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## **ANNEX G**

### **Case Studies – Selection and Script for Interviews**

## SELECTION OF REGIONS AND CASE STUDIES

The case study work includes 20 in-depth interviews with organisations that have received support at Level 2 and Level 4. Case studies have been selected from the following five regions: East Midlands, North East, North West, Yorkshire and the Humber and the South West.

The key criteria for the selection of these regions included the following criteria:

- ✓ Higher representation of total manufacturing by the region (above 10%)
- ✓ Higher significance of manufacturing by the region (>1)
- ✓ Representation of all models of delivery
- ✓ Representation of both modes of offer (core/enhanced)
- ✓ Data availability/quality (in particular Level 4)
- ✓ Willingness to participate

Two methods of selecting companies for case studies are used. These include:

- a. MAS regional centres nominating companies. MAS regional centres from the five regions were asked to nominate companies that are representative of the MAS provision delivered by the centre. Regional centres were asked to avoid picking extreme examples (either good or bad). The key benefits of this approach are:
  - Engagement of the MAS centres in the evaluation process and use of their knowledge of companies to select case studies of representative and good practice.
  - Selection of companies that have an interest in MAS and may be able to add some comments about the future strategic direction of MAS in relation to the wider manufacturing sector in their region.
  - Selection of companies that will provide some interesting examples of how MAS helped them.
- b. Companies selected based on the survey responses. This approach would enable us to investigate further points of interest captured by the survey in relation to impact and value added of the assistance provided by the scheme.

By combining both methods, the case studies helped to get a better insight into the programme and:

- Explain what drives companies to using MAS
- Understand the appropriateness of MAS to manufacturing needs now and in the future
- Assess the outcomes of MAS, including
- Identify operational areas for improvement

The questionnaire used for the case studies is attached below. Examples of case studies are included in the main report and in Annex H.

## SCRIPT FOR INTERVIEWS



March 2006

*The regional case studies are designed to provide further information to support the national evaluation of MAS. **Key objectives of these case studies are to:***

- To understand what drives business to using MAS
- To understand the appropriateness of MAS to manufacturing needs now and in the future
- To assess the outcomes of MAS, including:
  - Business Outcomes (profit/costs/turnover/efficiency)
  - Development Outcomes – e.g. business behaviour/ attitude to development/use of advisors/problem solving/ investment.
  - Impact on competitors/ supply chain partners.
- To further investigate the deadweight element of intervention
- To identify any operational areas for improvement (process evaluation) – review of delivery models.

***The case studies will be focused on 5 selected regions. Case studies will focus on companies that have received level 4 intervention, but will include through this an assessment of the role and relative impact of level 1, 2, 3 and 5 interventions in the success of MAS operations <<we'll need to ask questions about the relative impact and value of the helpline, etc., e.g. as a basis for recruitment?>>.***

**The structure of this document is as follows:**

1. Business background
2. Business Climate
3. Relationship with MAS
4. Clarify MAS involvement and understand outcomes
5. Understand longer term impact of MAS
6. MAS exit strategy from the business – how did it leave the relationship with the business? How did the exit strategy affect their perception of MAS and external advice in general?
7. Understand future needs and relevance of MAS to the business moving forward

## 1. Business Background

- The nature of the business,
- What do they do, key processes?
- Main markets, supply chains?
- When was it established? Future aims for the business?
- About the interviewee – e.g. brief employment history? What were their reasons and objectives for setting up (or buying, joining) business?

## 2. Business Climate

- What have been the major events since 2002 which have altered the firm's growth pattern?  
*Probe:*
  - Were they unforeseen?
  - How did the business react to them?
  - What was the outcome?
  - Was the performance of the business better or worse than expected in that period?
  - What are your reasons for saying that?

## 3. Relationship with MAS

I'd like to now ask you a few background questions about your relationship with MAS.

- How did you first find out about MAS?  
*Probe:* When was this?  
*Probe :* Were you encouraged to apply for MAS funding by an existing consultant?
- In what year did the business **first** contact MAS?  
*Probe:*
  - What was your reason? (expectations and motivations)
  - What was the outcome?
- Thinking back to 2002, what were your motives for seeking assistance (or accessing services and support) from your local MAS provider **in the period July 2002 to July 2005** (this is the specific period we are interested in as part of this study):  
*Probe:*
  - Did you initiate the contact?
  - Was the business growing or declining?
  - New markets/customers?
  - facing tough competition?
  - struggling to maintain sales/market share?
  - Was the business struggling with a specific technical problem/issue?
- What did you expect to achieve from the relationship with MAS?  
*Probe:*
  - ...and the reality?

- How are they able to arrive at this opinion with respect to expectations – benchmarked against what other experiences?
- What alternative sources of business support were available?  
*Probe:*
  - Were you aware of these alternatives at time?
  - Did you try to use these alternatives? – if so what was the outcome?
  - How do you think MAS rank compared to these other sources of services and support?
  - What did you get from MAS that they couldn't get from elsewhere - was it a subsidised price or a unique service?
  - How does the support you received through MAS compare with other business support you have received from other organisations?

If there were any subsequent projects – how were these different to the first one? Did they have a greater or lesser impact on the business?

### *ii) Nature of Assistance*

- How would you describe your initial meetings with the MAS?  
*Probe:*  
How did the advisor present him/herself:
  - as an expert (on the issues you were seeking advice and assistance)
  - as a critical friend who you bounce ideas off
  - as a doctor who diagnosed what problems your business was facing
- How did you (and adviser?) decide that the particular assistance that you received was the right one for you?  
*Probe:*
  - Had you decided that the problem was the most pressing for you before the meeting?
  - Did you prioritise with your advisor, which issues to tackle?
  - Or did it feel like you ended up focussing on a problem that consultant had a fix for?
- What services and support did you receive from MAS between the period July 2002 July 2005?  
*Probe:* Manufacturing review; specialist project?.
  - What were the most important aspects of the services and support provided? Why do you say that?
  - Was the solution tailored to your business needs?

### *iii) Delivery of Assistance*

<<need to introduce a series of questions about the relative role of MAS and other business support, e.g.

- Did MAS engage in parallel with other partners to address the business need, e.g. did they bring along BLO-appointed consultants to deal with areas they didn't consider appropriate for MAS to deal with directly?

- Was it helpful to have more than one advisor engaged? What were the pros and cons for you as a customer? What would have been more beneficial to you by way of approach?>>
- How were those services provided by MAS between July 2002- July 2005
- *Probe:*
  - Directly from the MAS or via third parties?
  - How was the external individual or organisation chosen?
  - How much control did you have of this process?
- Thinking back, how satisfied were you with the way those services and support were delivered?

*Probe:*

- Relationship with the Advisor?
- Competence of third parties?
- Specific knowledge of your business – and was this necessary to deliver the services and support required?
- (where third party – did MAS help you manage, get the most of the contractor ?)
- Did you pay for any of the services provided by or through MAS?
- Probe:*
  - If yes, what did you have to pay for this? Who paid the rest?
  - If no, who paid?
  - Did you feel they you getting value for money?
  - What did you get for this in terms of support? (days)
- What were your experiences of the manufacturing review/specialist project?

*Probe:*

- How closely involved were you with its development?
- Did you agree with all of its contents and proposed actions?
- Relationship with the Advisor?
- Did it identify issues that you were already aware/unaware of?
- How much resource did you have to provide (i.e. staff time)? Did you expect this?
- Did this address the issues that needed to be addressed?
- Did this address other issues that you were not aware of before their involvement
- Did you implement all/some/any of the recommendations made?
- Were there barriers to implementation?
- Was there anything else that MAS could have done to help you overcome these?

#### **4. Outcome from MAS**

- In what ways has the support provided by MAS impacted upon your business?
- Probe:.*
  - How critical was the MAS support to these changes?
  - Why do you say that?
  - Have all the benefits been realised? – why not?

- Do you think that these will have a lasting effect (positive or negative)?
- Do you feel you had sufficient support from MAS- did you need any more?

*PROBE*- ensure both behavioural and business outcomes are covered. Need to ensure that any changes to problem solving/innovation/r&d/management/new knowledge/new opportunity are captured as well as QCD indicators. Trying to investigate both short term and longer-term impacts and the sustainability of MAS impact.

- Which ONE of the following statements best describes your view on the contribution the support you have received from MAS has made, or will make, to your firm?
  - We would have achieved similar business outcomes anyway
  - We would have achieved similar business outcomes, but not as quickly
  - We would have achieved some but not all of the business outcomes
  - We probably would not have achieved similar business outcomes
  - We definitely would not have achieved similar business outcomes
  - (None of these)

*Probe*: What is the reason for saying that? – need to explore the response in detail here – seeking precise examples of timing and scale – if all outcomes not achieved which ones?. How has this affected the performance of the business? If ‘zero’ additionality need to probe on why they say that and relate to earlier responses on the MAS relationship and their motivations for going to them in the first place.

- Do you think that the changes you have made have impacted on your supply chain partners or competitors in any way?  
*Probe*: How, why, to what extent?

## 5. Lasting Impact of MAS

- Do you think that your business has changed substantially since being involved with MAS?  
*Probe*- how, in what way? Does that impact the whole business? What do your staff think? Has it changed the business aspirations, aims/objectives?

## 6. Looking to the future

- Has your market place change much since your involvement with MAS?  
*Probe*: how, in what way? and how will this impact on your business moving forward?
- What do you consider to be the main challenges facing your business in the future?
- And how do you expect to over come these?
- Do you think that your experience of MAS will help you overcome these future challenges?

*Probe*: Do you envisage using external advice to over come these?

*Probe*: More so than before your experience of MAS?

*Probe*: Do you expect to use MAS in the future- how appropriate do you consider their support to your future needs?

*Probe:* What elements of the MAS service do you consider important in moving to the future?

*Probe:* What elements of their services would you like to see develop/change?

- Would you recommend MAS to others?
- Have used MAS again since July 2005?

**Thank you and close.** Tell them about website- places to get further info if required.

## **ANNEX H**

### **Case Studies – Key Findings**

This section of the report presents key findings from the interviews with selected case studies. The identities of businesses have not been disclosed due to the sensitive nature of their responses. Twenty case studies were undertaken, covering a range of businesses across England, with various experiences of the MAS service. Interviews were conducted with the company's Managing Director (MD), or Owner or Operations Director, or, in some cases, the Lean Manager. The nature of detail provided by the interviewees varies depending on the nature of the MAS engagement but also the time that the company wished to allocate to this study.

## **Company 1**

### **Background on company and current market conditions**

The company is a small company established 11 to 20 years ago. It is involved with the maintenance of transport equipment. The major recent challenge for the company has been its merger with a similar locally based company (the other company worked in a similar area but had a smaller core machinery / workforce). These resources have now relocated to the core site.

The company trades on a national scale but the majority of customer/suppliers are local or regionally based.

Current market conditions are ok, turnover is always fairly stable over the year, with monthly fluctuations in business. However, the director wants to develop new market areas (focus on higher technology engine work in particular).

### **Relationship with MAS**

The initial contact came through Business Link in spring 2005. In fact, the Managing Director (MD) has been using Business Link on an occasional basis and wanted to get his staff trained for working on higher tech engines.

Through this contact the MAS advisors got in touch with the MD and advised him that he could get a grant for the training and told him about MAS. Training didn't occur in the end but the MD asked the MAS advisor to help out with the factory merger planning.

### **Nature of the assistance**

The MAS advisor came to see the company and together they developed a plan for implementing the merger. The focus was on re-ordering the factory floor to make space for new machines and new employees.

The MAS advisor came across as an expert; he proposed a plan for the merger and the MD was happy following the plan. The MD felt that the MAS advisor was '*genuinely interested in the company and its business needs*'.

### **Delivery of assistance**

The MAS advisor was more involved and could offer more specific business support than other consultants/agencies used by the company – especially in comparison to Business Link, who often lack such expertise. Furthermore, following initial plan development there was further contact with MAS over the reordering of back office and administrative tasks.

The total cost for the MAS assistance came to £4,500, which the MD views '*as money well spent – probably would have spent the money anyway but the MAS contact kick-started the process within the company and made it easier to prioritise new practices and processes*'.

On the other hand, the time inputs from the company's point of view were not massive. The MD was happy to follow the advice of the expert – it did take one week or one employee's time – to go on a

training course. According to the MD, this will be time well spent if the company can move into new markets.

### **Outcome from MAS support**

The MAS support definitely helped the company to improve its professionalism.

The MD does not feel that there were major changes in processes and techniques following the contact – this is more of an issue for him and his staff to focus on. Instead, MAS gave him the administrative/business tools he needed, and the impetus to analyse his working methods and reduce waste / unprofitable jobs etc.

There is no evidence yet of an impact on the bottom line but contact with MAS has only been in the last twelve months. They should start seeing improvements later this year (2006). One member of staff recently went on a training course for a week – hope to develop this line of work over the next few years.

With reference to sustainability of results, according to the MD, it is hard to always adhere to best practice but he does try – the responsibility for implementing the changes is his alone.

However, the MD would probably not use the MAS service again because of the cost involved. He values the support they offer but feels that he can take what he has learnt and use it himself rather than pay for further rounds of advice.

### **Additional Comments**

It would be good to have more detail on MAS invoices '*so you know exactly what you are paying for*'.

## **Company 2**

### **Business Background**

The company is a small manufacturing firm operating in the mobile home industry and is over 20 years old. The business expanded its premises in 2004.

Up until 2005 they were 100% export. For 2005 the company accounted for 10% of the UK export business. They have since begun to make some new products for the UK. Belgium and Holland are the key markets (as distributors) and the product then goes on to France, Switzerland etc.

The business hopes to expand in the UK and to diversify to gain exposure to different markets. The owner realised that he needed to expand the customer base when he first took over. In the UK they hope to appoint 6-8 dealers nationwide.

### **Relationship & Outcomes of Involvement with MAS**

The company has received assistance through the MAS a number of times.

The owner initially received help from Business Link and a small development agency in the local council. The local council helped the company look at the costs of computerisation and provided a small grant.

The council then helped the owner approach the local RDA with a request for funding of the new building they needed. They worked on the basis that if they were successful, they would get a 7% grant. The RDA actually ended up providing a 15% grant, which gave the business a tremendous boost and enabled them to put a deposit on the building.

Business Link, on the other hand, introduced MAS to the company. The MAS in turn, following a diagnostic review, helped to change the whole production process based on buying the new building. They built up a relationship and the MAS advisor was very enthusiastic.

This was done in January 2004. There was a change going on anyway within the company and they were already on the way to expanding.

It is important to note that the business continued receiving advice from Business Link. For example, the Business Link supported a move towards broadband and the owner underwent a leadership diagnostic – this was followed by a team-building event for the entire company, which was a major decision because the whole business shut for the day.

A second MAS project concerned continuous improvement, which began around September/December 2004. They had 12 days assistance and then had a second session that began in February 2005. However, a decision was made to stop the assistance in March 2006. The company was very busy at the time and the MAS scheme needed teams to sit down round the table. Homework was given out instead, but people didn't do this. The owner therefore sat down with the MAS advisor and they agreed to stop it. There was nothing wrong with the support; it was all to do with the timing of it. The advisor was happy with the decision.

The owner always had a good relationship with the MAS advisor, who was able to adapt easily to the business arrangement and priorities.

Payment was done on a 50:50 split between MAS and the business.

### **Opinions on MAS/Costs Involved/Outcomes**

The major improvement due to the MAS assistance is the new layout of the factory. The MAS gave them quite a lot of help here and this has been the key change.

Furthermore, MAS showed that there are *'different/more efficient ways of doing things – a new dimension really – although there was initially some resistance to this cultural change'*.

According to the company's owner, the majority of improvements since the first contact with the MAS would have happened anyway. The RDA were initially a more important source of support because they provided the grant money. Without this, they would not have been able to secure the new building.

### **Looking to the Future**

The owner is likely to use MAS again – for example, to pick up with the continuous improvement support programme.

The owner is also likely to work with Business Link again in the future.

He has been at the business now for just over 3 years and he believes the level of support for small businesses is amazing – it is just a case of knowing how/where to get it.

In October they will be presented with a Queen's Award in Export. They also have Investors in People status.

They are looking for incremental business and to break into new markets with new products. According to the owner, *'the key for the future is to be proactive and not reactive. It isn't a cut-throat business, rather it is a "smart business" – you have to be responsive to changes in the export market'*.

## Company 3

### **Business background and climate**

This is a large materials technology company, which produces products for a wide range of sectors and industries. The company is a multinational with 10 main production sites and a further 40 offices internationally. The key processes in which they are involved include: Research and Design; Manufacturing; Technical support; Marketing and sales; and Management team.

### **Relationship with MAS and Nature of Support**

Initial contact with the MAS was made by the business in 2004 and was in response to the need to implement lean manufacturing processes within the business. The company already had some knowledge of the MAS services from membership of business networks and attendance at seminars.

The company expected that MAS would provide them with a mixture of direct suggestions and indirect links to expertise/seminar sessions/advice etc. This is basically what they have received.

The company was aware of other external sources of support but felt that *'MAS was best placed to help them with lean manufacturing advice – the subsidised support available was also a reason behind using MAS'*.

The outcome of the contact was a MAS adviser coming to the business to review the company's operations and develop the Value Stream Analysis. The MAS adviser seemed genuinely interested in the business's needs and a trusting relationship was built up over time. The relationship is strong and ongoing. In fact, the relationship with the MAS advisor was rated as 9 out of 10.

The adviser identified a number of areas where improvements could be made – it was then agreed that a priority department would be identified and that change would be piloted here first before being rolled out to the rest of the company. This fitted with the company's desire for a long-term strategy whilst also recognising the complexity of the business. Support received from the MAS also included: Team Leader Development programme for department leaders; Site visits; Conferences and seminars; and Accelerated Route to Lean Manufacturing course.

The MAS did not bring in external consultants to assist but several MAS advisors support the various processes.

They paid for the service but the subsidy definitely helped in the provision of training – hard to say whether company would have paid for training without the subsidy. The time commitment involved to implement these changes is considerable but ultimately worthwhile.

### **Key Outcomes of MAS support**

- In the pilot production area where lean techniques were first introduced productivity has gone up by 35% and sales have increased – on time delivery is also improving and the company is getting better feedback from customers.
- The amount of work in progress has fallen by more than half – e.g. fewer resources tied up in the factory and lead times are down, making the company quicker to respond to customer enquiries. There has been a reduction in the amount of wastage and rejects, and cash flow has improved. Inventory days are down 35% as a proportion of stocks.
- Staff are more proactive – in total there have been 700 improvement proposals submitted and all teams now have KPIs. General housekeeping is a lot better.

However, it has been harder to secure similar improvements in other departments – you need to keep on pressing people to change their practices; some are more responsive than others.

The company has not introduced contractual/financial incentives to encourage staff to implement changes.

Overall, “the company probably would not have achieved similar business outcomes” without the MAS support.

### **Looking to the future**

The company plans to maintain contact with MAS – an ongoing transformation strategy – it will take time to ensure that all departments are fully implementing the changes.

The key challenges for the future will be getting delivery performance up and improving product innovation rates – this will overtake service quality as a differentiator

The MD would like to see more support from MAS on the innovation side – perhaps demonstrate the ways in which companies can link in to university expertise.

## **Company 4**

### **Business background**

The business is a medium-sized furniture manufacturer and is over 20 years old. It operates on one site. The bespoke nature of their product means that they specialise in one-off orders. The business exports all over the world – customers in China, Norway and Turkey.

Over the last three years the key problem facing the company has been the need to move from their old flooded site in the city centre to a new site on the outskirts – the company’s factory was flooded in January 2005 and for a few weeks they lacked actual premises – they have since relocated to their larger current site.

The recent business climate has been steady – turnover stable and overall employment level steadily decline due to natural attrition and improvements in productivity. The company knows its market and does not try and compete with budget/mass market suppliers – therefore there is always bedrock demand for their products.

### **Relationship with MAS and Nature of Support**

The Managing Director probably first knew of MAS about 4-5 years ago and he has always been active on issues of company improvement i.e. external consultants have been used in the past.

First MAS contact came in 2003. The main issues the company wanted to tackle were: reducing errors in processes and thereby reducing the need for rework; and improving on-time delivery mechanisms

The business was less concerned about boosting turnover or identifying new markets as they already felt confident on these issues. However, the company expected MAS to encourage them to change some of their practice through providing a mixture of cutting edge practices and new perspectives – this to be delivered via site visits, research findings, case studies, seminar and training sessions etc. This advice would help the company to think more strategically and end the fire fighting mentality.

The business also expected that the relationship would be a long term one, in recognition of the fact that obtaining behavioural change is difficult and sustaining it even more difficult.

In comparison with other sources of support, the business viewed MAS as being more likely to provide long-term, partner support – other consultants work on single issues and treat you as a client rather than a partner – MAS offers the potential for deeper engagement.

The MAS support began with a two-day site visit and from this produced the value stream analysis of the company's operations. The relationship with the advisor has always been good; the company views him as *'a friend and a partner rather than another external consultant'*. The fact that MAS advisers live locally also helps – speeds up contact between the parties.

The MAS identified the establishment of a company control room as the priority – this came from the value stream exercise and recognition that a delay at one point in the chain could put a whole order out of line. Central to this early work was getting different departments to speak to each other more frequently. This suggestion helped to tackle the key problem that the company had identified prior to contact, namely delivering on time.

Following the value stream exercise MAS helped the business in a number of other areas:

- Key staff went on Accelerated Route to Lean Manufacturing course
- Shopfloor staff went on Team Leader Development programme
- Company was invited to take part in seminars
- An improvements suggestion box system was put in place

It needs to be noted that the MAS brought in external consultants on the issue of marketing and purchasing. The external consultant had a good relationship with the business and was straightforward and honest about his role and limitations.

The business did pay for the support they received but the subsidy definitely helped them meet these costs. Most of the costs related to attending meetings and seminars/events. Expenditure would probably have been incurred anyway via bringing in external consultants.

For this outlay the company received the initial two-day consultation and then approximately two visits per month – overall averages out at about 4 days a month with some form of contact – this has been over 3 years. The whole support is time consuming for key management and shop floor staff – days away training for example – but it is time well spent.

### **Outcome and lasting impact of MAS assistance**

The company knew that it could improve in two respects – increasing turnover and/or reducing overheads. There has definitely been a reduction in overheads. Number of staff has decreased by approximately 15%

Furthermore, staff are more aware of what their role involves and are more engaged in proposing improvements. Communication between teams has also improved a lot – this has helped reduce blockages and late deliveries – customer satisfaction has increased as a result – this should start to feed through via more orders.

Behavioural changes have taken longer to implement and are harder to sustain – some teams have embraced change more readily than others – this will take time to remedy. The company does not encourage embracing of changes through incentives/pay packets – it is expected that employees all work together for the good of the company.

There have been no direct changes on the technology side of things following MAS contact – the business deal with their own technique improvements etc – MAS advice was more about improving process efficiency.

According to the MD, *“We would probably not have achieved similar business outcomes”*. This is because MAS challenged the company to think about things afresh *‘other consultants could have done this but not over such a long and sustained period’*.

### **Looking to the future**

The company is well placed going forward – never going to be a massive player but has a good niche, is improving its efficiency and is developing new products. They retain a close and active relationship with MAS and will continue to use their services in the future.

## **Company 5**

### **Background on the company**

The company is a medium-sized firm established over 20 years ago, manufacturing parts for the automotive industry. The company is a niche / small-scale manufacturer of hi-tech products – they design and build their own parts and have a highly advanced design component to their work. In 2000 it went bankrupt and was split into two. A combination of reasons for going bust – not a very professionally run business back then; moved into new premises and the builders went bankrupt; the main client was going through a rough patch.

### **Initial Contact with MAS and Nature of Support**

The MD had had previous contact with the MAS advisors through the RDA, so he knew the quality of their work. With the MAS advisors he had previously worked on tube cutting systems and was impressed by their technical expertise.

This time, MAS was brought to overcome a flaw in their production process – the machinery they were using was not strong enough to withstand high pressures, so they needed to redesign the whole process – this was MAS’s task. The MAS consultant came to the company to undertake the diagnostic visit – he reviewed the process, observed the fault, then went away and wrote down his suggestions in a report.

The report suggested using a new material in the process – this suggestion was discussed and agreed with the MD and another manager. Once the MAS advisor had submitted his report, the MD was confident enough to go away and implement the process changes himself (he has a background in engineering and understood the solution).

In comparison with other consultants, the MAS advisors come across as technical experts and therefore the MD was happy to accept their recommendations without much questioning *‘you know you are getting high quality advice’*.

Overall, the business does not usually use consultants but the MD was impressed by the MAS advice. He particularly liked the fact that they are highly knowledgeable and willing to force an issue if they feel it is crucial to business success *‘they are not just there to agree with what the company says and does’*.

The total financial cost to the company, following 50% grant, was £1,200. The MD feels that this represents very good value for money. Similarly, the time inputs were not too heavy – the MD spent about 6 hours with the MAS advisor, other members of staff spent a little longer. Definitely worthwhile, as it would have taken the company a lot longer to solve the problem without MAS support.

In summary, *‘the company would have achieved similar business outcomes but not as quickly.’*

The nature of the business and the engineering background of most of the management means that they always seek solutions – MAS advice just speeded up finding the solution – it is refreshing to have a fresh pair of eyes looking at a problem.

### **Lasting impact of MAS**

There are no exact figures but anecdotal evidence that the failure rate for that part of the production process has fallen. The company is already committed to innovative and lean practices – Trading Standards Institute (TSI) registered – so it is easy to maintain the improvements implemented through the MAS project. The company will be in further contact with MAS regarding a few product development ideas that the MD has had.

### **Future plans**

Main challenges facing the business will be technological innovation to keep them ahead of the competition. The intention is to continue using the MAS on a project-by-project basis as and when technical problems arise.

## **Company 6**

### **Company background**

The company makes electrical products, was established between 11 and 20 years ago and is a medium-sized firm. It has been growing turnover steadily without increasing staffing levels. Initially, the company was low-tech and copied what other competitors were producing but at lower cost. It is now more hi-tech – has its own designs and specifications. Its suppliers are mainly Italian and Spanish. Overall, the business and profitability are good and growing.

### **Initial contact with MAS and Nature of Support**

The owner knew of MAS through his previous work within the industry and he knew that MAS advisors were high quality business support providers. He also saw an advertisement in a trade journal and it triggered him to contact them. The first contact came in 2004.

The owner had some ideas about how practices within the company could be made more efficient but was having difficulty showing other directors how this could be achieved. The MAS service provided the external and independent support to back up his reform plans.

The business used other business advisors in the past – some have been good, others less so ‘*a mixed bag*’. The MAS support has always been top quality due to the experience and subject expertise of the consultants.

Following initial diagnostic visit, it was decided that there would be a focus on one element of the factory process – fabrication. The MAS advisor spent some time with a few directors (not owner) and a few shop floor staff and together they identified areas in which efficiency improvements could be made – mainly around a cleaner and tidier working area but also focusing on time inputs at various stages of work. The advisor submitted a report advising in where improvements could be made and the owner agreed with the change proposed by advisor and this meant there was no real need for discussion of alternative solutions.

There was a very good relationship between advisor and the team – both at managerial and shop floor level and any early scepticism was quickly overcome. No third parties were involved in the consultancy programme.

The process took a few months to complete with the MAS advisor being in regular contact / visiting to check progress. The company had to meet 50% of the total costs – owner cannot remember exactly how much this was. Time inputs were not too great and were definitely worthwhile.

Overall, project was good value for money / time input.

### **Lasting Impact of the MAS**

The project definitely got employees to question and change their working practices but the company has only paid lip service to maintain the changes – the possible relocating elements makes it pointless to invest much more money in the UK. No concrete figures but anecdotal evidence suggests that the company has gone from about 50% efficient to 70% efficient - owner feels that quality and mentality of workforce means that 100% efficiency will never be achievable.

The owner feels that “*We would have achieved similar business outcomes but not as quickly*”. He also feels that he knew the solutions to the efficiency problems already, but ‘*MAS gave the company as a whole the wake up call to implement these solutions*’. They could also provide more practical advice around what new machinery to purchase and what processes to put in place etc. Alternatively, the owner would have had to research this.

### **Looking to the future**

The company is going to be relocating a lot of its work in the next month and the owner feels company is in a strong position regarding growth.

The lessons learnt through the MAS process will still remain relevant to the front office / administration activities that will remain in the UK. The owner is very happy with the expertise of MAS advisor but he also wonders whether the project might suffer when the MAS consultants start to retire – the expertise of the consultants is based on their experience of working and advising manufacturers over a large number of years; there is not necessarily the younger generation to come through to replace them.

## **Company 7**

### **Business Background**

The business is a medium-sized firm established for more than 20 years, specialising in food packaging. The business considers itself to be high technology business relative to the sector.

### **Contact with the MAS and Nature of Support**

The business contacted MAS because they were advised to do so by Business Link. The business is generally careful about procuring external services, but because of the Business Link recommendation, they felt confident to use MAS.

The one-day business diagnostic was useful because it was free and gave the business the opportunity to review the advisor before committing to a bigger project.

The business felt that the MAS advisor was excellent; the advisor was very knowledgeable, had excellent interpersonal skills and was very effective. Through the extended project conducted, the business took the MAS advice and re-organised the production process, moving away from a system where people move around product, to a system where products were moved around people. The change in the production flow led to a 30% reduction in time costs. As the process is labour intensive, this was an important result for the business.

### **Future Recommendations.... Follow Up Activity**

Whilst the business was very happy with the services that they had received from MAS, in terms of client management, the business felt that MAS could have done more in terms of follow up work.

Once the project had been completed, the business did not hear from the advisor again. The business stated that a follow-up visit a week or so after the project would have been useful to see whether any issues had arisen/how the changes were taking place. The business would have also liked to have received a follow-up visit a year or so later, so that they could talk through issues, improve further and discuss possible next steps. As a fee-paying client, the business felt that this element was lacking from an otherwise excellent service.

The business felt that MAS did not adequately advertise their services, and it was only by chance that they came across them in the first place. As they offer very good services, the business felt that they should do more in communicating this to small manufacturing businesses.

In terms of future needs, the business highlighted that support in choosing appropriate suppliers would be useful. As a small business they are continually contacted by a large number of suppliers wishing to sell them various items. A MAS/DTI approved suppliers guide would be a very helpful tool to help them in making these choices.

### **Company 8**

#### **Business Background**

The business is a small precision engineering business that was established more than 20 years ago. The business considers itself to be a high technology business relative to the sector.

#### **Contact with the MAS and Nature of Support**

The business felt that they came across MAS partly by chance. When MAS called the business, they had not heard much about them. However, the business took part in a one-day diagnostic.

The business was very satisfied with the diagnostic exercise; they found the advisor very good and appropriate to their needs, and they thought that the quality of the advice was both excellent and suitable to the business.

Overall, MAS met their expectations and they were satisfied with the outcomes. The business has started to implement the recommendations made and will continue to implement the others. *Time is the main constraint to the implementation of recommendations.*

#### **Future Plans**

The business has since re-employed MAS to conduct an extended project with them. Their confidence in the advisor was a key consideration for the business; they felt confident in the advisor's ability and experience of the sector. This project is on-going at the moment.

In terms of future recommendations, the business felt that whilst MAS was excellent in delivering on specific projects/activities that they were less good at telling the business about the different services that are offered. The business would have liked more information from MAS about what else they do.

With a wide range of business service providers, it is difficult for businesses to know where to turn to, to understand who does what and what support is available. The business would like to see the various business support offerings clearly documented in a single place, enabling them to quickly understand who to contact with the range of issues they may face.

## Company 9

### Company Background

The business is a medium-sized firm, established over 20 years ago. The business manufactures high quality electrical equipment.

Whilst the company has grown, growth has been low and much lower than their competitors. The ownership of the company had recently changed with the death of the founder. 50% of the company is now owned by a trust, and the remaining 50% by three directors. Two directors retired and quite a lot of changes have occurred.

When the Manufacturing / Operations Director joined, the company were putting a great deal of resource into a new 'push' production system, where production was driven by sales forecasts / orders etc. They had spent 18 months delivering the model. However, the OD decided that the method was ineffective as it was too dependent on the information being inputted and because sales fluctuated a great deal with regards to both quantity and product type, the quality of the data was not good enough to facilitate this method of production.

Therefore, he went back to the 'pull system' where components / equipment were replaced as they were used. The OD used Lean to help with this transition.

### Contact with the MAS and Nature of support

The OD had experience of introducing Lean to companies through a number of previous experiences. He was therefore very familiar with the process. The OD looked at a number of different providers of 'Lean' consultancy but decided to use MAS because they were cheaper, he had confidence in the consultant and after the first session, the consultant had built up a good rapport with the workforce so worked well to continue with MAS.

In choosing to use consultants, small companies do not know what benefit it will bring particularly with something like Lean where numerous people claim to deliver, but outcomes are not always as expected. Furthermore, the outlay can be quite significant with no guarantee of payback. Therefore, with MAS requiring smaller outlay, the decision to bring in consultants was easier as the risk was smaller.

So far, the business has done Value Stream Mapping, which highlights non-value adding aspects of their business, looked at the 5S technique and undertaken a problem-solving exercise.

These had good take-up in the company. They have managed to reduce component stock by 20%, releasing capital of around £300k. Last month produced the company's best results ever.

They realise that they are just starting the Lean process of continuous improvement and have a long way to go, but the business is all ready seeing the benefits from Lean.

The company is trying to introduce a culture of 'right first time', which is showing benefits, but it takes a while to ensure that everyone adopts the process/mentality.

As a rule, the company try to use suppliers who either use Lean or are aware of it. However, they do not have the influence over firms to encourage or make them introduce Lean in their businesses.

They would have been willing to pay the full, unsubsidised amount for the MAS consultant having seen the outcomes of the activity. However, without going through the process they would not know the outcome.

## Future Plans

The company is undergoing a period of change because of the new environmental legislation. This means that they need to re-design many of their components. Organisational change is needed before the full Lean programme can be introduced. They need to re-design the manufacturing layout and undertake product re-design to eliminate waste prior to the Lean programme.

In terms of the future of the programme,

- MAS should maintain a longer-term formal relationship with companies to remind them about Lean.
- Providing a mechanism that allows companies to debate the next step. (Lean coaching).
- Establish a 'demonstration group' of firms, allowing companies to visit others who are doing similar things and share ideas.
- Set up local discussion groups.
- Help with HR issues.
- 5 days support is not enough.
- Would consider paying unsubsidised rate for more but potential to use engaged companies as case study examples for others, providing useful payback to MAS.

## Company 10

### Company Background

The company is a family-run business established nearly 85 years old. It specialises in the design of high temperature metal seals and gaskets, components and complementary products for the aerospace, automotive and industrial sectors. It employs 130 employees.

The company operates in a competitive sector with pressure to deliver high volume at lower costs. The sector also faces serious skills shortages e.g. engineers.

### Contact with the MAS and Nature of support

The production output in the c-seal sections was thought to be limited by a bottleneck welding process and sub-optimal process layout. The Lean facilitator (who is also Six Sigma Black Belt) had already identified the problem and he had presented the business case to his Board. He had also worked in the past with the MAS and knew where to look for the appropriate expertise and support. *'The best one is the MAS – they offer tangible benefits'*.

From an initial diagnostic visit, the MAS identified that the output could be increased by re-distribution of some elements of the bottleneck welding operation to other workstations and reducing the amount of operation motion associated with the layout.

A line balancing exercise was undertaken. Specific workstations were studied and the work content was broken down into elements of time. Some of these elements were redistributed to other workstations. Other elements associated with additional handling and operator motion were either removed or improved. A smooth line balanced was achieved.

Overall, due to these changes:

- People productivity increased by 30%
- Delivery schedule increased by 3.5% (to 96.5%)

In addition, the principles of line balancing are better and fully understood and are being cascaded to other areas of the site. It is important to note that the key element of success identified was *'engagement of all staff and regular feedbacks of progress and tangible improvements to senior management'*.

## **Future Plans**

According to the Lean facilitator,

*The MAS approach was exactly what we required, they clearly understood what was required and delivered the results. In addition, it was very important that they were able to work with the operators at identifying the improvements in order to ensure sustainability. Their contribution complemented the work already carried out in our business and had allowed us to increase the pace of our own lean journey. So to the question 'would I use MAS for future projects', the answer is YES.*

## **Company 11**

### **Company Background**

The business is a small business, specialising in the manufacturing of furniture.

### **Contact with the MAS and Nature of Support**

The business contacted MAS because they wanted a sounding board for their future plans. The business had a very clear idea about where they were going and what they needed to do. They saw the MAS service as an opportunity to sound these ideas out with people who understood manufacturing.

MAS were only a small element of the overall process and the business had also received advice from a range of different service providers. The MAS advisor confirmed what the business all ready knew.

### **Looking to the future**

In terms of future developments, the business has their own plans, which they will continue to develop. The business highlighted that there was a great deal of business support on offer, which made it difficult to choose what to take up.

The business explained that they are invited to numerous seminars and discussion events, but never really know what would be included, how relevant it would be and the value from attending. The business felt that most were too general in their themes and were not sufficiently specific. In a small business, time is a critical factor and taking time out to attend general seminars is not considered a useful use of resource.

The business explained that spending an entire afternoon at a seminar to possibly pick up only 15 minutes of useful commentary required too much time investment to really add any sufficient value. Time-poor businesses needed more information about the topics covered and the contents of events in order to help inform their decision as to whether or not it would be useful for them to attend.

## Company 12

### Company Background

The company is an award-winning, highly successful specialist manufacturer in precision machining and pressing of components for the aerospace, defence and commercial industries. The company employs 200 employees and was established 23 years ago.

The company operates in a very competitive environment with continuous pressure to reduce costs and increase productivity.

### Contact with the MAS and Nature of Support

The company knew of the organisation that delivers the MAS in their region through other assistance they had offered to them in the past, prior to 2003 e.g. succession planning and mentoring schemes. Significant changes were needed in production when an existing customer significant increased volumes i.e. demand – it was apparent that a dedicated high volume cell was required. There was also an issue of ‘late delivery’ culture.

They contacted the MAS for advice and support; they knew their advisors quite well; have worked together in the past. Following the diagnostic, full consultancy support was agreed (10 days in total) plus training for senior supervisors and managers. More specifically, support included:

- Setting up a rolling 2 day fixed forecasting methodology
- Cell leadership issues and shift handovers
- Identifying and introducing new KPIs
- Assistance with the cell layout
- Contingency planning

To rump up the production volume required significant changes in factory layout, working practices, production planning shop floor procedures, reporting mechanisms and support functions. The MAS advisor put their proposal forward and the Operations Manager accepted. He knew that they needed external support to make it work.

The immediate results were:

- Production rising from an initial 12,000 parts per week average (single shift) to 900,000 parts per week average (in 3 shifts)
- People productivity rising from 300 to 4000 parts per person per hour
- Overall equipment effectiveness became a new KPI and has steadily increased to an average of 70%

### Future plans

The Operations Manager recognises that without the help of the MAS, they would not have achieved these results as quickly. Although he is not very optimistic about the future of manufacturing in this country, he will turn to the MAS for the vast majority of their production related improvements and new ideas, *‘their advisors speak the same language as us’*.

## Company 13

### Company Background

The business was established about 20 years ago and specialises in the production of packaging. The business unit involved with MAS employs between 10 and 49 people.

### Contact with the MAS and Nature of Support

Contact was made with MAS because the business wanted specific advice about how to reduce the time it took to change tools and to relay the warehouse. The MAS advisor initially visited the business and undertook a single day diagnostic. Following this the business paid for seven days of consultancy advice to address the two main issues that they faced.

The business was extremely pleased with MAS and what they were able to do. They implemented the recommendations and felt that having gone through the process with the MAS advisor, they were able to apply the principles learnt to other areas of their business.

The business has realised a 25 percent improvement in space utilisation, 30 percent increase in the productive use of equipment (two of their original objectives).

*In addition, without MAS the business did not feel that it would have seen such improvement in their own use of management tools and the wider benefits from rolling out the lessons from Lean across the other areas of the business.*

The business placed a great deal of credit for the effective outcomes achieved with the MAS advisor. They felt that the advisor's knowledge and expertise were exceptional and this was further complemented by the advisor's knowledge of the local area and ability to pick up and absorb new information.

The business did not choose the advisor themselves, but they were very pleased about the choice made for them. *The careful matching of the business needs and the advisor's expertise was seen as a real benefit of the MAS model.*

The business would not hesitate in returning to MAS if they faced any other issues that they could not deal with internally. The level of trust that they now have for MAS is a key reason for this.

## Company 14

### Business Background

The business is a medium-sized precision engineering company, established 20 years ago. The business is a second tier supplier.

The major change in business climate since 2002 came when the owner of the company died. The company continued trading but quickly dissolved into in fighting. There was no real management; instead they just kept going with momentum.

### Contact with the MAS and Nature of Support

The firm wanted to increase their turnover and, crucially, their added value. With all the in fighting, the MAS were appointed by the General Manager (GM) to address issues. The first task was a free day diagnostic, where the advisor held interviews with everyone in the business and then wrote up the findings.

Following the free day, there was more work that the MAS advisor could do with the business. He looked at the work required and then spoke to a second MAS-approved colleague about this. One of them provided manufacturing expertise while his colleague provided accounts expertise.

Both advisors joined forces and the next stage of support was to analyse the company's accounts. The company was not in a strong position in terms of cash flow and could not pay wages. The MAS advisors and the GM then set about finding the money – careful consideration of the books revealed that the company was owed money. The GM arranged for this to be collected and the company survived by the skin of its teeth.

The next thing was to tidy up the company's customer and delivery systems and get the debtors to pay. They unpicked the customer structure, which was hard to do because there was no information on the computer system. There was an order processing system but only one person knew how to use it – and this was through self-training. Everything was basically done on a shoestring. The MAS advisors built a spreadsheet, did analysis and re-built the costing base of the whole company. Training was provided for staff. In addition, more pressure was put on people to perform within the company and job descriptions were created. The first two projects can be described as follows:

- The cash flow problems – support lasted for 2 months.
- Productivity improvement and waste reduction – this started in January 2004, with a total of 20 days.

Additional MAS supported was needed to deal with product price pressure (that was still going up) and delivery problems. A third form of support was developed to address the continuing problems, focused on stock & work in progress reduction. Excel programmes were written to find out where products were and were not moving.

At this stage of the support (coming towards the end of 2004) they could see the cost base was too high – at the end of 2004 there were redundancies. However, at the beginning of 2005 the company had managed to get their monthly break-even figure down and sales started to improve; they now generate enough cash to repair machines.

Terms of reference were signed on a fourth MAS project in May 2005 – this focused on supply chain management and business growth. In 2005, the GM bought the company. Since then the business has grown, and turnover comfortably is above the breakeven point, having discarded low value added work. *The MAS has been essential in turning the business around.* There has been a very high level of trust between the GM and the MAS team. It was felt that the business would definitely not have achieved similar businesses outcomes if the MAS had not provided support.

*There have been benefits to other companies too* – suppliers now get paid on time and business is buying more steel to cope with demand. The business is aiming to become the most cost effective company in its field. The idea is to keep the company growing and the MAS has helped it to become sustainable.

### **Looking to the future**

The market place is far more performance sensitive in terms of on time delivery – the business therefore has to perform to meet its competitors. Price pressure is always there, including internationally.

Going forward, the company needs to maintain the momentum of improvement. Currency movement is an issue, although this is something they cannot control. There will always be price reductions and they will need to look at outsourcing, including to India.

The company is investing substantial sums across the business in the next 12 months to increase productivity. The business expects to use the MAS in the future to improve their lean manufacturing techniques. This will be in the next 12 months or so.

## **Company 15**

### **Company Background**

The business is a multi-site global supplier of electrical components. The site involved with MAS manufactures the components and employs between 50 and 249 employees.

### **Contact with the MAS and Nature of Support**

The business used MAS to address a specific technical problem that they faced. They were being reactive to a problem as opposed to proactively contacting MAS for general improvements. MAS were almost called in as the manufacturing 'emergency service'.

The business recognised that MAS' strengths were about taking ownership of a challenge, coming out to see the business and trying to do something about it. The business felt that this was in contrast with many initiatives which tended to just signpost businesses to somebody else. The business stated that MAS proved to be a single point of contact to provide solutions to the problems they had.

The MAS support focused on trying to address a specific issue that the business had. Recommendations were made as to how the problem should be addressed. However, the business did not act on the recommendations because of the costs involved. It was felt that MAS offered a 'perfect world' or the 'ideal' solution, where they advised on introducing a new production line to overcome the problem that they faced. Whilst this may have worked, the business felt that the investment required was far too high and the solution offered was not really practical. In the end, the business managed to solve the problem in-house.

The business felt that the main reason why MAS was not able to help with their specific technical problem was because of the highly specialist nature of their activity. The MAS advisor was not sufficiently familiar with the production process to recommend amendments or changes that would improve the process. The advisor's recommendation to change the entire production line reflected a lack of understanding of what could be done.

Whilst the business felt that the advisor grasped the issues relatively quickly, they were not sufficiently familiar with the complex process of their industry to be able to identify practical/ hands on solutions.

The business stated that they would consider using MAS again in the future, but would also consider the time requirements needed to ensure that the advisor was sufficiently familiar with the business to offer advice. Over the short term, the business does not believe that they would need to use MAS as they all ready employ their own consultants. A good working relationship with the consultants and their existing understanding of the business means that it is easier and more efficient to use the ones that they have, rather than to duplicate the effort.

The business also felt that specialist equipment supplier that MAS put them in contact with was more interested in selling them a brand new production line than helping them to fix the issues that they faced with their existing line. The business considered this introduction to be more of a sales-lead for the supplier than anything else.

### **Future Needs**

In terms of future recommendations, the business explained that there was some confusion over what MAS does and does not offer. As a business, they need manufacturing advice covering a range of different issues from finance to advice on employing apprentices. The business felt that MAS should clarify what it does and does not offer and provide businesses with a guide to the business support offerings.

## Company 16

### Company Background

The business is a small, specialist producer of components for the transport industry.

### Contact with the MAS

The business contacted MAS because they wanted assistance with the development of a website. A key driver for their reason to contact MAS was the availability of funding to part pay for this activity.

The business felt that this activity was carried out effectively and that the advisor was competent in development of the website. Subsequent to this involvement, the business was offered a number of other MAS services. However, having reviewed their options, they did not feel that the services on offer would be of much value to them and have not made any further use of MAS services.

The business has had very little involvement with MAS since developing the website a number of years ago. Other than the development of a website, no real impact has been noted by the company.

The business has not re-used MAS because they did not anticipate gaining value from the service that MAS offers.

### Areas of Future Support

In terms of areas where the business would like further support, a core area identified was support to help them develop better linkages with larger businesses, in particular assistance in forging better links with large customers. The business felt that this would be an area where the MAS offering could be developed and would help enhance business networks.

## Company 17

### Company Background

The business is an international firm with a HQ based in the US. The site involved with MAS is the European HQ. The company is an innovative manufacturer of precision tools. The company has a large and diverse customer base. This includes producers of end use goods and component producers. They also sell to distributors across Europe. Because of the range and number of customers, quality customer satisfaction and innovation is key.

### Contact with the MAS and Nature of Support

The business went specifically to MAS with the view of introducing Lean Manufacturing. They had come across the technique through their company book club and were keen to implement it, but did not know how.

They came across MAS at an exhibition. Having spoken to the people on the MAS stand, they were confident that MAS could do what they wanted.

They were keen to use MAS and not a commercial consultant because *MAS clearly knew what they were talking about*. Furthermore, the company was eager to take ownership of the project and did not want a consultant to come in, take over, charge high fees, and then leave. They wanted a partnership approach, which they felt they got from MAS. They went through the 5S programme with MAS.

They told their US company about their intentions to use Lean and they did the same there. It is felt that in the US the company was quicker to buy into the concept and they have implemented it better.

The US consultants they had were very good about running events and getting the staff involved. The UK company sent key staff (supervisors, MD, etc. – 6 in total at various stages) to attend the US Lean events and they then ran these in the UK. The MAS knowledge of tools and manufacturing processes was good but they were less good at bringing people together and running events. The business did not think that their adoption of Lean would have been half as successful if the US had not gone through the process at the same time.

The business has done Value Stream Mapping with MAS to identify other areas of reducing waste. This has led to other areas of investigation. There is a small team that re-visits the lean technique on a regular basis – they review the progress of waste minimising in the company and discuss what else could be done.

They may use MAS again if they have any future areas of weaknesses that they cannot sort out internally. The MAS was *considered better than other government services experienced in the past*. They were very helpful, very flexible with regards to days / times and content of programmes and passionate about what they were doing.

The company encourage customers to use Lean and discuss the benefits they have experienced with them. This helps to reinforce the quality / service messages to them.

Their market is fairly price sensitive, innovation is important and there is a high focus the quality of service. MAS Lean techniques helped to improve price competitiveness and eliminate non-value adding elements of production. There is a change in culture in the company, and waste elimination is now part of the common language of the company.

They use their factory to generate sales by showing potential customers the technology/quality and ability to deliver efficiently and effectively. Introducing lean has greatly helped with this.

### **Future plans**

The business is looking to develop a company strategy. They are thinking about using a private consultancy firm to help them do this. They want to be more competitive and improve strategy. MAS could potentially help with this.

In relation to the MAS offer, they think that the MAS should re-introduce the programme that encourages companies to visit other firms and share ideas. The MAS should also look to improve their events programme.

## **Company 18**

### **Company Background**

The business is medium-sized and produces parts for the construction industry, namely double-glazed windows, doors and conservatories. The business was established over 20 years ago and is family run. The current Managing Director took over from his father in 2001/2.

The company's main market has always been trade sector – however, this sector is currently depressed and the company are increasingly moving into the new homes market. The firm feels that it has always been forward thinking and innovative.

A range of processes is carried out on site – all linked together in the production line process such as production, cleaning, fitting, final inspection etc. Two shifts work on the production line. The business has ambitious expansion plans – to build a new factory and triple production on site.

## Contact with the MAS and Nature of Support

At the end of 2001, the MD held a meeting with senior staff, Business Link and major suppliers where they talked about what business strategies could be put in place to improve the business and how a bid could be submitted for the Invest to Grow fund – a European Objective 1 programme.

Business Link suggested that alongside the grant application the business should spend £5,000 on getting some business support advice.

The MD was initially sceptical about the value of management consultants given previous experience – most consultants tell you, in a friendly way, what you already know and do not tell you anything new. The MD was aware of MAS – had heard business contacts talking about the service but did not know a great deal about what they did.

First contact with MAS came in 2003 with an advisor coming to undertake the day-long diagnostic visit. The MD was impressed by his in-depth knowledge, his role as a critical friend and his ability to connect really well with the shop floor staff – this meant that trust between the two parties built really quickly.

Following this visit, the advisor proposed that the business should implement a 5S programme. A selection of staff from all areas/levels were chosen and then one workstation in the factory studied – a number of really effective changes made and then the review process spread out to the rest of the workstations. This was a really good way of getting employee involvement/ownership of the process.

Following on from the 5S activities, the advisor also helped the business to implement Quality Circles: get staff members to make presentations about the improvements they had effected; introduce new standards and documentation systems etc.

By having these follow-on exercises the initial impetus has been maintained – employees are now sustain the improvements themselves – it has become a matter of principle and pride.

The MAS advisor also introduced the MD to a local training organisation, which offered unlimited staff training on productivity issues for a one off payment (c. £1,000).

Using this service the business was able to arrange tailored training courses for all members of staff – this helped to embed the practices encountered during the 5S project – real added value achieved as a result.

This programme made the MD aware of the real value to be had in training your staff – as a result he is now far more willing to spend time and money on training – but you need to demonstrate the value first through subsidised courses.

The MD thinks that the support offered by the MAS has been great value for money. There is never a good time to take staff off the shop floor for training but everyone can see the value of the training – the MAS advisors rapport with the staff really helped to make them enthusiastic about learning new practices.

The MD spends about one day a month working on MAS related issues with the advisor.

A set of key performance indicators were measured at the start of the project and against these benchmarks the improvement has been strong:

- 30% increase in throughput
- 85% reduction in internal fault rejections / wastage
- 5% reduction in total production times

- £100,000 p.a. added value
- 40% increase in stock turns
- Far more capacity available in the factory
- Big improvement in customer satisfaction rates

The MD feels that the business *'would definitely not have achieved these outcomes without MAS support'*. Supply chain and customers are definitely seeing the benefits – improved delivery times, less panic ordering and less wastage on orders – they save their own time and paperwork as well – electronic ordering system put in place.

In terms of lessons learned:

- Link the MAS theory to actual staff training. This gives staff the practical skills they need to implement the lean theories they have already learned and it helps to ensure that practices and benefits are sustained.
- MAS does not offer generic ideas; it challenges you and gets management to think more. It also empowers all staff members *'it's better to have 50 people thinking about a problem than just a few management staff'*.
- With changes in European Objective 1 funding there is some flux around training funding – need to sort this situation out and hook companies with subsidised schemes to demonstrate the value of training.

### **Looking to the future**

The business has definitely improved following MAS involvement. It was forward thinking beforehand but now has the tools and practices to act on these ideas; it knows what to measure, what to implement and what targets should be set. The relationship with MAS is ongoing – the business want to apply lean principles to their administrative activities and to develop the computer ordering and processing side of their business.

MD would definitely recommend MAS services to other businesses.

## **Company 19**

### **Company Background**

The company is over 100 years old with a long tradition in manufacturing of quality timber products. Presently the main products are uPVC windows and doors for new build housing developments. It employs 100 people.

The market is very competitive and there is a need to react very quickly to customers.

### **Contact with the MAS and Nature of Support**

The company was concerned that the output was limiting their potential sales. They first met up with Business Link that introduced them to the MAS to assist with increasing productivity through moving from a batch production system to a flow system. The support offered by the MAS included the following:

- Two data collection projects to obtain cycle time data for all process and machines;

- The MAS used this data to develop a flow process that identified where the problem was;
- The MAS then developed a full factory layout to change the entire factory to a flow process with two main production lines;
- The company completed the layout changes with minimum disruption to normal production.

From the initial review it was clear that opportunities to improve existed and this did not require high capital expenditure but rather a change in working practices and factory layout.

The owner felt very comfortable working with the MAS advisor. The MAS advisor used ‘user-friendly advice and he looked at the ways things were done in order to offer efficient solutions for the business’.

### **Looking into the future**

The business has plans to expand and is always looking to improve quality and productivity. Facilities such as the MAS are needed because they *‘make new concepts common language; business do not and cannot always have the knowledge to improve process and systems’*. However, the diagnostic activity seems to be very short.

## **Company 20**

### **Business Background**

The company is a medium-sized firm, incorporated over 20 years ago. It is a manufacturer and a retail and wholesale distributor of components. It works to Investors in People and ISO9000 standards.

Prices of raw materials needed for manufacture are unstable. The business has been very stable over the last 3-4 years but the competition has been fierce, with the business having to deal with companies prepared to take a loss in order to keep key clients.

The business has around 50% market share, so it is not easy to increase turnover in the face of increasing raw material prices copper prices and the movement towards Eastern Europe.

### **Contact with the MAS and Nature of support**

The MD had been dealing with the MAS for five years and thinks he read about them from some marketing material he saw. The MD had heard about something called “lean techniques” and wanted to know more about them from the MAS.

The outcome was that he and a colleague went on the Accelerated Route to Lean Manufacturing course. This ran over 13 weeks on a weekly basis. The course was heavily subsidised, which made it particularly attractive. The subsidy helped to eliminate the risks associated with the course.

The MD wanted to improve the business in any way he could and he needed advice on how to do this. The 13-week course told him what he needed to know, introducing him to the possibilities arising from lean manufacturing. His motives for going on the course were to find out more about lean processes and then to go away and use them. At the end of the course, he and his colleague had a learned a lot of useful information.

He believed that the lean route would change the business. They implemented a number of changes and became a safer organisation (in terms of things like health & safety). He then went on a 4 day Value Stream Mapping course through MAS, which essentially looked at how to improve a value stream. He found out about it through some literature MAS sent him. He also had a diagnostic done by MAS in terms of lean manufacturing after the 13-week course.

Three years ago they had over 50 significant projects, which were mostly departmentally driven. A number of these clashed in terms of outcomes and as a result there seemed to be a state of managerial chaos. The MD has since commissioned a policy deployment session with MAS, whereby he is getting a strategic view of the company. The MAS started the ball rolling and the business has done another two sessions.

*The MAS practitioners are down to earth and knowledgeable* – they understand what the company is doing, which is important for an SME.

Over the years the company has spent between £5,000 and £10,000. *‘This amount would have been fourfold if we had sought help from elsewhere’*. The company has certainly had value for money from the support.

Thus far the assistance from MAS has also led to a culture change within the company (this has been the most major impact to date), with people starting to talk about efficiency, health & safety etc. It has also been about driving forward small changes and making people more aware of their responsibilities.

According to the MD, without the MAS, the business would have achieved some but not all of the business outcomes, or, they probably would not have achieved similar business outcomes. The MAS has brought a wealth of knowledge with them and has brought a sense of direction to the business. The lowest score the MD would give any of the services has used from the MAS is 7. He would rate one of them at virtually 10 (the policy deployment project).

A number of the company’s major suppliers have also benefited through the support. For example, the business has worked with suppliers on things such as implementing the lean techniques.

It is likely that the company’s competitors will have to fight back to compete.

### **Looking to the Future**

The main challenge that the business faces is in relation to what will happen to the market. For example, there is increasing effort by a number of companies to move to Eastern Europe for cheap labour. The MD does not see threats coming from manufacturers elsewhere in Europe.

In terms of support from the MAS, the company needs this in relation to staffing issues, for example how do they manage the staff correctly in order to ensure that their machines are always fully utilised?

The MD would recommend MAS to people. The MD believes that MAS and their local area delivers should be seen in a good light. The only frustrations he has relate to his own company and its ability to implement the changes.

## ANNEX I

### Evaluation Summaries for the Five Study Regions

The following annex brings together summary information from the evaluation on the five MAS regions (East Midlands, North East, North West, South West and Yorkshire and the Humber) chosen for more in-depth study. These regions were selected on the basis of the following criteria:

- ✓ Higher representation of total manufacturing by the region (above 10%)
- ✓ Higher significance of manufacturing by the region (>1)
- ✓ Representation of all models of delivery
- ✓ Representation of both modes of offer (core/enhanced)
- ✓ Data availability/quality (in particular Level 4)
- ✓ Willingness to participate in this evaluation study

In all five regions, the surveys of MAS users and non-users were boosted in order to allow statistically significant comparisons to be made. In addition, the case studies for the evaluation, comprising 20 in-depth interviews with organisations that had received support from MAS at Level 2 (manufacturing review/diagnostic) and Level 4 (consultancy project), were also drawn from these regions.

**We are grateful to the Regional Development Agencies concerned for their support for this part of the evaluation project work and to the MAS Regional Centres for their co-operation and assistance.**

## The MAS in the East Midlands

- The East Midlands is host to 15,345 manufacturing firms, which remain significant in spite of manufacturing employment diminishing by 3% between 2003 (323,913 employees) and 2005 (314,753 employees).
- The MAS programme is delivered in the region by PERA along with partners EEF and SMMT Industry Forum. The delivery model combines in-house and brokerage expertise.
- MAS funding is estimated at £3.115m between 2002-2004/5.
- In addition to the five core services, MAS East Midlands links with a sector skills council , SEMTA, to deliver and broker training in Business Improvement Techniques (BIT) and to draw down college core funding.
- Over the period 2002-2004/5 MAS spend per employee in manufacturing in the region were approximately £10 per employee and £203 per company (using 2003 employment and company figures).

The Table below summarises key findings from the MAS users survey.

		East Midlands	All Regions
<b>Survey Respondents</b>		72	946
<b>Take-up (This data only is from Assystem UK Ltd/National Network Management database)</b>			
Level 1	Initial contacts and enquiries	1,359	55,982
	<i>% of total</i>	2%	
Level 2	Diagnostic reviews completed	1,128	11,005
	<i>% of total</i>	10%	
Level 3	MAS events run	57	1,347
	<i>% of total</i>	4%	
	Event attendee numbers	2,649	32,004
	<i>% of total</i>	8%	
Level 4	Complete in-depth interventions	293	3,051
	<i>% of total</i>	10%	
Level 5	Total onward referrals	71	4,310
	<i>% of total</i>	2%	
	Of which, to Business Link	30	1,252
	<i>% of total</i>	2%	
Expectations	Surpass expectations	33%	25%
	Meet expectations	52%	58%
<b>Delivery - Market</b>			
	Average number of days for Level 4 support	9.4	11
	Average number of projects per company	1.5	2.0
	Amount paid for Level 4 support (all who paid for this level of support)	Up to £500	
		12%	17%
		£501 - £1000	
		22%	16%
		£1,001 - £2,000	
		25%	28%

		<b>East Midlands</b>	<b>All Regions</b>
	£2,001 - £5,000	34%	29%
	More than £5,000	8%	10%
Penetration rates	MAS companies as % of total manufacturing companies	7%	4%
Size of business receiving support (employees)	1-9	25%	25%
	10-49	49%	44%
	50-249	24%	26%
	250+	2%	5%
<b>Key Benefits and Impact</b>			
Benefit that business has experienced (All)	Increased space utilisation	18%	30%
	Improved scrap reduction	20%	26%
	Better stock turns/ stock holding/delivery improvements	40%	33%
	Improved “just in time” manufacturing practices	31%	35%
	Improved productive use of equipment	51%	44%
	Increased value added per person	54%	47%
	Increased turnover/sales	35%	26%
	Changed employment levels	20%	17%
	Increased investment in capital equipment	29%	20%
	Increased investment in skills	42%	37%
	<i>% of Total (All Regions)</i>	13%	
Partial additionality	Would have achieved similar business outcomes, but not as quickly / Would have achieved some but not all of the business outcomes	52%	49%
Full additionality	Probably would not have achieved similar business outcome / Definitely would not have achieved similar business outcomes	23%	25%
Years benefit would be expected to be sustained	Indefinitely	55%	41%
	Mean	5.4	4.8
<b>Awareness and Satisfaction</b>			
Satisfaction with service received: competence of advisors / consultants	Very satisfied + satisfied	73%	70%
How MAS experience affected likelihood of using external support in the future	More likely	66%	61%
	Less likely	11%	12%
<b>Future Needs</b>			
	Marketing	39%	38%
	Production	29%	32%
	Management and strategy	26%	29%
	Product and service development	31%	20%
	None	4%	10%
	Other answers	1%	1%

## Overall Findings

- Expectations from the provision of the MAS support (in general) were surpassed in one-third of cases compared to a quarter for all regions together.
- Manufacturing companies in the East Midlands tended to make use of fewer days of Level 4 support and fewer projects per company. Among those who paid for the support, the most common price ranges paid for support were between £501-1,000 and £2001-5000.
- The East Midlands MAS achieved a greater level of partial additionality, but a lower full level of full additionality compared to all regions together. However, a greater proportion in the East Midlands expected benefits to be sustained indefinitely and this was reflected in a higher mean number of years for benefits to be sustained.
- The main future needs identified by MAS beneficiaries in the region were marketing, product and service development and production.

## The MAS in the North East

- The North East is host to 5,129 manufacturing firms; which remains significant in spite of manufacturing employment diminishing by 6% between 2003 (146,864 employees) and 2005 (138,312 employees).
- RTC North delivers the MAS in the region. The delivery model is mainly in-house.
- The partnership with the Business Link operates through a signposting relationship between the MAS and Business Link Operators (BLOs). BLOs are given the target of improving referrals to MAS from 13% to 25% of MAS customer base.
- MAS funding was estimated at £1.8m between 2002-2004/5. Over the period 2002-2004/5 MAS spend in manufacturing in the region was approximately £12 per employee and £351 per company (using 2003 employment and company figures).
- In addition to the five core services, MAS North East partners with the North East Productivity Alliance (NEPA), whose programmes offer a complementary range of services, including extended “lean” interventions and access to training in Business Improvement Techniques and other skills support.

The Table below summarises key findings from the MAS users survey.

		North East	All Regions
<b>Survey Respondents</b>		120	946
<b>Take-up (This data only is from Assystem UK Ltd/National Network Management database)</b>			
Level 1	Initial contacts and enquiries	1,892	55,982
	<i>% of total</i>	3%	
Level 2	Diagnostic reviews completed	603	11,005
	<i>% of total</i>	5%	
Level 3	MAS Events run	265	1,347
	<i>% of total</i>	20%	
	Event attendee numbers	884	32,004
	<i>% of total</i>	3%	
Level 4	Complete in-depth interventions	205	3,051
	<i>% of total</i>	7%	
Level 5	Total onward referrals	178	4,310
	<i>% of total</i>	4%	
	Of which, to Business Link	72	1,252
	<i>% of total</i>	6%	
Expectations	Surpass expectations	21%	25%
	Meet expectations	60%	58%
<b>Delivery – Market</b>			
Average number of days for Level 4 support		7.8	11
Average number of projects per company		2.0	2.0
Amount paid for Level 4 support (all who paid for the support)	Up to £500	34%	17%
	£501 - £1,000	20%	16%
	£1,001 -£2,000	14%	28%

		North East	All Regions
	£2,001 - £5,000	23%	29%
	More than £5,000	9%	10%
Penetration rates	MAS companies as % of total manufacturing companies	15%	4%
Size of business (employees)	1-9	35.3%	25.0%
	10-49	27.2%	44.3%
	50-249	27.3%	26.2%
	250+	10.2%	4.5%
<b>Key Benefits and Impact</b>			
Benefit that business has experienced (All)	Increased space utilisation	35%	30%
	Improved scrap reduction	33%	26%
	Better stock turns/ stock holding/delivery improvements	36%	33%
	Improved “just in time” manufacturing practices	31%	35%
	Improved productive use of equipment	49%	44%
	Increased value added per person	47%	47%
	Increased turnover/sales	36%	26%
	Changed employment levels	27%	17%
	Increased investment in capital equipment	28%	20%
	Increased investment in skills	35%	37%
	<i>% of Total (All Regions)</i>	10%	
Partial additionality		51%	49%
Full additionality		19%	25%
Years benefit would be expected to be sustained	Indefinitely	39%	41%
	Mean	4.22	4.77
<b>Awareness and Satisfaction</b>			
Satisfaction with service received: competence of advisors / consultants	Very satisfied + satisfied	78%	70%
How MAS experience affected likelihood of using external support in the future	More likely	72%	61%
	Less likely	9%	12%
<b>Future Needs</b>			
	Marketing	33%	38%
	Production	34%	32%
	Management and strategy	28%	29%
	Product and service development	26%	20%
	None	3%	10%
	Other answers	2%	1%

## Overall Findings

- Expectations were surpassed in over a fifth of cases and met in three-fifths of cases.
- Manufacturing companies tended to make use of fewer days of Level 4 support - although companies on average undertook marginally more projects. The amount paid for Level 4 support was skewed towards levels below £1,000.
- The market penetration rate was particularly high in the North East (at over three times the national average).
- QCD benefits from the MAS were amongst the highest for the region in all areas.
- The MAS in the region achieved a greater level of partial additionality, but a lesser proportion of full additionality that was the case for all regions together. Furthermore, a smaller proportion expected benefits to be sustained indefinitely with a lower mean expected number of years for benefit sustainability.
- That said, levels of satisfaction were high with 78% either very satisfied or satisfied and 72% more likely to use external support in the future based on experience with the MAS programme.

## The MAS in the North West

- The North West is host to 18,469 manufacturing firms, which remains significant in spite of manufacturing employment diminishing by 4% between 2003 (432,794 employees) and 2005 (417,289 employees).
- The MAS programme is delivered in the region by The Manufacturing Institute (TMI) in conjunction with a range of private sector organisations and regional universities. The delivery model is both in-house and brokerage.
- MAS funding was estimated at £4.4m between 2002-2004/5.
- In addition to providing the five core MAS services, the North West MAS links to the region's "Agenda for Change" programme and framework agreements in order to exploit current product design and innovation offerings and synergies with HEI projects.
- Over the period 2002-2004/5 MAS allocations per employee in manufacturing were approximately £10 per employee and £238 per company (using 2003 employment and company figures).

The Table below summarises key findings from the MAS users survey.

		North West	All Regions
<b>Survey Respondents</b>		88	946
<b>Take-up (This data only is from Assystem UK Ltd/National Network Management database)</b>			
Level 1	Initial contacts and enquiries	11,334	55,982
	<i>% of total</i>	20%	
Level 2	Diagnostic reviews completed	1,826	11,005
	<i>% of total</i>	17%	
Level 3	MAS events run	91	1,347
	<i>% of total</i>	7%	
	Event attendee numbers	5,189	32,004
	<i>% of total</i>	16%	
Level 4	Complete in-depth interventions	330	3,051
	<i>% of total</i>	11%	
Level 5	Total onward referrals	163	4,310
	<i>% of total</i>	4%	
	Of which, to Business Link	55	1,252
	<i>% of total</i>	4%	
Expectations	Surpass expectations	39%	25%
	Meet expectations	53%	58%
<b>Delivery - Market</b>			
Average number of days for Level 4 support		13	11
Average number of projects per company		2.3	2.0
Amount paid for Level 4 support (all who paid for the support)	Up to 500	9%	17%
	501 – 1000	22%	16%

		North West	All Regions
	1001 – 2000	22%	28%
	2001 – 5000	34%	29%
	More than 5000	12%	10%
Penetration rates	MAS companies as % of total manufacturing companies	3%	4%
Size of business (employees)	1-9	N/A	25%
	10-49	N/A	44%
	50-249	N/A	26%
	250+	N/A	5%
<b>Key Benefits and Impact</b>			
Benefit that business has experienced (All)	Increased space utilisation	57%	30%
	Improved scrap reduction	49%	26%
	Better stock turns/ stock holding/delivery Improvements	57%	33%
	Improved “just in time” manufacturing practices	57%	35%
	Improved productive use of equipment	73%	44%
	Increased value added per person	62%	47%
	Increased turnover/sales	28%	26%
	Changed employment levels	26%	17%
	Increased investment in capital equipment	24%	20%
	Increased investment in skills	62%	37%
	<i>% of Total (All Regions)</i>	11%	
Partial additionality		46%	49%
Full additionality		41%	25%
Years benefit would be expected to be sustained	Indefinitely	46%	41%
	Mean	4.0	4.8
<b>Awareness and Satisfaction</b>			
Satisfaction with service received: competence of advisors / consultants	Very satisfied + satisfied	87%	70%
How MAS experience affected likelihood of using external support in the future	More likely	76%	61%
	Less likely	1%	12%
<b>Future Needs</b>			
	Marketing	25%	38%
	Production	51%	32%
	Management and strategy	32%	29%

		North West	All Regions
	Product and service development	15%	20%
	None	7%	10%
	Other answers	2%	1%

## Overall Findings

- Expectations were surpassed in almost two-fifths of cases, compared to a quarter of cases for all regions together.
- Companies in the North West tended to make use of a greater number of days for Level 4 support and a greater average number of projects.
- Compared to total levels, of the companies who paid for Level 4 support, a larger proportion of companies in the North West paid between £501-1000, as well as a greater proportion paying above £2001.
- Whilst the penetration rate was marginally lower in the North West, the benefits experienced as a result of MAS were higher in every category compared to total levels.
- In the North West, 41% claimed the achievement of full additionality, compared to 25% in all regions. Furthermore, almost 50% believed benefit would be sustained indefinitely.
- Satisfaction levels were extremely high in the North West, with almost 90% either satisfied or very satisfied and three-quarters of beneficiaries more likely to use external support in the future based on experience of MAS.
- The main future needs identified by MAS beneficiaries in the North West were production, management and strategy and marketing.

## The MAS in the South West

- The South West is host to 15,280 manufacturing firms, which remains significant in spite of manufacturing employment diminishing by 5% between 2003 (268,252 employees) and 2005 (255,374 employees).
- The MAS is delivered in the region by a consortium made up of EEF (Western), the region's six Business Links, and HERDA West, which represents the regional higher education institutions (HEIs). The delivery model is both in-house and brokerage. Other regional partners include the CBI, IoD and FSB. The consortium operates as a specialist deliverer under the region's Information, Diagnostic and Brokerage (IDB) model for business support.
- MAS funding was estimated at £2.4m between 2002-2004/5.
- In addition to the five core MAS services, the South West MAS provides a Strategic Management Programme as an additional offer to clients.
- Over the period 2002-2004/5 MAS spend per employee in manufacturing was approximately £9 per employee and £157 per company (using 2003 employment and company figures).

The Table below summarises key findings from the MAS users survey.

		South West	All Regions
<b>Survey Respondents</b>		<b>153</b>	<b>946</b>
<b>Take-up (This data only is from Assystem UK Ltd/National Network Management database)</b>			
Level 1	Initial contacts and enquiries	2,062	55,982
	<i>% of total</i>	4%	
Level 2	Diagnostic reviews completed	705	11,005
	<i>% of total</i>	6%	
Level 3	MAS events run	139	1,347
	<i>% of total</i>	10%	
	Event attendee numbers	5,264	32,004
	<i>% of total</i>	16%	
Level 4	Complete in-depth interventions	299	3,051
	<i>% of total</i>	10%	
Level 5	Total onward referrals	501	4,310
	<i>% of total</i>	12%	
	Of which, to Business Link	264	1,252
	<i>% of total</i>	21%	
Expectations	Surpass expectations	23%	18%
	Meet expectations	55%	59%
<b>Delivery - Market</b>			
Average number of days for Level 4 support		12	11
Average number of projects per company		2.2	2.0
Amount paid for Level 4 support (all that paid for the support)	Up to £500	18%	17%
	£501 - £1,000	31%	16%
	£1,001 - £2,000	27%	28%
	£2,001 - £5,000	19%	29%
	More than £5,000	5%	10%

		South West	All Regions
Penetration Rates	MAS companies as % of total manufacturing companies	5%	4%
Size of business receiving support (employees)	1-9	14%	25%
	10-49	46%	44%
	50-249	36%	26%
	250+	5%	5%
<b>Key Benefits and Impact</b>			
Benefit that business has experienced (All)	Increased space utilisation	40%	30%
	Improved scrap reduction	35%	26%
	Better stock turns/ stock holding/delivery improvements	38%	33%
	Improved “just in time” manufacturing practices	53%	35%
	Improved productive use of equipment	60%	44%
	Increased value added per person	57%	47%
	Increased turnover/sales	23%	26%
	Changed employment levels	14%	17%
	Increased investment in capital equipment	24%	20%
	Increased investment in skills	45%	37%
	<i>% of Total (All Regions)</i>	7%	
Partial additionality	Would have achieved similar business outcomes, but not as quickly / Would have achieved some but not all of the business outcomes	50%	49%
Full additionality	Probably would not have achieved similar business outcome / Definitely would not have achieved similar business outcomes	27%	25%
Years benefit would be expected to be sustained	Indefinitely	45%	41%
	Mean	5.1	4.8
<b>Awareness and Satisfaction</b>		<b>South West</b>	<b>All Regions</b>
Satisfaction with service received: competence of advisors / consultants	Very satisfied + satisfied	80%	70%
How MAS experience affected likelihood of using external support in the future	More likely	61%	61%
	Less likely	12%	12%
<b>Future Needs</b>			
	Marketing	33%	38%
	Production	43%	32%
	Management and strategy	32%	29%
	Product and service development	16%	20%
	None	7%	10%
	Other answers	1%	1%

## Overall Findings

- Manufacturing companies surveyed in the South West tended to make use of a greater number of days of Level 4 support and undertook a greater number of projects than the rest of the UK, whilst generally paying less.
- Expectations were surpassed in the region for almost a quarter of the companies surveyed and fell short in less than a fifth of cases, which exceeded the performance of the rest of the UK.
- In the South West, MAS penetrated 5% of manufacturing firms, which is comparable to total levels. This has been focused on the larger, rather than the smallest, SMEs, with 82% of MAS recipients made up of companies employing between 10 and 249 employees.
- Compared to total levels, MAS performed well in the South West with over a quarter of beneficiaries claiming full additionality and half claiming partial additionality of MAS.
- Furthermore, companies surveyed in the South West expect benefits to be sustainable for an average of around five years, with satisfaction levels generally high (38% very satisfied and 42% satisfied).
- The main future needs identified by MAS beneficiaries in the region were production (43%), marketing (33%) as well as management and strategy (32%).

## The MAS in Yorkshire and Humber

- Yorkshire and Humber is host to 15,300 manufacturing firms, which remains significant in spite of manufacturing employment diminishing by 5% between 2003 (345,118 employees) and 2005 (328,541 employees).
- The MAS is delivered in the region by YFM Business Development Ltd, which operates a full brokerage model.
- Yorkshire Forward operates a ‘no wrong door’ approach under the region’s “Better Deal for Business” framework. Some Business Link advisors are authorised to act as MAS diagnosticians and take part in joint events and collaborate on marketing where appropriate.
- MAS funding was estimated at £3.5m between 2002-2004/5.
- In addition to providing the five core MAS services, MAS Yorkshire and Humber has introduced as additional offers “Inside Industry” (a best practice visit programme), extended interventions, investment readiness, metrology, and increased emphasis on design, technology and environmental areas that support manufacturing productivity and competitiveness.
- Over the period 2002-2004/5 MAS spend per employee in manufacturing was approximately £10 per employee and £229 per company (using 2003 employment and company figures).

The Table below summarises key findings from the MAS users survey.

		<b>Yorkshire &amp; Humber</b>	<b>All Regions</b>
<b>Survey Respondents</b>		327	946
<b>Take-up (This data only is from Assystem UK Ltd/National Network Management database)</b>			
Level 1	Initial contacts and enquiries	6,298	55,982
	<i>% of total</i>	11%	
Level 2	Diagnostic reviews completed	1,390	11,005
	<i>% of total</i>	13%	
Level 3	MAS Events run	68	1,347
	<i>% of total</i>	5%	
	Event attendee numbers	2,723	32,004
	<i>% of total</i>	9%	
Level 4	Complete in-depth interventions	535	3,051
	<i>% of total</i>	18%	
Level 5	Total onward referrals	195	4,310
	<i>% of total</i>	5%	
	Of which, to Business Link	94	1,252
	<i>% of total</i>	8%	
Expectations	Surpass expectations	15%	25%
	Meet expectations	63%	58%

<b>Delivery - Market</b>		<b>Yorkshire &amp; Humber</b>	<b>All Regions</b>
Average number of days for Level 4 support		15	11
Average number of projects per company		2.0 [?]	2.0
Amount paid for Level 4 support (of all companies who paid for the service)	Up to £500	12%	17%
	£501 - £1,000	6%	16%
	£1,001 -£2,000	16%	28%
	£2,001 - £5,000	46%	29%
	More than £5,000	20%	10%
Penetration rates	MAS companies as % of total manufacturing companies	7%	4%
Size of business (employees)	1-9	22%	25%
	10-49	48 %	44%
	50-249	26%	26%
	250+	5%	5%
Benefit that business has experienced (All)	Increased space utilisation	33%	30%
	Improved scrap reduction	28%	26%
	Better stock turns/ stock holding/delivery improvements	34%	33%
	Improved “just in time” manufacturing practices	37%	35%
	Improved productive use of equipment	51%	44%
	Increased value added per person	58%	47%
	Increased turnover/sales	27%	26%
	Changed employment levels	23%	17%
	Increased investment in capital equipment	27%	20%
	Increased investment in skills	41%	37%
	<i>% of Total (All Regions)</i>	7%	
Partial Additionality		44%	49%
Full Additionality		22%	25%
Years benefit would be expected to be sustained	Indefinitely	36%	41%
	Mean	5.0	4.8
<b>Awareness and Satisfaction</b>			
Satisfaction with service received: Competence of advisors / consultants	Very satisfied + satisfied	69%	70%
How MAS experience affected likelihood of using external support in the future	More likely	60%	61%

	Less likely	14%	12%
<b>Future Needs</b>			
	Marketing	35%	38%
	Production	31%	32%
	Management and strategy	32%	29%
	Product and service development	17%	20%
	None	11%	10%
	Other answers	1%	1%

## Overall Findings

- The market penetration rate was significantly higher in Yorkshire and Humber, with MAS support being taken up by a greater proportion of companies, when compared with the overall national average.
- Expectations from the MAS support were met in almost two thirds of cases, above the average.
- Companies in Yorkshire and Humber tended to make use of a greater number of days for Level 4 support and a marginally greater average number of projects.
- Compared to total levels, of all companies who paid for support, a larger proportion of companies in Yorkshire and Humber paid above £2,001 for Level 4 support.
- Satisfaction levels were in line with total levels for all regions, with around 70% either satisfied or very satisfied and three-fifths of beneficiaries more likely to use external support in the future based on experience of MAS.
- The main future needs identified by MAS beneficiaries in the region were marketing, management and strategy and production.

## **ANNEX J**

### **Bibliography and Brief Review of Other Evaluation Documents**

*The Government's Manufacturing Strategy, 2002*

*Review of the Government's Manufacturing Strategy – Competing in the Global Economy: The Manufacturing Strategy Two Years On, 2004*

*A Review and Evaluation of the Rationale for the Manufacturing Advisory Service: Marek Szejczewski and Sean Rickard, Cranfield School of Management - unpublished.*

*Report on The Industry Forum Adaptor Programme: Industry Forum Network*

*An Evaluation of the Society of Motor Manufacturers and Traders Industry Forum and the Industry Forum Adaptation Initiative: Reading Business Group & Technopolis (June 2005) - unpublished*

*Appendix to Evaluation of the Society of Motor Manufacturers and Traders Industry Forum and the Industry Forum Adaptation Initiative – International Comparisons: Reading Business Group & Technopolis (June 2005) unpublished*

*DTI Business Support Cross Product Monitoring Survey SIBBP Non-Participants Survey: OMB Research (November 2005)*

*DTI Business Support Cross Product Monitoring Survey Overview Report: Synovate (September 2003)*

*A Comparative Analysis of Diagnostic Tools and Techniques for Manufacturing Business Support: Amy S. Valley, CMI by Massachusetts Institute of Technology*

*An Evaluation of the Manufacturing Advisory Service: DTI - Assessment Unit - Research and Policy Division (1987)*

*Business Support Cross Product Monitoring Survey 4 Final Report: OMB Research (March 2005)*

*Proposed Network of Manufacturing Centres of Excellence and Productivity - Final Report: Technopolis Ltd, Georgia Institute of Technology CENTRIM, University of Brighton*

*Developing MAS - addressing the current and future roles of MAS Regional Centres (RCMEs): A DTI guide for Regional Development Agencies: DTI and the MAS National Network Management Team (April 2005)*

*ROAME Statement - Manufacturing Advisory Service: First Phase*

*Review of Manufacturing Advice in Scotland*

*Economic Impact Study of Business Link Local Service: Dr Kevin Mole (University of Warwick, Project Manager), Professor Stephen Roper (Aston Business School), Professor Mark Hart (Kingston University), Professor David Storey (University of Warwick), (January 2006) unpublished.*

*Manufacturing Extension and Productivity Dynamics: Preliminary Evidence, Ronald S. Jarmin, and U.S. Bureau of the Census, Washington, D.C., 2006.*

*The Economic Rationale for Promoting Dissemination of Commercial Best Practice: Review of the Evidence*, Harris (2003).

*Entrepreneurship, Small and medium sized Enterprises and public policy*, Storey DJ (2003).

**Websites:**

<http://www.mas.dti.gov.uk/content/home.html>

<http://www.dti.gov.uk/>

<http://www.businesslink.gov.uk/>

<http://www.britishembassy.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1138869839863>

<http://europa.eu.int/comm/enterprise/smie/overviewbysector.cfm>

<http://www.mep.nist.gov/>

The summary below highlights key elements of relevant documents and evaluations that were reviewed as part of this evaluation. Information of other programmes of similar nature operating outside the UK is also presented.

## Review of Evaluation Documents

<b>Title of Report:</b> Report on The Industry Forum Adaptor Programme	<b>Year:</b> 2006	<b>Sponsor:</b> Industry Forum Network	<b>Author (If Different):</b>
<b>Brief description</b> The report briefly describes the origins of Industry fora and summarises: the role, products/services and key achievements of each of the 15 fora with reference to relevant case studies.			
<b>Theme: Research/Evaluation</b> Research/Case Studies		<b>Initiative covered</b> Industry Fora	
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>Each forum is compared in terms of number of companies assisted, number of interventions, number of people and total savings (benefits) generated from their activity.</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>Products/services and key achievements for each forum as well as achievements with case studies</li> </ul>		

<b>Title of Report:</b> An Evaluation of the Society of Motor Manufacturers and Traders Industry Forum and the Industry Forum Adaptation Initiative	<b>Year:</b> 2005	<b>Sponsor:</b> Reading Business Group	<b>Author (If Different):</b> Technopolis were partners for the evaluation
<b>Brief description</b> The report introduces SMMT IF and IFAI and provides details of techniques used to evaluate the IFs, along with findings from the evaluation.			
<b>Research/Evaluation</b> Evaluation	<b>Initiative covered</b> IF SMMT and IFAI		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• Face to face &amp; telephone interviews</li> <li>• Survey of non-participants</li> <li>• Information gathering exercise by Industry Forum Network</li> <li>• Benefit to cost ratios</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• Original SMMT IF continues to generate positive net benefit (benefits well in excess of original subsidy &amp; is demonstrably sustainable)</li> <li>• Gains to firms vary according to size of firm (large firms dominate total benefit)</li> <li>• Other IFs generate good cost/benefit ratios, but a number have been slow to generate take-up</li> <li>• Recommend detailed analysis of economic and business environment of extant service should be undertaken prior to rolling out an initiative like this. Should construct a check list of special conditions to be used when considering the same scheme in different circumstances</li> <li>• Note that issues of sector specific culture and trust apply in application</li> </ul>		

<b>Title of Report:</b> Appendix to Evaluation of the Society of Motor Manufacturers and Traders Industry Forum and the Industry Forum Adaptation Initiative – International Comparisons	<b>Year:</b> 2005	<b>Sponsor:</b> Reading Business Group	<b>Author (If Different):</b> Technopolis
<b>Brief description</b> The purpose of this report is to identify and compare programmes of a similar nature to the Industry Forum (IF) initiative that are operated in other countries. The aim was to establish similar objectives and operating principles to those found in IF and, where possible, draw comparisons and identify examples of good practice.			
<b>Research/Evaluation</b> Research	<b>Initiative covered</b> IFs and international comparisons from Europe, US, India, Australia, Japan (including <b>MAS</b> and <b>MEP</b> )		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• The desk study used a variety of resources - own files, the Internet, specialist databases.</li> <li>• An important part of the methodology was to find ways of ‘cutting through’ the detail in the large amount of material that was potentially relevant to the review in order to focus on the small sub-set of programmes/organisations of particular relevance.</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• <b>Kosetsushi</b> in Japan:  Technological training to meet local needs is provided at minimal cost for local SMEs, with support and consultancy in the use of the latest processing and measuring technologies being provided free. This approach has the additional benefit of promoting networking and communications which often enable SMEs to support and supplement each other's needs, thus achieving a broader take-up of new technologies than would normally occur with individual firms. <b>The Kosetsushi have many similarities to both Business Links and the regional MAS centres in the UK, they are however on a larger scale and are longer established.</b>  <a href="http://www.sme.ne.jp">www.sme.ne.jp</a> </li> </ul>		

<b>Title of Report:</b> DTI Business Support Cross Product Monitoring Survey SIBBP Non-Participants Survey	<b>Year:</b> November 2005	<b>Sponsor:</b> DTI	<b>Author (If Different):</b> OMB Research
<b>Brief description</b> The report details findings from a survey of non-participant firms commissioned by DTI as part of the fourth wave of Business Support Cross Product Monitoring Survey. Key Objectives are to provide contextual information to aid interpretation of the BSMS user results for SIBBP & to aid understanding of awareness & consideration of best practice activities more widely.			
<b>Research/Evaluation</b> Research	<b>Initiative covered</b> SIBBP		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• A pair-wise matching approach (for each SIBBP participant firm surveyed in initial phase, a ‘matched’ non-participant business was surveyed). Matched according to: size, sector, age, region and taken from Dun &amp; Bradstreet database of UK businesses</li> <li>• Where relevant questions designed to be consistent with BSMS questionnaire – for comparability</li> <li>• Telephone Interviews</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• Clear evidence to suggest younger firms (less than 5 years old) and smaller firms (less than 10 employees) are more likely not to have undertaken best practice activity.</li> <li>• Businesses that have used consultants are more likely to be in the production sector than those that have not done anything.</li> <li>• Comparing categories of non-users, there is a clear indication that those that have not undertaken any best practice activity are much less likely to have an owner, partner, or director with a degree level qualification, be ‘growers’, be ‘strong’ and export than those that have used a consultant.</li> </ul>		

<b>Title of Report:</b> DTI Business Support Cross Product Monitoring Survey Overview Report	<b>Year:</b> September 2003	<b>Sponsor:</b> DTI	<b>Author (If Different):</b> Synovate
<b>Brief description</b> The report details findings of DTI Business Cross Product Monitoring Survey - a survey of various DTI Business Support Scheme users			
<b>Research/Evaluation</b> Research	<b>Initiative covered</b> Electronics Design Programme Construction Best Practice MAS Industry Forums (including: SMMT, PICME, MICE, UK Lean Aerospace Initiative)		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• Research undertaken by telephone using, as far as possible, a common questionnaire</li> <li>• Core of questionnaire kept consistent, despite minor text substitution to ensure relevance to specific schemes being measured</li> <li>• Questionnaire piloted prior to main fieldwork – checked relevance and length of questionnaire</li> <li>• Survey to evaluate effectiveness to business of various activities &amp; schemes supported</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• In many cases unable to determine, with any certainty, the size of the universe of participants. Further problems were encountered in terms of defining and compiling sample frames. Obtaining contact names and telephone numbers was problematic for some of the schemes.</li> <li>• Strongly recommend a single, central database of support scheme participants is developed. Not only will this then serve as a convenient sampling frame for future monitoring surveys, but will also provide valuable management information in its own right.</li> </ul>		

<b>Title of Report:</b> A Comparative Analysis of Diagnostic Tools and Techniques for Manufacturing Business Support	<b>Year:</b> 2004	<b>Sponsor:</b> The Cambridge-MIT Institute (CMI). CMI is funded in part by the UK government. The research was carried out for CMI by Massachusetts Institute of Technology.	<b>Author (If Different):</b> Amy S. Valley
<b>Brief description</b> This research presents a model of factors that affect the rate of change adoption in firms. From this model, a framework was developed to evaluate the degree to which diagnostic assessment processes facilitate change adoption in a firm. The framework was then applied to the Manufacturing Advisory Service (MAS). Operational aspects of the MAS are also explored. The lessons of the MAS are then applied in the larger context of business support through policy recommendations for the UK Department of Trade and Industry.			
<b>Research/Evaluation</b> Research		<b>Initiative covered</b> MAS	
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• The framework is based on three key areas believed to influence the rate of adoption of change in client firms following diagnostic assessments: practitioner-client engagement, client absorptive capacity, and client motivation.</li> <li>• A number of criteria were developed to evaluate a diagnostic process including a detailed rating system.</li> <li>• The criteria were then combined to develop composite ratings for the three key areas above. The composites used in this research are simply linear combinations of the criteria that are believed to affect a given area.</li> <li>• Applied the evaluation framework to the diagnostic processes of the MAS in six UK regions based on a combination of participant observer data, interviews, and survey information.</li> </ul>		<b>Key findings</b> <ul style="list-style-type: none"> <li>• The results of a practitioner survey were discussed in relation to the evaluation framework. In general, MAS practitioners agreed with the overall relationships inherent in the framework.</li> <li>• In the case of the MAS, practitioner behaviour is quite dynamic based on interactions with the client, but additional planning is needed to ensure customization is optimal to meet all client needs.</li> </ul>	

<b>Title of Report:</b> An Evaluation of the Manufacturing Advisory Service	<b>Year:</b> 1987	<b>Sponsor:</b> DTI	<b>Author (If Different):</b> Assessment Unit - Research and Policy Division
<b>Brief description</b> The report presents key findings from the evaluation of MAS achievements following its expansion in the early 1980s. Achievements are noted in relation to: take-up, productivity, attitudes, additionality, national efficiency, consultants and service operation.			
<b>Research/Evaluation</b> Evaluation	<b>Initiative covered</b> MAS		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• The objectives of the full evaluation were to assess MAS achievements over a longer period against its main policy objectives of: improving industrial productivity. demonstrating the commercial benefits of consultancy</li> <li>• Also examined the impact of MAS on the consultants themselves, and reviewed the efficiency of Service operation.</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• The majority of MAS consultancy projects generate high commercial returns</li> <li>• An awareness campaign based on a selection of successful MAS case studies would help promote MAS objectives.</li> <li>• Among smaller establishments there appears to be a general improvement in attitudes towards seeking consultancy advice. Such changes in attitudes, and use of consultancy advice, might be monitored more closely in future</li> <li>• If suitable organisations can be identified, the Department might wish to consider extending arrangements for local administration of the Service</li> <li>• The Senior Industrialist plays a valuable role in MAS, and this operational feature may be relevant to other DTI advisory services</li> <li>• Contracts with PERA and SUIC follow a standard format that is no longer appropriate as requirements for management accounting become more demanding. Existing contracts with PERA and SUIC allow them to undertake advisory projects, without limit. This may merit further consideration.</li> <li>• Value for money could be enhanced further by a limited increase in company contributions. [In July 1986 charges were raised from 25% to 33%.]</li> <li>• While accepting the need to maintain high standards among MAS consultants, the number of active consultants should be increased. [From the position in 1985 as recorded in the report, the number of active consultants has now doubled.]</li> </ul>		

<b>Title of Report:</b> Business Support Cross Product Monitoring Survey 4 Final Report	<b>Year:</b> March 2005	<b>Sponsor:</b> DTI	<b>Author (If Different):</b> OMB Research
<b>Brief description</b> This report details the findings of the fourth wave of the Department of Trade and Industry (DTI) Business Support Cross Product Monitoring Survey, a survey of various DTI Business Support Scheme users. In order to measure the client experience and subsequent impact of the various support schemes, the DTI commissioned OMB Research to conduct this comprehensive piece of research, across the business support schemes.			
<b>Research/Evaluation</b>	<b>Initiative covered</b> Support to Implement Best Business Practice – SIBBP Achieving Best Business Practice – ABBP		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• In order that the Cross Product Monitoring Surveys provide consistent and comparable data across programmes and over time, the same methodological approach adopted in previous surveys was mainly used for this survey – telephone interviews conducted using CATI (Computer Assisted Telephone Interviewing).</li> <li>• CAWI (Computer Assisted Web Interviewing). This approach entailed participants being sent an email invitation to take part in an on-line survey by following a unique link contained within the invitation email.</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• Simply a desire for some kind of evaluation of their own performance and/or some means of comparison with other businesses is mentioned by a number of SIBBP participants as motivation, but others clearly have business improvement in mind.</li> <li>• Motivations vary across the ABBP products covered, with a need for information and advice and a desire to keep ‘up to date’ key for some of the channels, with others attracting firms looking to benefit from the networking element and, in the case of the ecommerce awards, publicity.</li> <li>• Whilst non-additional interventions are very much in the minority for SIBBP participants, a number of the ABBP products display fairly low levels of additionality, as reported by firms.</li> <li>• Satisfaction levels are relatively high for SIBBP, but vary considerably across the ABBP products</li> <li>• With the odd exception, SIBBP participants are more likely to have experienced each of the benefit outcomes than is the case for participants in each of the ABBP products.</li> <li>• The mean ratio of benefits to costs varies considerably across the products covered, and the influence of a small number of very large individual ratios on some of these estimates should be borne in mind when interpreting results.</li> <li>• When viewed in terms of the median value, a similar pattern of results is evident to that seen for the estimates of £ benefit, with the median ratio highest for SIBBP and generally lower for the ABBP products covered.</li> <li>• As expected, regardless of the approach taken to the estimation process, the mean benefit is highest for SIBBP and relatively lower for the ABBP products covered. Interestingly, with the exception of the newsletters, the mean £ benefit tends to be of a similar order of magnitude across all of the individual ABBP products covered.</li> </ul>		

<b>Title of Report:</b> Proposed Network of Manufacturing Centres of Excellence and Productivity - Final Report	<b>Year:</b> August 2000	<b>Sponsor:</b> DTI	<b>Author (If Different):</b> Technopolis Ltd, Georgia Institute of Technology CENTRIM, University of Brighton
<b>Brief description</b> Needs Analysis, International Comparisons, Conclusions and Recommendations			
<b>Research/Evaluation</b>		<b>Initiative covered</b>	
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• There are 2 main strands to the project – a preparatory phase, involving interviews with the DTI, followed by a survey of the demand for manufacturing support services. Fieldwork to develop regional ‘mapping’ of the supply side was undertaken as a separate aspect of the work.</li> <li>• Needs of manufacturing businesses in relation to a proposed national network of manufacturing centres of excellence have been considered in three different ways; the perceived needs of potential user businesses, the latent needs of manufacturing businesses which may not be well recognised through the survey, and the needs of the manufacturing sectors in comparison to competitor economies.</li> </ul>		<b>Key findings</b> <ul style="list-style-type: none"> <li>• The establishment of a national network of manufacturing centres of excellence will be generally well received by SMEs and the national/regional support infrastructure.</li> <li>• All are keen to see that the centres provide practical 'hands on' advice of high quality and at high speed.</li> <li>• Most do not see the centres as a series of buildings housing new technology, but see them as pro-active networks to provide better access to current provision.</li> <li>• The relationship with the emerging SBS must be carefully developed to ensure that the two networks demonstrate a combined strength of resources rather than a duplication of effort which could confuse business users.</li> </ul>	

<b>Title of Report:</b> ROAME Statement - Manufacturing Advisory Service: First Phase	<b>Year:</b> 2001	<b>Sponsor:</b> DTI	<b>Author (If Different):</b>
<b>Brief description</b> This paper describes the initial three-year phase of a longer-term programme to promote competitiveness and contribute to higher productivity in UK manufacturing industry through the creation of the Manufacturing Advisory Service. Annex C explains the operation of MEP along with insights and lessons to learn from MEP.			
<b>Research/Evaluation</b>	<b>Initiative covered</b>		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• Operational monitoring of individual RCME by DTI (EID) will be achieved indirectly through the RDAs and the WDA which will be responsible for selecting and contractually establishing a RCME in their respective regions.</li> <li>• Monitoring of the National Network will be achieved more directly through the contractual relationship EID will establish with the National Network Manager. This will include provision for reports on membership, the numbers and types of inquiries being made, the responsiveness of the network and the views of customers on the quality of advice received.</li> <li>• Monitoring of the National Network will address both the performance of the National Network Manager and the quality and responsiveness of membership of the network from a user's perspective. Findings will be shared with the MAS Advisory Group.</li> </ul>	<b>Key findings</b> <b>Insights from MEP:</b> <ul style="list-style-type: none"> <li>• Use of a competitive review process to select MEP centres and regular centre performance assessments by external review committees as a condition for continued federal funding ensure good performance.</li> <li>• Development of a decentralised, local delivery system – at an appropriate scale and with good geographical coverage - so that a majority of U.S. SMEs are within driving distance of an MEP field office or affiliated organisation.</li> <li>• Flexible operating structure, which allows centre structure, organisation, and services to fit local institutional, industrial, and developmental conditions.</li> <li>• The requirement that MEP Centers partner with other business, technical, training, consultants, and economic development service providers in their region – leading to the extensive development of service networks associated with the MEP.</li> <li>• Emphasis on employing staff with prior industrial and business experience and on ensuring centre and national resources for staff development.</li> <li>• Pragmatic customer-driven approach, emphasising the deployment of proven technologies and methods linked with improvements in training, quality, management, and marketing.</li> <li>• Investment in new service offerings and standardised tools, such as Performance Benchmarking or the lean manufacturing product suite and the promotion and adoption of new business approaches, such as e-business.</li> <li>• Development of value-added services for MEP centres and staff, including online web resources and other knowledge management tools.</li> <li>• Efforts to foster greater integration of individual centres, through development of shared supply-chain services, common systems, and standards.</li> <li>• Rapid ramp-up of the system and the development of broad cross-party political support.</li> <li>• Emergence of a diverse funding base combining federal, state, and private revenues. This maintains the public service mission to serve smaller manufacturers, yet also introduces responsiveness to state and local concerns and to business customers.</li> <li>• Fostering of opportunities for centres and centre staff to exchange experience and share information (through conferences, workshops, online mechanisms, etc.).</li> <li>• Willingness to experiment and foster innovation. The MEP system's decentralised structure allows individual centres and groups of centres to pioneer new approaches that can later be more broadly adopted.</li> <li>• Investment in assessment, performance measurement, and evaluation, including investments in both quantitative and qualitative approaches.</li> </ul>		

<b>Title of Report:</b> Review of Manufacturing Advice in Scotland	<b>Year:</b>	<b>Sponsor:</b>	<b>Author (If Different):</b>
<p><b>Brief description</b> The report is intended to review in light of MAS in England and Wales how best to provide a support framework for manufacturers in Scotland. The review considers strengths and weaknesses of DTIMAS.</p>			
<p><b>Research/Evaluation</b> Research</p>	<p><b>Initiative covered</b> MAS</p>		
<p><b>Key Methods adopted</b></p>	<p><b>Key findings</b> <b>Key strengths:</b></p> <ul style="list-style-type: none"> <li>• Visible and accessible to customer base and clear focus on manufacturing</li> <li>• Highly credible advisors</li> <li>• Practical hands on assistance with quick, tangible results</li> <li>• Catalyst for wider change</li> <li>• Not prescriptive of ‘manufacturing’ – works with companies it can assist</li> <li>• Records impact using QCD (Quality Cost Delivery) measures</li> </ul> <p><b>However:</b></p> <ul style="list-style-type: none"> <li>• Not a universal offering – varies by region. In places, disconnected from generic business support, therefore potentially short term interventions</li> <li>• Lack of coherent account/client management system evident in wider business support landscape</li> <li>• ‘CEM’ network of organisations with expertise in manufacturing not fully exploited and appears not to be functioning as originally intended</li> </ul> <p>Review highlighted benefits of engaging manufacturers in process improvement as opposed to simply focussing on ‘quick’ productivity gains. Useful in helping businesses to grow and assist companies in engaging at a strategic level.</p>		

<b>Title of Report:</b> Economic Impact Study of Business Link Local Service	<b>Year:</b> January 2006	<b>Sponsor:</b>	<b>Author (If Different):</b> Dr Kevin Mole (University of Warwick, Project Manager), Professor Stephen Roper (Aston Business School), Professor Mark Hart (Kingston University), Professor David Storey (University of Warwick)
<b>Brief description</b> Economic impact study of the Business Link Local Service interventions in the period April to September 2003. The results are based on a large-scale telephone survey of intensively-assisted, other-assisted and non-assisted businesses undertaken in the May to July 2005.			
<b>Research/Evaluation</b>	<b>Initiative covered</b> Business Link Local Service		
<b>Key Methods adopted</b> <ul style="list-style-type: none"> <li>• Use an econometric approach to estimate the impact and significance of BL assistance on the performance of individual intensively-assisted firms and other-assisted firms.</li> <li>• Scale up these impacts on individual firms to reflect the number of firms which received intensive assistance during the reference period. This gives us the aggregate employment effect of BL assistance over the year.</li> <li>• Translate this employment effect into a national value added estimate using data from the ABI on value added per employee. This gives us the total addition to national value added due to BL support.</li> <li>• This is then compared to the cost of the BL network to give the value for money estimate.</li> </ul>	<b>Key findings</b> <ul style="list-style-type: none"> <li>• As it turns out, BL assistance does have a significant and positive effect (2.3-2.8 per cent) on the employment growth of intensively assisted firms.</li> <li>• Modelling – based on a two-stage Heckman approach which allows for selectivity – suggests that while Business Link assistance has a range of positive impacts on sales growth and productivity (sales per employee) these effects are generally statistically insignificant. <ul style="list-style-type: none"> <li>- More robust is the effect of <i>intensive</i> Business Link assistance on <b>employment growth</b>, which is statistically significant and positive. This effect provides the basis for our subsequent value for money calculations.</li> </ul> </li> <li>• Central (i.e., mid-point) estimates are that this Business Link assistance nationally increased employment by between 17,484 and 21,308 which generated £489-£596m of additional value added on an annualised basis although these estimates are subject to fairly wide confidence intervals.</li> </ul>		

## **International Comparisons**

In order to evaluate MAS effectively it is useful to explore the nature of comparable support services to manufacturing in other countries. In addition to literature referring to the MEP program in the United States and Kosetsushi in Japan noted previously, information has been gathered from a web search to gain an overview of relevant support measures in France, Italy, Germany and the Netherlands.

Each country has a range of programs in place, some of which are focussed specifically on manufacturing and others, where manufacturing is covered amongst a broader, multi-sector approach. Summarized below are details of support that is available in selected European countries.

### **France**

#### **Pôles de Compétitivité (Competitiveness Clusters)**

In July 2005 a new policy of support for "Poles de compétitivité" (Competitiveness Clusters) was announced by the French government. 67 clusters across France are to share 1.5 B Euro in R&D and infrastructure support. Of these, 6 clusters deemed to be internationally competitive will have a privileged status with substantial investment and priority for future R&D expenditure. At a national level, the success of the cluster policy will be evaluated after 3 years. To assist in this process the Government will publish an annual "cluster scoreboard" to measure achievements of the clusters, using the following indicators:

- Size: number of large companies, SMEs and jobs involved in each cluster
- Impact: patent applications, scientific publications, new public/private R&D collaborations
- Economic impact: number of jobs created, added value for cluster companies, market share of cluster companies in their target market.

#### **Agence pour la Promotion de la Création Industrielle (Agency for Industrial Promotion and Creation - APCI)**

The APCI targets SMEs in the manufacturing sector via: Distribution of publications, information packages, Professional Information Services, Advice and Direct Support focussing on technology and knowledge transfer.

#### **Fonds de développement des PMI (Development fund for SMEs)**

This is a financial measure to encourage the development of SMEs in manufacturing by increasing their level of technology and competitiveness. It is aimed at SMEs with a healthy financial situation employing less than 250 people, not privately owned more than 25% by another group employing more than 250 people. It is dependent upon investment programmes of technological upgrade, showing a significant effort from the enterprise.

#### **Prime d'Aménagement du Territoire (Land Planning Subsidy)**

The land planning subsidy offers both financial and grant support for projects of enterprise creation, growth or de-localisation, stimulating job creation in manufacturing and other services.

Projects must create permanent jobs and represent an investment of more than 2.3 million Euro for the industrial sector. Job creation must equal a minimum 15 jobs in case of creation of a new activity or 30 jobs in case of growth of an existing activity. Subsidies are paid in several instalments, providing the enterprise respects the agreements. Funding can amount to between 8,000 Euro to 11,000 Euro per job created, depending on the area and the sector. The subsidy may also be awarded where Research and Development is taking place.

Manufacturing in France then receives a mixture of support ranging from subsidies, development funds, information exchange as well as Research and Development driven assistance.

## **Italy**

Italy has a number of programmes targeting youth and female employment creation covering a range of sectors including manufacturing. For example:

### **Facilities for creation of new enterprises to promote youth entrepreneurship (Tuscany)**

Aims to foster youth and female entrepreneurs by creating jobs. Eligible firms can apply for grants for investments for feasibility studies, land, building works, machinery, plant, equipment, patents & copyright, software. Soft loans to finance feasibility studies are also available. Applications from women are given priority. In the period 1995-2000 more than 1,700 new enterprises were created. Lit. 8 billion was allocated for 2001.

### **Facilities for promoting youth employment by supporting new entrepreneurship initiatives (Perugia)**

Similarly, this program targets youth and female employment as well as the disabled. Its broad aim is to support new firms, to help them in day-to-day management, to provide training, technical and financial assistance aimed at facilitating the creation and start-up of youth enterprise in the service production and distribution sectors.

### **Incentives in Automatic Form, Law n. 341/95, art. 1 and Law n. 266/97, art. 8, par.2**

Targets SMEs with tax incentives, favouring innovation, financial restructuring and development. The measure supports investments in equipment, machinery, infrastructure and support to promote economic and production development in disadvantaged areas of the country and is accessible to enterprises operating in the manufacturing sector as well as communications, distribution, energy amongst others.

Admissible expenditure is that concerning: the creation of new infrastructure; the enlargement, modernization, restructuring and conversion of production plants. Investments must be completed within 30 months of the application being received.

### **Industrial Investments through leasing actions L.R. 26 giugno 1995 n. 26 capo III**

This programme offers loans to SMEs as start-ups or in the early phase of development for: feasibility studies, financial restructuring and development in order to promote industry and commerce. The initiative is available to the manufacturing sector and other services.

### **Ministero Attività Produttive**

Provides grants and subsidies to SMEs, All enterprises starting up or in early phase of development, Craft enterprises and artisans, Innovative/technology enterprises, Single-person enterprises to aid innovation, financial restructuring, job creation, business culture development and the environment across a number of sectors, including manufacturing.

Feedback suggests that Law n. 488/92 produces positive results in terms of efficiency and effectiveness; it manages to select the best projects, because of clear identification of interlocutors and strict definition of proceedings. As far as the propensity to create employment is concerned, from 1997 to 2001: the number of jobs amounted to 238,707 (with reference to 2001, the number of jobs was 85,961).

### **Measure to promote industrial investment in the Region (Regione Friuli-Venezia Giulia)**

To support firms during start-up and growth phases to create stability, productivity, employment and thus sustainability. Also to finance industrial investments regarding machinery, infrastructure and equipment, to improve environmental conditions and to offer counselling and finance property rights.

For eligible firms the following support is available: Grants for start-up; Soft loans for investment in feasibility studies, construction work, machinery, plants, equipment, vehicles, patents and software. The amount of the loan depends on the size of the investment.

### **Measure to support women's entrepreneurship (Lazio Region)**

Initial diagnosis, loans and advice are available across a range of sectors including manufacturing to encourage the creation and development of female enterprises, production companies and employment based in the region through the allocation of credits.

20,080,000 Euro have so far been allocated for female enterprises. More than 2000 applications have been received, 1,800 of which have been accepted. The available regional funds will allow 528 (30%) enterprises to be financed.

### **Systematic actions for industry and for the safeguarding and increasing of employment**

To aid firms in buying raw materials, machinery, firm land and buildings; to promote innovation inside the industrial processes and to aid firms in the current management of expenses.

Regional industry produces around 7,000 new work units every year. Lit. 47.3 billion was spent to finance industrial investment projects in 2000. 24 projects concerned high technology machinery, 24 concerned reconstruction projects and 32 consisted of projects financed through low interest credit. Total expenditure for industry was Lit. 132.6 billion (Lit. 17.4 billion less than in 1999).

### **Regional measures to help facilitate credit loans to craft enterprises.**

To support the purchase of new plants, and the payment of current expenses through the access to credit at low interest rates to increase the production capability and competitiveness of enterprises and increase employment levels.

A total of 288 applications were submitted of which 246 were processed, for a total amount of 5 million Euro from the Regional Fund. The total investment was approximately 19 million Euro. In 2002, the number of craft enterprises in the region is 256,415 compared to 247,160 in 1999 but the birth-death ratio of enterprises was negative.

The analysis of support measures in Italy reveals that there is little that corresponds directly with the MAS in the UK, but that there are a variety of laws, tax incentives and national and regional government funded initiatives which provide support to the manufacturing sector in similar ways to MAS.

### **Germany**

In Germany there are a variety of support measures that incorporate the manufacturing sector.

#### **Advise and coaching for technology oriented enterprises and existence founders**

Guides recent technology-oriented and innovative business start-ups and enterprises during the conversion of their ideas to economical practice. They get advisory support and valuable references for the examination of the business idea/the business model, specifying of core authority, accomplishment of management problems, production of load-carrying business plans, decision making of the enterprise strategy, (marketing, sales, production), clarifying of financing matters, company with financing discussions, provision of technological know-how and contacting of strategic partners/networks. Since the establishment, the initiative has resulted in the coaching of over 500 business start-ups and enterprise within the innovative field of technology and obtained a lasting increase in value and a measurable success for its customers.

#### **Alleviation of liquidity problems**

The liquidity assistance credits are applicable both for the recovery of temporary liquidity problems and for improvements of the financing structure (e.g. conversions of debts of short term commitments).

In 2001 investments were activated by support credits for SMEs from over EUR 13.3 billion. Thus around 570,000 jobs could be made more competitive and more crisis-firmly and more than 42,000 jobs newly created.

#### **Bavarian regional development programme, including support of tourism**

This is another programme aimed at SMEs developing technology transfer as well as employment and training to participate or grant subsidies to educate employees, to expand businesses, to move certain business activities or to ensure a diversification of the workforce.

### **Bavarian support programme for the middle class**

To provide loans to starting companies, expanding companies, rationalisation of existing companies. In the last 5 years approximately 20,000 long-term credits have been handed out to medium-size enterprises in Bavaria at a value of EUR 1.3 billion and thus investments at a value of 4 billion Euros have been supported. Altogether more than 27,000 jobs have been created within the programme in the past 5 years.

### **Business creation programme for women**

Intended to stimulate job creation in women-owned or women-operated enterprises, the assistance (loans) awarded in 2001 enabled the establishment of 58 new enterprises with 153 new work and trainee posts. Two thirds of those enterprises belong to the trades or the crafts sector. Most of the work-posts have been created in crafts enterprises.

### **Consolidation and Growth fund East**

The aim of this measure is the consolidation of firms and SMEs through long-term consolidation assistance involving the supply of participation capital for restructuring measures or growth processes in SMEs. In the middle of the year 2001 more than 380 inquiries for participation capital were present to the consolidation and growth fund for the east.

### **Netherlands**

As in Italy and Germany, in the Netherlands there is a range of business support measures that apply to manufacturing. For example:

#### **Innovation fund SME IJmond region**

Aims at setting up and stimulating new entrepreneurial initiatives in the region of IJmond. The programme wants to create more space for enterprises, more start-up enterprises, more industrial innovation, tourism, education, cooperation between education and business and conservation of existing knowledge and experience.

To stimulate the economy of the IJmond area and thereby create 2,000 new jobs before the end of 1999 - this was the stated objective of the programme when launched in May 1995; this objective has definitely been reached. There are even 907 participating enterprises until now.

**LIOF Development agency Limburg**

This measure targets SMEs, providing advice, equity finance and loans aimed at management capacity skills, financial restructuring and innovation.

LIOF exists for more than 25 years; at the moment they take partnership in more than 60 companies situated in the province of Limburg. At the end of 1997, the participation budget concerned 44 companies, now there are more than 60.