



Europe Economics

Enhancing support to
SMEs - Through better
understanding of dual-use
aspects of the EDTIB
supply chain

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Executive Summary

It is well-recognised that small and medium-sized enterprises (SMEs) continue to face challenges in accessing defence supply chains, particularly those where the Prime is based in a different country. The present study is designed to support the European Defence Agency (EDA) in delivering on its strategic plan to support SMEs in defence supply chains by providing insights into SMEs and the role of dual-use activities, any barriers to dual-use activities, and the impact of the current policy landscape (both national and European) on the scope for SMEs supplying dual-use technologies and products to participate in defence markets. The study focussed on five key issues:

- the dual-use aspects of the European Defence Technological and Industrial Base (EDTIB) supply chain;
- the nature of SMEs/Clusters with dual-use production/services operating in the defence supply chain;
- how the existing European and national policies and regulations on the dual-use products and technologies can support/restrain SMEs' access to this market;
- opportunities, thresholds and hurdles in defence procurement policy; and
- European and national tools that support SMEs access to finance for dual-use technologies.

We also provide a number of recommendations for policies and initiatives to continue to support SMEs access to defence supply chains and explore how the EDA may reasonably help SMEs that are seeking to access defence markets.

Dual-use aspects of the EDTIB supply chain

SMEs' share of defence work is relatively modest, despite the research and development (R&D) intensive nature of defence equipment and alleged strengths of SMEs in R&D. However, the potential limitations faced by SMEs in profitably engaging in R&D may to some extent be addressed through dual-use applications. Specifically, the scope for dual use technologies and products may reduce the limitations on SMEs created by the ability to commercialise their products and services and access finance.

A previous study conducted for DG Enterprise (Europe Economics, 2009) found that many defence-related SMEs receive only a small proportion of their income from defence.¹ Moreover, dual-use technologies might offer opportunities for defence-specific companies to diversify and thereby access a more consistent revenue stream from the civil sector while they might also offer promising avenues for SMEs wishing to enter the defence sector. Some civil products (e.g. IT and communications) are now as technologically advanced as defence equipment and hence strong positions in such civil markets could provide a platform (volume, low unit costs, proven technologies) for entering defence markets.

Based on evidence gathered during this study, we find that the role of SMEs in the EDTIB has gradually increased over time, partly as a result of greater outsourcing. Those SMEs that participate in defence markets are (almost) exclusively involved in dual-use activities. More generally, trends in defence and the increasing convergence of defence and security appear to be creating greater emphasis on dual-use activities.

¹ Europe Economics (2009), "Study on the Competitiveness of European Small and Medium sized Enterprises (SMEs) in the Defence Sector", commissioned by DG Enterprise. Forty per cent of the respondents derived less than 10 per cent of their turnover from defence-related activities. Only 30 per cent of respondents earned more than 50 per cent of their turnover from defence-related activities. For the respondents taken together, about one-third of their turnover was accounted for by defence.

There are barriers to entering both the defence and civil sectors for the first time, however. With respect to defence-specialists that wish to secure revenue from the civil sectors, challenges include:

- the ownership of intellectual property rights from previous defence projects;
- detailed specifications that limit the applicability of a defence technology in the civil sector;
- export controls; and
- the need to change the culture of the business (e.g. to become more export-focussed).

With respect to companies that have traditionally operated in the civil sector and wish to access defence markets for the first time, challenges include:

- accessing the markets, either directly or as a sub-contractor due to the existence of transaction costs, information barriers, the national focus of defence supply chains and regulatory barriers;
- concerns over the potential appropriation of IP by other members of defence consortia;
- concerns over whether entry to defence markets would restrict access to finance; and
- the need to change the company's business model (e.g. to cope with more concentrated markets).

The extent to which existing policies and initiatives address these issues was the focus of the remainder of our report, along with an assessment of initiatives that may help SMEs to overcome remaining barriers.

Clusters' role in supporting defence-related SMEs

Defence clusters take various forms. Some are created by industry while others are the result of government-led initiatives. Some are open only to SMEs while others are open to all. Some clusters are geographically concentrated while others are widely dispersed or virtual. It is notable, however, that few clusters are entirely related to defence: most have a civil focus also. This is likely to be a positive feature going forward given the likely increased role for dual-use technologies and it might be possible for the European institutions to encourage such developments.

Despite the differences between defence clusters, their key roles are reasonably consistent. They help to overcome some of the market imperfections identified in our study of the dual-use aspects of the EDTIB supply chain, such as asymmetric information and transaction costs. Clusters can therefore help SMEs to overcome the barriers to entering defence markets since it will be possible for them to more easily demonstrate their capabilities to suppliers located in the same geographic area and information flows are likely to be greater between firms in close proximity to each other. To do this, clusters provide a range of services to their members, as shown in the table below.

Table I: Key services provided by clusters

Issue	Services
Access to information	Networking opportunities
	Information provision through events and written communications
	Monitoring of calls for tender
Access to finance	Advice about access to grants and other sources of finance
Access to markets	Match-making between Primes and small firms
	Normalisation of relationships between primes and SMEs
	Advice on tender and bid writing
	Identification of new market opportunities
	Assistance with marketing
	Representation at trade fairs (that would not be viable for individual SMEs operating unilaterally)
	International cooperation agreements with clusters in other countries
	Promoting collaboration between members
	Providing a unique point of contact for Primes and large industrial groups searching for sub-contractors and/or collaborators
Other	Database of members' capabilities
	Consultancy services for business improvement
	Lobbying on behalf of members

Implications of Dual-Use Policies and Regulations for SMEs' Access to the Market

A range of certification, standardisation, export control / authorisation and offsets policies are currently in place across the EU. Having developed typologies of these policies, we assessed the implications for SMEs' access to the market and contestability in the defence supply chain.

Certification itself should be of similar benefit to SMEs that operate primarily in the defence sector and those that operate primarily in the civil sector. Abstracting from search costs, the formal registration costs should be fairly low for both types of SMEs, with a weak negative impact on sunk costs and barriers to entry. However, the sunk costs of meeting the certification criteria are likely to be higher for SMEs that operate primarily in the civilian sector, with detrimental knock-on effects for barriers to entry and access to technology. Similarly, the search costs in establishing the requirements of the certification process are likely to be higher for SMEs primarily operating the civilian sector, with limited knowledge of the defence industry. There are no expected impacts of the certification typologies on barriers to exit.

Standards will have different impacts on companies who will need to adjust their processes in order to adhere to them ("out" companies) compared to companies that are already able to meet the imposed standards ("in" companies). "Out" companies need make some sort of investment, or adjustment, for the standards to be applied, generating additional sunk costs and thereby increasing barriers to entry. "In" companies would not need to bear such costs. These are short term issues, however, whereas a lack of harmonisation between countries presents a longer term barrier as companies may need to undergo product tests in numerous different countries due to differences in standards. This can place a significant cost on SMEs, as can the process of understanding national standards in the first place (as these are sometimes not translated). Harmonised standards could therefore help to reduce administrative cost burdens but, more importantly, they could also assist SMEs by helping them to operate across a range of countries.

The impacts of export controls on contestability depends on whether the SME is based in a country with a strong or weak domestic defence industry, and whether it operates primarily in the defence or civil sector. We cannot conclude, overall, whether such policies are beneficial or not for SMEs that operate in both the defence and civil sectors.

Until recently, many Member States used offset policies but this changed following the transposition of Directive 2009/81/EC, under which offsets are no longer allowed in the EU. However, offsets are an increasingly important feature of export markets with purchasers demanding offsets, some of which can be rather complex (e.g. concerned with the transfer of technology rather than goods or services). For this reason, we considered the implications of such policies, finding that offsets present a strong negative impact on entry barriers for foreign companies but directly help domestic companies to overcome such barriers. We also found that different types of offsets (direct, indirect) have different kinds of impacts for companies (including SMEs).

Opportunities, thresholds and hurdles in defence procurement policy

Our review of the variety of procurement policies that affect SMEs' access to defence markets, and our assessment of the extent to which they would impact on competition, led to the following key findings:

Table 2: Procurement policies and impacts

Type of Policy	Impact
Information related policies	Primarily concerned with overcoming the high search costs that SMEs (especially those that operate in the civil sector) may face in finding out about opportunities in defence supply chains and so should reduce barriers to entry
Networks related policies	Policies such as encouraging the development of clusters, networks will benefit those that belong to the network, potentially at the expense of those that do not
Specification of	Specifications can have direct effects on SMEs' participation in procurement

Type of Policy	Impact
procurement contracts	opportunities, largely through their impact on sunk costs and barriers to entry, and the subsequent improvement in access to technology

European and national tools that support SMEs access to finance for dual-use technologies

While we do not consider access to finance to be the most important challenge facing SMEs that are active in both civil and defence markets, it remains a challenge for many SMEs.

A range of finance programmes have been implemented by Member States across the EU, making use of a wide range of financial instruments. Many of these funding programmes are available to companies that produce dual-use products or technologies and our case studies demonstrate that such companies have successfully applied for funding in the past.

We find that the key to determining SMEs' participation in funded research programmes is the structure of the programme, particularly with respect to the structure of risks and rewards and the SME's bargaining position with its potential customers: Prime and its major suppliers. The SMEs' bargaining position at the end of the feasibility stage is likely to be quite weak (not least because of the lack of patent protection in defence technologies) and so the rewards that the SME could expect to derive from its IPR would be constrained, unless it could interest several Primes in its technology. To overcome these issues, privately-organised cooperative ventures and state-organised cooperative ventures are likely to be necessary, although it is interesting to note that the PACTE Defense PME of France contains an action to help SMEs with financing from prototype to product.

Recommendations

Based on the current environment, we found that while it is often perceived that the main problem for SMEs is access to finance, this is not correct in the case of firms that wish to enter defence markets. Rather, the biggest perception problem for such firms is access to supply chains and, in particular, finding their first client. Once that client has been identified, the entrant will be in a stronger position to increase its participation in defence activities as it will be gaining a reputation within the sector. Given that prior experience and relationships between firms exert a particularly strong influence on the structure of supply chains in defence markets, gaining the first client is a key milestone for companies that wish to begin to operate in the defence sector.

In this context, we consider that action should focus on improving access to supply chains. However, any action must be mindful of the fact that the defence sector has some unique characteristics and hence fully open competition is not an appropriate goal. For example, concerns over security of supply will persist over time and hence (in the absence of greater political integration at the EU level) it is inevitable that defence supply chains will have a more domestic focus than those of other sectors. Similarly, the structure of the sector is such that national governments will continue to be the key buyers of defence equipment and the scale of many projects is such that each supply chain will (in the absence of change) continue to be headed by a Prime.

In our view, there are three main types of solutions to help SMEs access defence markets and thereby to become engaged in dual-use activities:

- improve access to information about future opportunities and amend procurement strategies;
- provide support to help SMEs find their first client in the defence sector, in particular by providing opportunities for SMEs to demonstrate their capabilities; and
- harmonisation of administrative requirements, standardisation and certification policies.

In this context, the specific actions that can be taken by the EDA are presented in the table below.

Table 3: Action plan for the EDA

Issue	EDA's role influencing / advocacy	Direct action by the EDA
Improve access to information about future opportunities and amending procurement strategies	Encourage National Defence Authorities (NDAs) to disseminate early strategic information on the future procurement plans	Publish above information on EDA's Procurement Gateway
	Encourage NDAs to produce a short summary of all tender calls in English	Further develop Procurement Gateway to include specific interactive section for SMEs
	Encourage NDAs to clearly identify those requirements that are suitable for SMEs and to accept bids from consortia of SMEs	Develop set of guidelines on best practice
	Encourage NDAs to ask tenderers to propose solutions to problems rather than specifying how a problem should be solved and asking for quotes on that basis	Establish user-friendly, online information resource containing details of finance programmes that are available to companies (in particular SMEs) that undertake dual-use activities
	Encourage NDAs to organise information days to allow SMEs to gain a deeper understanding of their requirements, operational constraints etc.	Establish a Europe-wide programme for the funding of innovative research with an active focus on engaging SMEs and those that are new to defence (i.e. potential dual-use suppliers)
	Encourage NDAs to introduce a simplified common Pre-Qualification Questionnaire and/or to avoid use of such questionnaires for low value requirements to reduce administrative burdens	
Provide support to help SMEs find their first client in the defence sector	Encourage National Defence Industry Associations (NDIAs) to take an active role in supporting SMEs and helping them to find their first client in the defence sector	Develop approach to defining a list of 'approved suppliers' of SMEs that have traditionally operated in the civil sector
	Encourage development of clusters / networks in countries where they are currently lacking (e.g. in Eastern and Northern Europe) and encourage development of 'clusters-of-clusters' to increase cross-border cooperation.	Establish a complete, dynamic list of EU defence clusters
	Encourage NDAs to design incentives for Prime and higher-tier contractors to open up supply chains	Study the performance of clusters in more detail in order to identify best practices and key features of an effective cluster
	Encourage NDAs to facilitate contact between primes and SMEs (UK e.g.)	Ensure that non-defence trade associations from sectors in which the potential for dual-use is greatest are invited to events and inform such associations of the potential opportunities in the defence sector
Harmonisation of administrative requirements, standardisation and certification policies	Consider the potential for establishing programmes similar to SC21 at European level	Provide direct advice to SMEs that are interested in entering defence markets for the first time
	Initiate cross-NDA workstream on harmonisation of certification policies	Continue work on harmonisation of national standards for materials
	Initiate cross-NDA workstream on harmonisation of administrative requirements / rules / procedures	Expand focus to other categories of standards: the EDA can play a key role in bringing together Member States to discuss these issues
		Analyse the standards that apply in the security sector and seek to establish, where appropriate, harmonised standards across defence and security (e.g. with respect to bullet-proof material standards for police and military forces).