At the invitation of the Research Group for Biological Arms Control at the University of Hamburg, experts met in Brussels to discuss the Research Group’s concept of a global trade monitoring for certain biotechnology items. The aim of such a trade monitoring is to detect accumulations or combinations of biotechnology items that might indicate a hostile end-use. Precondition for such a monitoring is a better identification of biotechnology equipment in the nomenclature of the Harmonized System (HS) of the World Customs Organization (WCO). Besides discussing the aims and benefits of an HS amendment for certain biotechnology items, experts gave presentations on experiences with amendments and use of the HS for trade monitoring purposes in other areas. This included international organisations that in the past initiated amendment processes in relation to goods of their concern and non-state organisations that are actively using data generated through the HS to monitor the trade with dangerous or illegal goods.

Export Controls: The Status Quo

During the workshop it was undisputed that the existing tools to internationally prevent the proliferation of biological weapons (BW) relevant equipment are insufficient. In particular, the lack of an international organisation tasked with the implementation of the multilateral Biological and Toxin Weapons Convention (BWC) makes traditional state-based solutions very difficult. National export controls remain the most important instrument to prevent the spread of BW relevant materials and equipment. Workshop participants stressed the view that these tools alone will not provide an effective framework against the proliferation of BW relevant technology.

Export controls as measures to prevent the proliferation of weapons and dual-use goods have a long history. They were adapted after the Cold War when the political and strategic environment changed and globalisation tendencies increased. The bloc-orientated threat perception became obsolete; the new threat assumptions forced a reorientation towards the current licensing system that affects a different range of countries and items. Especially, adding dual use items to the traditionally pure military focus characterised the change in export controls.
It is problematic that there is no truly internationally harmonized approach to export controls. Export controls remain being applied on a national (or European) level and many states remain outside the exclusive clubs of existing export control regimes such as the Australia Group. The causal chain from the increasing globalisation of markets, the correspondingly increasing volume of international trade, the ever greater number of international companies and therewith the international ownership of patents are leading to a global diffusion of knowledge that might render the existing export control regimes obsolete.

Especially in the bio-related field, the decision what constitutes a dual use item and what should be controlled is hard to take. With the increasing diversity and complexity of biotechnology and the growing number of products and market participants, market transparency is insufficient. This insufficiency became very clear in connection with the Iraqi BW programme in the late 1980s/early 1990s. This programme was build on items that were under control, but as export controls are not properly coordinated internationally, and individual items do not allow drawing a conclusion about the end-use, none of the individual transfers from different supplier states was considered suspicious. Although a lot has been done to tighten export controls, this weakness remains basically unchanged.

Another weakness of export controls is the licensing process itself. New technologies are developing so rapidly that the export control systems are often not up to date. Especially in the medical field the strengthening of public health systems often goes hand in hand with proliferation of technology and knowledge. In addition, there are no common rules for licensing. Not even members of the existing multilateral export control regimes have implemented common standards for the licensing. Finally, a lot of detailed information on possible technology applications, the importer and the end-user are needed to issue a reliable end-use respectively end-user license. This detailed knowledge is often not available to companies and customs officers.

**Trademonitoring as an additional tool**

Accordingly, there is a need for additional and alternative measures. One such measure is to increase the transparency of the biotechnology market, and to monitor this market segment much more closely. Tracking biotechnology items would give states, international organisations, industry and civil society the possibility to recognise suspicious commodity flows without causing any negative impact on industry and public health system development. As a basis for creating a framework wherein a coordinated biotechnology market analysis is facilitated, the Research Group promotes a better identification of certain biotechnology items in the HS.

Trade data generated on the basis of the HS is publicly available in online databases. Information is provided on time, volume and value of (re-)exports and imports. Market analysts use these data today to monitor those market segments that can be clearly mapped because the relevant goods are identified unambiguously by individual HS codes. If an item is identified individually in the HS, the resulting trade data allow the visualisation of very specific trade flows. Such a monitoring does not rely on licenses or notifications, but only requires passive observation and analysis. In contrast to export controls, it is not an exclusive instrument for a limited number of states and does not incur additional expenses for industry.

Today, very few biotechnology items are identified individually in the HS nomenclature, making trade monitoring in this area almost impossible. To improve monitoring capacities, the Research Group compiled an items-list of approx. 40 positions of biotechnology equipment to which individual HS codes should be assigned. The list was developed using the items lists of UNSCOM/UNMOVIC, the Australia Group and the Ad Hoc Group to the BWC. In November
2007, with help of the HS Secretariat, the list was submitted to the HS Review Sub-Committee (see WCO document NR0713E1a and Annex). Member states instructed the Secretariat to propose individual code numbers for these items. As a first step, the Secretariat identified the codes under which the items fall today (see WCO document NC1264E1a). These are approx. 30 different HS codes, most of them “basket numbers” that include a broad range of items. On the other hand, some items can be linked to more than one code. For the next session of the HS Review Sub-Committee, to be held 13 to 23 May 2008, the Secretariat developed a list with proposed new code numbers for these items (see WCO document NR0741E1a and Annex). The time-frame to agree these proposals is narrow, since the current five-year review cycle will end in March 2009.

A global trademonitoring for certain biotechnology items as developed by the Research Group was supported by the vast majority of workshop participants, provided future work keeps the level of detail manageable and the list of items to be identified individually fits with the existing structure of the HS. Workshop participants stressed, that besides enabling a global monitoring of trade in certain biotechnology items, the proposed HS amendment would also facilitate a more exact identification of items by exporters and importers, and customs authorities in countries of origin and destination, leading to a more effective application of export controls and therewith to an improved implementation of UNSC Resolution 1540 (2004).

Experiences in other fields

HS generated trade data are used for monitoring purposes in a variety of policy fields. At the workshop, experts gave presentations on experiences with amendments and use of the HS for trade monitoring purposes as follows:

- The Organisation for the Prohibition of Chemical Weapons (OPCW), in 1998, requested the WCO to introduce specific subheadings in the HS for chemicals scheduled in the Chemical Weapons Convention. The aim was to facilitate the collection and comparison of data on international trade in controlled substances. The OPCW is, however, not mandated to use open source data and is restricted to using declarations by States Parties. A better identification in the HS would have led to an increased data quality and comparability of reports. Discrepancies of imported and exported amounts of chemicals and therewith accidental or deliberate misdeclarations of chemical substances would be more clearly recognizable. Difficulties occurred, however, since introducing individual subheadings for a large number of similar chemicals is not possible within the existing structure of the HS. While formal amendments of the HS for this technical reason were in many cases not realisable, the HS Secretariat made use of the instrument of recommendation and requested states to use a more detailed code system on the national level. The HS Committee recently approved such a recommendation on the 34 most traded CWC relevant chemicals. The proposal of the Research Group asks for a much smaller number of modifications and applies to equipment that is clearly identifiable. However, if there is no agreement to amend the HS, a recommendation might be a feasible way to continue working towards more transparency in the biotechnology market.

- The non-governmental Environmental Investigation Agency (EIA) uses the HS generated trade data in publicly accessible databases to detect and track the trade with endangered species and ozone depleting substances. Since treaty organisations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Montreal Protocol on Substances That Deplete the Ozone Layer in the past successfully applied for a better identification of controlled items in the HS, EIA is
now able to use the data for investigating and exposing environmental crime. The HS generated trade data is just one source of information for the EIA and information has to be verified on-site, but detecting discrepancies of import and export data in many cases produced first indications of non-compliance.

- The Food and Agriculture Organisation of the United Nations has over the last 40 years been collecting data covering areas such as agricultural production, consumption, trade, prices and resources in its own database called FAOSTAT. The aim of collecting and analyzing those data is to ensure food security. Data is compiled and disseminated using, inter alia, data from different classification and trade monitoring systems. Since in March 2006 the Central Product Classification (CPC) version 2.0 came into existence, the FAO now possesses a common international classification system for agricultural products. It contains data on the most important 506 agricultural items. Only half of these items are compatible with the HS while the other half is contained in mainly three “basket numbers”. FAO only recently set up a process to adapt the HS for a better identification of these latter items.

**Open questions/challenges**

During the workshop, a number of open questions and challenges, of both a conceptual and a concrete nature, were identified:

- Not all states use the current version of the HS, but some use older ones. This will likely be the case with future amendments as well. This phenomenon concerns mostly smaller states with lower handling of goods, but still this may cause statistical inaccuracies when shipments are temporary stored on the territories of such states (re-exports).
- Inaccuracies will also regularly result from accidental mismatches of export and import data. Mismatches may however also indicate cheating.
- It was also criticised that a trademonitoring as proposed would most likely only detect those BW programmes reaching the industrial scale, but will not detect small scale (terrorist) programmes. This, however, is no reason not to implement a better identification of biotechnology products in the HS, especially since market transparency as the central aim of the proposal comes with a broader range of benefits.
- Trademonitoring can only be one instrument among others in a web of prevention against biological warfare and will, by itself, not lead to any final proof of non-compliance. It may, however, indicate suspicious facts.
- A better understanding of the differences between the proposed trademonitoring and traditional export control systems has to be developed.
- The same is true for a better understanding of the fact that in the field of biotechnology many items are to be labelled “dual use”. Transfers of these items are only suspicious if accumulated in certain combinations or quantities.
- Since in the biotechnology field, different to other technology areas, the dual use character of equipment is no exception but rather the rule, the listed items are no niche-products. The trade volume for the listed items could only be assessed after the workshop. As a result, biotechnology items seem to be underrepresented in the HS as the volume in world trade in products such as bioreactors, growth media or filtration equipment reaches dimensions of each USD 300 to 700 million per year.
- Major stakeholders such as industry and a greater range of States Parties to the HS, for example the European Union, have to be convinced that amending the HS towards a
greater transparency in a so far underrepresented market segment, will be in their interests.

- The timeframe for deciding on the proposed amendments is narrow. Since there will only be two more sessions of the HS Review Sub-Committee during the current review cycle, participants expressed the view that it is likely that the 2012 version of the HS will not contain the proposed changes to the nomenclature.

- It should therefore be assessed, whether a recommendation by the HS Committee would be a good starting point towards future amendments. A recommendation, however, would not lead to the production of open source trade data that could be used in a public monitoring of the global biotechnology market.

The HS is by WCO’s definition a multipurpose tool to assist in solving a variety of global problems as long as the necessary amendments fit the HS structure. It is to be hoped that it can be used to provide more detailed information on the rapidly growing biotechnology market as well. The next step in the development of the trademonitoring system for certain biotechnology items is to find consensus on the description of items to be identified individually using objective criteria and making the descriptions compatible with the “language” of the HS.