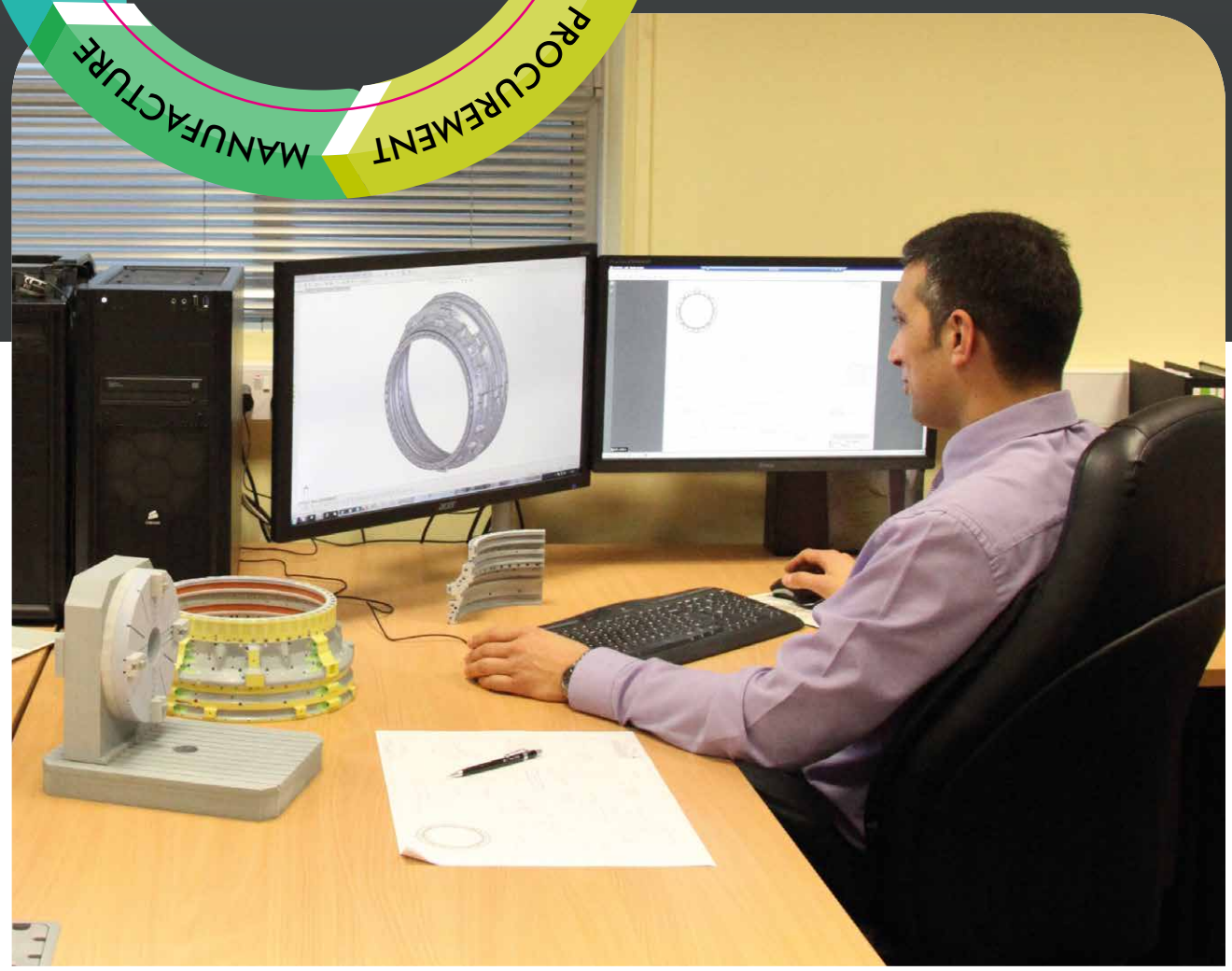
- Initial Concept
- Detailed Precision Components
- Assemblies
- Electromechanical Systems
- Review of Legacy Design
- Jigs and Fixtures
- Manufacturability Reviews



On projects where we haven't been contracted to be the design authority, we regularly assist our clients by undertaking manufacturability reviews.

If we see that the design intent could be met with better manufacturability, we can create alternative proposals where allowable, incorporating our wealth of manufacturing knowledge and innovative methodologies. Ultimately it makes all of our jobs easier.





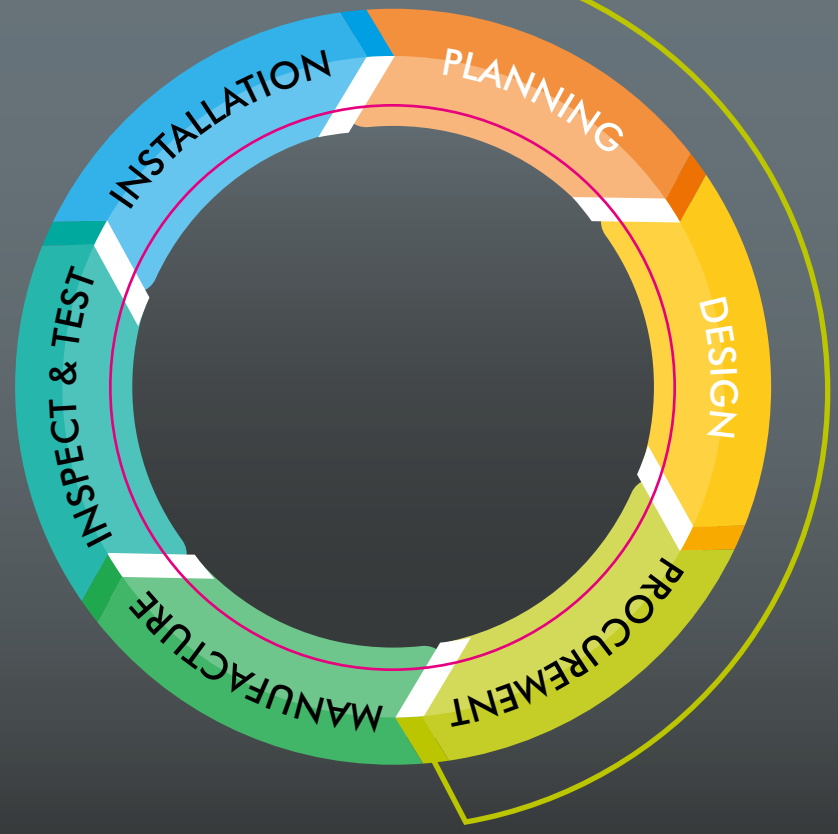
STRATEGIC PROCUREMENT

Working with us, you get a dedicated team of purchasing professionals, sourcing globally in a responsible manner to ensure that you get real quality, great value and great service.

NO DIFFERENT TO HOW WE INTERACT WITH YOU, WE TREAT OUR SUPPLIERS WITH THAT SAME HIGH LEVEL OF INTEGRITY.
QUITE SIMPLY IF THEY DO NOT SHARE OUR HIGHLY ETHICAL VALUES, THEN THEY ARE NOT A SUPPLIER TO GOODWIN INTERNATIONAL

Where we differ from others with regards to purchasing and supply chain management is when working with technical and specification heavy orders.

This may present as raw material, sub-systems or complete items - but by using us to manage the complexity is where we add value to you.

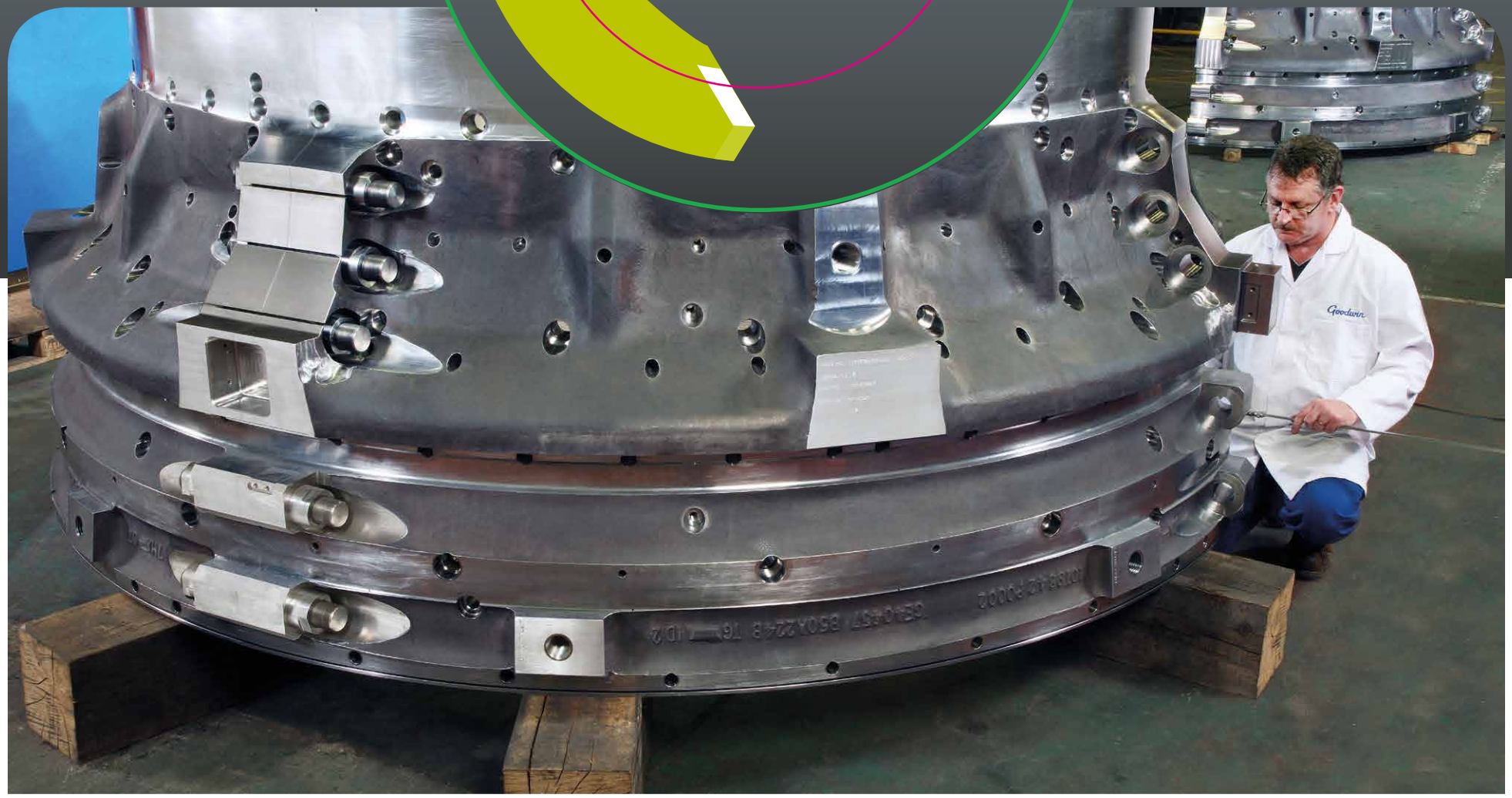


Ethical behaviour is imperative. It is all too easy for suppliers to profiteer when a customer has an urgent need.

However, by having our long term outlook, we believe that by solving your problem without letting the supply chain take advantage of the situation, we develop better relationships with you as a customer. This is ultimately a long term benefit to our supply chain, rather than them making a profit at your expense.

SKILLED MANUFACTURING

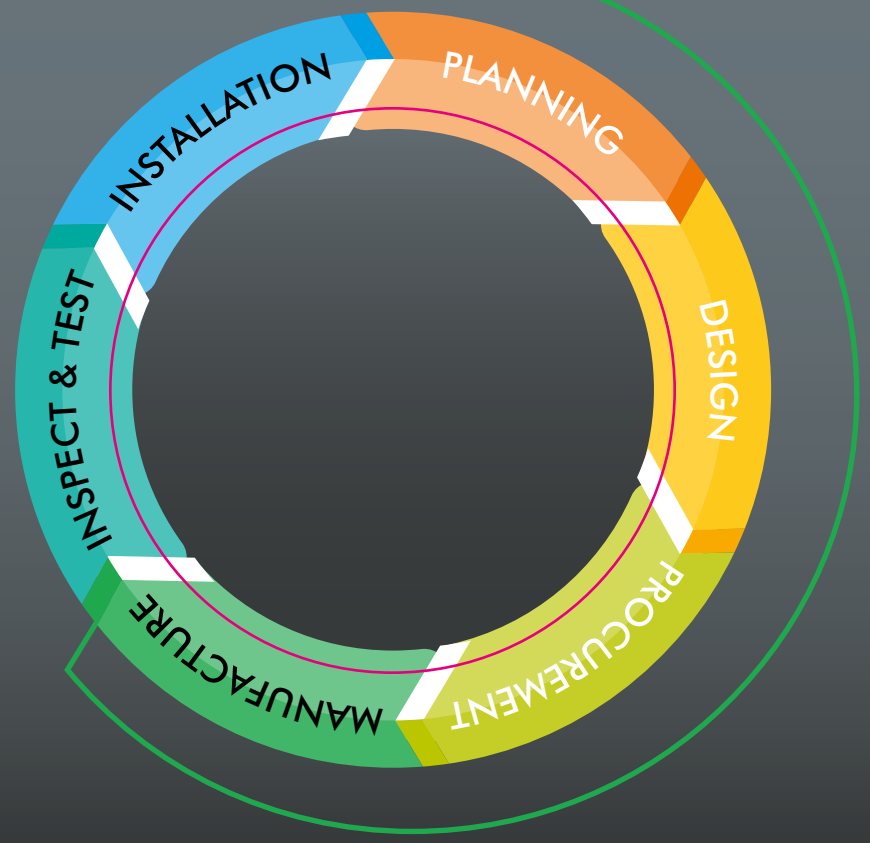
With our world class manufacturing facility and its unique set of capabilities, it enables us to deliver components for both new build projects in addition to retrofit projects for end of life plant extension.



FOR PRECISION MACHINED HEAVY ENGINEERED COMPONENTS
AND SYSTEMS, WHERE QUALITY MATTERS,
MANUFACTURING EXCELLENCE IS AT THE CORE OF
WHAT WE DO AND IS OUR PASSION

Our facility in Staffordshire (UK) is where the entire manufacturing process takes place, whether it be for components for Nuclear, Oil & Gas, Power Generation, Aerospace or Renewable industries.

We can manufacture and supply anything from primary circuit reactor components standing 4 metres in height and 5.5 metres in diameter, machined and welded assemblies up to 100,000kg, right down to small specialty items such as non return valves with a diameter of 105mm weighing 3kg.



We pride ourselves on employing only the best machinists, programmers and manufacturing engineers in the industry. Our facility operates 24 hours a day, 7 days a week. We are here to provide critical support and have in place the facilities and the experience to deliver what you need now and in the future.

When you visit us you will witness first hand the way that we re-invest into our organisation. We consistently train our staff, procure the most technologically advanced machinery and create opportunities by truly excelling at what we do.

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PRECISION
INSPECTION & TESTING

We have an extensive range of procedures and equipment for material verification and component performance and measurement.

We demonstrate full traceability of materials and processes and provide detailed reports. Inspection is undertaken throughout the manufacturing stages to ensure we meet and exceed our customer's requirements.

AS FUNCTIONALLY SPECIFIED WE CAN PERFORM ANYTHING
FROM A SIMPLE FACTORY ACCEPTANCE TEST TO
FULLY AUTOMATED ACCELERATED LIFETIME TESTING

With our laser measurement and scanning technology coupled with one of the largest available CMM capabilities in the UK as well as conventional measurement techniques, we can ensure components are manufactured to the highest possible standards demanded by our customers.

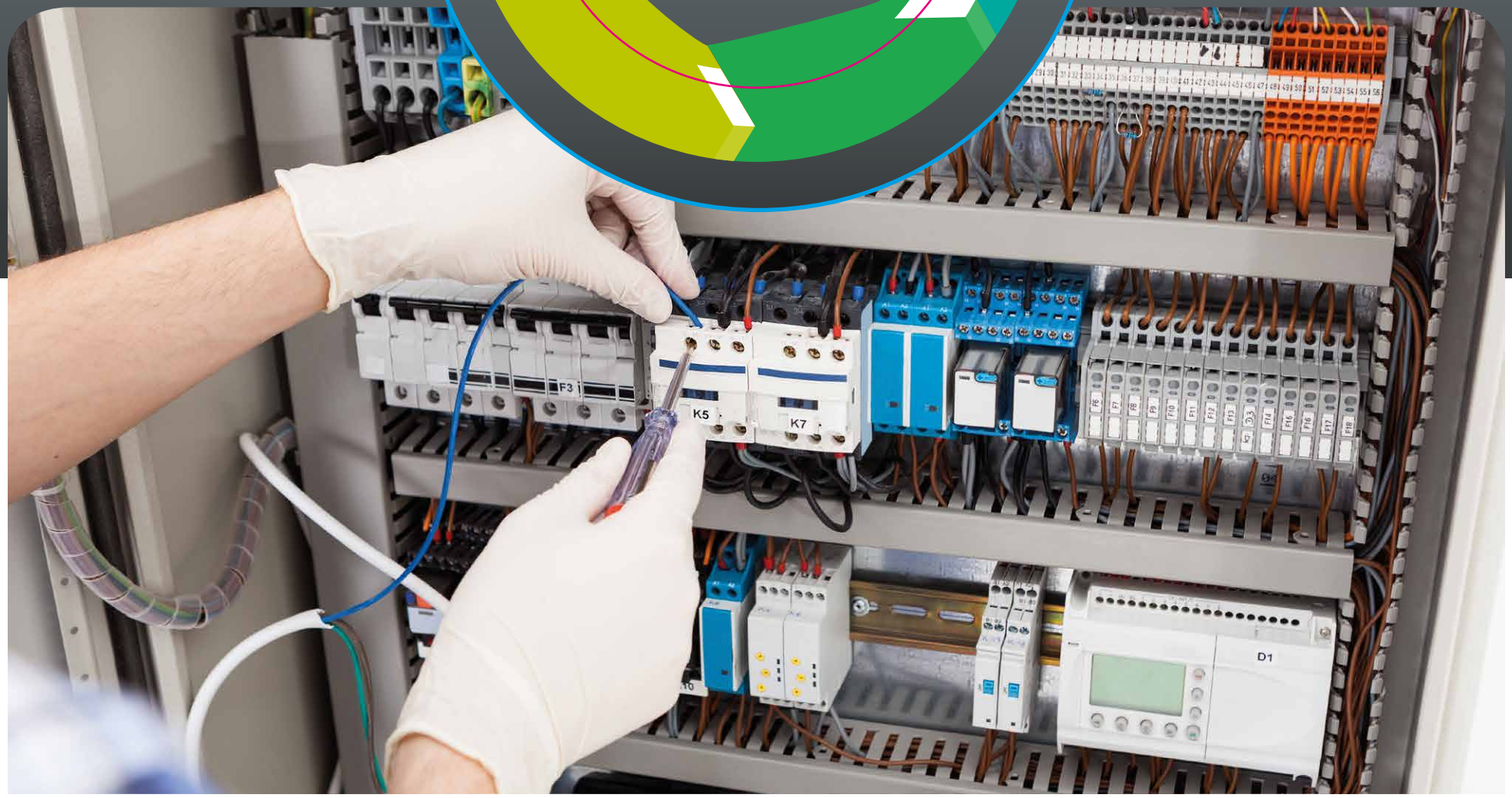
Portable CMM measuring equipment also allows more in depth verification of components during the manufacturing process. We have over twenty in-house level II & level III ASNT & PCN qualified personnel in our arsenal for radiography, ultrasonic, magnetic particle and dye penetrant inspection.

Goodwin quality assurance engineers and NDT technicians receive continuous training and refresher courses to maintain our capability.

Within our highly specialised facilities we have state of the art testing capabilities which allow us to carry out a wide variety of highly specialised testing and commissioning activities. This includes in-house facilities to perform hydrostatic testing, gas pressure testing up to 15,000psi (1034 bar) and cryogenic testing undertaken at -50°C to -196°C with helium. The testing facility is supported by Suitably Qualified and Experienced Personnel (SQEP) that also develop, implement and improve the industry test criteria.

INSTALLATION AND EC&I

Each project presents a unique set of conditions and complexities, requiring rigorous safety, regulatory compliance and robust solutions. In order for us to offer a complete safe and compliant solution, we work with carefully selected strategic partners in order for us to deliver complete mechanical, electrical, control and instrumentation solutions.



WE KNOW THAT OUR CORE SKILLSET IS DESIGN & MANUFACTURE,
BY ACCEPTING THIS WE WORK EVEN HARDER TO GET
THE BEST TEAM TO PROVIDE THE RIGHT PROJECT SOLUTION

Our installation resource is provided by our strategic partners with the ultimate control and supervision handled by ourselves. This partnership approach ensures that our customers experience a streamlined process.

This allows us to support installation and commissioning activities across a full range of services. All the commissioning engineers and technicians we work with are fully conversant with working in a safe manner in accordance with industry codes of practice and specifications.

Our strategic partners have the knowledge and experience to take on any control panel or programming contract that a client may have; ranging from small junction boxes through to full control centres.

As HSE is a fundamental requirement for Goodwin, we only use accredited members of the ECIA, participating members of the NAECI Contractors Group and contractors with accreditation under the SAFE-contractor scheme.

We endeavour to always engage with a workforce in the locality of where the majority of the work will be executed, cutting down indirect working costs and ensuring that the socio-economic impact of this work directly benefits the local economy.

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MILLING
CAPABILITY

HEAVY PROJECT ENGINEERING
FOR THE MOST COMPLEX
& CRITICAL APPLICATIONS

GOODWIN
INTERNATIONAL LTD

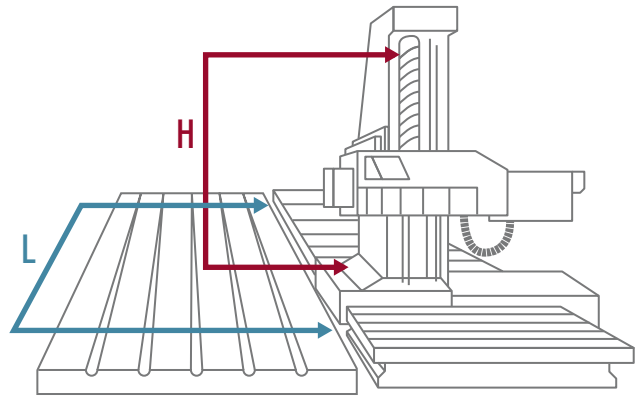
MILLING CAPABILITY

We excel at large, complex, precision milling. We possess 100 tonne overhead crane lifting capacity to deal with even the largest components. Through sustained reinvestment back into the business over many years, we have built an arsenal of machinery that is unrivalled consisting of modern, large, extremely high quality and accurate machine tools. Our operators are experienced in large precision work and are compliant when working to complex customer specifications. We have a strong support team that includes our quality department for documentation and inspection.

Machine Number & Specification	Make & Model	Pallets	X (mm)	Y (mm)	Z (mm)	W (mm)	V (mm)	B (mm)	Pallet Size (mm)	Max. Table Load (kg)	No. of Tools
1 Max Length L (mm) 9000 Max Height H (mm) 3150 Max Weight W (kg) 60,000	Toshiba MPC- 4108B	2	9000	4100	900	3150	n/a	n/a	3100 x 8000	60000	60
* 2 Max Length L (mm) 13500 Max Height H (mm) 4000 Max Weight W (kg) 60,000	Toshiba BF-130B (1)	1	13500	4000	1000	450	2500	0.005º	4000 x 3000	60000	60
3 Max Length L (mm) 9000 Max Height H (mm) 3000 Max Weight W (kg) 50,000	Toshiba BF-130B (2)	1	9000	3000	1000	450	2000	0.001º	3200 x 2500	50000	60
* 4 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 20,000	Toshiba BTD-130H.R22(1)	1	3000	2300	1600	400	n/a	0.001º	2200 x 1800	20000	60
* 5 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 20,000	Toshiba BTD-130H.R22(2)	1	3000	2300	1600	400	n/a	0.001º	2200 x 1800	20000	60
* 6 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 20,000	Toshiba BTD-130H.R22(3)	1	3000	2300	1600	400	n/a	0.001º	2200 x 1800	20000	60
7 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 10,000	Toshiba BTF 130 (1)	1	3000	2300	1600	700	n/a	0.001º	2200 x 1800	10000	60
8 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 10,000	Toshiba BTF 130 (2)	1	3000	2300	1600	700	n/a	0.001º	2200 x 1800	10000	60
9 Max Length L (mm) 3000 Max Height H (mm) 2300 Max Weight W (kg) 20,000	Toshiba BTF 130 (3)	1	3000	2300	1600	400	n/a	0.001º	2200 x 1800	20000	60
10 Max Length L (mm) 2000 Max Height H (mm) 1500 Max Weight W (kg) 6,000	Toshiba BTD 110 R16 (1)	1	2000	1500	1450	500	n/a	0.001º	1600 x 1400	6000	38
11 Max Length L (mm) 2000 Max Height H (mm) 1500 Max Weight W (kg) 6,000	Toshiba BTD 110 R16 (2)	1	2000	1500	1450	500	n/a	0.001º	1600 x 1400	6000	38

All of this allows us, putting it simply, to do what we promise - we get it right first time, on time, whilst delivering real value to you as a customer.

We pride ourselves on the long term working relationships that we have with our clients, often gained because we 'do the right thing' – something that we believe sets us apart from others.



Machine Number & Specification	Make & Model	Pallets	X (mm)	Y (mm)	Z (mm)	W (mm)	V (mm)	B (mm)	Pallet Size (mm)	Max. Table Load (kg)	No. of Tools
*12 Max Length L (mm) 2500 Max Height H (mm) 1500 Max Weight W (kg) 6,000	Toshiba BTD 110 R16 (3) Extended Bed X,Y	1	2500	1500	1450	500	n/a	0.001°	1600 x 1400	6000	60
*13 Max Length L (mm) 2000 Max Height H (mm) 1500 Max Weight W (kg) 6,000	Toshiba BTD 110 R16 (4)	1	2000	1500	1450	400	n/a	0.001°	1600 x 1400	6000	38
14 Max Length L (mm) 850 Max Height H (mm) 760 Max Weight W (kg) 1,300	Toshiba NX76 (1)	2	850	760	780	n/a	n/a	1°	750 x 630	1300	60
15 Max Length L (mm) 850 Max Height H (mm) 760 Max Weight W (kg) 1,300	Toshiba NX76 (2)	2	850	760	780	n/a	n/a	1°	750 x 630	1300	60
16 Max Length L (mm) 900 Max Height H (mm) 800 Max Weight W (kg) 1,200	Enshu 630H (1)	2	900	800	750	n/a	n/a	0.001°	630 x 630	1200	20
17 Max Length L (mm) 900 Max Height H (mm) 800 Max Weight W (kg) 1,200	Enshu 630H (2)	2	900	800	750	n/a	n/a	0.001°	630 x 630	1200	20
18 Max Length L (mm) 650 Max Height H (mm) 450 Max Weight W (kg) 800	Enshu S400	2	650	450	350	n/a	n/a	na	530 x 400	800	60
19 Max Length L (mm) ±198 Max Height H (mm) 400 Max Weight W (kg) 200	Enshu JE 600 (1)	2	±300	600	600	n/a	n/a	1°	400 x 400	400	60
20 Max Length L (mm) ±198 Max Height H (mm) 400 Max Weight W (kg) 200	Enshu JE 600 (2)	2	±300	600	600	n/a	n/a	1°	400 x 400	400	60
21 Max Length L (mm) ±198 Max Height H (mm) 400 Max Weight W (kg) 200	Enshu HMC 40 (1)	4	±198	400	550	n/a	n/a	1°	315 x 315	200	60
22 Max Length L (mm) ±198 Max Height H (mm) 400 Max Weight W (kg) 200	Enshu HMC 40 (2)	4	±198	400	550	n/a	n/a	1°	315 x 315	200	60

* Simultaneous five axis machining with fully integrated additional rotary tables available on these machines (up to 15,000kg max component weight without any steady on largest fifth axis table).

VERTICAL TURNING CAPABILITY

GOODWIN
INTERNATIONAL LTD

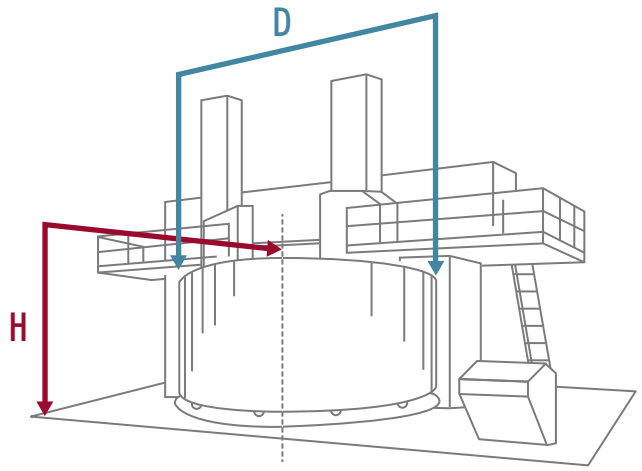
PRIDING OURSELVES ON VERY HIGH STANDARDS OF PRECISION MANUFACTURING

VERTICAL TURNING CAPABILITY

To compliment our accomplished milling capability we have invested considerably in our large, precision, vertical turning capability. This allows us to deliver the same high standards in both machining processes that our customers have come to expect. Our extensive facility of all singing, all dancing machinery is capable of completing complex components with very few set-ups. This allows for quicker processing times whilst eliminating the possibility for compound tolerance stack-ups that can occur when a job has to be set-up multiple times. By processing work faster with decreased component risk, costs are reduced allowing us once again to deliver real value to you as a customer.

Machine No. & Capabilities	Make & Model	Pallets	Max Turn Length (mm)	Max Turn Diameter (mm)	Ram Length (mm)	Max Table Load (kg)	Stations	Live Spindle	No. Turn Tools
* 1 Max Diameter D (mm) 5500 Max Height H (mm) 3800 Max Weight W (kg) 60,000	SNK SVT 5000MCY	1	3800	5500	3000	60,000	Various	YES	20
2 Max Diameter D (mm) 4000 Max Height H (mm) 3500 Max Weight W (kg) 40,000	Schiess SCHIESS	1	3500	4000	2070	40,000	N/A	NO	5
3 Max Diameter D (mm) 6000 Max Height H (mm) 2830 Max Weight W (kg) 20,000	Toshiba TSS 30-55	1	2830	6000	1240	20,000	N/A	NO	-
4 Max Diameter D (mm) 2500 Max Height H (mm) 1800 Max Weight W (kg) 12,000	Toshiba TMD 23	2	1800	2500	1300	12,000	3	YES	12
* 5 Max Diameter D (mm) 2600 Max Height H (mm) 1750 Max Weight W (kg) 10,000	Toshiba MP-2620 (U)	1	1750	2600	800	10,000	N/A	YES	120
* 6 Max Diameter D (mm) 2600 Max Height H (mm) 1750 Max Weight W (kg) 10,000	Toshiba MP-2620 (U)	1	1750	2600	800	10,000	N/A	YES	120
* 7 Max Diameter D (mm) 2600 Max Height H (mm) 1750 Max Weight W (kg) 10,000	Toshiba MP-2620 (U)	1	1750	2600	800	10,000	N/A	YES	120
8 Max Diameter D (mm) 2000 Max Height H (mm) 1900 Max Weight W (kg) 6,000	Toshiba TXN 16	1	1900	2000	900	8,000	5	YES	8
9 Max Diameter D (mm) 2000 Max Height H (mm) 1500 Max Weight W (kg) 5,000	Toshiba TMD 16	2	1500	1700 (2000)	900	8,000	3	YES	8
10 Max Diameter D (mm) 1700 Max Height H (mm) 1860 Max Weight W (kg) 5,000	Toshiba TMC16	2	1860	1700	1200	8,000	5	YES	8
11 Max Diameter D (mm) 1300 Max Height H (mm) 910 Max Weight W (kg) 4,000	Toshiba TMC 13A	2	910	1700	1000	4,000	3	YES	8

* Set up for simultaneous five axis machining (in addition to live tooling and indexing tables like most of our machines have).



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EXTENSIVE FACILITIES TO MACHINE LARGE CRITICAL & SMALL COMPLEX COMPONENTS

CNC CENTRE LATHE CAPABILITY

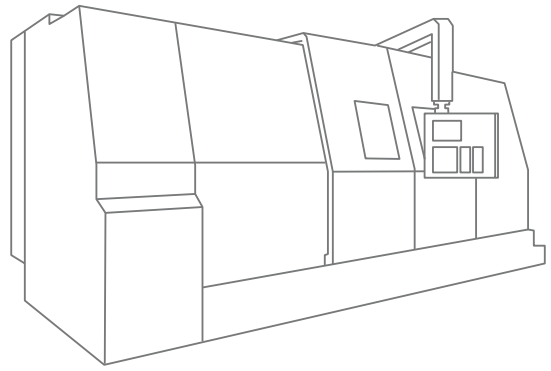
GOODWIN
INTERNATIONAL LTD

CNC CENTRE LATHE CAPABILITY

Our smaller machine capability mirrors our large milling and turning capabilities, with the back-up and support that some organisations can only aspire to. This allows you to place single orders, rationalising your supply chain and reducing the hidden costs of managing too many suppliers.

By utilising our smaller machinery capabilities you will still receive world class quality documentation and support; an administration burden that through our experience many smaller facilities cannot handle.

Machine No. & Capabilities			Make & Model	Chuck Dia. (mm)	Chuck Grip	Turret 1	No. Turn Tools	No. Tools Drill	Motor Power (Kw)
1 Max Turn	D (mm)	740	Okuma LU45-M	800	700	12	12	0	30
Max Turn Length	L (mm)	1200							
Max Weight	W (kg)	-							
2 Max Turn	D (mm)	900	Daewoo Puma 600M	600	600	12	6	6	30
Max Turn Length	L (mm)	1500							
Max Weight	W (kg)	-							
3 Max Turn	D (mm)	658	Mazak Integrex i-300	250	250	72	40	32	T=30
Max Turn Length	L (mm)	1519							
Max Weight	W (kg)	-							
4 Max Turn	D (mm)	600	Daewoo Puma 15	530	600	12	12	N/A	30 S=22
Max Turn Length	L (mm)	1500							
Max Weight	W (kg)	-							
5 Max Turn	D (mm)	275	Daewoo Puma 240L	260	260	12	12	N/A	11/15
Max Turn Length	L (mm)	650							
Max Weight	W (kg)	-							
6 Max Turn	D (mm)	275	Daewoo Puma 240L	260	260	12	12	N/A	11/15
Max Turn Length	L (mm)	650							
Max Weight	W (kg)	-							
7 Max Turn	D (mm)	275	Toshiba TMC35	250	250	10	10	N/A	15
Max Turn Length	L (mm)	1100							
Max Weight	W (kg)	-							
8 Max Turn	D (mm)	450	Dainichi B70	450	450	12	12	N/A	30
Max Turn Length	L (mm)	1600							
Max Weight	W (kg)	-							



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WELDING & FABRICATION CAPABILITY

A COMPLETE SERVICE
SUPPLYING THE HIGHEST
QUALITY FINISHED PRODUCTS

GOODWIN
INTERNATIONAL LTD

WELDING & FABRICATION CAPABILITY

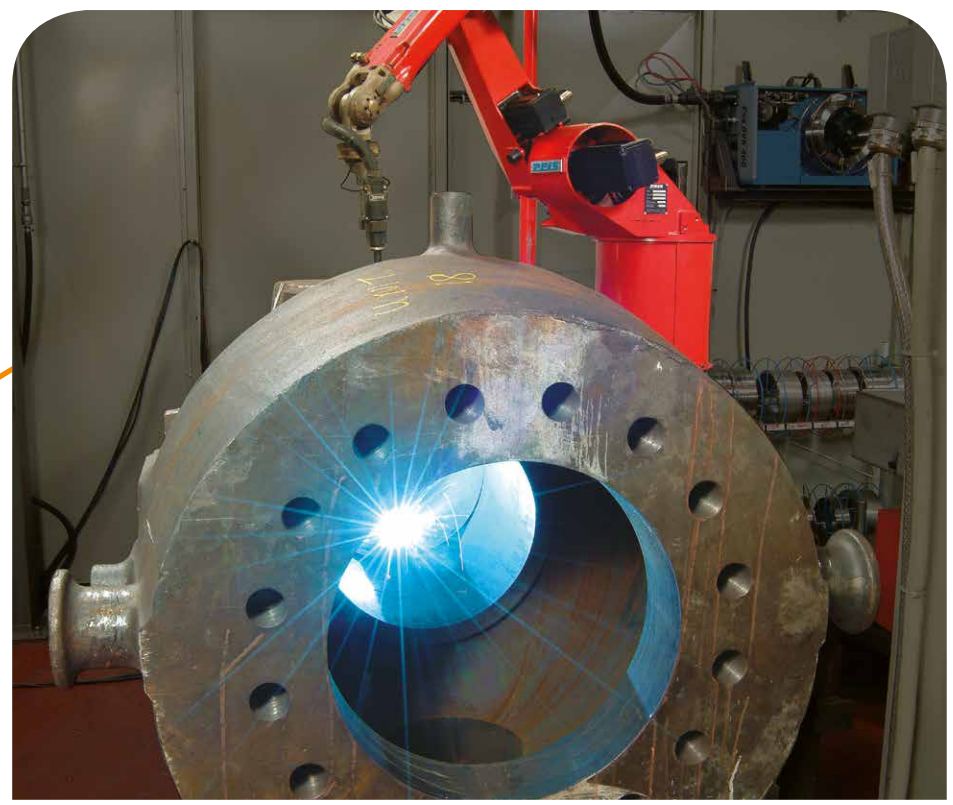
We have extensive experience in fabrication and welding, allowing us to provide a complete service. We supply the highest quality finished products to our ISO 3834 accredited system, managed by our full-time European & Internationally certified Welding Engineer.
Our welding capabilities range from bespoke manufacture of high integrity stainless steel fabrications to automated robotic welding cells for higher volume manufacture of repeatable, critical components. On the petrochemical side, we excel at overlaying hard-facing/corrosion resistant alloys and on the power generation side, we excel at the fabrication of very high pressure, high integrity welds joining dissimilar materials.

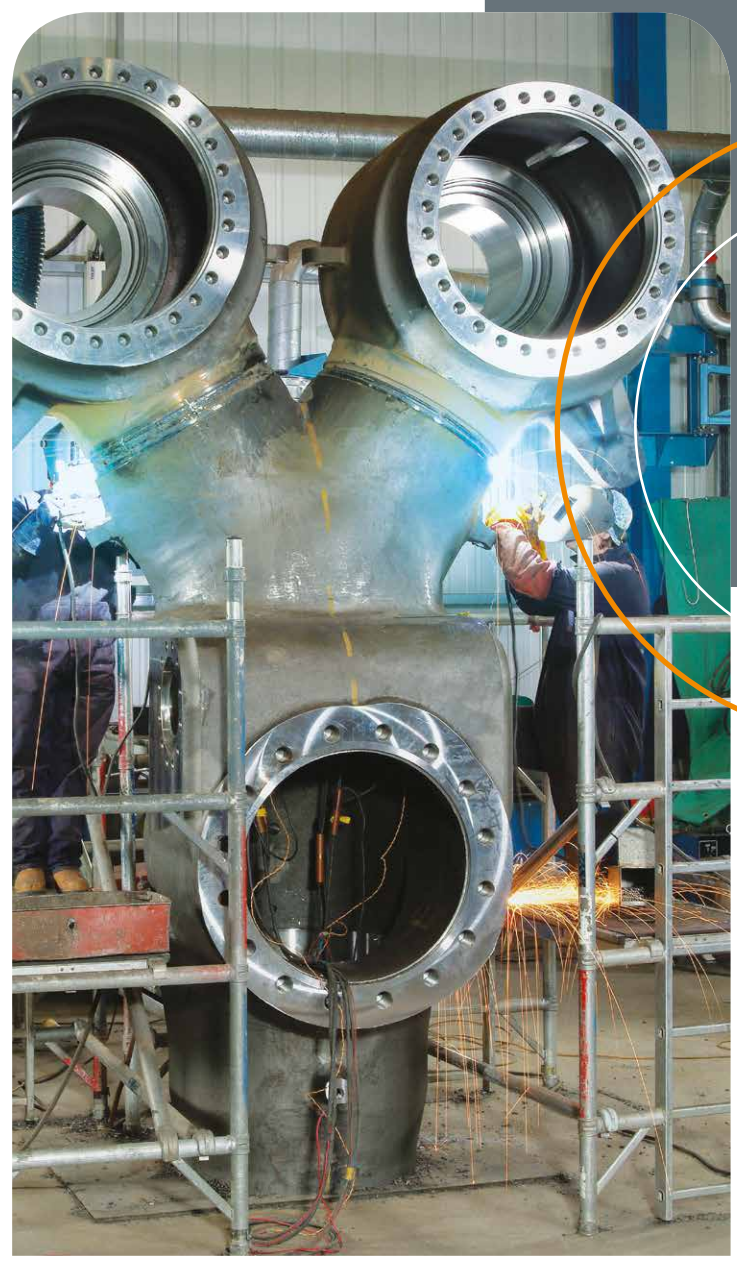
Robotic Welding

Make & Model	System	Axis	Load Capacity	Repeatability	Reach	Other Accesories	A1	A2	A3	A4	A5
Reiss SRV6(1)	Robot Star 5	6	60 Kg (131 lbs)	± 0.05mm (0.02 in)	1735mm	Camera System, ARC Monitoring, Rotary Table	330º	165º	270º	360º	246º
Reiss SRV6(1)	Robot Star 5	6	60 Kg (131 lbs)	± 0.05mm (0.02 in)	1735mm	ARC Monitoring, Rotary Table	330º	165º	270º	360º	246º

Manual Welding

Method	Equipment	Welders	Operator Qualifications
GTAW	450 Amps High Frequency start up	10	ASME XI, ISO
SMAW	450 Amps	12	ASME XI, ISO
GMAW	450 Amps	12	ASME XI, ISO
SCAW	450 Amps	12	ASME XI, ISO



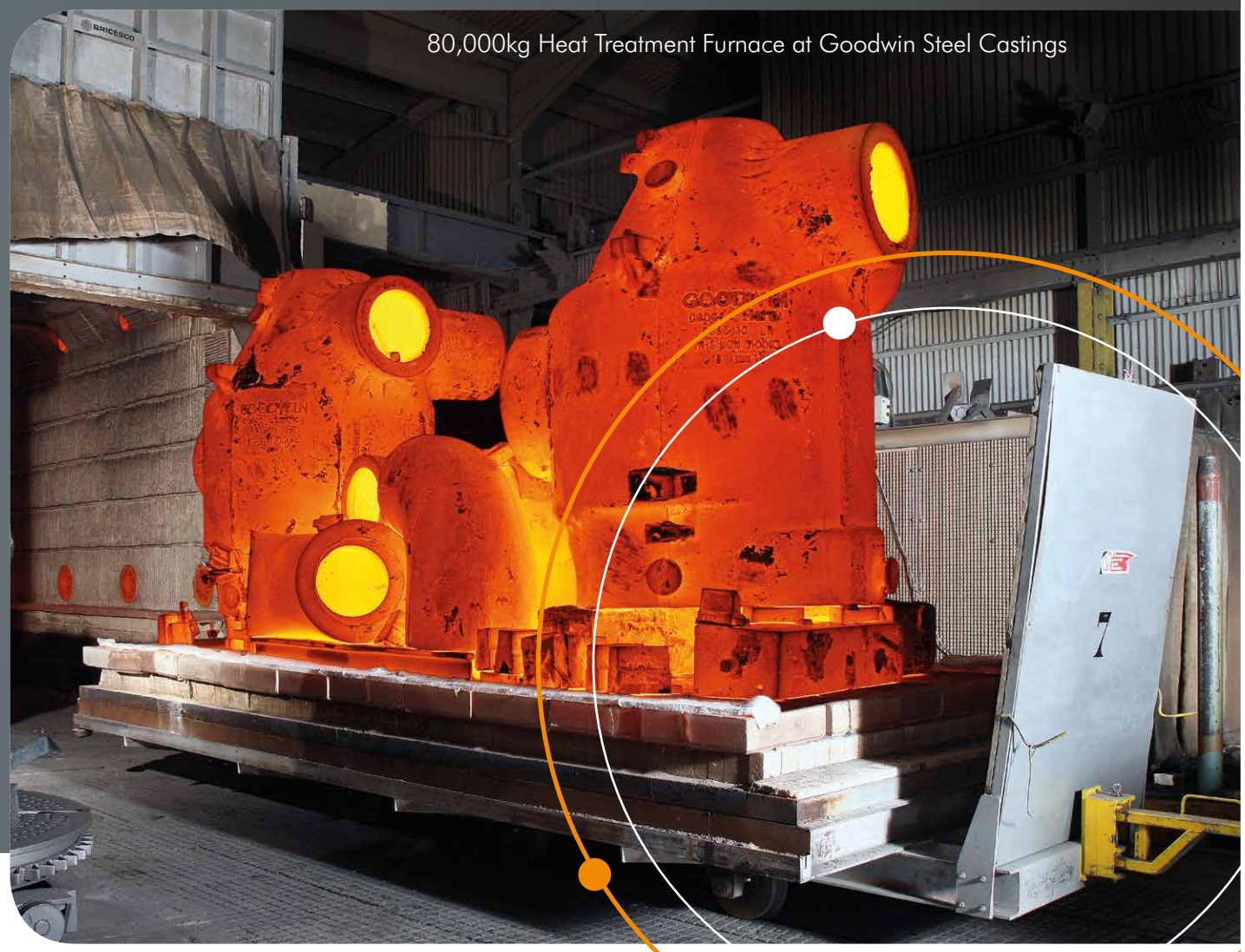


HEAT TREATMENT CAPABILITY

The application of heat treatment is most common following the welding of overlays or fabrications. Post Weld Heat Treatment (PWHT) is undertaken to relieve stresses caused by welding within certain materials. At our disposal we have electric and gas ovens along with more specialised induction heating systems that are PLC controlled to within 1°C accuracy. Such systems are capable of heating thick walled sections to 750°C for extended periods with very high degrees of temperature stability and control.

HeatTreatment

Furnace No. & Capabilities				Type
1	Max Length	L (mm)	3250	Gas Furnace
	Max Height	H (mm)	3250	
	Max Width	W (mm)	1300	
	Max Weight	(kg)	20,000	
2	Max Length	L (mm)	1800	Gas Furnace
	Max Height	H (mm)	1500	
	Max Width	W (mm)	1300	
	Max Weight	(kg)	650	
3	Max Length	L (mm)	1200	Electric Furnace
	Max Height	H (mm)	1200	
	Max Width	W (mm)	1300	
	Max Weight	(kg)	650	
4	Max Length	L (mm)	1200	Electric Furnace
	Max Height	H (mm)	1200	
	Max Width	W (mm)	1300	
	Max Weight	(kg)	650	
5	Max Length	L (mm)	1000	Electric Furnace
	Max Height	H (mm)	700	
	Max Width	W (mm)	1000	
	Max Weight	(kg)	650	
	Max Lifting Capacity	(kg)	60,000	



80,000kg Heat Treatment Furnace at Goodwin Steel Castings

Data recorders are used to record the temperature rise, dwell times and cooling times providing either hard copy or electronic versions as requested. All furnaces and data recorders are regularly calibrated in our measurement and calibration system.

Dependent upon the material and weld procedure, a water quench heat treatment is sometimes required. This is done at Goodwin Steel Castings, our sister company, who work to the same exacting standards as us having a 30 tonne water quench heat treatment facility and larger standard furnaces as pictured above.

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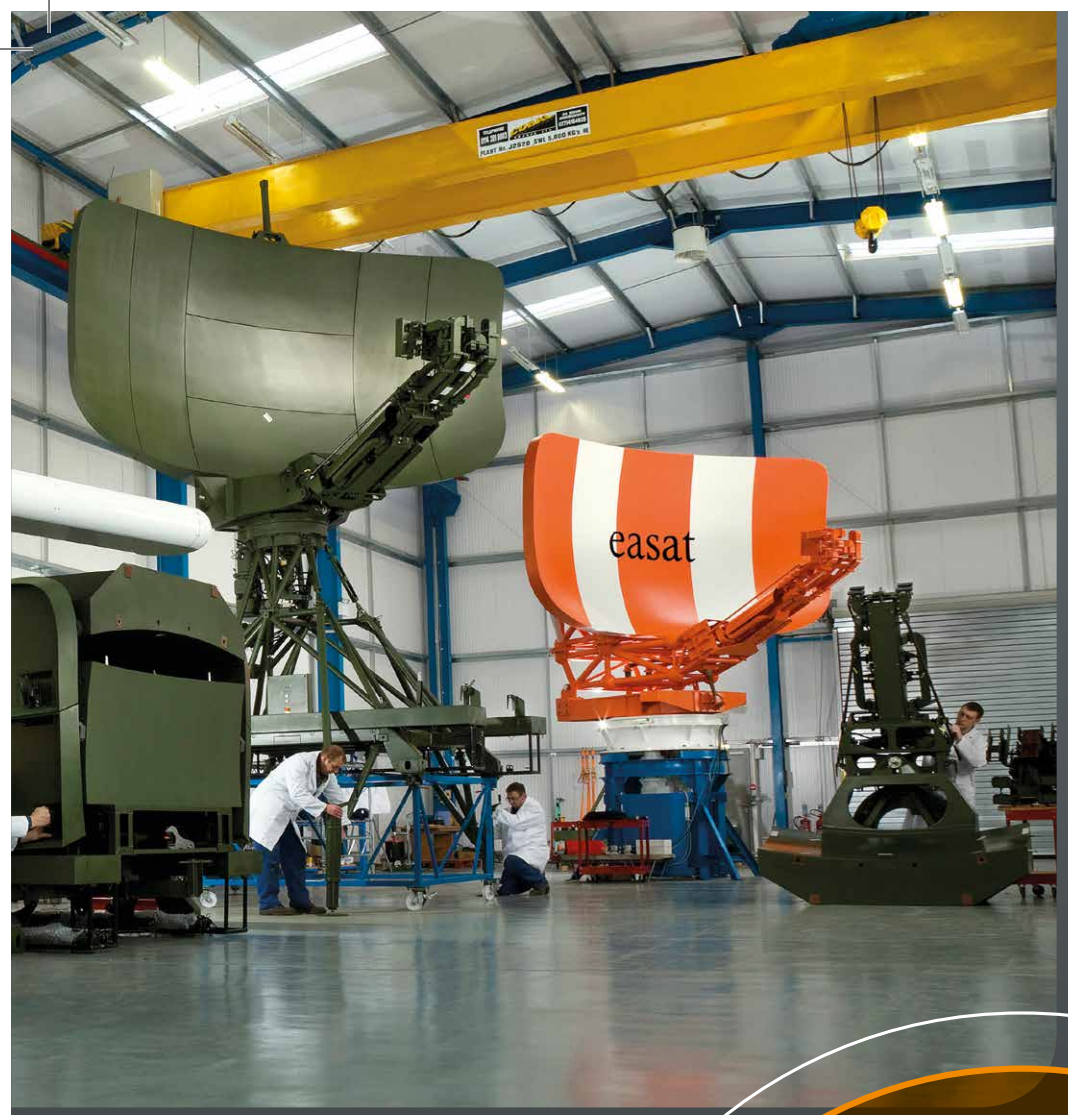
ASSEMBLY & PAINTING

Total project supply of cast, fabricated, machined, pressure tested and assembled 18,000kg Steam Valves.

In conjunction with Goodwin Steel Castings we have shipped over $200 million of Steam Valves to the Far East for advanced ultra super critical duty for very high efficiency fossil fuel power stations.

GOODWIN
INTERNATIONAL LTD



For EASAT (a Goodwin PLC Group company), Goodwin International undertakes all procurement activities, sub-contract management, assembly and testing of these complex radar systems including all EC&I work. The antenna and control system assemblies comprise of several thousand individual components.

These large 3m x 3m frames, pictured right, have been precision machined and have undergone detailed finishing processes including Electroless Nickel Plating, three different paint systems and had cryogenically frozen pins installed. The shrink fitting of these pins was a risk mitigation idea provided by Goodwin that removed the requirement to weld the pins into place which could have potentially distorted the frame out of its highly geometric toleranced specification.

The picture shows the components here before being assembled into a shield door, with many other components, electrical control & safety systems.

ENSURING QUALITY TO THE FINEST DETAIL

ASSEMBLY &
PAINTING

INSPECTION & MEASURING

CONSTANTLY MONITORING
PRODUCTS & PROCESSES


GOODWIN
INTERNATIONAL LTD
www.faro.com
FRONT SIGHT
FARO LASER TRACKER Xi
DRY POWDER
POWER
OPEN

INSPECTION
& MEASURING

Our largest CMM is the Hexagon DEA Alpha Image. It is capable of measuring parts of five metres in length, three metres wide, two metres high and weighing up to thirty five thousand kilograms. It is one of the largest gantry-type CMMs commercially available in the UK. All of our CMMs are housed in purpose built temperature-controlled areas, installed on vibration-proofed foundations. These measuring facilities are regularly calibrated and have gauge R&R studies performed to ensure that they are always operating within specification. For even larger components we have full on site laser measuring capability.

	Coordinate Measuring Machine	System	Accuracy	Calibrated to	Measuring Area
1	DEA 25.50.15 Hexagon Alpha image	PCDIMS CAD++ V2014	6+6L/1000	6+6L/1000	5m x 3m x 2m (x,y,z)
2	Mitotoya	M-Comos V3.3R3 (Geo-Win)	2.9+3L/1000	2.9+3L/1000	700mm x 700mm x 600mm
3	Hexagon 12-22-10 Global Advantage	PCDIMS CAD++ V2014	2.1+3L/1000	2.1+3L/1000	1.2m x 2.2m x 1m
4	Faro Gage Arm x2	Delcam	5+8L/1000	5+8L/1000	700mm Radial
5	Faro Platinum Arm with Scanner	CAM 2 Measure 10 + Geomagic	5+8L/1000	5+8L/1000	1000mm Radial
6	Faro Laser Tracker	CAM 2 Measure 10	16+0.8L1000	16+0.8L/1000	40m x 360°

We have over 2500 instruments, gauges and pieces of inspection equipment in our arsenal that are fully calibrated and traceable.


COORDINATE MEASURING MACHINE
INSPECTION CAPABILITY 5 X 3 X 2m

NON-DESTRUCTIVE TESTING

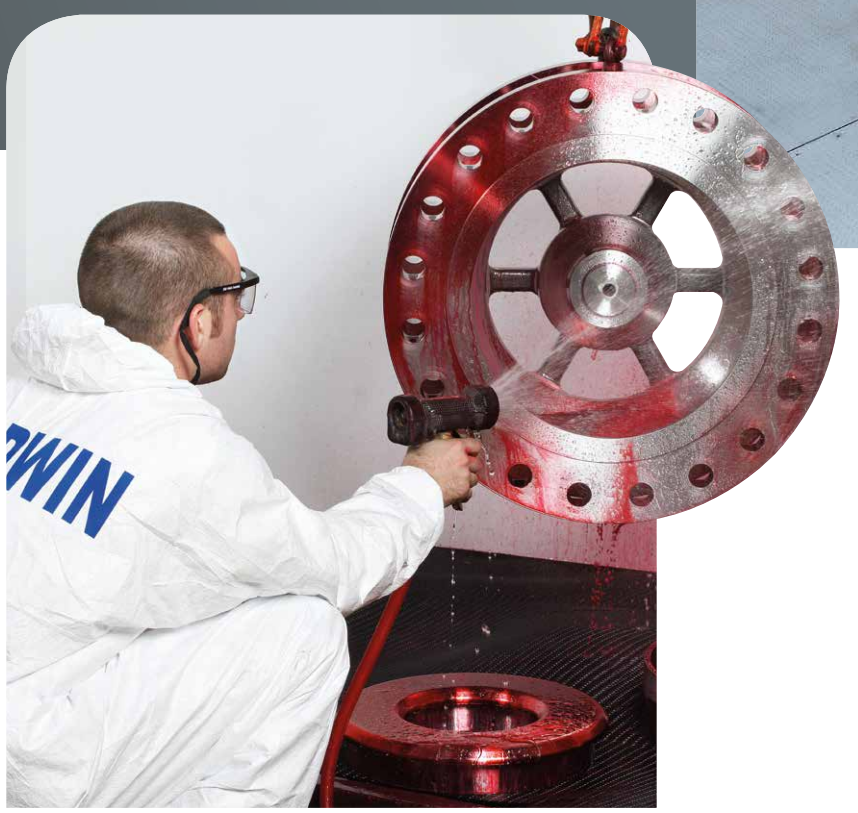
GOODWIN
INTERNATIONAL LTD

NDT

ENSURING QUALITY IS AT WORLD CLASS LEVEL

NON-DESTRUCTIVE TESTING

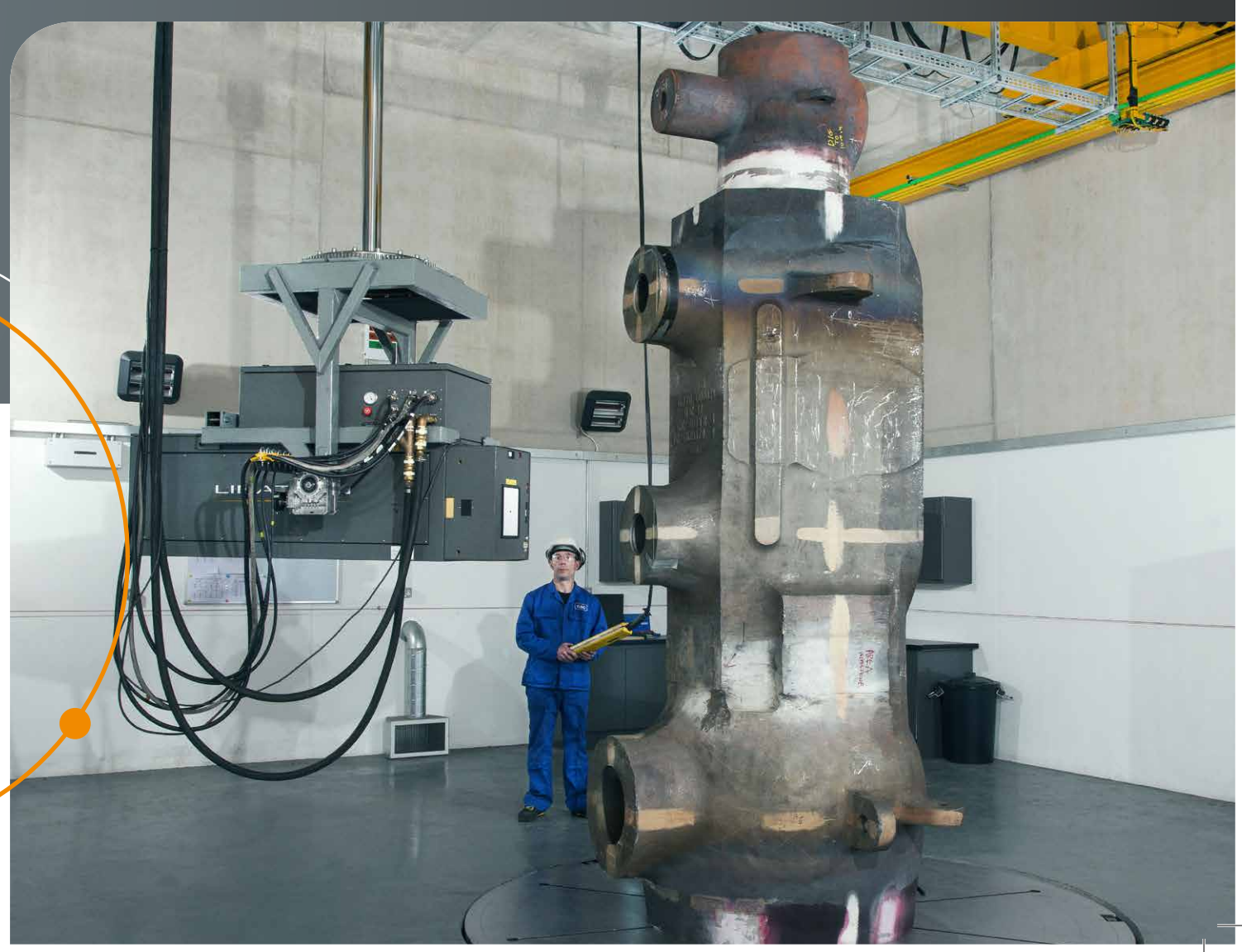
* The radiography facility located at our sister company Goodwin Steel Castings.



Inspection and NDT has always been core to our business and we invest significantly to ensure we have an unrivalled capability, qualified staff and state of the art equipment to ensure delivery of our products is at a world class quality level.

Our NDT function operates under the control of the company level 3 technician and employs over 20 full time multi-skilled NDT technicians who hold a minimum level 2 certification, in varying test methods, and in accordance with one or more of the internationally recognised standards. NDT specifications and procedures are easily adaptable to address client specific requirements.

	Testing	Method	NDE Operators	Minimum Certification	Procedure
1	Magnetic Particle	Yoke	7	ASNT / PCN Levl 2	ASME / Project Specific
2	Dye Penetrant	Water Soluable Colour Contrast	14	ASNT / PCN Levl 2	ASME / Project Specific
3	Radiography *	9 MeV Linatron / 8.5 meV Linear Accelerator	5	ASNT / PCN Levl 2	ASME / Project Specific
4	Ultrasonic	Master Scan 350 / Sonic 100i	7	ASNT / PCN Levl 2	ASME / Project Specific
5	Positive Material Identification	NITON XL2 portable X-ray Fluorescence Analyser / Optical Emission Spectrometry	13	N/A	Project Specific



Maximum component or assembly weight with our overhead cranes is 100 tonne (70 tonne for radiography).

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PRESSURE TESTING

The pictures on this page are products made by us that have been hydrostatically tested. We test from 80psi (5½ bar) to 15,000psi (1034 bar).

We also have a helium gas testing facility on site to carry out cryogenic and high pressure gas testing should a more searching test be required.

With engineered products we manufacture for customers as well as our own products, we perform over 30,000 pressure tests annually.

GOODWIN
INTERNATIONAL LTD

PRESSURE TESTING

ENSURING OUR MACHINED COMPONENTS ARE PERFECT

HEALTH, SAFETY & ENVIRONMENT

PRESSURE TESTING

COMMITTED TO PROTECTING PEOPLE & OUR SURROUNDINGS

GOODWIN
INTERNATIONAL LTD

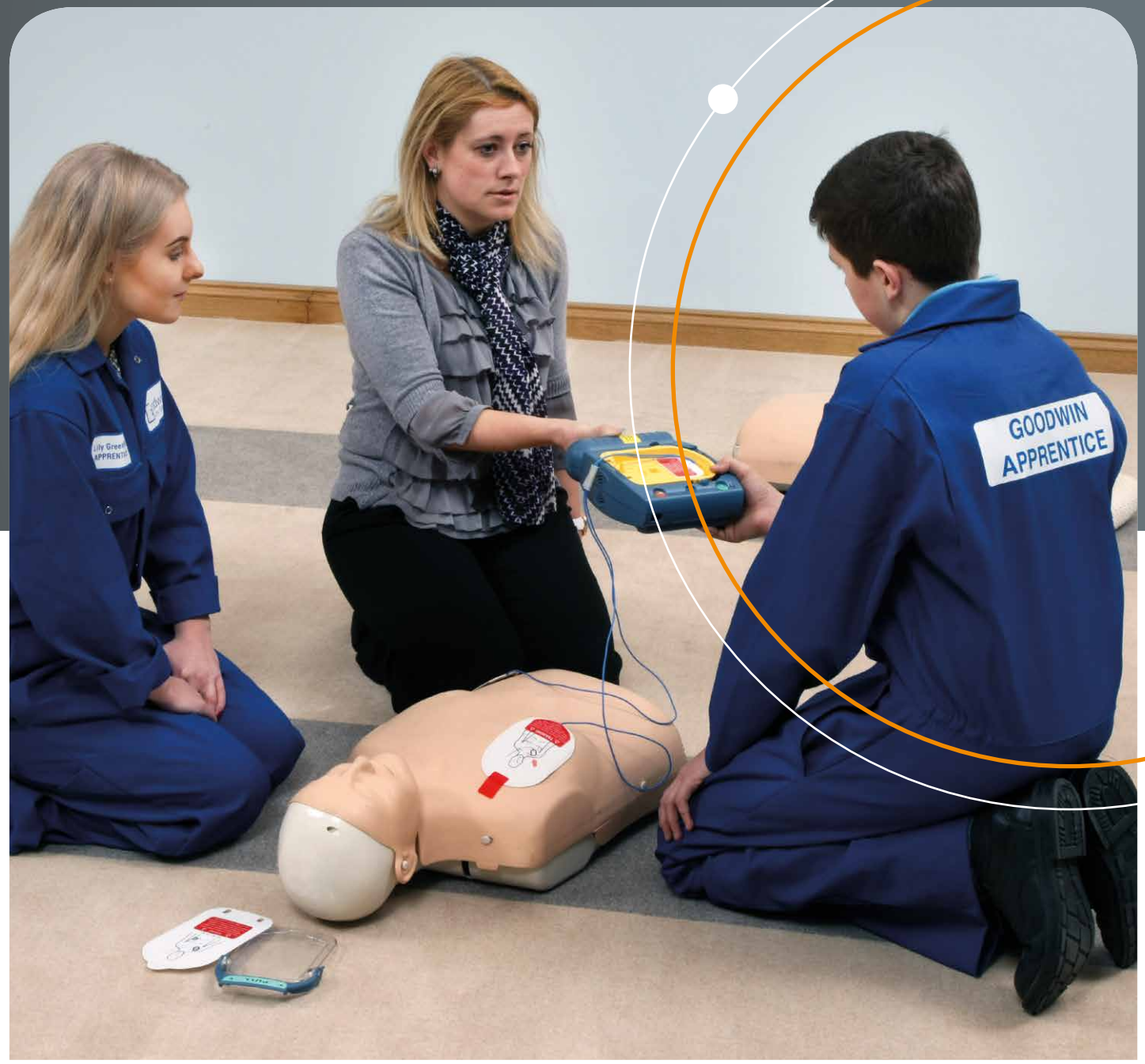
MAINTAINING SAFETY

Our Health, Safety & Environmental Management System is robust and is certified to OHSAS 18001 and ISO 14001. We constantly challenge our performance, reviewing it to ensure that it accurately reflects the demands of our continuously evolving business.

bsi. ISO 14001 Environmental Management
EMS 600979

bsi. OHSAS 18001 Occupational Health & Safety Management
OHS 600980

bsi. PAS 99 Integrated Management Systems
IMR 613512



DEFINITIVE
HEALTH, SAFETY
& ENVIRONMENTAL GOALS

We ensure everyone is protected, employees, visitors, customers and the general public, by putting in place the most rigorous procedures. We believe that maintaining high standards of Health, Safety and Environmental management are an integral part of business performance and are given equal standing with other business objectives. In our eyes, without this approach, you cannot be world class.

We are continually looking to reduce our carbon footprint in compliance with environmental legislation. In essence, using less energy and having less environmental impact to complete the work we do. We are committed to maintaining environmental standards through initiatives such as zero emissions to landfill and ensuring everyone works in line with our health, safety and environmental policy.

The company has fully integrated the certified HSE Management System to PAS99:2012 specification, enabling development of current integrated approaches whilst improving efficiency of the management systems and driving continual improvement.

To demonstrate our ongoing commitment to improving health and safety standards and performance, Goodwin International enters the Royal Society for the Prevention of Accidents (RoSPA) Awards Scheme on an annual basis. This highlights what we feel is our duty to continually improve our health and safety system by setting new goals and targets.

FSC www.fsc.org
MIX
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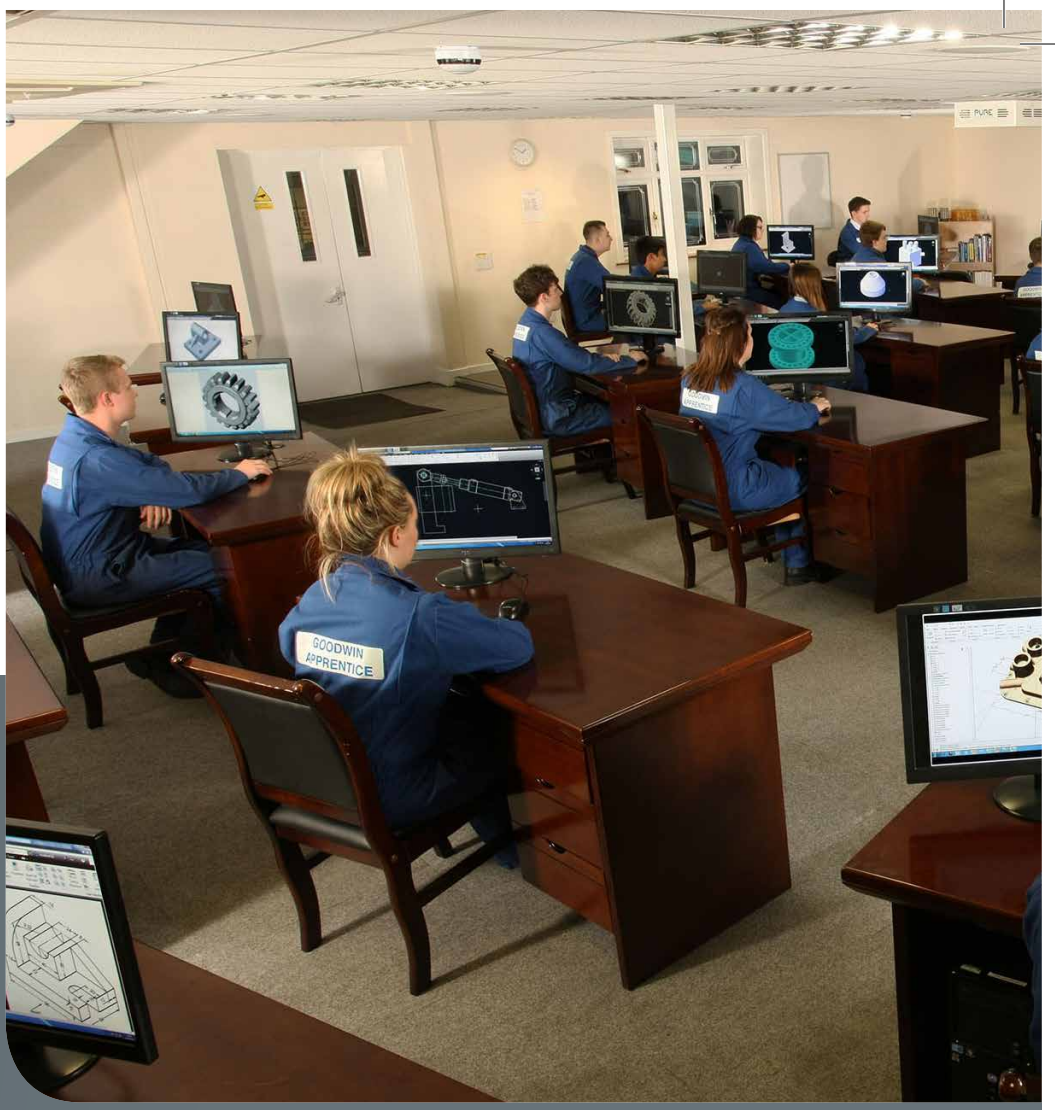
GOODWIN
APPRENTICES

PREPARING THE NEXT GENERATION
OF SKILLED PERSONNEL

GOODWIN
INTERNATIONAL LTD

APPRENTICES

GOODWIN
APPRENTICESHIP



The success of Goodwin is based on delivering engineering excellence. To ensure that we remain at the forefront of this field with our class-leading skill base, we invest heavily in training engineers to provide future growth for our group, taking on 25 – 30 apprentices annually to work in Goodwin Group companies.

Whilst most companies will use an external college-based apprenticeship system, Goodwin has engineered its own externally accredited in-house apprentice programme. By doing this we invest in the engineers of tomorrow far more than could ever be done at a collegiate level. This unprecedented level of effort that we go to by investing in the future of young people is reflected in the capability and skillset of our engineers for many years thereafter; benefitting the apprentice, our Group and our customers.

All apprentices benefit from a structured training programme. Each individual is given the same encouraging start, but as their strengths and merits are exposed, a tailored route of training is developed to provide them with the most effective opportunity to grow and build the best career which benefits both them and the company. By finding an avenue that they enjoy and engage with, they will become our future experts in their chosen subject matter.

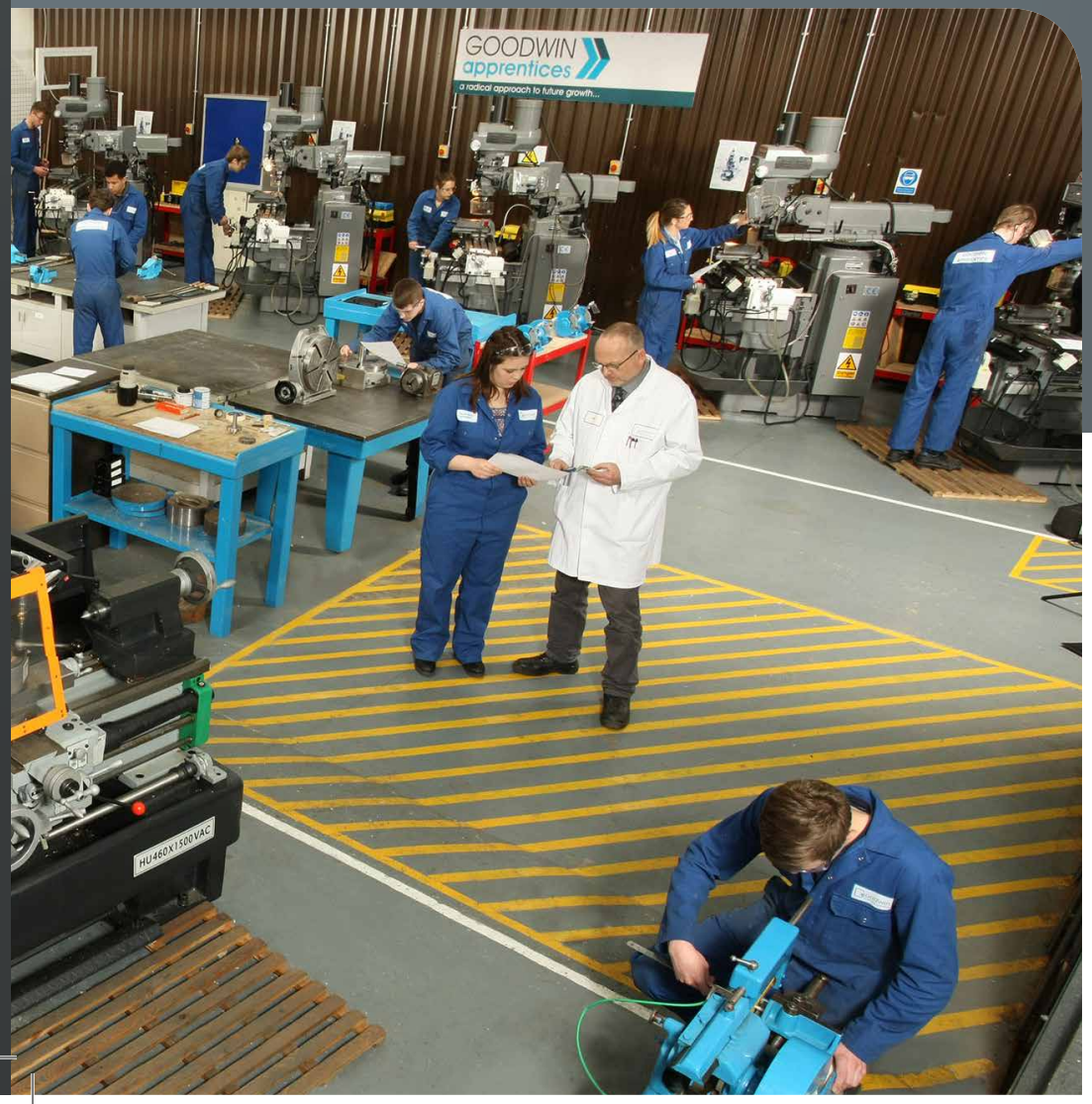
95% OF APPRENTICES
TRAINED WITH GOODWIN
STAY ON TO BUILD
SUCCESSFUL CAREERS
WITH US

GENERATING EXCELLENCE

Where we start to differentiate is by utilising industry professionals from across our group of companies as well as bringing in external professionals to deliver lectures to apprentices on specialist technical subjects. From our experience, when you have a teacher that is truly passionate about their subject it is infectious and they can pass on that subject matter enthusiasm far, far better than a lecturer working through a text book.

Similarly, as part of the four year apprenticeship programme, each apprentice receives two years of on the job, one-to-one tuition with an expert trainer. When you see what lengths we go to, it's easy to see why not all apprenticeships are equal.

By going the extra mile with our apprenticeship scheme, we will ensure that Goodwin remains at the forefront of engineering by having only the best skilled personnel to fulfil your work, both now and in the future.



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"GREAT BRITISH ENGINEERING"

GOODWIN
INTERNATIONAL LTD

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WORKING with the NUCLEAR AMRC

NIA Nuclear Industry Association

Supply Chain Charter for Nuclear Decommissioning Sites Signatory

The National Skills Academy NUCLEAR

FSC www.fsc.org MIX Paper from responsible sources FSC® C051109

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