Manufacturing is a crucial part of the UK economy and the Government is firmly committed to the development of a strong, high value added manufacturing sector with the ability to compete successfully in global markets. The launch in September 2008 of ‘Manufacturing: New Challenges, New Opportunities’ reaffirms the Government’s commitment to the sector as a key part of a mixed and balanced economy. We are the world’s sixth largest manufacturer, measured by output manufacturing contributes £150 billion per annum to the economy, 75% of all business Research & Development (R&D) and half of all exports. Looking forward, a thriving modern manufacturing sector is central to the future success of the British economy.

I recognise that manufacturers have been affected by unprecedented financial turbulence weakening consumer confidence. In addition, increases in global oil and raw material prices have created pressures on margins. Against that background, the extension of the MAS offer from April 1st this year to offer help and advice to improve operational efficiencies over all aspects of manufacturing, provides the opportunity for companies to improve productivity and help their bottom line.

I congratulate the Regional Development Agencies (RDAs), Devolved Administrations, Regional Centres and stakeholders who are involved in supporting and delivering MAS. This report highlights their successes and achievements over the past year, demonstrating how MAS can help manufacturers compete more effectively in the global economy.

“Since its inception, MAS has generated £546m in value added for client firms. It has dealt with over 142,800 technical enquiries from manufacturers, carried out more than 24,800 free on-site diagnostic reviews and more than 8,400 in-depth consultancy projects.”
delivering the future

In April 2008, East Midlands Development Agency (emda) through the RDA Manufacturing lead role took on responsibility for coordinating, promoting, reporting and developing the MAS service across the English regions on behalf of the Department for Business Enterprise and Regulatory Reform (BERR). In so doing, we also undertook to promote close cooperation with the Scottish and Welsh Administrations MAS services to deliver a consistent programme across the UK. This role reflects the English RDAs’ commitment to manufacturing and emda’s lead role for manufacturing on behalf of the RDAs.

The team has already taken steps to:

- Adapt its performance management to cover the new wider service remit and provide better support to disseminate best practice information
- Increase the outreach of the programme to clients and key stakeholder groups through increased marketing effectiveness
- Increase the profile of MAS and create wider awareness of manufacturing best practice; through work with partners including our support for the IMechE MX Awards and The Engineer Innovation Awards, as well as wider press and other media coverage
- Enhance MAS client services to address specialist needs through new collaborations with organisations such as the British Automation and Robotic Association (BARA) and the Industry Forum Network
- Improve business accessibility to MAS and other business support products by working closely with the Government on its Business Support Simplification Programme.

Manufacturing is a critical component of UK competitiveness and MAS has a key part to play in supporting SMEs by helping them to implement productivity improvements. Our primary role over the next two years, working in collaboration with our partners, is to increase the effectiveness of MAS for the benefit of UK manufacturers.

Dr Bryan Jackson, Chairman of East Midlands Development Agency (emda) and current Chair of Chairs for England’s Regional Development Agencies

Taking on responsibility for the MAS Network coordination offers us an excellent opportunity to extend our existing support for a service that is delivering tremendous impact on UK manufacturers, particularly those that face continuing productivity challenges in what is a highly competitive global market for all our SMEs.

Our new MAS network management team will ensure that national programme objectives are met including: continued identification and dissemination of best practice across the regions; representing and developing the MAS brand at a national level and supporting the development and piloting of new innovative services based on evolving needs of manufacturing businesses.

Dr Bryan Jackson, Chairman of East Midlands Development Agency (emda) and current Chair of Chairs for England’s Regional Development Agencies

The BERR Manufacturing Advisory Service helps small and medium sized manufacturing firms identify and implement manufacturing best practice to achieve improvements in their productivity and competitiveness. MAS provides companies with practical, no nonsense support in all aspects of manufacturing; offering direct access to manufacturing experts with a proven track record and subsidised consultancy assistance where it is needed.

Government targets set for MAS in 2005 to achieve £252 million of Gross Value Added (GVA) within three years have been surpassed. MAS actually delivered over £390m of GVA by March 2008 - almost £140 million over the original goal with six months to spare, demonstrating that 2007-08 has been another exceptional year for MAS.

The dedicated MAS regional teams handled 20,600 enquiries this year, completed 5,000 manufacturing reviews and held 900 awareness raising/training events (benefiting 12,300 participants).

Not only that, with a 63% increase on the previous year, MAS advisers completed 2,200 in-depth consultancy projects, involving a total of 13,800 consultancy days and providing added value of more than £177m.

During the year, preparations were also made for enhancing the standard service MAS offers to UK manufacturers. From April 1st 2008, MAS has been able to address the needs of manufacturers in greater depth, covering a wider range of manufacturing issues and further demonstrating the commitment of BERR, the RDAs and the Devolved Administrations to continuous improvement in the business services they invest in.

This year’s Annual Report showcases the on-going work undertaken by MAS in organisations from small employers to multi-site manufacturers, right through from handling basic telephone enquiries to complex projects which transform clients’ manufacturing operating culture and performance.

"Before we started working with the South West MAS, my knowledge of lean manufacturing techniques was limited. Since then, we have put many of these principles into practice, and as a result our turnover has increased dramatically and we have significantly reduced waste."

Jimmy Finn, Production Director, BOTT, Cornwall

"Every region needs an organisation that is willing to take hold of a ‘vision’, and run with it just on the strength of the leader’s belief. MAS West Midlands believed in me and as a result I now have a successful and growing business."

Vivean Pomell, Proprietor, Brynels, Birmingham

Also celebrated are the on-going partnerships with the Institute of Mechanical Engineers (IMechE) in the Manufacturing Excellence Awards and collaborations with other business support providers, such as Business Link and national centres of excellence. These partnerships will ensure that the UK’s diverse and dynamic manufacturers have access to the best support and advice available when they need it.
**What is MAS?**

MAS delivers advice to UK manufacturers to improve their productivity and competitiveness. There are five main levels of service offered to businesses in need of manufacturing related support:

<table>
<thead>
<tr>
<th>MAS Level</th>
<th>Service</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Direct helpline</td>
<td>To provide information and advice</td>
</tr>
<tr>
<td></td>
<td>0845 658 9600*</td>
<td><a href="mailto:info@mas-uk.org.uk">info@mas-uk.org.uk</a></td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing Reviews</td>
<td>Review of manufacturing operations</td>
</tr>
<tr>
<td>3</td>
<td>Events</td>
<td>Training and networking events</td>
</tr>
<tr>
<td>4</td>
<td>Consultancy support</td>
<td>In-depth consultancy projects</td>
</tr>
<tr>
<td>5</td>
<td>Signposting and referral</td>
<td>Referral to other sources of support</td>
</tr>
</tbody>
</table>

* calls are directed to the appropriate MAS regional centre

**How does it work?**

New MAS clients come to the service directly or following referral from Business Link and other organisations such as EEF, Trades Associations and Chambers of Commerce as well as recommendations from previous clients. Specialist technical requirements can be accommodated through the MAS network of advisers and manufacturing experts who are able to provide professional advice and practical, hands-on support.

For non-manufacturing queries, such as financial, human resources, marketing, legal or environmental issues, MAS works closely with Business Link and other organisations to ensure manufacturers have access to a full range of business support services.

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**What is the thinking behind it?**

The national network of MAS advisers are focused on delivering results that positively impact on the business’s bottom line, such as reduction in stock levels and wastage rates, removing the need for investment in new machinery through improved space utilisation and improving productivity output through implementation of lean techniques.

**Overall Quality Cost Delivery (QCD) improvements recorded for 2007-08 have shown impressive results.**

<table>
<thead>
<tr>
<th>People Productivity Improvement</th>
<th>Improvement in Space Utilisation</th>
<th>Reduction in Scrap/Defect Rate</th>
<th>Overall Equipment Efficiency Improvement</th>
<th>Improvement in On Time In Full (OTIF) Delivery</th>
<th>Increase in Annual Stock Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1%</td>
<td>21.7%</td>
<td>24.3%</td>
<td>29.0%</td>
<td>30.2%</td>
<td>44.9%</td>
</tr>
</tbody>
</table>

**The approach taken embraces a modern definition of manufacturing.**

This not only includes the physical processing of raw materials but also recognises the direct dependency between production processes and the wider manufacturing value chain; including research, design and development, logistics and marketing as well as services to end users.

This definition recognises that to make a difference to UK manufacturing productivity, we have to increase efficiency and value added in all areas of the business, not just the shop floor.

“In 10 years time we still want to be improving our business. As a result of the expert advice from MAS South East, our policy is now ‘lean to grow, lean to survive’.”

John Laister, Process Manager at Siemens Magnet Technology, Oxon

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The MAS programme has always aimed to introduce lean manufacturing processes, and the common services and tools, used by MAS advisers in 2007-08 focused on:

- Developing lean thinking
- Providing value stream and process mapping
- Introducing 5s and 6 sigma techniques
- Team building
- Improving layouts and space utilisation
- Reducing work in progress
- Improving quality and delivery
- Introducing materials and product innovation

“We managed to complete our ‘scale up’ with help and support from MAS. Having doubled the kitchen output, the advice given by the manufacturing specialist has enabled the team to increase output and the size of the production area.”

Tom Cull, Owner, Dartmoor Kitchen

“Dartmoor Kitchen was on the cusp of expanding its pie production and we relished the chance to aid the decision-makers in steps which would pave the way for the company’s future. The company is now reaping the rewards and enjoying a higher output due to a more streamlined production process.”

Phil Halse, MAS specialist, South West MAS

Tom Cull, Owner, Dartmoor Kitchen with Phil Halse, MAS specialist
The 11 regional centres provide locally delivered support services to small and medium sized manufacturers across the UK. Funded by the English RDAs and the Devolved Administrations of Wales and Scotland, each centre offers tailored support recognising the needs and priorities of local businesses. This localised expertise and understanding is critical in successfully delivering a high quality service.

A Network Team, funded by BERR and delivered by emda acts as a link across the national network. Each Regional Centre is led by a Director with responsibility for working with the RDAs, National Network Team and a range of local and national partners to coordinate MAS activity. This structure ensures consistency and flexibility across the service to fully accommodate the needs of UK wide manufacturers.

To find out how MAS can benefit your business contact:
tel: 0845 658 9600
email: info@mas-uk.org.uk
web: www.mas.berr.gov.uk

"As a group, the Regional Centre Directors remain absolutely committed to helping UK manufacturers raise their productivity levels and competitiveness. I am delighted at the way in which the MAS regional centres are now working much more closely together nationally to help firms face what really are global challenges."
David Wright, Chief Executive, West Midlands Manufacturing Advisory Service

"We all share a common set of goals – to ensure MAS reaches out to as many manufacturing SMEs as possible and makes a significant improvement to their productivity."
Roger Parry, MAS National Network Resource Manager, Business Support Team, emda

"The upholstery project, guided by North West MAS Practitioners, was critical to our success. The area has been transformed and we’ve seen a major shift in performance. Productivity in the area has also increased by more than 20%.”
James Dewhurst, Operations Manager, REM, Lancashire

"MAS Wales provided us with invaluable support in reinventing our plant and modifying machinery, so increased production on this site is viable. This means that we are not trapped by the need to make a huge capital investment.”
Ms Rowley, Founder, Abaca, Carmarthenshire

"MAS North East has delivered a major increase in efficiency with minimal capital expenditure and minimal disruption to production.”
David Glendonning, Managing Director, H Jarvis, Cleveland

"By working with MAS Yorkshire and Humberside we’ve been able to improve efficiency and reduce costs. This has also led to a more positive work attitude on the shop floor. Systems are now in place that can be built on for further improvement in the future." Russell Brown, Production Manager, KD Decoratives, Yorkshire and Humberside

"We were sceptical about working with MAS East Midlands to start with but they have given us practical, hands-on support and in a language that we can understand! I am delighted with what they have done and we haven’t finished the project yet.”
Charles Tong, Managing Director, Tong Engineering, Spilsby

"To deliver our new business opportunities we had to become ‘lean’ in our approach. MAS East has played a major part in the culture change within the team. The transition was not disruptive, but enthusiastic, as all of the team were involved from day one.”
Andy Stephen, Manufacturing Manager, Herbert Retail, Suffolk

"Support from London MAS has helped us both with our manufacturing base in London and abroad. This has delivered significant financial benefits and safeguarded jobs in London.”
Roger Papenstok, Managing Director, Contactum, London

"We were impressed by their expertise – it was clear Scottish MAS understood our business. We quickly saw benefits and are now better at problem solving, which is key to improving our turnaround time and driving our business forward.”
Cameron Winton, Engineering Manager, Woodward Engines, Prestwick

"The holistic approach of Value Stream Mapping with the South West MAS has enabled the management team to identify and address broken processes objectively and convert the whole process into one cohesive action plan.”
Richard Keith, Operations and IT Manager, Microlights, Wiltshire

"As a result of support from MAS South East we are now able to reduce our new product to market time from 18 months to 12 months, with reduction in scrap material totalling over £100k in the next 24 months.”
Saeed Zahedi, Technical Director, KD Decoratives, Yorkshire and Humberside

"The area has been transformed and we’ve seen a major shift in performance. Productivity in the area has also increased by more than 20%.”
James Dewhurst, Operations Manager, REM, Lancashire
MAS delivers on time and in full

MAS has helped more than 140,000 UK manufacturers to share knowledge and achieve greater success. A further £177 million of added value has been reported for 2007/08, totalling an impressive £546m over its six years in operation.

What these figures don’t tell us about are the people and projects that make it all possible and the companies behind the headlines. MAS advisers facilitate genuine business successes by helping to enhance customer satisfaction through improvements to on time and in full deliveries; increasing work flow supported by reduced stock; reducing waste management costs and environmental impact due to scrap reductions. The following case studies give an overview of what impact MAS has on manufacturers.

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Company
FTL Group Ltd: Leeds - Stainless steel hose manufacturer
Project drivers
FTL had been successful in winning new contracts which required an increase in production by 50%. FTL sought assistance from MAS to help bring production in-house so that they could remain competitive and offset rising energy costs.

MAS activity
MAS Yorkshire and Humberside introduced lean principles to FTL and helped to implement Katzen principles by forming a project team. This highlighted the problem of set up and change over times which were made efficient by changing the machine tooling layout. Teams were trained to monitor machine performance, allowing checks to be carried out independently and defects to be fixed immediately.

Results
• Setup times reduced by 86%
• People productivity up 60%
• An additional £72,000 in GVA
• Created 30 new jobs

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Company
Hydro Group Plc: Aberdeen - Sub Sea Electrical Cables
Project drivers
To internationalise operations and grow from within the domestic market, improved delivery times and greater flexibility were needed to accommodate unexpected demands.

MAS activity
Scottish MAS carried out extensive process mapping, discussing working cultures and factory layout. Teams were trained in 5S methodology to eliminate waste through increased efficiency in a system of Separating, Sorting, Sanitising, Standardising and Sustaining and 5S champions were appointed to ensure best practice.

Results
• An efficient new factory layout
• 11% growth
• £500,000 GVA contribution
• Exports grown to 40% of turnover

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Company
Armitage: Merthyr Tydfil - Flexible hose engineering
Project drivers
Committed to remaining in South Wales, Armitage wanted to expand and refurbish its Merthyr Tydfil base. After a period of instability, the new management team were determined to grow the business and exploit new markets.

MAS activity
Following a full manufacturing process review carried out by MAS Wales, product standards were developed and line balancing introduced, proving an effective tool to improve the throughput of assembly lines, whilst reducing labour hours and over production costs.

Results
• A 35% improvement in productivity in the vibrating and gas area
• Launched KPIs to improve overall performance within the organisation
• Developed an effective operational strategy
• Identified new areas of opportunity
• Improved plant layout
• Achieved a better environmental profile - energy savings of 20% have been made and the company uses only water-based chemicals in its production processes

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Company
Microlight Ltd: Wiltshire - Retail lighting
Project drivers
Ambitious expansion plans to increase turnover by £1.5m in one year put Microlights under pressure to fulfil orders, obtain correct components and work effectively with its supply chain. Having already implemented a lean project on the factory floor, they contacted the MAS South West for support developing and implementing a business philosophy of lean throughout the back office.

MAS activity
MAS South West identified the need to improve order processing and forward planning. Value Stream Mapping techniques explored the existing office processes from customer enquiry through to purchasing and production - making changes to streamline the internal operational structure, improving effectiveness and enhancing reliability. Microlights were also encouraged to engage with its suppliers by organising a supplier development day - discussing the challenges in the marketplace and explore opportunities to work more effectively together.

Results
• Capacity for taking orders increased by 20%
• Reduced production lead times
• Reduction in number of temporary employees required
• Improved internal structure of planning, purchasing and operations
• Better understanding of the markets in which it operates

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Company
Marli International Limited: Combs - LED Solutions
Project drivers
Making all components with supply voltage and traceability using outdated equipment was causing long set up times and high tooling costs. It also presented a health and safety risk with multiple moving parts and the use ofinks and thinners.

MAS activity
MAS North West worked with Marli to develop an action plan followed by a process mapping exercise of the production process. This identified unnecessary transport and motion, high inventory levels and over processing. The team also re-designed the factory layout which made space for new laser marking equipment.

Results
• Reduced lead times for tooling design and supply
• Equipment running and overhead costs reduced by £5,000
• Production layout streamlined into process flow production
• Reduced internal transportation and employee travel within production area
• Reduced set-up times
• Up to 30 production jobs safeguarded
• Sales increased by up to £1m

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The MAS Regional Centres not only offer the opportunity for businesses to have direct contact with manufacturing experts specialised in assisting SMEs, they also provide a gateway to an established infrastructure of experts at centres of expertise and training organisations across the UK. These include Business Link, Train to Gain advisers and Manufacturing Sector Skills Councils.

This partnership approach to delivery permits MAS advisers to work with or through experts from industry bodies such as The Welding Institute, the National Skills Academy for Manufacturing, Industry Forum Network and the Innovative Manufacturing Research Centres, as well as a host of other public and private sector organisations. MAS is also explicitly targeted with signposting clients, where appropriate, to follow-on support at the end of their engagement.

Partnership brings benefits to MAS as well as its clients, giving the possibility for sharing insights into manufacturing issues and plans to address them and the opportunity to change the rules of engagement to remove any unnecessary bureaucracy for the client. Discussions are in progress to further establish formal arrangements with a range of strategic partners over the forthcoming year.

“…partnership potential…”

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**“A chance invitation to attend a MAS event has proved to be priceless for our business.”**

David Glennan, Managing Director, Glennans, Uttoxeter

The diverse programme of MAS events runs throughout the year - to find out how you can benefit visit [www.mas.berr.gov.uk](http://www.mas.berr.gov.uk) or call 0845 658 9600.
In the year ahead, MAS aims to continue delivering its core services and reach out to new business contacts as well as expand the benefits gained by existing clients through an enhanced MAS offer – recognising the ambitions for MAS identified by the then Chancellor of the Exchequer, Gordon Brown in his 2006 budget speech.

Following the successful pilot of MAS Phase 3 in 2007, April 2008 marked the national roll out of the extended remit for MAS to assist with strategic planning and skills development, sourcing supplies, services and equipment; the application of lean techniques across the whole organisation; making supply chain improvements and improving resource efficiency. Delivered through the same regional channels as the existing core services, these new services will also be supported with a regional and national best practice factory visit programme.

This enhanced offer will help MAS rise to the challenges set out in the Government’s new manufacturing strategy ‘Manufacturing: New Challenges, New Opportunities’ announced in September 2008 by Rt Hon John Hutton. MAS will:

• Provide seamless access to comprehensive and straightforward advice and support for skills development
• Work with the Office for Renewable Energy Deployment to advise manufacturers on the most effective ways to exploit the renewables market
• Help manufacturers to develop and exploit their design capability in the global economy in collaboration with the Design Council’s Designing Demand programme.

“Delivered through the same regional channels as the existing core services, these new services will also be supported with a regional and national best practice factory visit programme.”

Company
SNA Europe (UK) Ltd: Rotherham
Band saw blades
Project drivers
Needing to tackle rising energy costs and implement recommendations made by a Carbon Trust review, SNA contacted MAS Yorkshire and Humberside for help in reducing energy consumption.

MAS activity
An energy saving project helped the company prepare for signing the Climate Change Agreement (CCA) with DEFRA and introduced funding available for new equipment, such as the BREW Small Scales Capital Grants Scheme.

Results
• Climate Change Agreement (CCA) signed with DEFRA, leading to £23,000 pa (80%) reduction in their Climate Change Levy (CCL)
• 53 tonnes pa reduction in CO₂