



Federal Office of Economics and Export Control

Information Leaflet on Responsibilities and Risks in Case of Know-how Transfer

Control of Technical Cooperation with Individuals,
Universities and Research Institutions

- Part I: Sensitization -



BAFA

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Responsibility for one's own actions

In a world where states try to acquire knowledge for the production of weapons of mass destruction and/or transfer it to other states everyone should be aware of the risks and dangers of an (un)conscious participation (proliferation risk).

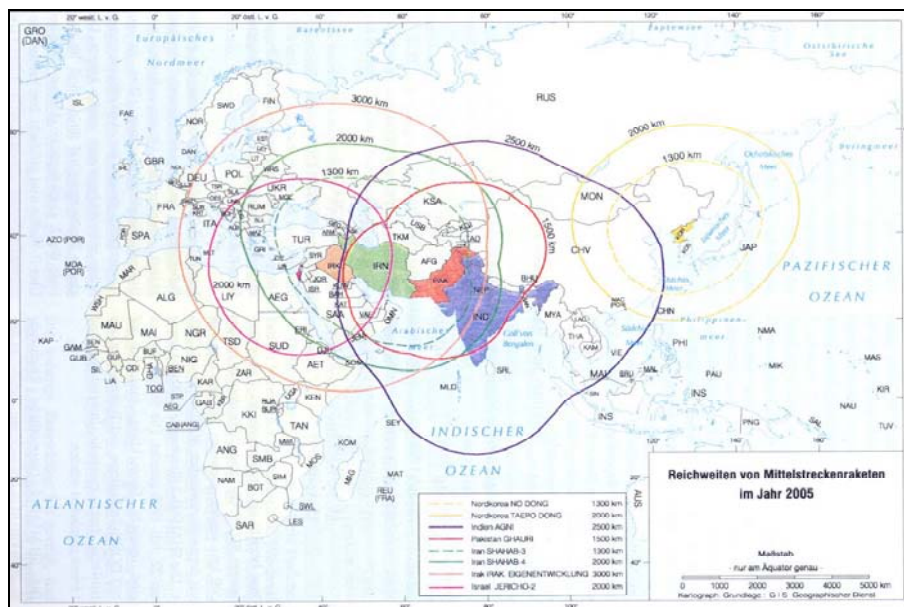
Do you work in one of the following areas?¹:

- Biology, including bio technology and medicine
- Chemistry, bio-chemistry
- Physics
- Nuclear technology
- Energy and environmental technology
- Information and communications technology
- Electrical engineering
- Aeronautics, transport engineering
- Mechanical engineering
- Materials technology
- Process engineering

These areas (and related know-how) belong to the most important technologies relevant for exports, where certain states try to gain knowledge permitting or facilitating them to build or spread weapons of mass destruction. But also the growing threat by weapons of mass destruction through international terrorism constitutes a serious risk.

If you work or investigate in these areas you should carefully read this Information Leaflet. Even if a project looks very harmless and seems to have civil applications at first sight:

It is our joint responsibility to prevent the proliferation of weapons of mass destruction!



Range of medium-range missiles in 2005 – graph of BND from the year 1999

¹ This enumeration does not claim to be complete

Contents

1. Introduction.....	p. 3
2. Objective of controls	p. 4
3. Control of „Technical assistance“?	p. 4
4. Extent of controls	p. 5
5. Fines and penal provisions.....	p. 6
General advice / imprint.....	p. 6

In [Annex I](#) you find examples of critical „technical assistance“

In [Annex II](#) you find „Warning notice referring to procurement attempts“.

1. Introduction

The aim of this Information Leaflet is to offer a first insight in the issue for

- private and governmental research facilities and institutes
- universities and colleges with natural scientific and engineering departments
- companies, especially with research/development departments

This Information Leaflet does not deal with the other restrictions which may apply to the export and transfer of goods or their transfer within the framework of a transit trade transaction. In part, they go beyond the restrictions on the granting of technical assistance (see no. 4 of this Leaflet).

Today scientific cooperation is common all over the world and takes many forms. Sometimes there are personal contacts between German and foreign scientists which result probably from joint studies. It happens that the „dear colleague“ is asked for help from abroad to provide his know-how. It could also be that the university x from the country y needs the latest laboratory equipment of German standard and requests help. A know-how transfer also takes place at national and international congresses, trade fairs, exhibitions, workshops, meetings, symposia, joint research and development projects and in training and education programmes. During such events personal contacts are established which offer an informal, unsuspected and continuous possibility of acquiring know-how later on.

Both, the transfer of goods – e. g. laboratory equipment or certain chemicals – and the transfer of know-how may involve numerous risks. It cannot be excluded that the misuse of know-how e. g. for medium-range missiles will also hit directly the helpful German scientists and their families.

2. Objectives of Controls

In order to prevent a proliferation of weapons of mass destruction the Member States of the European Union (EU) and all industrial nations have committed themselves to the non-proliferation of weapons of mass destruction and to control the export of sensitive goods to sensitive countries.

The know-how of nuclear, biological or chemical weapons and related missiles as well as of some civil goods, which are often necessary for the use or development of such weapons, constitute a particular risk potential. Therefore, it is necessary to control the proliferation of this technology, including its transmission by fax, telephone or electronic means.

Therefore, the entire EU does not only control the export of certain dual-use items (these goods can be used in both, civil and military fields, e. g. machine tools, chemicals, materials) but also the exchange of tangible and intangible technology.

Technological know-how which is potentially concerned is, in part, available in German industry (e. g. the manufacturers of certain machine tools, in the field of materials engineering and reactor technology) but, on the other hand, also in the natural scientific and engineering research institutes up to the departments of German universities and colleges. Civil activities may offer possibilities with a military orientation.



You could be responsible or be made liable for ensuring that BAFA is informed about a possible connection to a sensitive use.

3. Control of „Technical assistance“?

Transfer of know-how is covered under the term "technical assistance" in export control. It includes:

„any technical support in connection with repair, development, production, assembly, testing, maintenance or any other technical service; the technical support can take the form of instruction, training, transfer of practical knowledge or abilities, or the form of consultation, including assistance provided orally, by telephone and electronic media“.

This very general wording shows that any type of technical assistance may be covered: in particular due to the fact that the above enumeration of type, form and content of the technical service is only exemplary.

The relevant regulations do not automatically provide for a licensing requirement for any technical assistance. You either have to be informed by BAFA about a licensing requirement. Or you have to inform BAFA if you know about a connection to a sensitive use between your assistance and the weapons of mass destruction, related missiles, conventional armaments or civil nuclear plants. Then BAFA decides whether a licence is required or not.

Nobody needs to worry about the freedom of research and science. The freedom of the generally accessible basic scientific research and theory which is protected by the Basic Law is not affected by these licensing requirements.

But apart from legal obligations, it may be advisable in the individual case to contact BAFA. It is not the task and aim of BAFA to block the scientific and technological exchange, but to inform about licensing requirements. The reason is that some countries try, by misusing scientific cooperation, to acquire know-how which is then used for the development and production of ABC weapons or other arms projects. The free access of scientists and technicians from sensitive states² to Western universities and other scientific-technical institutions makes it possible for them to acquire profound knowledge of state-of-the-art technologies.

This know-how transfer is readily used by the scientific élite in the proliferation states (s. a.) because it is the way to establish the basis for a scientific and technical independence.

Special interest is paid to information on:

- research work/projects
- development/projects
- production techniques
- Management and process organisation
- cooperation projects and specialized literature

A decisive variant of know-how transfer is the exchange of scientists - from professors to students - between proliferation states and Western industrial nations. Associations, private and cultural initiatives as well as technology centres which were founded in Western countries for nationals from sensitive states offer a good basis for contacts and mutual exchange of information.

The know-how transfer aims at all areas of modern technologies, particularly on the above-mentioned key technologies. This knowledge may be the basis for the production of modern conventional weapons systems as well as weapons of mass destruction and related missile systems. The state funding of a project by the consignee state is not always a convincing indication of a pure civil use.

4. Scope of Controls

The export control concerns primarily the export of goods. These are commodities, but also technology and software, if it is tangible (e.g. a vacuum pump or a drawing stored on a CD).³

In addition, the export control also covers the know-how transfer in an intangible form, e. g. training courses or manual services, but also to make them available, i. e. laissez-faire, to let people do as they please. This and other things are summarized under the term "technical assistance".

Licensing regulations related to weapons of mass destruction are applicable all over the world; there are exceptions for EU Member States and countries of Annex II Part 3 only.

The legal details of this control of "technical assistance" are explained in [Part II „Information and Licensing Requirements“](#) of the Information Leaflet.

5. Fines and Penal Provisions

² India, Iran, Cuba, Lebanon, Libya, North Korea, Pakistan, Sudan and Syria.

³ Cf. „BAFA' s Brief Outline“ on export control: <http://www.ausfuhrkontrolle.info>

⁴ Please note the penal provisions of the War Weapons Control Act.

The high importance of export control legislation is reflected by the amount of threatening fines and punishment: there may be fines of up to € 500,000 and prison sentences of up to 5 years!⁴

In case of doubt, please contact BAFA prior to the provision of technical assistance.

General Advice

The Information Leaflet reflects the status of 01.08.2005. It does not claim to be complete and is not legally binding. It is intended as a first information. More detailed information on the legal bases can be found in Part II of the Information Leaflet which is available from BAFA and in HADDEX. (s. b.).

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At the internet homepage you find: excerpt from Foreign Trade and Payments Act (AWG), the Foreign Trade and Payments Regulation (AWV), the War Weapons Control Act (KWKG), the Export List, EC Dual-Use REG., specimen of application forms and other information leaflets.

The complete legal texts are contained i. a. in the Handbook of German Export Control - HADDEX - published by BAFA. It may be ordered from the Bundesanzeiger Verlagsgesellschaft, Postfach 10 05 34, 50445 Köln.

Further information on export control, particularly groups of goods covered may also be taken from BAFA' s Brief Outline referring to legal bases and procedures.

**It also applies to universities and research institutes that
„The struggle against the proliferation of weapons of mass destruction can
only be successful with the support of industry.**

Warning notice by BAFA based on the recommendations of the Australia Group
in connection with procurement attempts in the chemical and biological areas

Examples of a critical „technical assistance“**Example 1 (Joint research projects):**

Within the framework of a research project referring to the "Behaviour of asymmetric bodies with rough surfaces under flow conditions" suitable calculation algorithms are to be developed and the results are to be verified in experiments in an university institute. Background of the project is a special problem in the new development of a civil missile (e. g. research and cargo rockets).

The institute received a request by a graduated foreign national who intends to participate in the project because of his former stay or his intended graduation.

Background: The post-graduate student works in his country in an institution dealing with the development of missiles of different ranges and other weapons systems. The results obtained in Germany from the test series may become part of the further development of weapons systems/missiles in his home country.

Example 2 (Know-how transfer abroad):

Within the framework of a bilateral research project with a foreign national in his home country there is an exchange of information, not generally accessible, about mass spectrometers, vacuum pumps (uranium hexafluoride resistant) and autoclaves (specially modified for uranium hexafluoride transport systems). According to information of the company established in Germany, the technology is to be used in an uranium enrichment plant.

Example 3 (Know-how transfer inside the country):

Within the framework of a private cooperation project with a foreign research institute it is intended to exchange knowledge, not generally accessible, about an increased efficiency of certain rocket propulsion units in talks and lectures in Germany. The aim of the project is the development of new technologies for propulsion units of ballistic missiles. According to the information of the German company, the missiles are suitable for the application ? of nuclear weapons.

Example 4 (Internet):

Australian scientists genetically modified the ectromelia virus with the intention to find a means inhibiting reproduction. The modified virus, however, proved to be resistant to any vaccination and its effect was lethal. Through the publication of their research results in a special journal which may be retrieved in the internet these details were freely available. They could also be used within the framework of genetic research for military purposes. The access figures to the report ranged from Russia, India, Pakistan, China, but also Iran and Iraq., thereby demonstrating that the interest in the report was not only confined to civil research institutions.

Do these examples remind you of what you encounter in international scientific exchange?

Now the question is whether BAFA should be contacted before. Looking at the character of these cases, the answer is: yes!

In cases of doubt, you should always contact BAFA in order to find out whether a licence is required.

Annex 2**Warning notice referring to procurement attempts**

A special - but not exclusive - attention is paid to certain countries which are well-known for or suspected of trying to acquire technical knowledge that may be used for sensitive projects. The warning notice below is to help you in finding out whether there is a risk of an unintentional "technical assistance" in sensitive areas.

1. Suspicious circumstances resulting from „unusual“ behaviour

There should be a thorough check in case of suspicious behaviour, in particular with regard to the initiation of a transaction and the content of the business transactions. This also applies to unusual "favours to a friend".

Examples of suspicious behaviour are:

- a) Unusual and groundless
 - participation of a broker or irrelevant research institute,
 - splitting of the project into several subsections, or finishing of a project begun by a third person without a plausible explanation,
 - modification of essential production processes which make the production of weapons of mass destruction, missiles or military equipment possible or feasible,
 - enquirer refrains from a subsequent servicing of the project and from the continuation of technical cooperation; renunciation of expert help or staff training which is normally required for such a project,
 - unusually favourable terms of payment, e. g. excessive fees or partial payment in cash or a request for strict confidentiality with regard to the details of service and order,
- b) reservations of the customer in terms of providing information about the location of the (research) plant or the place where the service is to be provided or used. The technical cooperation is to take place in a separate sensitive area, e. g. a site near military facilities or an area only accessible for a strictly limited group of persons,
- c) transactions where such enquiries would not be expected by persons involved, e. g. scientists, experts, research workers, laboratory staff, in view of the well-known activities. No or only insufficient explanation is given for the enquiry,
- d) lack of or insufficient
 - explanation for the need of the technical assistance, i. e. of the technology/know-how transfer and training,
 - explanations or evasive answers to question after the relevant commercial or technical aspects of the transaction as well as statements revealing that the enquirer does not have the required technical know-how for such projects,
- e) security arrangements/measures which seem too high for the technical assistance or show that the enquirer is obviously not familiar with the usual security requirements in connection with the order,
- f) packaging and handling arrangements for additional equipment which do not correspond with the indicated purpose of use and/or destination of the material.

2. Suspicious circumstances resulting from the enquiring person

Enquiries or orders for technical assistance as well as application or request for participation should be checked carefully if the person gives reason to assume a possible misuse of the technical know-how.

Such suspicious circumstance could exist in case of enquiries and orders

- a) of unknown persons with an unclear identity because the letter head is not complete or was copied on the cover letter, or questions after their identity is not clearly answered or no convincing references can be supplied,
- b) from the military sector, e. g. persons acting on behalf of the Ministry of Defence or the armed forces, or by persons having well-known business contacts to the arms industry or nuclear institutions,
- c) of persons who cannot give plausible explanations about the whereabouts of products delivered.