REGENERIS

Sector Needs Assessment - Defence and Security

A Final Report by Regeneris Consulting

28 July 2017

The Marches LEP

Sector Needs Assessment - Defence and Security

28 July 2017

www.regeneris.co.uk

Contents Page

REGENERIS

1. Introduction

1.1 This report focuses on the Defence and Security (DS) sector in the Marches. The sector is one of Marches LEP's priority sectors, where it has a comparative advantage and potential for growth.

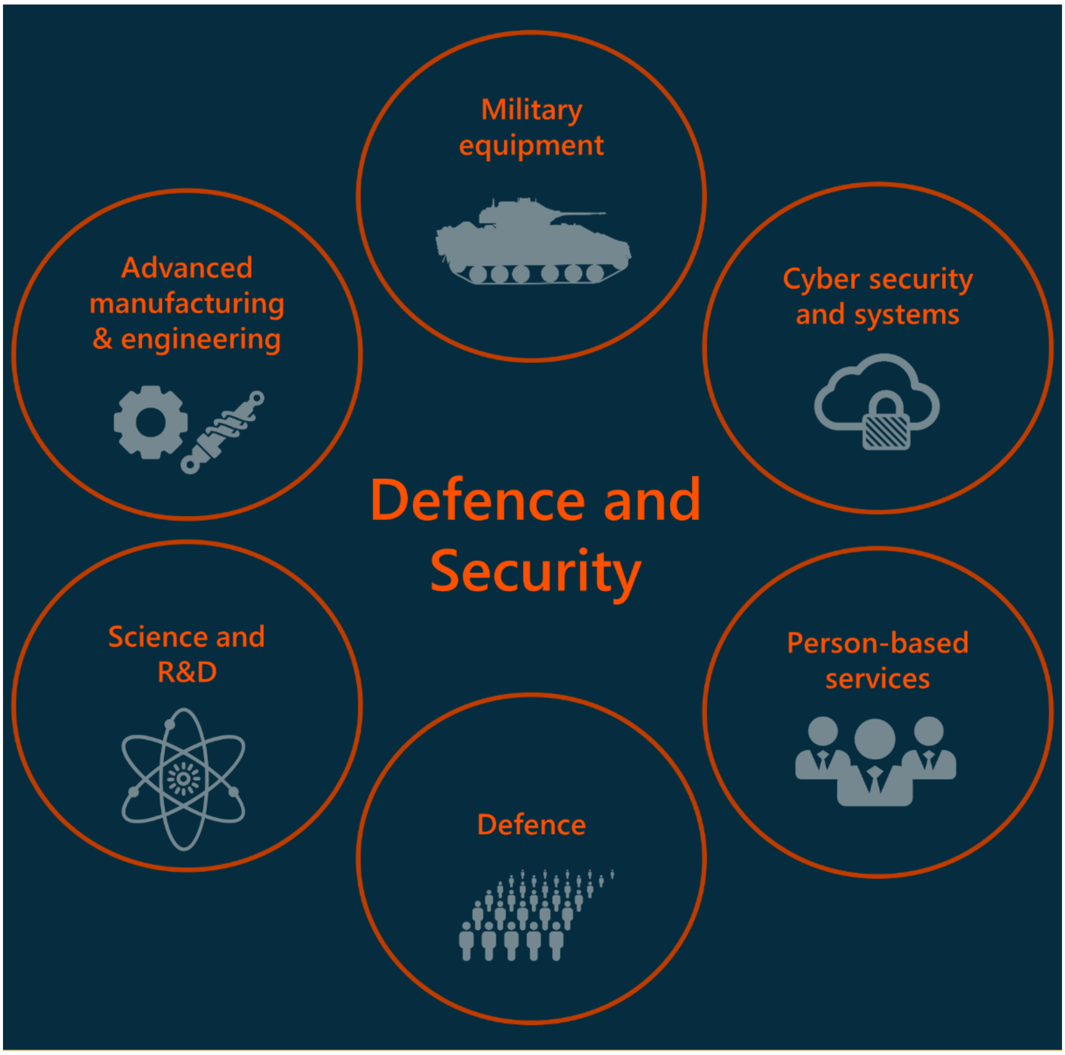
1.2 The defence and security sector is prominent in the Marches through its supply chain links with the Ministry of Defence (MOD) in particular. There is a strong legacy of the sector's presence across the LEP area, and it is home to the UK Special Forces' SAS and Signal troops and UK's only defence and security focused Enterprise Zone, Skylon Park.

1.3 The sector is also geographically segmented across the Marches, with sub-sector specialisms providing the northern and southern components of the LEP with different industrial characteristics. Hereford acts as the focal point for service-based defence and security activities, whilst manufacturing plays a more prominent role in locations such as Telford.

1.4 The covert nature of many defence and security activities, means that the sector is perhaps deliberately difficult to identify and measure. This is further complicated by the diversity of activity which the sector covers: from the presence of Ministry of Defence and its personnel (referred to from hereon as defence activities), automotive and aerospace activities, equipment manufacturing and R&D to personnel training, security services and digital products. This means the sector is strongly linked with advanced manufacturing and engineering (AME) activities as well as digital technologies and professional services. The influence of technology and growing importance of cyber security also means the sector is dynamic and continuously evolving.

REGENERIS

Figure 1.1 Defence and Security Sector Definition



Source: Regeneris Consulting

1.5 To duly reflect the range of activities in the Marches linked to defence and security, the report adopts a broad definition of the sector, encompassing core and enabling activities. For the purposes of secondary data analysis, these activities have been defined using the Standard Industrial Classification (UK SIC 2007) in Appendix A.

Trends and drivers

1.6 The UK government has put a great deal of emphasis on cyber-security as a growing market opportunity with global expansion potential and as an essential requirement for UK businesses. The UK Cyber Security Strategy: Protecting and Promoting The UK In A Digital World sets a vision of “huge economic and social value from a vibrant, resilient and secure cyberspace”. The four objectives centre on:

- tackling cyber-crime and being one of the most secure places in the world to do business in cyberspace
- being more resilient to cyber-attacks and better able to protect our interests in cyberspace
- shaping an open, stable and vibrant cyberspace
- having the knowledge, skills and capability to underpin cyber security objectives.

1.7 The latest progress report on the strategy highlights a series of achievements and underlines a commitment to ensure the UK has the right cyber skills and knowledge, plus cutting-edge research in cyber security. The government has invested £1.9 billion in protecting the UK from cyber-attack and developing capabilities in cyberspace. It has committed to a new National Cyber Security Centre (along with the continued expansion of GCHQ in Cheltenham), three Research Institutes, 13 Academic Centres of Excellence in Cyber Security Research and two Centres of Doctoral Training (offering 100 PhDs in cyber security by 2019). Since 2011 the cyber security sector has grown from £10bn to over £17bn and employs 100,000 people. Cyber security exports were at £1.47 billion in 2014, up 35% since 2012 and on-track to rise to £2 billion by the end of 2016.

1.8 On the 17th of February 2017, the Digital Catapult announced that it had secured up to £1.1m in funding from the Department for Culture, Media and Sport (DCMS), to deliver Cyber 101, a business advice and mentoring programme to help new UK cyber security firms grow and succeed. Delivered in collaboration with a strong consortium of partners, the programme will help increase the size of the UK cyber security market and improve the success rate of firms in the early stages of their business lifecycle.

Strategic Defence and Security Review 2010

1.9 The 2010 Strategic Defence and Security Review was published by the coalition government in October 2010. In addition to the updated security policy contained in the review were significant cuts to the MoD's budget, as the government attempted to reduce the national budget deficit. The Treasury tasked the MoD to provide options for a 10-20% real-terms cuts in its budget in an attempt to eliminate the £38bn overspend in the MoD's procurement budget over the next 10 years. The final amount was a 7.7% reduction over four years.

1.10 These cuts led to significant reductions in personal, vehicles and equipment across all areas (Royal Navy, British Army, Royal Air Force) of the armed forces and was felt locally in the Marches.

Defence and Growth Partnership: strategic vision for the UK defence sector

1.11 This strategic vision sets out an ambitious programme of work that has been developed jointly between government and senior business leaders across the UK defence industry.[1] The objective is to have a truly competitive, sustainable, and globally successful UK defence sector that brings:

- affordable solutions
- leading edge capability
- wider economic benefits to the UK

1.12 At the Defence Growth Partnership Ministerial meeting on the 23rd December 2016 the Minister for Defence Procurement announced the start of the Defence Industrial Policy Refresh consultation.

National Security Strategy and Strategic Defence and Security Review 2015, A secure and prosperous United Kingdom

1.13 This document outlines the United Kingdom's defence strategy up to 2025 and sets out a vision of a secure and prosperous United Kingdom, with global reach and influence. The strategy confirms that the government remains committed to the principles set out in the 2012 white paper 'National Security Through Technology'. The paper states the scale and diversity of threats have increased over the last 7 years, and are likely to become increasingly complex in the coming decade. The paper outlines the following as key concerns to national security:

- greater threat from international and domestic terrorism and extremism.
- the re-emergence of state-based threats
- greater integration of technology resulting in greater exposure to cyber threats and other technological developments
- the decline of rule-based international order, making it harder to collectively tackle international threats.

[1] Department for Business, Innovation and Skill, Ministry of Defence, Defence Growth Partnership: strategic vision for the UK defence sector, 2014

1.14 The strategy committed the government to spend £178 billion on equipment and equipment support across all three services until 2025. This is roughly 20% of the 10 year budget period. The government also reaffirmed its commitment to spending 2% of national GDP on defence.

1.15 Included in the document are 3 national security objectives, one of which being to promote our prosperity. This objective sets outs the need to champion an open and rules-based international trading environment, to build sustainable global prosperity, and the need to capitalise on emerging markets such as China and India.

MoD Donnington Logistics Hub

1.16 On the 4th of April 2017, the MoD opened a new £83 million state-of-the-art logistics site in Shropshire. The 80,000 square meter Defence Fulfilment Centre (DFC) will streamline distribution and storage, delivering savings of around £500 million by 2028.

1.17 Telford and Wrekin played a key role in securing the site which will bring 700 jobs and up to £60m to Shropshire's economy.

Policy Drivers for Change

National

Industrial Strategy Green Paper

1.18 Since coming into power Theresa May has signalled a more committed approach to a national industrial strategy, compared to the previous government. The most recent addition centre piece of the current government's economic agenda is the Green Paper entitled "Building our Industrial Strategy[2]". The underlying motivation of the strategy is "to improve living standards and economic growth by driving productivity and growth across the whole country."[3]

[2] Department for Business, Energy & Industrial Strategy, *Building our Industrial Strategy: 10 pillars,*2017

[3] Building our Industrial Strategy, January 2017, p.9

1.19 The government identifies 10 pillars as the bedrock of its industrial strategy, which are the means to spur economic growth and prosperity. The policies consist of predominantly cross-cutting interventions such as investing in science, research, innovation and infrastructure, access to finance and promotion of trade and inward investment. However, the strategy places substantial gravity on fostering prominent sectors to propel the economy, as exemplified in the eighth pillar "Cultivating world-leading sectors".

1.20 The sectoral approach outlined in the strategy is one of "sector deals", where pioneering sector leaders work with government to help deliver, reduced regulatory barriers, increased competition and innovation, increased exports and greater commercialisation of research. The other hallmarks of the government's approach to fostering internationally competitive sectors are to:

- Support emerging sectors, by taking deep dives into emerging sectors
- build on existing sector relationships, by updating strategies, strengthening existing institutions and making best use of existing funding.

1.21 The strategy also cites coordination of thriving supply chains and creation of long term institutions as key drivers of sectoral success.

1.22 In the strategy, the government commits to an additional £4.7 billion by 2020-21 in R&D funding in order to accelerate the commercialisation of technologies in key sectors. The document triggers a series of consultations on which the technologies the Industrial Strategy Challenge Fund could support are decided, many of which align with the sectoral priorities of the Marches LEP:

- smart and clean energy technologies (such as storage and demand response grid technologies)
- robotics and artificial intelligence (including connected and autonomous vehicles and drones)
- satellites and space technologies
- manufacturing processes and materials of the future
- transformative digital technologies including supercomputing.

1.23 The strategy also features a stronger place based narrative than in previous policy pieces, with seven references to the Midlands Engine. This reaffirms the government's commitment to rebalancing the economy and ensuring a more inclusive approach to economic growth. It also coalesces with the government's approach to devolution; establishing new regional bodies with increased powers, through the creation of Combined Authorities.

Brexit

1.24 The UK has outlined its continued commitment to Europe's defence and security since the decision to leave the EU. In the national security context, however, the threats and challenges to UK national security have not fundamentally changed as a result of the decision to leave the EU.

1.25 Brexit could have a profound impact on the economy and certain sectors. The nature of the UK's future economic relationship with the EU is currently unclear, however the government's negotiating objectives are that the UK will leave the single market and much of the Customs Union. This has implications for trade, as the UK would need to enter new agreements with the EU and will lose all its current trade deals which it enjoys as a member of the EU. Moreover, abandoning the free movement of people principle will see the UK government develop new work permit or visa arrangements. These will inevitably have some impact on the workforce of many UK industries at a time when the labour market is already tightening, as unemployment has fallen drastically, and Britain's population is ageing.

1.26 The Midlands has received a large share of European Regional Development Funding over the various programme periods. The government has said that it will consider an alternative funding arrangement as part of a post-Brexit settlement[4]. Based on recent Secretary of State statements, a commitment remains, but more detail is not expected until the outcomes of the Brexit negotiations become more clear.

1.27 Overall outcomes will need to be negotiated and a transitional phase of Britain's departure could help to smooth the impact of such changes. Nonetheless, Brexit is likely to have an impact in the short and long term for many sectors.

[4] Department for Business, Energy & Industrial Strategy, *Building our Industrial Strategy: 10 pillars,*2017

Local and regional policy

The Midlands Engine

1.28 The wider Midlands region has developed an overarching identity founded upon sector strengths that are internationally recognised, and which strongly align with the Marches' key sectoral strengths:

- manufacturing
- engineering and transport technologies
- agri-food and drink manufacturing and production
- energy and low carbon technologies
- creative, digital and design.

"As a Midlands resident and MP, I know the importance of the region to the country's economy – the heartland of our manufacturing sector." Rt Hon Sajid Javid MP

1.29 The Midlands Engine Strategy[5] demonstrates the government's commitments to making the Midlands a powerful engine for economic growth. It builds on the Industrial Strategy and the Midlands Engine for Growth prospectus[6], the strategy sets out actions to remove barriers to productivity, create more jobs and export more goods and services.

1.30 The strategy outlines five key objectives: improving connectivity, strengthening skills, supporting enterprise and innovation, promoting the Midlands and enhancing quality of life. The strategy is a step toward government ambitions announced in 2015 that the Midlands economy could grow by £34 billion by 2030, if it matched the predicted growth rate for the UK. A further 300,000 jobs could be created in the Midlands by the end of this parliament.

[5] Department for Communities and Local Government, HM Treasury, Department for Business, Energy & Industrial Strategy, Midlands Engine Strategy, 2017

[6] Department for Business, Innovation and Skills & Department for Communities and Local Government, The Midlands Engine for Growth: prospectus, 2015

1.31 In 2016 BEIS published a Science and Innovation Audit for the Midlands Engine. The report identifies four market driven priorities - where there are clear economic growth opportunities and very strong alignment with the Midlands Engine's strengths and distinctive capabilities. Additional to this are three enabling competencies underpin and complement these market priorities. One of the enabling competencies is *Digital Technologies & Data* which includes development of cyber security potential in the Midlands Engine as a key opportunity to be capitalised on.

Marches Strategic Economic Plan

1.32 The current Strategic Economic Plan (2014) establishes a vision:

"Our vision for the Marches is of a strong, diverse and enterprising business base, operating in an exceptional and connected environment, where the transfer of technology and skills foster innovation, investment and economic growth"

1.33 The SEP identifies a number of important sectors which included food and drink, agri-tech, defence and security, advanced manufacturing, automotive manufacturing, visitor economy and environmental technology and services.

1.34 A SEP refresh is about to be embarked upon, underpinned by an updated evidence base published in 2016. This analysis sharpens the focus on 'priority' sectors for the LEP and includes:

- advanced manufacturing and engineering
- food manufacturing and processing
- defence and security

1.35 More detailed sector action plans are being developed for these three priority sectors, in addition to the aspirational sector of environmental technologies.

Table 1.1 Relevant policies from local economic development strategies

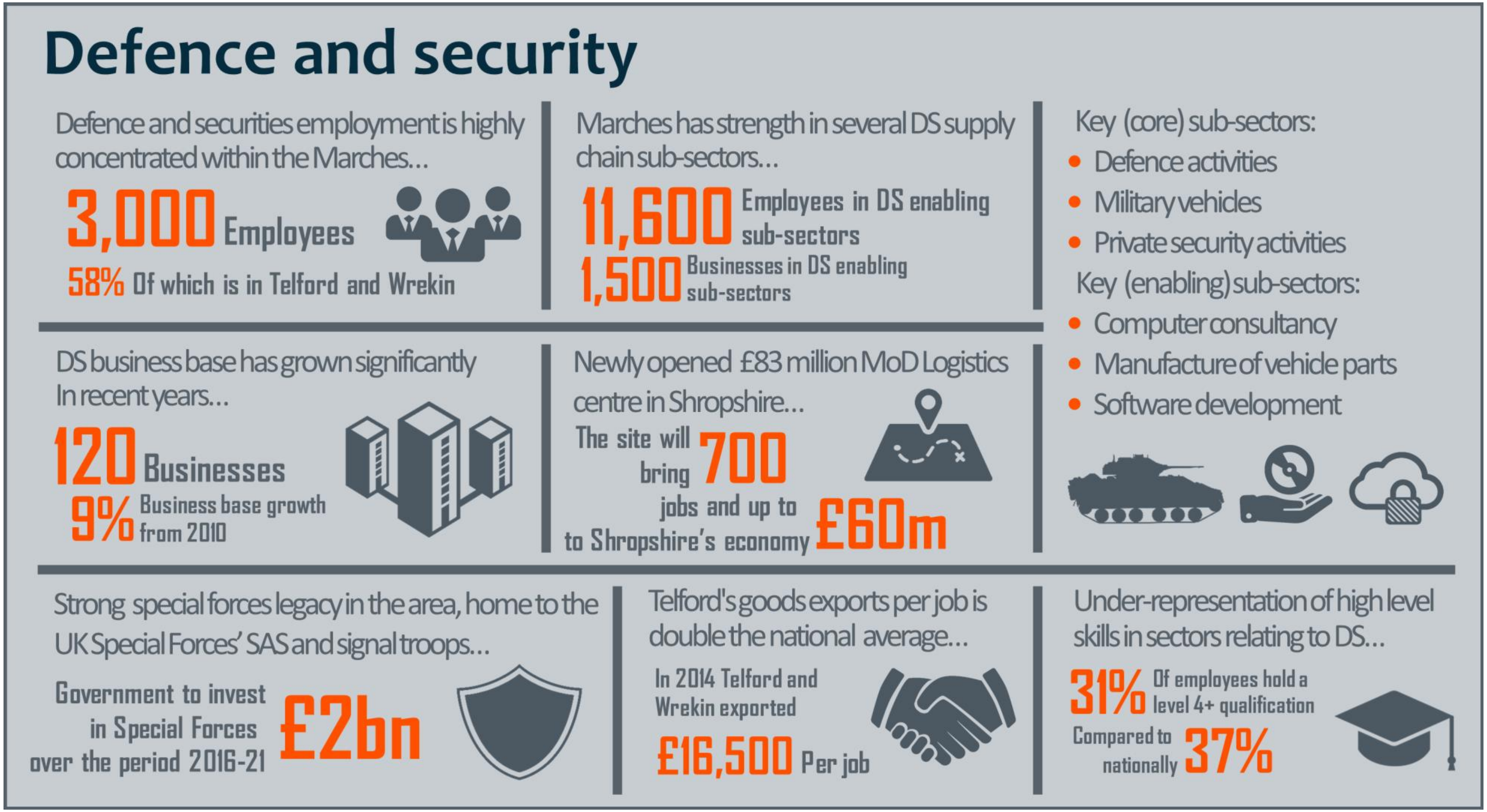
Shropshire Economic Growth Strategy 2017-21 DRAFT[7]	**Herefordshire Invest Herefordshire Herefordshire's Economic Vision**[8]	**Telford and Wrekin Driving growth and prosperity: Economic Development Strategy 2016**[9]
Six priority actions: 1. Target actions and resources where there are economic opportunities 2. Enable businesses to grow and succeed 3. Deliver infrastructure to support growth 4. Meet skills needs of businesses and people's aspirations for work 5. Promote Shropshire to investors 6. Build our reputation as a Council that is 'good to do business with'	Seven key aims: 1. A Great Place for Business - Creating the conditions in Herefordshire to encourage new business start-ups and an increase in productivity leading to higher value employment and greater innovation. 2. A Great Place to Learn - Increasing the range of higher education provision and improving the balance between business demand and the supply of skills and qualifications. 3. A Great Place to Live 4. A Great Place to Visit 5. Great movement and accessibility 6. Countywide Ambition 7. A Great Environment	Six key actions: 1. Create business friendly conditions to increase the number of successful businesses. 2. Grow sectors around opportunities and support sectors that underpin employment across the Borough. 3. Stimulate and support innovation across all business sectors. 4. Improve the skills and talent pool of the Borough to make it business relevant. 5. Transform physical and digital connectivity. 6. Optimise all the assets of the Borough to make it a first-class place to live, work and invest

[7] Shropshire Council, Draft Economic Growth Strategy 2017-2021

[8] Invest Herefordshire, Invest Herefordshire Herefordshire's Economic Vision

[9] Telford Enterprise, Driving growth and prosperity: Economic Development Strategy 2016

Figure 1.2 Sector Needs Assessment Summary Infographic – D&S in the Marches



Source: Regeneris Consulting, See Appendix C Glossary for other sources

2. Sector Needs Assessment

2.1 For the purposes of this report we have included two SIC code definitions in order to capture as best it can, all aspects of activity of the defence and security (DS) sector in the Marches.

- **Core activities** – This definition covers the fundamental aspects of Marches defence and securities activities, manufacturing, security and defence.
- **Enabling activities/potential supply chain sectors** – this definition covers the supply chain elements of the sector and the cross-cutting themes, including:
  - cyber security (digital businesses)
  - manufacturing of electrical equipment
  - manufacturing of electronics
  - automotive and aerospace
  - professional and business services
  - biotechnology and sciences.

2.2 Not all of the businesses in the identified enabling category will be part of the defence and security sector, although they could be important to the development of the sector. It is also recognised that sectors such as logistics and storage have a supportive role to play.

Employment

Defence and security employment is highly concentrated within the Marches...

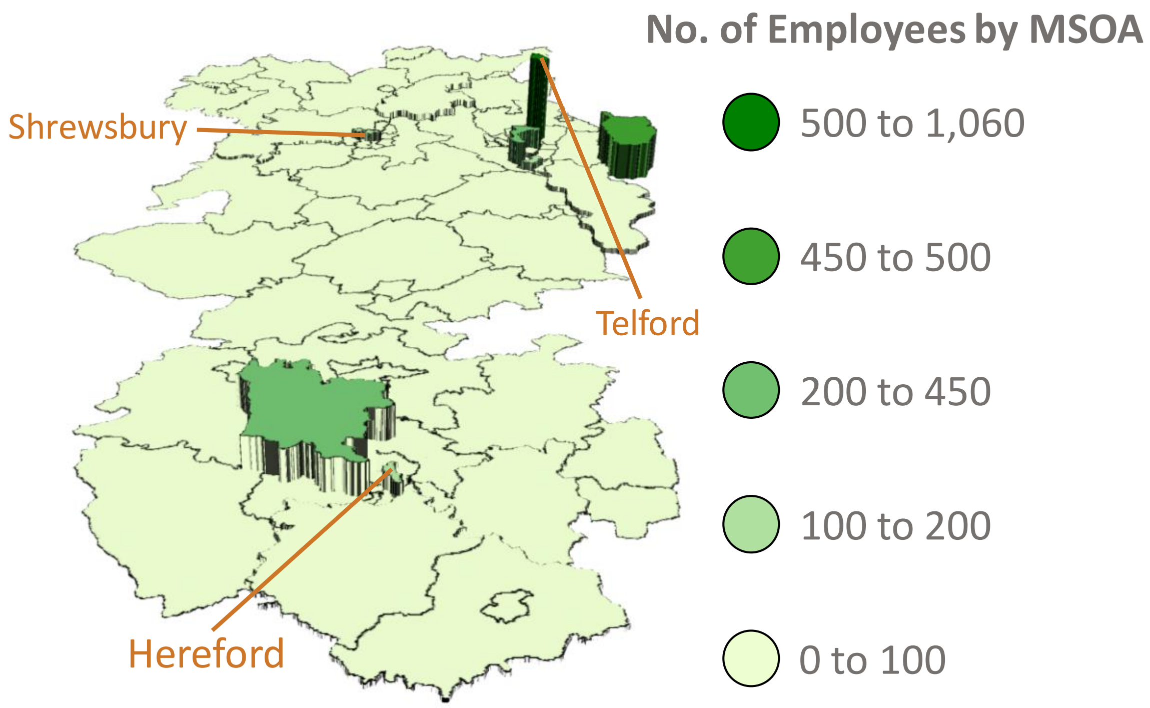
2.3 The defence and securities (core) sector is a large employer in the Marches area. Currently, there are around 3,100 employees (1.1% of all employees) in the sub-region. The Marches makes a substantial contribution to DS (core) employment in the wider region accounting for 10% and 1% of DS (core) employment in the Midlands Engine and England respectively.

2.4 Employment in the DS (core) sector is relatively concentrated within the Marches which has a score of 1.08 according to the Index of Specialisation (IoS)[10].

[10] Index of specialisation is a measure of how more or less important an industry is in a local economy than nationally. (1 = national)

2.5 Taking a more granular view, employment in the sector is highly concentrated within the district of Telford and Wrekin with employment in the region being almost twice as concentrated as the national average (IoS of 1.84) and accounting for over half (52%) of all defence and securities (core) employment in the Marches. Other notable clusters of employment activity in the sector can be found around Shrewsbury and Hereford.

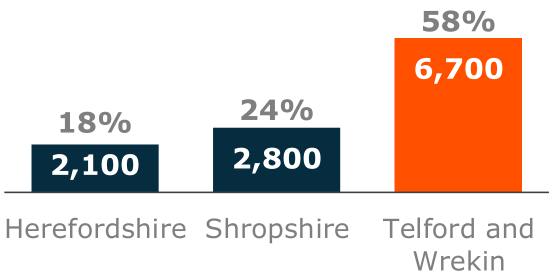
Figure 2.1 Map of Defence and Security (core) employment by MSOA, 2015



Source: ONS, BRES, 2015

2.6 Defence and securities enabling sectors account for a further 11,600 jobs in the Marches, accounting for 4% of employment in the sub-region. This represents 6% and 1% of defence and securities (enabling) employment in the Midlands Engine and England respectively.

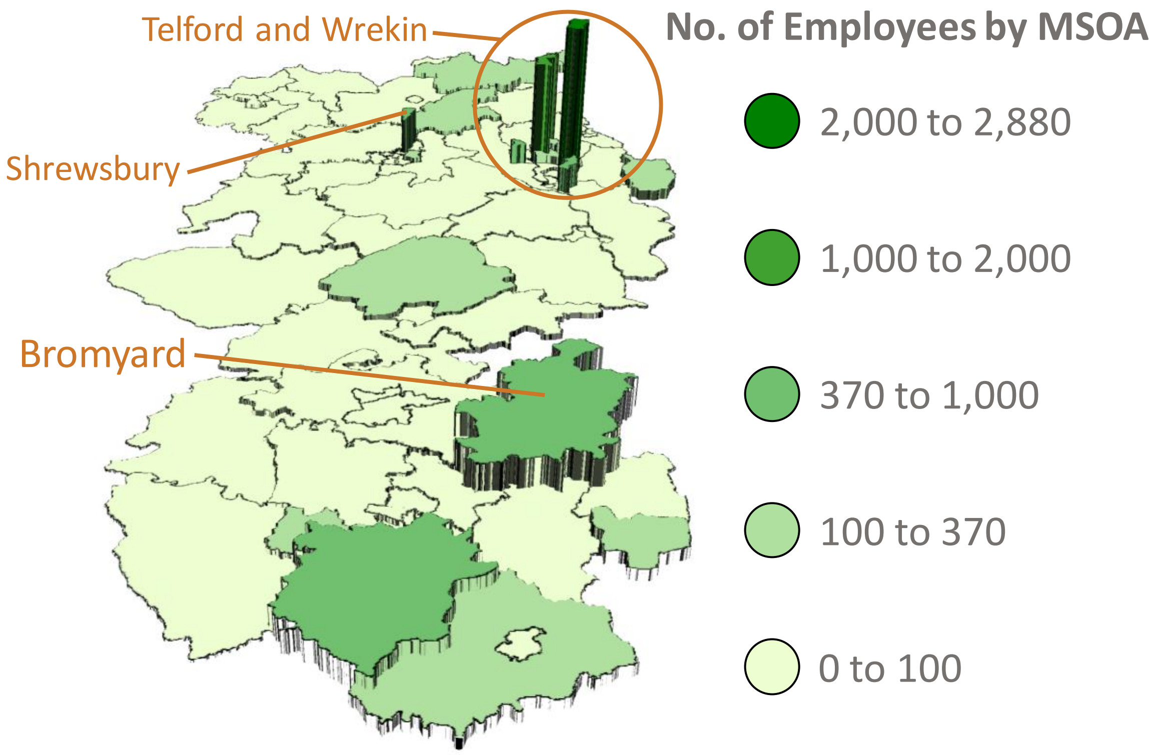
Figure 2.2 DS (enabling) employment by local authority area, 2015



Source: ONS, BRES, 2016

2.7 Employment in defence and securities (enabling) is important, but is not a significant concentration, the index of specialisation is 1.0. DS (enabling) employment is also highly concentrated within Telford and Wrekin where the index of specialisation score is 1.9. Shrewsbury, Bromyard and south Herefordshire also contain notable clusters of employment.

Figure 2.3 Map of Defence and Security (enabling) employment by MSOA, 2015



Source: ONS, BRES, 2015

2.8 Marches' has experienced a net decline in employment of 16% (570 jobs) over the period 2009 to 2015. The decline in employment is not as large as that experienced in the Midlands Engine (-22%), but larger than the national fall (-7%). This decline of employment is closely linked to MoD budget cuts outlined in the 2010 Strategic Defence and Security Review, and the resulting employment reductions in personal, vehicles and equipment that resulted.

2.9 Employment fluctuations in the DS sectors are also highly exposed to external forces such as global conflicts which impact demand and hence the amount of expenditure allocated to defence. These changes in defence expenditure can have very localised effects in certain economies.

Table 2.1 Employment and Businesses in the defence and security (core) sector

	Employment (2015)				**Businesses** (2016)	
	No.	Change 2009-15	LQ(GB)	% of Marches	No.	Change 2010-16
Herefordshire	700	-23%	0.9	22%	80	+25%
Shropshire	800	-38%	0.7	27%	30	0%
Telford and Wrekin	1,600	+9%	1.8	52%	20	-25%
The Marches	**3,100**	**-16%**	**1.1**	**100%**	**120**	**+9%**

Source: BRES (2015), UK Business Count (2016)

2.10 DS enabling sectors have also experienced an overall net decrease in employment. DS (enabling) employment has decreased by 6% (equivalent to 800 jobs) from 2009, this is a contrast to the employment growth experienced in the Midlands Engine (13%) and nationally (18%).

Table 2.2 Employment and Businesses in the defence and security (enabling) sector

	Employment (2015)				**Businesses** (2016)	
	No.	Change 2009-15	LQ(GB)	% of Marches	No.	Change 2010-16
Herefordshire	2,100	3%	0.7	18%	390	8%
Shropshire	2,800	12%	0.6	24%	630	31%
Telford and Wrekin	6,700	-14%	1.9	58%	405	33%
The Marches	**11,600**	**-6%**	**1.0**	**100%**	**1,425**	**24%**

Source: BRES (2015), UK Business Count (2016)

Marches defence and security activity is highly concentrated within certain sub-sectors…

Table 2.3 Employment in top Defence and Security (core) sub-sectors in the Marches, 2015

Sub-sector	Number of employees	% of total	Change 2009 to 2015	Location Quotient
Defence activities[11]	1,180	38%	(-) 1,150	2.7
Manufacture of military fighting vehicles	840	27%	(+) 840	27.6
Private security activities	500	16%	(-) 170	0.3
Compulsory social security activities	500	16%	(+) 120	1.0
Security systems service activities	50	2%	(+) 10	0.6
Manufacture of weapons and ammunition	0	0%	(-) 210	0.0
Total	**3,070**	**100%**	**(-) 570**	

Source: ONS, 2016

Note: the location quotient is calculated as the share of the sub-sectors employment in the Marches divided by the share of the sub-sectors employment in Great Britain.

2.11 The largest sub-sector, *Defence activities*, is a particular strength of the Marches economy. It accounts for 38% (1,180 employees) of all DS (core) employees, and an index of specialisation of 2.7 indicating that sub sector is considerably more concentrated than the national average. However, it should be noted that the sub-sector has experienced a significant decline in employment from 2009, with a net loss of 1,150 employees in the sub-sector.

[11] administration, supervision and operation of military defence affairs and land, sea, air, space defence forces and civil defence forces; administration of defence-related research and development; see Appendix A for full definition.

Marches has strength in several defence and security supply chain sub-sectors…

2.12 Table 2.4 includes the top ten DS (enabling) sub-sectors in terms of employment in the Marches. This reveals the Marches has a wide range of specialisms in several DS enabling sectors. *Computer consultancy activities* are a particular strength of the Marches economy and a significant proportion of this employment will be associated with cyber-security activity and provides a platform for further expansion of the sub-sector. The Marches is also home to significant parts of the defence and security manufacturing supply chain. For example, *Manufacture of other parts and accessories for motor vehicles* includes the production of military vehicles and the *Manufacture of electronic instruments for measuring, testing, and navigation* can include products supporting defence and security activities.

Table 2.4 Employment in the top 10 Defence and Security (enabling) sub-sectors in Marches, 2015

Sub-sector	Number of employees	% of total	Change 2009 to 2015	Location Quotient
Computer consultancy activities	3,640	31%	(+) 20	1.1
Manufacture of other parts and accessories for motor vehicles	3,350	29%	(-) 190	6.3
Other information technology and computer service activities	1,010	9%	(+) 50	0.9
Business and domestic software development	570	5%	(+) 240	0.4
Repair of machinery	450	4%	(+) 290	1.5
Other research and experimental development on natural sciences and engineering	340	3%	(+) 70	0.3
Installation of industrial machinery and equipment	290	2%	(+) 240	1.6
Manufacture of air and spacecraft and related machinery	270	2%	(-) 190	0.3
Manufacture of electronic instruments for measuring, testing, and navigation	230	2%	(-) 140	0.6
Manufacture of electricity distribution and control apparatus	190	2%	(-) 20	1.2
Total	**10,340**	**89%**	**(+) 369**	

REGENERIS

Source: ONS, 2016

Sub-sector strengths

2.13 Looking at the spatial characteristics of the core and enabling sub-sectors in the Marches shows that certain sub-sector specialisations are concentrated within different districts.

Table 2.5 DS sub-sector strengths and number of employees by local authority areas, 2015

Core					
Shropshire		**Herefordshire**		**Telford and Wrekin**	
Sub-sector	**No**	**Sub-sector**	**No**	**Sub-sector**	**No**
Defence activities	580	Defence activities	360	Manufacture of military fighting vehicles	840
Private security activities	120	Private security activities	270	Compulsory social security activities	390
Compulsory social security activities	100	Security systems service activities	40	Defence activities	230
Enabling					
Shropshire		**Herefordshire**		**Telford and Wrekin**	
Sub-sector	**No**	**Sub-sector**	**No**	**Sub-sector**	**No**
Computer consultancy activities	700	Manufacture of other parts and accessories for motor vehicles	430	Computer consultancy activities	2,510
Manufacture of other parts and accessories for motor vehicles	440	Computer consultancy activities	430	Manufacture of other parts and accessories for motor vehicles	2,480
Manufacture of air and spacecraft and related machinery	270	Manufacture of electronic instruments for measuring, testing, and navigation	200	Other information technology and computer service activities	640

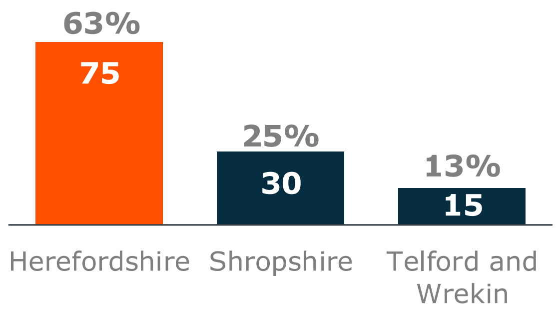
Source: ONS, 2016

Business Base

The DS core business base is highly concentrated within the Marches, and the business base in Herefordshire is more than twice as concentrated as the national position…

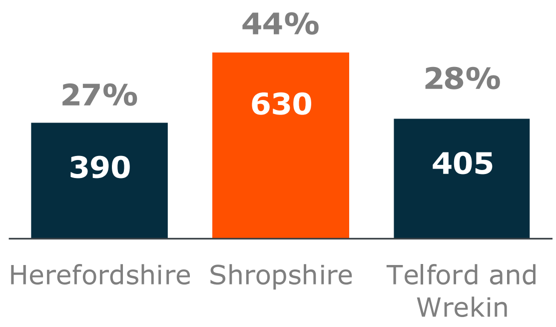
2.14 There are currently 120 advanced manufacturing enterprises in the Marches area, representing 17%, 10% and 2% of the advanced manufacturing business base in the West Midlands, Midlands Engine and England respectively[12]. The number of businesses has expanded over the years and has grown by 9% (equivalent to 10 businesses) since 2010, compared to 12% and 21% in the Midlands Engine and England respectively.

Figure 2.4 DS (core) business base by local authority areas, 2016



Source: ONS, UKBC, 2016

Figure 2.5 DS (enabling) business base by local authority areas, 2016

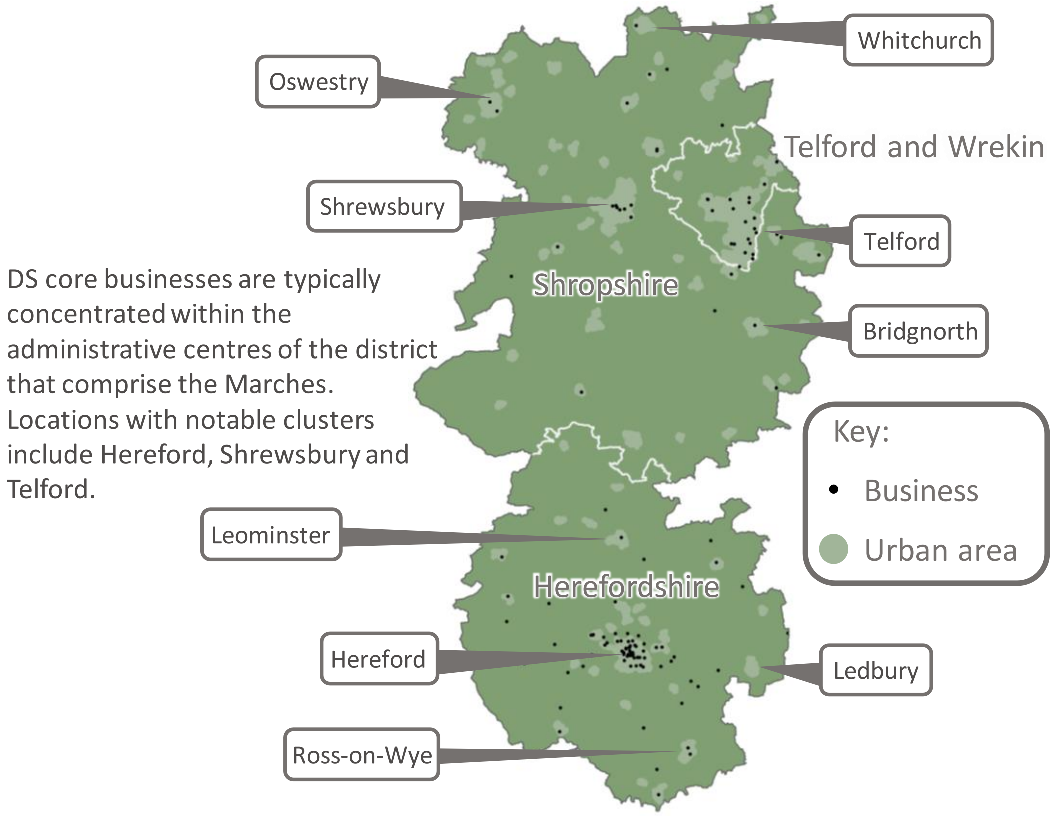


Source: ONS, UKBC, 2016

2.15 There are a number of well known industry primes who are large DS employers within the Marches and support supply chain activity such as BAE Systems and the MoD. A selection of other businesses active in the sector is provided in Table 2.6.

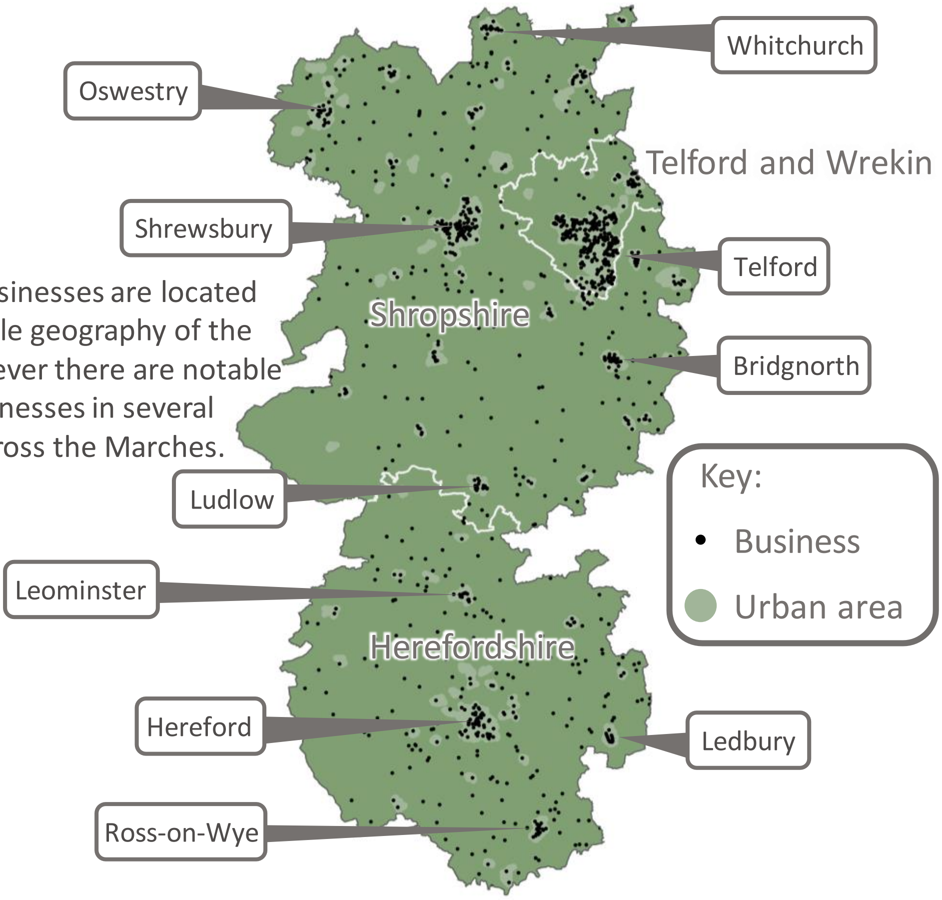
[12] Source: ONS, UKBC, 2016

Figure 2.6 Location of defence and securities (core) active and locally registered businesses, 2017



Source: FAME Data, 2017

Figure 2.7 Location of Defence and Security (enabling) Active and Locally Registered Businesses, 2017



DS enabling businesses are located across the whole geography of the Marches. However there are notable clusters of businesses in several urban areas across the Marches.

Source: FAME Data, 2017

Table 2.6 Select DS businesses by local authority areas, 2015

Shropshire	Herefordshire	Telford and Wrekin
• Caterpillar Remanufacturing • Access Alarm & Camera Systems Ltd • Securasound Limited • W.N. Limited • Entervision Intercom Ltd • One Stop Access Limited • Showtime Security Guards Limited	• Global RadioData Communications • Milspec • Erebus UK • Drazah Solutions • Providence • Metris • G4S • Dytecna • Ambrey Risk Limited • Drazah - Solutions Limited	• BAE Systems • Smartwater Technologies • Business Watch Guarding Limited • Quorum Logistic Support Limited • Total Security Services (Midlands) Ltd • Lockley Security Ltd • Clearview Security Ltd

Shropshire	Herefordshire	Telford and Wrekin
• Sentinel Security Technicians Ltd • Morgan Fire & Security Systems Limited • Nationwide Security Limited • K J Electronics Systems Ltd	• Sutton House Ltd • Twenty 4 Seven Security Systems Ltd • Radnor Training & Security Limited • Ajen Consultancy Limited • Conquest Surveillance Services Limited • Octaga Security Services Ltd • Mark Bishop Fire & Security Ltd • Erebus UK Ltd • Securimoore Security Services Ltd	• Pemberton Security Limited

Source: FAME, 2016

2.16 Table 2.7 displays the sub-sectors that have the highest number of businesses in the Marches DS (core) sector. It can be seen that private security activities are a particular strength of the Marches business base comprising 78% of the business base and scoring 1.2 in the index of specialisation.

Table 2.7 Business base in the top 10 Defence and Security sub-sectors in the Marches, 2016

Sub-sector	Number of businesses	% of total	Change 2010 to 2016	Location Quotient
Private security activities	90	78%	(-) 10	1.2
Security systems service activities	20	17%	(+) 10	0.7
Investigation activities	10	4%	(+) 10	0.5
Total	**120**	**100%**	**(+) 10**	

Source: ONS, 2016

Labour Force

The Marches workforce is ageing…

2.17 The Marches faces demographic challenges and an ageing workforce. In the year ending Sept 2016, 35% of the workforce across sectors relevant[13] to defence and securities are over 50 years old. This compares to a third of the workforce in that age bracket in the Midlands Engine and England. This age structure is representative of the workforce as a whole, where 64% of the Marches' workers are below the age of 50.

Table 2.8 Age profile of the defence and security sector workforce (Workplace), Oct 2015-Sept 2016

Age Group	The Marches	The Midlands Engine	England
16 to 19	0%	1%	1%
20 to 24	6%	7%	6%
25 to 49	58%	58%	59%
50+	35%	33%	33%

Source: ONS, APS, 2016

Note: The largest value of each row is highlighted

Note: Estimates are taken from a wider SIC code definition (C; H, J; O-Q)

2.18 Disaggregation by sector reveals that the manufacturing element of the workforce is younger than average - 71% of Marches manufacturing workforce were below the age of 50 compared to 68% and 67% in the Midlands Engine and England respectively. Consultations indicated that the larger part of the workers within the age bracket 25 to 49 were toward the older end of the age bracket, this indicates the possibility of a retirement bulge occurring in Marches manufacturing workforce in the next 20 years.

[13] Where granular data is not available to capture the defence and security sector definition, the analysis uses a broad best-fit sector approach to capture the activities that are relevant to the sector.

Under-representation of higher managerial and professional occupations in the Marches...

2.19 At a broad level, around 46% of employees in the Marches area work in higher managerial and professional occupations in sectors relevant to defence and security. This is on par with the Midlands Engine, but eight percentage points less than in England (52%). This under-representation of higher level occupations corresponds to an overrepresentation in low value jobs: the Marches has a notably high proportion of employees engaged in *Process, Plant and Machine Operative* related occupations and *Elementary* compared to the national position*,* 21% compared to the Midlands Engine (21%) and England (16%).

Table 2.9 Occupational profile of the defence and securities sector (Residents), Oct 2015-Sep 2016

Occupation	The Marches	The Midlands Engine	England
Managers, Directors and Senior Officials	7%	7%	8%
Professional Occupations	23%	25%	30%
Associate Prof & Tech Occupations	16%	13%	14%
Administrative and Secretarial Occupations	9%	10%	10%
Skilled Trades Occupations	7%	7%	6%
Caring, Leisure and Other Service Occupations	15%	14%	14%
Sales and Customer Service Occupations	3%	2%	2%
Process, Plant and Machine Operatives	13%	12%	9%
Elementary occupations	8%	9%	7%

Source: ONS, 2016

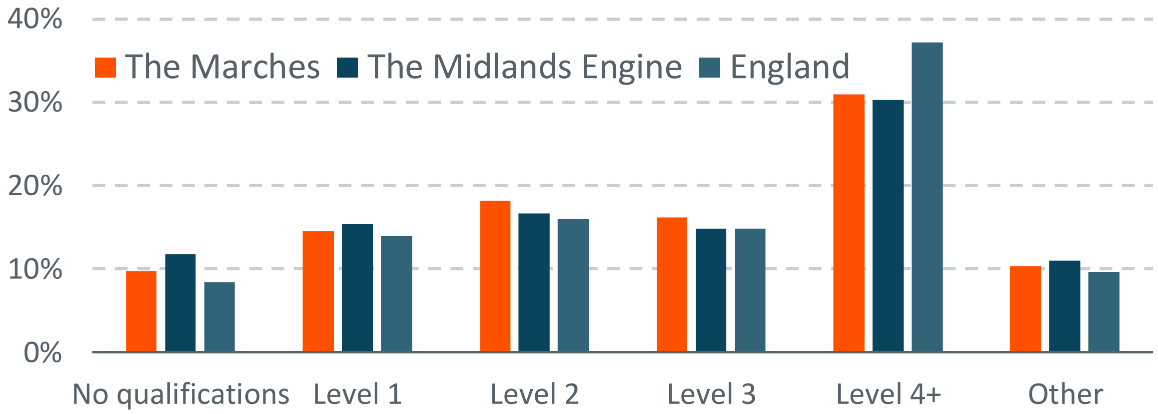
Note: The largest value of each row is highlighted

Note: Estimates are taken from a wider SIC code definition (C; H, J; O-Q)

Higher level skills are under-represented within the Marches...

2.20 The skills profile of Marches' defence and securities sector fairs well against the skills profile of the Midlands Engine with higher proportions of Level 4+ qualifications and lower proportions of no qualifications. However, the Marches defence and securities sector is still some way off the national position, that is 31% of the Marches defence and securities sector hold Level 4+ qualification compared to 37% nationally.

Figure 2.8 Skills profile of the defence and securities sector, 2011



Source: ONS, Census 2011

Note: Estimates are taken from a wider SIC code definition (C; J; O)

2.21 Moreover, the Marches skills profile by broad relevant sector shows that across relevant industries, the proportion of population with higher level skills is lagging behind the national average (despite over 48% of employees in information and communication sector having higher level skills, which is still below England (57%)).

Table 2.10 Sills profile of Marches defence and securities sectors, 2011

Highest held qualification	C: Manufacturing	J: Information and communication	O: Public administration and defence
No qualification	15%	3%	4%
Level 1	17%	10%	12%
Level 2	18%	15%	19%
Level 3	14%	19%	19%
Level 4+	21%	48%	41%
Other	14%	5%	5%

Source: ONS, Census 2011

2.22 Working Futures data indicates that over the next decade over 155,500 jobs would need to be filled in the Marches across all sectors. The majority of these will require higher level qualifications as the economy moves towards higher value jobs which will be even more pronounced across emerging sectors such as defence and securities particularly to meet the increasing demand for digital and technical skills required for activities relating to cyber-security and manufacturing.

2.23 Given the current skills profile of residents and the difficulties recruiting faced by employers, meeting the requirement could be challenge – to put this into perspective, the projected higher level qualifications demand represents a 76% increase in the current level of high skill qualifications.

Table 2.11 Projected requirement by skill level in the Marches, 2012-24

Qualification	2014 - 2024	Change from 2014
Level 4+	83,300	+76%
Level 3	32,500	+44%
Level 2	34,100	+48%
Level 1	9,000	+17%
No qualification	-3,600	-12%
Total requirement	**155,500**	**+46%**

Source: Working Futures

The Marches has lower labour costs than the rest of West Midlands…

2.24 The median wage in the Marches in £25,800 for residents, and £24,800 for people working in the area. This could indicate that the Marches is a desirable place to live but higher paid jobs in the region are to be found elsewhere. Compared to the West Midlands, the Marches is an attractive place to do business as labour costs are cheaper than the average across the region.

Table 2.12 Median wage by area (all sectors), 2016

Area and sector	Median Wage
West Midlands	£26,400
Marches residents	£25,800
Marches workplace	£24,800

Source: ONS, ASHE, 2016

Dependence on EU labour leaves the Marches vulnerable to reductions in migration…

2.25 A recent report[14] indicates the extent to which local economies are exposed the effects of Brexit exposure is driven mainly by three key aspects of a local economies character:

[14] My Local Economy, *Brexit: Potential Impacts for Local Economies*, 2017

- How exposed local industrial specialisations are to changing trade relationships (of which it identifies manufacturing and financial services and the industries where changing trade relationships will have the biggest effect)
- Reliance on EU migrant labour
- Local average earnings (areas with lower earnings will be hit harder by price inflation)

Table 2.13 Local authority dependence on EU labour (rank 1 indicates the most vulnerable)

Rank	LA Unitary/District	Employment quotient for industries more dependent on EU labour than the all-industry average
21	Herefordshire	1.56
28	Telford and Wrekin	1.78

Source: My Local Economy, Brexit: Potential Impacts for Local Economies, 2017 * Shropshire data not provided

2.26 The report indicates that the Marches economy is somewhat vulnerable to Brexit. The main driver of this vulnerability is the area's dependence on non-UK migrant labour, with Herefordshire and Telford and Wrekin ranked 21st and 28th respectively in terms of vulnerability driven by dependence on EU labour. The report does not provide detailed figures for Shropshire as it only includes the 30 most vulnerable local authorities, however it is anticipated that this is a LEP-wide challenge.

Telford's exports per job is double the national average...

2.27 The Marches has a value of exports per FTE employee below the national average, with a value of £7,000 compared to the national average of £10,900. Telford and Wrekin has a value of exports per FTE employee above the national average at £11,500 whereas the local authority areas of Herefordshire and Shropshire are significantly below with values of £5,300 and £4,800 respectively.

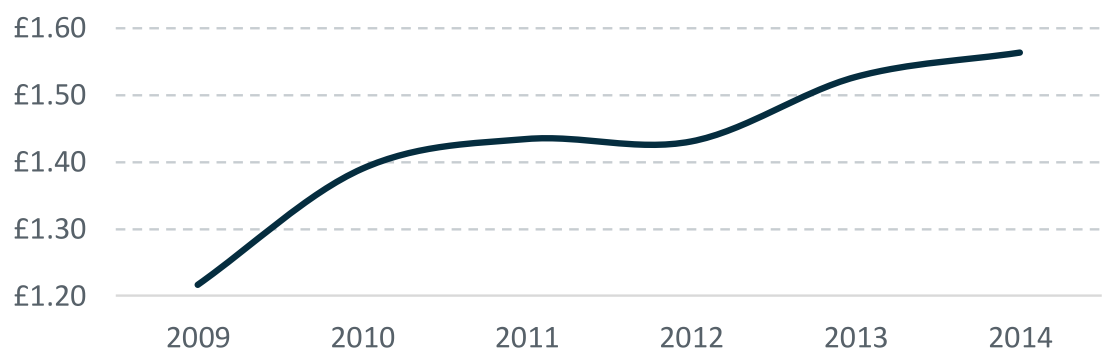
Table 2.14 Value of exports & value of exports per FTE employee, 2014

	Telford and Wrekin	Herefordshire	Shropshire	National Average
Exports (£m)	£805	£312	£446	-
Value of exports per FTE employee	£11,500	£5,300	£4,800	£10,900

Source: HM Revenue & Customs, Regional Trade Statistics, 2016

2.28 While the Marches does not export as much in absolute terms compared to other areas the value of exports has increased significantly in recent years, 29% over the 2009-14 period.

Figure 2.9 Value of exports from the Marches (£billions), 2009-2014



Source: HM Revenue & Customs, Regional Trade Statistics, 2016

2.29 A recent study[15] indicates that the city of Telford is a significant exporter of goods. In 2014 Telford ranked 5th out of 63 cities in terms of value of goods exports per job. In 2014 Telford had an exports per job figure of £16,500 compared to a national average of £8,240, that is double the national average. However, this high value is possibly the result of one or two multinational firms producing high value specialist goods.

Table 2.15 Top ten cities by exports per job (£), 2014

Rank	City	Goods exports per job 2014 (£)
1	Sunderland	£35,420
2	Worthing	£23,400
3	Derby	£20,810
4	Coventry	£19,050
5	Telford	£16,500
6	Slough	£16,060
7	Aldershot	£15,260

[15] Centre for Cities, Cities Outlook 2017, 2017

Rank	City	Goods exports per job 2014 (£)
8	Burnley	£15,240
9	Plymouth	£14,160
10	Hull	£13,370
	National Average	£8,240

Source: Centre for Cities, Cities Outlook 2017, 2017

SWOT

2.30 The following infographic summarises the strengths, weaknesses, opportunities and threats facing the defence and security sector in the Marches.

Figure 2.10 Summary SWOT for the Defence and Security Sector

Source: Regeneris Consulting

Assessment of Competitiveness

2.31 This section builds of the earlier analysis of the sector, combining desk-based research and consultation messages to form a picture of Marches' performance in the sector.

2.32 The analysis below shows the Marches' comparative performance with other LEPs to give an indication of its strengths and weaknesses across indicators that define sector strengths. Comparator LEPs have been chosen based on several criteria:

- Firstly, comparators include other rural LEPs that put Marches previously benchmarked against to account for similarities in demographics and challenges that come with rural locations. These comparators are Cornwall and Isles of Scilly, Cumbria, Greater Lincolnshire, Heart of the South West, New Anglia, North Yorkshire and York, and North East.
- Secondly, the additional comparators include LEP areas which also exhibit strengths in defence and security-related industries and identify the sector as a priority in respective areas. The Marches could be competing with these LEP areas as a potential location for businesses, so it is important to reflect on how Marches benchmarks against these. Additional LEPs therefore include: Worcestershire, West of England, and Gloucestershire.

2.33 Figure 2.11 summarises an assessment of Marches performance against comparators. It is important to note that a quantitative assessment of the sector based on published datasets is very challenging. The nature of SIC-codes and analysis of best-fit definitions does not enable us to capture the true extent of the sector as there are businesses that are manufacturers, software developers and professional services that would not fall into the definition, yet may well be in the defence and security supply chain. As such, the assessment below should be considered as illustrative, bearing in mind the qualitative insights from sector representatives and employers.

2.34 Employment in the sector is relatively low, however, this reflects the highly-specialised activities that take place in the Marches. The sector ranks fourth for employment specialism, and business density is the highest among comparator LEPs.

2.35 Skills indicators are presented as an average of relevant broad sectors. Skills challenges in the Marches are a barrier to sector performance, as is does not rank favourable with other LEPs. This analysis mirrors the consultation messages and the general labour market challenges facing the Marches.

2.36 This comparative performance of Marches LEP shows the sector is prominent in the area in terms of its business and employment base, but might be constrained by availability of skills to develop its full potential. The current cross-LEP activity between Marches, Gloucestershire, Worcestershire and Swindon & Wiltshire provides a collaborative effort to harness the potential of the cyber security sector and address barriers to growth.

Figure 2.11 LEP competitiveness in defence and securities sector

Rank	Employment (core)	Employment index of specialisation (core)	Employment (enabling)	Employment index of specialisation (enabling)	Businesses per 100,000 residents	% in highly skilled professions	% with higher level skills
1	Wales	Gloucestershire	Wales	Gloucestershire	The Marches	West of England	West of England
2	North East	West of England	North East	Worcestershire	Worcestershire	Worcestershire	Gloucestershire
3	Gloucestershire	North East	West of England	North East	Gloucestershire	York, N. Yorks & E. Riding	York, N. Yorks & E. Riding
4	West of England	The Marches	Heart of the South West	West of England	Greater Lincolnshire	Gloucestershire	Wales
5	Heart of the South West	York, N. Yorks & E. Riding	York, N. Yorks & E. Riding	The Marches	West of England	Heart of the South West	Worcestershire
6	New Anglia	Wales	New Anglia	Wales	Heart of the South West	New Anglia	Heart of the South West
7	York, N. Yorks & E. Riding	Heart of the South West	Gloucestershire	York, N. Yorks & E. Riding	Wales	Cornwall and Isles of Scilly	Cumbria
8	The Marches	Cumbria	Worcestershire	Heart of the South West	New Anglia	Wales	Cornwall and Isles of Scilly
9	Greater Lincolnshire	New Anglia	The Marches	New Anglia	York, N. Yorks & E. Riding	North East	The Marches
10	Cumbria	Cornwall and Isles of Scilly	Greater Lincolnshire	Greater Lincolnshire	Cornwall and Isles of Scilly	Cumbria	North East
11	Cornwall and Isles of Scilly	Greater Lincolnshire	Cumbria	Cumbria	North East	The Marches	New Anglia
12	Worcestershire	Worcestershire	Cornwall and Isles of Scilly	Cornwall and Isles of Scilly	Cumbria	Greater Lincolnshire	Greater Lincolnshire

The Marches | Comparable LEPs | Competitor LEPs

Source: ONS, 2016

Note: GVA, GVA per FTE, % in higher managerial professions and % with higher level skills are based on broader SIC code definitions

2.37 The following assessment of competitiveness provides a qualitative analysis of Marches position against comparator locations considering key attributes taking into account data analysis and consultation insights. The performance of Marches is categorised as follows:

- GREEN - to mark areas of competitive advantage in the Marches
- ORANGE - to mark no clear advantage or disadvantage
- RED - to denote a disadvantage.

Skills and labour market

Key attribute	Marches Performance
As with other sectors, there is a skills gap being reported by employers. This spans across different occupations, but also includes soft skills and access to motivated young people who are willing to pursue a career locally.	
There is a lack of relevant HE provision, providing technology, engineering and innovation skills are currently a barrier for the sector. Investment in skills and HE is important and the new developments in the pipeline may change that. The delivery of NMiTE and the Cyber Security Centre in Hereford are likely to be important differentiators that could further raise the profile of the sector and the Marches.	
The supply of people with military and defence skills i.e. deploying military personal is a key selling point of the Herefordshire defence and security offer. Transformation of MoD services is providing a labour supply of people entering the sector, who are looking to set up new enterprises and have natural business acumen and transferrable skills. They also have access to discrete networks, both in the UK and abroad, providing immediate sources of commercial opportunity.	

Innovating Firms

Key attribute	Marches Performance
Technology and innovation as extremely important for the sector - it is driving organisational behaviour and opening new commercial opportunities in the sector. Government endorsement of cyber security is also increasing recognition, through investment in nearby GCHQ (in Cheltenham) and national centres of excellence. Global and political instability continues to support demand for security and defence services. These factors present an opportunity for businesses in the Marches to capitalise on. It is important to acknowledge the	

area's cyber security competitive advantage is likely to be built around B2B support, rather than at a national level. Manufacturing operations within the Marches have a strong reliance on innovative processes and technology; this is seen in lean and world-leading organisations who are thriving within a global marketplace.	
The proposed Centre for Cyber Security in Hereford (which is due to be supported as part of the LEP's Growth Deal 3 allocation) will stimulate innovation in the sector and will provide a base for undertaking research in the field of cyber security and drive up innovation levels in the Marches. It will also strengthen business collaboration with HE institutions, building commercial opportunity from teaching specialisms.	
Overall innovation indicators for the LEP are somewhat outdated and are based on the 2012 UK Innovation Survey. The findings show innovation among businesses in the Marches is lagging behind other Local Economic Areas (LEAs). This geography of analysis includes 45 LEAs including 39 LEP areas in England (as of 2012); three areas in Scotland (Eastern, South West and Highlands and Islands & the North East); two areas in Wales (East Wales and West Wales and the Valleys); and, Northern Ireland: • The Marches ranks 38th out of 45 for product and service innovation, with 15% of businesses active in these activities • Marches came 35th for R&D engagement, with 14% of firms engaging in R&D. • Furthermore, 20% of firms engage in collaboration for innovation, and 8% engage in process innovation. The Midlands Engine Science and Innovation Audit is an important step in better understanding the Marches' sector assets. In tandem with the Midlands Engine Partnership, opportunities to strengthen the presence of innovation should be maximised.	

Assets

Key attribute	Marches Performance
Key **innovation assets** include the Centre for Cyber Security in Hereford, which is in the development pipeline, has recently secured funding of £2.8m from DCLG. This will be a key research and innovation asset for the area.	
Skylon Park Enterprise Zone is **UK's primary defence and securities zone,** with locational assets including enterprise support, business rate	

relief and benefits yielded through clustering. The inconspicuous location of Herefordshire is also a big selling point for a defence and security organisations.	
The proposed New Model in Technology and Engineering (NMiTE) is an important **skills asset** for the sector. It focuses on engineering and technical skills to meet the needs of advanced manufacturing, defence and security and other priority sectors in the Marches. It intends to offer a business-led curriculum, aligning closely to the needs of local enterprise, with the aim of training and retaining the best talent within the Marches. NMiTE is currently in development phase and is expected to take on its first cohort of students in 2019.	
Significant players include the MoD, BAE Systems, Caterpillar Remanufacturing, Fujitsu and Smartwater Technologies. The Marches has some interface with neighbouring assets, such as GCHQ in Cheltenham.	

Business support

Key attribute	Marches Performance
The proposed Centre for Cyber Security in Hereford has recently received funding of £2.8m from DCLG. The Centre will be based on Skylon Park, building on the current clustering of businesses in the sector. The Centre will provide support in three main areas: • Accommodation space • Training and educational facilities to provide specialist cyber security training for organisations • A research base for cyber security. Skylon Park also offers dedicated business support services, via its Enterprise Centre and Apprenticeship Hub. Recently, commercial networks have been strengthened, such as the defence and securities trade show, which has enabled the sector's profile to be lifted and provide a platform for wider trade opportunities, as well as exposing more discrete operations.	

Infrastructure

Key attribute	Marches Performance
Skylon Park is a business park in Hereford with an Enterprise Zone status. It serves as a clustering location for businesses in the sector, offering high quality accommodation, incentives and good connectivity links. It is also served with high speed broadband. The Marches also has a strong sites and premises offer in Telford and Wrekin, but less so in Shropshire.	
Mixed picture on connectivity depending on location within the Marches, Telford and Wrekin have good connectivity by road, closeness to airport, and proximity to the M54 which links to the rest of the national motorway network. Other areas are more difficult to access and report poor public transport links. In Herefordshire, road and rail creates a perception that Hereford and the county is inaccessible.	
Digital connectivity is perceived as a barrier to growth, however some businesses report recent improvements. The average superfast broadband coverage across premises in England is 93%. In the Marches this is much lower, and there is significant disparity between the local authorities: from 77% in Shropshire, 81% in Herefordshire to 92% in Telford and Wrekin.[16] The importance of ultrafast speeds should also be considered; essential for supporting innovation driven by the pace of technological change. Mobile voice and broadband connectivity is determined by the demographic and topographical nature of the Marches; as a result 4G coverage is patchy.	

Supply Chains

Key attribute	Marches Performance
Security-based industries are clearly important to the Hereford area, given legacy MoD links. The Enterprise Zone has helped to reaffirm the focus of the defence and securities sector, through the benefits of physical co-location, clustering and associated incentives and support services. It remains difficult to identify the true breadth of employers in the area. Skylon Park helps the visibility of the cluster and positions the area well to attract inward investment, as well as providing a vertical supply chain.	

[16] ThinkBroadband, Local Broadband Information, 2017

Geographical dispersion of the sector is quite distinct between the north and southern areas of Marches LEP and reflects the diversity of the sector locally. Hereford is more defence and cyber security centric, with manufacturing and communications elements located towards Telford and northern sections of the LEP. The MoD has an impact across the Marches as a whole.	
There are intricacies associated with the extent to which the sector can be fully exposed and understood, which may undermine efforts to maximise its value. This is particularly true of the secretive nature of the sector activities; those that require a low-key approach in order to be commercially viable.	

Quality of Life

Key attribute	Marches Performance
One of the main attractions of the Marches is that it is a nice place to live, work and visit which is facilitating investment interest. Its natural assets and environment are considerable selling points and need to be managed in the context of sustainable development and economic growth.	
The ONS Quality of Life Index shows the Marches local authorities have higher than average life satisfaction and happiness ratings: • Life satisfaction: average 7.7 compared to UK average of 7.6 • Happiness: 7.6 compared to national 7.5.	

3. Conclusions

3.1 The defence and security sector is prominent in the Marches through its supply chain links with the Ministry of Defence (MOD) in particular. There is a strong legacy of the sector's presence across the LEP area, and it is home to the UK Special Forces' SAS and Signal troops and UK's only defence and security focused Enterprise Zone, Skylon Park.

3.2 This study has further developed understanding of the scale, character and support needs of the Defence and Security (DS) sector and reinforced the appreciation of the significant contribution it makes to the Marches economy, supplying 3,100 jobs within the 'core' definition which includes important sub-sectors to the Marches economy such as defence activities, military vehicles and private security activities, and a further 11,600 jobs in 'enabling' sub-sectors such as computer consultancy, manufacturing of vehicle parts and software development. The covert nature of many defence and security activities means that the sector is perhaps deliberately difficult to identify and measure. This is further complicated by the diversity of activity which the sector covers which extends into other priority sectors such as advanced manufacturing and engineering (AME) as well as sectors such as digital and professional services. The influence of technology and growing importance of cyber security also means the sector is dynamic and continuously evolving.

3.3 The sector needs assessment provides a steer on the rationale for intervention to facilitate growth through targeted engagement, support and investment. This is summarised under four themes for intervention.

Supporting Business

Rationale

The DS sector makes a significant contribution to the Marches economy but is vulnerable to external forces i.e. global conflict driving policy and expenditure decisions which can have a very localised effect on economies with a significant cluster of defence and security activity. There is a need to support businesses to become resilient to change through diversifying their market and client base. There is scope to improve productivity through supporting businesses to become lean and efficient. The focus should be on SMEs with a propensity to 'scale up'. We also have a number of strategically important businesses which are large DS employers and support supply chain activity. Ensuring these businesses needs are being met will further embed them in the sub-region and ensure their investment is retained and strengthened.

Employment and Skills

Rationale

The Marches workforce is ageing, with 35% of the workforce in sectors relevant to defence and securities aged over 50 years. There is an imperative to attract new entrants to the workforce to meet identified demands. The lack of understanding about the sector's potential offer to the labour market is holding back interest. The changing shape of skills needs and the disruption caused by the introduction of new technologies means the Marches must boost the productivity of the workforce and competitive position. This includes increasing the representation of higher level occupations and skills whilst maintaining a good stock of intermediate skills to meet replacement demands. It also requires an emphasis on digital skills, and attributes such as adaptability and creativity.

Innovation

Rationale

Technology and innovation drive organisational change and open new opportunities for growth in the defence and security sector. The sector needs to embrace product and process innovation to thrive and grow. Developing a centre of excellence to stimulate innovation in the sector will support the development of competitive advantage in the Marches. The sector needs to work across a meaningful functional economic geography for the sector which includes nearby LEPs such as Worcestershire, Gloucestershire, and Swindon and Wiltshire and collaborate to mutual advantage.

The Midlands Engine Science and Innovation Audit (2016) identifies 'Digital Technologies & Data' as one of the Midlands Engine 'Enabling Competencies' which includes development of cyber security potential as a key opportunity to be exploited. This presents an opportunity for the Marches to develop competitive advantage and play an active role in the Midlands Engine strategy.

Physical Infrastructure

Rationale

Physical infrastructure in the Marches varies considerably by location and infrastructure type, however common themes include:

- Poor internal connectivity within the sub-region by road.
- Digital connectivity for business is challenging, with mobile blackspots, poor broadband and very expensive ultrafast connectivity.
- Limited availability of good quality sites which are genuinely developable and shovel ready. It is noted that the unique focus of Skylon Park on the defence and security sector is helping to grow this cluster of activity in the Marches.
- Viability challenges in both brownfield and greenfield locations due to the costs of delivering major infrastructure and the risks associated with speculative development.

3.4 The overarching Sector Action Plan provides a strategic response to the identified issues contained within the four Sector Needs Assessments and identifies broad areas for intervention which will be developed by Marches LEP in partnership with key stakeholders.

Appendix A - Sector Definition

A.1 The Standard Industrial Classification (SIC) definition of the Defence and Security sector was provided by Marches LEP as follows.

Table A.1 Defence and security core definition

Activities	Sub-sector	2007 SIC (5 digit)
Manufacturing	Manufacture of explosives	20510
Manufacturing	Manufacture of weapons and ammunition	25400
Manufacturing	Manufacture of military fighting vehicles	30400
Security	Private security activities	80100
Security	Security systems service activities	80200
Security	Investigation activities	80300
Defence	Defence activities	84220
Defence	Compulsory social security activities	84300

Table A.2 Defence and Security enabling definition

Activity	Sub-sector	2007 SIC (5 digit)
Cyber security and systems	Business and domestic software development	62012
	Computer consultancy activities	62020
	Computer facilities management activities	62030
	Other information technology and computer service activities	62090
Electronic equipment	Manufacture of electronic components	26110
	Manufacture of loaded electronic boards	26120
	Manufacture of computers and peripheral equipment	26200
	Manufacture of telegraph and telephone apparatus and equipment	26301
	Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)	26309
	Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment	26511

	Manufacture of electronic industrial process control equipment	26512
	Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment	26513
	Manufacture of non-electronic industrial process control equipment	26514
	Manufacture of irradiation, electromedical and electrotherapeutic equipment	26600
	Manufacture of optical precision instruments	26701
	Manufacture of photographic and cinematographic equipment	26702
	Manufacture of magnetic and optical media	26800
Manufacture of electrical equipment	Manufacture of electric motors, generators and transformers	27110
	Manufacture of electricity distribution and control apparatus	27120
	Manufacture of batteries and accumulators	27200
	Manufacture of fibre optic cables	27310
	Manufacture of other electronic and electric wires and cables	27320
	Manufacture of wiring devices	27330
	Manufacture of electric lighting equipment	27400
	Manufacture of other electrical equipment	27900
Automotive	Manufacture of motor vehicles	29100
	Manufacture of bodies (coachwork) for motor vehicles (except caravans)	29201
	Manufacture of electrical and electronic equipment for motor vehicles	29310
	Manufacture of other parts and accessories for motor vehicles	29320
	Manufacture of air and spacecraft and related machinery	30300
	Manufacture of other transport equipment nec	30990
Repair and maintenance	Repair of fabricated metal products	33110
	Repair of machinery	33120
	Repair of electronic and optical equipment	33130
	Repair of electrical equipment	33140
	Repair and maintenance of aircraft and spacecraft	33160
	Repair and maintenance of other transport equipment	33170
	Repair of other equipment	33190
	Installation of industrial machinery and equipment	33200

REGENERIS

Sciences	Research and experimental development on biotechnology	72110
	Other research and experimental development on natural sciences and engineering	72190
Professional services	A range of sectors	

A.2 **Defence activities (SIC 8422)** -class includes:

- administration, supervision and operation of military defence affairs and land, sea, air and space defence forces such as: –
  - combat forces of army, navy and air force
  - engineering, transport, communications, intelligence, material, personnel and other non-combat forces and commands
  - reserve and auxiliary forces of the defence establishment
  - military logistics (provision of equipment, structures, supplies etc.)
  - health activities for military personnel in the field
- administration, operation and support of civil defence forces
- support for the working out of contingency plans and the carrying out of exercises in which civilian institutions and populations are involved
- administration of defence-related research and development – policies and related funds

Appendix B - Glossary

Table B.1 Glossary Table

Acronym	Definition
4IR	Fourth Industrial Revolution
AME	Advanced Manufacturing and Engineering
APS	Annual Population Survey
ASHE	Annual Survey of Hours and Earnings
ATWA	Agri-tech West Alliance
BIS	Department for Business Innovation & Skills
BRES	Business Register and Employment Survey
BRIC	Brazil, Russia, India and China
D2N2	Derby, Derbyshire, Nottingham Nottinghamshire
DiT	Department of International Trade
DS	Defence and Security
ERDF	European Regional Development Funding
ET	Environmental Technologies
EU	European Union
FAME	Financial Analysis Made Easy
FDI	Foreign Direct Investment
FMP	Food Manufacturing and Processing
FTE	Full Time Equivalent
GCHQ	Government Communications Headquarters
GM	Greater Manchester
Golden Triangle	Harper Adams University Regional Food Academy in Newport, Reaseheath College Food and Dairy processing facilities in Nantwich and the NOW food testing centre at University of Chester in Chester.
GVA	Gross Value Added
HAU	Harper Adams University
HMRC	Her Majesty's Revenue and Customs
HWGTA	Herefordshire and Worcester Group Training Association
IoS	Index of specialisation
ISCF	Industrial Strategy Challenge Fund
LA	Local Authority
LEP	Local Enterprise Partnership
LSOA	Lower Layer Super Output Area

MCMT	Marches Centre for Manufacturing and Technology
MEIF	Midland Engine Investment Fund
MGH	Marches Growth Hub
MOD	Ministry of Defence
MSOA	Middle Layer Super Output Area
NEET	Not in education, employment or training
NMiTE	New Model in Technology & Engineering
NPIF	National Productivity Investment Fund
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
SIC	Standard Industrial Classification
SME	Small and medium enterprise
STEM	Science, Technology, Engineering and Maths
SWOT	Strength, Weakness, Opportunity, Threats
TWC	Telford and Wrekin Council
UA	Unitary Authority
UKBC	UK Business Counts
UKCES	United Kingdom Commission for Employment and Skills
UKEF	United Kingdom Export Finance
WTO	World Trade Organisation

REGENERIS

www.regeneris.co.uk

London: 0207 336 6188

Manchester: 0161 234 9910