Risk analysis higher education institutions

An integral analysis of the risks for higher educational institutions

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Index

1. Introduction

Safety risks at European higher educational institutions have changed in the last decades. The largest and most influential changes in this perspective are the development of the European Union, the rise of the internet and the process of globalisation in general and especially in the academic world. In this chapter, the reason for writing this report is explained, as well as the focus that we chose in this report.

1.1 Development of globalisation in education

In the past decennium, the internationalisation in the European higher education has increased dramatically. Student mobility within the European Union has increased since the beginning of the '90s, starting from 20.000 students to currently more than 3 million students.[1] A record amount of 678.000 Europeans has participated in the Erasmus+ program since 2015.[2] The EU invested 2,1 billion euro in this program in 2015.[3] The number of students coming to the Netherlands for a complete study programme increases. Approximately 90.000 foreigners follow a study programme in the Netherlands, of which 23.000 foreigners come from outside Europe.[4] Foreign students who study in the Netherlanders mainly come from Spain, Germany and France.[5] Studying abroad is attractive, also because there is a broad range of international studies that have English as their main language. The expectation is that the number of courses taught in English will further increase in the upcoming years.[6] This is necessary because of the international character of contemporary challenges faced by educational institutions, science and society. This includes for example transboundary problems, such as terrorism and the spreading of infectious diseases.

International collaboration is often useful to find answers to these transboundary problems. European collaboration is also of institutional interest for higher educational institutions (HEIs), in order to stay attractive for talented people and globally competitive in this area. In 2015 there were for the first time Erasmus+ student exchanges with educational institutions outside the European Union. 'Mobility broadens our horizons and makes us stronger', said European Commissioner Jyrki Katainen.[7]

1.2 European policy

The European Union has stimulated the internationalisation of both education and (scientific) research. The signing of the Bologna declaration in

[1] Europa.eu (2016). *Erasmus+ Facts, Figures & Trends 2013-2014*.
[2] Europa-nu.nl (2017). *Recordaantal met Erasmus naar buitenland.*
[3] Europa-nu.nl (2017). *Recordaantal met Erasmus naar buitenland.*
[4] EP-Nuffic (2015). *Internationalisering in beeld.* The Hague: Netherlands organization for international cooperation in higher education.
[5] Europa-nu.nl (2017). *Recordaantal met Erasmus naar buitenland.*
[6] VSNU (2012). *Performance in perspective, trend report universities 2000-2020*. The Hague: VSNU
[7] NewEurope.eu (2017). *New record number of participants in Erasmus+, says EU commission*

1999 and the implementation of this declaration has contributed to an equalisation of (quality) standards in the European higher education.[8] Step by step, a comparable and cohesive system was created for European higher educational institutions. Examples of this process are the introduction of education in three phases (bachelor, master, PhD) and the introduction of the European Credit Transfer and Accumulation System (ECTS).[9] These instruments, aimed at the promotion of transparency and comparability, stimulated the mobility of both students and lecturers. The Dutch ministry of Education, Culture and Science also has a clear policy to promote mobility abroad. Because education in Europe has become more and more intertwined (as intended), the question is which risks come with this development. Since HEIs have a certain duty of care for students and staff, the follow-up question is how HEIs deal with these new risks and their responsibility.

1.3 Rather open with risks than 'safely closed'

By nature, European HEIs generally have an open character due to their free accessibility, both physically and digitally. Of course there are differences in national cultures, threat awareness and legal responsibilities between European HEIs, but the value of openness is shared. Accessibility of scientific research is an enrichment for the scientific world as well as for society as a whole, because science can innovate society. UNESCO states that universal access to high quality education is important because it is a fundament for peace, social and economic development, and intercultural dialogue. UNESCO uses the term Open Educational Resources (OER) for this.[10]

For the international position of HEIs, it is important to be attractive for foreign students and staff. Through their scientific research and internships, foreign students and staff abroad contribute to society. Native and foreign students and staff members can learn from each other and European exchange programs offer a wide variety of opportunities. Students and staff with international experience strengthen the role of national economies in the world economy.[11]

Advantages of studying abroad

In general, students that studied abroad or did an internship in a foreign country are more likely to find a job.[12] At the moment, about 17% of students in Dutch HEIs complete a part of their curriculum abroad. About 2,3% of Dutch students complete an entire study abroad.[13] Research by the ASVA (Amsterdam Student Union) shows that reasons for students to study abroad are for example: to build an international network, to improve a curriculum vitae and to come into contact with other cultures.[14] Studying abroad has more advantages. It is beneficial for personal development and research shows that employers believe that international experience is an advantage.[15]

Openness of HEIs is visible on different levels. The open access to research and the accessibility for foreign students are examples of this openness. This openness is not a fault or a flaw, but a virtue that needs to be cherished. Building a risk-free impenetrable fortress is definitely not in the interest of HEIs or of society as a whole. In order to maintain the openness of higher education, it is necessary to take a critical look at the risks that threaten this openness. What strategy is needed to maintain the open character of HEIs?

Internal and external damage to reputation

Any risk, classical or new, can lead to internal and external damage to the reputation of the HEI. Internal reputation damage means that staff or students question the integrity of the organisation. From an external point of view, incidents such as leaked information have (long term) consequences for the image of a HEI. The HEI can be seen as unprofessional and careless, which in turn can lead to a decrease of student numbers. The effects of any risk on the reputation depend on the circumstances and context. Reputation damage can be an important potential consequence that needs to be taken into account.

[8] The Bologna Declaration of 19 June 1999: Joint declaration of the European Ministers of Education.
[9] Europa.eu (2015). *European Credit Transfer and Accumulation System (ECTS).*
[10] Unesco (2016). *Open Educational Resources.*
[11] Rijksoverheid (2016). *Onderwijs en internationalisering.*
[12] Rijksoverheid (2016). *Stimuleren internationale ervaring studenten.*
[13] Rijksoverheid (2016). *Stimuleren internationale ervaring studenten.*
[14] ASVA (2016). *Over de grens? Studeren in het buitenland.*
[15] WilWeg (2016). *Waarom studeren in het buitenland?*

1.4 Focus of this report

Naturally, times change and so do risks. Some classical risks slowly disappear (for example exposure to asbestos in buildings) while new risks appear. For example, cybercrime is a risk that exists for several years now, but recently developed a new dimension through the 'internet of things'. Another example is the risk of extremism, and the possible consequential attempt to commit a violent attack. Safety and security risks are not bound to national borders, due to the increasing internationalisation. These changing risks force (managers of) all kinds of institutions to rethink their safety and security policies. This is especially true for the higher educational institutions in Europe, because of the high degree of internationalisation in higher education.

This report focuses on the preservation of important values that are central in the current higher educational system. These values are openness, accessibility and transparency. The crucial but complex question is how HEIs on the one hand cherish the values of openness, accessibility and transparency, while on the other hand take care of safety and security and deal with classical, new and intertwined risks in a proportional way. Which (new) risks do we believe to be acceptable and which risks ask for measures?

The goal of this report is to offer insight into the broad spectrum of risks that HEIs face and the possible ways to deal with these risks. Chapter 2 provides an overview of the European developments and implications for HEIs. Chapter 3 discusses risks and responsibilities in general. Chapter 4 provides a more specific overview of safety and security risks that HEIs face. Chapter 5 offers management rules for the management of HEIs dealing with risks. Chapter 6 provides a short summary and specific recommendations for HEI's, EU member states and the European Commission.

Advisory group

The program 'Safe and Open Higher Education' (IV-HO), a cooperation of HEIs throughout the Netherlands,[16] commissioned Crisislab to write this risk analysis for HEIs in Europe.

[16] www.integraalveilig-ho.nl/english

The writing of this report has been supervised by an advisory group.[17] The researchers would like to thank the members of this group for their valuable input and critical reading of this report. The researchers carry full responsibility for the content of this report. The text does not necessarily reflect the opinions of the members of the advisory group.

[17] The members of the advisory group can be found in appendix I.

2. From Paris via Rotterdam to the entire EU

This chapter describes The Paris Declaration (2015) and The Rotterdam Declaration (2016). The Paris declaration calls for the promotion of citizenship and common values through education. The Rotterdam declaration is a follow-up aiming to arrive at a common position for Safe & Open Higher Education Institutions in the European Higher Education Area. We use the Rotterdam Declaration as a starting point for the risk analysis. The Rotterdam Declaration underscores that there is a need for a common position of HEIs on safety and security because of the EU-nification of risk.

2.1 The Paris Declaration

The European Union is founded on several fundamental and common values like equality, liberty and respect for human dignity.[18] The confirmation of these shared values through education takes a central place in The Paris Declaration.[19] This Declaration is confirmed by the Ministers responsible for Education and the Commissioner for Education, Culture, Youth and Sport on March 17th 2015. The declaration advocates effort in the domain of education to prevent and tackle marginalisation, intolerance, racism and radicalisation.

The Paris Declaration

The Paris Declaration states[20]: *"At European level there is an urgent need to cooperate and coordinate, to exchange experiences, and to ensure that the best ideas and practices can be shared throughout the European Union, with a view to":*

1. Ensuring that children and young people acquire social, civic and intercultural competences, by promoting democratic values and fundamental rights, social inclusion and non-discrimination, as well as active citizenship;
2. Enhancing critical thinking and media literacy, particularly in the use of the Internet and social media, so as to develop resistance to all forms of discrimination and indoctrination;
3. Fostering the education of disadvantaged children and young people, by ensuring that our education and training systems address their needs;
4. Promoting intercultural dialogue through all forms of learning in cooperation with other relevant policies and stakeholders.

These aims could be encouraged by cooperation and by fostering mobility of students and teachers throughout the Union. This encouragement is especially visible in the Erasmus+ programme.

To discuss this topic the Education, Youth, Culture and Sports (EYCS) Council had a meeting on 24 February 2016. The outcome of this EYCS Council meeting was

[18] Europa.eu (2016). *The founding principles of the Union.*
[19] The Paris Declaration (2015) is a declaration on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education.
[20] The Paris Declaration (2015).

to secure that the Paris declaration remains a dynamic document that will change over time. Furthermore, the aim was to prepare the ground for possible future steps to strengthen the key contribution education can make towards personal development, social inclusion and participation. This can be done by imparting the fundamental values and principles on which our democratic societies are founded, such as the freedom of expression and equality.

2.2 European student mobility

The European Union's freedom of movement laws enable easier access to other European countries. Open borders also simplify the process of studying abroad for all EU students. EU citizens have the rights to study at any EU university and may not be refused access to education in another EU country on grounds of their nationality.[21]

As mentioned before, the EU actively promotes the exchange of students and teaching and training staff by the subsidy program called Erasmus+. This program includes exemption of registration and tuition fees, recognition of studies abroad and an EU grant towards living and travel expenses.[22] Erasmus+ has enabled over three million European students to spend part of their studies at another higher education institution.[23] Also students from outside the EU can take advantage of the Erasmus+ program if they study in EU partner countries.[24] This is how the EU promotes and strengthens the internationalisation and the international academic (both teachers and students) exchanges.

This ongoing internationalisation ensures opportunities and, at the same time, causes challenges for the safety and security management of HEIs.

Foreign students contribute to the development of the knowledge potential of the hosting country during their stay. Thereby they are contributing to the economic development of the hosting country.[25]

[21] Europa.eu (2016). *Admission and entry to university.*
[22] Europa.eu (2016). *Study abroad and scholarship opportunities.*
[23] Ec.Europa.eu (2016). *Erasmus+.*
[24] Ec.Europa.eu (2016). *Erasmus+.*
[25] AIVD (2010). *Kwetsbaarheidsanalyse spionage. Spionagerisico's en de nationale veiligheid.* Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

2.3 The Rotterdam declaration

The question is how HEIs could deal with these issues and how far they can and have to go to protect their European and institutional core values. The Rotterdam declaration, formulated during the Conference on 'Safe and Open Higher Education' organised by the IV-HO program[26] on June 20th 2016 is a reaction to this appeal and calls for a common position on safety and security. HEIs that endorse this declaration will:[27]

1. Work on a realistic safety and security policy in their HEI to offer a safe but still open learning and working environment to their students and staff. This policy needs to be cohesively and sustainably structured and safeguarded within the organisation. Boards, staff and students have their own role and responsibilities in this.
2. Call for close cooperation between HEIs to establish such a policy, based on their own social remit and make the necessary arrangements with local partners to be resilient and to support a proportionate response to incidents.
3. Promote the valorisation of scientific research on safety and security issues like radicalisation, cybersecurity, integrity, safety and security policies, and other related topics.
4. Invite other HEIs to work together where appropriate, by combining expertise, acting in concert, sharing best-practices, and development of practical approaches for the safety and security challenges HEIs are facing.

The conclusions of the Council meeting in December 2016, on the prevention of radicalisation leading to violent extremisms, contain the following for this report relevant components:[28]

- promote and support peer learning and research for teachers, educators, and other teaching staff, experts, policy makers and researchers, in order to enable the sharing of best practices and gaining better understanding of the issue of radicalisation, including developing a policy

[26] www.integraalveilig-ho.nl/english
[27] The Rotterdam declaration on a common position for Safe and Open Higher Education Institutions in the European Higher Education Area (2016).
[28] European Council notices (2016/C 467/02)

framework and an online compendium of good practices,

- given the pressing and enormously multifaceted challenge to prevent and counter radicalisation, organise a multi-stakeholder conference, bringing together different sectors and relevant stakeholders (e.g. from the fields of justice, home affairs, education, youth, sport, culture and social affairs).

In the Bratislava Declaration is stated: 'The EU is not perfect but it is the best instrument we have for addressing the new challenges we are facing.' In the context of internal security this Declaration includes different concrete measures to fight terrorism in the EU.[29] The central point of the declaration is that national governments need to have an active role in the measures against terrorism.

2.4 Implications for HEIs

Openness and accessibility are intrinsic values of higher education. HEIs should be proud of that, but an appurtenant downside is that it also makes them vulnerable. To be resilient as well, HEIs need a clear vision on their safety and security risk management. The open character of an educational institution requires a specific effort for the creation of a safe learning and working environment.

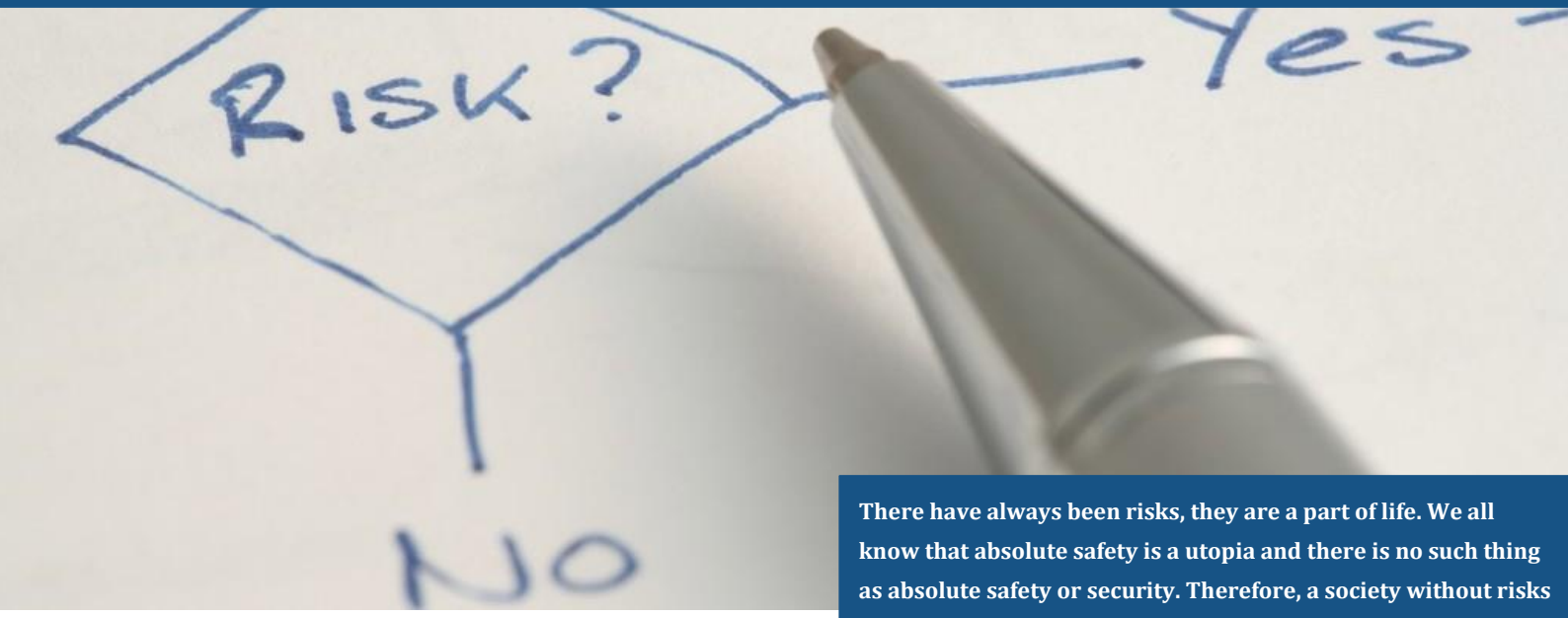
To meet these conditions HEIs must first be aware of the most common types of safety and security risks they face. This document provides a risk analysis for HEIs. A European point of view is necessary for this. Several risks have a specific connection to the European cooperation between HEIs, or are even caused by it. It is almost impossible for a single institution to maintain high levels of safety and security, in a time when mobility of students and researchers increases more and more and is promoted by the EU.

This means that there are shared responsibilities between HEIs. They share responsibilities as a sector on European level. This responsibility does not stop by providing financial support for the Erasmus+. It also includes a coordinating role to share best practices and promote research on the Higher Education safety and security field. There is a need for a cost-benefit analysis of the safety and security policies of HEIs. Shared responsibilities, for instance to stop cyber-attacks and diploma fraud, do not affect just one organisation, but the higher education sector as a whole. This analysis is therefore focussed on the risks that HEIs share as a consequence of internationalisation.

In the next chapter we investigate these risks based on relevant scientific literature. Secondly, we prioritize these risks and thirdly we present examples and lines of thinking for effective and proportional measures.

[29] The Bratislava Declaration, 16 September 2016

3. Risk and responsibilities



There have always been risks, they are a part of life. We all know that absolute safety is a utopia and there is no such thing as absolute safety or security. Therefore, a society without risks does not exist. This is also true for educational institutions. In this chapter we discuss the definition of risk, how people accept and perceive risks and what this means for the risks that HEIs deal with.

3.1 Definition of risk: what is it?

The world we live in is full of risks. If formerly one referred to 'fate' or 'God's will' and misfortune was accepted as an inevitable fact, nowadays we speak of 'risks'.[30] According to Beck, we live in a risk society.[31] Because of our new view on risks, the attention for the management of risks has increased over the last years. Power ironically calls this 'the risk management of everything'.[32]

There are many types of risks, for example financial risks (e.g. mortgages) or risks for the public health. The concept of 'risk' dates back to the sixteenth century, when it was first used in the context of insurance against shipwreck and piracy. The word is possibly derived from the early Italian *risicare*, which means 'to dare'.[33] In this sense, risk is a choice rather than a fate. The actions we dare to take and the actions we do not dare to take are what the story of risk is all about.[34]

Surprisingly, there is no single, unambiguous definition of 'risk' that has the unalloyed support of all experts in the field of 'safety and security'.[35] In the literature there are countless definitions of risk. Vlek, for example, distilled twenty definitions from the literature.[36] According to Holton a risk consists of two main components: uncertainty and exposure.[37] This means that there is a chance that something will happen and also that this event has a consequence. However, to compare risks objectively, it would be preferable to have a solid measure with which we can

[30] WRR (2008). *Uncertain Safety. Allocating responsibilities for safety.* Amsterdam: University Press.
[31] U. Beck (1986). *Risk Society: Towards a New Modernity.* University of Munich: SAGE Publishing.
[32] M. Power (2004). *The Risk Management of Everything. Rethinking the politics of uncertainty*, London: Demos.
[33] P. L. Bernstein (2012). *Against the Gods: The Remarkable Story of Risk.*
[34] P. L. Bernstein (2012). *Against the Gods: The Remarkable Story of Risk.*
[35] I. Helsloot, W. Jong (2006). *Risk Management in Higher Education and Research in the Netherlands.* Journal of Contingencies and Crisis Management, Vol 14. No 3, p. 1-18.
[36] C. A. J. Vlek (1990), *Beslissen over risico-acceptatie: een psychologisch-besliskundige beschouwing over risicodefinities, risicovergelijking en beslissingsregels voor het beoordelen van de aanvaardbaarheid van riskante activiteiten*, The Hague.
[37] A. G. Holton (2004). Defining Risk, *Financial Analysts Journal,* 60 (6), 19-25.

determine the nature and magnitude of a risk, in order to make a priority ranking of safety and security measures.

The insurance world, for example, has long had just such a measure that makes it possible to calculate risks in an objective way. A risk is the chance that an event occurs, multiplied by the effect of this event. In short: *chance x effect.*[38] The effect is expressed in (financial) damage and (deadly) victims.

*Risk = Probability of failure * Consequences (financial loss / deaths / damage)*

This formula is widely accepted among safety and security experts and is used for the management of risks, dangers and damage.

The above mentioned formula is a simplification of reality. The objective chances and possible consequences of an event are often unknown. Therefore the risk is often primarily based on assumptions. This makes that the application of this formula on the risks faced by HEIs is not suitable for the current risk analysis.

Besides the objective, calculated aspects of risks, an important aspect of risks is the perception of people. The subjective risk, as perceived by for example students and staff in HEIs, can be decisive for the way that people act. Therefore the subjective risk is important to take into account.

In some industries risks are seen as a positive thing, for example in the financial world. Financial risk is defined in terms of variability of actual returns on an investment around an expected return, even when those returns represent positive outcomes.[39] It assumes that risk could be both positive and negative. It is a combination of threats and opportunity. For this type of risk, the term 'frenemy' risk is used, to place threats and opportunities in perspective. There is duality: a risk can be your enemy as well as your friend. Any approach that focuses on risk reduction and hedging only will also reduce the potential for opportunity.

[38] B. J. M. Ale, E.R. Muller, A. Ronner (2012). *Risico.* p. 28, Deventer: Kluwer.

[39] A. Damodaran (2008). *Strategic Risk Taking: A Framework for Risk Management,* p. 5-6. New Jersey: Pearson Education.

Concentrating on risks (in general) is the consequence of the fact that risk drives policy-making. Behind every policy hides the concept of 'risk'. [40] For example the policy in strategic plans: behind the formulations of these strategic plans is the risk of bankruptcy of the organisation. On the other hand, the plans try to guarantee the continuity of the organisation. In principle, policy is always about change, which involves risks. Besides that, policy is (directly or indirectly) about the containment of risks.

3.2 Living with risks

Because risks are inevitable, people find risks acceptable up to a certain point. Risk acceptation is the amount of risk that one is prepared to take in order to achieve a certain goal. This is a trade-off: what are the advantages and disadvantages for me? Am I prepared to accept the risk, despite the possible adverse effects?[41] If the advantages of a hazardous activity are highly valued, people are prepared to accept a larger personal risk.

One of the first systematic attempts to investigate when, in the public perception, the advantages of an activity or technology outweigh the safety risks associated with it, was carried out by Chauncey Starr. Starr concluded that people find risks that are voluntarily taken (e.g. smoking, driving a car) 1000 time more acceptable than risks that are not voluntarily taken.[42]

Studies on risk perception also point out that the vast majority of the public perceives risks differently than experts do.[43] In addition, Szíjártó states that because of the countless and therefore inappreciable uncertainties in the world around us, every culture develops its own set of priorities. People in different countries accept different risks.[44]

[40] Risk & Regulation Advisory Council (2009). *Response with responsibility. Policy-making for public risk in the 21st century.*

[41] P. Slovic, D. MacGregor, N. Kraus (1987). Perception of risk from automobile safety defects. *Accident Analysis & Prevention,* 19(5), pp. 359-373.

[42] C. Starr. (1969). Social benefits versus technological risk. *Science*, Volume 165, pp. 1232–8.

[43] M. Douglas (1998). *Risk and Blame – Morals and Hazard*. London and New York: Routledge.

[44] Z. Szíjártó (1998). *Risk, Culture, Conflict (original title Kockázat, kultúra, konfliktus)*. Replika. Vol. IX, No. 31–32, pp. 19–43

A risk is not an established fact. Risks can be perceived differently and to a certain extent risks are subjective. The way that one experiences and judges a risk, is called *risk perception*.[45] It is an estimation of the possible danger of a risk.[46] This risk perception is heavily influenced by a number of factors.[47] First of all, dramatic events are easier to remember or imagine than everyday events (e.g. an airplane crash is more dramatic than a car crash). Be aware that it is not just the number of victims that make an event dramatic. Secondly, the personal experiences with a certain risk is a factor for the perception of the risk. The memory of an incident or the personal involvement in an incident that happened leads to an overestimation of that risk. The time perspective is also an important factor in the risk perception: the consequences on the short term are perceived as more important than the consequences on the long term. People are more likely to take into account the effects on the short term than on the long term (e.g. the harmful effects of smoking). The last factor is proximity, in other words the *'not in my backyard-principle'* (NIMBY principle). Risks in the direct proximity are perceived as less acceptable than risks that are geographically further removed.

3.3 Classical and new risks

There are 'classical' risks that exist and have been known for a long period of time. There are also new types of risks, or risks that are recently discovered. Classical risks such as fire and infectious diseases have been known for centuries, but risks change over time. International and technological developments, globalisation and digitalisation provide enormous and unforeseen opportunities. The world seems to become faster, larger and more global. These new developments also brought about new weaknesses and unforeseen risks over the last few years. New vulnerabilities and transboundary threats make it more difficult to identify the source of risks. Little knowledge on certain risks makes these risks more severe in public perception.

The most important new challenges involve digital risks. The extension of our 'online' life brings about new risks, such as phishing, ransomware and DDos attacks. Organisations have become regular targets for cybercriminals.[48] The expectation is that this type of incidents will only further develop and increase, because of the increasing use of ICT-systems and increasing dependency on them.[49]

Because of new developments, classical and new risks become more and more intertwined. The characteristics of the 'original' risks change and 'intertwined risks' emerge. For example, spying and intelligence services can use digital tools and there is no longer need for physical spying. Another example is the classical risk of infectious diseases, which is enhanced by the fact that it is easier for foreign students and staff to travel to, from and within the EU. Because of the mobility of students and staff, infectious diseases can spread more easily. These examples show that the intertwined risks have components that are known, but in combination with new circumstances result in the 'intertwined risks'.

As new or intertwined risks emerge and actions are taken, the regulatory stock continues to grow, even though new technology or changed behaviour makes some of the old regulations irrelevant.[50] A fair share of regulations involves a lot of paper work and in many cases it is doubtful if these measures really add to safety and security at HEIs. All in all, the HEI management is confronted by new and complex challenges.

Measures preventing legionella

An example of an old, irrelevant regulation is the prevention of legionella. HEIs invest in measures to prevent legionella, although students and staff do not belong to the target group of people that get seriously ill from legionella. Mainly elderly people and people with severe diseases are vulnerable to a legionella infection.

[45] N. Pidgeon, C. Hood, D. Jones, B. Turner, R. Gibson. (1992) *'Risk perception', in The Royal Society, Risk: analysis, perception and management*. London: The Royal Society: 89-134.

[46] Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2015). *Handreiking bestuurlijk balanceren met risico's en verantwoordelijkheden.*

[47] A. Tversky & D. Kahneman (1974). Judgement under uncertainty: Heuristics and biases. *Science* 185, pp. 1124-1131

[48] AIVD (2016). *Cyberdreiging.*

[49] SURF (2016). *Cyberdreigingsbeeld 2016.*

[50] Better Regulation Commission (2006). *Risk, Responsibility and Regulation – whose risk is it anyway?*

3.4 The shared responsibility for risk management

Whose risk is it anyway? Let's start with a simple Better Regulation Commission (BRC) policy making principle, which is specified in this case for HEIs: *'when informed students and teachers voluntarily choose to expose themselves to a risk and/or take responsibility for managing that risk and their behaviour does not harm others, the board of the HEI should not intervene.'* The BRC is a formerly (now called 'Better Regulation Executive') non-departmental public body of the UK government. This body had as its main task to advice the government on action to reduce unnecessary regulatory and administrative burdens and ensure that regulation which remains and its enforcement are proportionate, consistent and targeted.[51]

The European Union also recognises that too much regulation is a problem. They emphasize that unnecessary bureaucracy tarnishes the image of the European Union and is also a burden for citizens and businesses.[52] Cutting the so called 'red tape' is for example an important task for the Dutch European Commissioner Frans Timmermans.[53]

The relationship between risk, responsibility and regulation is rapidly emerging as an important theme of policy development.[54] We all manage risks on a daily basis in our lives (when we play sports and when we take the bus) and we rightly expect certain basic safeguards to be in place. However, the over-regulation of risk and the resulting abundance of rules and (policy) guidelines makes us, according to the BRC, less willing to take responsibility for risk, it undermines trust and it breeds uncertainty.[55]

The response of authorities to a perceived risk (for example as a consequence of a recent incident) is usually to call for (more) regulation, often encouraged by the media (through making an incident seem more severe). The debate after an incident is prone to become an incomplete and oversimplified debate (often with a focus on the question who is to blame). Public authorities will react in many cases in a way that comes down to: 'something must be done'. This is then translated in the creation of more safety and security policy and additional measures. That's why risk management is generally cumulative. In addition we see a paradox: authorities and society seem to ask for measures after an incident, but when these measures are in place and there are no new incidents, people complain about these same measures.[56]

These effects are also visible in HEIs. Students enjoy freedom and make their own choices when taking risks related to their studies (e.g. studying abroad). However, when incidents happen in HEIs in the EU or abroad, HEIs will be addressed and the question of responsibility will be asked. It is therefore important to be clear about responsibilities in advance, so that this is not an issue of debate when incidents do happen.

Responsibility in relation to choice

For HEIs, it is important to realise that they are responsible for staff and students. However, this responsibility has limits. Staff and students have their own responsibility as well, especially when they make their own choices. For example, when students deliberately choose to study abroad and therefore take risks, the students are first and foremost responsible for themselves. For staff members going abroad, the element of choice is smaller, because this is part of their job instead of a completely free choice. Therefore, it can be argued that HEIs have a larger responsibility for staff abroad than for students in foreign countries. In other words, when risks are taken voluntarily, the person taking the risk is firstly responsible. The responsibility of HEIs for risks taken voluntarily is smaller than for involuntary risks. There is a role for the HEIs when it comes to accurately informing students about risks they might encounter.

The conclusion of this chapter is that safety and security are not ensured by rules and, additionally, HEIs must be careful to take full responsibility for safety and security through all sorts of rules while

[51] Gov.UK (2016). *Better Regulation Executive*
[52] High Level Group of Administrative Burdens (2014). *Cutting Red Tape in Europe.*
[53] Financial Times (2014). *Frans Timmermans promises to slash EU red tape.*
[54] Better Regulation Commission (2006). *Risk, Responsibility and Regulation – whose risk is it anyway?*
[55] Better Regulation Commission (2006). *Risk, Responsibility and Regulation – whose risk is it anyway?*
[56] Brief minister Plasterk, Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2015). *Bestuurlijk balanceren met risico's en verantwoordelijkheden*.

other actors such as students are also responsible for their own safety and the safety of their environment.

4. Classical, new and intertwined risks

The present character of the HEIs in Europe, in which openness, accessibility and transparency are highly valued, can only be preserved when aware of the classical and new risks that threaten this character. In some cases, classical and new risks are intertwined. In this chapter, some new and intertwined risks are described.

4.1 Introduction

The higher educational system is (and always has been) confronted by different types of risks. 'Classical' risks, such as fire, are known by HEIs and there are plenty of measures in place to reduce these risks (preventive measures, e.g. fire compartmentation) or to reduce the impact of a risk (repressive, e.g. fire extinguishers). In the past decennium, new risks emerged due to developments such as globalisation and digitalisation. These new risks are present in society as a whole, and thus in the educational system as well.

Another noticeable aspect is the intertwining of classical and new risks within the HEIs. This means that the new risks interfere with the classical risks. Classical and new risks combined result in what we call 'intertwined risks'. Intertwined risks are not new risks, but rather a combination of new and classical risks that amplify certain effects or give new effects. A few examples of these intertwined risks are described in the following paragraphs.

Risks evolve and science will continue to create new risks.[57] HEIs will also be subject to ever changing, new and emerging risks. The classical focus on risks for buildings, occupational health and ICT becomes more diffuse because of the appearance of intertwined risks. As a result, the classical risk profile will transform into a more flexible, dynamic risk profile. An integral approach to risks is therefore necessary.

This chapter presents examples of classical, new and intertwined risks that are specifically relevant for HEIs in the EU. The list of (potential) risks that are mentioned here is by no means exhaustive and is definitely subject to change over time. We consider risks that are always present in daily life, such as traffic accidents, stalking, and robbery, to be a case for individuals and police. In exceptional cases, the HEI can play a role in these types of risks, but this is for the HEI to consider in each individual case. This chapter gives an overview of common risks that deserve special attention from HEIs.

[57] J. Adams (1995). *Risk*. London: Routledge.

4.2 Classical safety and security risks

Classical safety and security risks have been present in HEIs since decades. Although they may change over time, these risks are known by HEIs. In this paragraph we mention four examples of specific classical safety and security risks.

Psychosocial problems

Psychosocial complaints can become severe problems for students and staff at HEIs. This is a risk for HEIs, because it threatens one of the core activities of HEIs, namely educating people. Students suffering from psychosocial problems are more likely to give up their studies prematurely and drop out.

Psychosocial problems can affect students studying in their home country as well as international students abroad.

International students have to adjust to their new environment when starting at a new HEI in a different country. In some cases, it is difficult for students to adapt to their new environment, for example because of language difficulties, homesickness or (academic) demands that are higher than expected. The new environment and the contrast with the original background of an international student can clash and can result in negative feelings or behaviour. It can cause stress, depression and other types of psychosocial problems, which can have a severe impact on the study results of international students. Ultimately, psychosocial problems can lead to suicide or violence (e.g. violent loners).

When international students come to visit HEIs in the EU, it is also possible that already existing psychosocial complaints become more severe and develop into a problem.

When certain groups of international students from two states that are for example at war are confronted with each other, this can cause social tensions. For example, these tensions can occur between students from Bosnia and Serbia, Turkey and Armenia and many other countries that have a conflict.

In existing social structures, for example in small cities, a large group of international students can cause problems. The effect of international students in a smaller community is more profound than in a larger city. International students can experience more problems integrating in these smaller communities. On the other hand, the smaller communities might experience the introduction of international students as a threat to the community.

Psychosocial problems are primarily a concern of students themselves, but HEIs deal with the effects of the problems. In some cases, students with psychosocial problems may develop extremist thoughts or show aggressive or violent behavior. It is therefore not only in the student's interest but also in the HEI's interest to prevent or minimise psychosocial problems of students in general and in particular international students visiting the HEI.

Extremism

Students have always had a tradition of criticism and ideological ideas. Interest groups and single-issue parties often find fertile ground for their ideas in the institutions of higher education. Most of these groups express their criticism in peaceful and even entertaining protest, but there are also those who are prepared to use violence to invigorate their arguments. This can take many shapes and forms.

HEIs can become a breeding ground for radical ideas. People with similar ideas can meet and form groups within HEIs. This way, extremism can spread. HEIs can also become a target for extremism and (violent) expressions of radical ideas.

There is no statistical data available on the number of students that go through a radicalisation process. Only a small number of students seems to be involved in extremism. In absolute numbers, the problem of extremism seems to be limited in scope, especially in comparison to other social problems, such as criminality and domestic violence.

Violent extremism

The reason why radical ideas and extremism deserve the attention of HEIs is because of the potentially large effects and consequences of the use of violence.

Because of the recent terrorist attacks in Europe (Berlin, Brussels and Paris), the attention for violent extremism has increased. It is presumed that extremists go through a radicalisation process before they commit an attack.[58] Within the EU, an urgency has developed to prevent violent extremism. In a press statement from the European Commission (14 June 2016), the Commission advocates improvement in the approach of violent extremism that potentially leads to terrorism.[59]

Apart from the direct effects of a possible attack, an attack with an ideological motive potentially leads to polarisation in society.[60] This polarisation is contrary to the goals of the educational system and the role that HEIs play in society.

Some faculties can be particularly vulnerable when it comes to radicalisation, because of the type of research that is conducted there. New knowledge that is developed can be especially dangerous when it gets into wrong hands. This is a specific risk for HEIs when it comes to risks of extremism.

Violent loners

A violent loner can be defined as a person that operates alone and causes a threat for the security of HEIs. Shootings at educational institutions are an example of violence caused by loners. There are no known cases of incidents at European HEIs involving firearms in the possession of students. On the other hand, the risk of such violence caused by loners is a realistic risk for European HEIs.

Although there are no known shootings at HEIs, in the last few years a couple of serious shooting threats were present in HEIs in the Netherlands. Leiden University for example, took extra security measures (such as extra police surveillance at the entrance of the University buildings) because of a threat post of someone on the forumsite 4Chan. On that forumsite, he publicly stated that he would open fire at the University of Leiden and he also mentioned an exact date and time.[61] Eventually and fortunately nothing happened. In the EU school shootings are fortunately a rarity, whereas in the USA school shootings are much more common.[62]

School shooting threat

In April 2013, a message was posted on the bulletin board 4Chan, threatening with a shooting at a school in Leiden, the Netherlands.[63] The message started with '*Tomorrow, I will shoot my Dutch teacher, and as many students as I can'.*[64] The text was formulated in English and the threat came from abroad, from Costa Rica.[65] It was unclear which educational institution the message was addressed to. Out of precaution, all schools in Leiden were closed that day.

4.3 New safety and security risks

ICT dependency and disturbance: information security threats via the internet

Opportunity or threat?

At the Cyber Security Congress 2016 one of the speakers said: 'When talking about opportunities, we say *digitalisation.* I notice that when talking about threats we call it *cyber.* This is in fact the same thing.'

The availability of networks and systems is of crucial interest for HEIs.[66] The sensitivity of ICT in the educational system has been stated in the scientific literature.[67] According to Helsloot et al. (2006) ICT incidents at higher educational institutions are the order of the day. Nowadays an educational system without ICT infrastructure is totally unthinkable. ICT has become a basic need for (higher) education. Failure of the ICT infrastructure is therefore problematic for the continuity of educational processes. The full integration of ICT in higher education results in new risks.

Generally, ICT structures are not completely managed or owned by the HEIs using them. This means that

[58] NCTV (2016). *Terrorismebestrijding. from: https://www.nctv.nl/.*
[59] European Commission (2016). Persbericht. *Sterker EU-optreden voor een betere aanpak van gewelddadige radicalisering die tot terrorisme leidt.*
[60] Gemeente Amsterdam (2010). *Beleidsnotitie: radicalisering in het Hoger Onderwijs.*
[61] NRC (2015). *Universiteit Leiden bewaakt na dreiging schietpartij.*
[62] https://everytownresearch.org/school-shootings/
[63] AD (2013). *20 scholen in Leiden dicht na dreiging schietpartij.*
[64] IFV (2013). Lessen uit crises en mini-crises.
[65] http://www.crimesite.nl/verdachte-leiden-was-in-ambassade/
[66] SURF (2016). *Cyberdreigingsbeeld 2016.*
[67] I. Helsloot, W. Jong (2006). Risk Management in Higher Education and Research in the Netherlands. *Journal of Contingencies and Crisis Management,* 14(3), pp. 1-18.

there is interdependency and shared responsibility between ICT service delivery companies and HEIs. Cooperation between HEIs in the field of ICT also results in shared responsibilities. Use of open sources on the internet raises questions about responsibility as well. The control on ICT environments is divided between HEIs and different parties. This makes it more difficult to define ownership.

Data breach

Since January 1st there is an obligation for Dutch HEIs to report data breaches. A data breach is the release of confidential information, for example personal data or research data.

Student discovers leak in Student Information System HvA and UvA

A Dutch student found a data leak in the Student Information System used by the University of Amsterdam (UvA) and the Amsterdam University of Applied Sciences (HvA). The student easily gained personal information and pictures of more than 500.000 fellow students. Via the leak, he downloaded 385.000 names and student numbers, 20.000 phone numbers and 130.000 photos of fellow students from the Amsterdam University of Applied Sciences. He downloaded 237.000 names and ID-numbers, 131.000 phone numbers and 63.000 photos of students from the University of Amsterdam.

Continuity of services (research and education) is threatened by internet risks. When HEIs decide to collaborate in the field of ICT, data-sharing or applications, these systems can become intertwined. This means that a cyberattack on the shared system can have much larger (potentially even international) effects. [68] It is therefore important that HEIs consider taking safety measures in order to protect their shared systems. A chain is as strong as its weakest link. [69] The interdependency of digital chains increases as a consequence of the 'Internet of Things'.

More and more equipment and sensors are connected to internet and linked to networks. By doing so, these networks become more vulnerable for cyberattacks. The effects of a cyberattack are potentially larger. The business continuity is at stake when these cyberattacks can result in large financial damage and damage to reputation.

The online access to material and data of HEIs results in more accessibility for HEIs and it creates more freedom for students and staff members, for example to have access to data worldwide. The downside of the intensive use of internet is that it is vulnerable to different types of threats from outside the HEIs.

Examples of information safety threats via the internet

- **Malware**: all software that is used to disturb computer systems and to gain sensitive information.
- **DDoS-attack**: DDoS is short for Distributed Denial of Service. The aim of a DDoS-attack is to make a server unavailable for regular users by flooding the server with many requests to connect.
- **Phishing**: a form of internet fraud. Fraudsters try to find out (banking) data via e-mails.
- **Ransomware**: computer malware that holds the victim's data hostage or threatens to publish the victim's data until a ransom is paid. The consequence can be that information is stolen or lost.
- **Hacking**: the process of gaining or attempting to gain access to (supposedly) secure parts of the ICT infrastructure or other computers. Thus hacking does not by definition cause damage, but it can do so if the hacker makes changes to files or routines in the target ICT system.[70]

[68] Cyber Security Raad (2016). *Digitale ketenveiligheid krijgt veel te weinig aandacht.*

[69] Integrale Veiligheid Hoger Onderwijs (2016). *Cyber Security Congres: Wie is de zwakste schakel?*

[70] I. Helsloot, W. Jong (2006). Risk Management in Higher Education and Research in the Netherlands. *Journal of Contingencies and Crisis Management,* Vol 14. No 3, p. 1-18.

'Students from Rotterdam pay tuition fees after fake email' (January 2016)

A hundred students at the Rotterdam University of Applied Sciences recently received a phishing email in which they were asked to transfer their tuition fee. The sender pretended to be the Student Service Centre of the HEI. As far as known, nine students were not aware that this was a fake email. They paid their tuition fees to this person.

Electronic learning environments are gaining in popularity and, if possible, have to be accessible worldwide. With this growing penetration of ICT systems, however, the vulnerability of institutions also increases. This in turn creates increasing demands on security requirements for authorisation, authentication and protection, including encryption. [71]

Misuse of ICT facilities

In the perception of most higher education institutions a serious risk for ICT systems is their misuse by students and staff. Misuse in this context is taken to be use in any way other than that envisaged by the institution. This can include the dissemination of seditious messages or pornographic images, but it also covers the deliberate deletion or corruption of files, the disabling of systems, the illegal downloading of intellectual property (e.g. films) and the unauthorized use of access codes. The extent of possible misuse is closely linked to the degree of security applied to the system.

Diploma fraud

Diploma fraud is a big issue for HEIs. The quality and value of education depends on the value of diplomas. Only a presumption of diploma fraud can do damage to the reputation of a HEI. Diploma fraud has negative effects for both students (their diploma loses value) as well as for teachers (their credibility is questioned) and the higher education sector as a whole (their reputation is damaged).

When a student pretends to be someone else during examination, the integrity of all study results is jeopardized. When a student uses the (digital) identity of a teacher or staff member, it can be abusively used to see or change for example study results. This can have large consequences for the reputation of the HEI.[72]

Diploma fraud at InHolland

An example of a diploma fraud case is the case at the University of Applied Sciences InHolland. In four courses, about 20-25% of the students received their diplomas in an unfair way.[73]

Massive Online Open Courses

An example of a new development that is sensitive to the risk of diploma fraud, is the development of Massive Online Open Courses (MOOCs). MOOCs are courses by HEIs that are published online and can be followed online. These courses have the advantage that they make knowledge and academic insights accessible to a much wider global audience. The costs for students following MOOCs are considerably lower than the regular university courses. It is therefore an excellent method to share academic knowledge on a large scale.

Besides the advantages, MOOCs also entail new risks, in particular in the field of information safety. Students participating in online courses, exams and assignments receive a digital diploma or certificate for their efforts. It is not traceable for the HEI who exactly makes these exams and does the assignments; it cannot be verified who is behind the computer when making the exam. Given this uncertainty, it is impossible for HEIs to check the authenticity of the student. This poses a risk for diploma fraud and makes it easy to wrongfully obtain a diploma.

MOOCs are a perfect example of a new development that adds to the openness, accessibility and transparency of HEIs while at the same time confronting the HEIs with new challenges for (in this case) information safety.

Studying as a disguise

Foreign people (especially from outside the EU) can easily pretend to be students, while they come to the EU for other reasons. For example gaining a temporary residence permit is a reason to pretend being a student. In this case, an educational institution is used as a gateway to Europe.

Research conducted by the University of Applied Sciences Saxion concludes that this phenomenon is

[71] I. Helsloot, W. Jong (2006). Risk Management in Higher Education and Research in the Netherlands. *Journal of Contingencies and Crisis Management,* 14 (3), pp. 1-18.

[72] SURF (2016). *Cyberdreigingsbeeld 2016.*

[73] Volkskrant (2011). *Bijna kwart van studenten Inholland kreeg onterecht diploma.* from: http://www.volkskrant.nl/.

present in the Netherlands. Other research by the Dutch educational inspection proved several cases where students 'disappeared' from HEIs where they were registered.[74]

'Saxion averts 'students' from risk countries.'
University of Applied Sciences Saxion is going to use a quota for students from four risk countries, namely Bangladesh, Pakistan, Nepal and Sri Lanka.[75] The HEI conducted research showing that in particular people from Bangladesh pretend to be students in order to receive a residence permit in a simple way.[76]

Privacy violation

The violation of privacy can be a risk for HEIs, because HEIs have access to large amounts of personal information from staff and students. In the before mentioned risks of data breaches, different forms of digital fraud and hacking, the privacy of staff and students can be violated. The risk of privacy violation is a threat for the openness of HEIs and of course this has large potential effects on the trust in HEIs.

Unknown risks

Risk management also means looking forward. No doubt, there might be plenty of risks that we do not know of at this moment. It is clear that we in this report or HEIs in their risk analysis cannot take these unknown risks into account. As they come into the spotlight, new risks have to be assessed and moreover, it is useful for HEIs to regularly think about the concrete possible risks that could be faced in the (near) future.

4.4 Intertwined risks: classical risks with new aspects

Classic risks and new risks become more and more intertwined due to digitalisation. An example is a fire in an ICT-centre, which not only potentially leads to the loss of information (as is comparable to a fire in old-fashioned archives), but also potentially leads to failure of ICT-services. This can threaten the continuity of the educational processes, can make lectures unavailable and can make studying from home impossible.

Fire in computing centre University of Twente
In November 2002, a fire in the ICT centre of the University of Twente led to an estimated tangible losses of €40–50 million. The intangible losses, however, were felt far more painfully: from one moment to the next staff lost unique research material from their own rooms, doctoral students lost research results, and project reports and written examination papers were burnt.

Infectious diseases

The mobility of people (students and staff) enables a fast spreading of infectious diseases (especially from outside the EU). Traditionally, mobility plays an important role in the large scale spreading of infectious diseases. This principle is not new, but the large scale, intensity, frequency and speed of travelling makes the risks connected to mobility more pressing.[77] The new development of more global traffic, more exchange between universities and more mobility combined with the classical risk of infectious diseases results in an intertwined risk that potentially causes more damage than the original risk of infectious diseases. Within a short amount of time, infectious diseases can spread within HEIs and between HEIs.

Lecturers and researchers are also vulnerable to the infectious diseases. The risk of infectious diseases therefore threatens the continuity of processes in HEIs.

Mexican flu
An example is the global outbreak of the Mexican flu in 2009. In Japan, two students and a teacher were the first people who were detected carrying the infection. They were traveling from the United States for an exchange program.[78]

[74] Inspectie van het Onderwijs (2008). *Buitenlandse studenten in het hoger onderwijs. Risico's bij werving en toelating.*
[75] Elsevier (2017). *Hogeschool Saxion gaat 'studenten' uit risicolanden weren.*
[76] Elsevier (2017). *Hogeschool Saxion gaat 'studenten' uit risicolanden weren.*
[77] RIVM (2007). *Infectieziekten en veiligheid. Toekomstige uitdagingen voor maatschappij en beleid.*
[78] CBC News (2009). *Japan records first cases of swine flu.*

Data loss through spying

Certain policy decisions in the past have led (unintentionally) to an increased vulnerability for spying activities. The promotion of knowledge migration has as unwanted side effect that intelligence officers can relatively easily infiltrate and hide in a student population.[79] The Dutch intelligence office has indications that foreign students are used by their country of origin to gather intelligence.[80] Scientific and technological knowledge generated by HEIs can be highly valuable for other countries. Because of the openness of scientific research, spying is relatively easy. In practice, sensitive information in HEIs is poorly protected.[81] The leaking of scientific information can cause damage to the economic wellbeing of a state.

From the Dutch National Safety Profile (Nationaal Veiligheidsprofiel) 2016:

'Besides foreign powers with diaspora communities in the Netherlands, powers that are in conflict or at odds with the Netherlands can engage in unwanted interference through secretly gaining influence among *students,* in media, among some politicians, in the public opinion, without those involved even noticing this. Sometimes this can even be through secret financing.'

[79] AIVD (2010). *Kwetsbaarheidsanalyse spionage. Spionagerisico's en de nationale veiligheid.* Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.
[80] AIVD (2010). *Kwetsbaarheidsanalyse spionage. Spionagerisico's en de nationale veiligheid.* Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.
[81] AIVD (2010). *Kwetsbaarheidsanalyse spionage. Spionagerisico's en de nationale veiligheid.* Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

5. Risk management as an art of equilibrium

In the previous chapter, several new threats for the openness of the higher educational system in Europe are described. In this chapter, four management rules are discussed that are useful in the context of analysing the response to risks. Decisions about risk management should be evidence based (realistic), objective and rational. Measures, where necessary, need to be proportional and targeted.

5.1 Management rules

The choice to address a risk is always a political or management decision. The management has influence on the risk strategy, but it is dependent on others for implementation and execution. In this paragraph, we describe four management rules: one's own responsibility comes first, compare with other risks, gain insight in costs and benefits, and risks are shared with other actors.

Management rule 1: One's own responsibility comes first

Managers tend to claim full responsibility for risks. This is also visible in HEIs, where the management feels very responsible for all kinds of safety risks. In reality however, HEIs do not have full responsibility for many risks that are present in the educational institutions. Every student has his or her own responsibility for his or her safety and health. Students need to prepare themselves and take the correct measures before, for example, going abroad for studies.

For the management of HEIs, this means that it is important to emphasize the responsibility of students for their own safety and health. In many cases, the role of HEIs is at most to facilitate this personal responsibility. It is a pitfall for HEIs to make the institution responsible for all kinds of risks, through implementing (too many) management regulations.

When incidents happen, it is difficult for managers to stick to their original policy, as we pointed out earlier.

Management rule 2: Compare with other risks and other risk management procedures

Managers regularly decide to take measures to increase safety. In many cases, this decision is reached with only this particular risk in mind, while a comparison with other risks offers a useful widening of perspective. Comparison with other risks (especially after an incident) can help to keep the management reaction proportionate. It is not an exception when management overreacts after an incident. Managers react in a risk-regulation reflex and want to take all possible measures to prevent this incident from happening again.[82] Realistically, this is never possible. It is therefore important to decide with consideration on the measures taken, in particular in response to incidents.

[82] J.H. van Tol, I. Helsloot en F.J.H. Mertens (2011). *Veiligheid boven alles?*

Risk regulation reflex

When public authorities make commitments directly after an incident, the foundations of disproportional safety policies may be created. The thought behind the term 'risk-regulation reflex' is that authorities have a reflex to take measures in immediate response to incidents or risks, in order to reduce the risk but without making a cost-benefit analysis. This can potentially lead to expensive disproportional measures that hardly have the desired effect.

According to 'Emergencies, the good practice guide for Higher Education Institutions', a risk management process at HEIs should at least contain the following steps: 1) understand, identify and describe your risks, 2) score your risks, 3) manage your risks.[83]

Step 1. Identify risks / threats

The first step of every risk analysis is to identify the possible hazards. Understand the risks that are applicable for HEIs and describe these risks.

Step 2. Prioritize risks

The second step of risk analysis is to map the chance and effects of every inventoried risk. Compare the chances and effects in order to prioritize the risks. This allows the authority to make substantiated decisions about investing or not investing in certain measures.

Step 3. Manage risks

The third step is to decide how to manage the risks. Risk management in the non-profit realm, including higher education, appears to be significantly less developed than in much of the corporate world.[84] In light of risk management, the management of the HEI needs to answer the following questions[85]:

1) What is our mission?
2) What is our strategy to achieve it?
3) Wat are our 'crown-jewels'? What has the most value?
4) Which 'crown-jewels' are at stake?
5) What risks might derail us from achieving our mission?
6) How is our HEI set up to manage or live with these risks?

Management rule 3: Gain insight in costs and benefits

Every safety measure is costly. When keeping in mind that every euro can only be spent once, it is necessary to have a proportional view on safety measures. In addition, it is not always clear what the added value is for safety. It is therefore important that the costs and benefits of a safety measure are clear before implementation. Prioritize the measures based on their costs and benefits. This can prevent that measures are taken out of proportion.

Management rule 4: Risks are shared with other actors

HEIs are not the only actors that have to deal with risks. There is no monopoly on risks and the risks that HEIs deal with are shared with other actors and institutions. There are multiple 'risk actors' involved.

HEIs are eminent network-oriented organisations. They cooperate with each other and on top of that, they are embedded in regional, national and international contexts. HEIs cooperate with governments, businesses and non-governmental organisations. This cooperation takes place on an institutional level, on a faculty level and also on a level of individuals.

Students who abuse their studies to obtain a residence permit, for example, pose a risk for HEIs and for the Immigration and Naturalisation agencies. This means that HEIs should not draw all responsibility towards them, but should share the responsibility with other actors involved. For HEIs, only reasonable measures against this risk can be expected, such as asking for student letters of motivation or checking diplomas. These measures are incorporated in the regular admission procedures.

The European Commission proposed a number of actions on seven specific fields where cooperation on European level could contribute. One of the proposed actions is that focus on integration needs to be promoted in HEIs. By using the financial resources from the Erasmus+ programme, projects can be

[83] AUCSO (2008). *Planning for and managing Emergencies*. A good practice guide for Higher Education Institutions.
[84] P. Tufano (2011). *Managing Risk in Higher Education*, pp.1-5. University of Oxford.
[85] P. Tufano (2011). *Managing Risk in Higher Education*, pp.1-5. University of Oxford.

supported that are aimed at promoting social integration, shared values and intercultural understanding.[86]

5.2 A balancing act

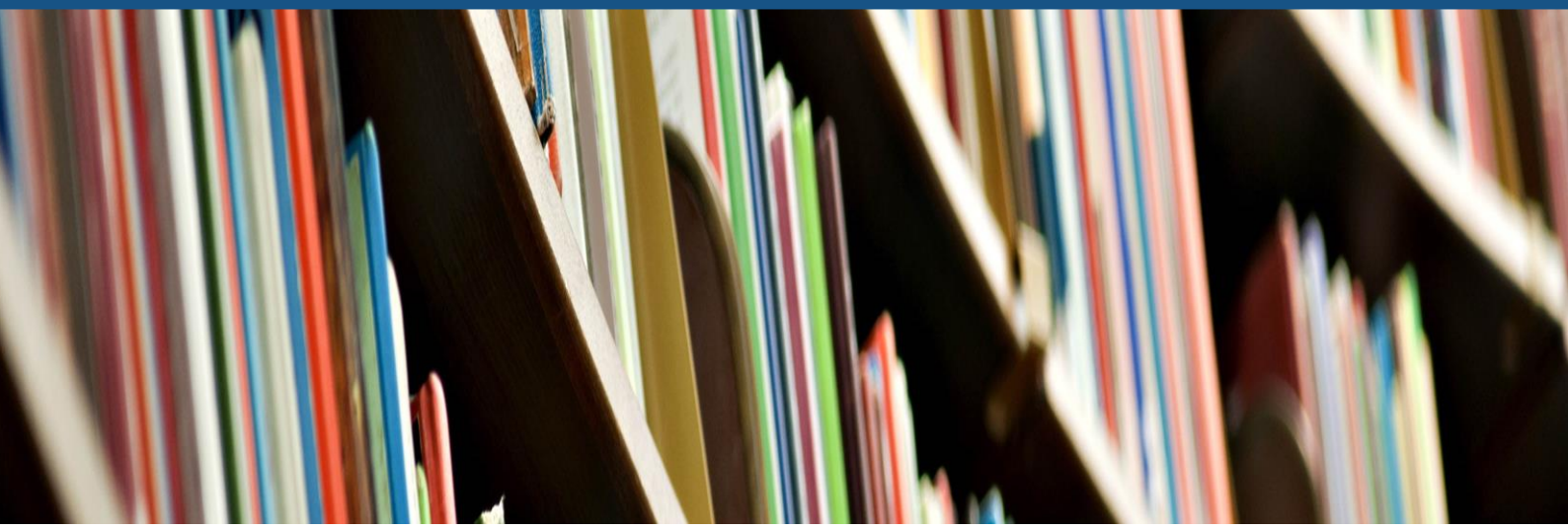
More openness and more safety can be contradicting goals. A balance needs to be established between the extremes of a totally open educational system and an educational system where 100% safety is guaranteed (which of course is a utopia and does not exist). This balance is between safety and security on the one hand and opportunities, development and advancement on the other hand. It is a balance between values and risks, where proportionate measures are required.

As stated in the previous chapters, taking risks can lead to positive outcomes. It is the task for managers at HEIs to find the delicate balance between creating an environment that is safe and secure, but is also open, innovative and challenging. The management rules that are mentioned in the previous paragraph help to find a proportionate balance. An integral approach to safety and security issues at HEIs makes it possible to take decisions on which risks are acceptable and which risks ask for measures.

Several actors, such as authorities, teachers, researchers and students are involved in both the creation of risks and in the measures preventing risks in HEIs. Multiple parties are therefore responsible for the risks deriving from new developments. European cooperation gives opportunities to strengthen the position of HEIs in this balancing act.

[86] European Commission (2016). Persbericht. *Sterker EU-optreden voor een betere aanpak van gewelddadige radicalisering die tot terrorisme leidt.*

6. Overall conclusion



6.1 Recapitulation, the balancing act

In the last decade, the developments regarding the rise of the internet, the enhanced European collaboration and the trend towards more and more globalisation created new opportunities for HEI's to perform their core mission of spreading knowledge.

At the same time these developments created new risks for HEIs. Managing those risks is not easy because the most important values of the higher educational institutions in Europe (openness, accessibility and transparency) inevitably make HEIs vulnerable to threats from outside

The risks facing HEI's can be categorised in a.) classical risks, b.) new risks and c.) intertwined risks. Classical risks are known risks that have been around for decades. New risks mainly arise from new developments (in particular the internet). Intertwined risks are classical risks that changed or enhanced by new developments.

Since openness, accessibility and transparency are values that we do not want to give up in our HEIs, it is inevitable that absolute safety at HEIs is not possible. Incidents cannot be excluded at the cost of everything. Measures aimed at increasing safety therefore need to be aimed at reaching a proportional level of safety. Because you can spend every euro only once, HEIs need to make a cost-benefit analysis for investments in their risk management.

Risk management for HEIs is therefore a complex balancing act that requires strategic decisions at the board level of HEIs and at the level of national and European safety and security networks. Identifying and prioritizing risks helps in this balancing act, as well as comparing risks, gaining insight in costs and benefits, and being aware that risks are shared with other actors.

6.2 Specific recommendations for risk management by HEIs

In this paragraph we give several general principles for risk management by HEIs.

Organize for resilience

The context in which HEIs function is one that is diverse and constantly subject to change. To be prepared for change of circumstances and risks gives great strength and resilience to HEIs.

Flexibility in response to incidents increases the capacity to deal with these unavoidable incidents. A strategy of resilience (as opposed to anticipation) requires reliance on experience with adverse consequences once they occur in order to develop a capacity to learn from the harm and bounce back.[87] [88] This strategy goes hand in hand with accepting the fact that something could go wrong.

Resilience, however. needs to be organized for in terms of dynamic risk evaluation and planning and exercising for incidents.

It is useful for HEIs to make a general crisis management plan in advance, so that the HEI can deal with the reoccurring facets of an incident, no matter what incident the HEI faces.

Making use of existing structures to increase awareness is also a resilient way to deal with potential risk factors such as the development of extremism. The most important advantage of raising awareness in the structures of HEIs is that it does not affect the openness of the institutions.

Attention for crisis communication is important for HEIs, because through accurate crisis communication the HEI can inform students, staff and media. This affects, depending on context and circumstances, the potential reputation damage for HEIs.

Conduct an integral risk analysis

The risks at HEIs are diverse and are traditionally categorised in the different domains, each with their own risk governance. In order to conduct a useful risk analysis on the level of the HEI however, the risk analysis should consider all risks and compare the costs and benefits of risk mitigation and preparation. The risk analysis needs, in other words, to be integral in order to be able to decide upon a balanced risk policy.

Collaborate in safety and security networks

HEIs are part of a society in which numerous actors are working to ensure safety and security. HEIs should therefore try to collaborate with these actors instead of trying to come up with measures of their own. This way, all participants in the resulting safety and security networks can take their own responsibility.

This principle firstly applies to the local, regional and national networks of HEIs in which actors such as municipalities and local or national safety and security agencies participate.

Secondly HEIs are well advised to actively join national and European networks of comparable HEIs in order to exchange knowledge and pool resources.

Competition between HEIs exists. However, in the field of safety it is in many cases more beneficial to collaborate, for example as HEIs within the EU. Sharing experiences and successful protection and prevention methods can help increase the safety of HEIs as a system.

The primary processes of HEIs are essentially the same: providing education and conducting scientific research. Therefore, HEIs experience largely the same risks that derive from these primary processes. Besides that, HEIs benefit from the continuity of other institutions (e.g. scientific fraud damages the educational system as a whole). This means that there are shared interests, which make it possible and necessary to learn from each other on the field of safety, for example through sharing best practices. Collaboration between HEIs asks for effort and investment.

6.3 Specific recommendations for EU member states

Cherish the openness of HEIs

Higher education is characterized by its openness. This openness needs to be cherished and preserved. Overdone and symbolic safety measures can undermine the unique open character. This is not beneficial for the quality of education and the development of students.

[87] Wildavsky (1988). *From Resilience to Anticipation: Why the Tort Law is Unsafe (chapter 4 in Searching for Safety).*
[88] Wildavsky (1988). *Trial And Error Versus Trial Without Error (chapter 1 in Searching for Safety).*

Support safety and security management of HEIs

States should assist HEIs in caring for safety and security. Rather than expecting universities to screen foreign students for example, states can have their security agencies available for cases in which there is doubt about the motives of foreign students to come to Europe. This responsibility can be shared between HEIs and national governments.

Another way of supporting integral and coherent safety and security management at HEIs is to support the branch organisations in this task. Branch organisations can enable knowledge exchange between de affiliated HEIs and can help to create coherent policies.

Monitor input and output as well as processes

Member states monitor HEIs predominantly in terms of input and output. However, in the field of safety and security, monitoring of management processes, such as integral risk management, is also valuable. This can be incorporated in the supervision on HEIs.

Usually, safety and security at HEIs is monitored fragmentized according to the different domains safety is categorized in. A more integral monitoring system that combines the different domains gives a more complete system of supervision. This can add to the value and proportionality of supervision by governments.

Balance regulation

The responsibility of government departments is specifically focussed on certain aspects of HEIs. Their view on regulation can also be focussed on certain narrow aspects. For a balanced regulatory pressure on HEIs, it is useful for governments to be aware of the total set of regulations for HEIs. Being aware of regulation from other departments leads to more balanced regulation.

6.4 Specific recommendations for the European Commission

Facilitate the sharing of knowledge on safety and security between HEIs in Europe

Mutual agreements about the exchange of knowledge and experience can help to develop cooperation between HEIs in the field of safety.[89] In this process, the EU can have a role to bring the European HEIs together and offer them a platform for discussion and sharing experiences. Initiatives to facilitate the discussion about safety and security in HEIs on an international level helps to raise awareness.

Sharing and promoting best practices from different member states is a concrete example of the useful exchange that can take place on a European level.

Be aware of the risk-regulation reflex

A pitfall for regulatory bodies at all levels is that incidents at HEIs may lead to a reflex of producing more regulation. Coming up with more or stricter regulation in a reflex to incidents is in general not effective, if only because many incidents are just that, unique incidents. In practice it turns out that institutions subjected to the disproportional regulation that follows from this risk-regulation reflex (such as HEIs) will comply only in a symbolic fashion. For example, new obligatory planning for exotic risks often leads to what is called 'fantasy planning'. A more effective way to ensure sensible attention to safety and security management is by stimulating transparency about policy choices based on integral cost-benefit analysis. The distribution of this document and organizing discussion using the principles described might be a step in this direction.

[89] Convenant Platform Beveiliging Nederlandse Universiteiten (PBNU) en platform Veiligheid & Beveiliging HBO (2016).

Appendix I: Members of the advisory group

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Appendix II: classical risks

A study of Helsloot and Jong (2006) examines some risks that threaten higher education institutions by research among Dutch HEIs.[90] HEIs confront several risks.

Fire
Fire for example, is a common risk that exists since the advent of mankind. Fire is one of the most obvious risks to any organisation. Of course, it is a basic need for our way of living (cooking etc.), but an unintentional fire could have disastrous consequents, like financial damage and human deaths. Also, the business continuity of an organisation can be affected by the damage caused by a fire.[91] The fire in the Engineering Faculty Building of the Technical University Delft in 2008 is an example of what possibly could go wrong with the enormous consequents of loss. Short circuit and a broken water supply presumably caused this fire.

Arson
Arson deserves a separate mention as a risk because fire prevention systems are by and large not designed to cope with the rapid spread of fire that is often a result of deliberate fire-raising. One important motive for arson may be revenge by employees, former employees, action groups and students who have 'come off the rails'. Action groups will usually target laboratories known or suspected to be carrying out tests on animals or other socially sensitive experiments. Locations depend on motives, and in such cases are usually chosen with considerable care.

Safety and security at work in general
As employers, higher education institutions have a responsibility for the health and safety of both their staff and their students. Some courses will naturally be more prone to physical accidents than others: the risk of injury is greater for a student of physical education than for a trainee accountant. In other words, the risks attendant on every kind of course need to be assessed individually. Work in workshops and laboratories calls for extra safety measures. In the context of occupational hygiene, the presence of hazardous substances can form a risk for the health of staff and students.

Burglary
Most institutions see burglary as a major risk, not just in terms of the risk of losing hardware but also, just as importantly, the risk of losing valuable information.

Extreme weather
Extreme weather conditions are barely seen as a problem. Despite this, they can lead to considerable damage and inconvenience.

Infectious diseases
Infectious disease can strike anywhere, and that includes institutions of higher education. Students in higher education, unlike pupils in primary schools and at some boarding schools, do

[90] I. Helsloot, W. Jong (2006). *Risk Management in Higher Education and Research in the Netherlands.* Journal of Contingencies and Crisis Management, Vol 14. No 3, p. 1-18.
[91] J. A. Cazenier, D. Leegwater & J. Ploeg (2010). *Business Continuity Management: weg van de gebaande paden*. Amsterdam: Academic Service.

not constitute a special risk group. Even so, it is still possible for a student to contract an infectious disease such as TB or hepatitis A and infect fellow students.

Terrorism
The nature of higher education establishments makes them attractive to terrorists, not so much as targets but as centres of recruitment and places where they can go to ground. In the higher education sector this problem its noticed.

Fraud
Fraud is a multifaceted problem, even in higher education establishments. All kinds of fraud are thinkable, such as diploma fraud, identity fraud and so on. Student cards or student accounts can be subject of fraud.

Theft
Theft is according to Helsloot and Jong one of the most frequently occurring types of incident. The institutions acknowledge that in general they are highly accessible, which makes them an attractive target for criminals. According to a security manager at a university, 75% of the theft is thought to be committed by students and their own staff.

Sexual intimidation and violence
Sexual intimidation and sexual violence are also examples of classical social security risks. Staff at institutions of higher education are experiencing growing levels of intimidation and aggression from students. The explanation put forward for this is the growing propensity for students to make demands (a development that is part of the broader evolution of society at large, sometimes known as the development of the demanding society). If, in his own perception, a student's needs are not being met fast enough, every now and then this leads to threats and verbal intimidation. About a third of the institutions surveyed for the study of Helsloot and Jong (2006) call intimidation and violence one of the larger risks for educational establishments.

Multi-ethnicity
The multi-ethnicity in higher educational institutions can be seen as a potential risk for raising discrimination or violence. In the larger towns and cities, particularly, there is a broad palette of different cultures. One effect of this is that events in other parts of the world can act to help create tensions between people of different cultural or religious backgrounds.

Individual students' problems leading to incidents outside the institution
Numbers of students calling on the services of a student psychologist have risen sharply in recent years. There are various reasons for this, including loneliness, depression, fear of failure, problems with personal relationships, and the pressures of academic work. The result may be alcohol and/or drug abuse, declining academic performance and even suicide.

Incidents caused by placement students and student assistants at other institutions
It occasionally happens that a placement student or student assistant comes off the rails and passes on sensitive, confidential information or causes damage. The placement student's 'home' institution has a certain responsibility for the behaviour of its students, but the extent to which

that responsibility entails liability depends partly on the wording of the placement contract and the preparation or supervision given to the student.

Antisocial behaviour connected with student societies
Over the years there have been a number of incidents in student societies in the Netherlands leading to injuries and even fatalities. Most of these have occurred in the context of initiation rites, and in many cases there had been excessive consumption of alcohol. In principle an institution has no direct responsibility for what goes on either inside or outside student societies. Every institution does, however, have a natural sense of having a duty of care towards its students – in addition to which, incidents can have a damaging effect on the image of the institution.

Alcohol and drug use among students
Recent meta-research by the Trimbos Institute (2015) shows that the majority of students drinks alcohol on a regular basis.[92] The percentage of students that excessively uses alcohol is hard to determine, because this percentage varies in different researches, between 12,7% and 29,8%. According to the meta-research among students, cannabis is the most regularly used drug, followed by ecstasy and cocaine. A small part of the student population uses alcohol and drugs excessively. Most consumption of alcohol and drugs at higher education establishments in the Netherlands takes place outside the walls of the institution. The institution has no primary responsibility for it, but some nevertheless take the problem seriously.

[92] S. van Dorsselaer, F.X. Goossens (2015). *Alcohol-, tabaks- en drugsgebruik door studenten*. Utrecht: Netherlands Institute of Mental Health and Addiction.