



# Materials Processing Institute





## VISION & MISSION

*The swords and lightning bolt symbolise materials and energy. The red and gold represent high temperature processes.*

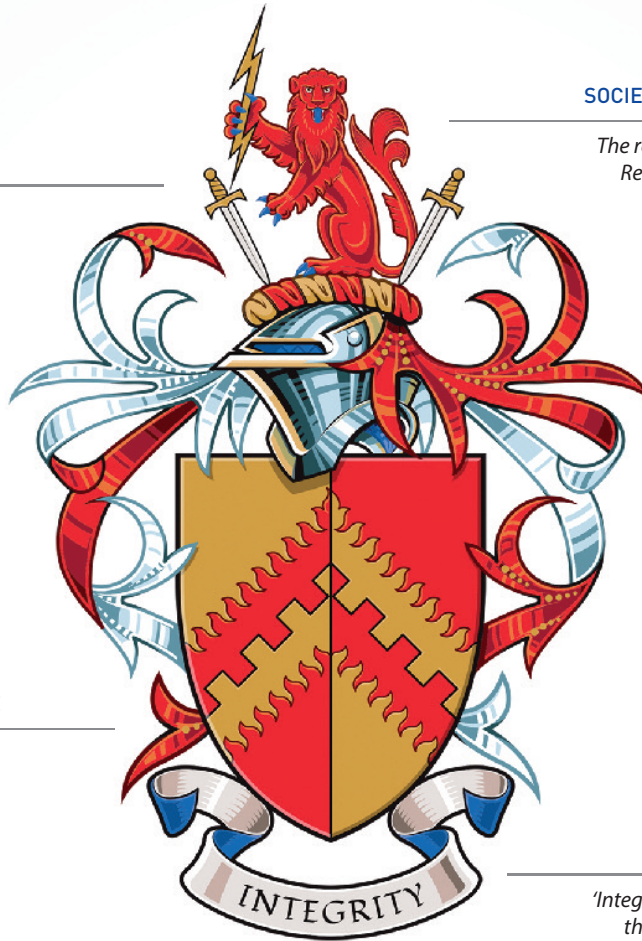
## SOCIETAL AND ETHICAL MISSION

*The red lion is the heraldic beast of Redcar. The dendrite symbolises materials research.*



## HISTORY, TRACK RECORD AND HIGH ACHIEVING PEOPLE

*The shield references the Coat of Arms of Sir Henry Bessemer and Abraham Darby.*



## VALUES

*'Integrity' refers to the core value of the Institute in giving unbiased, independent technology advice.*

## COAT OF ARMS

The Materials Processing Institute holds an achievement of arms, commonly referred to as a coat of arms, which was presented by the College of Arms in London. The College is a division of the Royal Household and its members have full legal jurisdiction over the granting and upholding of Arms in England, Wales and Northern Ireland and many other countries around the World, including Australia and New Zealand. The arms were awarded by the Kings of Arms, following a petition to the Earl Marshall, the Duke of Norfolk, by the Chairman of the Institute, to commemorate the 70th anniversary of the Institute in 2014.

## INTEGRITY

The motto is placed below the achievement of arms and is expressed in English. Traditionally a motto will contain a pun, or play on words and this is the case for the motto of the Institute.

'Integrity' refers to the core value of the Institute in giving unbiased, independent technology advice. It is also a reference to a fundamental property of materials in their application, that they both have integrity and are integral to the performance of the product into which they are manufactured.

The Materials Processing Institute is a research and innovation centre, active in advanced materials, low carbon energy and the circular economy. The Institute has a 75 year track record in developing new materials, processes and technologies, for the steel and associated industries.

The Institute is a leading international organisation for steel industry research, a nationally recognised centre for upscaling and commercialisation of materials innovation and integral to the Tees Valley and UK economy, supporting a wide range of business enterprises.

As a company limited by guarantee, all of the profits of the Institute are reinvested back in the business and community.

## Strategy

This brochure describes the strategy of the Institute and the role that we, as colleagues, need to take to ensure that it can be successfully realised.

The Institute aims to generate a financial return of 8:1 for commercial clients, whilst operating in a safe and sustainable way and making a positive impact in the local community.

### *What is the Strategy?*

The strategy of the Institute is sustainable growth through diversification.

### *What Does the Strategy Aim to Achieve?*

The strategy aims to achieve sustainable growth by:

- > Attracting new clients in existing markets
- > Developing new products and services for existing markets
- > Finding new markets for existing products and services

The majority of the growth is expected to be organic, but acquisitions will be considered, where they have a strong strategic alignment, or other competitive imperative. The strategy also aims to grow and protect the competitive advantage of the Institute in its markets.



**Chris McDonald**  
Chief Executive Officer

# VISION

## Vision

The vision of the Institute is to be the globally recognised centre for the innovation, development and commercialisation of technology for the challenges of:

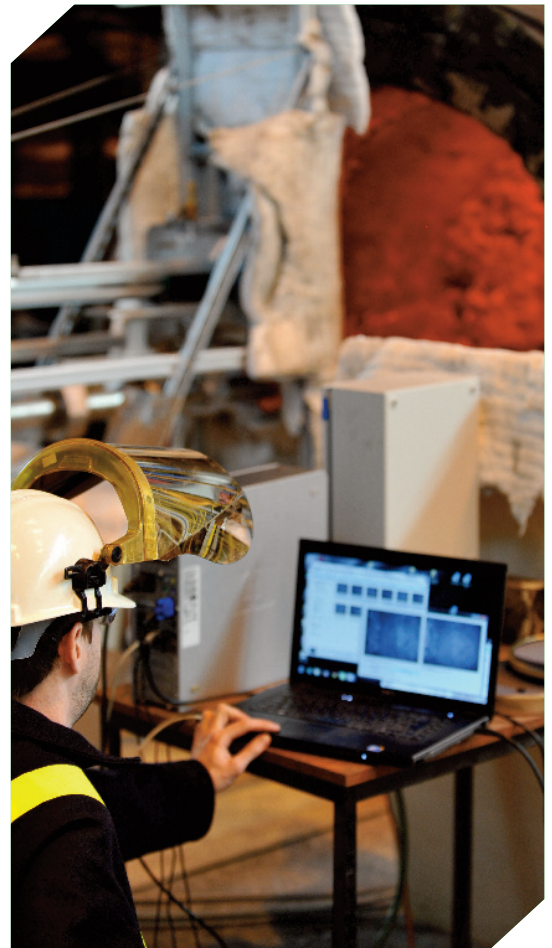
- > **Advanced Materials**
- > **Low Carbon Energy**
- > **The Circular Economy**

This is to be delivered by expertise in materials science and advanced processing, utilising the latest digital technologies of the 4th Industrial Revolution.

## Digital Technologies

The technologies of the 4th Industrial Revolution are a cross-cutting theme in the vision and are the cornerstone to the future success of the Institute and the industries it serves.

The Institute must be recognised as a leader in the application of digital technologies to industry. Specific actions are being taken to build this capability within the Institute and to promote this capability and ambition.



## The Four Industrial Revolutions



**1st**

Mechanisation,  
water power,  
steam power



**2nd**

Mass production,  
assembly line,  
electricity



**3rd**

Computer and  
automation



**4th**

Cyber physical  
systems



# MISSION AND VALUES

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## Mission

The mission of the Institute is to:

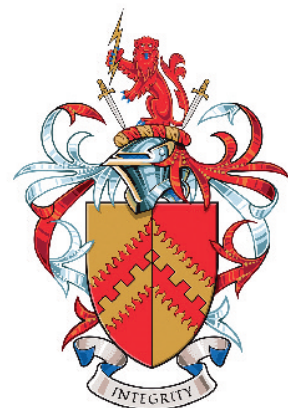
- > Develop and commercialise technology solutions for partners and clients, which increases their profitability, enables growth and reduces environmental impact, in a safe and sustainable way.
- > Work across the materials sector and in collaboration with the Institute of Materials, Minerals and Mining to act as the national centre of excellence for materials processing, raising the profile of UK materials innovation.
- > Provide challenging and rewarding careers to the benefit of colleagues, the Institute and the materials sector as a whole.



## Values

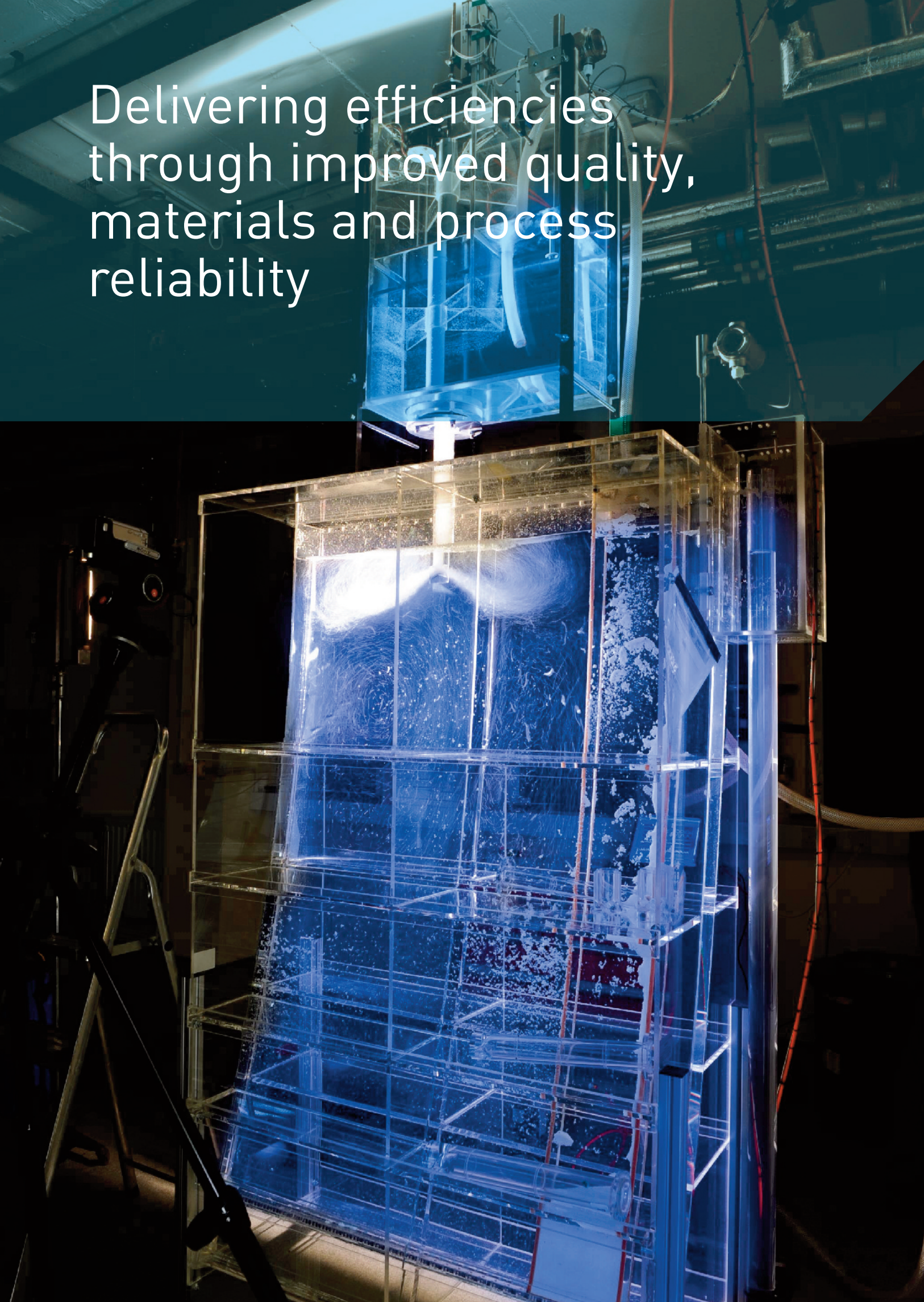
'Integrity' refers to the core value of the Institute in giving unbiased, independent advice to clients, the local community and wider stakeholders, while respecting confidentiality at all times.

Acting with 'Integrity' is the fundamental principle of the Institute and includes all interaction between colleagues.





Delivering efficiencies  
through improved quality,  
materials and process  
reliability





# COMPETITIVE ADVANTAGE

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The competitive advantage of the Institute is embodied in its unique capabilities:

## *People*

Colleagues with an average of 20 years experience in industry and industrial research, including international technology management. Recognised world experts and some of the most promising industrial research minds of the future.

## *Assets*

Unique pilot scale metallurgical facilities and a campus designed to allow plug and play activities for large scale pilot and demonstration assets.

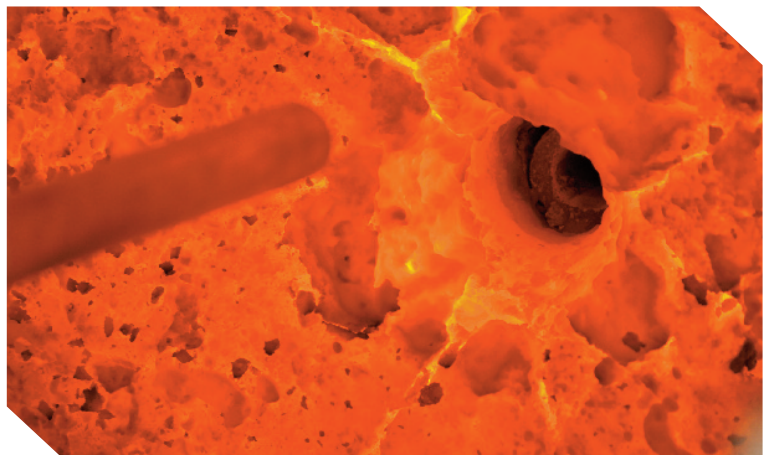
## *Track Record*

A research archive with over seven decades of knowledge, expertise and case studies. The track record includes both the practical application of innovations and the technology management expertise for successful commercialisation.

To be sustainable a competitive advantage must be:

- > Valuable
- > Inimitable
- > Rare
- > Organised

The competitive advantage of the Institute is judged to be both valuable and rare, with no serious threat of imitation arising from the private sector. Capabilities are organised, though this needs to be an area of continuous improvement.



# MARKETS AND PRODUCTS

## Markets

The Institute works with:

- > The steel and mining industries internationally
- > The materials sector nationally
- > Small and medium sized companies in the Tees Valley region

## Products and Services

The Institute offers five main types of service:

### *Research Services*

Private and collaborative programmes and specialist testing.

### *Consultancy*

Technical due diligence, market studies, mergers and acquisitions support and capex support.

### *Training*

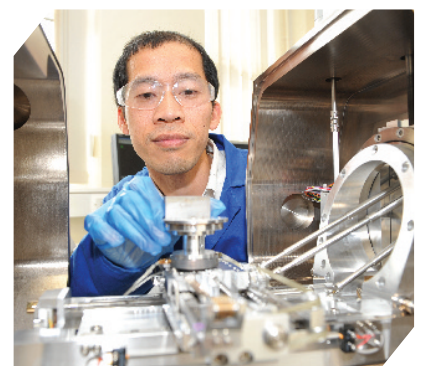
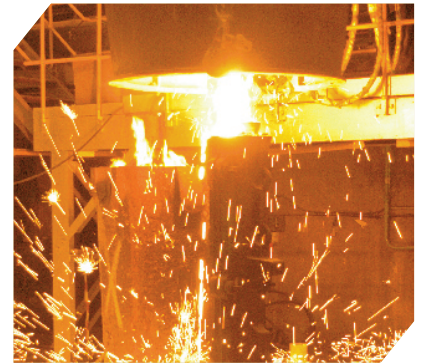
In-depth courses based on the major technologies currently in global operation.

### *Specialist Melting*

Small batch and short lead times for specialist steels.

### *Library and Information Services*

Patent and literature searches, alerting bulletins.



There are also a number of services offered directly from the Institute campus, including lease of offices, laboratories and workshop space, plus meetings, conference and events facilities.



# STRATEGY IMPLEMENTATION

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To realise the vision of the Institute, careful implementation of the strategy is required. Three areas have been identified to support the implementation of the strategy and to grow and protect the competitive advantage of the Institute.

## *Business Development*

Led by the Director Client Services, this activity aims to diversify the Institute's client base through a combination of long term partnerships, collaborative research programmes and contract research. It includes attracting new clients in existing markets, developing new markets for existing products and developing new products for existing markets.

## *Organisational Development*

Led by the Director Operations, this activity aims to support a commercially successful and enjoyable working environment by making practical changes. Recently this has included creating a centralised resource planning system and embedding the core value 'Integrity'. Activities continue around leadership development, commercial capability for everyone, customer services and encouraging entrepreneurship and innovation.

## *Public Affairs*

Led by the CEO, the public affairs activity aims to gain recognition for the Institute as an authoritative voice and increase the profile of materials and process innovation. It involves active engagement with media, trade associations, business organisations and other policy influencers, including regional and national politicians. Leadership in the field is demonstrated through publication of papers, speeches, media activity and policy support.





Laboratory and pilot  
facilities replicate full  
scale production





# PERFORMANCE INDICATORS

The following targets have been set to judge the effectiveness of strategy implementation.

<i>Safety</i>	Zero accidents.
<i>Customer Service</i>	Achieve an average 8:1 return for clients. 100% of complaints satisfactorily resolved.
<i>Business Development</i>	1 new research partnership per year. 1 new collaborative programme per year.
<i>Organisation Development</i>	Develop leadership according to Institute of Directors competencies.
<i>Public Affairs</i>	Improved national receptiveness to materials and process innovation.
<i>Finance</i>	Achievement of annual plan.



# GUIDE TO THE ORGANISATION

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The Materials Processing Institute is a company limited by guarantee. This means that the Institute has no shareholders and is legally prevented from issuing dividends. All profits are reinvested back in the business and community. Governance of the Institute is as follows:

## *Council*

This is the supreme governing body of the Institute, responsible for strategy and for appointing the non executive chairman and executive directors. Membership includes: the company secretary, client representatives, an employee representative and the two executive directors (Chief Executive Officer and Chief Financial Officer). Sub committees of the Council include the Audit Committee and Remuneration Committee.

## *Management Board*

Day-to-day running of the Institute is delegated by the Council to the Management Board, chaired by the CEO. Membership of the Management Board includes the executive directors and management directors (currently Director Operations, Director Client Services and Chief Technology Officer). Other officers of the Institute may be required to attend on an ex-officio basis and the Non Executive Chairman has a standing invitation.





# SOCIETAL AND ETHICAL MISSION

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The Institute has a societal and ethical mission to:

- > Develop technology based solutions for industry and the supply chain, which enables the highest standards of ethical production without economic disadvantage.
- > Have a lasting positive impact on the surrounding community, as a consequence of the work undertaken, the way in which business is conducted and the opportunities provided for education, employment and training.
- > Underpin all activities with health, safety, environmental and ethical excellence.

The mission is being delivered through:

## *Economic Development*

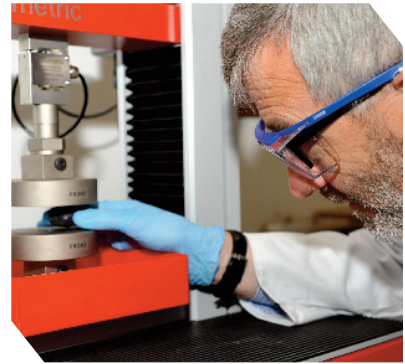
Investing 100% of profits back in the business and local sourcing of suppliers. Support for inward investment in the Tees Valley region and support for SMEs. Championing the wider business community supported by the Institute.

## *Education*

Doctoral Academy, Millman Scholarships and lifelong learning, including support for the Cleveland Institution of Engineers.

## *Culture*

One original commission per year. Celebrating heritage, including local heroes and Institute champions.



# POLICIES

## Health and Safety


The health and safety of all the people who work in and with the Materials Processing Institute is our number one priority.

## Quality

The Materials Processing Institute will operate and continually improve a management system that meets BS EN ISO 9001:2015 to ensure that quality, product and customer standards are met and improved.







## Environmental

The Materials Processing Institute is committed to minimising the environmental impact of operations and products through the adoption of sustainable practices and continuous improvements in environmental performance and meeting the requirements of BS EN ISO 14001:2015



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Materials Processing Institute  
Eston Road  
Middlesbrough  
TS6 6US  
United Kingdom

+44 (0)1642 382000  
[enquiries@mpiuk.com](mailto:enquiries@mpiuk.com)  
[www.mpiuk.com](http://www.mpiuk.com)

