Atoms for Peace

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Abstract
Industry has to comply with non-proliferation regulations by all means. Our corporate responsibility however, goes far beyond pure legal compliance: The essence of our endeavours is self-triggered caution and restraint towards questionable business while maintaining a trusting partnership with governmental authorities and international institutions. The only pragmatic solution to prevent WMD and missile projects in sensitive countries is to pro-actively share information with government authorities and the IAEA, indifferent of political and commercial interests. “Atoms for peace” is one of industry’s major duties.
Ladies and Gentlemen,

First of all I would like to thank Carnegie Endowment for International Peace for this invitation and kind introduction. It is a privilege to deliver a keynote to such an distinguished audience.

While I was preparing my papers for today, the devastating events in Japan caught up with me and since it has become clear that they will have serious nuclear effects on Japan and therefore the world, the people and finally the economy. We can all see that the global awareness for all issues connected with nuclear power is rising. Rightfully so.

Yet, I am grateful to be CEO of Leybold today, and not some thirty years ago, when nuclear proliferation was widely spread and the brand Leybold was tainted by dubious activities of a few individuals.

Most companies have some of this ‘Jurassic Business’ in their history. But the lessons we have learned is what counts today. We learned that there are two major aspects to nuclear power:

1. Nuclear weapons, and a pressing demand to strengthen nuclear disarmament
2. Civil use of nuclear energy, meeting the world’s rising need for electricity entailing the pressing demand for stronger and comprehensive safeguard systems and global efforts to combat nuclear proliferation.

Both fields of nuclear use are dependent on deliveries from industrial partners in both areas; the opportunities for nuclear proliferation are vast.

Of course, proliferation is – to some extent – hindered by export control regulations. For decades, the media are reporting on illegal shipments of high-tech commodities with mostly nuclear related end uses. In the worst case, the final destination is a clandestine, undeclared plant for Highly Enriched Uranium (HEU) fabrication. While state actors drive their ambitious nuclear projects towards completion, it is often private companies trying to procure what is required for the nuclear activities. Those, at the delivering end of the supply chain, are also private entities, either middlemen or the manufacturers of products. The IAEA already has access to information related to attempted, intercepted and seized export shipments, and it knows about successful illegal transactions once these become known. However, there are many more traces out there, visible traces left by those who tried to procure high technology items. In many cases, states with clandestine nuclear ambitions have not the industrial infrastructure to produce all required goods within their own borders. Therefore, they have to target and contact potential suppliers in other countries. In recent years, many supplier countries have intensified their awareness-raising programs and intensified their industry outreach. There are companies receiving inquiries which they
may not be able or do not want to serve. Maybe, because they see no chance to obtain an export license or, they don't want such business for ethical reasons. Such data, available in companies and only occasionally shared by companies with government authorities in member states, should be made accessible on a much broader front, and also be shared with the IAEA. In a large scale approach, this would lead to an ad hoc improvement of the verification efforts and help establish a unique early warning system. The IAEA needs effective help from more member states, primarily with regard to information sharing, as well as emphatic support for the IAEA Procurement Outreach Program. To share procurement data will not cost industry or respective member state authorities' any money; forwarding an email is as simple as a mouse click, and companies will feel rewarded by knowing they did the right thing. Supporting the global fight against potential nuclear terrorism and proliferation is in itself rewarding. And beside the IAEA, and our security authorities, the biggest winner of this simple approach will be us: the population of our global village. Industry can indeed do a lot to slow down or even hinder illegal nuclear trade.
So, who is Oerlikon Leybold Vacuum and what do we do?

... Export controls: a good tool in an almost empty tool box

The core of “awareness” related export control regulations is “positive knowledge” of the exporter about a WMD (weapons of mass destruction) or missile end use. Only very few countries go beyond this and constitute license requirements if the exporter has “reason to believe” or “grounds for suspecting” any such end use. Countries initiating a WMD program will strive to cover their intention. The country will do everything it can to make sure that the program is camouflaged, most of the operations are run by intelligence services, and nothing leaks out. You will hardly ever be approached by any of the customers’ representatives explaining to you that there is a military end use, nor will you ever be shown any drawings or other documents that would enable you to file a license application owing to the “positive knowledge” that you have.

The goal of this speech is not to criticize export controls – they have their full justification and are as good as everything else man made. There are quite a few countries that work hard to introduce good and high level export controls, and other countries which work equally hard to help these countries to develop and implement this tool. Yet, like with any other tool, there is a limit to its functions and capabilities. Export controls are not enough to counteract proliferation purposes. It takes more and other efficient tools, as well as a dedicated group of mechanics interacting as a team with one common goal: to fight illicit nuclear trade. Today, we are focussing on a potentially powerful new team member: Industry. Hopefully, the aforesaid makes clear that the IAEA does not have the smallest interest to become yet
another player on the export controls school yard. An additional export control agency will not help anybody, and also stricter export controls will not lead to greater success. We would just build higher hurdles for legitimate trade without moving a little step closer towards our goal, i.e. the early detection of unlawful programs or at least their late identification.

**What is required must be imported**

Industry and trade can play an important part in the prevention of proliferation of WMD and missiles. Proliferation is dependent on importing large quantities of high-technology components and products – so they have to be exported by the producing or selling companies. Trade always leaves traces that can be identified by industry, and so do attempts of illicit procurement. We still see many inquiries coming through already known channels and often from the same still existing front companies.

For us, as supplier of vacuum components, systems and spare parts, the ‘shopping list’ still contains the same items. Despite all efforts, there is still large-scale “procurement” out there for unlawful purposes and this reveals a very simple fact: The countries engaging in illegal programs mostly do not have the resources and capabilities to produce the required technologies domestically. They depend on a limited number of exporting companies in order to obtain what is required. This leads to an interesting question: What would happen if all potential suppliers refused to deliver? Or if many of these suppliers would be willing to share their insights on dubious inquiries and reported these voluntarily to government authorities and via these – to the IAEA?

**Industry is the front line of defence**

As a matter of fact, industry is in the front line of defence when it comes to stopping procurement for nuclear enrichment, WMD, and missiles. These trade traces, however, will hardly be available for governmental authorities unless the company, for whatever reason, chooses to communicate and actively forwards the information to the authorities.

Procurement for illicit programs starts just as any other trade process within the “Supply Chain”. It starts with a requirement, an inquiry to a potential supplier, leading to a quotation. Negotiations might follow, resulting in a customer order or contract, an order confirmation, followed by a production process. Then shipping procedures ensue, through a forwarding company, and it will finally involve the financial system for payments. Many actors in industry, trade, transportation and finance are involved. But the most suitable partner for the identification of what might be a suspicious or illicit requirement is the manufacturer and exporter of the goods involved. He has the best overall survey with regards to the entire transaction, the suitability of the product for the claimed end use and the judgement on its plausibility. Maybe there are protocols of “red flags” that would make the company suspicious, and a good internal compliance system would help the company to identify if identical or similar inquiries or orders were rejected. Often,
similar requests come either from the same company to multiple affiliates of a producer, or, from a different entity in another country, but with the same technical specification and for identical quantities. Here is is just a recent case:

There was an inquiry from an e-mail account in the UK following an entry in a US search registry into our US affiliated company. The products are standard items, no export licenses are necessary at all. Without the information of our German authorities that these items were on the shopping list of a certain country, we would not have noticed anything extraordinary. Alerted, we searched our data base and found those independent inquiries from several countries to several of our offices. Consequently, we did not quote, but shared all cases with the authorities, helping them to see the larger picture and to add several names to their data base.

Please keep in mind that vacuum is an indispensable enabler of many state-of-the-art production processes, but also ancient technologies like the electromagnetic isotope separation or first generation ultracentrifuges require still the same vacuum components. The same applies to processes in connection with missiles, be it the handling of propellants, the coating of electro-optic devices, the manufacturing of testing of gyros or the high altitude simulation. Vacuum is a “must”.

The inquiries we receive – and do not serve – have huge coverage. It could be just a set of spare gaskets for a vacuum pump delivered back in the 1980ies. If we allow the spare parts to reach their final destination, they will enable the operator to replace the gaskets and the pump will continue to work in a process in which we do not want it to work. We often hear questions from our sales force, whether we can perhaps define a group of harmless parts which they can sell without concerns, and without being so cautious. Looking at the seemingly harmless spare part or the standard product and the not so harmless process involved you will understand why the answer is NO.

There are hundreds of such suspicious inquiries and our company rejected business with a total value of major double digits of millions - voluntarily.

Our international export control group is working as what we call a “centralized detection hub”. We operate subsidiaries in 17 countries. We train the global sales force, service technicians, order management group, product managers and everybody else who might have customer contact. To be clear about it: to combat illicit procurement, it is not enough to concentrate on a handful of ‘wrong doing’ countries. In brief, all countries qualify for diversion of equipment and illegitimate procurement, and this is one of the reasons why we centralized the matter. If we discover a particularly tricky or dangerous procurement attempt, we send a warning to our subsidiaries.
“Lost information” – unavailable for analysis
In spring 1992, the Leybold AG, that time a German high-tech group with then several thousand employees and two major hubs in Hanau (near Frankfurt) and in Cologne, introduced a voluntary self-restraint in export matters. It became known as “the LEYBOLD Charter”.

It demanded that all employees should strictly adhere to our company business ethics and export control procedures. The Charter also had and still has a clause that we do not engage in a business if we have – even after receipt of an end user declaration – continued concerns regarding the end use of the goods we are asked to deliver. You may imagine that after a short while we received a bunch of inquiries that were not to be turned into business. These inquiries included requirements from embargoed destinations as well as nuclear and missile programs in several countries.

The next slide shows how much information is available in industry and how much is lost, when this information remains in our company’s archives or ends up in the trash bin. Lost for government authorities and the IAEA. Authorities do have a certain access to information that may be relevant for the prevention of proliferation, and they have access to data they can get out of export license applications. But all the rest is unavailable, unless actively communicated and voluntarily shared by industry.

Early warning or late identification
During our trainings for subsidiaries and in particular during Export Control Outreach seminars in a variety of countries, we found out that there is often little or no knowledge on laws and regulations which prevail in the respective countries. Many companies have very little awareness; do not screen their product portfolio against the current export control lists or against Sanctioned Party lists. It has to be assumed that there are still many shipments that go without the necessary license, and that the exporter simply does not know that there is a license requirement. There are, of course, also cases in which an exporter chooses to ship without license deliberately, be it by means of false customs tariff numbers, product description, incorrect country of final destination or whatever he deems necessary to execute on this business. The largest group by far is the huge quantity of inquiries – normal and illegal ones - that exporting companies do not execute on, for very different reasons.

Yet, these companies are often able to discern between a normal inquiry and a potentially problematic one, and the latter are exactly the ones that government authorities should be informed about. If government authorities and the IAEA had better access to these many puzzle pieces, they could certainly analyze these and get a better feel for newly developing nuclear ambitions of countries that have not shown any such interest so far.
In any case, industry-government information and fearless communication with government officials is an indispensable verification tool that effective Safeguards need. Other tools are already in use, such as physical inspection, surveillance cameras, environmental tests and satellite imagery. Industrial information would just be another tool in the tool box.

Winners, losers and indispensable prerequisites
We do not try to persuade other companies to follow our example; industrial leaders have to come to their own conclusions regarding their ultimate social responsibility and to reduce the threat caused by the world’s most dangerous weapons. What separates us from other species is the free will to decide to do “good,” to act socially responsible. Is it acceptable to execute on business in the gray area, where the knowledge for unlawful purposes is perceived, but where laws do not work effectively enough? Is generating share- and stakeholder value limited to the fiscal bottom line? Our stakeholders rely on us to maintain certain, if not the highest, moral and business ethics – for ourselves, the social surrounding and for our future.

From my experience, the last thing that exporting companies will want to do, is to create problems for themselves. No one is really looking forward to a visit of officials because they have a legal obligation to investigate the company after they have learned about a potential violation.

If we want these companies to share their information, we have to create a culture of mutual trust and understanding. In particular, companies must be enabled to share such information without having to be afraid that the voluntarily supplied information will be turned and used against them. Some companies will already have achieved a high level of social responsibility, adhere to compliance guidelines and might easily be won over to participate. For other companies, enticement programs might be conceivable, for example with incentives from the financial communities, or with specialized export procedures.

Yet, we have to keep in mind that the work with industry requires a legal framework, manpower and the right skills including technical understanding. Authorities may face new challenges regarding the education of their officials, and may soon come to a point where they obtain much more information than they can digest. Moreover, the IAEA has a chronicle disease, the shortage of funds and human capacity. It should be ensured that there is enough manpower and other resources to manage the information flow in a timely manner, and there should be a broader stream of shared information from many more member states. Nuclear security, global stability and world peace are not available for free – if this is our belief and if we think that – after the globalization of proliferation – also counter proliferation should indeed become global, we ought to have more tools in the tool box. We should then take the necessary next steps, to create appropriate working conditions and provide resources necessary.
Dear Ladies and Gentlemen, let me finish by quoting a famous physicist:

*Concern for man and his fate must always form the chief interest of all technical endeavors.*

*Never forget this in the midst of your diagrams and equations.*

*Albert Einstein*

Thank you for your attention!