

THE FUTURE OF WORK AND OCCUPATIONAL SAFETY AND HEALTH: AN EU-OSHA WEBINAR

In the 2022 webinar, two new Future of Work (FOW) articles were presented and discussed with the agency's national focal points. The first article on **Cybersecurity and OSH** was presented by Dr Isabella Corradini, Scientific Director of Themis Research Center (Italy), and the second on **OSH as a key factor for attracting new personnel** was presented by Dr Katarzyna Lazorko from the Faculty of Management, Czestochowa University of Technology (Poland).

Before the presentations, Annick Starren of the European Agency for Safety and Health at Work (EU-OSHA) introduced the webinar by providing an overview of the background and the aim of the FOW articles and the agenda.

Additionally, (online) breakout sessions were organised to discuss the presentations. Finally, the major discussion points of the breakout sessions were presented in a final plenary. Some additional comments were provided in writing by Focal Points (FOPs). Presentations of the articles and the introduction, as well as the articles, are also available as part of this online Summary.

Introduction to the Webinar

Part of EU-OSHA's areas of work looks at what the challenges will be in the future with the aim of improving policy and regulation and raising awareness on occupational safety and health (OSH) in order to reduce work-related accidents and ill-health.

For example, under this '[emerging risks](#)' activity, EU-OSHA runs foresight projects that use scenario-building to explore future risks related to work'. Since 2016 we also publish articles written by dedicated experts about upcoming topics – for example, our articles on [crowdsourcing](#), on [3D printing](#) and on [performance-enhancing drugs](#).

The aim of the articles is to stimulate discussion, especially on possible implications for health and safety, and to trigger inspiration. In the articles, the focus should be on new developments, context factors, and implications for management and policy-makers.

After the discussion and feedback in the seminar/webinar, the final versions will be published on the EU-OSHA website. This way we hope to facilitate a discussion among the community of European and national OSH experts and policy-makers and then to extract some conclusions that the Agency could use to inform policy-makers and further research.

In the webinar, the following four questions were defined to structure the group's discussion on the articles:

1. Do you recognise the topic as an emerging issue in your country? For example, based on ongoing public discussions? Is this generic or more specifically related to certain sectors, regions, activities?
2. Do you have other benefits or risks for health and safety, in addition to the aspects that have already been mentioned in the article?
3. Are you aware of related policy initiatives and/ or research (data collection) on these topics in your country?
4. Optional: If there are specific implications for SME's; would additional action be needed to address SMEs specifically?

Results of the group discussions.

Cyber security and OSH

The expert article highlights:

- the difficulties, opportunities and the importance of the integration of the two areas: IT and OSH;
- the importance of bridging the world of safety and security; the increasing need to raise awareness comprising regulations following a holistic, participatory and inclusive approach; and
- the need to identify upcoming OSH aspects related to cybersecurity, as the pandemic accelerated not only digitalisation but the threats too.

Discussion points

Exoskeletons, online apps and cyberbullying were mentioned as examples that link to cybersecurity. The last was reported to have increased during COVID-19 restrictions. Finland experienced OSH issues with companies offering online therapy sessions. They perform exercises to practice information exchange in the case of a cyberattack lasting longer than 24 hours. During the COVID-19 restrictions, both the frequency and the severity of cyberbullying increased. The Finnish FOP mentioned that Finland has acknowledged the problem at national level and management measures are in place.

In Italy, cybersecurity and OSH is a new topic and the effort is being made to integrate cybersecurity within the concept of OSH. The challenge is how to define 'good practice' here within? The FOP addressed the need to involve relevant stakeholders comprising workers and unions and to invest in training and information sharing within organisations. The management of cybersecurity and cyberbullying is key.

In Austria, a healthy working campaign on digitalisation is being prepared, but to date the combination of OSH and cybersecurity is not obvious. Giving shape to this topic is needed, comprising the future of labour inspectors (LI) who are already active in the domain of foresight and digitalisation comprising cybersecurity.

FOP Slovakia: Cybersecurity and OSH is a new approach. Questions were raised about the scope being generic or specific to certain sectors.

FOP Sweden: Sweden strongly depends on digitalisation and as such is also aware of its vulnerability. Recently, the healthcare sector was hacked and it was not possible to make appointments. The FOP mentioned the need to think about putting in place alternatives in case of an attack, referred to as a plan B for employees. For this, a combination of sharing information, education of employees and protocols is needed.

FOP Latvia: Latvia mentioned two examples that are close to the topic, that is, 1) working from home during COVID-19, assessing the risks and offering (remote) ergonomics therapy improving OSH; 2) the importance for OSH experts to obtain new skills, including the understanding of English. The FOP stressed that cooperation between experts in both areas (OSH and cybersecurity) is very important.

Specific areas identified are nanotechnologies, and nanomaterials, and the current status with regard to regulatory risk assessment and management of its nano ingredients and the position of OSH there within promoting a culture towards feeling responsible for OSH. With regard to exoskeletons, acceptance of this topic by OSH experts is currently lacking. Additional examples provided are:

- Challenges for Workplace Risk Assessment in Home Offices—Results from a Qualitative Descriptive Study on Working Life during the First Wave of the COVID-19 Pandemic in Latvia:
<https://www.mdpi.com/1660-4601/18/20/10876>
- Language knowledge for OSH experts (abstract) – Frontiers | 'Is it essential for occupational health and safety experts to know the English language? Results from several studies in Latvia' | Public Health: <https://www.frontiersin.org/articles/10.3389/fpubh.2022.833620/abstract>

FOP Netherlands: In the Netherlands, transparent data and cybersecurity are important, but OSH is no part of it. The representative agreed with the necessity to interrelate and collaborate on both areas.

FOP Turkey: OSH starts with risk assessments, and cybersecurity is an essential element since companies and workplaces are being hacked. It is important to include cybersecurity as part of preparedness and emergency plans under the existing regulations. Since OSH is a multidisciplinary area and lots of the production process(es) are linked to the Internet, the cybersecurity risks are significant. The Chernobyl disaster was mentioned to exemplify the importance of cybersecurity. It is important to include in the concept of cybersecurity potential attacks and people's security.

EU-OSHA experts: The use of private devices at the workplace is important as well, which increased during COVID-19 times. As such, private devices and documents should also be taken into account as part of cybersecurity and risk assessment.

FOP Slovenia: During the start of the pandemic the use of private devices were common during teleworking. This way of working changed quickly towards the obligatory use of company devices. Since OSH is a multidisciplinary area with upcoming and novel domains, it is important to have the scope and focus in mind and to present new areas in a clear and understandable manner to safety practitioners.

FOP Germany (in writing): The topic is being discussed in various places, including for machine safety, with particular reference to functional safety, railroad systems, critical infrastructure and environmental legislation. Various standardisation bodies are already dealing with questions on how to deal with cybersecurity risks and how to combine aspects of (functional) safety and cybersecurity. An upcoming risk is the availability of experts, especially for cybersecurity.

Examples of related (policy) initiatives from Germany can be found in the Annex.

Concluding remarks (plenary)

- Cybersecurity is an emerging topic for all countries, especially in the context of ongoing digitalisation. OSH cannot be reduced to solely technological protection. Other ongoing issues are related to, for example, technostress and cyberbullying. This topic deserves a 'white paper'.
- Workers are affected and experience stress due to changing conditions and the vulnerabilities related to the pandemic working conditions. Sharing of good practices and awareness programmes is important, especially for SMEs. This could be a role for EU-OSHA, to create awareness in an understandable way.
- Learning from the bridge-building practices between safety and security in the domain of dual-use thinking about options and links on how OSH can be introduced within the scope of cybersecurity safety and security.
- OSH proved to be an important element within cybersecurity comprising human error and human behaviour.

OSH as a key factor for attracting new personnel

Introduction to the topic

Recruitment procedures have changed dramatically over the years, as have the expectations that employees have of employers. This has become more apparent since the start of the COVID-19 pandemic. Research shows that turnover is high and that the younger generations change jobs/countries and so on much more frequently. For them, it is not so much about gaining money but about gaining experiences, and companies therefore need to use attributes such as wellbeing, flexible working conditions and others to keep or attract new personnel.

However, using OSH as a factor in employer branding to attract new personnel can often be challenging due to the diversity of the different target groups. Each target group perceives jobs differently and therefore needs to be targeted differently.

Discussion points

- OSH as a part of employer branding is not at all widespread and can be found only in some sectors, regions and so on. Research carried out in Poland some years ago confirms this and shows that OSH is hardly present in employer branding.
- Moreover, it is often the case that companies tend only to engage with employer branding when they have a negative reputation or when employees are discontent.
- Cost associated with employer branding is also a challenge. Research shows that companies do not perceive this cost as important and that they do not see the broader benefits.
- Also challenging is how to combine the concepts of employer branding, corporate social responsibility and sustainability together with OSH and wellbeing and to communicate these effectively in the recruitment procedure so as to avoid confusing messages.

- Although there is still a lack of general awareness about the potential benefits related to the use of OSH in attracting new personnel, the discussions brought to light several interesting initiatives within the Member States highlighting that some areas/sectors are using OSH as an attribute in recruitment, for example:
 - In Slovenia, human resource managers are showing a growing interest in OSH. More and more are interested in participating in OSH seminars and showing interest in collaborating and working closely together with OSH specialists.
 - This trend can also be seen in Latvia where there are two lines of OSH thinking. Although one links OSH solely to safety/machines and the like, the other understands that OSH is about humans and that it is therefore closely linked to human resource management. Moreover, companies participating in OSH events are now promoting this via their social media channels in an attempt to improve their reputation regarding OSH and to improve the recruitment of employees.
 - In Portugal, research carried out by NGOs shows that OSH issues are becoming more important in the recruitment process. Moreover, it shows that when looking for jobs, the younger generation are looking for good working conditions and give less importance to other company attributes such as salary.
 - In Finland, company branding including OSH has also become important for employers, especially during the pandemic.
 - An additional note from Finland in writing: Challenges related to changed expectations towards employers are being accentuated particularly in, for example, IT and medical fields. An additional aspect is the emerging risk of weakening employee engagement caused by the drawn-out COVID-19 situation and the new working practices such as teleworking. During the pandemic, the importance of self-management skills has been accentuated. This will probably correlate to the risks of burnout, becoming bored at work and declining overall wellbeing of employees.
 - FOP Germany (additional note in writing): The importance of workers' health at work has increased in the pandemic. It became apparent what can happen when skilled workers are absent, for example in relation to (interruptions in) supply chains. Securing skilled workers is of course an issue. Taking prevention into account is an effective way of doing this. Prevention can also be understood as an expression of appreciation towards the employees, in the sense of 'Your health is important to me!' The fact that this appreciation is also visible to the outside world through branding is imperative for staff recruitment and in this respect an almost inevitable development. Other benefits or risks for health and safety, in addition to the aspects that have already been mentioned in the article, are: securing the survival of the company, securing skilled workers, increasing the company's resistance to crises, retaining employees in the company, reduction of absenteeism and improvement of productivity through healthy employees, business process stability, legal certainty, legally compliant organisation, and reduction of healthcare costs. Return on prevention: €1 investment in prevention reduces costs by €2,20 (cf. [Calculating the international return on prevention for companies: costs and benefits of investments in occupational safety and health final report](#) 2013, p. 19). Examples of related (policy) initiatives from Germany can be found in the Annex. In the case of SMEs, the addressee-specific 'approach', that is, also a 'functioning network', always plays a role.

Particularly challenging is the situation for SMEs that face recruiting new generations with new demands. In Spain, however, an SME (<https://quinton.es/responsabilidad-social/laboratorio-del-bienestar>) has successfully been able to implement its OSH programme as part of its employee branding.

Concluding remarks (plenary)

Employer branding is not a holy grail. Much consideration is necessary for different target groups and their needs. Therefore, further research into the use of OSH as a key factor in the recruitment of personnel would have to be carried out taking into consideration the different sectors, countries and stakeholders. Costs are an issue, however in the end this development should not be 'to survive' but to 'thrive', and so retain best staff.

ANNEX 1 - German examples of related policy initiatives and/or research on the field of employer branding

- Laura Dechert: 'Strategien in Zeiten des Fachkräftemangels: Arbeitgeberattraktivität, Arbeitszufriedenheit und Mitarbeiterbindung im Kontext von Employer Branding, Passung und Mindset' (Strategies in times of a shortage of skilled workers: employer attractiveness, job satisfaction and employee retention in the context of employer branding, fit and mindset), Universität **Siegen**, 2020. <https://www.universi.uni-siegen.de/katalog/einzelpublikationen/924421.html>
- INQA (Initiative neue Qualität der Arbeit: Initiative new quality of work) offers different checks for enterprises regarding healthy working conditions (OSH and prevention) for different sectors and SMEs as well as healthy leadership, among others. <https://inqa.de/DE/handeln/inqa-checks/uebersicht.html;jsessionid=A9C1FB7312A1671BD90C47F178DCF1FE.delivery2-master>
- The audit workandfamily (*audit berufundfamilie*) is a strategic management tool that supports companies and institutions in implementing a sustainable family- and life-phase-conscious personnel policy. The audit family-friendly university (*audit familiengerechte hochschule*) is the special instrument for creating family-friendly research and study conditions in universities. The audit is suitable for employers in any branch of industry as well as in various business units. <https://www.berufundfamilie.de/english-info>
- Securing skilled workers and employer attractiveness: Institut für Beschäftigung und Employability (**IBE, Institute for Employment and Employability**), directed, directed by Prof. Dr. Jutta Rump, conducts research on human resources issues. The main activities and core competences of the IBE relate to the following topics: Trends in work | Employment and employability | Demographic management | Digitalisation | Diversity | Securing skilled workers and employer attractiveness | Generation mix | Career policy | Life-phase-oriented personnel policy | Strategy personnel planning | Time policy. Here you can find some interesting documents regarding the issue: <https://www.ibe-ludwigshafen.de/fachkraeftesicherung-und-arbeitgeberattraktivitaet/>

ANNEX 2 - German examples of related policy initiatives and/or research on the field of cybersecurity

- European (international) activities:
 - Proposal for a regulation on machinery products.
 - Technical reports for co-engineering:
 - ISO/TR 22100-4:2018 'Safety of machinery - Relationship with ISO 12100 - Part 4: Guidance to machinery manufacturers for consideration of related IT-security (cyber security) aspects';
 - CLC IEC/TR 63069:2019 'Industrial-process measurement, control and automation – Framework for functional safety and security';
 - IEC TR 63074:2019 'Safety of machinery – Security aspects related to functional safety of safety-related control systems'; and
 - ISA TR 84.00.9 'Cybersecurity Related to the Functional Safety Lifecycle'.
 - Several (draft) standards on machine safety/process automation refer to the need for consideration that safety refers to security and vice versa.
- Committee on Work Equipment (ABS): EmpfBS 'Dealing with risks from attacks on the cyber security of safety-related control systems' ('Umgang mit Risiken durch Angriffe auf die Cyber-Sicherheit von sicherheitsrelevanten MSR-Einrichtungen' → Revision/creation of technical rule (TRBS) in progress.
- Project group digitalisation of Product Safety Commission (AfPS) / ABS:
 - 'Recommendations on essential cybersecurity requirements for networked products/assets' ('Empfehlungen zu wesentlichen Cybersicherheitsanforderungen an vernetzte Produkte/Anlagen'); and
 - 'Recommendation of a horizontal product-based legislative act on cybersecurity'.
- Federal Institute for Occupational Safety and Health (BAuA) research projects F2474 and F2497:
 - evaluation/development of methods for risk assessment of cyber-physical systems (including aspects of cybersecurity); and
 - analysis and assessment of interactions, interfaces and the general approach to safety-security co-engineering.
- Federal Ministry of Education and Research (BMBF) Project IDEAS: 'Integrated data models for the consideration of IT security in the development process of industrial plants'.
- Work by the German Federal Office for Information Security (Bundesamt für Sicherheit in der Informationstechnik - BSI) also has an impact on occupational safety, in particular the 'Ordinance on the Designation of Critical Infrastructure in accordance with the BSI Act' ('Verordnung zur Bestimmung Kritischer Infrastrukturen nach dem BSI-Gesetz').
- BSI-KRITIS Ordinance <https://www.gesetze-im-internet.de/bsi-kritisv/BJNR095800016.html>
- Industry-specific security standards:
 - https://www.bbk.bund.de/DE/Themen/Kritische-Infrastrukturen/kritische-infrastrukturen_node.html
 - https://www.bsi.bund.de/DE/Themen/KRITIS-und-regulierte-Unternehmen/Kritische-Infrastrukturen/Sektorspezifische-Infos-fuer-KRITIS-Betreiber/sektorspezifische-infos-fuer-kritis-betreiber_node.html
 - Environmental regulations also have an impact on occupational safety regulations, for example, 'Guiding principles of the Commission for Plant Safety for protection against cyber-physical attacks' within the framework of the Federal Immission Control Act (Bundesimmissionsschutzgesetz - BImSchG).
 - https://www.kas-bmu.de/412.html?file=files/publikationen/KAS-Publikationen/chronologische%20Reihenfolge/KAS_44.pdf&cid=21921