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INTANGIBLE TRANSFERS OF TECHNOLOGY AND VISA SCREENING IN THE EUROPEAN UNION

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I. INTRODUCTION

The European Union (EU) has identified the proliferation of weapons of mass destruction (WMD) and their means of delivery as a growing threat to European and international security.[1] The discovery of illegal nuclear, chemical and biological weapon programmes in the recent past, in most cases supported by international supply networks, has underlined the continued risk of proliferation. The possible access by terrorist groups to such weapons adds a critical dimension to the threat. New technologies whose security implications are as yet unclear are continuously being developed and the globalization of information, goods, expertise and technology intensifies.[2]

Looking over the horizon the risk of proliferation may increase further if present plans are realized. More countries are exploring the potential for nuclear energy to meet electricity demand while maintaining low carbon emissions. Sensitive know-how and technology used in civil nuclear projects, with the dual-use potential for use in nuclear weapon programmes, may be shared among a greater number of states—states that are diverse in terms of safety standards, transparency, governance and threat perceptions. Nuclear proliferation has advanced as a consequence of

[1] Council of the European Union, 'Council conclusions on the new lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems', 17172/08, Brussels, 13 Dec. 2008, p. 3, <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/118434.pdf>.

[2] Council of the European Union, 'Fight against the proliferation of weapons of mass destruction: EU Strategy against Proliferation of Weapons of Mass Destruction', 15708/03, 10 Dec. 2003, <http://ue.eu.int/uedocs/cmsUpload/st15708.en03.pdf>; and European Council, 'A secure Europe in a better world: European Security Strategy', 78367/03, 12 Dec. 2003, <http://www.consilium.europa.eu/eeas/security-defence/european-security-strategy?lang=en>.

SUMMARY

In December 2008 the European Union (EU) adopted political guidelines introducing measures to combat intangible transfers of technology (ITT), including mechanisms for cooperation in terms of consular vigilance. United Nations Security Council resolutions concerning Iran and North Korea further prohibit EU member states from ITT to these countries of concern. This paper deals with two key aspects of ITT: foreign nationals interested in sensitive disciplines and uncontrolled outflows of sensitive knowledge. Current export control and visa-screening procedures raise concerns with regard to WMD proliferation and there are gaps in the existing framework. The paper provides a number of recommendations for closing the gaps in terms of consular vigilance, visa-screening procedures and awareness raising in scientific communities.

ABOUT THE AUTHOR

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the technological progress in Western industrialized countries, which have expanded through legal trade with, or the illicit manufacture of replicas to, other parts of the world.[3]

Nuclear energy ambitions are not necessarily of direct proliferation concern, especially if sensitive technologies are not pursued. However, views on whether an increase in the number of power reactors around the world poses an increase in nuclear proliferation dangers differ.[4]

Advances in biological sciences may also increase the potency of biological weapons and bioterrorism. In addition to natural and accidental outbreaks, the increasing number of high-level containment laboratories and evolving technologies in the life sciences pose risks, including the dissemination of dangerous pathogens or toxins by bioterrorists or other actors. Today, many of the laboratories handling infectious agents are insufficiently protected and the associated security risks may not be fully realized.[5]

A large chemical industry could also potentially contribute to proliferation. Although the verification system established by the 1993 Chemical Weapons Convention has been successful in this respect, the design is now close to 20 years old and the chemical industry has gone through significant changes in structure and management since the regime was created. These changes in the chemical industry and the introduction of new production technologies have so far had limited consequences for the effective functioning of the verification system. It is, however, critical to continue to monitor the development of the chemical industry closely and take actions to adapt the verification measures—including the scope of facilities and chemicals subject to verification, data analysis and on-site inspection procedures—to the changing nature of the chemical industry. Yet, adopting the required legislative framework is only the beginning and must be accompanied by an effective enforcement and application of the system.[6]

Finally, the risk of radiological terrorism remains another concern: radioactive sources, for example in hospitals, are in many cases not properly secured and they could be used for radiological disperse devices—the so-called 'dirty bombs'.[7]

This paper explores a key aspect of controlling the illegal spread of sensitive technology which is often overlooked: the prevention of international 'knowledge proliferation'—intangible transfers of technology (ITT)—with a focus on the EU. The paper explores how ITT is addressed in EU visa policy and puts forward a set of recommendations to the EU and its member states on the issue and in light of the implementation of the 2008 New Lines for Action.[8]

II. CONTROLLING SENSITIVE TECHNOLOGY: THE EU APPROACH

In December 2003 the Council of the EU adopted the EU's Strategy against Proliferation of Weapons of Mass Destruction (WMD Strategy) with the objective to prevent, deter, halt and where possible eliminate WMD proliferation programmes of concern worldwide.[9]

[3] De Salazar, G., 'El desarrollo de la energía nuclear y los riesgos de proliferación: el caso de Irán' [The development of nuclear energy and proliferation risks: the case of Iran], Real Instituto Elcano, ARI 156/2010, Madrid, 29 Oct. 2010, p. 6, <http://www.realinstitutoelcano.org/wps/wcm/connect/240ad800447db76a995d9db769acd8f9/ARI156-2010_Salazar_energia_+proliferacion_nuclear_Iran.pdf?MOD=AJPERES&CACHEID=240ad800447db76a995d9db769acd8f9>.

[4] See Letts, M. and Cunningham, F., 'The role of the civil nuclear industry in preventing proliferation and in managing the second nuclear age', Paper prepared for the Second Meeting of the International Commission on Nuclear Nonproliferation and Disarmament, Washington, 13–15 Feb. 2009, <http://www.icnnd.org/Documents/Letts_Industry.pdf>.

[5] Council of the European Union, 'Intervention by the EU Personal Representative on Non-Proliferation, Ms Annalisa Giannella', International Workshop on Responding to the Alleged Use of Biological Weapons, Madrid, 16–18 June 2010, p. 3, <http://www.unog.ch/80256EDD006B8954/(httpAssets)/2BFE7AE64510D286C125775F004B04EA/$file/Annalisa+Giannella.Assistance+and+coordination+through+the+EU.pdf>.

[6] Runn, P., 'Report from Working Session 2: National Implementation and Industry Issues', Seminar on the OPCW's contribution to security and non-proliferation of chemical weapons, The Hague, 11–12 Apr. 2011, <http://www.opcw.org/fileadmin/OPCW/events/2011/NPS/papers/closing/Report_from_Working_Session_2.pdf>.

[7] Conclusions of the International Workshop 'New Lines for Action by the Europe Union in Combating the Proliferation of Weapons of Mass Destruction', INCIPE, Madrid, 15 Dec. 2010, <http://www.incipe.org/combatingmassdestructionweapons.html>.

[8] Council of the European Union, 17172/08 (note 1).

[9] Council of the European Union (note 2), p. 1. For a detailed examination of the EU WMD Strategy, see Van Ham, P., 'The European Union's WMD Strategy and the CFSP: A Critical Analysis', Non-Proliferation Papers no. 2, Sep. 2011, <http://www.nonproliferation.eu/documents/nonproliferationpapers/02_vanham.pdf>, p. 1. For background on the European non-proliferation policy and the domestic debate in the EU member states see Müller, H. (ed.), *A European Non-Proliferation Policy: Prospects and Problems* (Clarendon Press: Oxford, 1987); Müller, H. (ed.), *A Survey of European Nuclear Policy, 1985-1987* (Macmillan: London, 1989); Lomas, P. and Müller, H. (eds), *Western Europe and the Future of the Nuclear Non-Proliferation Treaty* (CEPS: Brussels, 1989); Müller, H. (ed.), *How Western European Nuclear Policy Is Made: Deciding on the Atom* (Macmillan: London, 1991); Müller, H. (ed.), *European Non-Proliferation Policy, 1988-1992* (European Interuniversity

In terms of nuclear export controls, European suppliers have in the past been a source of concern for the non-proliferation regime. In fact, Europeans are still capable of supplying the full range of nuclear fuel cycle and dual-use facilities, equipment, material and technology and also help in critical weapons technology. As the project of a single market approached realization, it became obvious that regulations on dual-use transfers were a major political issue. It is thus no surprise that it took a long time to reach an agreement on an EU export control system, which entered into force in 1995.[10]

In the common EU legislation only blueprints and software were included in the controlled category 'technology' and documents (whether on paper or another medium such as a disk or tape) were treated like physical goods for purposes of export control. The question of how to control ITT—the knowledge contained in blueprints and software—was left for member states to resolve, with a declaration on the intent to reconsider its possible inclusion in the near future.[11] However, the experience of certain cases has underlined that proliferators are often as interested in acquiring knowledge as they are physical items and that the traditional model of an export is only one of several pathways by which knowledge is passed.

In December 2008 the EU adopted the 'New Lines for Action by the EU in combating the proliferation of weapons of mass destruction and their delivery systems' to increase the effectiveness and impact of the EU WMD Strategy by achieving greater coordination within the EU and to make the EU strategic approach more operational.[12] The document sets out a concrete list of measures that should be implemented by the European Commission, the Council of the EU and EU member states by the end of 2010. They include: (*a*) models for awareness raising for undertakings, scientific and academic circles, and financial institutions; (*b*) cooperation with third countries to help them to improve their non-proliferation policies and export controls; (*c*) measures to combat intangible transfers of knowledge and know-how, including mechanisms of cooperation in terms of consular vigilance; (*d*) efforts to impede proliferation flows and sanction acts of proliferation; (*e*) financial supervision; and (*f*) coordination or collaboration with, and contribution to, relevant regional and international organizations.[13] The New Lines for Action were adopted on the basis of a growing awareness in the EU that non-proliferation is a cross-cutting issue that affects a broad range of policy fields.

However, EU institutions and member states have not yet succeeded in implementing all the measures and the EU is still far from making non-proliferation a truly cross-cutting priority on the domestic agenda of its member states. For this reason, EU foreign ministers decided on 13 December 2010 to allow two more years for the implementation of the action plan.[14] The new deadline is December 2012 and at the end of 2011 there was still a lot to do. Therefore, it is necessary to pay more attention to the domestic level and to strive towards greater coordination between relevant stakeholders at national and EU levels, in particular as regards ITT and visa screening in the EU.[15]

The Council secretariat has reported some progress on these issues in the past couple of years. The Working Party on Non-Proliferation (CONOP) and the Working Party on Global Disarmament and Arms Control (CODUN) have established a list of disciplines in the scientific field identified as subjects of proliferation concern. CONOP delivered a presentation to the Working Party on Research in June 2010 to inform them of possible initiatives that could be taken under the New Lines for Action. COREPER has invited the Working Party on Research to examine further engagement in the field of scientific cooperation on the basis of the list of disciplines, such as exchanging best practices and creating awareness centres and contact points in universities. The Office of the EU representative on non-proliferation and disarmament has completed a survey on member states' national policies and possible EU action to combat ITT of knowledge and know-how. The results of the survey were circulated to working groups in the field of non-proliferation, disarmament, research, visa and consular cooperation in the first half of 2010, but they have not been made public (a follow-up is pending, for 2011–12).

Press: Brussels, 1993); and Müller, H. (ed.), *European Non-Proliferation Policy, 1993-1995* (European Interuniversity Press: Brussels, 1996).

[10] Council of the European Union, Council Regulation (EC) no. 3381/94(2) of 19 Dec. 1994 setting up a Community regime for the control of exports of dual-use goods; and Council of the European Union, Council Decision 94/942/CFSP of 19 Dec. 1994 on the joint action concerning the control of exports of dual-use goods.

[11] Müller, H. (ed.), *Nuclear Export Controls in Europe* (European Interuniversity Press: Brussels, 1995), pp. 14–15, 22.

[12] Council of the European Union (note 1).

[13] Council of the European Union (note 1), p. 5.

[14] Council of the European Union (note 1), section 4.

[15] Council of the European Union (note 1).

Several member states have reportedly taken measures to engage universities, research institutes and other actors and to raise their awareness of proliferation issues. The Commission is studying the possibility of organizing awareness-raising seminars for relevant stakeholders.[16]

Since 11 October 2011 the Visa Information System (VIS), for the exchange of data on short-stay visas among Schengen states, has been operational for one region.[17] VIS is connected to national visa systems in Schengen via national interfaces to enable competent authorities to process data on visa applications and all visas that are issued, refused, annulled, revoked or extended. It allows border authorities to verify visa holders' identities (by fingerprints) at the border crossing points in just a few seconds.[18] The new system will facilitate the visa application procedure as well as consultation by member states' authorities and Europol.[19] The WMD Centre has invited the Council Visa Working Party to discuss further measures concerning EU cooperation on consular vigilance, such as raising the awareness of national visa-issuing authorities regarding proliferation risks. The survey conducted within CONOP has provided further ideas for discussion in terms of cooperation among member states and consular vigilance.[20]

In November 2010 the Commission launched a tender for a study concerning existing background check procedures and security vetting requirements within the industry dealing with high-risk chemical, biological, radiological and nuclear (CBRN) materials in order to identify gaps and good practices. This study should provide the necessary basis for assessing, among other things, the feasibility of common graduated criteria and the need to establish a system of mutual recognition of background checks and security vetting processes for certain categories of personnel, in order to implement recommendations for strengthening personnel security as set out in the EU CBRN Action Plan.[21] The action plan also asks member states together with the Commission to encourage the chemical industry as well as professional and other relevant associations working on biological issues to develop and adopt codes of conduct concerning awareness of security-related issues for their members. The Commission is considering proposing a model code as part of the implementation of the EU CBRN Action Plan.

The Commission and EU member states exchange experiences of dual-use export controls by holding regular meetings of the so-called 'Article 23 Coordination Group', which was established in order to examine questions concerning the application of dual-use regulation. Within the group, issues of tangible transfers of technology, goods and equipment may be discussed.[22] The revised EU Dual-Use Regulation (2009) does not include a reference to specific criminal sanctions. However, the regulation requires member states to 'lay down the penalties applicable to infringements of the provisions of the Dual-Use Regulation'. Those penalties must be effective, proportionate and dissuasive.[23] In June 2011 the Commission adopted a green paper on the EU dual-use export control system, which launched a broad public consultation concerning the functioning of the system.[24] In the same month the Commission launched

[16] Council of the European Union, Six-monthly progress report on the implementation of the EU Strategy against the proliferation of weapons of mass destruction (2010/II), 17080/10, Brussels, 16 Dec. 2010, <http://register.consilium.europa.eu/pdf/en/10/st17/st17080.en10.pdf>, p. 9; and Council of the European Union, Eleventh six-monthly progress report on the implementation of the EU Strategy against the proliferation of weapons of mass destruction (2011/I), 13132/11, Brussels, 20 July 2011, <http://register.consilium.europa.eu/pdf/en/11/st13/st13132.en11.pdf>.

[17] Commission Decision 2010/49/EC of 30 Nov. 2009 determining the first regions for the start of operations of the Visa Information System (VIS), *Official Journal of the European Union*, L23, 27 Jan. 2010. The date of 11 Oct. 2011 refers to the VIS start of operations in North Africa.

[18] Regulation (EC) no. 767/2008 of the European Parliament and of the Council of 9 July 2008 concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation), *Official Journal of the European Union*, L218, 13 Aug. 2008.

[19] Council of the European Union, Council Decision 2008/633/JHA of 23 June 2008 concerning access for consultation of the Visa Information System (VIS) by designated authorities of Member States and by Europol for the purposes of the prevention, detection and investigation of terrorist offences and of other serious criminal offences, *Official Journal of the European Union*, L218, 13 Aug. 2008 (entry into force 2 Sep. 2008).

[20] Council of the European Union, 17080/10 (note 16).

[21] Council of the European Union, 'Council conclusions on strengthening chemical, biological, radiological and nuclear (CBRN) security in the European Union—an EU CBRN Action Plan', 15505/1/09 Rev. 1, Brussels, 12 Nov. 2009, <http://register.consilium.europa.eu/pdf/en/09/st15/st15505-re01.en09.pdf>, pp. 75–77.

[22] Council of the European Union, Council Regulation (EC) no. 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items (recast), Article 23.

[23] Council of the European Union (note 22), Article 24.

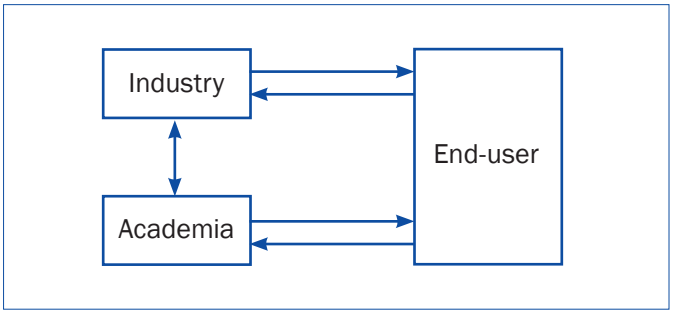
[24] European Commission, 'The dual-use export control system of the European Union: ensuring security and competitiveness in a changing world', Green Paper, COM (2011) 393 final, Brussels, 30 June 2011, <http://trade.ec.europa.eu/doclib/docs/2011/june/tradoc_148020.pdf>.

the Dual-use e-system to facilitate information exchanges concerning export denials among member states. Other practical activities have included organizing peer visits, working on the development of an EU training programme on export controls and progressing on the development of EU guidelines.[25]

III. ITT CONTROLS AND PROLIFERATION RISKS

Export control definitions are usually based on the status of entities and categorized as industry or academia. Industry as a concept includes firms and individual brokers, whereas academia includes universities and scientific institutions. Industry is linked to commercial activities, whereas academia is linked to scholarly and scientific activities such as training and research. However, a functional approach allows for the possibility that both industry and academia can undertake commercial transfers in the fields of technical assistance, information exchange, technology design, know-how development and training. In this functional network of interaction, new challenges emerge in the form of ITT. There are two variations of ITT risks relating to WMD proliferation.

1. The transfer of knowledge as technical assistance, through instruction, for example PhD programmes in nuclear physics or microbiology, skills training or consulting. This presents significant challenges to export controls traditionally based on national boundaries.
2. The transfer of technical data in a non-physical form. This includes publicly available encryption software, email exchanges of documents related to highly sensitive information on the manufacture or development of WMD, and consulting on the development and deployment of wireless telecommunications networks.[26]



Model 1. Commerical ITT

In order to prevent these risks, unique policies and practices for effective administration and enforcement are required. According to the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, attention should be paid to (*a*) determining what constitutes an ITT export and when an ITT export occurs; (*b*) specifying in national laws and regulations the intangible technology transfers which are subject to export control; (*c*) specifying in national laws and regulations that controls on transfers do not apply to information in the public domain or to basic scientific research; (*d*) identifying industry, academic institutions and individuals in possession of controlled technology for targeted outreach efforts; and (*e*) promoting self-regulation by industry and academic institutions that possess controlled technology, including by assisting them in designing and implementing internal compliance programmes and encouraging them to appoint export control officers.[27]

Industry–academia interaction

The interaction between industry, academia and the recipients of technology and know-how can be represented in three models.

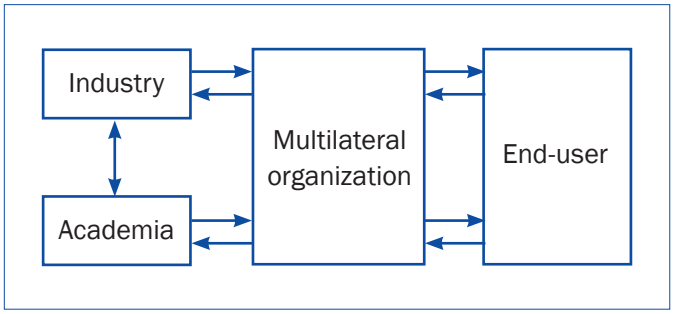
In model 1, the interaction can be represented in two ways: trade interaction or multilateral cooperation. In both cases, the activities of industry and academia related to ITT cannot be easily separated.

In model 2, ITT takes place in the recipient country, through seminars and technical assistance activities, at the headquarters of the international organization or in third countries.

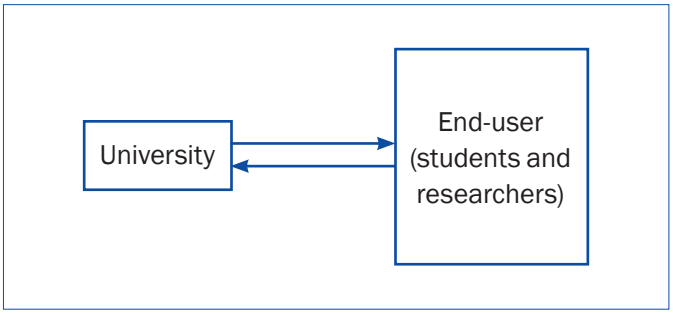
[25] Council of the European Union, 17080/10 (note 15); and Council of the European Union, 13132/11 (note 16).

[26] Clinton, T., 'Intangible Technology Transfer and Catch-All Controls', Presentation at the Southeastern Europe Export Control Seminar, Szeged, 17–18 June 2003, <http://www.exportcontrol.org/library/conferences/1379/D2-04-Clinton-ITT.pdf>; and Lopes, A., 'Licensing of Intangible Transfers of Technology', Presentation at the Sixth International Export Control Conference, London, 8–10 Nov. 2004, <http://www.exportcontrol.org/library/conferences/1379/Licensing_of_Intangible_Tranfers,_Deemed_Export_(Alex_Lopes).pdf>.

[27] Wassenaar Arrangement, 'Best Practices For Implementing Intangible Transfer Of Technology Controls', Agreed at the 2006 Plenary, <http://www.wassenaar.org/guidelines/docs/ITT_Best_Practices_for_public_statement.pdf>.



Model 2. ITT in multilateral cooperation



Model 3. Academic ITT

In model 3, ITT takes place in an academic context, through training and research.

The international perspective

There are two United Nations Security Council resolutions that refer to students and researchers from specific countries as a risk for the diversion of sensitive ITT. First, UN Security Council Resolution 1737 (2006) on Iran:

> Calls upon all States to exercise vigilance and prevent specialized teaching or training of Iranian nationals, within their territories or by their nationals, of disciplines which would contribute to Iran's proliferation sensitive nuclear activities and development of nuclear weapon delivery systems.[28]

Second, UN Security Council Resolution 1874 (2009) on the Democratic People's Republic of Korea (DPRK or North Korea):

> Calls upon all Member States to exercise vigilance and prevent specialized teaching or training of DPRK nationals within their territories or by their nationals, of disciplines which could contribute to the DPRK's proliferation sensitive nuclear activities and the development of nuclear weapon delivery systems.[29]

In both cases, the resolutions only refer to students of Iran and North Korea being trained in other countries, and not to other forms of ITT. Moreover, UN Security Council Resolution 1887 (2009) on the 'Maintenance of international peace and security: Nuclear non-proliferation and nuclear disarmament':

> [U]rges all States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law, to prevent proliferation financing and shipments, to strengthen export controls, to secure sensitive materials, and to control access to intangible transfers of technology.[30]

If the above concepts from non-proliferation multilateral conventions and relevant resolutions were to be merged as part of a review of national ITT legislation, it would imply a comprehensive approach to visa screening and conceptual changes in the definitions of academic activities and ITT. If the structure of technical-scientific knowledge in a given state is described as a system with inflows (imports of ITT and immigration of foreign students, technical experts and researchers seeking scientific knowledge) and outflows (exports of ITT and emigration of national technical experts and scientific researchers seeking scientific knowledge abroad), changes in one function would probably affect the other one.

In this regard, a reinforcement of visa-screening mechanisms to make a criteria-based selection taking into account proliferation concerns is likely to lead to reactions from knowledge-recipient countries. These 'knowledge importers' can seek scientific knowledge and technical expertise in other countries with lower requirements and in international organizations or, if they can afford it, they can invite experts and scientists to work for them in their territories.

Therefore, visa screening of foreign nationals interested in sensitive disciplines and uncontrolled

[28] UN Security Council Resolution 1737, 23 Dec. 2006, para. 17.
[29] UN Security Council Resolution 1874, 12 June 2009, para. 28.
[30] UN Security Council Resolution 1887, 24 Sep. 2009, para. 27.

outflows of sensitive knowledge through ITT are two sides of the same problem. There is a process of symbiosis between industry and academia, beyond purely scientific activities, in two dimensions. First, there is a growing cooperation between industry and academia in the field of research and development, fostered by public policies, where they sometimes undertake common projects. Second, universities and scientific institutions sometimes engage in commercial activities based on the outcome of research programmes, in which they have invested resources.

The EU approach

The EU recognizes that the establishment of common lists of dual-use items, destinations and guidelines are essential elements for an effective export control regime and, in this context, that the transmission of software and technology by means of electronic media to destinations outside the Community should also be controlled.[31]

Article 2.1 of Council Regulation 428/2009 establishes that:

> '[D]ual-use items' shall mean items, including software and technology, which can be used for both civil and military purposes, and shall include all goods which can be used for both non-explosive uses and assisting in any way in the manufacture of nuclear weapons or other nuclear explosive devices.[32]
>
> The specific items are listed in an annex that is updated annually. The list does not grant space for member states' interpretation of whether or not an item should be subject to authorization. However, if a dual-use item is not listed, it does not necessarily mean that it is not subject to export authorization—such authorization could be required by a national export control list or could result from the implementation of a catch-all clause.[33] The term 'export' also includes:[The] transmission of software or technology by electronic media, including by fax, telephone, electronic mail or any other electronic means to a destination outside the European Community; it includes making available in an electronic form such software and technology to legal and natural persons and partnerships outside the Community. Export also applies to oral transmission of technology when the technology is described over the telephone.[34]

In this sense, according to Professor Quentin Michel:

> [T]he basic principle applying to controls of ITT is that the 'on line' world should be controlled in the same proportionate manner as the 'off line' world (i.e. when a controlled technology is sent in the form of a CD-Rom by post to a third country it is subject to authorisation. Therefore if the same controlled information . . . is sent by e-mail, it should also be controlled). . . . Some EU member states grant [a] global licence for ITT, which provides a flexible tailor-made instrument to avoid undue burden on industries. . . . The difficulty with intangible transfer is that border controls by customs authorities are not, due to the nature of the transfers, possible. Therefore, in order to ensure compliance with export control regulations, national authorities could conduct [an] audit of companies and institutions or intercept telecommunications to detect illegal transfers of software and technology.[35]

It should also be noted that the transfer of technology taking place through the cross-border movement of natural persons is not covered by the regulation.[36] It is, however, partly covered by Council Joint Action CFSP/401/2000.[37] Neither the regulation nor the joint

[31] Council of the European Union (note 21), paras 7–8 of the preamble.

[32] Council of the European Union (note 21), Article 2.1.

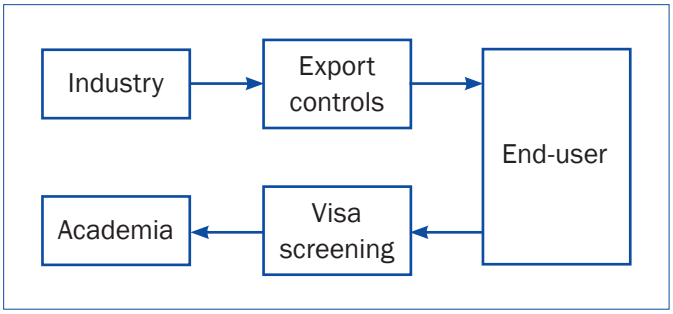
[33] On this issue see the analysis in Michel, Q., *The European Union Export Control Regime: Comment of the legislation: article-by-article* (Liege University: Liege, Mar. 2011), p. 7, <http://local.droit.ulg.ac.be/sa/uee/admin/file/publi/20110324095344_vademecum-V.2.18.pdf>.

[34] Council of the European Union (note 21), Article 2.2 (iii).

[35] Michel (note 33), p. 17. Details of member states' provisions are listed under Article 3.1 of Council Regulation (EC) no. 428/2009 (note 22).

[36] Article 7 of Council Regulation (EC) no. 428/2009 states: 'This Regulation does not apply to the supply of services or the transmission of technology if that supply or transmission involves cross-border movement of persons'. Nevertheless, the export of technology by an intangible means of transfer such as phone, email or fax is covered by the regulation. See Council of the European Union (note 21), pp. 5, 45.

[37] Council Joint Action 2000/401/CFSP of 22 June 2000 concerning the control of technical assistance related to certain military end-uses, *Official Journal of the European Union*, L159, 30 June 2000, pp. 216–217. Article 1 considers the transmission of technical assistance by oral forms through the cross-border movement of persons. The provisions of this joint action complete Article 2(iii) of Council Regulation (EC) no. 428/2009 by controlling technical assistance through the movement



Model 4. ITT control mechanism

action cover ITT achieved through the movement of foreign citizens into the EU (third country citizens taking courses at universities and research centres or participating in industry training programmes in the EU). Although this does not necessarily mean that such ITT is not controlled. It could be governed by other policies, such as visa policies, or national security objectives outside the scope of the dual-use regulation (see model 4).[38]

EU member states' national provisions and requirements regarding the control of ITT do not significantly vary from one state to another. In general, both tangible and intangible transfers follow the same licensing procedure and member states do not foresee specific licence forms for ITT. Further requirements are needed in some countries (the Czech Republic, Germany, the Netherlands, Romania, Slovenia and Sweden), such as an exporter obligation to record each transaction during a five-year period. In Germany and Finland additional controls have also been introduced at domestic level; customs authorities can conduct periodic and ad hoc compliance visits or audits at the exporter's site and they have the right to inspect both written documents and data processing systems. Some member states apply ex-post compliance controls to all exporters using global or general authorizations to export technology (e.g. the United Kingdom).[39]

IV. VISA SCREENING AND ITT

Legislation on export controls was originally developed for commercial activities undertaken by industry, mainly for the export of sensitive and dual-use technologies and products implying a physical transfer. It was later developed to also include ITT in the form of know-how and technical assistance.

ITT through academic activities can fall under export control legislation if it is based on technical assistance to an end-user beyond the state's borders. Commercial exports of sensitive and dual-use technologies and products implying a physical transfer need a licence; in this regard, enforcement is ensured by police and customs operations.

Commercial exports of sensitive information and designs of enabling technologies implying a transfer of documents or technical assistance also need a licence; enforcement is also ensured by police and customs operations, but is more difficult. New information technologies make electronic and digital transmissions possible anywhere in the world, undercutting the enforcement capabilities of customs authorities. In this regard, technical assistance in sensitive technologies, based on a service contract between supplier and recipient, needs to be authorized with a licence.

Finally, if technical assistance in sensitive technologies, based on a service contract between supplier and recipient, takes place in the supplier's territory, the recipient needs a licence, and the recipient's representatives might also need a visa in accordance with the supplier's national regulations. In this case, visa screening would be a second mechanism of control.

The main tool to control ITT in academia is visa screening of foreign students and researchers in sensitive disciplines, if the training (i.e. the ITT) takes place in the supplier's territory. It is important to underline that control is enforced on the movement of persons towards the national territory (i.e. immigration control) and not on the knowledge transfers or ITT. If technical or scientific academic experts of the supplier institution undertake the same activities (ITT) abroad, no control is implemented.

Taking the above into consideration, several gaps or loopholes in the export control and visa-screening systems can be identified.

1. In technical assistance activities in the framework of international cooperation, the multilateral organization can appear to be the recipient of ITT, whereas it is only an intermediary or broker for other end-users of ITT.

2. Academic activities within training, scientific cooperation and seminars on sensitive disciplines in the recipient country (where the end-user is based) are

of persons. 'Assistance provided by electronic means' is not included in the definition as it is already covered by Article 2(iii). See Michel (note 33), p. 21.

[38] Michel (note 33), p. 17.

[39] Data based on a table in Michel (note 33), pp. 24–25.

not subject to control and visa screening does not apply. The freedom of movement of persons and academic freedom allow such activities to take place.

3. Individuals with technical and scientific skills, either from industry or academia, can be engaged by a third country to work in a sensitive technology project. In this case, even if such a transaction is not an 'export' (as it is based on a contract signed in the recipient country under national regulations), it is a form of ITT.

4. Digital electronic information technologies make it more difficult to control ITT and easier to undercut customs enforcement.

Visa-screening mechanisms in the EU

EU member states, with the exception of Ireland and the UK, have a unified visa system as part of the Schengen Area.[40] Citizens from some non-EU countries are required to have a visa when travelling to the Schengen Area. The EU has a common list of countries whose citizens must have a visa when crossing the external borders and a list of countries whose citizens are exempt from that requirement. These lists are set out in Council Regulation 539/2001 and its successive amendments.[41] Generally, a short-stay visa issued by a Schengen state entitles its holder to travel throughout the 25 Schengen states for up to three months within a six-month period. Visas for visits exceeding that period remain subject to national procedures.[42] Decisions on visa-free access to the Schengen Area may follow from bilateral negotiations and are usually reciprocal.

Another main element of the common visa policy is the EU 'Visa Code'.[43] It sets out the procedures and conditions for issuing visas for the purpose of short stays and airport transit. Operational instructions for the application of the Visa Code are further specified in the 'Handbook for the processing of visa applications and the modification of issued visas' and the 'Handbook for the organisation of visa sections and local Schengen cooperation' (list of annexes).[44]

Finally, there are three special cases in the general EU visa policy that should be mentioned. First, there is visa reciprocity with non-EU countries whose nationals are exempt from the visa requirement.[45] Second, there are visa facilitation agreements concluded with nine non-EU countries, which facilitate the procedures for issuing visas with those countries.[46] Third, there is

[40] The Schengen cooperation was incorporated into the EU legal framework by the 1997 Treaty of Amsterdam (entry into force 1999). The Schengen Area currently consists of 26 states, all but 4 of which are members of the EU: Iceland, Liechtenstein, Norway and Switzerland. It also includes several microstates that maintain open or semi-open borders with Schengen countries. Ireland and the UK negotiated opt-outs from Schengen and continue to operate systematic border controls between themselves and other EU member states. Cyprus is legally bound to join the Schengen Area, but fully implementation has been delayed due to its territorial disputes. Bulgaria and Romania were approved by the European Parliament in June 2011, but rejected by the Council of Ministers in Sep. 2011. Before fully implementing the Schengen rules, each state needs to have its preparedness assessed in four areas: air borders, visas, police cooperation and personal data protection.

[41] Council of the European Union, Council Regulation (EC) no. 539/2001 of 15 Mar. 2001 listing the third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from that requirement, *Official Journal of the European Union*, L81, 21 Mar. 2001, p. 1. This regulation has been amended several times, most recently by Regulation (EU) no. 1211/2010 of the European Parliament and of the Council of 15 Dec. 2010, *Official Journal of the European Union*, L339, 22 Dec. 2010.

[42] For more information see European Commission, Home Affairs, 'Visa policy: common rules for short stays', 13 Sep. 2011, <http://ec.europa.eu/home-affairs/policies/borders/borders_visa_en.htm>.

[43] Regulation (EC) no. 810/2009 of the European Parliament and of the Council of 13 July 2009 establishing a Community Code on Visas (Visa Code), *Official Journal of the European Union*, L243, 15 Sep. 2009. Amended by Commission Regulation (EU) no. 977/2011 of 3 Oct. 2011, *Official Journal of the European Union*, L258, 4 Oct. 2011, concerning the Visa Information System (VIS) and the exchange of data between member states on short-stay visas (VIS Regulation).

[44] European Commission, Commission Decision of 19 Mar. 2010 establishing the Handbook for the processing of visa applications and the modification of issued visas, C(2010) 1620 final, <http://ec.europa.eu/home-affairs/policies/borders/docs/c_2010_1620_en.pdf>; European Commission, Commission Implementing Decision of 4 August 2011 amending Commission Decision no. C(2010) 1620 final of 19 Mar. 2010 establishing the Handbook for the processing of visa applications and the modification of issued visas, C(2011) 5501 final, <http://ec.europa.eu/home-affairs/doc_centre/borders/docs/decision/5501/1_EN_ACT_part1_v4.pdf>; and Commission Decision of 11 June 2010 establishing the Handbook for the organisation of visa sections and local Schengen cooperation, C(2010) 3667 final, <http://ec.europa.eu/home-affairs/policies/borders/docs/c_2010_3667_en.pdf>. The Handbook contains guidelines for organizing visa sections and local Schengen cooperation. It is to be used for the implementation of EU legislation on the common visa policy by member states' central and consular authorities, at central and local level.

[45] Council of the European Union, Council Regulation (EC) no. 851/2005 of 2 June 2005 amending Regulation (EC) no. 539/2001 listing the third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from that requirement as regards the reciprocity mechanism, *Official Journal of the European Union*, L141, 4 June 2005.

[46] Albania, Bosnia and Herzegovina, Georgia, Macedonia, Moldova, Montenegro, Russia, Serbia and Ukraine. Visa facilitation agreements are linked to readmission agreements, which establish the procedures for the return to the EU or to the partner non-EU country of persons (own and third country nationals or stateless persons) in irregular situations. The legal basis for these agreements is Directive 2008/115/EC of the European Parliament and of the Council of 16 Dec. 2008 on common standards and procedures in Member States for returning illegally staying third-country nationals, *Official Journal of the European Union*, L348, 21 Dec. 2008, which entered into force at the end of 2010.

a special regime foreseen for the admission into the EU of non-EU nationals for the purposes of scientific research, the so-called 'Scientific Visa Package'.[47] The Scientific Visa Package facilitates the procedure of admitting researchers coming from non-EU countries to the EU for the purpose of scientific research. There is a distinction in the procedure between long-term admission (for researchers intending to stay in the EU for more than three months) and short-term visas (for entries of less than three months). It should be noted that, once awarded a residence permit, a researcher can carry out his or her research in the country which granted the permit or in another EU member state. If a researcher wants to, for example, participate in a research conference or carry out part of his or her research in another member state for up to three months, no new application process needs to be made. If the stay is for longer than three months, a new hosting agreement needs to be signed with an organization in the new country.[48]

Visa-screening procedures and WMD proliferation concerns

Short-term visas

Short-term visas or 'Schengen visas' allow the holder a total stay of up to 90 days in the Schengen territory within a period of six months for tourism or business purposes. They are granted through the Schengen Information System (SIS).[49] Applicants present their visa applications and supporting documents at EU consular offices. After an initial examination, a personal interview might also take place. The information requested about an applicant and the purpose of his/her trip takes into account immigration requirements such as the economic capacity of the applicant (economic resources, accommodation, travel expenses, income, return ticket, etc.).[50] Once this administrative procedure has been completed, consular officers proceed to the next step: an inquiry in the national visa information network, linked to the ministries of foreign affairs. If this inquiry shows that the applicant's nationality does not require a SIS inquiry, the consular office can issue a visa. If, however, the applicant's nationality makes a SIS inquiry mandatory, the office must proceed with a consultation (as well as cross-checks in official national registers).

For nationalities that require a consultation, consular officers register the applicant's personal data in SIS, where Schengen states then have access to the applicant's records, if any.[51] Through ministries

[47] The legal basis for the Scientific Visa Package is Council Directive 2005/71/EC of 12 Oct. 2005 on a specific procedure for admitting third-country nationals for the purposes of scientific research, *Official Journal of the European Union*, L289, 3 Nov. 2005; Council Recommendation 2005/762/EC of 12 Oct. 2005 to facilitate the admission of third-country nationals to carry out scientific research in the European Community, *Official Journal of the European Union*, L289, 3 Nov. 2005; and Recommendation 2005/761/EC of the European Parliament and of the Council of 28 Sep. 2005 to facilitate the issue by the Member States of uniform short-stay visas for researchers from third countries travelling within the Community for the purpose of carrying out scientific research, *Official Journal of the European Union*, L289, 3 Nov. 2005.

[48] 'The Scientific Visa Package is available for researchers in public and private organisations. Students are not eligible. A researcher is defined as: a third-country national holding an appropriate higher education qualification which gives access to doctoral programmes, and who is selected by a research organisation for carrying out a research project for which the above qualification is normally required. Individual European countries do not have identical rules of procedure. They need to be verified for each country. Please note that the UK and Denmark do not participate in the Scientific Visa Package', European Commission, Euraxess, Scientific Visa Package, <http://ec.europa.eu/euraxess/index.cfm/services/scientificVisa>.

[49] The Schengen Information System (SIS) was set up for the purpose of border and police checks, prevention and prosecution of crimes, and issuing visas and residence permits. It is a common law-enforcement database, containing at present 32 million entries provided by the 25 participating states. The number of alerts is rising by approximately 3% each month. Member states supply information through national networks (N-SIS) that are securely connected to a central system (C-SIS). This system is supplemented by a network known as Supplementary Information Request at the National Entry (SIRENE), which is the human interface of the SIS. Alerts on persons can be created in the following instances: (a) if a person is wanted for arrest for extradition or surrender purposes (Schengen Convention, Art. 95)—the alert in SIS is equivalent to a European Arrest Warrant or a request for provisional arrest pursuant to the European Convention on Extradition; (b) for the purposes of refusing entry to aliens at the Schengen external border, or for expulsion, if located in the Schengen territory (Art. 96); (c) as part of a search for missing persons (Art. 97), in particular minors; (d) to establish a person's whereabouts on behalf of judicial authorities (Art. 98); and (e) for the purposes of discreet surveillance or specific checks (Art. 99). For more information see Council of the European Union, SIS, <http://www.consilium.europa.eu/policies/council-configurations/justice-et-affaires-interieures-(jai)/sirene-schengen-information-system/sis.aspx?lang=en>; and Council of the European Union, SIRENE-Schengen information system, <http://www.consilium.europa.eu/policies/council-configurations/justice-et-affaires-interieures-(jai)/sirene-schengen-information-system.aspx?lang=en>.

[50] For details see Regulation (EC) no. 810/2009 (note 42), articles 10–17.

[51] 'Under Article 22 of the Visa Code, a Member State may require the central authorities of other Member States to consult its central authorities during the examination of visa applications lodged by nationals of specific third countries or specific categories of such nationals. Such consultation does not apply to applications for airport transit visas. . . . When a third country is listed, it means that at least one

of home affairs and the consular departments of ministries of foreign affairs, states can use the Schengen Consultation Network (VISION) to communicate, exchange information and issue denials regarding visas.[52] Once a denial has been issued by a Schengen state, a visa has to be denied to the applicant by any other Schengen state. Some categories of persons are also subject to prior consultation.[53] If there is no denial through SIS, the visa application can be approved and the visa issued. States that are not part of the Schengen Area issue short-term visas through national procedures, without interstate inquiries or exchange of information. As in Schengen states, visa screening is based on interaction between consular offices, ministries of foreign affairs and ministries of home affairs.

Short-term visa-screening procedures mainly address the risks of illegal immigration, terrorism and crime; WMD proliferation risks are not considered in procedures to grant short-term visas. Therefore, it is necessary to increase consular vigilance to also prevent transfers of knowledge and know-how. Ministries of home affairs have access to personal data on visa applicants, but may not be fully aware of the risks of ITT. If made aware of WMD proliferation risks, home affairs departments and consular offices could play major roles in enhancing consular vigilance regarding ITT.

Long-term visas: the Spanish case

For stays in the Schengen Area which exceed three months, a third-country national needs to have either a long-stay visa for a period of no longer than a year or a residence permit for a longer period. A long-stay visa is a national visa, but it is issued in accordance with a uniform Schengen format. It entitles the holder to enter the Schengen Area and remain in the issuing state for a period of more than three months but no more than one year. If a Schengen state wishes to allow the holder of a long-stay visa to remain there for longer than a year, it must issue him or her with a residence permit.

The holder of a long-stay visa or a residence permit is entitled to move freely within the Schengen Area for a period of up to three months in any six-month period.[54] Third-country nationals who are long-term residents in a Schengen state can also acquire the right to move to and settle in another Schengen state without losing their legal status and social benefits.[55]

However, some third-country nationals are permitted to stay in the Schengen Area for more than three months without the need to apply for a long-stay visa. Article 20(2) of the Convention implementing the Schengen Agreement allows for this 'in exceptional circumstances or in accordance with a bilateral agreement concluded before the entry into force of this Convention'.[56]

Long-term visas are an exclusive national competence in all EU member states, irrespective of their adherence to Schengen. The procedure begins at EU member states' consular offices or in their national territories through invitations and expressions of interest by firms, academic institutions, legal residents or other entities. In Spain the procedure is as follows.

A foreign citizen must address a preliminary request to a firm, institution, university or person (legal resident), which determines the status of the applicant's future residence or stay in the hosting country: a contract, a training programme, university studies, a personal relationship, and so on. Any of the entities or persons interested in the immigration of

Member State requires such prior consultation', European Commission, Annex 16 of the Handbook for the processing of visa applications and the modification of issued visas, 1 Feb. 2012. The third countries listed are: Afghanistan, Algeria, Bangladesh, Belarus, the Democratic Republic of the Congo, Egypt, Iran, Iraq, Jordan, Kazakhstan, North Korea, Lebanon, Libya, Mauritania, Morocco, Nigeria, Pakistan, Russia, Rwanda, Saudi Arabia, Somalia, South Sudan, Sri Lanka, Sudan, Syria, Tunisia, Uzbekistan, Viet Nam and Yemen.

[52] The Schengen Consultation Network (VISION) was established to allow consultation among the central authorities of the Schengen states for visa applications made by nationals from countries of concern. Such consultations are carried out by means of electronic forms when needed. Once the Visa Information System (VIS) is fully operational, the technical functionalities of VISION will be integrated into VIS. Council of the European Union, Council conclusions on the development of the Visa Information System (VIS), 19 Feb. 2004, <http://ec.europa.eu/home-affairs/news/consulting_public/0018/council_conclusions_final_200204_en.pdf>.

[53] The categories of persons subject to prior consultation are: Palestinians, refugees and stateless persons. European Commission, Annex 16 of the Handbook for the processing of visa applications and the modification of issued visas, 1 Feb. 2012.

[54] Regulation (EU) no. 265/2010 of the European Parliament and of the Council of 25 Mar. 2010 amending the Convention Implementing the Schengen Agreement and Regulation (EC) no. 562/2006 as regards movement of persons with a long-stay visa, *Official Journal of the European Union*, L85, 31 Mar. 2010, p. 1.

[55] Council Directive 2003/109/EC concerning the status of third-country nationals who are long-term residents, *Official Journal of the European Union*, L16, 23 Jan. 2004, p. 44.

[56] The Schengen acquis: Convention implementing the Schengen Agreement of 14 June 1985 between the Governments of the States of the Benelux Economic Union, the Federal Republic of Germany and the French Republic on the gradual abolition of checks at their common borders, *Official Journal of the European Union*, L239, 22 Sep. 2000, pp. 19–62.

the applicant must then address a request to the home affairs office in the province of future residence or stay.

The local home affairs office makes inquiries about the applicant and also about the entity or person inviting him or her. After making inquiries, it decides whether to accept or reject the host or contractor's request. If the request is accepted, the applicant and relevant consular office are notified. A certificate of acceptance is then issued, which is included in the applicant's file.

Once a certificate of acceptance has been issued, the applicant presents his or her application to a consular office, backed by the host's expression of interest (contract, letter of invitation, enrolment in studies at an officially recognized academic institution, etc.). The application and supporting documents are then examined by the consular office and, if necessary, a personal interview takes place. The information requested about the applicant and the purpose of his or her trip takes into account immigration requirements, which are based on the economic capacity of the applicant to settle abroad. Once this procedure has been completed, the consular officers can proceed to the final step: to issue or deny a long-term visa.[57]

As is the case with short-term visas, long-term visa-screening procedures mainly address the risks of illegal immigration, terrorism and crime—WMD proliferation concerns are not considered among the granting criteria for long-term visas. Since local home affairs offices play a major role in long-term visa screening and have access to information on visa applicants before they request visas in consular offices, awareness of WMD proliferation risks at both local home affairs offices and consular offices abroad is crucial to enhancing consular vigilance.

[57] The Spanish legislation on this matter is based on: Organic Law 4/2000 of 11 June 2000 on the rights and freedoms of foreigners in Spain and their social integration, *BOE* no. 10, 12 Jan. 2000, and its amendment by Organic Law 10/2011 of 27 July 2011, *BOE* no. 180, 28 July 2011; Royal Decree 557/2011 of 20 Apr. 2011 approving the Regulation of Organic Law 4/2000 on the rights and freedoms of foreign nationals in Spain and their social integration, following its amendment by Organic Law 2/2009, *BOE* no. 103, 30 Apr. 2011; Royal Decree 240/2007 of 16 Feb. 2007, which is a transposition of European Directive 2004/38/EC to Spanish legislation, *BOE* no. 51, 28 Feb. 2007; Order PRE/1282/2007 of 10 May 2007, which establishes the economic means that foreigners must provide when seeking to enter Spain; and Order PRE/1283/2007 of 10 May 2007, which establishes the terms and requirements for the issue of a letter of invitation by an individual in favour of a foreigner seeking to enter Spain, *BOE* no. 113, 11 May 2007.

V. CONCLUSIONS AND RECOMMENDATIONS: PROPOSALS TO ENHANCE THE EU VISA-SCREENING SYSTEM

In conclusion, visa-screening procedures in the EU are based on a multilayered scheme of interaction between peripheral consular offices, consular departments of ministries of foreign affairs and departments of ministries of home affairs—and in some cases between EU member states. This mechanism implies at least three stages of control—local, ministry of foreign affairs and ministry of home affairs—in each country. However, the information required from applicants and the decisions made are based mainly on economic capacity and crime prevention criteria. Taking into consideration the gaps and loopholes in the system, several proposals can be made.

Increasing consular vigilance

Proliferation-related activities can only be considered as criminal acts if a serious intention to help terrorist groups or contribute to the development of WMD is clearly stated, yet by enhancing consular vigilance, states are in a better position to prevent proliferation-related ITT. Exercising vigilance through formal procedures, based on legal means, is essential in preventing the proliferation of technologies, materials and know-how related to WMD to countries of concern. Therefore, such consular vigilance focused on ITT should be increased. While the definition of 'countries of concern' may be a subject of controversy, it is obvious that consular vigilance is an obligation under the UN Security Council resolutions on Iran and North Korea.

Some EU member states which receive a high number of foreign students, such as the UK, have developed national consular vigilance procedures that could serve as interesting models for other countries. In the British system, all foreign students (except EU/EEA nationals) must apply for and receive non-proliferation clearance before they can apply for a student visa. Two specific factors, namely the visa applicant's nationality and the suggested field of scientific activity, can be grounds for closer scrutiny.

It would be also useful if member states notified each other of visa denials based on proliferation risks (as is the case now for export control denials). In 2009 France prepared a questionnaire to identify existing national measures to exercise consular and scientific

vigilance. The French questionnaire could be taken as a model in order to harmonize common national procedures on this issue.

Improving visa-screening procedures

EU member states should establish common standard criteria to address proliferation risks in visa-screening procedures, to the same extent as economic capacity and the prevention of common crime are addressed. This awareness of proliferation risks should be reflected in visa regulations and visa-screening procedures.

It is necessary to fully implement an information exchange mechanism between EU member states in long-term visa procedures, similar to the existing one for short-term visas.

The consultation system between the national central visa authorities should also be put into practice in cases of long-term visa refusals due to proliferation risks.[58] Further, the risk of proliferation could be included in the EU 'Visa Code'; until now, no measures have been taking to add proliferation as a separate risk category in the visa handbooks that are the basis of this code.

In general, EU member states are considering developing the procedures for mutual notification of visa denials related to proliferation risks. While a denial notification procedure based on proliferation risks exists within export controls, it does not yet exist for visas. Local consular cooperation should be used more effectively to exchange information on visa applications and visa denials, in accordance with EU consular regulations, but 'proliferation risk' should be a separate category in the procedures for the processing of visa applications. For this reason, EU member states should be able to issue electronic alerts in SIS in cases of proliferation risk, just as for persons engaged in terrorist activities.

Education and scientific authorities need to avoid cases of academic institutions giving training that is sensitive to WMD proliferation to students from Iran and North Korea through long-stay visas. The information exchange mechanism above can be used to vet foreign postgraduate students in sensitive disciplines in three ways. First, Schengen states can consult SIS when processing visa applications in accordance with articles 96–100 of the Schengen Agreement. Second, states can, within the existing legal framework (for example, Article 5 of the Schengen Border Code), deny a visa based on security concerns. Third, most member states have a system for monitoring course changes during an international student's enrolment. Foreign students cannot change course to one within an area of sensitive training within the period of validity of a visa or residence permit. If a student has been admitted to study at another institute, he or she has to make a new visa application. However, each request is examined individually and there are no general restrictions in the EU on specific studies relevant for WMD programmes. Nevertheless, the host institute should inform the authorities of a change in a student's course, in accordance with immigration regulations.

To implement an efficient visa-screening procedure at national level, it is necessary to develop synergy among all the departments or offices involved in the process, including in terms of access to relevant information on applicants. This is particularly important when taking into account the fact that offices' competence in the prevention of illegal immigration, crime prevention and non-proliferation are usually different and separate from one another, both physically and functionally. This functional distance is also greater in states with a large and complex administration. Functional bridges are therefore required in order to share relevant information, improve interaction during assessments and make appropriate decisions.

Being granted a visa is not a foreigner's 'right' in any country. However, the principle that a person is presumed innocent until proven guilty prevails in the legal systems of all EU member states. Requirements such as having sufficient financial resources to stay in a country without engaging in an illegal job or having a clean police record are based on objective criteria that allow government officials to determine whether an applicant qualifies to get a visa or not. A decision based on WMD proliferation concerns, on the other hand, might be influenced by suspicion rather than actual facts. Such concern might be considered a 'loose criterion' in societies where civil rights are, rightly, better rooted than proliferation concerns—especially

[58] The consultation system uses the VISION network, pursuant to Article 22 of the EU Visa Code (see note 51). For details on how it works, see Commission Decision 2009/377/EC of 5 May 2009 adopting implementing measures for the consultation mechanism and the other procedures referred to in Article 16 of Regulation (EC) No 767/2008 of the European Parliament and of the Council concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation) (notified under document number C [2009]2359), *Official Journal of the European Union*, L117, 12 May 2009, pp. 0003–0007.

if applicants are classified and discriminated against on the basis of their nationalities. Only UN Security Council resolutions 1737 (2006) and 1874 (2009) offer tools to help make such decisions and this problem poses a serious challenge in EU member states.

Raising awareness in scientific communities

The EU should also raise awareness about the risks of WMD proliferation within scientific and academic circles and financial institutions. Most of the actors involved in the production and trade of dual-use and sensitive material are not only well aware of the risks and apply the laws, they also put into practice preventive mechanisms of physical protection, internal control, final user, final destination of the product, and so on. Therefore, only a small number of actors intentionally work outside of the legal controls. Member states should make greater efforts to raise awareness among different actors and exchange best practices. There is also the need for an enhanced awareness of what counts as 'proliferation criteria'. Guidelines on this issue, in the form of the 'Outreach to industry checklist', were agreed at EU level in 2005. These guidelines need to be implemented and developed further.

In academic and scientific circles, the objective should not be to restrict academic freedom and the autonomy of universities and research institutes, but to make sure that these actors are fully aware of the risks related to their activities, via seminars, conferences, publications and so on. It would be useful to draft handbooks and newsletters with guidance and information based on proliferation concerns, respecting professional ethic codes. Direct contact with relevant scientific institutions and persons on problems related to proliferation risks should also remain a central element of national plans to raise awareness in academia and the scientific community. Although awareness-raising programmes are common practice in the EU, some member states have not yet taken specific measures in this respect.

In most EU member states, universities are not obliged to submit scientific and technical cooperation projects to an authority for prior approval. However, in some countries (like the UK) universities and research institutes have a legal obligation to submit scientific and technical cooperation programmes with certain countries for prior authorization. Codes of conduct could be a useful in raising awareness among scientists on proliferation-related issues but there are different opinions on the possibility of establishing such codes. The responsibility for maintaining good scientific practice rests primarily with the research organizations.

In order to facilitate scientific vigilance, in 2009 EU member states prepared a list of sensitive disciplines which are relevant to nuclear weapon and fissile material production, missiles and other delivery systems, chemical warfare and biological warfare. Consular officials could use this list when deciding on visa applications from countries of special concern. Universities and government officials could also use it when deciding whether research fellows from a particular country should have access to a sensitive research facility or laboratory, or be able to take part in a particular technical assistance visit or training activity in both industry- and academia-related applications. Further, the European Commission could use this list of sensitive disciplines in its the EU programmes with third countries (e.g. Erasmus Mundus). In some EU member states, prior consultation with or even prior authorization by the ministry of foreign affairs is required before accepting a scientific or technical cooperation project.

Other considerations

All the mechanisms mentioned above are important tools in contributing to the non-proliferation efforts of EU member states. However, it should be stressed that these mechanisms are not homogeneous. Some elements are common to Schengen states, but other elements are not. In this regard, it should be acknowledged that some EU member states have not yet developed tools applicable to the non-proliferation criteria.

Moreover, while monitoring academic and research institutions, exercising appropriate visa screening and raising awareness in the scientific community are necessary elements of a consolidated non-proliferation strategy, attention should also be paid to other aspects of ITT. This approach casts light on the limited added value of research focused only on visa screening. First of all, the mechanisms mentioned above are applicable to activities taking place in EU member states' territories, and therefore under national law. Second, visa screening is only applicable to requests by foreign citizens. Freedom of movement of EU citizens allows them to travel abroad without hindrance, for a

short stay or to live and work in other countries, taking with them their technical expertise. Third, it should be expected that the more efficient these mechanisms are, the more necessary it will be for proliferators to engage with growing interest in other activities related to ITT. Communication via email and the Internet is a clear example. In this regard, it is obvious that proliferators are already seeking the cooperation of foreign citizens living with residence permits in EU member states as well as with EU citizens.

Proliferation trends and procedures are dynamic, in constant evolution, adapting to new scenarios to attain desired goals. Among these new scenarios, the existence of new and emerging suppliers of sensitive and dual-use technology that can be used in WMD programmes should be recognized. For this reason, the prevention of proliferation-related activities also requires clear and updated laws and regulations, updated trigger lists of dual-use items, a solid awareness of proliferation risks and an adequate strategy to prevent the risk of diversion. When updating non-proliferation strategies, it should be possible to amend both national and EU regulations without renouncing the principles attached to individual identity and reflected in basic civil rights.

ABBREVIATIONS

CBRN	Chemical, biological, radiological and nuclear
CODUN	Working Party on Global Disarmament and Arms Control
CONOP	Working Party on Non-Proliferation
EU	European Union
ITT	Intangible transfer(s) of technology
SIS	Schengen Information System
VIS	Visa information system
WMD	Weapon(s) of mass destruction

EU Non-Proliferation Consortium

The European network of independent non-proliferation think tanks

A EUROPEAN NETWORK

In July 2010 the Council of the European Union decided to create a network bringing together foreign policy institutions and research centres from across the EU to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of weapons of mass destruction (WMD) and their delivery systems.

STRUCTURE

The EU Non-Proliferation Consortium is managed jointly by four institutes entrusted with the project, in close cooperation with the representative of the High Representative of the Union for Foreign Affairs and Security Policy. The four institutes are the Fondation pour la recherche stratégique (FRS) in Paris, the Peace Research Institute in Frankfurt (PRIF), the International Institute for Strategic Studies (IISS) in London, and Stockholm International Peace Research Institute (SIPRI). The Consortium began its work in January 2011 and forms the core of a wider network of European non-proliferation think tanks and research centres which will be closely associated with the activities of the Consortium.

MISSION

The main aim of the network of independent non-proliferation think tanks is to encourage discussion of measures to combat the proliferation of weapons of mass destruction and their delivery systems within civil society, particularly among experts, researchers and academics. The scope of activities shall also cover issues related to conventional weapons. The fruits of the network discussions can be submitted in the form of reports and recommendations to the responsible officials within the European Union.

It is expected that this network will support EU action to counter proliferation. To that end, the network can also establish cooperation with specialized institutions and research centres in third countries, in particular in those with which the EU is conducting specific non-proliferation dialogues.

http://www.nonproliferation.eu

FONDATION pour la RECHERCHE STRATÉGIQUE

FOUNDATION FOR STRATEGIC RESEARCH

FRS is an independent research centre and the leading French think tank on defence and security issues. Its team of experts in a variety of fields contributes to the strategic debate in France and abroad, and provides unique expertise across the board of defence and security studies.
http://www.frstrategie.org

PRIF Peace Research Institute Frankfurt — HSFK Hessische Stiftung Friedens- und Konfliktforschung

PEACE RESEARCH INSTITUTE IN FRANKFURT

PRIF is the largest as well as the oldest peace research institute in Germany. PRIF's work is directed towards carrying out research on peace and conflict, with a special emphasis on issues of arms control, non-proliferation and disarmament.
http://www.hsfk.de

IISS

INTERNATIONAL INSTITUTE FOR STRATEGIC STUDIES

IISS is an independent centre for research, information and debate on the problems of conflict, however caused, that have, or potentially have, an important military content. It aims to provide the best possible analysis on strategic trends and to facilitate contacts.
http://www.iiss.org/

sipri

STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE

SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament. Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.
http://www.sipri.org/