Session 3 Addressing Knowledge Security

Knowledge security experiences and practices Estonian University of the Life Sciences
Mait Klaassen, Rector of Estonian University of Life Sciences (EMÜ) EE

Research, education and security

The events of the last few years, especially the last six months, have highlighted that the previous paradigm, all universities in the world, or at least in the Western world, were aspiring to was maximum academic freedom and free access to data; as well as standing up for the freedom of research to study and publish everything new that was reached in the scientific work. It has been and is a model of an open and free world.

For the last 30 years, Estonian universities have also been striving to be free in their thoughts and ideas, as well as freely publish and share the ideas with others.

But the degree of freedom can vary – especially in areas where the development of a company directly depends on scientific achievements. By implementing research results, the country can gain an advantage over other countries in its development progress. The research fields related to technological advance are particularly important, as the result can be a remarkable advantage for the country or company possessing the new technology, especially in the field of IT and military applications. At the same time, the implications reduce the freedom of research staff and universities, concerning the results of their research – when they are facing the wall with the word 'security' on it.

In many fields of science, there is no such obstacle, neither can there ever be, unless a security threat is declared by a country for ideological reasons. This is how the former Soviet Union functioned, where even the fields of music, theatre and literature and the branches of science that study them, not to mention factual history and folk poetry, were considered a security threat for the regime.

It may seem strange that Estonian people have been and are concerned about the security threat from the East, emphasising not only military security, but also the possible tendency to direct research branches to an ideologically approved direction and use scientific results as an ideological weapon.

Unfortunately, there are more than one country in the world that function in this way, which makes the issue even more complicated. Among them are the countries that send their doctoral students to foreign universities, thereby gaining access to research and results worldwide. Hence my question – is this a security threat?

Several members of the research and higher education communities were surprised that after February 24, 2022, Estonian universities halted all collaboration agreements with universities and research institutions of the Russian Federation. In Estonia, it was clearly understood that many members of Russian research and academic staff who do not support the war started by

Putin, or the reasons given for the aggression, which were absolute nonsense, will also be affected by such a decision. One of the reasons for breaking off relations was, of course, the statement signed by the rectors of the universities of the Russian Federation, which supported and praised Putin and his aggression. But above all, the decision of the Estonian universities was based on the fact that the benefit of top science acquired by the higher education institutions and research institutions of the Russian Federation from elsewhere will be immediately applied for the military industry.

The best example here is that the Russian Federation is not capable of producing cars, kitchen appliances, tanks or precision artillery without Western technology, not to mention producing oil, gas and rockets.

The activities of our eastern neighbor, including research, is actually based on two documents. These are the Russian military doctrine, the so-called Gerassimov Doctrine, and the Russki Mir foundation documents. These documents are the basis for both the plan to restore the former Soviet Union and to increase Russian influence around the world. Would you please read these documents in the Internet and you will understand that all their activities are 'by the book'. As a close neighbor of Russia, Estonia would simply be the next target, and the only issue holding back the aggressor is Estonia's membership in NATO and § 5 of the NATO Statute, which guarantees collective defense to the organisation's members.

This is the background to the decision of Estonian universities to stop collaboration with the research institutions of the Russian Federation.

But it is not just an aggressive neighbour that creates a security threat. The risk of scientific results falling into some wrong hands has always existed, leading to disputes over the authorship of discoveries, as well as theft of technologies to be used in their own countries. Particularly valuable are the research results that can be applied in the military industry, as well as in other areas, especially those that ensure national security.

The procedure for intellectual property at Estonian University of Life Sciences states, for example, that the property rights to the results of the author's creative activity belong to the University. For each project, the University signs a written contract with the researchers. The authors have an obligation to report the expected invention, useful model, computer program, database, confidential information and other results of creative activity with possible commercial value to the University. If confidential information is expected during the research, a confidentiality agreement is signed with the researchers. Of course, these regulations do not fully prevent harmful activity, but enable the University to pay attention to it. The University also regularly organises training and seminars on copyright and intellectual property.

The University has good contact with Estonian Internal Security Service. If necessary, advice is given and sessions organised for the University management and academic staff, providing information about possible dangers, and instructions are given about visiting certain foreign countries.

To prevent data leak and theft, Estonia has the relevant legislation and research integrity documents. The assumption is that all parties involved have honest intentions – this is shared by universities and research communities around the world. For honest people that is obvious. The problem is with people with malicious intentions – how do we keep them out of our labs

and data? For this purpose, the University has internal rules for data processing and storage. Cyber hygiene training for employees is also relevant. In case of international problems, the University is assisted by national security agencies.

Last but not least, it must be noted that as long as there are countries that do not have the most honest intentions, the security threat in science will not disappear, and we have to consider this in our everyday work.

However, all this does not mean giving up the principles of research and academic staff. Research and its results must remain as freely available as possible! If the scientists' data is not available, the opposite security threat can arise, the most obvious example of which is the emergence of fake theories – for example, about COVID19 vaccines – based primarily on faith rather than knowledge.