SHORT STUDY ON THE INDUSTRIAL ANALYSIS FOR OPPORTUNITIES DERIVED FROM THE COLLABORATIVE DATABASE IN THE FIELD OF CBRN INDIVIDUAL PROTECTION EQUIPMENT

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Authors :

IRIS (Coordinator) :

IAI :

IRIS INSTITUT DE RELATIONS INTERNATIONALES ET STRATÉGIQUES

IAI Istituto Affari Internazionali

EXECUTIVE SUMMARY

In January 2016, the European Defence Agency tasked a consortium, led by the Institut de Relations Internationales et Stratégiques (IRIS) and the Istituto Affari Internazionali (IAI). Conducting a short study on the "Industrial analysis for opportunities derived from the collaborative database in the field of CBRN individual protection equipment (CBRN IPE)". The result of this project is a final report which analyses:

- the CBRN individual protection equipment demand;
- the CBRN individual protection equipment industrial landscape;
- the trends and possible evolutions of the market;
- the drivers for cooperation between the Member States for common procurement for this category of equipment;
- the potential cost-savings from cooperation;
- And explores some policy options for EU stakeholders.

No single individual protective apparatus that can protect from the full range of CBRN threats. The physical and chemical nature of warfare agents makes it impossible for a single fabric, alloy or coating to provide the necessary protection and allow armed forces to perform all tasks (detection, reconnaissance, combat, medical support, decontamination, etc.). Protection equipment is mainly composed of clothing – the suit being the main piece of equipment – and masks and respirators of different kinds. Different types of suits, masks and respirators are used depending on the nature of the warfare agent and the operational environment. It should also be noted that, while the scope of the study is CBRN individual protection equipment for infantry, vehicle crews, air crews, ship crews and specialist units, CBRN protection is also required for security and safety personnel, law enforcement agencies and emergency responders. Public demand, especially for the armed forces, is structured by the European Member States' needs to operate safely in contaminated areas, be it for military operations overseas or security missions on the European soil. Moreover, in recent years, there have been different events such as infectious diseases outbreaks, nuclear incidents and a greater risk of terrorists' attacks. These events are, fortunately, extremely rare, but the risk and potential consequences are so great that EU Member States have to maintain minimal CBRN IPE capabilities. However, responding to such scenarios involves multiple stakeholders – armed forces, law enforcement agencies, emergency responders, safety teams, etc. – and each of them has a different demand because of the specific threats they would have to face and the requirements of their occupational specialties. As a consequence, the fragmentation of demand at both the

European level and national levels also play a significant role in influencing the structuration of the industrial base.

The study of companies from twelve countries of the European Union (Austria, Czech Republic, Finland, France, Germany, Hungary, Italy, Poland, Spain, Sweden, the Netherlands and the UK) stresses the multiplicity of suppliers of CBRN IPE. The study of these companies' product portfolio, customer base, size and partnerships shows that there is little to no consolidation trends, and by consequence mostly "niche" companies exists. In some cases, the expertise is on masks and respirators, and in others on specific types of suits. As a global technological trend, the focus is increasingly on allowing integration with other equipment such as detection devices and communication systems to allow the operators to accomplish more missions without increasing the physiological burden. Most of the observed companies are SMEs or SME-sized parts of larger groups, meaning that the volume of their CBRN IPE activity is small. They rely on clusters and cross-partnerships with other companies to expand their activities, not on consolidation. The study of suppliers' strategies to meet Member States' demand has enabled the identification of some key issues. Generally speaking, CBRN IPE is safety equipment, and it requires EU manufacturers' to put a very strong focus on quality. To improve the protection level they look for 1) innovative materials providing better protection and lesser bulkiness 2) handheld or portable detection and communication systems 3) more efficient manufacturing processes and 4) unmanned solutions (the best protection for the operator is to stay outside contaminated areas). The fragmentation of defense and security procurement authorities, at national and EU levels, and the strong specialization of SMEs are not creating favorable conditions for a consolidation of the market. Moreover, the technological issues listed above have the tendency to increase the specialisation of companies further. The main cooperation prospect for this category of equipment is common procurement that would enable economies of scale. However, taking into account the vast number of products and technologies available, the first and foremost driver is functional compatibility. Technical specifications have to be almost identical to enable cooperation. Moreover, expected initial operational capability timelines have to be somewhat synchronized for common procurement to occur because target numbers can be low and shelf life is short. By consequence, it is impossible to determine, at this point, very plausible cooperation prospects with solid cost-savings analysis. Even though companies provided estimated brackets of economies of scale (up to 45% for respirators, up to 15% for decontamination suits), without an expression of technical requirements, the evaluation cannot be accurate.

This study reveals major characteristics and trends linked to CBRN IPE and the evolution of the market. It also brings out the inability to precisely measure the cost-savings that could be achieved

without very detailed specifications. To overcome this difficulty, more information sharing is required between European Member States. The more they share information about their operational needs, the more it will be possible to create common requirements. By consequence the consortium suggests two main recommendations to EDA pMS.

To engage in information sharing regarding operational requirements for CBRN IPE. Fragmentation of the demand between the Member States and between end-users does not help the expression of common requirements. Specifications would have to converge on occupational specialties needs (decontamination units, medical teams, infantry, etc.).

To commonly draft technical specifications for the EDA to issue a request for information. With technical data in hand, CBRN IPE providers could make a proper assessment of costs incurred for the design and manufacturing of the products.

Other recommendations for cooperation are considered:

- Emergency threat based common stockpile;
- Common procurement opportunities;
- Common tests procedures and protocols;
- Common investment in innovative solutions.