



# Precision & Innovation

We're one of the UK's leading independent plastics manufacturing and design refinement companies.





# World-class plastic injection moulding & manufacturing

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**Over 50 years of manufacturing excellence has taught us how easy it is to overlook the obvious.**

At Nordell, our work is primarily injection moulding, however, we are able to provide a range of services including toolmaking and maintenance, product assembly, ultrasonic welding & testing.

Our clients are in a wide range of sectors including Industrial, Medical, Automotive and Oil & Gas. Nordell's collective experience and industry knowledge of over 1000

years, combines to not only bring tangible savings to your new projects, but also helps to refine and develop existing products. Whether you have a new to market concept, an evolution or development of an existing product, or are looking to relocate UK or overseas work to benefit from a world-class production service, we can customise an offer to meet your needs.

A hand is pointing at a technical drawing on a blue background. The drawing consists of various mechanical parts and components, including what looks like a spring and some electrical components. The text 'Industries & Sectors' is overlaid in white, with the ampersand being particularly large and stylized.

# Industries & Sectors

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**Nordell provide market leading solutions in partnership with you.**

Manufacturing excellence for a growing range of sectors

Our clients, customers and partners operate across a wide variety of sectors and global

markets. We have a growing reputation for being able to apply our skills and knowledge across sectors and industry types and love the challenges this diversity brings.



### **MEDICAL**

Nordell's state of the art ISO Class 7 Cleanroom operates 24hrs, 7 days a week, these manufacturing facilities support clients, and products in the medical sector. The Ultra-Low Particulate Air filter units (ULPA) provide 60 air changes per hour.



### **MARINE**

Nordell manufacture parts for the Marine sector including Marine Safety and Marine Propulsion. Material selection is critical to ensure all parts meet strict industry standards and environmental conditions.



### **OIL & GAS**

Our products are used in some of the most extreme environmental conditions and need to meet regulations such as ATEX. This keeps Nordell at the cutting edge of what can technically be injection moulded and helps provide our clients with design refinement, part performance and a competitive edge. Nordell is experienced with the exceptional materials this sector demands, whether it is for environmental protection, safety systems or production of technical components in specialist materials such as PEEK.



### **MANUFACTURING**

Nordell is both ISO9001 and ISO14001 accredited and totally committed to manufacturing to exceptional quality standards and to protocols which reduce waste through an effective environmental management system. We have a detailed and robust plan to ensure our sourcing and manufacturing protocols exceed legislative environmental guidelines. We are passionate about delivering long term, sustainable environmental targets through our innovation and maximising the awareness of technological advances in materials and moulding techniques.



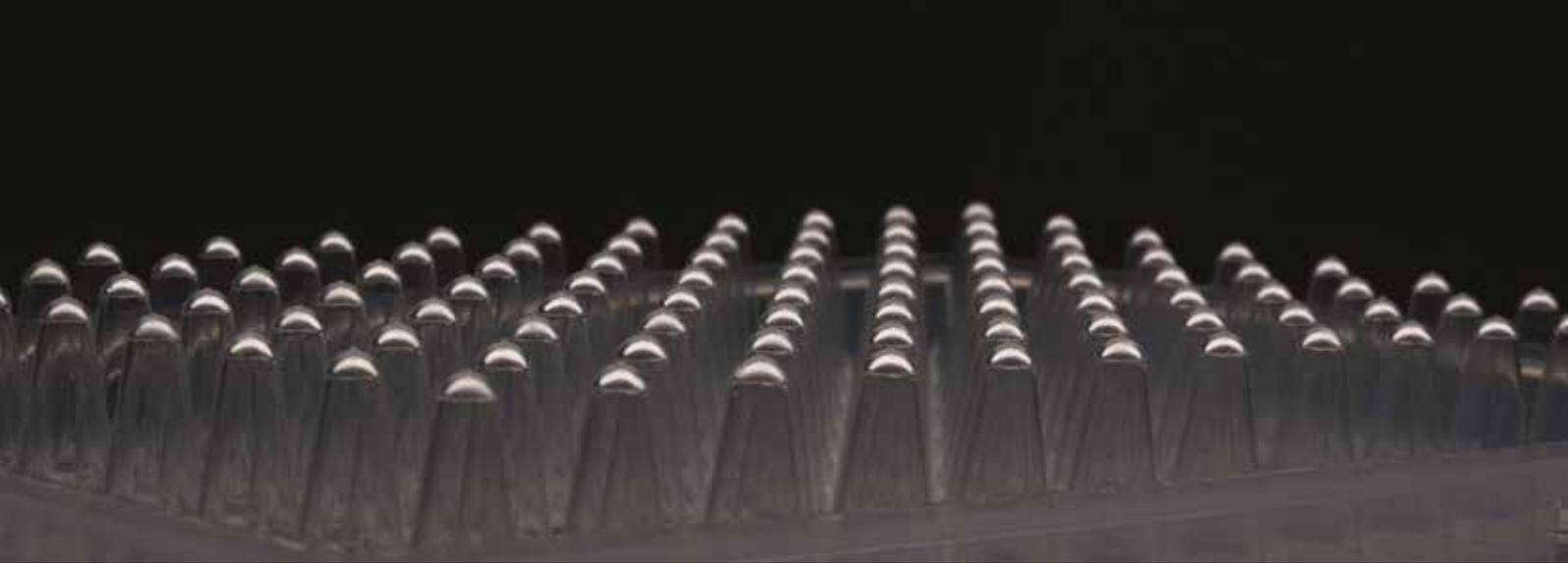
### **MASS PRODUCTION**

Nordell is well placed to service high volume production requirements with 24/7 production across our core processes including Injection Moulding, Finishing and Assembly. We will work closely with you to agree forecasts using our fully integrated ERP system to ensure your orders are met on time and in full. Nordell have the scale to manufacture in batches of over a million parts, but if you have smaller requirements, don't worry, we can do that too! As part of our service, we identify and manufacture bespoke automation for product manufacture, test and assembly needs where automation will deliver an improved return on your investment.



### **CONSUMER GOODS**

Nordell manufactures plastic moulded parts for the Consumer Products market. The consumer products category is wide and diverse and includes merchandise and other items of common or daily use, ordinarily bought by individuals or households for private consumption.



### **ELECTRONICS**

Nordell has been manufacturing for the electronics sector for over 40 years. Our combined and in depth knowledge of the electronics sector has led us to develop many innovative products to meet the sectors needs.



### **INDUSTRIAL**

With over 50 years of business in the industrial sector, Nordell has supplied millions of products and assemblies globally into Industrial operations as diverse as semiconductor markets, to solar panel production, flat-screen manufacturing and gas measurement. With complimentary component sourcing both domestically and globally, the strength and depth of our solutions in this sector are world class.



### **SPECIAL PROJECTS**

Innovation and “can do” attitude are all part of the Nordell culture. Its our Nordell E.D.G.E. Our special project team has expert manufacturing knowledge in multiple sectors and will provide you with great value and timely solutions. We have a long history of delivering solutions for some of the most creative and demanding projects and product concepts.

# Capabilities & Services

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## **Providing world-class innovative solutions for global customers.**

In both the UK and Asia, Nordell has a wide range of services to offer. At the heart are Plastic Injection moulding, technical services and tool making.

We complement these with extensive assembly and finishing operations including ultrasonic welding,

printing, soldering, machining and more. Nordell also brings testing, component sourcing, equipment and manufacturing services, assistance with Design for Manufacture and R&D from its innovation pipeline. Offering 24-hour round the clock production, we cater for all our customers' needs.

# Plastic Injection Moulding

## High and low volume solutions for a range of sectors.

Our award-winning business, supported by ISO accreditations in 9001 (Quality) and 14001 (Environmental) alongside our accreditation to UL746D, has been at the forefront of the Plastics industry for over 50 years. Our team, combined, have more than 1000 years of industry knowledge and experience. Manufacturing operates 24-hours a day, servicing a wide range of markets from consumer products to industrial, electrical, marine and medical sectors.

Our modern Injection Moulding facility houses 38 moulding machines including Boy, Negri Bossi, Romi and Haitian offering capacity up to 380T. Nordell are experienced in a wide range of materials, from commodity to engineering polymers and have experience with many of the niche materials used in specialist applications. All our moulding machines are monitored in real-time and fed back to our ERP system, providing instant information to our Production teams.

We manufacture and supply products to every corner of the globe, operating a fully traceable system, giving agility to provide replenishment programmes suited to our customers' needs. With our highly trained and experienced Quality team, our parts are supplied right first and every time.

Plastic injection moulding is the most widely accepted way to produce large volumes of finished plastic parts for every kind of commercial and industrial use. Nordell can manufacture high volume, mass production parts or specialist low volume parts in small quantities. A single production from a few seconds to minutes depending on part complexity and size. Volume and cycle time are the two largest costs in production parts manufacture. We will agree minimum order quantities and we are happy to quote you a variable price dependant on production batch size.

As well as producing core parts on our main injection moulding machinery, Nordell also has capability to overmould cables and wire assemblies or overmould inserts on our vertical moulding machine. Vertical moulding is also ideal for low volume batches with the advantage of low cost tooling. It is used in many product developments, where small quantities are required for trial run purposes.

## Pressure Die Casting

### **Nordell offer alloy Die Casting through our partner in Asia.**

Nordell Xiamen can complement your plastics requirements or as a standalone service. If your project requires a combination of plastic injection moulded parts and alloy castings and you want a simplified supply chain, why not drop us a line to find out how Nordell can help you.

Pressure die casting provides the fastest and most competitive method from molten metal to completed component compared to other forms of die castings. By injecting molten metal into a hardened steel mould we can manufacture a high quality casting with an excellent surface finish, ensuring a consistency beyond any other casting process.

The casting process is quick and very repeatable, and in simple terms is performed by, the die casting mould being sprayed with lubricant and closed. The lubricant both helps control the temperature of the die and it also assists in the removal of the casting. Molten metal is then shot into the die under high pressure; once the die is filled the pressure is maintained until the casting has solidified. The die is then opened and the casting are ejected from the die.

In many cases alloy castings can be replaced and manufactured using lighter weight specialist plastics giving the same performance. Our specialist technical team are happy to discuss the most suitable options for your project.

## Seals & Gaskets

### **A gasket is a mechanical seal which fills the space between two or more mating surfaces.**

Generally to prevent leakage from or into the joined objects while under compression. Gaskets allow for “less-than-perfect” mating surfaces on machine parts where they can fill irregularities. It is usually desirable that the gasket be made from a material that is to some degree yielding such that it is able to deform and tightly fill the space it is designed for, including any slight irregularities. Some types of gaskets require a sealant be applied directly to the gasket surface to function properly.

Nordell manufacture Seals and Gaskets including MIP (moulded in place), in moulding and over moulding, compression moulding, transfer moulding and profile cut to your bespoke design. The over moulding process means we can seal the materials onto a carrier moulding by injection moulding.

Nordell manufacture injection moulded gaskets at our Worthing and Xiamen sites. All other types of seals are manufactured or sourced from our Xiamen site. Speak to our team of experts who will be able to recommend the right seal/gasket and material choice for your specific product, sector specifications and usage requirements.

Our Seals and Gaskets service can save you time and reduce cost when coupled with our inhouse assembly operation where we can insert your gasket as well as offering part or full assembly of your product.

# Class 7 Clean Room

## **Dedicated clean air production.**

Nordell's state of the art 300m2 Class 7 Cleanroom is certified to ISO 14644 standard. The technology significantly decreases the chances of product pollution and provides a clean air area for production using over 50 ULPA (Ultra-Low Particular Air Filtration) filters delivering 60 air changes per hour. ULPA efficiency rating removes 99.999% of airborne particles.

Further contamination is prevented through the use of Cleanroom PPE such as gowning, hair nets and overshoes, reducing fibres and potential contaminants from entering the Cleanroom and interfering with Production and research.

15 Electric mould presses are housed within our clean room with clamp forces of 50tn to 120tn. Nordell's clean room was designed and built by TCA (Total Clean Air Limited) of Redhill, Surrey.

While more than 30 different industry sectors use clean rooms for specialist manufacturing, the majority of cleanroom manufacture is centred around Lifesciences, Medical Devices, Pharmaceutical, Semiconductor, Electronic Components, and Aerospace.

Nordell's vast knowledge of a wide range of sectors puts us in a great position to support our customers with projects that require Class 7 cleanroom manufacturing.

*“Phil Godden and his team at TCA did a fantastic job in delivering 2 bespoke cleanroom solutions which met our needs within six weeks. They were able to seamlessly guide us through the process and offer workable solutions to any build challenges”*

**Paul Mason, Managing Director, Nordell**

## Product Assembly & Finishing

Nordell offer a full range of product assembly options giving you the flexibility to purchase a complete or part assembled product allowing you to focus on the final product build and reducing the need for additional specialist teams.

We gain a deep understanding of your requirements through collaboration with you during the design process, allowing us to offer value-added solutions and cost control through in-mould secondary processes or post moulding product build.

Our range of services include building assemblies and sub-assemblies, inserting, ultrasonic welding, mechanical and electrical testing, component sourcing, printing, spot welding and soldering, Gasket & seal insertion and packing of spares kits.

Nordell can help you to reduce your own supply chain complexity and risk through sourcing of complementary components and processes from our wide network of suppliers on your behalf allowing you to focus on the main elements of your product build. Our experienced team can help you to find the best solution for your specific requirements.

Our procurement team will manage the tactical sourcing element of the supply chain allowing your sourcing teams to focus on your more strategic sourcing goals. Nordell are able to use our combined scale to leverage competitive pricing from our specialist suppliers and in turn provide you with a highly cost competitive solution.

Our finishing operations at Nordell provide technically-specific solutions. We offer a range of finishing operations which provide high end, prestigious product to customers. Our range of services include fabric covering, along with hand finishing, potting and sealing, treating, painting and assembly.

Nordell's full time team of specialist technicians have many years of experience of finishing parts to your specific requirements and tolerances allowing us to provide you with a cost effective and simplified solution to your main build.

## Specialist Technical Services

Nordell offer a full range of technical services to complement your requirements. From Design for Manufacture and project management of the launch process through to automation and product testing. Our technical team will engage with you at the start of the process and work with you to deliver a solution that meets your needs.

## Value Added Quality Service

Nordell offer a full range of value added services including product assembly, Component sourcing & contract operations, Ultrasonic Welding, Pad & Foil Printing and VMI, Kanban and DLF (Direct Line Feed). We will work with you to build a package that best meets your requirements and delivers you a simplified solution.

# Plastic Cores

## **Flexible solutions generic or dedicated.**

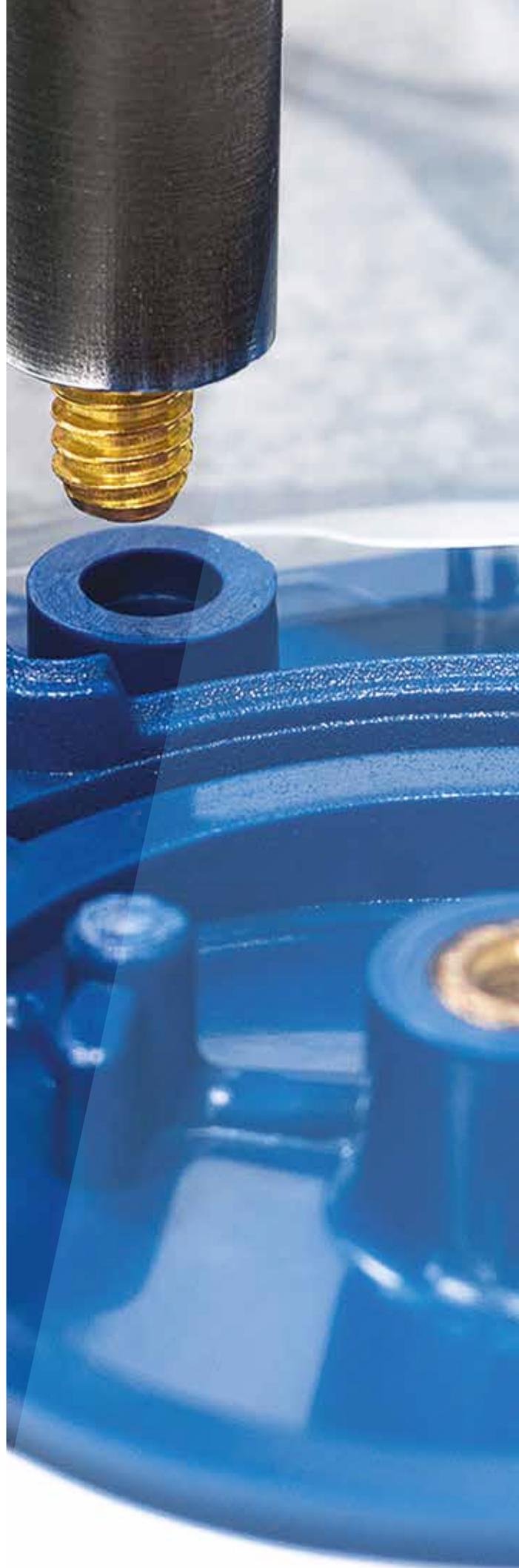
Nordell manufactures Plastic Cores using Injection moulding, giving us the competitive edge that our customers require.

We offer a very wide range of generic cores however we can manufacture a bespoke solution should it be required. Whatever size, whatever colour, whatever quantity, and whatever application, we have the right process to cost-effectively manufacture your core requirements.

Our plastic packaging cores and tubes offer the strength, durability and dimensional accuracy that only plastic can provide and are suitable for reuse.

Plastic packaging cores and tubes offer considerable benefits over alternatives such as cardboard, including dimensional accuracy, moisture-resistance, superior durability and smooth, sealed surfaces.

Many of the Plastic cores that Nordell manufacture are used in the medical, pharmaceutical and food processing industries where there may need to operate in a wet setting or used in an environment where it essential to remain dust and contaminant free.



# Production Part Approval Process (PPAP)

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**PPAP defines the approval process for new or revised parts, or parts produced from new or significantly revised production methods.**

PPAP confirms that the production process has demonstrated the potential to produce products that consistently fulfil all requirements while operating at the customer demand rate.

Production Part Approval Process (PPAP) is a standardized process commonly used in the automotive and aerospace industry, more recently being deployed into Medical Devices manufacturing, that helps manufacturers and suppliers communicate and approve production processes and designs.

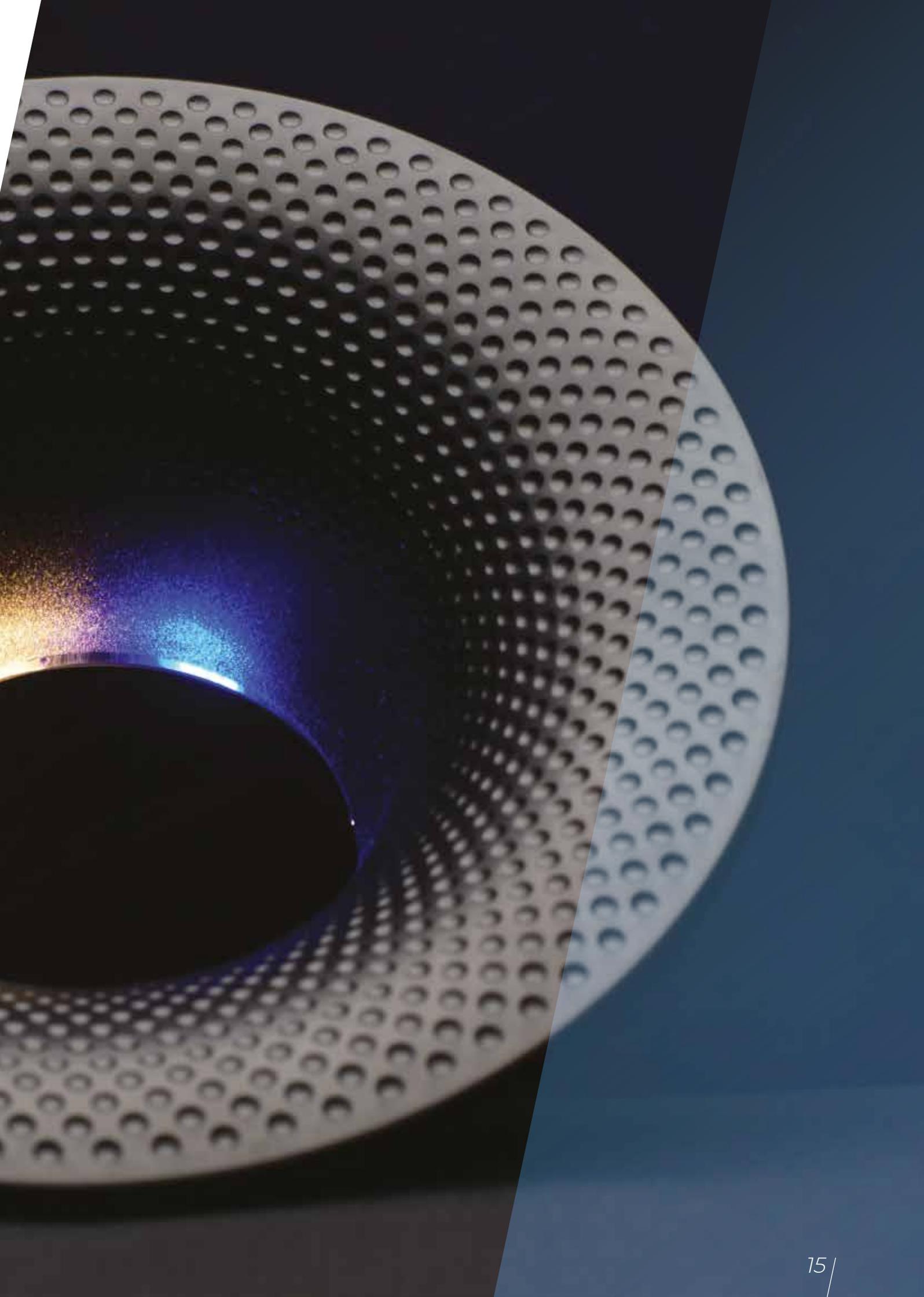
Requirements for PPAP Submission, Review and Approval are flowed down from

our customers based on:

- Risk
- Complexity
- Contract terms
- Past quality performance, including past history of similar product

Depending on the level of complexity determined by our customers, Nordell can provide the best fit for your business, from Level 1 that involves the least amount of documentation up to a full Level 5 package.

Nordell have developed our management systems to the most strict standards in order to adapt our deliverables for any type or industry or requirements.



# Metrology – Measuring Excellence

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**Metrology can be defined as the science of measurement and its applications. It is an objective means of evaluation of the quality of a product.**

Metrology includes all of the theoretical and practical aspects of measurement, no matter what the uncertainty of measurement and the area of application.

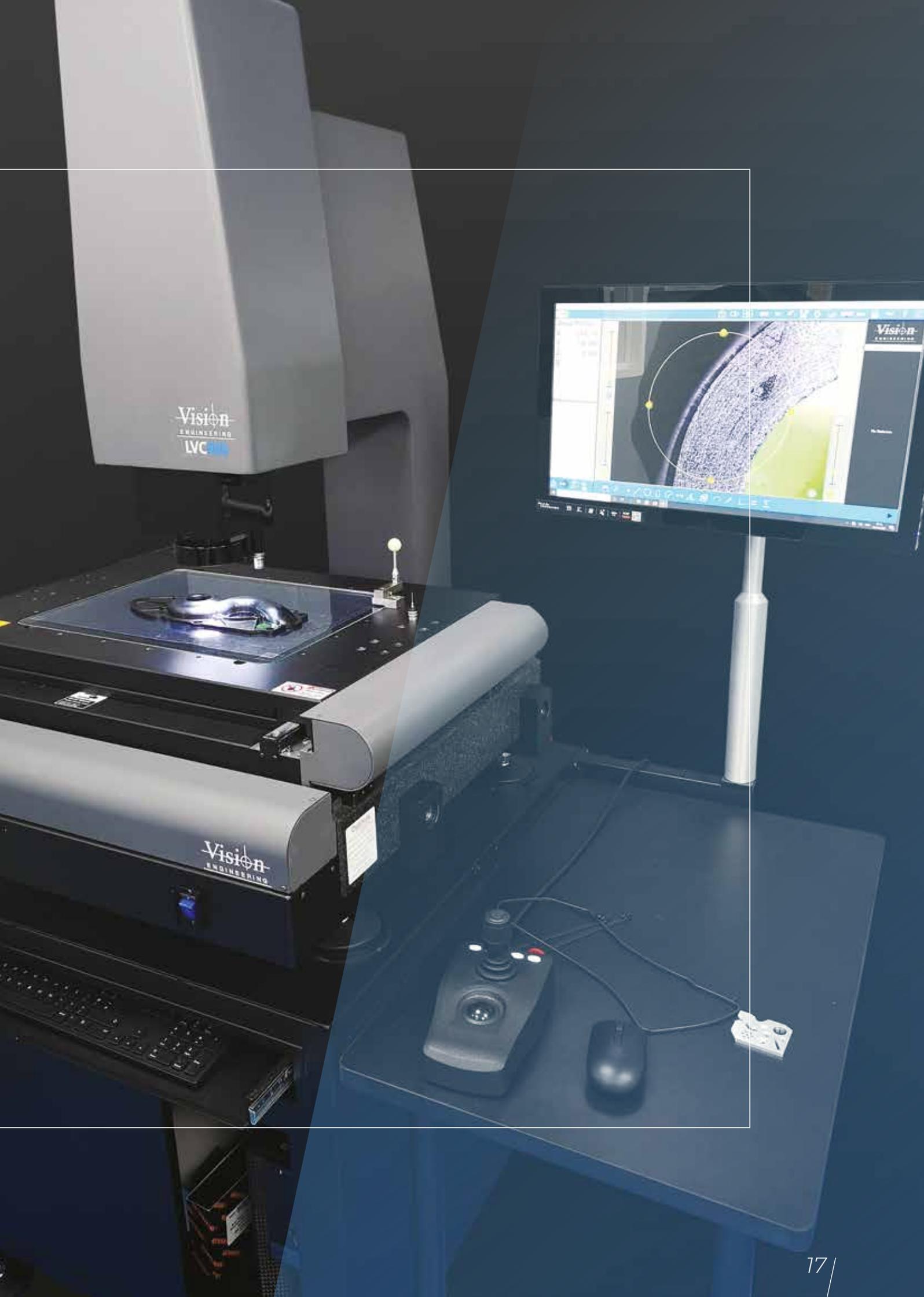
Nordell's Vision Measuring (VMM) and Co-Ordinate measuring (CMM) machines allow us to check exact measurements on some of the most complex parts ensuring we always manufacture parts to your specification. Nordell archive real time data to provide us performance data over time.

VMM are a Non-contact type of measuring machine which use Optics as the source of inspection provides measurements to 1 micron. Typically, small light weight components with high accuracy are the best applications for such devices.

The Nordell VMM gives us Statistical Process Control. \*Statistical Process Control (SPC)

is an industry-standard methodology for measuring and controlling quality during the manufacturing process. Quality data in the form of Product or Process measurements are obtained in real-time during manufacturing.

The Nordell Coordinate measuring machine (CMM) is a device that measures the geometry of physical objects by sensing discrete points on the surface of the object with a probe. Various types of probes are used in CMMs, including mechanical, optical, laser, and white light. Depending on the machine, the probe position may be manually controlled by an operator or it may be computer controlled. CMMs typically specify a probe's position in terms of its displacement from a reference position in a three-dimensional Cartesian coordinate system. Like our VMM, the CMM provides measurements to 1 micron accuracy and is typically used on larger parts.



# Environmentally Conscious



**Nordell is ISO14001 accredited and totally committed to manufacturing to protocols which reduce waste through an effective environmental management system. Some of the initiatives to reduce our impact on the environment include:**

- **Reducing scrap** through process mapping and training to ensure we get more right first time. Getting it “Right First Time” ensures costs are controlled, waste is kept to a minimum and production planning is not compromised. “We do what we say we do and we do it well”
  - **Recycling scrap** by regrinding it either for reuse or collection by a commercial plastic recycler.
  - **Switching to Electric moulding machines:** Traditionally, injection moulding machines have been powered by hydraulic technology. All electric are more sustainable and have less of an impact on the environment than hydraulic injection moulding machines. Nordell have 10 Haitian Electric Zeres series 2 and 3 moulding machines with energy consumption figures up to 70% lower than the equivalent hydraulic machine.
  - **Reducing our energy consumption** through replacement of our factory lighting with LED.
- their production processes meet or exceed industry standards and do not impact the environment.
  - We employ LEAN methodology and Continuous Improvement practices to reduce waste and energy usage.
  - We have clear QMS processes and recycle where possible.
  - We include environmental goals in our Business plans.
  - We train our employees and ensure they are regularly updated on our environmental policy and goals.
  - We will implement the Nordell **ENVIRONMENTAL GOOD SENSE** guided by our Core Values of Creativity, Pride, Achievement, Support, Strength, Respect & Trust.

Nordell's commitment to the environment is part of our **Environmental S.E.N.S.E** policy which ensures all the Nordell team work to achieve a minimum environmental standard:

- We will meet or exceed all legal and environmental legislation.
- Our raw material suppliers are independently audited to ensure

## Bio Plastics

Nordell remain at the forefront of new raw material developments, working with leading manufacturers to trial and develop new “Green” Bio-plastic solutions.

Although at this stage Bio-Plastics may not be suitable for all applications, our Technical team can assist you in finding the best solution to meet the performance needs of your product. Speak to us now, so that we can advise you of our Bio-Plastics solutions.



# Meet the Team

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**Our team is paramount to our and your success.**

Our greatest strength is our team, with great people we have built a great company and we work to be brilliant and we train to be better. We recruit and develop highly motivated and competent

people. Our team is our most valuable resource. We challenge ourselves and support each other to be our very best, with total commitment to exceeding our customers demands.



Paul Mason

**Managing  
Director**



Paul Rowe

**Head of  
Technical**



Andy Hodge

**Head of Planning  
& Procurement**



Oscar  
Carballo  
Balboa

**Head Of Quality**



Daniel Grover

**Head of Commercial**



Mark Briggs

**Head of Finance**



Emma Penn

**Head of HR**



Seb Foschini

**Head of Operations**

Over 50 Years of  
**reinvention** &  
**innovation** has  
enabled us to offer  
a **world-class**  
manufacturing  
solution to our  
UK and Global  
customers.



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