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Welcome to the winter edition of Manufacture

A collection of topical articles relevant to manufacturing businesses in a period of startling change.

Uncertainty on how businesses will be trading in a post Brexit world continues as we bring you the latest edition of Manufacture. At the present time we are helping clients to prepare and issuing further guidance once the final implications are known. For international traders an article on 'Authorised Economic Operator' status is also worth a read. In late August it became apparent that HMRC has every intention to press ahead with Making Tax Digital (MTD) for VAT. Even with October's announcement that there will be a six month extension for certain more complex organisations. However, most businesses still need to act by April 2019. This still does not leave a great deal of time for companies to respond to such a major change that affects every VAT registered business in the country.

In case you missed it, our VAT team ran a webinar in September to over 600 individuals, which revealed some interesting statistics on readiness to comply with the new rules (see page 7).

Our visit to the Manufacturing Technology Centre highlighted the pace of change in manufacturing was highlighted by the challenges that need to be addressed, was highlighted by our visit to the Manufacturing Technology Centre (see page 36).

Our determination to assist businesses in managing challenges presented by artificial intelligence, innovation and the change that is needed to ensure future success are also covered by articles on pages 17 and 22.

For those of you thinking about business expansion by acquisition, or even realising value through a sale, when the time is right, our capability across the UK and globally can help you with your strategy and planning to achieve your goals. In this issue, we explain what can be done with successful businesses of all sizes in terms of M&A activity (see page 32).

And finally, we have been marking our firm's 175th anniversary this autumn with events across the country. The latest of these was attended by over 100 guests at the Black Country Living Museum (see page 39); a fitting venue to highlight the history of manufacturing and the smart decisions that made UK industry so successful since the year of our origin back in 1843. It even presented an opportunity for us to test our own manufacturing skills, shown in the photo below. Here's to the next 175 years of helping our clients to make smart decisions that deliver lasting value for their business.

Johnathan Dudley, Head of Manufacturing



Chief Executive, Nigel Bostock and myself making some chain at the Black Country Museum.

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Making Tax Digital for VAT – Organisations are under prepared

At our recent webinar held by Crowe VAT partners, Robert Warne and Robert Marchant to over 600 people in organisations of varying sizes, we discussed what they need to do to prepare for the significant changes required to submit VAT returns during 2019.

Our webinar audience was asked about their readiness for Making Tax Digital to comply with the new rules.

are yet to have meaningful contact with their accounting system provider about the changes.

73% have either not started or are just starting to review steps.

26% felt the complexity of their existing VAT compliance processes

were cause for concern.



It is striking that with less than six months to go before the new rules take effect there are still a significant number of organisations that are either unaware of these changes, or are still in the early phases of assessing what steps they need to take to be compliant.

Organisations should not underestimate the time that will be required in order to change their VAT processes, particularly given that there is a technology aspect. We are anticipating a significant amount of activity between now and the end of the year.

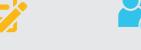
Robert Marchant, Head of Corporate VAT

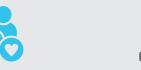
Some organisations with more complex VAT registration arrangements will benefit from a deferral of the implementation date to 1 October 2019.

HMRC's guidance says that the deferral will apply to the following entities.



Trusts







are not set up as a company

Non profit organisations that

VAT divisions

VAT groups









Local authorities

Public corporations

Traders based overseas

Those required to make payments on account



Annual accounting scheme users



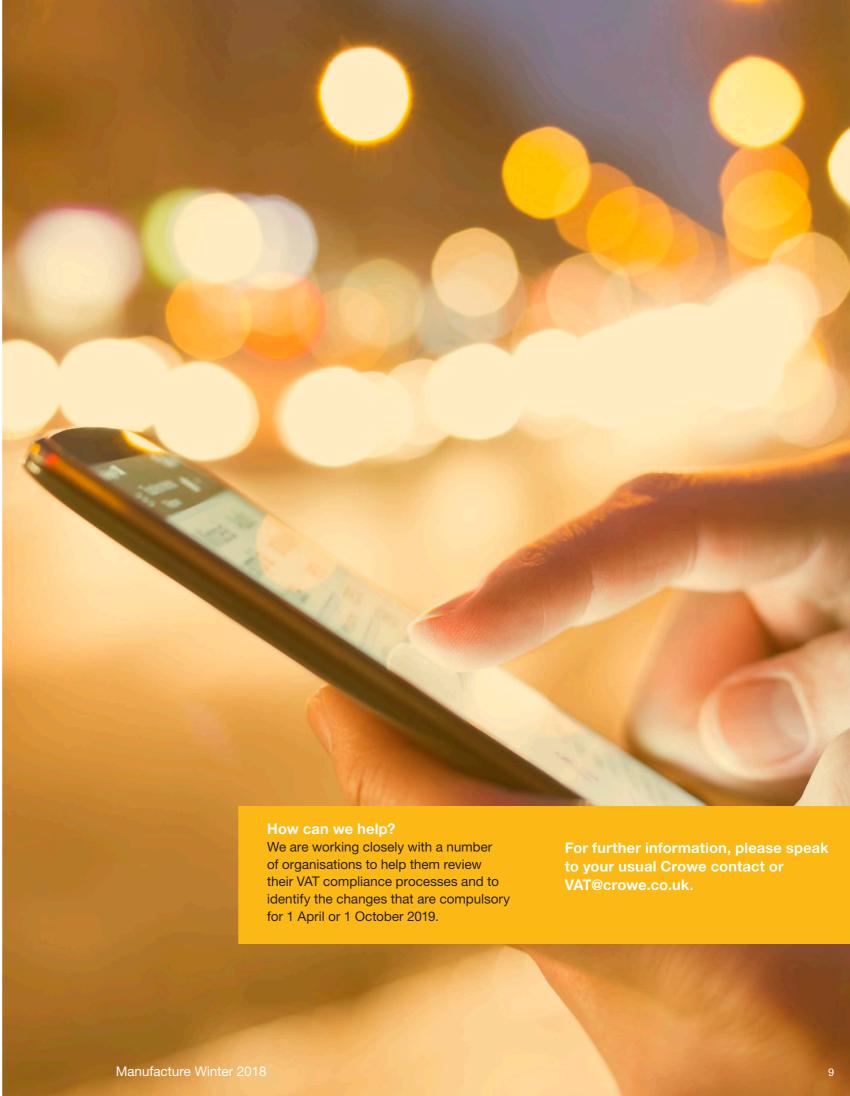
Public sector entities required to provide additional information on their VAT return (government departments, NHS Trusts)

For those organisations not on this list, the planned implementation of MTD for VAT remains effective from 1 April 2019.

Of particular significance is the deferral for those who are required to make payments on account and those organisations that are members of a VAT group. For organisations made-up of multiple entities it could lead to a phased implementation where entities A, B and C who are members of a common VAT group benefit from deferral

but entity D, which is separately VAT registered, will be subject to the MTD for VAT requirements from 1 April 2019.

This deferral will be welcome news to a number of attendees of our recent MTD for VAT webinar, who indicated that the complexity of their VAT arrangements meant that they felt there was insufficient time to prepare for the changes. However, it does add another layer of complexity in needing to assess whether or not a particular VAT registration qualifies for the deferral.



Top 10 MTD questions

Do I fall within Making Tax Digital (MTD)?
If you are registered for VAT because you have, at some point in the past, exceeded the £85,000 taxable turnover threshold, then yes you will fall within MTD.

What information will be submitted to HMRC?
For now it is only the nine VAT return
numbers that are to be provided as part
of the submission process. However, in the future we
expect the MTD requirements to be expanded so that
summary data, and potentially even transaction level
data, is provided alongside the nine VAT return boxes.

What does API mean?
API means 'Application
Programming Interface'
and is a way for one piece of software
to directly link with another piece of
software without human intervention.
For MTD it will allow software or an
Excel spreadsheet to submit the nine
VAT return numbers directly to HMRC.

We are partly exempt from VAT, how will our adjustment be made under MTD?

Most organisations use a spreadsheet to calculate partial exemption and business/
non-business methods as the accounting systems do not accommodate these
apportionment calculations. From 1 April 2019 you will be compliant if you include
your partial exempt and business/non-business adjustments in the digital/system records
by way of an adjusting journal that is linked to your spreadsheet. Alternatively, you could use
the spreadsheet to directly upload the VAT return figures to HMRC using API software.

What happens if you are on a retail apportionment scheme?

If you account for VAT using a retail scheme you must keep a digital record of your Daily Gross Takings (DGT). You are not required to keep a separate record of the supplies that make up your DGT within functional compatible software.

What is a digital link?
A digital link is where one piece of software communicates to another without human intervention. An example of a digital link within Excel is when a formula references another cell in another tab or workbook. An excel report from your accounts system would also count as a digital link.

I'm not registered for VAT, but I reclaim VAT using a form VAT126. Is this part of MTD?

If you are not currently registered for VAT and are not required to be registered for VAT then you will not fall within MTD. If you are not sure if you are required to be registered for VAT, please contact a member of the Crowe VAT team.

What data must be kept digitally?
You must have a
digital record of:

- your business name
- the address of your principal place of business
- your VAT registration number
- any VAT accounting schemes that you use.

For each supply you make or receive you must record the:

- time of supply (tax point)
- value of the supply (net value excluding VAT)
- rate of VAT charged.

Can I use a spreadsheet?
Yes, providing digital links are maintained with your accounts software and the spreadsheet itself is API enabled to submit the VAT return to HMRC. If you don't have accounts software and are only using a spreadsheet, you will need to ensure all the records are recorded in an MTD-compliant format.

My software provider is on HMRC's list of MTD-compliant providers, do I need to do anything?
While your software may be MTD-compliant, it is equally important to ensure that your internal processes are also MTD-compliant (i.e. if you export your data to Excel to prepare the VAT return, are digital links being maintained). If you are unsure if your processes are MTD-compliant, then please contact a member of the Crowe VAT team.



Next generation bookkeeping

By Katy Bayliss

There is much debate currently on whether technology has removed the need for a bookkeeper.

This is of course not just true of the bookkeeping role within businesses but any which involves manual input of data or has tasks which are heavily rule based. Moreover, with machine learning the complexity of those rules dealt with by technology increases with time, and there is a need to be more efficient as well as to meet the requirements of running a business, including compliance.

The implementation by HMRC of Making Tax Digital (MTD) for VAT from April 19 means that VAT returns must be digitally submitted through the HMRC gateway via an Application Programme Interface (API), which enables software to talk to other software. It is no longer acceptable to type in the values of nine boxes in to the online portal, or even to cut and paste, as

the data must have a digital link through 'functional compatible software' and should not be rekeyed in this process.

The role of the bookkeeper

The traditional bookkeeper is someone who spends a significant proportion of their day on data entry: manual entry of invoices, producing manual bank reconciliations, reporting via Excel on a timely basis once everything has been typed in. Looking at this in isolation it can be easy to perceive that this is a role which could be removed via technology. A bookkeeper obviously has skills in data entry, accurately typing in data at speed, but also in communication. They have a knowledge of accounting terminology and a necessity to be logical and highly organised. Typically an attention to detail is required in bookkeeping, spotting patterns and more importantly mistakes, then understanding the impact that could have on the wider business.

What opportunity does this give?

Starting with the technology itself and automation

Optical Character Recognition software, or OCR for short, takes out the manual processing of invoices. After an initial set up to teach the machine learning element of the software what a line on an invoice is, and which supplier it relates to, it is simply a case of taking a photograph of the invoice. The most

common bookkeeping packages now have compatibility with at least one form of OCR software, so taking a photograph of the invoice isn't just for records but automatically posts the invoice to the correct codes within the bookkeeping software. By teaching the rules to software and it completing the data entry, the information is accurate and real time, plus it frees time for the bookkeeper to complete other tasks.

Missing information

How often are we looking for a receipt that has fallen down the side of the car seat? OCR technology makes it easy by posting the purchase immediately, so if a receipt is mislaid it's already been recorded and dealt with.

Bank feeds

Instead of the traditional manually prepared bank reconciliations, a live bank feed can be set up with most cloud based bookkeeping packages. Cash levels are available at the touch of a button, and with machine learning it can be taught to match transactions. These can all be approved as necessary to maintain control but a bank reconciliation is continuous and up to date. You always know how much cash you have, and what's outstanding, wherever and whenever you want. This can also be done for credit cards, and can even notify you when a limit is close to being reached.

What else can all of this immediate and accurate data give us?

Agility

Everything at our fingertips means that at strategic level, instead of making decisions based on management accounts from the last 30 days we can make smarter decisions based on the data now. This also is not limited to just financial data giving us access to statistics which are a bi-product of automation, information we may only have been able to estimate previously or would have taken significant reporting to achieve, perhaps seasonal sales data or bulk purchase opportunities.

At lower levels it means a faster reaction to sudden stock changes, pricing commodities or highlighting product lines which are slowing down. Quotes can be more precise and can be turned to an order with a single button, and with an accurate view of when an order will be available so you can manage customer expectation.

For some manufacturers it can even enable a more responsive timeframe for development of products quickly instead of a project sometimes lasting years, running the risk of someone else going to market first or lead to different costing methods being used, giving a more realistic view of margins.

Bolt-ons

Bookkeeping packages offer a number of bolt-ons utilising APIs to talk to each other, whether for cashflow forecasting in real time, stock booking systems, CRM, benchmarking, multicurrency; you name it there are likely a number of possibilities. All data is entered once, and where possible is done automatically.

More importantly, is available in a mobile way, often with easy visualisation, and it is up to date. Transparency on all your information throughout the shop floor and supply chain could demonstrate that something simple like, moving part of the process to another area of the factory, could increase productivity, or could show a bottleneck not previously highlighted.

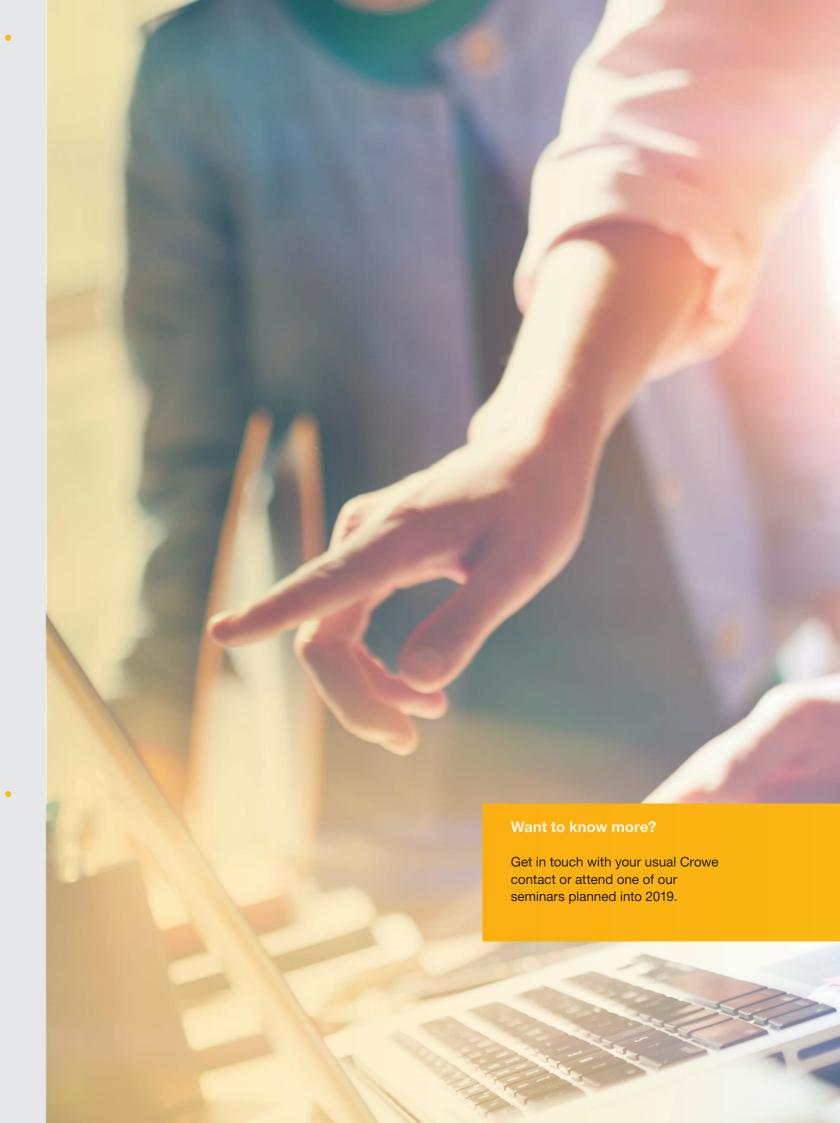
Not only that, you only pay for what you need and they can be tailored to your business.

Taking things further

What else does the future hold? Blockchain enables a shared ledger so for every transaction posted it also gets posted in the ledger of the customer, supplier, bank, and HMRC, all in real time. You've paid the appropriate VAT on each transaction directly, and the bank is up to date so there is no need for reconciliations at all because everything clears immediately.

What happens to the bookkeeper?

This goes back to skills. In summary, the role of the traditional bookkeeper may be taken by technology, but this simply opens the opportunity for the bookkeeper to utilise their skills in an advisory capacity, explaining what the numbers mean and offering a proactive approach to key performance indicators of the business. Where else in your business could employees benefit from technology taking their job by upskilling and working smarter, and would it make them more likely to stay? We can never know everything, particularly where data entry takes all our time and it is increasing in volume, but utilising resources available in technology enables us to grow both personally and as a business.





Creating a culture of innovation

By Richard Baker, Partner

Innovation is vital to the survival and success of any business, particularly manufacturers. With a constant demand for better, faster, stronger (and cheaper), as well as global competition, this is a significant challenge for all.

For many manufacturers, innovation is the lifeblood of their businesses. Innovation is happening on a constant basis, problem solving for customers and bringing new products to market.

How can a culture of innovation be encouraged?

- Allow designers and engineers 'free time' to explore ideas and try new things.
- Capture ideas and suggestions appoint an innovation team to review and assess their viability – technically, commercially and financially.
- Establish a cash fund for the innovation team to explore and advance new ideas.
- Allocate people to each project and agree deliverables and milestones.
- Take some calculated risks as well as focussing on 'easy wins'.
- · Reward ideas and innovative behaviours.
- Share knowledge and ideas Empower people to innovate.
- Collaborate with like-minded businesses.

- Seek external help in problem solving and removing specific barriers, for example catapult organisations, trade bodies and the Manufacturing Technology Centre.
- Challenge long standing ideas and methods.
- Be courageous don't be afraid to fail.
- Be positive don't look for reasons not to do it, but reasons to do it!
- Be persistent.

The world is changing fast and innovation is more important than ever. Businesses should review their processes and approach to innovation at the earliest opportunity.

Helping companies to make the most out of tax reliefs

Our Innovation Taxes team focus on helping companies to secure research and development (R&D) tax reliefs, and a reduced corporation tax rate under the Patent Box...and they are doing it with great success!

£54,385

...the average cash benefit of the SME claims made by the team in 2017/18.

12%

...the amount by which Crowe's average SME R&D claim for the year ended 30 September 2017 exceeded HMRC's 2016/17 average¹.

£34,180

...the average cash benefit of Patent Box claims made by the team in 2017/18.

£27m

...of qualifying R&D expenditure identified and claimed for our clients in 2017/18.

Our innovation taxes group have a wealth of experience in these tax reliefs and welcome the opportunity to talk to clients about the innovation in their businesses. Last year we reclaimed on average £54,000 of cash per SME R&D

claim, which compares favourably to £47,000 per HMRC statistics. The total cash we reclaimed for our clients was £5.8 million for SME companies and £540,000 for large company claims.

1 HMRC Research & Development Tax Credit Statistics September 2018, by accounting period basis

A company could qualify if it is...



Developing new or improved products or processes.

Typical sectors

- Manufacturing: both products and processes.
- Food and drink: products and processes.
- Audio visual and sensory related technologies.
- Property, construction and engineering.



Investing in technology, including the development of new or improved software when used:

- for sale or licencing
- as part of a product, process or device.

Examples

- Development of apps, tools and platforms.
- Data analytics e.g. in the medical and financial sectors etc.
- Data security.
- E-learning.



Investing in software to make your business run more efficiently.

Examples

- Development of a new or improved client relationship management system (CRM).
- Development of a new or improved document management system (DMS).
- Improved stock control system.
- Improved warehousing system.

66

Many businesses leave R&D relief alone thinking that their innovation would not qualify when in fact, this just isn't true. We have an excellent track record for helping businesses extract value from their innovative thinking and in doing so, we look to provide value in what we do; by generating technically robust claims that provide valuable cash benefits at a reasonable cost. As

a major advisor to corporate businesses we think it's a smart decision to provide lasting value to our clients and this goes for R&D and innovation tax advice as much as the other services we provide to businesses. I'm proud of how we have been making a real difference to help our clients claim R&D cash.

Johnathan Dudley, Head of Manufacturing

If you would like to get in touch with our national R&D team start the conversation now.



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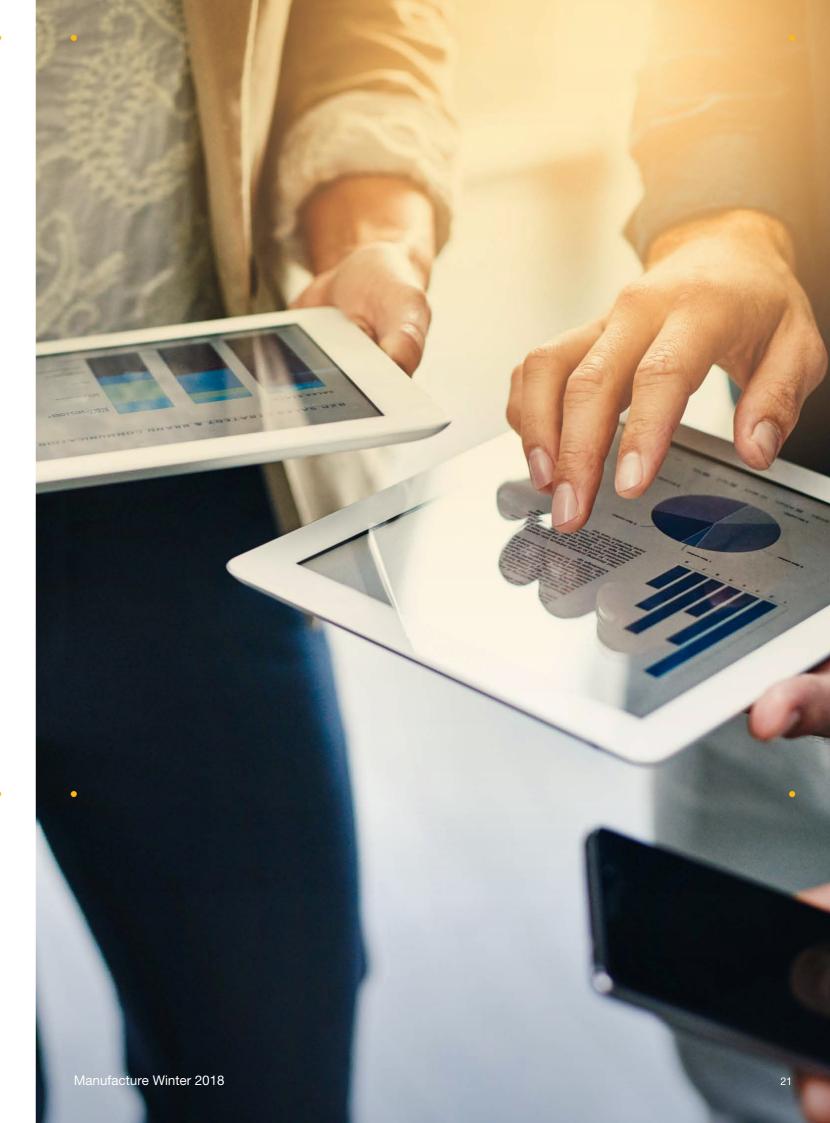
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Artificial intelligence

How artificial intelligence (AI) will transform the manufacturing industry and tax saving steps you should take as a business

By Caroline Hunt, Head of Innovation Taxes

There has been a lot of discussion around Al and machine learning and what impact will it have on our working world.

What is clear is that this technology is developing at rapid speed and is already something that major companies are making huge investments in.

This article focuses on AI in the context of the manufacturing industry and will touch on how companies can ensure they are tax efficient with their spending.

So what is artificial intelligence?

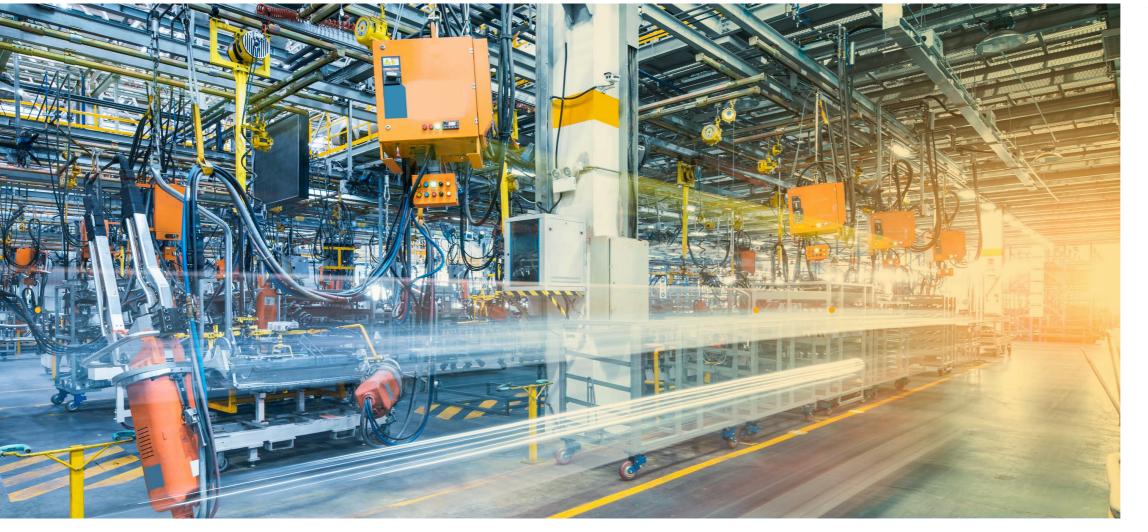
In simple terms, artificial intelligence is 'human like' intelligence demonstrated by machines. Machines are able to learn from past experiences, teach themselves and analyse complex patterns, much like humans can. You may have heard of popular developments such as Libratus which was launched in 2017, a program that can beat experts in no-limit Texas Hold 'Em poker and AlphaGo, which completed the 2000 year old board game – viewed as highly complex even for humans.

Use in the manufacturing industry

In the manufacturing industry, companies including GE and Funac have been investing heavily in Al and are using the technology in order to ease labour costs, reduce product wastage, increase the speed of production and minimise down time.

In 2015 GE, one of the world's largest manufacturing companies, launched its manufacturing suite for customers. This is a system which pre-empts problems in the manufacturing process before they emerge. Its manufacturing suite links various components of the product process into one scalable intelligent system which is powered by an internet of things platform.

Funac has also recently been using 'deep reinforcement learning' to create industrial robots that train themselves.



Impact of AI on manufacturing in the future

TrendForce is predicting a huge increase in AI growth over the next five years and expect the global smart manufacturing market to grow from \$200 billion this year to over \$320 billion by 2020.

Experts are becoming increasingly more certain that the concept of a 'smart factory' will have a profound impact on the manufacturing industry, as manufacturers have already begun to have some success integrating AI and smart factory technologies into its operations.



A 'smart factory' is a networked factory in which data supply chains, design teams, production lines and quality control are linked to form an intelligent and integrated creation engine.

Parts of production can also be connected via an internet of things which enable actions such as measurement, control, sensing and communication. Intelligent sensors, motors etc. can make data collection possible.

As a result, people's job roles in the factories are likely to change as the more routine aspects of the job are carried out by machines, allowing employees to focus on more complex tasks. There may well be an increase in jobs as more support is needed for the new technology.

What is also clear is that the remit of artificial intelligence in the manufacturing industry will be wider than just robotics. Algorithms, for example, can be of benefit in the supply chain as they can identify patterns of demand for products while taking into consideration a variety of risk factors such as political developments and weather patterns. Al can also be used for predictive maintenance of equipment.



"The concept of a 'smart factory' will have a profound impact on the manufacturing industry"

R&D tax relief scheme

The R&D tax relief scheme is a government scheme whereby companies investing in research and development activities who qualify under the scheme can get either a tax benefit or refund or a cash payment on qualifying expenditure. Broadly, in order to qualify, the company must be seeking an advance in science or technology and looking to overcome a scientific or technological uncertainty.

Companies investing in artificial intelligence technologies would benefit under the scheme either by a reduction in their corporation tax bill on qualifying expenditure or by cashing in their R&D tax losses. This can include (amongst other things) staff time spent on technical work, parts used in testing and subcontractor costs. We have already helped a number of companies to save millions of pounds under the scheme. However we are aware that there are a number of companies who are still not claiming.

Find out more

In order to find out more about whether your R&D activities would qualify under the scheme please contact Caroline Hunt, Head of our Innovations Taxes team at caroline.hunt@crowe.co.uk.

Sources

www.sas.com/en_gb/insights/analytics/what-is-artificial-intelligence.html www.bdtechtalks.com/2017/12/28/major-artificial-intelligence-developments-2017 www.techemergence.com/machine-learning-in-manufacturing/ www.tenemanufacture.com/articles/power-artificial-intelligence-manufacturing/ www.ottomotors.com/blog/what-is-the-smart-factory-manufacturing www.autodesk.com/redshift/future-of-artificial-intelligence/ www.businessinsider.com/sc/artificial-intelligence-change-manufacturing?IR=T www.techaspect.com/blog/4-ways-artificial-intelligence-will-impact-manufacturin

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Preparing manufacturing businesses for Brexit

By Johnathan Dudley, Head of Manufacturing

The final terms under which the UK will exit the European Union are still not known at the time of publishing. Sensible manufacturers who import or export (or plan to), need to have a contingency plan to cater for whatever might happen in the future.

From a purely business point of view, a regime that allows cross-border duty free trade, together with minimal paperwork, is desirable but an agreement that permits this with the EU could carry with it terms that restrict the government to enter trading agreements with the rest of the world.

Therefore, for businesses that buy product within the EU and sell inside the EU, there may be merit in establishing an EU subsidiary. Indeed, we have seen interest in exporters establishing an EU subsidiary to export into; keeping the regulatory requirements 'in house' and maintaining a clean 'inside EU' customer relationship to prevent competition in the EU using the UK's new status as a differentiator.

Another option might also be to establish 'customs warehouse' status or source that capability; a combination of both might also suit.

For importers from the EU, there could well be the need to pay VAT and duty at port of entry 'up front' post Brexit, and this will affect cashflow as well as pricing structures for sale of products in the future. The effect, if material, could be significant. Establishing a 'Duty Deferred Account' might be worthwhile, but this generally requires a deposit payment and again, there could be a cashflow effect on the business.

Many traders who only deal within the EU, quite possibly, will have a need to source expertise and 'manpower' to process import/export documentation.

Other than basic steps, there is little point in actually embarking on such activity before the final Brexit deal is known.

After all, any measures taken now could prove to be ineffective or not necessary.

However, companies should at least start to plan now for 'any eventuality' so that they can act swiftly and decisively as and when the time comes.

How we can help

- Using our strong relationships with our Crowe Global colleagues inside the EU, we have established processes and costs to establish companies in a variety of EU countries.
- Advice on the use of customs warehouses.
- We can advise on the procedure for establishing a Duty Deferral account.
- We have established relationships with organisations who provide international trade documentation services.
- We can advise on and help model the effect on your cashflow and assist in raising finance to meet any additional requirements.

If you're affected please contact johnathan.dudley@crowe.co.uk or your usual Crowe contact.

Authorised Economic Operator

By Rob Marchant, Head of Corporate VAT

Authorised Economic Operator (AEO) status is an internationally recognised marker that your company's international supply chains are secure, and your customs controls and procedures are efficient and compliant.

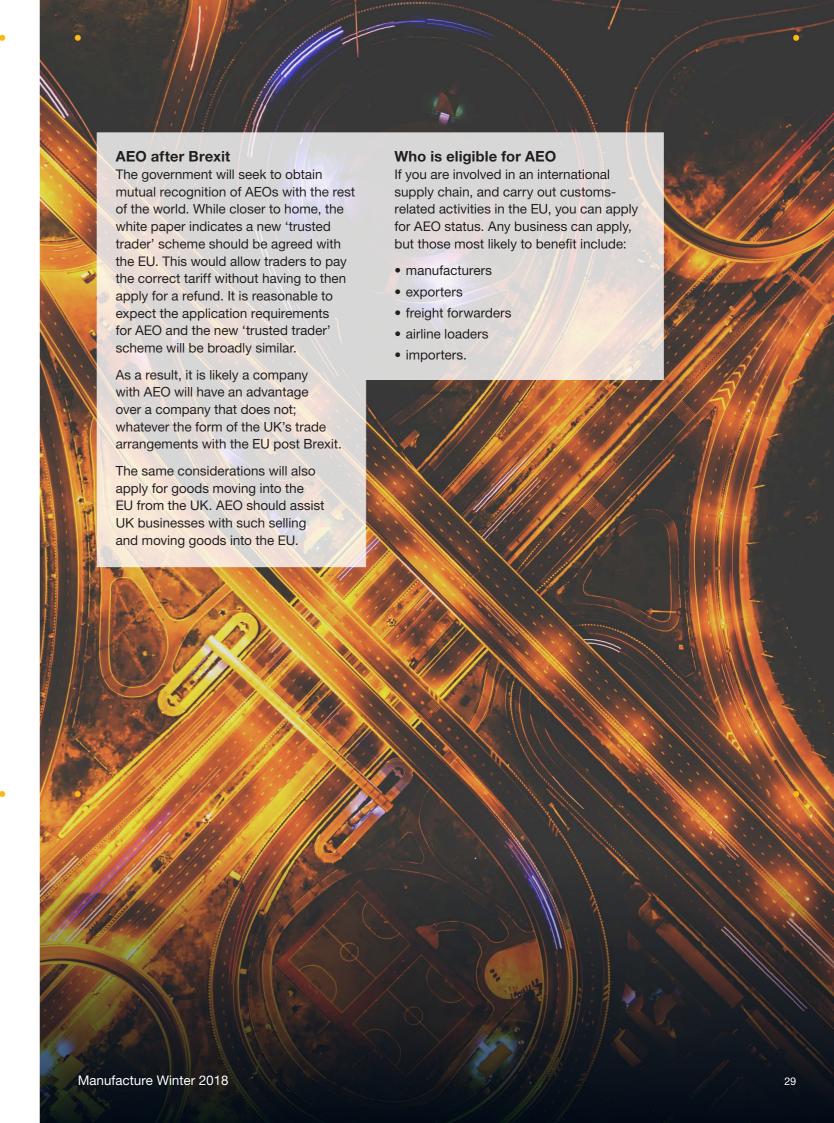
The government recently released their Brexit white paper envisaging the relationship the UK might have with the EU. As part of this, the government proposed what appears to be a fairly complex new facilitation customs arrangement with different tariffs charged depending on the destination of the goods.

For goods arriving at the UK border where 'the destination can be robustly demonstrated by a trusted trader' the relevant UK or EU tariff will apply. Otherwise, if this cannot be clearly evidenced the higher tariff will be charged. It seems AEO could be a way to robustly demonstrate a transparent and accurate supply chain to HMRC, which would avoid overpaying duties and subsequently seeking a refund.

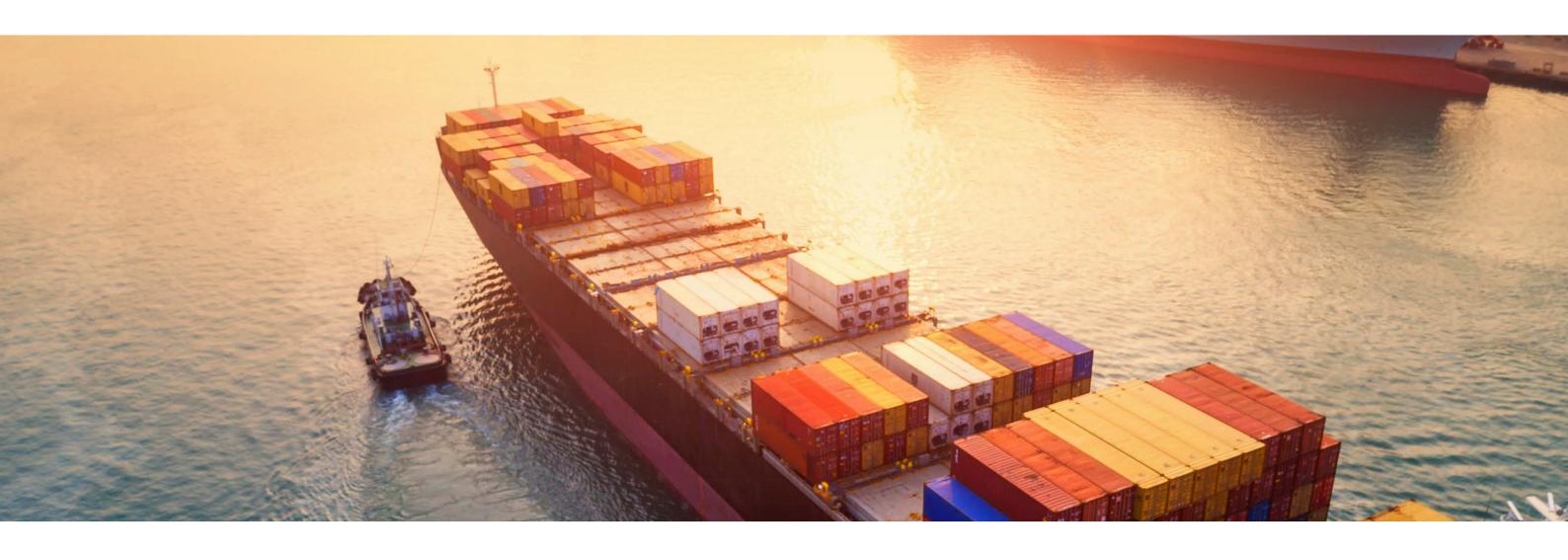
The benefits of AEO

The main benefits of AEO status are:

- access to simplified customs procedures
- smoother, and possibly quicker, progress for your shipments through customs import procedures
- you can be seen as a preferred supplier in tender processes
- AEO is available to UK businesses today, but take-up has been slow because there are not sufficient incentives to make it attractive. But that will change when the UK leaves the EU.



0.0



Applying for AEO

The application process can be lengthy. A number of forms need to be completed, and evidence of processes and procedures must be presented to support the application.

You will need to meet criteria around:

- compliance
- record keeping
- solvency
- professional qualifications and/or practical standards of competence.

If the application is complete and meets the necessary criteria, HMRC will visit the business to verify supporting documentation and ensure that all conditions have been met.

The increasing popularity of AEO

A number of trade organisations and advisors see AEO status – or a future 'trusted trader' equivalent – as a valuable advantage for efficient post-Brexit trade, and applications are on the rise.

In one year, the number of companies with AEO status has gone up by 10% to 627 at the time of writing, with another 50 applications in progress.

This volume of applications is expected to increase once the impact of Brexit hits, and companies realise the value of AEO status.

We recommend you start the preparation and application processes now, to avoid getting stuck in a queue; particularly as HMRC may not have the resource in place to handle an increase in applications.

How we can assist

We can help you carry out a feasibility exercise to determine if you can apply for AEO, and identify areas where improvement/process changes will increase the chances of a successful application.

We can also assist with the application process itself. This would include help with the forms, making sure all relevant supplementary evidence is held, and ensuring your procedures are properly documented.



Mecmesin and the Manufacturing M&A Market

By Matteo Timpani, Partner

Our corporate finance team supports businesses and owner managers through all stages of the business lifecycle. Whether you are looking for growth, funding, strategic advice or you are considering succession and potentially exiting your business, Crowe's corporate finance team has vast experience in providing value added advice across the UK and globally.

Our Corporate Finance team
has significant experience in the
manufacturing sector. In London, led
by Corporate Finance Partner Matteo
Timpani, we recently advised the
shareholders of Mecmesin Limited, a
designer and manufacturer of force and
torque measurement and testing systems,
on its sale to Physical Testing Properties
Limited, a portfolio company of US
Private Equity investor Battery Ventures.

Established in 1977 and based in Slinfold, West Sussex, Mecmesin is a leader in its field with a reputation, established over 40 years, for exceptional quality, service and value. The company is an innovator in its area and has invested heavily over recent years in the development of its own transformational technology platform, Vector.

The sale to Battery Ventures, a global, technology focused investment firm is reflective of the increase in private equity deals and inbound investment from continental Europe and the United States we have seen throughout the UK manufacturing market.

In our marketing campaign for Mecmesin, we approached a significant population of potential buyers, both financial and strategic, throughout the UK, Europe, Asia and the Americas. We were able to utilise the Crowe Global network to reach decision makers in overseas territories, and it was refreshing to see a high number of interested parties, reflecting a buoyant international merger and acquisitions (M&A) market in the manufacturing space.

The Mecmesin deal is the latest in a string of recent M&A activity in the Test and Measurement sector as consolidation continues to prevail in this fragmented marketplace. Manufacturing and distribution companies continue



On completion of the deal, Robert Oakley said:

"Anyone looking for a corporate finance advisor to

deliver what, for me, was the most important deal of my life, would struggle to find anyone more capable than Matteo and his team. Crowe's professionalism and marketing approach delivered what I considered to be an exceptional number of high quality offers from UK and overseas buyers. Crowe superbly managed negotiations and the entire deal process through to final offers and ultimately completion. The constant support and obsessive vigilance from Matteo and James and their interaction with my team and the legal advisors, ensured a complex sale resulted in a positive outcome for all concerned."

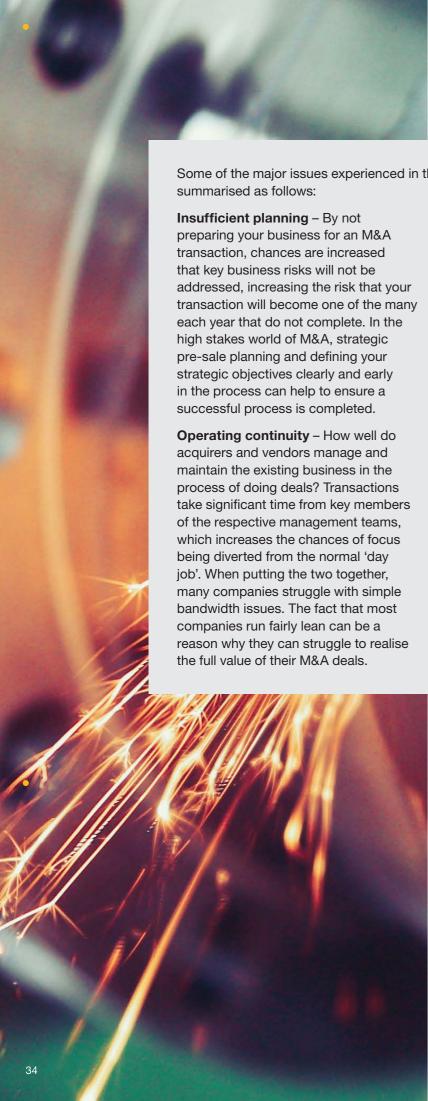
Rob Oakley, Principal shareholder, Mecmesin

to devote significant time and resources to M&A deal-making as a core part of their growth strategy.

Manufacturers often look to deliver one or more of a variety of objectives through their M&A activity, including a drive in global reach, an aim to consolidate a national distribution platform, or vertical expansion into the supply chain. Despite the enthusiasm to attain these objectives, many manufacturing and distribution leaders acknowledge their M&A transactions often fail to fully achieve the financial outcomes and operational synergies that were expected as part of the investment.

The operational and logistical complexities of manufacturing M&A are often easily explained, but extremely challenging to address in practice. This is especially apparent when the nuances of a global supply chain and the operational difficulties of post-merger integration must be addressed.

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Some of the major issues experienced in the manufacturing sector can be

Synergy capture - What do the typical areas of synergy deals focus on? Synergies are often a key driver of value for the acquiring party, but so often the proposed synergies are not captured during the integration phase. Synergies are often easy to identify but difficult to realise, so sufficient thought should be put towards the integration process well in advance of the completion of the transaction, allowing significant planning for the integration of the business post completion. Having a focused integration strategy should increase the potential of key synergies being captured.

People/culture/management -

How well do we identify people/culture risks? It is important for acquirers to spend time with the potential target to understand the culture and competitive environment as this can be as important as doing effective due diligence.

Supply chain management - In light of recent political global uncertainty managing the supply chain is essential for any growth within the manufacturing and distribution industries. With cost of supply constantly changing, and continued sensitivity to movement in FX rates, the effectiveness of supply chain management will continue to be a key risk that needs to be understood during due diligence.

Working capital – Working capital continues to be a key area of focus during due diligence. Both acquirers and vendors often fail to grasp the working capital requirements of the business and not fully understand that growth may be limited due to funding constraints under its current model. Understanding the working capital cycle continues to be a key area of due diligence for acquirers.

At Crowe, we have extensive experience helping manufacturers and distributors through all phases of the M&A transaction value chain. The likelihood of transactions meeting financial and operational expectations can be improved through the use of focused efforts, addressing key areas linked to M&A success.

If you want to know more about M&A in the manufacturing sector please get in contact with Matteo.



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How can MTC help you?

On Tuesday 10 July 2018, we held our national manufacture event at the Manufacturing Technology Centre in Coventry.

The Manufacturing Technology Centre (MTC) develops and provides innovative manufacturing processes and technologies in an agile, low risk environment, in partnership with industry, academia and other institutions.

The centre operates some of the most advanced manufacturing equipment in the world, and employ a team of highly skilled engineers, many of whom are leading experts in their field. The MTC's areas of expertise are directly relevant to both large and small companies, and are applicable across a wide range of industry sectors.

Attendees heard from a distinguished panel of experts on the issues and opportunities facing manufacturing businesses and how to raise funding for retooling for I4. The panel of speakers included:

- Rachel Eade, Consultant at Crowe discussed the challenges and opportunities facing manufacturing companies
- Johnathan Dudley, Head of Manufacturing at Crowe covered raising funding in the financial markets to fund retooling for I4
- Richard Hill, NatWest discussed NatWest's Future Fit Programme
- Mark Miles, Render Media covered virtual reality (VR)

and augmented reality (AR) in Manufacturing.



Rachel Eade was first up to speak about the key challenges and opportunities affecting manufacturing in 2018. The key challenges in 2018 are skills, data protection and cyber security, technology - automation and industry 4.0, innovation, uncertainty and need to change. The key opportunities are innovation, diversification – new sectors, export and skills.

There is support available from local enterprise partnerships (LEPS) and growth hubs, catapult centres, universities, trade associations and professional advisors such as banks, lawyers and accountants. There is also grant support still available but it is very competitive and time consuming.

Johnathan Dudley presented on raising funding and retooling for industry 4.0. In the presentation he covered the traditional way to buy machines, an example deal, the financial consideration and effects on your business.

Crowe can help with grant searches, research and development, strategic and project planning, patent box, finance source and raising and capital allowance claims.

Richard Hill from NatWest discussed NatWest's future fit programme and how manufacturing is critical to success. Future Fit aims to further our insight and capability recognising the transformational disruptive change UK manufacturing will undergo in the next 5 to 10 years. The key objectives are to:

- define what a successful business looks like in the future
- identify the key challenges that manufacturers will face
- define our own evolutionary journey to support the sector.

Mark Miles from Render Media finished the seminar with a presentation on how virtual reality and augmented reality can be used in manufacturing and how data can be used to better communicate. Data, coupled with the latest digital technologies: IoT, artificial intelligence, augmented reality, virtual reality and the cloud are changing the way we do business.

Nigel Knapp, Senior Business Development Manager at the MTC promoted the complimentary 'Line Walk' to manufacturers. This helps to identify and agree the key issues in their manufacturing processes and scope for continuous, sustainable process improvement.

All in all the event was a great success with our existing and potential clients. We look forward to hosting similar events with the MTC in the near future.

If you would like to find out more about the MTC please get in touch and we will make the necessary introductions. Please email candi.percival@crowe.co.uk for further information.





175 years of Crowe

We celebrated our 175th anniversary at the Black Country Living Museum on Thursday 11 October.

Clients and close friends of the Midlands office enjoyed a welcome drinks reception before heading into the village of the open air working museum to enjoy an evening from the 1900s.

The Black Country Museum is well known for playing a part in the filming of BBC's Peaky Blinders, a popular crime drama.

Guests were able to enjoy a range of activities throughout the evening including; a silent cinema, school lessons, chain making workshops, period shops as well as a range of historic street games.

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History is filled with smart decisions; our founding year, 1843, has a number of them, for example Brunel's steam ship SS Great Britain was launched. This was the first ocean going craft powered by a screw propeller and with an iron hull. At the time it was the largest vessel in the world and heralded a new age for international trade. Also the world's first underground tunnel under the River Thames was opened in that year.

Business has changed dramatically over the last 175 years; manufacturing grew off the innovation of people like the Brunels' the Stephensons', Newcomen, Trevithick and others. The Black Country Living Museum is a testimony to the innovation, resilience and dedication of generations of manufacturers who lived and worked thought the first industrial age where reductive engineering was invented, developed and shaped the way we live today.

The introduction of computers and additive technology presents new challenges for a new age; we are seeing manufacturing being transformed again by Artificial Intelligence and robotics. We are now manufacturing things that used to be impossible to make. What we could make before we can make faster, more accurately, and more cheaply than ever before. This is industry 4.0.

Industry's smart decisions were driven by world events that were revolutionary at the time and have been long lasting.

We will continue to work with clients as trusted advisors, making smart decisions together into the future.

About the Black Country Living Museum

The Museum opened to the public in 1978, and has over 50 shops, houses and other industrial buildings from around The Black Country. Most buildings were relocated from their original sites to form a base from where demonstrators portray life spanning 300 years of history, with a focus on 1850–1950.

The museum is close to the site where Dud Dudley first mastered the technique of smelting iron with coal instead of wood charcoal and making iron enough for industrial use. Having a claim to be "the birthplace of the Industrial Revolution", the Black Country is famous for its wide range of midsteel-based products from nails to the anchor and anchor chain made for the R.M.S Titanic.

The site's coal mining heritage is shown by an underground drift and colliery surface buildings. The museum also has a working replica of a Newcomen atmospheric engine. Thomas Newcomen's invention was first successfully put to use in nearby Tipton in 1712.



Dates for your diary

Join us at one of our manufacturing focused events.

Manufacturing Live is a unique forum for manufacturers of all sizes from across the region to meet, discuss and develop their businesses in a mutually supportive environment.

Date: Tuesday 13 November 2018

Time: 08.30 arrival

12.30 end (including lunch)

Venue: ARRK Europe 11 Olympus Park Quedgeley Gloucester GL2 4NF If you would like to find out further information on **Making Tax Digital** and digital accounting. They are the focus of the next Midlands manufacturing networking event.

Date: Wednesday 5 December 2018

Time: 17.30 registration

18.00 seminar start

19.00 drinks and networking

Venue: Black Country House Rounds Green Road

> Oldbury West Midlands B69 2DG





Start the conversation

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About Us

Crowe UK is a national audit, tax, advisory and risk firm with global reach and local expertise. We are an independent member of Crowe Global, the eighth largest accounting network in the world. With exceptional knowledge of the business environment, our professionals share one commitment, to deliver excellence.

We are trusted by thousands of clients for our specialist advice, our ability to make smart decisions and our readiness to provide lasting value. Our broad technical expertise and deep market knowledge means we are well placed to offer insight and pragmatic advice to all the organisations and individuals with whom we work. Close working relationships are at the heart of our effective service delivery.

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