

Defining the « European Defence Technological and Industrial Base »: Debates & Dilemmas (I)

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“European Defence Technological and Industrial Base” (EDTIB)... a concept, an expression, a generic term repeated and hammered home for many years now without ever being defined and characterised. This lack of definition creates confusion and maintains incomprehension. Generalities and subjectivity then take precedence over knowledge of tangible facts and realities.

The **D** for “Defence” irrevocably ties the expression EDTIB to the political arena, linking it to potent concepts like sovereignty, autonomy and security.

The **T** for “Technological” and the **I** for “Industrial” refer more to the economic arena, more specifically to production structures, technological and industrial competences and know-how, innovative corporate behaviour, and links between the scientific and the industrial worlds.

The **B** for “Base” is a rather vague notion covering all players, companies (large groups, small and medium-sized companies), laboratories and public or private research centres. It raises the issue of the contours of the industrial sector and its segmentation, the existence or not of specificities of defence industrial activities, of synergies and complementarity between defence activities and civil activities. Until now, how-

ever, beyond the prime contractors, major integrators and equipment suppliers, knowledge of the subcontractor chain is a real grey area, with very little consolidated data and indicators.

The **E** for “European” seems here to imply something that extends beyond the national framework, beyond the logic of borders and territory. Unfortunately, this is not at all the case. It is more of an objective to be achieved than a reality. In addition, this raises the question of the definition of the “European” nature of a company or an entity.

The EDTIB can be seen as a veritable sounding board for political, economic and industrial issues. The fact that “reinforcement of the European defence industry” has been placed on the European agenda opens a window of opportunity to define and reveal the different components of the EDTIB. Thus the European Council of December 2013 on the Common Security and Defence Policy (CSDP) represents a key step in elaborating concrete measures, capable of moving the issue beyond symbolism.

This is the context for this collective publication. The contributions it proposes constitute “food for thought” by probing the notion of EDTIB and highlighting certain contradictory approaches.

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Future of the EDTIB at the Defence Council 2013. The German Position, European Realities and December Opportunities

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In 2007, the EU states adopted a European Defence Technological and Industrial Base (EDTIB) strategy. The gradual integration of national DTIBs should lead to self-sufficiency in security of supply (SoS) – but on a European rather than national level. A better co-ordinated, less duplicative defence landscape was to emerge, to better serve the political objectives of European defence. However, EU-states have failed to implement this vision.

2013, may pose a second chance for the member states: defence industry is back on the agenda thanks to the upcoming European Defence Council in December. Member states all agree that defence industry and EDTIB are issues that need to be tackled and that synergies among civilian and military R&T are key to the future of this industry.

However, once again, when it comes to details, especially regarding potential solutions, the states positions differ considerably. Yet, these are influenced by a blend of longstanding stereotypes and individual perceptions on the policy field rather than by a proper assessment of the state of the EDTIB. Moreover, immediate needs for procurement play into these positions. This is also true for Germany.

Given the resulting incoherencies and costs resulting from this, the Defence Council poses the perfect opportunity for Germany but also the other EU States to change Europe's approach to EDTIB from a perception based to assessment based one and to review the EDTIB Strategy accordingly.

EDTIB: Germany's vision and policy

For Germany, consolidation, division of industrial competences and competition are key to a EDTIB. Yet, European activities should not infringe the competences of the States to organize their security. Monopolistic structures are to be avoided. The Commission's defence package is a key instrument for this. State influence, be it through ownership or support, should be minimized. Pooling of demand to keep prices at reasonable levels is another priority. This could take place already at the stage of Research & Technology or later when it comes to products and services. Exports are treated also as a measure to mitigate ever-increasing costs in production for suppliers. The supply side support is limited to the control of foreign investments and the support of SMEs.

This official position is compromised by Germany's practice. It shares the approach with other European producing countries that SoS is best assured nationally. Berlin has a de facto national defence industrial policy: Yet, it is not the result of a comprehensive conception of the defence sectors and its characteristics. The simple starting point is that Germany wants to procure at home. Hence, what Germany procures is

to some extent influenced by the supply side: traditionally Germany industrial strengths lie in the area of land systems and in some specific areas of naval systems: littoral warfare, submarines, mine-sweeping and support ships. Aerospace competences have been largely integrated into EADS. Berlin supports national companies, which it perceives as indispensable through contracts or by exports licences. Moreover, Berlin can activate generous R&T funds to help maintaining innovation in companies.

Its position for the defence industry cluster in December will most likely be based on these general lines. As the Commissions' draft communication comprises many of the official German priorities (common demand, requirements and standards, dual use research, SME support), Berlin is largely fine with the current state of preparation.

The aspect that Germany is cautious about is to use money from the structural funds for defence. Berlin may neither be very open to the French idea to define a European defence economic operator. It may be well perceived as the typical French protectionism and national approach to defence industry. Moreover, Germany is likely to suggest a SoS agreement to be concluded by European States. This would imply to have an assessment of European key industrial capabilities. It could also involve permanent export guarantees among European allies.

The most important stand-alone project Germany may support is the development of a European MALE drone through a European Drone Project. Managing successfully this technology is as a key issue for both the military and the general industrial realms. The support of the Commission with funds from the European R&T pods seems to be logical, since the civilian sectors would gain the main profits out of it. A programme led by the Commission could create incentives for both the member states and industry to participate by developing interesting financing options, favourable regulations of IPR, and access to research results for civilian and military purposes.

Where is "E"DTIB? - European Realities

The current state and the long-term trend of defence policies and industrial activities limit the probability of an EDTIB to emerge. The common political vision has lost touch with the individual political and industrial reality. Currently, SoS is to a large extent neither available on the national nor on the European levels. Instead, new and more diversified dependencies have developed. This is due to the fact that the EDTIB is trapped between two main processes that drive its current and future course:

Ongoing Political Nationalisation: On the political side, EDTIB related national policies continue to be driven by a mix of national industrial and technological policies rather than security policy or capability needs. Old habits also prevail in armaments cooperation and remain enshrined in the principles of *juste retour* and Art 346 TFEU. Although institutions and rules have proliferated on the EU-level (EDA, EC, Lisbon Treaty), they do not have a significant policy impact. European demand is in decline. Hence, de-

mand-based policy instruments such as the Commission's Defence Package cannot effectively reorganize the structure of the EDTIB.

An Increased Industrial Globalisation has further diversified European dependencies on non-European DTIB: companies manufacture increasingly less in-house and order a growing amount of their goods from worldwide sub-contractors. Member states allow an economisation of supplies to happen through the backdoor: because they are most concerned about costs for products, they let producers purchase from cheapest sources, irrespectively of SoS implications. While states are willing to waste considerable resources to keep companies national, they are rather unwilling to pay for the industrial SoS. Increasingly, military products result from civilian technological developments, with the effect that defence establishments become increasingly dependent on civilian supply chains. Moreover, as the civilian part of the business generates the majority of the turnover and income, it will get increasingly difficult and costly for the military to establish highly reliable supply lines.

Another dependence results from exports: Non-EU destinations have become the lifeline for both EU-based companies and for the states, for it allows the one to keep its production and the other to still buy at affordable prices. Yet, exports increase the risks to the EDTIB, because EU-based companies engage in ruinous competition, share their IPRs and thus nurture their next generation-competitor on the new markets. International dependencies and national politics instead of Europeans - this **characterizes the current EDTIB**: the LoI-states, who represent 20% of the EU member states, dispose of about 80% of the EDTIB and are responsible for a similar split of defence investment turnover. The diversity of the 28 national marketplaces and DTIBs, controlled by 28 national policies towards defence, technology, markets, procurements, and exports is kept. Producing states still buy armoured vehicles, aircraft, vessels, at home. Non-producing countries do not care about EU or Non-EU purchase, as the acquisition of JSF and F16 jets demonstrate.

The industry shows varying degrees of consolidation, competences, capabilities and competitiveness. While companies in the land and naval sectors are often nationalized and highly specialized, the aerospace- and electronics sectors are globalized and have often diversified portfolios. The countries or the companies themselves currently block national or cross-border consolidation in the land and naval sectors. In contrast, the aerospace and the electronics sectors show consolidation and low defence dependence. Yet, while all sectors show excess capacities, mainly the land sector may be able to adsorb significant amounts of products in the future. The aerospace sector shows a serious gap vis-à-vis the US in competences as Europe is until today not able to produce complex UAVs.

Credible competition is less and less possible in Europe: it would require about five companies supplying the same product. This number of companies

only exists in the land and sea realms on the system integrator level. But here, national regulation and policy hamper competition. As a result, competitiveness has already shifted to global level. Here, competitiveness often is increased by offsets.

Outlook: National demand is declining, while global demand is growing, thereby pointing towards a further globalization of DTIBs by market shifts and the internationalisation of production for the coming years. As a consequence, the EDTIB may well shrink even more, and the national DTIBs might become more integrated into the global DTIB. Purely national DTIBs risk becoming increasingly difficult to sustain. These circumstances, together with the existing and predictable budget austerity, beg the question how Europe can uphold a DTIB that effectively delivers the needed spectrum of military capabilities.

Using the December Summit's Opportunity

There is an obvious mismatch between the German vision and policy and the European reality. Yet this misfit is a general feature of all European states. Given that the conditions to create an EDTIB have changed drastically, there is a good reason for all MS to use the European Defence Council to adapt their approach to the new realities, both in terms of what a European DTIB means today and in the future; and the means available to achieve it. Put simply, it means to shift from a geopolitical to a functional approach to the EDTIB and to begin managing the dependencies actively. Formally, such an adaptation would signify a **revision of the 2007 EDTIB strategy**. This would assemble several necessary steps under an overall objective. Core steps are:

An EDTIB assessment as a basis for policy: To move from a perception-based to an evidence-based conception of the EDTIB's state and potential futures, states should task an international Commission to provide an EDTIB assessment. Its independence would allow avoiding that the assessment is mixed with policy objectives. Besides, it would enable governments and EU institutions to develop a joint understanding on what exists and what objectives can be pursued in a reasonable timeframe. Based on this, a continuous defence industrial monitoring of risks and opportunities to the EDTIB should take place.

Defence Sector Council: Such an annual meeting of heads of states and governments would first give the mandate for an EDTIB assessment. Second, it would take note of its results, and third it would develop a Military Headline Goal and an Industrial Headline Goal for the 2030 horizon that sets out common priorities for the European armed forces' procurement and the EDTIB.

Empowering EDA: EU member states should empower the European Defence Agency. The Commission will - rightly so - seek to increase its weight through the Defence Council, even vis-à-vis big member states like Germany, France and the UK. To insure appropriate representation of the EDTIB's inter-governmental dimension, EDA should play a more active role in shaping the EDTIB. ♦

Europe's Defence Industry: An Economic Perspective

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Introduction: the issues

European defence industrial policy aims to create a Single Market for defence equipment and a European Defence Technological and Industrial Base (EDTIB). The economic content of these aims needs to be explored and assessed critically. Issues arise about the definition of the EDTIB and the economics of both the Single Market and the EDTIB. Economics offers clear guidelines for assessing these policies.

Definition of the EDTIB

Major problems arise in defining and identifying the European defence industry. Firms involved in the supply of lethal war-fighting equipment are easily identified (e.g. combat aircraft; missiles; tanks; warships). But problems arise in identifying other relevant firms. Do we include all suppliers of goods and services to national defence ministries: examples include firms in accountancy, construction, telecommunications and water supply?

What about the degree of firm dependency on defence sales and on defence technology and the specificity of its defence technology? Should firms with, say, over 50% of their sales in defence be part of the defence industry; should only firms with defence-specific technology be included (where the technology has no alternative uses)? And what about firms which provide 'surge capability' in emergencies but which have no current defence business (e.g. airlines; shipping companies)?

Supply chains cannot be ignored. Supply chains for defence industries are complex and vary between air, land and sea systems. In many cases, suppliers operate in competitive markets; they are not dependent on defence business; and have resources which are transferable between military and civil markets. But some firms are monopoly suppliers of 'key strategic' assets wholly dependent on defence business (e.g. some suppliers in the nuclear submarine industry). There is an absence of detailed data and knowledge on supply chains for European defence industries.

New technology is changing the composition of the defence industry. Some suppliers of unmanned systems together with electronics and computer firms are new entrants to defence equipment markets. Increasingly, budget pressures are leading defence ministries to purchase commercial equipment 'off-the-shelf' from established civil firms. Indeed, the future defence firm of, say, 2030 or 2050 will differ considerably from today's defence firm (just as today's defence firms differ from those of 1900 and 1945). BAE Systems and Boeing did not exist in 1900.

Currently, Europe's defence industry has some world class firms. Examples include BAE Systems, Dassault Aviation, EADS, Finmeccanica, MBDA, Rolls-Royce, Safran, Saab, Thales, Eurocopter and AgustaWestland. These firms might be the basis for defining and

identifying the European defence industrial base. Information is needed on the location of their R&D facilities, their plants and final assembly lines; their ownership and control; their employment levels and skills; and their supply chains.

The contribution of economics

A starting point has to be resource constraints which will affect European defence industrial policy. Resource constraints take two forms. First, defence budgets which are likely to continue falling in real terms. Second, falling budgets have to buy defence equipment which is both costly and whose unit costs are rising in real terms. For example, the development costs for a modern combat aircraft might be some Euros 10 billion, with unit production costs of Euros 94 million and cost escalation of some 6% between successive generations of aircraft. Such budget constraints and cost pressures mean that difficult defence choices cannot be avoided.

Defence industries and markets have two distinctive economic features. First, defence industries are decreasing cost industries where there are economic gains from volume production. Large-scale production allows high R&D costs to be spread over a larger output and there are economies of scale and learning in production. Decreasing cost industries usually lead to monopoly suppliers in national defence markets.

Second, defence markets are dominated by national governments so that governments are the market. Government can use its buying power to determine the ownership, size, structure and performance of national defence industries. Government procurement policy determines the openness of its national defence market (entry and exit) where national 'protectionism' is often justified on grounds of security of supply and wider economic benefits (e.g. jobs; technology; spin-offs; exports). These claimed wider economic benefits need to be assessed critically. For example, are there lower-cost methods of achieving jobs (e.g. construction projects); and is job protection the major aim of defence policy?

Markets dominated by governments are likely to be inefficient. Special interests will determine government policy through the 'military-industrial-political' complex (comprising armed forces, bureaucracies, producer groups and politicians). Such interest groups lack the incentives and penalties of profit-sensitive entrepreneurs operating in competitive markets. These groups will focus on 'fair' competition, 'managed' and 'integrated' markets and industry structures which will benefit producers rather than consumers and taxpayers. Governments and their bureaucracies lack the incentives and expertise to determine an industry's most efficient structure.

The Single Market and the EDTIB

Economics offers some guiding principles for the creation of a Single Market for defence equipment and for the EDTIB. Both are related through the European Commission's commitment to create a 'stronger and more competitive European defence industry.' A competitive industry would be 'strong' and economics suggests that such an industry would

comprise a large number of privately-owned firms, free entry to the market and competitively-determined fixed price contracts. In such a market, profits attract new entrants and losses lead to exits. In contrast, a 'weak' defence industry would be characterised by state-owned firms, subsidies, protectionism and cost-plus contracts. The challenge is to translate these economic principles into clear policy guidelines.

The economist's model of a perfectly competitive market is no more than a useful starting point for analysis. Defence markets depart from the economist's competitive model. They lack large numbers of firms and free entry; they often comprise protected state-owned firms receiving subsidies; take-overs are limited; and typically, contracts are cost-based with 'soft-budget' constraints. Nor are defence markets characterised by large numbers of consumers. Instead, voters elect politicians as their agents to implement defence policy with further complications arising from defence being a 'public good' with opportunities for 'free riding.'

Next Steps: A way forward

Competitive markets promote efficiency and value for money. For defence markets, this requires that markets be contestable: protected national monopolies are inefficient and need to be subject to actual and potential rivalry. This suggests that the Commission needs to continue its emphasis on the national interpretation of Article 346 (previously Article 296) concerned with 'essential national security interests.' Ideally, genuinely open European defence markets require the removal of this Article.

A genuinely competitive Single Market for defence equipment also requires a 'level playing field.' This requires the privatisation of European defence firms and the creation of free and open capital markets allowing market-determined take-overs of defence firms. Equipment procurement contracts need to be harmonised based on competitively-determined fixed price contracts with 'hard' budget constraints.

The EDTIB concept needs to be clarified and assessed more critically. Currently, there are vague references to the need for Europe to maintain 'key strategic defence assets.' But there is a lack of detail defining these assets, where they are located, why they are 'key' and who will pay for maintaining them. Much more research is required on the financing of the EDTIB and how the funding burdens will be shared, including the problem of 'free-riding.'

European defence industrial policy also focuses on technology transfer and achieving greater synergies

between military and civilian R&D. Again, technology transfer involves some complex economics: we do not live in a world of 'magic wand economics' where some central state agency achieves technology transfers instantly and costlessly by state decree. R&D markets involve private property rights which can be costly to create and their sale and transfer will require payments for access to marketable technologies. Nor does all military R&D result in technologies which have market value to the civil sector (e.g. stealth). Those who argue for state support for defence R&D spending on grounds of technology transfer need to provide convincing evidence of market failure in defence R&D markets, plus evidence on the market value of such 'spin-offs' and their transfer mechanism.

Defence budget pressures also create incentives for nations to collaborate in developing and producing advanced technology and costly defence equipment. National independence for such systems is costly. But existing European collaboration for defence equipment has been mostly restricted to aerospace systems so there is scope for collaboration in costly land and sea systems. Also, there is considerable scope for increasing the efficiency of European collaborative defence projects. Efficiency can be improved by creating a single prime contractor who would allocate work on the basis of comparative advantage and who would be subject to hard budget constraints through competitively-determined fixed price contracts. Improved efficiency requires prime contractors rather than governments to determine their major partner companies (c.f. JSF model). Also, bilateral collaboration is more likely to minimise transaction costs between partner nations.

Conclusion

The Commission's Defence Task Force has identified consolidation of the demand side of European defence markets as a long-run objective. This requires trust between Member States, especially in relation to security of supply and re-supply in conflict. Trust is based on reputation which takes time to be established.

There are also potential conflicts between a competitive Single Market and the need to maintain the EDTIB. A competitive defence market would allocate resources on the basis of a nation's comparative advantage; but such efficiency notions are likely to conflict with the concept of the EDTIB based on capabilities, competencies, maintaining key strategic defence assets, supporting small and medium-size firms and achieving a 'balanced' regional distribution of defence industry capabilities. ♦

Europe and its defence industry : improving competitiveness, mitigating risks

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Emergence and construction of a debate

Evolution of the geostrategic context, shrinking equipment budgets, intensified competition in Europe and third markets, EC intervention in the armaments domain – the current context is accompanied by increasing uncertainty concerning acquisition policies. Over the past two years, a certain number of European States have launched vast reforms of their defence policy, undertaken at the level of strategy, armed force structures, capacities and equipments, acquisition processes, and industrial and technological policies. Following the publication of its White Paper on equipment – *National Security through Technology: Technology, Equipment and Support for UK Defence and Security* –, the UK has emerged as the State which has gone furthest in formalising this effort to align the different parameters of defence policy, including military equipment procurement strategy. The latter is now built around the following major principles: “open competition”, “operational advantage”, and “freedom of action”.

Currently preparing the upcoming multiyear military spending bill following the publication of the Defence White Paper in April 2013, France is in the process of formalising the elements that constitute its equipment policy. Without waiting for publication of the bill, i.e. in advance of the national schedule, and in preparation for the European Council of December 2013, the French authorities have launched an effort to formalise the notion of “**defence economic operator in Europe**”. The purpose of this short article is not to give legitimacy to this notion but to place it in context, by recalling the evolution of the defence market structure and emphasising a key dimension which largely explains the eruption of the “defence economic operator” in the European debate – **security of supply**.

Industrial concentration and maintaining competition

Acquisition modes and behaviour in European States are evolving under the pressure of budget constraints. Within the main producing States, the public procurement authority increasingly finds itself in a **paradoxical situation**. In numerous segments, the State as a customer must deal with an historical supplier in a monopolistic position on the domestic market (or duopolistic on a European level), an advantageous position desired and deliberately engineered by the State through the placement of public orders and the granting of public financing for R&T. Industrial concentration also often goes hand in hand with the creation of partnership links between State and Supplier.

This situation is the expression of strategies of action on the part of the public authorities oriented towards their desire to maintain national competences in do-

main considered to be strategic, or in key technologies that are critical for performance and cost. This action by the political authorities also converged with the expectations of industrial groups who are looking for internal and external economies of scale, economies of management, and optimisation of resources devoted to R&D. The introduction of new contractual arrangements, which incidentally are rather complex (long-term partnership contracts with financial incentives; service-based contracting), was intended to provide incentive for the contractor to adopt the most efficient economic behaviour. These new contracting modes are also supposed to reinforce the negotiating power of the authorities and create pressure on suppliers similar to that created by competition. Meanwhile, competitive forces continue to prevail in the subcontractor chain. Overall, however, over the past 10 years, whatever the acquisition strategy, we see a rather pronounced stability in the group of the main suppliers to the armed forces, particularly within the LoI States (UK, France, Germany, Sweden, Spain and Italy).

Directive 2009/81/EC, a compromise between diverging interests

Today, the trend is towards **reinforced competitive incentives** and a return to market contestability, a change of direction confirmed by the reorientation over the last two years of acquisition strategies in the UK and, more recently, Germany. With the *directive 2009/81/EC on the award of contracts in the fields of defence and security*, the European Commission is also making a major contribution to restoring competitive pressure as one of the principal levers intended to bring down the cost of defence equipment.

In harmonising the rules governing public defence contract awards, its intention is to introduce a greater degree of legal and economic rationality into public contracts, i.e. in an area where political criteria might prevail. During the drafting of the text of the directive, negotiations between the European Commission and the Member States once again highlighted the **diverging interests** between armament buyer-producer States (States that are “historical” producers and exporters, European States which have developed an industrial base via cooperative programmes and offsets) and buyer States with no industrial capacities and no ambition to create any from scratch. Divergences were also present between companies, depending on their size, their position in the value chain and the historical depth of their relationship with the domestic customer. The link maintained by certain European States with the USA represented another dividing line.

The difficulty now lies in the **consistent and harmonised application** of the directive by all EU Member States in order to avoid recreating market distortions. The European Commission will have to keep a close eye on the use of exclusions by the procurement authorities (including recourse to article 346), as well as the application of rules concerning subcontracting and the elimination of intra-European offsets.

Effectiveness of public expenditures and industrial policy

The transposition of this directive comes at a favourable time, against a backdrop of shrinking demand for military equipment in Europe encouraging governments to adopt an approach centred on allocative efficiency of budgets. This **quest for effectiveness in public spending** recalls that public defence contracts are not, by their nature, an instrument of intervention, their primary function being the procurement of equipment for the armed forces. However, due to the weight of public armaments contracts and the allocated budgets, the award of such public contracts have a *de facto* “instrumental” function as they contribute to the orientation of technological and industrial development. These two objectives – considered to be complementary by some and antagonistic by others – necessarily require choices to be made. These choices are based on “industrial policy”.

Today, industrial policy remains largely the responsibility of the States. Accordingly, it is no accident that the advances made by the European Commission have been achieved within the framework of competition policy. However, Article 173 of the Treaty on the Functioning of the European Union (“*The Union and the Member States shall ensure that the conditions necessary for the competitiveness of the Union’s industry exist*”) leaves the European Commission the possibility to take initiatives aimed at coordinating the actions of Member States, through guidelines, exchange of best practices and the evaluation of industrial policies.

The publication of a new **communication on the defence and security sector** on 24th July 2013 should be seen in this context and illustrates the fact that the right to competition does not preclude orienting and boosting certain economic sectors. A certain number of regulatory and technical actions are listed therein. This communication in its entirety constitutes a relatively disparate roadmap, ranging from standardisation to certification, access to strategic raw materials, support for SMEs, development of competences and skills, energy, space, synergies between civil and military research support for innovation (within Horizon 2020, and a potential Preparatory Action on defence capabilities critical for CSDP operations), and competitiveness on third markets. The European Commission thus goes as far as its prerogatives allow, as it had already done 16 years earlier with the communication “*The challenges facing the European defence-related Industry*” (1996) and its 14 proposals for action (1997). At that time, States were reluctant to see the communitisation of a sector in which companies were still closely linked to the national state customer.

In 2013, the structures and tools of armaments cooperation have been reinforced and anchored to the European institutional architecture. Links between the State and defence companies have been loosened. Privatisation, the arrival of new investors among shareholders, diversification of the customer portfolio and internationalisation of activities, have all contributed to this movement. Defence industries have greater autonomy in their industrial and management

decisions. The opening up of national markets to foreign competition is no longer simply a “credible” threat or a pretence, but a reality in a number of producer countries.

Criticality and dependencies

These changes in the European defence market should not cause us to lose sight of the **raison d’être of the defence industrial sector** -- to produce defence equipment and, therefore, to constitute a tool for defence and security policy. Directive 2009/81/EC recognises this when it recalls “*Defence and security equipment is vital for both the security and the sovereignty of Member States and for the autonomy of the Union*”. The “*sensitive nature*” of goods and services in the defence sector results in specific requirements, particularly in the fields of security of information and **security of supply**. The fact that the European Council of December 2013 has placed on the agenda the question of reinforcing the European defence industry clearly shows that security and defence considerations are relevant to the determination of industry operating conditions and to the elaboration of demand for military equipment. Never be dependent on a decision by a foreign nation, maintain an advantage in critical technologies, be capable of rapidly responding to demand for equipment in a crisis – these are the objectives which justify investigating the decisive factors affecting security of supply.

Ensuring security of supply of equipment, systems, components and raw materials raises the question of **exposure to the risks of dependencies and failures**. This means that buyer States and prime contractors/integrators must monitor the supply chain to avoid being left in a vulnerable situation in the event of a broken link, particularly on strategic technological nodes. The more **the supply chain extends internationally**, the greater the risk of dependencies on external suppliers and procurement systems. Underestimating the degree of exposure to these risks can have a **domino effect** in terms of impacts on the industrial and operational domain. In view of this, for certain equipment items considered as sensitive and critical, **European sourcing** (i.e. design, production and maintenance sites to be geographically located in Europe) must be included among the main selection criteria for a proposal, in the same way as the cost criterion. This implies that European States adopt a **common approach to decisive factors** affecting security of supply and an exchange of best practices between companies in order to manage and anticipate “supplier risks”.

This approach is all the more difficult as the notion of security of supply can have different meanings depending on whether it is defined by political, military or industrial entities, and from one State to another. It presupposes a **common evaluation of the degree of criticality** of equipment and technologies dedicated to defence and the level of acceptability of failure situations. In addition, the “European” character of the sourcing calls for the establishment of verifiable **key parameters** allowing government officials to ensure that conditions for security of supply have been satisfied. ♦

Is there a need for a new definition of what constitutes a “European defence company” ?

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In this paper, I will first describe Sweden’s posture towards Europeanization of the defence market, EDTIB and Level playing field (LPF). Thereafter, issues are discussed which I regard as affecting the idea of a new definition of a “European defence company”. To conclude, two central arguments in relation to the issue are discussed, followed by questioning the added value of a new definition.

Swedish posture

The Swedish official posture is highly supportive towards the EDTIB, LPF and a harmonization, increased transparency and openness of the EDEM. Future resources, technology development and development of the EDTIB should to a large extent be performed within a collaborative European structure. All collaborative endeavours must be justified by optimized use of resources; where seen justified by operative needs and increased cost efficiency. All such development should also strive to promote favourable and equal competitive conditions. Sweden however also has other strategic, non-EU partners that are prioritized for collaborative partnering in defence technology and capability development; the U.S., Singapore and others.

A strong basis for all defence procurement is that it should be open and competitive, and that preferential acquisition should be avoided. The Ministry of Defence declared in 2009 “Principles of defence materiel acquisition” in the following way:

1. The primary alternative should be to modernize or upgrade existing defence materiel, preferably in collaboration with other nations
2. The second alternative should be to procure already developed and operative equipment “off-the-shelf” preferably in collaboration with other nations (*and if that is not possible:*).
3. Thirdly, develop together with other nations, in collaboration (*and if that is not possible, only in exceptional cases:*)
4. Develop indigenously

Thus, there is a strong focus on cost efficiency and open competition. Since 2009, two technology areas have emerged as being de facto prioritized by the Swedish government: Gripen fighter and concerned technologies and submarines, and some related technologies.

During 2013, the government’s three official, prioritized areas regarding defence industry are: European Council 2013, and questions regarding the Defence task force; equal competitive conditions and an open defence materiel market; and pooling and sharing. A list of other less prioritized, but still important areas

include EU-related issues as the Capability Development Plan (CDP); implementation of the defence and security procurement directive; security of supply; EDTIB, research collaboration with the European Commission (and other actors); and clusters (including centres of excellence). The concluding policy approach thus points to that the level playing field is more prioritized than the preferential protection of certain defence-industrial capabilities.

Several of the defence companies in Sweden are owned from abroad (notably Kockums, Hägglunds and Bofors), albeit Saab (which does not have a foreign owner) represents two thirds of the defence production in Sweden. Compared to other EU members, Sweden does not have an official defence-industrial policy, nor is there any government ownership in the defence industry.

The present conservative coalition government (in power since 2006) largely has a hands-off relationship to the domestic defence industry; the companies should survive based on their own merits and competitiveness. The previous government led by the Social Democrats pursued a similar policy for many years – all of the foreign acquisitions of Swedish defence companies as well as the privatization of state-held defence industrial assets were made under their rule. The export support has however been increased under the present government. The implicit defence-industrial policy has thereby had a consistent course since the mid-90s. With an upcoming election in 2014, the Social Democrats are now increasingly addressing the issue of protecting Swedish jobs in high tech industries, e.g. the defence industry.

To conclude, Sweden overall has a highly market liberal approach to the defence industry. At the same time there is a broad and sophisticated defence industry in Sweden – where two large technology areas are prioritized. Based upon the background described above, nothing points to that the Swedish government would see a new definition of a “European” defence company as a prioritized matter based upon political priorities. However, based on judicial and legal matters as on how to decide what organizations or companies that could become beneficiaries of certain priorities for the protection of an EDTIB, definitions might need to be defined in a legal sense.

General discussion

The Swedish government’s de facto policy towards the defence market is that it very strongly supports the defence and security procurement directive and the creation of an EDEM. The MoD and the defence procurement agency (FMV) are highly accommodating and obedient towards the intentions of the overall EU defence market harmonization. FMV appears to be extremely risk averse; pushing open bidding and non-preferential bidding to the extreme. According to several comments from the defence industry; the MoD and the procurement agency are overly trying to be “the best pupils in the class” by following the rules and that Sweden is opening its domestic market whilst the other EU members are still protectionist. In my view, this holds some truth.

Regarding Sweden's aspired position in an EU defence research and defence technology community, Sweden's ambitions do not match with the resources being put in. The defence research funds have since 2006 decreased with about 60 %. In parallel, the Swedish defence export has since 2002 more than doubled. This points to a shift of focus in the defence innovation system, from lower technology levels (TRL) and basic research, towards exportable developed equipment.

The issue of ownership in the defence companies constitutes a stepping stone in creating a shared definition of a new definition of a 'European' defence company. Of the LOI nations, there is substantial government ownership in the defence industry in France, Italy and Spain. Germany also has institutionalized ownership structures that to some extent bind companies to some *länder*. In the UK and Sweden, there is no government ownership – but of course certain mechanisms of government veto and influence. Outside of the LOI, government ownership (partly or wholly) is more the rule than the exception. Government ownership may in theory not create any different company behaviour, but it is likely that it will create inertia towards full economic business rationality. Security of Supply is a concern for all nations. Security of Supply is of course also a priority for the Swedish Armed forces. With several of the defence companies owned from abroad and a highly market liberal defence-industrial policy, it is however difficult to truly do anything about it. There are certain undisclosed contracts between the Swedish defence companies and defence companies regarding their continued presence in certain technology areas and supply of certain components.

No defence companies anymore provide all their components by themselves or domestically; they rely upon specialized suppliers. The defence innovation is no more leading the general high tech development. In electronics, defence companies to a large extent are combining components that are developed by the general electronic components manufacturers. Through the combination and the addition of certain defence-specific applications, a modern defence system is created. This is also the case in the US, where for example certain components that have their performance defined by rare earth metals are manufactured in China. Therefore, it is seldom meaningful to aim to define and insulate a "European" supply chain. What could be done is to identify and pinpoint certain system integrators as being crucial for providing defence systems for European needs (e.g. Thales, EADS, BAE Systems, Finmeccanica and Saab). However, this would create a protected oligopoly concentrated to the LOI nations – which would contradict the notion of an EDEM and LPF through the entire EU. It would

also run the risk of creating an even more marked fence than today between the large system integrators and SMEs. I am also personally suspicious of intents to define what is "defence innovation" and what is not – the European defence innovation infrastructure must benefit from and exploit the technology development of the non-defence sector.

If a new definition would be created, would that exclude or marginalize non-European defence companies? That would be a considerable step back in time, and would most certainly trigger U.S. protests.

The domestic defence-industrial infrastructures among the EU members are very different. In the LOI nations, they are highly developed. At the other end, there are nations where the defence companies are not at all internationally competitive, and their production is entirely an effect of offset. The government influence and support for such companies are probably immense. Paired to this, there are still nation-specific legal structures, traditions and ownership designs that would make a new definition imprecise in order to be able to cover all companies.

Offset is still very important for many defence companies. It will continue to be so – regardless of what the European Commission declares. It is unclear to what extent a new definition would affect the use and scope of offset, but since offset constitutes such a large share of defence companies' activities and turnover; I expect the connection to be made.

Implications

There is a need for a new definition in order to better safeguard the EDTIB. Certainly, it would be possible to create a new definition. However, it is difficult to see the need for it and what gains it would bring. Arguments for such a definition would be entirely political, and counter-intuitive to globalized, competitive markets.

There is presently an opportunity for issuing such a definition. With the upcoming European Council manifestation on the EDTIB later this year, yes, there is such an opportunity.

What would the added value be of a new definition of a "European" defence company? In legal terms, there might be a need in order to decide upon who could be recipient of certain support – such support would however be the result of certain political priorities. If the EU members and the Council would decide upon increased protectionism of the EDTIB (which I doubt), the need would occur as a natural consequence. It would be extremely difficult to agree upon a shared definition; it would likely include a number of exceptions. The limited gains would hardly motivate the extensive work and negotiations that would have to be performed. ♦

Future of European Defence Technological and Industrial Base- Polish approach

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General issues

If the Union aims to be an important player in international political and strategic relations it should possess corresponding means. Strong defence industrial and technological linkages between the European countries constitute a key component of the successful European Security and Defence Policy (CSDP). Without closer partnership the EU won't be able to grow out of our technological gap (and the 2011 Libya intervention has demonstrated very well). Collaborative programmes allow greater economies of scale. These savings and risk sharing will also allow us to acquire more advanced equipment, despite significant cuts in defence budgets across the continent, keeping important industrial and technological capabilities in line with the needs of CSDP.

Evolution of Polish vision

The multinational defence research, development and procurement programmes are anticipated to become an even more common occurrence in the future compared with what has been accomplished in the past, but those will only be as successful as their partnering nations find a common language by defining their requirements and rules of cooperation. In fact, no State is able to afford to research, develop and produce by itself a significant defence programme anymore. Therefore, some further specialisation among the nations seem to be needed. The principle of healthy competition among the companies within a programme to maximise economic efficiency within the EDTIB and industrial base is definitely the right approach. In this context, the EDTIB was designed to supply the EU with cutting-edge technology and defence equipment, the only logical solution to maintain the EU's defence independence and to take advantage of possible economic opportunities with dual-use technological applications.

The new regulations can lay the groundwork for the thorough transformation of the European defence market and represent an interesting tool for this one. New interpretation of the Article 346 aims to make its application an exception, reserved for the protection of truly "significant" national security interests and to facilitate the development of an EU defence equipment market that will increase industrial competition, reduce duplication and lower prices. But the question is how to define what constitutes "necessary for the protection of the essential interests of its security"? For Polish officials (and for several other member states), it is a high risk that the less competing companies will be definitely eliminated from the market. Such a situation could damage their security and economic interest leading to a fragmented and economically ineffective defence sector. In this context, the greatest danger would be the increase in dependence on supply of equipment from the US. Poland remains opposed to

the proposal from the Commission to narrow down the use of Article 346.

New defence procurement legislation came into force in Poland on 20 February 2013 which brings the country's procurement system for defence equipment in line with EC directive (2009/81/EC). Major implications of the new rules are that Poland's defence procurement has become opened up to EU member states and their defence companies first of all. On the other side, this directive will significantly reduce protectionist practices, as offset agreements, considered vital for security supply. Indeed, the Poland and several other European countries attach a high importance to direct offsets to hold up national defence industry. The removal of offsets would have the important impact on the Polish defence industries some of which could disappear. Until the end of 2010, the Poland concluded 16 offset agreements with foreign contractors with the value of USD 8 billion. For Poland, these are the States which should decide on the use of the offset.

The implementation of this directive and the next Council summit in December has spared debate on the final form of Poland's industrial defence sector and the reflection on the future of European defence industry. During the recent years, Warsaw has adopted a mainly state-oriented defence model, with the State acting both as an industrial stakeholder and a customer. Still today are many who believe that the Polish industry these are only state-owned companies. A few years ago, the international cooperation in the field of defence was perceived as a danger rather than an opportunity for the Polish industry. The objective was to obtain a license production (through offset policy). It was not important whence the investor (EU, USA, etc.) came but how much he offered. This attitude resulted from the fact that Poland did not perceive the EU as an independent strategic player and did not want to engage in strengthening the CSDP. Fortunately, this approach is beginning to change and CSDP became one of important elements of Polish foreign and security policy.

Polish defence sector

To understand the Polish approach on the future of the EDTIB, it is useful to first quickly review a process of Polish defence industry consolidation.

Polish defence industrial restructuring began later than in the other countries in the region. The first Strategy for the Restructuring of Defence Industry was initiated in 1999. Its main goal aimed at fostering specialization of defence companies. In 2007, the Polish government decided that a fusion of military industry into a single holding Bumar is the most appropriate solution to consolidate capital as well as to boost R&D, marketing and export. This state-owned group incorporated 27 individual companies from the electronic and land branches. In total 40 companies are linked to the holding. HSW (responsible for assembly, among others, of Krab self propelled howitzer) and WZM Siemianowice (the manufacturer of Patria/'Rosomak' AMV), the two most important suppliers of armoured vehicles remain outside of the

In the meantime, the Polish government had launched the privatization process of 13 remaining defence companies. The revenues earned by the privatization of these companies were used to co-finance other restructuring activities. As a consequence of the strategy of structural transformation, the majority of the Polish defence industry will therefore remain state-owned.

In 2001, EADS/CASA acquired a 51 % stake in the small aircraft company PZL Warszawa-Okecie, and Pratt & Whitney Canada was selected in March 2002 by the Polish MoD as a strategic investor in the aircraft engine manufacturer WSK PZL Rzeszow. AgustaWestland, Pratt & Whitney and Sikorsky have taken over formerly state companies PZL Swidnik, WSK and PZL Mielec, respectively. The heartland of Poland's aerospace sector is now dubbed Aviation Valley. With these investments, the aerospace industry became the most competitive, providing components and aero structures for their parent companies. Thus, these aeronautic companies are integrated into the global supply chain as subsidiaries of leading European and US corporations.

Nowadays, four scenarios consolidation of Polish industry are possible: 1. status quo, 2. creating a new group, 3. the creation of two holding around Bumar and HSW and finally 4. further consolidation initiated by Bumar.

This chaotic consolidation is due to the fact that Poland has never adopted a real industrial policy strategy. The decision taken by the Government on the consolidation will impact the Polish position on the strengthening of EDTIB. A new step in the consolidation of the Polish defence industry was taken with the rebranding of the Bumar Group as a Polish Defence Holding (PHO) last May. The PHO would like to become a major force in consolidating the Polish fragmented defence market and intensify cooperation with players in the domestic market and abroad. In order to do this, the PHO wants to merge with SHW. Although negotiations between the PHO and HSW are underway, they reflect a new approach adopted by the largest Polish manufacturer. It aims to significantly increase its spending on research and development to some 337 million zloty this year, up 42, 7 % from 236, 2 million zloty a year earlier.

Consequences for the EDTIB Model

So, the most important question is how to maintain continuity and security of supply, to maintain and develop cutting-edge technologies at a better price and to find a balance between nationally-embedded production and a more open, competitive EU market. For Poland, the regional specialization and creation of centres of excellence can stimulate the strengthening of EDTIB. In Poland this role could be played by the Aviation Valley.

It's obvious that apart from national demand, the Polish companies badly need inflow of foreign capital and technology, which can be mostly guaranteed, by offsets, the polonization of the procured equipment which is one of the key MOD goals for the coming years. In the same time, those companies

would become less dependent from the Polish MOD through international cooperation. In this context, the Polish government should adopt European approach and promote multinational investment programs and R&D projects in armaments as a means of developing and procure weapons. In this way, Warsaw could support its defense industry and, at the same time, contribute to the development of the EDTIB. It's necessary to maintain a diverse and robust military R&D and versatile defence industry.

Interesting case is the joint offer of MBDA and Polish Bumar group of the "Shield of Poland" system of systems for air defence. The Polish side would be responsible for radiolocators and systems of command and the French for the Aster 30 and VL MICA missiles. The European partner agreed to participate in development and further exports of system combining its missiles with Polish electronics, command and control systems and various other sub-systems. Cooperation with MBDA could permit the Polish industry to bridge the tech gap and in the second time, allow to the Polish industry to export its technology in radio location and C4ISR systems. Indeed, providing medium-range air defense with lower-tier missile defense capabilities for Polish armed forces will require the cooperation of Polish industry with its technologically advanced foreign partners. The strategic approach that Warsaw took in developing these capabilities centers around a long-term partnership between the Polish government and defense industry and foreign partners.

For its part, Raytheon offers his solutions for short range and medium range air and missile defense (PAC-3 MSE) which could complement Poland's agreement with the US to host the land-based element of the European Phased Adaptive Approach (EPAA) beginning in 2018, which is the US contribution to NATO's missile defense capability that is designed to address the potential of long-range ballistic missile (LRBM) threats to Europe. In this context, Warsaw and Washington signed, in September 2011, a Reciprocal Defense Procurement Agreement (RDPA) aimed enhancing bilateral cooperation in security and defense by "greatly" reducing barriers to trading defense articles between the two countries. The accord requires both countries to give up national preference in purchasing weapons. They must also exchange information related to the purchase of arms, as well as protect acquired technology and intellectual property, including software. This agreement is criticized by many groups in Poland as bad for Polish industry, due to the inequality existing between the Polish and US military industry capabilities. By this agreement, the Americans also want to strengthen their presence in Poland (partnership between Sikorsky Aircraft Corporation and PZL Mielec). However, one should not overestimate this agreement was also signed by other European countries.

Another similar project concerns Polish upcoming tracked fighting vehicle program. BAE Systems (and more specifically BAE Systems Hägglunds AB) has teamed with PDH to win a contract and to offer a family of 25-ton-plus tracked fighting vehicles to

meet the Polish military's Universal Tracked Platform requirement.

The first vehicles jointly produced by PHO and BAE Systems are to leave factories in 2018. The first models should be ready by 2018.

These two cooperation agreements show that the consolidation of the Polish industry will be through military programs that could enable Polish companies to enter to the global market. This is particularly interesting for Polish electronic/sensor industries could develop their own capabilities.

In the same time, it's important to attach much more attention to military aspects through definition of common priorities for the European armed forces' procurement, harmonization of demand and synchronization of procurement schedules. The European Defence Agency (EDA) is an excellent place to coordination and reflection on these thematic essential for the future of EDTIB and its role should be strengthened.♦

