

# **The Netherlands' Defence Industry Strategy**

10 December 2013

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## 1 Introduction

### Background

The first Defence Industry Strategy (DIS) was published in 2007. The ministries of Defence (the MoD) and Economic Affairs evaluated and updated this strategy during 2012 and 2013. The appendix contains a brief report on the evaluation. The result is this updated DIS, which marks a new step in the intensification of the dialogue and cooperation between government, the Netherlands Defence- and Security Technological and Industrial Base (NL DTIB)<sup>1</sup> and the knowledge institutions, as well as in the efforts to position the NL DTIB in the international context.

### Purpose

National security<sup>2</sup> is a responsibility of the government. To fulfil this responsibility the government must have high-quality armed forces at its disposal. Continuous modernisation and innovation is a crucial characteristic of armed forces that are fit for purpose in today's and tomorrow's world. The challenge is both to build and maintain adequate military capabilities as well as to make the best possible use of the available resources. One way of achieving this is through cooperation with industry and knowledge institutions in the Netherlands within a partnership known as the 'Triple Helix'. Conversely, this cooperation enables industry to develop innovative products and services necessary to secure a strong positioning in the international defence market. Operational and financial sustainability are key criteria for the MoD, while national and international cooperation creates opportunities for arriving at intelligent choices. Acknowledging that an active government policy is required to achieve this, we have defined the following objective:

Based on the operational interests and needs of the armed forces, the Defence Industry Strategy (DIS) aims to position the Netherlands' Defence- and Security-Related Industry (NL DTIB) and knowledge institutions in such a manner that they can make a high-quality contribution to the Netherlands security, whilst also operating competitively in the European and international markets and in supply chains.

### Triple Helix reinforces innovative capability and independent position

Cooperation between the government, NL DTIB and knowledge institutions is important for all parties. Government in this context refers to the Ministries of Defence and Economic Affairs. The NL DTIB consists of small, medium-sized and large companies that are active in this market, either with end products or as suppliers to original equipment manufacturers. The NL DTIB comprises relatively few manufacturers of complete weapon systems, but includes numerous small and medium-sized enterprises(SME) as suppliers of (sub-)systems and components. Many

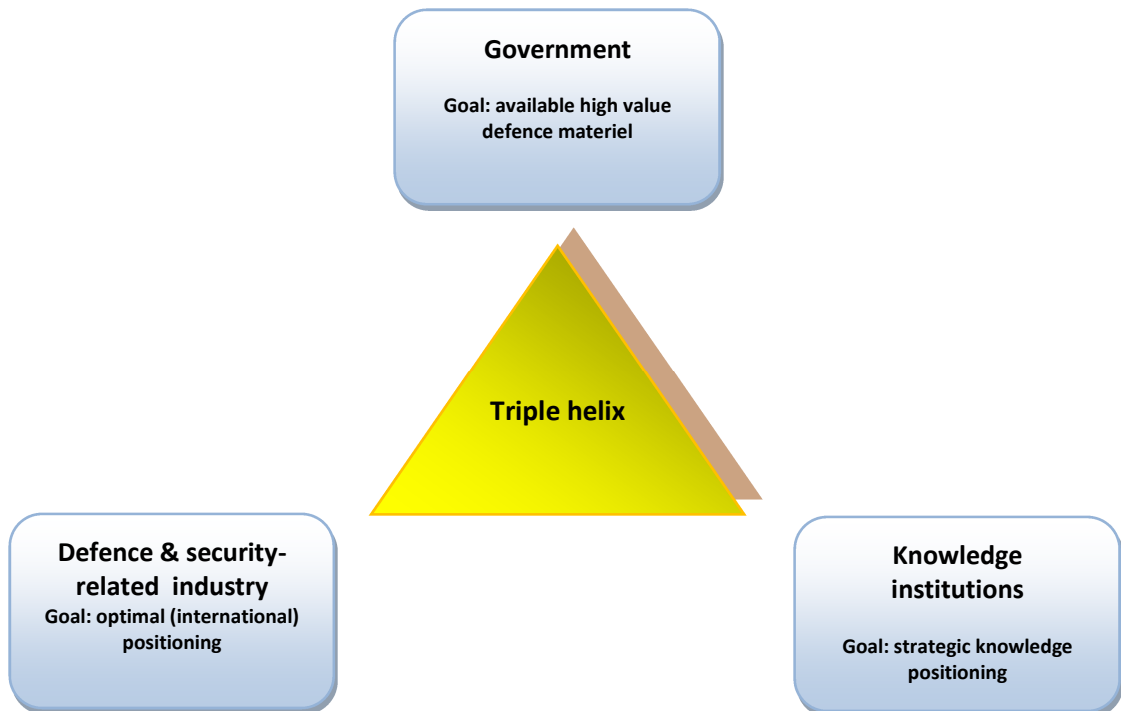
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<sup>1</sup> In this document when the abbreviation NL DTIB is used, it is meant to include the security related industry.

<sup>2</sup> National security encompasses territorial, economic, ecological, physical and socio-political security.

companies are niche-oriented and are active in both the civil and military domain. The knowledge institutions are universities, semi-public institutions and knowledge institutes, such as TNO, NLR and MARIN. The government, NL DTIB and knowledge institutions jointly constitute the Triple Helix, a dynamic platform for initiatives and interaction. This close collaboration reinforces the innovative capability of the entire defence and security sector, which is vital for an organisation such as the MoD to stay one step ahead of evolving threats. Moreover, an innovative image is important to enable the MoD to recruit personnel, while cooperation with industry gives the MoD a broader acceptance in wider society. A well-functioning Triple Helix thus touches on the essential interests of national security and reinforces the Netherlands' international position in both the governmental, research and industrial context. The DIS also describes how these three parties jointly contribute towards this. Moreover, the DIS goes into what is necessary to enable the NL DTIB and the knowledge institutions to make their contribution. Expertise, trust and sustainability are key terms that must permeate every aspect of the Triple Helix. The Triple Helix is an important platform and pillar underpinning the position that the Netherlands aims to occupy as a country with the ability to make decisions independently, while also being a strong and valued partner in international cooperation.

The Triple Helix can only function effectively if all parties have a clear understanding of their role and responsibilities and if there is sufficient scope to give shape to the cooperation. The NL DTIB takes operational and investment decisions partly on the grounds of the government's policy choices. The programming of the knowledge institutes is also based on these policy choices. The DIS creates the frameworks in which this interaction takes place. The objectives of the three parties come together in the Triple Helix, as illustrated in the diagram below. To achieve an optimal result, the three objectives must be pursued as a coherent and interconnected whole.



**Reader's guide**

Chapter two gives an analysis of the national and international developments and circumstances within which government, NL DTIB and knowledge institutions operate. Chapter three mentions a number of government policy aims and assumptions that are relevant for the DIS, focusing on aspects of the MoD and Economic Affairs policy. Chapter four deals with priority technology areas/ industrial capabilities and their relevance for essential national security interests. Finally, chapter five operationalises the DIS with the aid of policy instruments.

## 2 Market and Environment Analysis

### General

The market and environment are sketched in this chapter in order to obtain insight into the context in which the cooperation in the Triple Helix is given shape. The most important conditions under which the NL DTIB operates are partly determined by government agencies.

Defence budgets have been cut in many Western countries, making cooperation imperative. This cooperation takes place on many different levels; between governments, but also with and between knowledge institutions and the Defence industries, both at national and international level. It is only thanks to this cooperation that defence equipment can be efficiently and effectively developed, manufactured and maintained. The government thus benefits directly from fruitful partnerships.

The defence market as it stands is neither open nor transparent, whether at European or global level. There is still no level playing field.

Moreover, the environment is highly dynamic, with rapidly evolving developments on both the supply and demand side. This concerns technological advances as well as regulatory changes whose effects are not yet clear. In response to this fast-moving environment, the parties in the Triple Helix may jointly conclude that their respective roles and strategy need to be adjusted.

The defence market also poses other specific challenges, notably export restrictions and the relatively large R&D efforts that are required from the NL DTIB. Knowledge transfer from the defence sector to other sectors of the Dutch economy can generate extra benefits for society. In addition, the entire Dutch economy can benefit from international partnerships of the NL DTIB companies. Knowledge obtained by these companies from other countries can be absorbed elsewhere to engender extra benefits for Dutch society.

As explained below, these circumstances play a role both in the European and the global context.

### European perspective

Countries in Europe face the challenge of reconciling an ongoing reduction in resources with the need to preserve effective and efficient defence organisations while also increasing their military capabilities. This has spawned initiatives such as *Smart Defence* (NATO) and *Pooling & Sharing* (the EU and the European Defence Agency (EDA)). Both initiatives place emphasis on the need for international cooperation in the field of defence. Cooperation, however, is not a goal in itself for the Netherlands. Every cooperative activity must contribute towards the required capabilities for the implementation of one or more of the armed forces' three main tasks, increase the power to act and reduce the military shortfalls.

The current European defence market is confronted with two developments. First, the structural problem of fragmentation in the European defence market. To protect essential interests of national security, member states overwhelmingly favour their national industries when procuring defence equipment. This results in widespread duplication of industrial capabilities in the EU, so that economies of scale are not or insufficiently harnessed in development and production. The European defence industry thus fails to achieve its full competitive potential. Industrial overcapacity for the development and production of air and land systems and in naval shipbuilding still exists, despite the restructuring process that large defence companies in Europe have undergone in the past twenty years.

In July 2013 the European Commission issued a communication about strengthening of the competitiveness of the European defence and security industry<sup>3</sup>. The communication forms part of the report on the Common Security and Defence Policy as presented by the chairman of the European Union to the European Council. In the communication, the Commission proposes a large number of measures, Key action is monitoring the correct application of the directives for the creation of an internal market (EU Directive 2009/81 about defence and security procurement and EU Directive 2009/43 about the intra-community transfer of strategic goods), the rapid phasing out of offsets, and monitoring of the correct application of Article 346 of the Treaty on the Functioning of the European Union (TFEU)<sup>4</sup>. This article permits derogations from European internal market rules.

The European Commission is also striving for maximum synergy between civil and military applications research. A further proposal concerns the development of standards, the application of European energy concepts and a check on the use of scarce raw materials sector. The Netherlands is particularly keen to see improved access to the supply chains which are now mainly organised along national lines. Both directives – as shown by experience – create market transparency at prime contractor level, but have failed to break open the supply chains. The number of publications of Member States on the grounds of Directive 2009/81/EU is growing. The number of publications invoking the subcontracting clause<sup>5</sup> has been very limited so far. Dutch industry is mainly a supplying industry which in the past obtained a position in supply chains with the aid of offsets.

The second development is that the economic crisis, among other reasons, has prompted NATO and EU Member States to steadily reduce their defence budgets. International military cooperation between Member States constitutes an important method for increasing their military capabilities and reducing the military shortfalls. The Netherlands is leading with respect to this process in NATO and the EU.

The consequence of this development for the national and European NL DTIB is that the demand for defence equipment is diminishing and decelerating. The NL DTIB's inevitable reaction to this contracting market is to undertake rationalisation and restructuring in Europe (closer cooperation between companies, company closures and takeovers) and to reinforce its efforts in markets outside Europe, such as in the Middle East, Asia and North and South America. Even the largest defence market, the United States, will not escape the impact of the defence budget cuts in the longer term. The United States is also contending with industrial overcapacity due to the phased withdrawal from Iraq and Afghanistan and faces major uncertainties regarding the consequences of the defence budget reductions in the coming years.

### **Global and Transatlantic perspective**

The Defence and Technological Industrial base in Europe, the United States, Russia and China will increasingly encounter one another in their export efforts in such markets as the Middle East and South-East Asia. Theoretically, defence spending on equipment and services will become more balanced at global level if growth in the new markets compensates the contraction in the traditional Atlantic markets. The US is still the largest market, but its relative interest will gradually decrease over the coming five years.

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<sup>3</sup> Towards a more competitive and efficient defence and security sector, 24 July 2013, COM (2013) 542.

<sup>4</sup> Article 346 TFEU-

1. The provisions of the Treaties shall not preclude the application of the following rules:

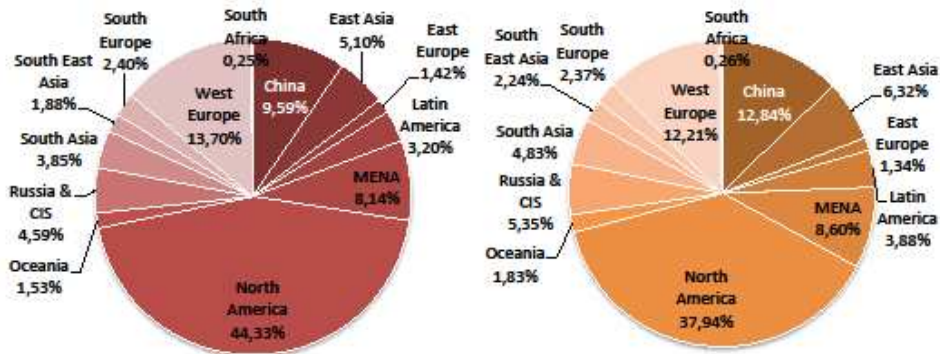
a. no Member State shall be obliged to supply information the disclosure of which it considers contrary to the essential interests of its security;

b. any Member State may take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions and war material; such measures shall not adversely affect the conditions of competition in the common market regarding products which are not intended for specifically military purposes.

2. The Council may, acting unanimously on a proposal from the Commission, make changes to the list, which it drew up on 15 April 1958, of the products to which the provisions of paragraph 1 (b) apply.

<sup>5</sup>With the aid of the subcontracting clause an acquiring body can oblige the potential suppliers to put out thirty per cent of the contract value to public tender

In the future, various emerging countries are expected to invest more in defence programmes than France and the United Kingdom. The emerging markets are increasingly requesting their suppliers for (forms of) offsets or industrial participation when procuring equipment. Despite their expansion, the markets of the emerging countries are usually not easy to enter. In turn, Defence companies in the United States and Europe are anticipating these changing circumstances. They are becoming more selective in their choice of markets, are investing in local establishments or takeovers in new markets, and are focusing more on combining defence activities with civil activities. This results in the following projection for global defence expenditures in percentages of the total for 2012 compared to 2017.



In Europe the *Original Equipment Manufacturers* (OEMs) of defence systems are found in the United Kingdom, France, Germany, Italy, Spain and Sweden. There are also transnational industrial groups, while European companies also carry out joint defence materiel projects in consortiums. The large US defence companies are also active in the European market. The medium-sized and smaller EU member states (including the Netherlands) have a more modest DTIB that typically acts as supplier for the large European and US OEMs. Access to these international supply chains was obtained through the offset policy towards the OEMs in these countries. The former East European states have their own DTIB which is modernising with the aid of, among other things, offset policies or comparable arrangements regarding the procurement of US and European defence equipment.



**Effects on Netherlands DTIB**

In issuing Directive 2009/81/EC, Europe made a step towards an open defence and security market. The purpose of the directive is to curb the awarding of contracts to national industry by direct agreement and demands for offset orders when international procurement contracts are issued in Europe. However, exceptions can still be made in specific cases on the grounds of essential interests of national security by invoking Article 346 TFEU. The present DIS lays down the policy governing the cases in which this article can be invoked. This is one of the most important changes compared to the previous DIS. The priority technology areas / industrial capabilities that the Netherlands has identified as closely connected to its essential interests of national security in the framework of this strategy are outlined in chapter 4.

At the same time, even with this European directive, there is still by no means an open defence and security market in Europe, let alone outside Europe. As indicated previously, the directive does contribute to market transparency at the level of prime contractors, but fails to break open the supply chains. The policy instruments from the first DIS, which were assessed as effective in the evaluation (see appendix), therefore remain as relevant as ever. In fact, due to the decreasing defence budgets in the Western countries and, hence, the defence industry's growing dependence on orders in the international market outside Europe, the instruments to promote cooperation in the Triple Helix are actually becoming even more relevant. These instruments are outlined in more detail in the following chapters.

This does not take away from the fact that the aspiration towards an open defence and security market deserves our full support, both in the European context and beyond. As this open market steadily develops in the future, it will be possible to revise the instruments in this DIS.

### 3 Government Policy Aims and Assumptions

#### **Defence Policy**

##### **General**

With the whitepaper entitled 'In the interests of the Netherlands' ('In het belang van Nederland') of 17 September 2013, the MoD has a policy document that sets out the direction for its future. The paper advocates operational and financially sustainable armed forces that increasingly cooperate with other countries, with other parts of government, with the industry and with the knowledge institutions. The organisation of the armed forces is determined within these frameworks. A powerful national defence that can be fitted into an international defence force remains necessary. This calls for permanent efforts and an awareness of the value of defence. In that framework the MoD must act as a visible and convincing representative of the Netherlands' interests, as expressed in the implementation of missions, operations and other activities, both at national and international level. In addition, the MoD must be capable of responding to changes. There is a growing need for flexibility.

##### **Knowledge & Innovation Policy**

Within the contours of the generic government and defence policy, a dedicated Knowledge & Innovation (K&I) policy gives specific direction to the development of knowledge<sup>6</sup> and innovation. Components of this policy are the Strategy, Knowledge & Innovation Agenda (SKIA)<sup>7</sup> and the Defence Knowledge Portfolio Realignment<sup>8</sup>.

The Defence K&I policy gives direction to the effective and purposeful development of a scientific and technological knowledge base within the public knowledge infrastructure for applied research. This concerns the development of defence-specific knowledge and technology which will not become available or accessible without a targeted investment from the MoD. The knowledge portfolio is periodically realigned so that choices can be made about future emphases for knowledge development at knowledge institutions.

Innovation concerns the introduction of new technologies, equipment, services, concepts and processes. It is the final step in a process that starts with the accumulation of scientific knowledge, continues in technology development and ultimately results - via prototype and equipment development - in the desired innovation. Coordination and cooperation take place within the Triple Helix. Due to the shrinking budgets and the increasing procurement of requirements off-the-shelf, MoD's role in the Triple Helix is changing. A lot of knowledge has drained away from the MoD's organisation. The industry and the knowledge institutions still have this knowledge and expertise and can fill this gap through closer cooperation. This also entails a change in the role of the industry and the knowledge institutions in the Triple Helix. More than in the past, they will be invited to participate prior to the 'requirements definition' phase. This is given shape through an innovation tool such as Concept Development & Experimentation (CD&E) or through other means.

##### **Equipment and procurement policy**

The purpose of the MoD's equipment policy is to provide the armed forces as cost-effectively as possible with the required equipment. As a rule, the MoD acquires equipment 'off the shelf'. This could either be civil products (*commercial off the shelf* - COTS) or military products (*military off the shelf* - MOTS). The COTS/MOTS principle means that the MoD will make more (and above all more intelligent) use of existing off the shelf technology and products in order to drive down the costs and achieve better cost control. This principle is increasingly pivotal in achieving the best procurement result. As laid down in the equipment procurement assessment framework<sup>9</sup>, deviation from this principle is confined to specific cases. Modularity, expandability and open standards and architectures are important conditions in the design, construction and assembly of systems and capabilities. The MoD recognises the importance of giving early consideration to the

<sup>6</sup> The term 'knowledge' refers here to scientific and technological knowledge within the public knowledge infrastructure,  
<sup>7</sup> Parliamentary Paper 32 733, no. 3 of 19 May 2011  
<sup>8</sup> Parliamentary Paper 27 830, no. 71 of 28 January 2010  
<sup>9</sup> Parliamentary Paper 32 733, no. 77 of 1 July 2012

through-life cycle of equipment in order to properly weigh up (life cycle) costs, performance, flexibility and risks.

Acquisition strategies are aimed at achieving the best procurement result given the product requirements and available time and budget. To this end, this DIS envisages an intensification of dialogue and cooperation between government, NL DTIB and knowledge institutions. The acquisition strategy comprises the following options. First, a choice is made between development (together with national or international partners) and off-the-shelf procurement of (sub-)systems or platforms. In the case of international equipment cooperation, arrangements are also made about industrial participation and workshare distribution. In the case of off-the-shelf procurement, this takes place through international tendering procedures. Then there are different procurement options: the General Tendering Act (*Algemene Aanbestedingswet*) for civil goods and services, the Defence and Security Tendering Act (*Aanbestedingswet op het gebied van Defensie en Veiligheid*) for defence goods and services and the national regulations if the conditions of Article 346 TFEU are fulfilled. Finally, procurement can take place in the Netherlands by invoking Article 346 TFEU on the grounds of essential national security interests. These options are available both for the procurement of new equipment and for the maintenance of existing equipment (or combinations thereof).

The questions "Self-sourcing? Co-sourcing? Outsourcing?" form part of the acquisition process. Non-strategic maintenance activities are outsourced whenever possible. In the case of strategic maintenance activities relating directly to the deployment of the armed forces, more cooperation will be sought with the NL DTIB. In view of the relatively small scale of the Dutch defence market, international cooperation is necessary both for the government and industry. International cooperation offers advantages in the field of development, production and maintenance. In that case, the MoD can acquire a high-quality product with a good price-quality ratio, while at the same time achieving greater interoperability with partners. Through the acquisition of knowledge, the MoD becomes a customer with a strong position in procurement and usage (*smart specifier, buyer, user and maintainer*). By participating in the development phase, industry can also improve its positioning for contracts in the production phase. By building knowledge, industry can secure a better position in the international production networks and supply chains. These are obviously advantages, but it must be remembered that there are also risks attached to international equipment cooperation.

### **Economic Affairs Policy**

#### **Enterprise policy**

The government has put in place an enterprise policy for the preservation and further improvement of the Dutch economy's competitive position. The enterprise policy aims to make the Dutch economy more competitive and innovative. Businesses and knowledge institutions also have their own responsibility when it comes to, for instance, investing (or investing more) in R&D. It should be noted here that the NL DTIB already invests a high percentage in R&D<sup>10</sup>.

#### **Generic and top sector policy**

Based on its public responsibility the government also has a role to play in promoting employment and economic growth. In concrete terms this consists of two tracks: a generic track offering scope for all entrepreneurs and a specific track aimed at top sectors.

The generic instruments provide support to all entrepreneurs, while challengers are also given a chance to make their mark. Examples of important themes are the reduction of the administrative burden, financing, education, infrastructure and tax-facilitated innovation instruments. The NL DTIB can also benefit from these instruments. The second track – the top sector policy – comprises made-to-measure policies for nine top sectors: Horticulture and Propagation Materials, Agro & Food, Water, Life Sciences & Health, Chemical Industry, High-tech Systems and Materials, Energy, Logistics and Supply Chain Management and Creative Industry. This policy is driven by the assumption that good interaction in the Triple Helix

<sup>10</sup> Source. Research report on Dutch defence and security-related industry, Triarii, 2012 (see Parliamentary Paper 31 125, no 11 of 4 June 2012)

permits a more effective response to bottlenecks and opportunities. Key terms are: demand-led, integrated and public-private partnership.

The top sectors are jointly of great significance for the Dutch economy due to their great added value, large reservoir of important knowledge and spill-over effects, while also being a fundamental link for the absorption of foreign knowledge. Other common characteristics are that these sectors are all highly innovative (jointly accounting for more than 95 per cent of the private R&D in the Netherlands) and export-intensive. They also all make a contribution to the resolution of societal challenges (including national security). Though Defence & Security is not mentioned separately as a top sector, companies in the NL DTIB form part of at least seven of the nine top sectors. As noted above, the Triple Helix within the defence domain plays a crucial role in giving shape to the DIS. In this respect, the DIS fits in well with the top sector approach.

**Policy for the defence- and security-related industry**

In view of the absence of an open and transparent defence market, the government applies various corrective instruments. In addition, the government undertakes vigorous efforts to achieve an open and transparent market. To this end, it advocates at European level for rigorous monitoring of the openness of the supply chains and presses for additional instruments to facilitate this. The government supports the NL DTIB and the knowledge institutions in their efforts to acquire a good export position.

## 4 Priority technology areas / industrial capabilities

As noted in chapter 1 the DIS is aimed at positioning the NL DTIB and knowledge institutions on the basis of the operational interests and needs of the MoD. The basic starting point is that the acquired products must be of a satisfactory high quality, while undesirable price increases and disadvantageous competitive restrictions are unacceptable.

Knowledge and expertise in the fields described below are crucial for the essential interests of national security. This knowledge and expertise are divided over the partners in the Triple Helix. By excelling in certain areas, the Netherlands can contribute to the *European Defence Technological and Industrial Base* (EDTIB).

On behalf of the MoD and the Ministry of Economic Affairs, both HCSS and TNO updated the priority technology areas in the former DIS. On the one hand, they identified areas where the MoD's most important (future) needs in terms of capabilities – and hence in terms of technology development – are foreseen (demand side). On the other hand, they established the areas where the (technological) strengths of the Netherlands' DTIB lie in the defence market. The overlap between the supply and demand side led to a subset of priority technology areas and industrial capabilities. This subset determines the direction for the protection of essential interests of national security, because:

1. these serve to maintain the required level of knowledge to act as *smart buyer/user/maintainer*, and
2. maintaining this level of knowledge is also necessary to develop and retain the basic and niche capabilities that the MoD wants to have at its disposal.

This subset provides good potential for positioning the NL DTIB companies and knowledge institutions already active in these technology areas, in accordance with the objective of the DIS.



The instruments of the DIS are focused on the following areas:

1. **Integrated (sub-)system design and development:** This concerns the design, development, production and deployment of integrated military systems. The (sub-)systems are characterised by flexibility and adaptability, minimal manning, unmanned and autonomous, low life cycle costs, energy efficient, sustainability and high deployability.
2. **Sensors, C4I and automation:** This concerns sensor systems (radar, electro-optical, acoustic, biometric) for observing and mapping the environment, the related information processing capacity and the (automated) initiation of counter-measures. The systems are characterised by sensor fusion, pattern recognition, integration in networks, interoperability and autonomous information processing and control.

3. **Advanced materials and components:** This concerns the development, production, processing and use of advanced (new) materials and components with generic applications in the military domain. New materials and components make systems lighter, smaller, faster, stronger, cheaper and smarter, offer greater protection and enable more cost-effective maintenance.
4. **Simulation and simulators for education & training:** This concerns the development and production of simulators to simulate military situations, environments and activities for education, training and mission preparation.
5. **Electronic and information protection / weaponry:** This concerns the defensive (cyber) capabilities for information protection and integrity assurance and capabilities for offensive (cyber) activities including PSYOPS and strategic information usage in connection with a counter-attack or as part of an active defence operation.

The above is an outline of the technology areas and related industrial capabilities that the Netherlands has identified as closely connected to its essential interests of national security in the framework of this strategy. An assessment of the measures that can be deployed or are necessary to protect these interests is made on a *case-by-case* basis. As far as innovations are concerned, the needs of the MoD are not confined to the aforementioned priority technologies. One example outside these areas is the need for innovation in energy systems. It is vital to achieve greener and more sustainable energy systems in order to reduce operational dependencies and vulnerabilities, as well as to comply with environmental regulations.

Cooperation – both at national and international level - is necessary for the effective and purposeful development, production and maintenance of defence equipment in the future. In this connection, a vibrant national NL DTIB is vital to support the MoD as a robust and reliable partner. It is therefore of essential importance for our national security that the NL DTIB can participate in its own right at European and global level. This justifies the application of e.g. the technology instruments available to the MoD in order to position the NL DTIB for this role. The deployment of these instruments is driven by the operational interests and needs of the MoD. Besides the fact that the MoD wishes to purchase high-quality products, it cannot afford to permit any restriction on market forces that leads to undesirable price increases or to other disadvantages arising from competitive restrictions. The implementation will preferably take place in the triangle consisting of the MoD, knowledge institutions and NL DTIB. In deploying technology instruments, the MoD also makes an active contribution to the government's enterprise policy.

## 5 Policy Instruments

### Government and the NL DTIB

Just like entrepreneurs in other sectors, NL DTIB enterprises carry the primary responsibility for securing their own market position by being innovative and being able to win contracts in the national and international defence and security market. To this end, the NL DTIB can make use of the regular instruments available to companies, such as International Entrepreneurship. Among other things, these instruments provide for insurance (Export Credit Insurance) and finance (Emerging Markets Fund, Private Sector Investment Programme and Finance for International Business). There is also a subsidy scheme for Knowledge Acquisition, Feasibility Study and Demonstration Projects that may be interesting for companies that are actively seeking export opportunities. Entrepreneurs interested in cross-border activities can also obtain assistance, information and advice from AgentschapNL<sup>11</sup>International, for instance when seeking partners by means of:

- *Enterprise Europe Network*
- Business Partner Scans
- Trade Barrier Hotline
- *International Business Starters*
- Economic missions
- Economic diplomacy, incl. Innovation Attachés
- *Partners for International Business* – directly linked to the top sectors.

Further instruments for promoting a *level playing field* and the international positioning of the NL DTIB are:

- Export consultation between Dutch exporting companies, the MoD, Economic Affairs and Foreign Affairs.
- Support with trade exhibitions by the MoD and Economic Affairs in cooperation with the Netherlands' Defence Manufacturers Association (NIDV).
- Trade missions, in some cases led by the specially appointed defence officer for exports.

The NL DTIB can also make use of the instruments of the generic enterprise policy, such as the Promotion of Research and Development Act (*Wet Bevordering Speur- en Ontwikkelingswerk*), the Research and Development Tax Credit and the allowance for Top Consortia for Knowledge & Innovation (TKI allowance). Various instruments that offer financial support, such as the SMEs Credit Guarantee Decree (*Besluit Borgstelling MKB-kredieten*) and the Credit Guarantee Scheme (*Garantie Ondernemingsfinanciering*<sup>12</sup>), are open to the NL DTIB.

Based on the total life cycle of defence equipment, instruments that can be used during the life cycle are described below. This concerns both MoD and Economic Affairs instruments. This cycle consists of the following phases:

1. (pre-)requirements definition phase
2. acquisition phase
3. operational and sustainment phase
4. disposal phase.

In all phases of the life cycle, information exchange about the current and future requirements of the MoD and the incorporation of the strengths of Dutch industry in the analyses and decision-making of the MoD are of essential importance.

<sup>11</sup> For detailed information see [www.rvo.nl/onderwerpen/internationaal-ondernemen](http://www.rvo.nl/onderwerpen/internationaal-ondernemen)  
<sup>12</sup> For detailed information see [www.rvo.nl/onderwerpen/innovatief-ondernemen](http://www.rvo.nl/onderwerpen/innovatief-ondernemen)

## **1. Instruments for (Pre-)Requirements Definition Phase**

### **Programmatic funding of knowledge institutes**

With programmatic financing, the MoD invests in applied research at the knowledge institutions in defence-specific areas of knowledge. These areas of knowledge and expertise were defined in 2010 in a policy paper entitled 'Defence Knowledge Portfolio Realignment'). The bridge to fundamental research at universities is partly built through the use of AIO trainee researchers in applied research. This instrument serves to build a knowledge base that the MoD can use as a source of advice for the acquisition of equipment, for example.

With the programmatic financing instrument (Samenwerkings Middelen Onderzoek, SMO), Economic Affairs invests in applied research at the knowledge institutes in the framework of the generic Top Sector Policy. Defence- and security-related industry can also tap into this funding via the Top Sector Policy.

### **Technology development projects**

The MoD mainly uses the technology development instrument to invest in the identified priority technology areas. With the help of this instrument the NL DTIB is explicitly offered the opportunity to position itself in the national and international market. Alignment with the defence requirements is the most important criterion when assessing proposals. In pursuit of the ambition to achieve more international cooperation, many technology development projects will also be carried out in international collaborative ventures. The power of these technology development projects lies in the direct connection with and close cooperation between developer and user. This results in high-quality solutions tailored to the user's needs.

### **Defence Equipment Development Committee (CODEMO)**

The CODEMO is a prominent instrument of the DIS through which Dutch companies, mainly SMEs, can submit proposals to the MoD for innovative product development. If the proposal is accepted, the MoD bears half of the product development costs. If the companies can also sell their products elsewhere, the MoD receives royalties, which subsequently flow back into the CODEMO fund.

### **Defence Innovation Competition**

The MoD uses the Defence Innovation Competition as an instrument to bolster the innovative capability of the NL DTIB. The MoD sketches a military problem and challenges the NL DTIB to come up with innovative solutions to the sketched problem. The winner receives a contract with the MoD for the further development of the idea. Riding on the coattails of the winner, other participants also frequently become eligible for starting a technology development project with the MoD. Sometimes the MoD sets a *dual use* theme, in which case the intention is to deploy this instrument in cooperation with the Ministry of Security and Justice.

### **Defence Innovation Game**

The Defence *Innovation Game* instrument is designed to stimulate the innovative capability of the NL DTIB and the knowledge institutions. Intensive brainstorming sessions involving operational staff (future leaders), NL DTIB and knowledge institutions are held to jointly assess and nurture embryonic ideas. The winner receives a financial contribution from the MoD for the further development of their product. The value lies primarily in the conceptual field: the SME receives a unique sparring opportunity to obtain feedback on their ideas from operational people. In addition, it is an investment in the future, as the future leaders of the MoD get a first-hand experience of the potential of the NL DTIB and of knowledge institutions and are encouraged to adopt a more innovative mindset.

### **Small Business Innovation Research (SBIR)**

*Small Business Innovation Research* (SBIR) is a government-wide instrument aimed at boosting the innovative capability of Dutch industry. Under the SBIR scheme, the government invites Dutch companies to submit tenders for projects aimed at developing solutions for societal issues. An SBIR project for developing a product consists of three phases: a feasibility phase, an R&D phase and a commercialisation and market launch phase. After assessing the tenders, the government awards the assignment for the first two phases which it also finances in full. The last phase is financed by the company itself. The initiative for an SBIR call to tender lies with the government.



**Information exchange, functional specifications and market position**

The exploration of the opportunities starts with an early exchange of information between the MoD, Economic Affairs and the NL DTIB about both the future requirements and the plans of the MoD as well as developments in the industrial sector. Through this interaction, the fulfilment of the MoD's requirements can be matched with the priorities of industry. Such an exchange of information is also possible in a consultative process prior to the requirements definition phase. The attention for potential cost-effective solutions for operational challenges is increased, and the design of products can be influenced. This exchange is given shape through the organisation of interactive theme days focussing on certain needs, technologies or other themes. A theme day can be focused on a cluster of Dutch companies that is, or can become, active in one of the priority areas.

To achieve a productive dialogue, certain key conditions must be met. The MoD must specify its requirements in functional terms for as long as possible so that companies have sufficient room to search for the best solution. In addition, the MoD must observe laws and regulations and maintain the right balance between, on the one hand, acceptable confidentiality risks, the preservation of autonomy and a good market position as a customer and, on the other hand, the necessary openness to mobilise the innovative capability of the NL DTIB. Industry must maintain the right balance between openness (the handling of confidential information both vis-à-vis the MoD and possible partners), a willingness to work together (with a view to a better position for all partners in the longer term) and reliability (in setting priorities for investment decisions).

Another aspect concerns the actual operational phase. The lifecycle costs, for instance, are a key determinant in all phases. The greatest influence on these costs can be exercised in the pre-requirements definition phase. The NL DTIB can create opportunities for itself here by giving operational aspects full consideration in the product development and design phase (*best value for money*).

During the first DIS period, a lot of experience was gained with the clustering of companies and knowledge institutions and the consultation about this process with the government. The NIFARP platform did this during the procurement of the F-35 and the Dutch Naval Shipbuilding Cluster did this when replacing frigates and supply ships. New platforms were set up in the field of 'Operational Energy' and 'Working Safely Together'. A similar programme can once again bear fruit during upcoming replacement programmes.

The MoD makes use of informal knowledge networks in various knowledge areas where there is a clear need for this<sup>13</sup>. These knowledge networks are in principle a unique platform for bringing NL DTIB, knowledge institutions and the MoD together. By exchanging information, a common vision of the future can be generated and developments in specific fields of expertise can be synchronised.

**2. Instruments for fulfilment phase****Information exchange**

In this phase too, good and timely exchange of information is crucial to harness the strengths of the NL DTIB. If fruitful information exchange and cooperation have been achieved in the previous phase, then a promising starting position has been created for this phase. However, it is important to ensure that the results from the previous phase are genuinely taken on board and followed through in the next phases of the DMP (Defence Materiel Process) procedure. Moreover, in the case of projects where industrial participation is requested on the grounds of article 346 TFEU, it is important to bring the capabilities of Dutch industry to the attention of potential suppliers as early as possible. At the start of the preliminary study phase of the DMP, consultation takes place between the NL DTIB, the MoD and Economic Affairs in order to explore the opportunities for the NL DTIB to take part in the project and to ascertain how these can best be utilised. This procedure must in all events be followed for projects worth more than €25 million.

In 2010 the MoD appointed a NATO expert whose task is to ensure a good relationship between the Netherlands and NATO and, more specifically, to promote Dutch industrial interests in the NATO context. This expert contributes to the information exchange and alerts Dutch companies to opportunities in the NATO context.

<sup>13</sup> There are currently eighteen registered knowledge networks within Defence. Industry and/or knowledge institutions participate in many knowledge networks.

### Acquisition strategy

The first question is whether the equipment is to be purchased off the shelf (independently or in an international partnership) or developed (independently or in an international partnership). If the 'independent procurement' option is chosen, it is necessary to establish whether grounds for exceptions can be invoked under article 346 TFEU. The crucial question here is:

#### Are essential interests of national security at stake?

If so, the following options are available:

- Procurement in the Netherlands on the grounds of Article 346 TFEU.
- If the requirement cannot be fulfilled in the Netherlands, an assessment is made to decide between invoking article 346 TFEU or applying the Defence and Security Tendering Act (ADV).

Alongside this question, an assessment is carried out to determine whether industrial participation will be demanded. Where applicable, industrial participation can be justified on the basis of Article 346 TFEU.

If not, there are two options:

- The Defence and Security Tendering Act (ADV) for defence goods and services. With this option, the expediency of invoking the subcontracting clause is also assessed.
- The General Tendering Act (AW) for civil goods and services

### Industrial participation

As the Dutch defence requirements are generally not sufficient to maintain the priority technology areas and industrial capabilities *and* because it is difficult, if not impossible, for Dutch companies to access markets in other countries (including the supply chains of OEMs in Europe and the United States), the instrument of industrial participation (IP) can be deployed to promote the maintenance of these priority technology areas. This can be justified by invoking Article 346 TFEU. During the 'fulfilment' phase, IP is only deployed as an instrument if it is a proportionate measure.

Contracts from €5 million are assessed on a case-by-case basis to see whether industrial participation can be demanded. The nature and content of the industrial participation must relate to activities in the framework of the priority technology areas or related industrial activities as mentioned in this strategy.

The following considerations are important in connection with IP:

- IP relates to the system to be acquired;
- IP takes place in the priority technology areas;
- IP relates to defence- and security-related products and services;
- IP can be relevant to the through-life maintenance of the system.

### Launching customer

The MoD can decide to act as *launching customer*, for instance on the grounds of the results from technology development program and CODEMO projects. If the MoD acts as *launching customer*, it plays a role in stimulating the application of new technologies. In adopting the product for operational use, the Dutch government helps to bolster confidence in Dutch products. Such confidence is vital for export purposes, particularly in the defence and security market.

### 3. Operational and sustainment phase instruments

The MoD is increasingly outsourcing maintenance and other (equipment-related) logistics tasks. The role of industry in operating the assets is growing. New outsourcing methods involving public private partnerships between government and commercial parties are being used more and more. This cooperation often extends across the 'fulfilment' phase *and* the operational and maintenance phase. Examples are Public-Private Partnerships (PPP's, PPS's), operational lease, joint ventures, etc. Many of these methods entail a long-term role for companies in the maintenance phase. This approach offers the NL DTIB opportunities as they are well-positioned to respond to specific requirements of the MoD and because the proximity of the NL DTIB is a great advantage for maintenance.

This gives the MoD better guarantees regarding the maintenance and enables the NL DTIB to be competitive in its pricing.

#### **4. Disposal phase instruments**

When the MoD sells equipment to other countries, there are opportunities for the NL DTIB to secure long-term contracts for maintenance, modifications and other adjustments to the equipment. During the sale of equipment, the MoD, acting in cooperation with Economic Affairs, can support Dutch companies that are interested in such contracts. In practice, this is given shape by determining the planning and strategy for sales missions together. Sometimes the MoD plays a role in obtaining licences for the maintenance and improvement of the sold systems from the original suppliers. Here too, early exchange of information is important.

## Appendix: DIS Evaluation

This appendix sets out the evaluation of the first DIS. The evaluation focused on the extent to which the instruments met the objective and the extent to which these instruments were known to the NL DTIB. The evaluation of the first DIS consisted of the following components:

- Evaluation study of the priority technology areas;
- Survey among the participants of the Netherlands' Defence Manufacturers Association (NIDV);
- Several separate policy evaluations of the MoD and Economic Affairs instruments.

### Evaluation study into the priority technology areas

A joint venture consisting of HCSS and TNO was asked to determine whether the priority technology areas identified in the first DIS were still relevant and up to date. Priority technology areas are key to the realisation of the Netherlands' defence requirements. This evaluation also included taking the lessons learned from the previous five years on board as well as looking ten years ahead to determine which existing or new areas offered the best prospects for the future (on both the demand and the supply side), given the changing demand for defence capabilities and the developments in international cooperation. Given this objective, the most important output of the evaluation study consists of an updated set of priority technology areas.

The conclusion is that the set of priority technology areas is in essence still correct and up to date. However, there have been some shifts in emphasis and several new components have been added to the areas. One example of such a new component is Cyber.

### NIDV survey

The NIDV carried out a survey among its 180 participants. The objective of the survey was to gauge their familiarity with the DIS and to assess the instruments. This survey was completed by 53 respondents, representing 29 per cent of the participants. The respondents were asked to give ratings for the DIS instruments. It was found that 65 per cent of the respondents were not familiar with the first DIS. Sixty per cent of the respondents are SMEs. These SMEs generally have a low familiarity with the first DIS. Forty per cent of the respondents belong to large Dutch or international companies. This group has the greatest familiarity with the first DIS. The respondents rate the DIS instruments (both of the MoD and of Economic Affairs) as good, or adequate. As a follow-up to the survey and in the run-up to this DIS, the NIDV organised a workshop in which participants were informed about the DIS. Representatives from the Ministries of Defence and Economic Affairs were also present, so that questions could be answered and a constructive dialogue engendered between government, companies and knowledge institutions. The insights gained in previous years have been processed in this DIS.

Instruments that industry assesses as good are:

- Defence Innovation Game,
- Defence Innovation Competition,
- Information exchange between the MoD and Industry,
- Technical Research Attachés of Economic Affairs (now designated as Innovation Attachés),
- Salaries Tax and National Insurance Contributions (Reduced Remittances) in connection with research and development Act (*Wet vermindering afdracht loonbelasting en premie volksverzekering onderdeel speuren ontwikkelingswerk*),
- National Technology Program (NTP),
- Small Business Innovation Research (SBIR),
- Defence Equipment Development Committee (CODEMO),
- Export credit insurance,
- Opportunities for the Dutch Defence and Security Industry for securing maintenance and modification contracts upon the disposal of equipment by the MoD and new outsourcing methods based on life cycle costs.

The biggest shortcoming of the first DIS that was repeatedly mentioned concerns the large discrepancy between policy and practice. This is why an integrated joined-up approach is crucial to establish a clear link between the instruments and the procurement procedures.

**Defence Equipment Development Committee (CODEMO)**

The CODEMO (Defence Equipment Development Committee) has turned out to be an important and highly valued instrument of DIS. Initially €5 million was available for the fund in the years from 2010 to 2012. However, during the 2013 budget debate, a further €5 million was added at the request of the House of Representatives, bringing the total fund to €10 million. A substantial portion of this total amount has already been allocated.

**Societal Innovation Agenda for Security (MIA-V 2008-2012)**

The first DIS announced that the opportunities for setting up a security innovation programme would be explored. This resulted in 2008 in a Societal Innovation Agenda for Security (MIA-V) under the Innovation Platforms (pillar 2). In the MIA-V, three ministries (Defence, Justice and Interior and Kingdom Relations) worked together with Economic Affairs to promote innovation in the field of societal security along three tracks, namely:

1. *Network-enabled capabilities*, innovative technology to improve the provision of information during operations.
2. Physical protection for people, equipment and infrastructure by means of new materials and technologies.
3. Simulation-aided training and education.

In 2008 the MIA-V was started up with a modest budget. In the first instance, projects such as I-Bridge and Edison-TD were given an impulse. In 2009 a modest tender (€1.5 million) was organised, in which parties were invited to submit projects in the three above-mentioned areas. After a much larger budget had been made available following the interim evaluation in 2010, there was another call of €23 million under the Societal Security Innovation Scheme (IMV). As Physical Protection and Simulation-Aided Training & Education received too little attention in this call, two SBIRs were held for these specific areas.

A total of 36 projects were supported under the IMV scheme. The two SBIRs resulted in thirteen projects in the second phase. In the meantime all projects have been completed and a large concluding meeting has been held where companies (consortiums) were able to present to potential first-responder end users what they had developed with the funding.

At the end of 2012 the remaining MIA-V budget of €2 million was used for a 'experimental environment' for guarding & protecting programme, a joint initiative of the Royal Netherlands Marechaussee, the Ministry of Security & Justice and TNO.