

CONTENTS

NEW OSH ERA moved into the second phase of its implementation	1
Workshop 'Exchange of good management practices', Dortmund, 26th and 27th of April, 2007	1
Workshop on New and Emerging Risks in OSH - Overview of European OSH Research Programmes, Warsaw, 14-15 June 2007 ..	2
The ERA-NET scheme: progress and impact	3
Main priorities in OSH research in PEROSH	4
MRI scanners – emerging risk associated with health care staff exposure to electromagnetic fields	5
The European Risk Observatory: Emerging psychosocial risks related to OSH - an expert forecast	7

Evaluation of stress levels of call centre operators	8
The Short Inventory to Monitor Psychosocial Hazards (SIMPH) ..	8
The Flemish workability monitor	9
New projects on new and emerging risks starting at PT-DLR ...	10
Statutory accident insurance: the BGs and the public sector accident insurers created a common umbrella organization: German Social Accident Insurance (DGUV) ...	10
Changes in the administrative system of occupational health and safety in Hungary	11
Upcoming NEW OSH ERA events	12
Other events	12
About NEW OSH ERA	12
Members of the Consortium	12

NEW OSH ERA moved into the second phase of its implementation

The NEW OSH ERA project moved into the second phase of the four-step process of the ERA-NET scheme, which is the identification and analyses of common strategic issues. A common strategy for NEW OSH ERA will be developed on the basis of a consolidated common vision and taking account of the results of the first phase of the project. A consultation process has been initiated, involving NEW OSH ERA partners, national networks, the Commission, the social partners and potential future NEW OSH ERA partners. As part of the consultation process, a workshop will be organised in January 2008 in Brussels where all interested parties will be invited to discuss the results of the consultation and the future of NEW OSH ERA.

The information exchange activities, which constituted the first phase of the project and included collecting national data on research programmes related to new and emerging risks and on programme management approaches in the partner countries, resulted in two reports, which were discussed in two workshops, held during the first half of 2007.

Workshop 'Exchange of good management practices', Dortmund, 26th and 27th of April, 2007



Henrietta Orban, BAuA
Stephanie Becker, PT-DLR

The NEW OSH ERA Partners and some guests met in Dortmund for the workshop 'Exchange of good management practices'. The objective of the workshop was to realize an information exchange on management approaches in OSH related national research. The organisation was arranged by BAuA and the workshop took place in the unconventional surroundings of the DASA, the German Occupational Safety and Health Exhibition. The preparatory work for the workshop was done by PT-DLR (task leader) and BAuA. This consisted of identifying OSH research programmes and collecting

comprehensive knowledge about programme running structures of the members of NEW OSH ERA. A questionnaire was circulated which dealt with programme implementation, administrative procedures, dissemination of research results and evaluation practices in different partner countries. Additionally the partners were asked to prepare national reports to summarise national specialities, if not covered by the questionnaire.



Courtesy of BAuA

The results were presented and discussed on the first day of the workshop. The large variety of management approaches of the different institutions became obvious.

Later, some good practices in use at the Partner organisations were presented, including the Quality management system at BAuA, Transfer of research results to practice at HVBG, Programme management strategy at PT-DLR and Management of National Programmes in Poland.

In order to achieve more detailed results, on the second day two group work sessions took place. The partners had the opportunity to discuss their management approaches in detail.

The outcomes of the group discussions were presented in a final plenary session. The workshop gathered information about different aspects of OSH research programme development and management in Partner organisations with the wide variety of management approaches being identified. The results are summarized and incorporated into the final report on programme development and management approaches. This report will provide the basis for undertaking a detailed analysis of obstacles and barriers that hinder transnational cooperation (task leader: PT-DLR) which is part of the preparatory work for a joint research programme.

The workshop ended with the visit to the German Occupational Safety and Health Exhibition (DASA).

The Report on Management Approaches is available on the NEW OSH ERA website <http://www.newoshera.eu>

Workshop on New and Emerging Risks in OSH - Overview of European OSH Research Programmes, Warsaw, 14-15 June 2007



Beata Oleszek, CIOP-PIB

The Workshop was organised within the framework of the NEW OSH ERA project under Workpackage 3 which aimed to gain and systematize knowledge on OSH-related research activities carried out in different EU Member States, in particular those focused on new and emerging risks.

It was attended by the NEW OSH ERA partners representing 9 Member States, i.e. Belgium, Denmark, Finland, Germany, Greece, Hungary, Italy, Poland and Sweden and also by representatives of institutes, organisations and ministries concerned with OSH matters from Finland, Ireland, Lithuania Norway, Portugal, the Netherlands, Slovakia and the UK. The Warsaw event gathered a total of around 60 participants.



Courtesy of CIOP - PIB

The opening speeches were given by Professor Danuta Koradecka, Director of CIOP-PIB and by Dr Jukka Takala, director of the European Agency for Safety and Health at Work (EU-OSHA). It is also worth noting at this juncture that within the framework of the morning session of the NEW OSH ERA Workshop, EU-OSHA organised its own seminar on OSH research, the third of a series of events aimed at encouraging closer co-operation amongst the major OSH national organisations and trans-national networks, to make OSH research efforts more visible to EU policy makers, the topics which fit in well into NEW OSH ERA.

The primary goal of the NEW OSH ERA Workshop was to discuss the findings of the WP3 Final Report entitled: "Overview of research funding programmes on OSH-related new and emerging risks" prepared by the Leader of WP3 (CIOP-PIB) on the basis of two main data sources:

1. responses to the *Questionnaire for collecting information about OSH-related research funding programmes focused on new and emerging risks* developed by CIOP-PIB and
2. National Reports prepared by the partners presenting an overview of the current state of art in the field of OSH in their respective countries.

The collected data made it possible to satisfy the objectives of the Workpackage, i.e. to identify the main thematic areas being investigated in the NEW OSH ERA partner countries, to define new risk factors and scientific programmes undertaken to tackle those risks and, last but not least, to specify problems which are emerging and which may in the future threaten the well-being of workers.

Although the Final Report focuses on the programme level and does not present an overall and absolute picture of OSH research in the NEW OSH ERA partner countries - a target impossible to attain given the multi-layered complexity and continuous development of research work in this field, a detailed evaluation of 39 questionnaires and 9 national reports on OSH-related research programmes made it possible to identify a number of research areas dealing with new and emerging OSH risks and problems. The report indicates the following thematic areas as potential top priorities for future OSH research on the international level:

- *Investigation and prevention of health problems caused by dangerous substances, i.e. work-related cancers, cardiovascular diseases, and reproductive health disorders and also issues of combined exposure to multiple risk factors in the work environment, including physical, chemical, psychosocial, biological and ergonomic issues;*
- *Creating a positive work environment to prevent the occurrence of psychosocial problems;*
- *Psychosocial risks associated with organisational changes;*
- *Engineered nanoparticles and ultrafine particles and*
- *Changes in the world of work and employment conditions (including forms of work).*

The above research priorities will be closely verified in subsequent activities within the framework of the NEW OSH ERA project. More specifically, they will be fine-tuned within WP5 which is

devoted to developing joint strategies dealing with new and emerging OSH risks.

To this end, the next report will address complementarities, gaps and new opportunities in research on OSH as well as include a foresight study on future challenges of OSH research efforts to provide a sound basis for developing a common vision on future OSH-related research and proposing a joint strategy for coordination of research in this field at the European level".

The report "Overview of research funding programmes on OSH-related new and emerging risks" is available on the NEW OSH ERA website <http://www.newoshera.eu>

The ERA-NET scheme: progress and impact

Katalin Sas, EU-OSHA

The European Research Area (ERA) constitutes one of the core elements of the Lisbon Strategy. The concept includes the creation of an "internal market" in research, a restructuring of the European research fabric with the aim of overcoming the fragmentation of research activities and the development of a European research policy. One of the features that ERA should have is "well-coordinated research programmes and priorities, including a significant volume of jointly-programmed public research investment at European level involving common priorities, coordinated implementation and joint evaluation (!)." The ERANET scheme offers an instrument to achieve this goal.

The ERA-NET scheme was first launched in the Sixth Framework Programme (FP6) in 2002 with the aim to "step up the cooperation and coordination of research activities carried out at national or regional level [...] through the networking of research activities, including their mutual opening and the development and implementation of joint activities."

The first ERA-NET projects started in 2003. At the end of FP6 about 70 ERA-NETs were running. Currently, many ERA-NETs have had a couple of years to establish the networks and develop joint activities. What progress has been made by the ERA-NETs and what is the overall impact of the ERA-NET scheme?

In the winter 2006/2007, DG RTD conducted a survey (?) about the progress made by ERA-NETs (Coordination Actions) funded by the European Commission, with a particular focus on joint activities, including joint calls for proposals, joint research programmes and joint pilot projects. The results of the survey show that during the first three years of activities, ERA-NETs have implemented joint calls for proposals, thus moving well beyond the minimum requirements of the FP6 ERA-NET scheme: 77 joint calls have been implemented, launched, or planned at this stage. The majority of the ERA-NETs are already implementing joint research activities: 40 of them have completed, launched or are planning a joint call or programme - a few have already completed several calls. At the same time, some ERA-NETs began three years ago, while others have been started very recently. Joint research programmes are being set up by ERA-NETs: 11 have been launched or are in the process of preparing a joint programme. Most of these programmes are still in the preparatory

phase. Examples of other joint activities include training courses for PhD students, workshops, bi- or trilateral projects to test cooperation procedures, and establishment of databases.

The "virtual pot" is the most common funding mode used by ERA-NETs, but examples of both a "real" common pot and "mixed mode" funding exist. ERA-NETs using a virtual common pot have faced problems with funding "gaps". In some cases this may have led to the cancellation of good research projects. Both a common pot and a mixed mode funding have prevented this situation from occurring. Nonetheless, it does seem that ERA-NET partners using a virtual pot have tended to find solutions to funding "gaps" on a case-by-case basis. The fact that the predicted funding for joint calls launched in the years 2003-2007 amounts to more than 500 million euros underlines the strategic significance of the ERA-NET scheme for developing the ERA.

In October 2006 the Commission created an Expert Review Group in order to review the ERA-NET scheme. The aim of the review was to reflect on the achievements of the initiative and make recommendations for future strategies and policies concerning the implementation of similar initiatives within the context of the Seventh Framework Programme (FP7). In its report, the Expert Review Group praises the success of the ERA-NET scheme and states that in FP7, the ERA-NET scheme will continue to play an important role in the development of the European Research Area. The report recognises the relevance and the appropriateness of the scheme and declares that it addressed a demand which still exists today. In addition to the recommendations aimed at the Commission services and those addressed to the programme owners and managers, the report also contains a set of recommendations for consideration at the highest political levels across the EU. The Review Group emphasises that the consolidation of the ERA-NET initiative should be complemented by efforts at a high political level including greater efforts by Member States to break down the remaining institutional barriers to the coordination and mutual opening of national and regional research initiatives; and to implement clear strategies for their involvement in ERA-NETs based on a thorough analysis of their national and regional needs and priorities. The coherent development of ERA-NETs requires the harmonisation of procedures and practices for joint calls and programmes based on a shared, strategic vision of the role of ERA-NETs in the further development of the ERA.

As a consequence, the Review Group has recommended "that the Competitive Council establishes a High Level Group, composed of representatives of the ministers responsible for research in the Member States and Associated States, to review the strategic role of transnational research initiatives within national and regional policy portfolios and to make recommendations concerning the future involvement of Member and Associated States in both ERA-NETs and similar initiatives based on Article 169. The Group should also reflect on how best to structure and organise ERA-NET activities in the future." (?)

(!) GREEN PAPER The European Research Area: New Perspectives
http://ec.europa.eu/research/era/pdf/era_gp_final_en.pdf

(?) Survey on joint activities in individual ERA-NETs
ftp://ftp.cordis.europa.eu/pub/coordination/docs/survey_results_en.pdf

(?) ERA-NET Review 2006, The Report of the Expert Review Group
ftp://ftp.cordis.europa.eu/pub/coordination/docs/era_net_review_report_dec2006_en.pdf

The recommendations if implemented will create a more favourable operational framework for the ERA-NETs to achieve their objectives and thus contribute to the development of the European Research Area.

Main priorities in OSH research in PEROSH



Angelika Hauke, DGUV

The Partnership for European Research in Occupational Safety and Health (PEROSH) is currently a co-operation of 15 OSH institutes from 14 European countries. Its mission is to strengthen the well-being of the workforce and to increase the economic performance in Europe by (1) coordinated research in OSH, (2) customer-orientated promotion of specific knowledge, and (3) promoting social dialogue in OSH matters. Since June 2007 the main activities of PEROSH are based on six working groups: (1) "Psychosocial issues", (2) "Musculoskeletal disorders (MSDs)", (3) "Dangerous substances - Nanotechnology", (4) "Dangerous substances - Bioagents", (5) OSH management and (6) "Cross-overs: Multifactorial risks".

In response to a request from the European Commission in 2004, the European Agency for Safety and Health at Work organized several seminars in order: (1) to find a consensus on the main priorities for OSH research among the major OSH research institutes in Europe, transmit these priorities to the FP7 consultation, and (2) to strengthen networking of these OSH research institutes and to inform them about funding opportunities available within the FP7. The Agency made use of significant publications of national and international bodies and of expert forecasts conducted by its Topic Centre "Risk Observatory" in order to assess research priorities and new and emerging risks in OSH. In its first seminar which took place in Bilbao on 1 and 2 December 2005 and which brought together representatives from eight European OSH research institutes and from UNICE, ILO, the Research DG, the Employment, Social Affairs and Equal Opportunities DG and the Agency the main priorities in OSH research were categorized into five categories: "psychosocial issues", "musculoskeletal disorders", "dangerous substances", "OSH management", and "multifactorial risks". The results of this seminar are published in the FORUM 15 publication, chapter 2.3, of the Agency [1]. To supplement these data, PEROSH members identified research project proposals for FP7 which were presented at the most recent EU-OSHA seminar held on 14 June 2007 in Warsaw, Poland in the context of the NEW OSH ERA workshop "New and emerging risks in OSH – Overview of European OSH research programmes".

All in all, the PEROSH members collected 41 research project proposals which can be classified into the five categories of main priorities in OSH research according to [1]. This classification and

its sub-classification highlighted the most urgent needs for OSH research. They represent potential EU project proposals within the frame of FP7.

Most of the project proposals concerning *psychosocial issues* emphasized creating positive work environments and preventing negative health effects due to increased psychosocial risk factors like work-related stress and job insecurity. Stress and job insecurity are more likely to arise in periods of economical and societal changes that in turn lead to changes of the work organization. In addition to the majority of project proposals which focus on the total workforce, some projects focus on healthy working conditions in SMEs or consider for instance the special needs of elderly or migrant workers.

Musculoskeletal disorders (MSDs) are some of the most common work-related health problems. With respect to MSDs, PEROSH mainly proposes intervention studies with large populations and randomized controlled trials in order to assess the effectiveness of different interventions and to better understand the causal relationships between risk factors for MSD (like for instance physical inactivity) and MSDs. Research proposals also emphasise the importance of risk assessment. On the one hand some of the research proposals refer to workers groups especially at risk of MSDs like health care workers or elderly workers but on the other hand some also consider workers with a high preventive potential like young workers. The proposals made by PEROSH go hand in hand with the main priorities for OSH research related to MSDs which were laid down during the seminar on 1 and 2 December in Bilbao.

As main priorities for OSH research in relation to *dangerous substances* PEROSH proposes to focus on ultrafine particles. PEROSH further emphasises the need to investigate negative health effects which possibly occur by the use of nanotechnologies. Moreover, with respect to carcinogenic, mutagenic, and reproductive toxic substances (CMR-substances) PEROSH stresses the importance of assessing health-based threshold limit values and the need to conduct research in order to develop methods of risk assessment. In line with this, also guidelines for healthier indoor environments should be provided in order to prevent probable negative health effects of indoor pollution. These proposals reflect the main priorities for OSH research related to dangerous substances which were agreed during the seminar on 1 and 2 December in Bilbao. One additional PEROSH proposal was to develop an advanced exposure assessment model under REACH, the new chemicals policy in Europe.

Another of the main priorities for OSH listed in [1] is the promotion of *OSH management systems*. PEROSH emphasises the need to develop methods and tools to assess the added value both immaterial and material, of OSH management systems. Furthermore, PEROSH is in favour of revealing where hazard compensation systems exist in Europe in order to substitute them with new, healthy and safe ways of intervention. In addition, PEROSH members proposed that there should be OSH management systems for organisational arrangements where a single employer does not have full control of the production process. PEROSH also agrees with [1] that OSH management should take the diversity of the

workforce into account and proposes for instance age-appropriate job designs for elderly workers.

With respect to *multifactorial risks*, the proposed main priorities for OSH within the PEROSH group are intervention studies to improve health and safety of workers at VDU workplaces. Moreover, research is needed to identify workplaces where there may be combined adverse health effects for instance due to noise and ototoxic substances or work-related stress and MSDs, noise or accidents and errors. The PEROSH proposals are in line with the main OSH priorities listed in [1] concerning multifactorial risks.

The research priorities of (1) and the proposed projects of the PEROSH organisation should be considered as a way of stimulating transnational research activities which is also the aim of NEW OSH ERA.

MRI scanners – emerging risk associated with health care staff exposure to electromagnetic fields

Dr Jolanta Karpowicz, Dr Krzysztof Gryz, CIOP-PIB

The majority of population is subject to simultaneous exposure to electromagnetic fields (EMF) from broadcasting and power distribution installations, as well as a variety of electrical appliances. There are also sources of high level of EMF which affect workers. These are basically welding devices and industrial induction heating devices, magnetic resonance imaging (MRI) scanners, high voltage power distribution systems, electrolytic or electro-surgery devices, broadcasting and microwave heating devices.



Courtesy of CIOP - PIB

MRI scanners are used for medical examinations as an imaging alternative to X-ray examination. MRI can be used for both, conventional examination or for intraoperative support during surgery treatment (currently app. 1 % of applications). The EMF required for MRI technique is a result of summation of 3 components: the static magnetic field produced constantly by strong magnets (permanent, resistive or superconductive) and pulses of time-varying magnetic gradient field produced by gradient coils placed inside the housing of the MRI scanner. Diagnostic coils placed at the MRI table or directly on the body of the examined patient produce the third component - pulses of radiofrequency (RF) radiation.

(1) European Agency for Safety and Health at Work: Promoting occupational safety and health research in the EU. Research seminar: Bilbao, Spain, 1 and 2 December 2005.

http://osha.europa.eu/publications/forum/15?set_language=en

MRI diagnostics was introduced in the in 1980s with low field magnets (0.2-0.5 Tesla). Magnets of 0.5-3 T are currently the most common source of static magnetic field for MRI scanners; devices of higher fields (up to 9.4 T and even 14 T) are under intensive technical and pre-clinical investigations. Workers operating MRI scanners are one of the occupational groups with the highest exposure to static magnetic fields, because normally superconductive or permanent magnets constantly generate the field. Exposure of workers to RF and gradient fields is, on the contrary, uncommon in MRI workers because the clinical staff is usually located far from the magnet during the patient examination, e.g. controlling the device from a computer-console. Only intraoperative use can lead to workers exposure to RF and gradient fields.

The scale of biomedical effects associated with electrodynamic and magnetodynamic forces in exposed human body are still under research, frequently using blood pressure control and electrocardiogram (ECG) techniques. In addition, vertigo and other sensations, such as problems with balance, nausea, headaches, numbness and tingling, phosphenes, difficulties in the hand-eye coordination and unusual taste sensations, have been recorded during movement in a high field. The other investigated endpoints have been: cognitive function, effects of exposure to fields of up to 8 T on heart rate, respiratory rate, systolic and diastolic blood pressure, finger pulse oxygenation levels, and core body temperature (ICNIRP, 2004). Most of the investigations have involved exposed volunteers who were moved very slowly into the magnet bore in order to avoid the transient, movement-induced sensations described above. Such movements are very slow in comparison with the normal activities of workers in the vicinity of magnets.

The level of workers' exposure depends both on the type of the magnet and on the ergonomical design of the particular MRI scanner. Inside the MRI room, the highest exposure of health care staff (**nurses, technicians, radiologists**) occurs in the immediate vicinity of the magnet's housing. The workers will be exposed to the static magnetic field while they are attending to patients before and after examination and also while operating the manual console situated on the housing of the magnet. Exposure to gradient and RF pulses is possible only during the examination and affects workers only in special cases, e.g. during so-called dynamic examination, interventional intraoperative MRI procedure or because of emergency situations (when worker may have to enter into the bore of the magnet). During the actual examination, the attendants usually stay in front of the monitor of the computer console controlling the examination, outside the MRI room. **Cleaners** can be also exposed to high level of static magnetic fields inside the MRI room or inside the bore of the magnet.

MRI scanners are a very powerful diagnostic tool and as a consequence the numbers of examinations and scanners are rapidly growing, especially the numbers of high field scanners. **Daily repetitive, long-years lasting exposure to extremely high static magnetic fields is something never before encountered in the world.** The biological and health consequences of RF and gradient fields, which are associated with thermal effects and electro-sensitive excitation of tissues, have been intensively investigated, whereas possible adverse health effects of static magnetic fields are less explored,

especially chronic exposure to high fields. Recently, World Health Organization monograph 232 concluded that **there is not sufficient scientific data for establishing the health risk of exposure to static magnetic fields.**

This lack of information was one factor recognized in the EU Directive 2004/40/EC provisions, which do not contain exposure limit value for static magnetic fields. This situation has aroused also strong public concern – from one side on the health consequences of this new type of occupational exposure, and from the other side on the possible impact of the transposition of the Directive 2004/40/EC on the availability of the MRI service for patients.

To resolve these serious problems, the need for detailed investigations into the health risks of static magnetic field exposure have been recently identified by international bodies (EMF-NET/WHO, WHO, ICNIRP) as representing a high priority for health risk assessment. There are many gaps in our knowledge of the biological effects and mechanisms of MRI-emitted electromagnetic fields can interact with tissues. A high priority research should focus on health risk assessment which is needed if we are to significantly reduce the level of uncertainty in the current scientific literature. In the case of medical staff operating MRI scanners, the occupational risk assessment should consider the safety of patients from non-error work ability of medical staff and safety requirements preventing hazards such as from “flying metallic objects” (3 mT) and possible destruction of magnetic memories/cards (0.5 mT).

Several national and international initiatives were also recently taken to discuss, assess and investigate this problem. The exposure of MRI workers was discussed during *Joint International Workshop ICNIRP/EMF-NET/WHO on Current Trends in Health and Safety Risk Assessment of Work-Related Exposure to EMFs*, held in February 2007, in Milan, Italy (<http://www.icnirp.de/JointWorkshopEMFabstracts.htm>) and *Special session A13 on Medical Staff EMF Exposure from MRI Scanners, Current Situation and Future Perspective (EMF-NET session)* during *4th International Workshop on Biological Effects of Electromagnetic Fields*, October 2006, Crete, Greece (<http://www.telecomlab.gr/bioeffects>).

The UK government recently published a study on the *Assessment of electromagnetic fields around MRI equipment* (<http://www.hse.gov.uk/research/rrhtm/rr570.htm>). Health Council of the Netherlands has published *Comments concerning possible MRI restrictions due to implementation of a EU Directive*. The call for new study on occupational exposure from MRI scanners was published by European Commission, DG Employment.

Furthermore it was decided to undertake new research on the *Assessment of occupational exposure to EMF from MRI scanners* in Poland 2007-2009 – a grant was received from the Ministry of Science. The research will be carried out by the Central Institute for Labour Protection – National Research Institute with the assistance of the medical centres.

Further investigations should provide knowledge and fill in the current scientific gaps, and should also help to establish the protection level for exposures to be published by various international and national bodies.

Further information:

jokar@ciop.pl
krgry@ciop.pl

References:

Directive 2004/40/EC of the European Parliament and of the Council of 29 April 2004 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (18th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC), O.J. nr L-184 of 24 May 2004.

EMF-NET/WHO: 2005, Report on Research Needs, Environment and Health Implications of Electromagnetic Field Exposure - EMF-NET/WHO COMMITTEE – E. Cardis, G. D’Inzeo, M. Feychting, J. Juutilainen, J. Karpowicz, N. Leitgeb, P. Ravazzani, M. Repacholi, T. Samaras, R. Saunders, G. Thuroczy, E. Van Deventer, P. Vecchia and B. Veyret, <http://www.jrc.cec.eu.int/emf-net/reports.cfm>

ICNIRP Statement: 2004, Medical Magnetic Resonance (MR) Procedures: Protection of Patients. *Health Physics* 87(2): 197-216.

Karpowicz J., Gryz K.: 2006, Health Risk Assessment of Occupational Exposure to a Magnetic Field From Magnetic Resonance Imaging Devices, *Int. Journal Occup. Safety and Ergon. (JOSE)*, vol. 12, No. 2, 155--167.

Karpowicz J., M. Hietanen, Gryz K., “Occupational risk from static magnetic fields of MRI scanners”, *Environmentalist*, (published on line 07.2007)

WHO: 2006. Environmental Health Criteria 232, Static Fields, World Health Organization.

WHO: 2006, Research Agenda for Static Fields, World Health Organization, Geneva.

Commission to postpone and amend electromagnetic fields legislation to protect MRI

On the 26th of October, the European Commission has proposed to postpone for four years – until 30 April 2012 – the deadline for introducing legislation on workers’ exposure to electromagnetic fields, which could have affected the use of technologies such as Magnetic Resonance Imaging (MRI). This will allow enough time to prepare a substantive amendment to the Directive in order to take account of recent research findings on the possible impact of the exposure limits on MRI.

More information:

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1610&format=HTML&aged=0&language=EN&guiLanguage=en>

http://ec.europa.eu/employment_social/news/2007/oct/emf_en.pdf

The European Risk Observatory: Emerging psychosocial risks related to OSH - an expert forecast



Malgorzata Milczarek, EU-OSHA

Significant changes are taking place in the world of work posing new challenges to workers' safety and health. These changes lead to emerging psychosocial risks. These types of risks, which are linked to the way that work is designed, organised and managed, as well as to the economic and social context of work, result in an increased level of stress and can lead to serious deterioration of mental and physical health.

In 2005, more than **20%** of workers from the first 15 Member States of the European Union, and more than **30%** of workers from the New Member States (NMB) and Acceding Countries (AC) **believed that their health was at risk because of work-related stress** (figure 1). In 2002, the annual economic cost attributable to work-related stress in the EU15 was estimated at EUR 20.000 million (¹).

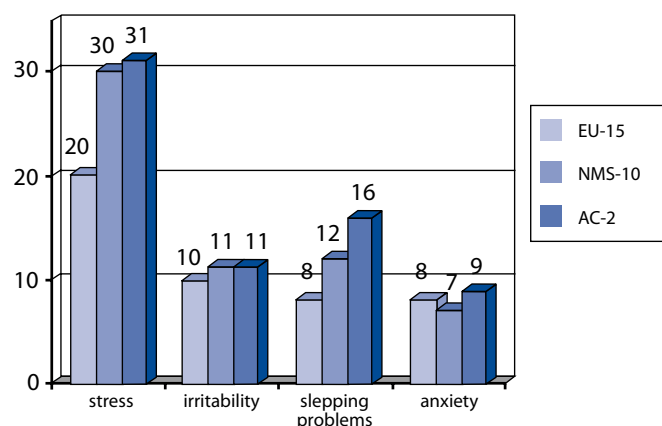


Figure 1. Work affects health (% yes) (²)

The forecast on emerging psychosocial risks was carried out in the frame of the European Risk Observatory by means of the Delphi method. It reflects the views of experts in the field who completed three questionnaire-based surveys in 2003 and 2004. The experts came from 13 EU Member States, the United States and the International Labour Organization, and the majority were working in the field of psychological research. The survey results were supplemented by literature reviews on the key topics identified by the experts. The prevalence of the emerging risks, health and safety outcomes, need for future research, as well as examples of possible preventive measures at national and company level were analysed.

The main emerging psychosocial risks identified in the forecast can be grouped into the following five areas.

1. New forms of employment contracts and job insecurity

The use of more precarious employment contracts, together with the trend towards lean production and outsourcing affect workers' health and safety. Workers on precarious contracts tend to carry out **the most hazardous jobs, work in poorer conditions and receive less OSH training**. Additionally, working in unstable labour markets can give rise to **feelings of job insecurity and increase work-related stress**.

2. The ageing workforce

One consequence of an ageing population and higher retirement ages is that **Europe's workforce is older**. The experts highlighted that ageing workers are **more vulnerable** than younger employees **to hazards resulting from poor working conditions**. The failure to provide ageing workers with life-long learning opportunities also increases the mental and emotional demands placed upon these workers. This may affect their health and increase the risk of work-related accidents.

3. Work intensification

Many workers are handling growing amounts of information, and having to cope with higher workloads and greater pressure at work. Some workers, particularly those employed in new forms of employment or highly competitive fields, may fear having their efficiency and output assessed more closely, and hence tend to **work longer hours to complete tasks, without proper compensation and social support**.

4. High emotional demands at work

Although this issue is not new, it is of great concern, especially in the growing and increasingly competitive healthcare and service sectors. **Violence and bullying** at work were also identified as contributing factors to the increased emotional burdens being placed on workers. **For both the victims and witnesses**, violence and bullying result in stress and may seriously affect both mental and physical health.

5. Poor work-life balance

Uncertain casual work, high workloads and variable or unpredictable working hours, especially when there is **no possibility for the employee to adjust them to their personal needs**, can lead to a conflict between the demands of work and private life. The result is a **poor work-life balance**, which can have a detrimental effect on a worker's wellbeing.

As a next step, the survey findings will be discussed and consolidated in a workshop which is planned for the beginning of 2008. It will bring together experts on psychosocial issues at work – and also from related disciplines concerned with these issues – as well as policy-makers and social partners. A further aim of the workshop will be to explore concrete, practical ways to tackle the psychosocial emerging risks identified in this forecast, as well as to stimulate EU research networking activities related to the priorities identified. The full report, 'Expert forecast on emerging psychosocial risks related to occupational safety and health', is available at the Risk Observatory Website (³).

(¹) European Commission (2002). Guidance on work-related stress. Spice of life or kiss of death? http://ec.europa.eu/employment_social/publications/2002/ke4502361_en.html

(²) Fourth European Working Conditions Survey (2006). European Foundation for the Improvement of Living and Working Conditions. <http://www.eurofound.europa.eu/ewco/surveys/EWCS2005/index.htm>

(³) <http://riskobservatory.osha.europa.eu/>

Evaluation of stress levels of call centre operators

Roberto Piacentini, Paolo Sirabella, Department of Physiology and Pharmacology, University of Rome "La Sapienza"

Paolo Montanari, ISPESL – Department of Organizational Processes

If one wishes to improve the working conditions of call centre operators, special attention should be paid to the assessment and possible prevention of stress levels. In fact, the growing complexity and importance of duties carried out by these operators, indicate that individual needs and features should be given due consideration, in addition to factors of a collective nature such as the work station ergonomics and the user-friendliness and efficiency of working instruments (computers, networks, databases etc.). In this respect, an evaluation of individual factor variability becomes necessary. The data used in this study were gathered within the framework of "Angelo" programme on the optimization of telephone operators' working conditions which has been financed by the European Community.

Psychological indicators (resulting from psychometric tests) and physiological indicators (heart rate and cutaneous electrodermal activity) were recorded during the normal working activity of 15 call centre operators.

Three psychometric tests were used in order to characterize the operators from the psychological point of view; these tests differed from each other according to the type of information provided and the range of time-validity of the results. 1) Eysenck Personality Questionnaire (EPQ); 2) Mashlach Burnout Inventory (MBI); 3) Profile of Mood States (POMS). In order to measure the psychophysiological state of subjects, the Heart Rate (HR) and the Galvanic Skin Response (GSR) indicators were selected. These indicators, measurable by non-invasive methods and which place no restriction on the worker's activities, provide information on automatic reactions to external and internal stimuli which are not voluntarily controlled by the subject.



Fig. 1 Heart Rate sensor

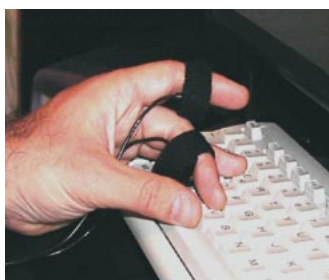


Fig. 2 Galvanic Skin Response sensor

The database created by the descriptors relating to the call centre operators was analyzed using multivariate statistical methods.

The main conclusion of our study is that there are considerable differences between individuals, in mood and in physiological response to stimuli during their working activity and they may also vary significantly even in the same individual over a short period of time (days). This conclusion, which is the result of a pilot survey carried out on a small and homogeneous sample (15 operators), may well be applicable to populations which are more numerous and heterogeneous. On the one hand, this calls into question the effectiveness of any stress prevention strategy based rigidly on individual psycho-physiological parameters, but on the other hand it emphasizes the role of certain key issues relating to the definition of stress thresholds. In such a context, it appears of great interest that there was a correlation between environmental and personal variables and, within the personal variables, there were interactions between psychological (subjective) factors and physiological (objective) factors, that appear to impact on the working performance, particularly in the presence of prolonged stimuli of increasing intensity.

More comprehensive responses will be obtained as the database is enlarged and analytical techniques are improved.

It must be also mentioned that our investigation represents a follow-up to a preliminary study carried out by A. Colosimo (Dept. of Human Physiology and Pharmacology - University of Rome "La Sapienza") and F. Davide (Telecom Italia S.p.A.) whose contributions we kindly acknowledge.

References:

R. Piacentini, P. Sirabella, A. Colosimo, P. Montanari, F. Davide "Evaluation of psychophysiological characteristics of call centre operators during their job activity" – *Prevenzione oggi* n.4 /2001 - ISSN 1120-2971

The Short Inventory to Monitor Psychosocial Hazards (SIMPH)

Guy Notelaers, Hugo D'hertefelt, DiOVA/DiRACT

The Short Inventory to Monitor Psychosocial Hazards (SIMPH) is a 39-item questionnaire developed to adapt research of psychosocial hazards in the workplace to the needs of the risk control cycle (Directive EEC 89/391/EEC).

When completed by all or a significant number of employees of an organization the SIMPH makes it possible to identify and to estimate the extent of exposure to psychosocial hazards at the individual level, and also at the departmental and organizational levels.

The questionnaire can be administered via the internet or in paper & pencil format or in a hybrid form. Online reporting at the individual level is possible and the questionnaire is available in Dutch, French, German, English and Norwegian.

Due to the high psychometric quality of the SIMPH, it is possible to analyse simultaneously all hazards in LISREL in order to connect causes and consequences in a statistical valid way. The use of Latent Class Models makes it possible

to evaluate the extent to which interventions and preventive measures have an impact on exposure to psychosocial hazards. Additionally, the standardization achieved by use of advanced statistical methods facilitates the integration of psychosocial factors with other domains such as safety & health. Furthermore due to the ease of interpretation, it offers policy makers also the opportunity to document psychosocial hazards in an annual report where targets can be clearly set and evaluated in the next annual report.

Figure 1: Illustrates an example of an individual assessment (red = very high exposure, orange = high exposure, green = low exposure and dark green = no exposure).

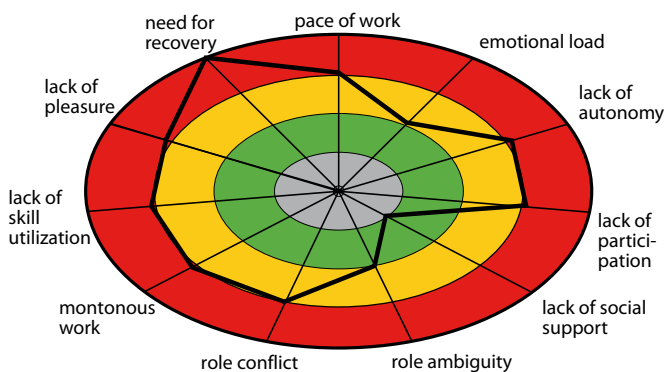


Figure 1: Individual profile of exposure to psychosocial hazards

Table 1 lists the frequencies of exposure rates to the different psychosocial hazards in a certain organization.

Psychosocial Hazards	No exposure	Low exposure	High exposure	Very high exposure
High pace of work	6,6	25,98	32,44	35,0
Emotional load	9,23	64,05	16,53	10,2
Monotonous work	11,1	24,68	49,65	14,6
Skill utilization	11,8	28,69	46,94	10,6
Lack of social support	11,5	38,42	42,72	7,35
Lack of participation	3,44	11,71	49,72	35,1
Lack of job autonomy	1,8	26,97	4,288	66,9
Role conflict	26,6	24,24	29,92	19,3
Role ambiguity	38,7	48,76	10,88	1,65
Lack of pleasure at work	51,4	10	18,47	20,1
Need for recovery	23,5	15,37	17,73	43,4

Table 1. Example of the psychosocial profile of an organization in percentages (%)

These frequencies can easily be transformed in odds ratios. This makes it possible to estimate how much higher or lower the

exposure is compared to a certain benchmark. By means of regression analysis, the causes (stressors) and consequences (strains) can be connected and evaluated. The effect of preventive measures can be estimated by using odds ratios comparing time 2 exposure rates to the corresponding ratios at the time 1 assessment.

Further information:

simphtsimpht@yahoo.com

References:

Notelaers, G. De Witte, H. van Veldhoven, M. & Vermunt, J.K. (in press). The Short Inventory to Monitor Psychosocial Hazards : combining latent class with structural equation modelling to monitor and evaluate intervention programs. Proceedings : Intervention practices for concerted change in firms. First international workshops. The French National Agency for the Improvement of Working Conditions. Lyon.

Notelaers, G. De Witte, H. van Veldhoven, M. Vermunt, J.K. (2006) Can we start with monitoring psychosocial hazards at the workplace, please? A latent class cluster approach with the Short Inventory Psychosocial Hazards to inventorise and to monitor occupational risks at the workplace. 6th Annual Conference of the European Academy of Occupational Health Psychology Dublin. Dublin Castle, 8 -10 november.

Notelaers, G. De Witte, H. van Veldhoven, M. Vermunt, J.K. (2006). Monitoring psychosocial hazards at the workplace: a latent class cluster approach with the Short Inventory Psychosocial Hazards. Paper presentation at Work, Stress and Health: Making a difference in the workplace. Sixth International Conference on Occupational Stress and Health. American Psychological Association. Miami, 2006

The Flemish workability monitor

Stephan Vanderhaeghe,

Ria Bourdeaud'hui,

SERV/STV-Innovation & Work, Belgium

Policy background

In 2001, the tripartite social partners agreed on 21 long-term objectives for the Flemish region in the Pact of Vilvoorde. One of these objectives was to increase substantially the workability of the jobs in the region. Objective 4 of the Pact states: "Thanks to an increase in the quality of work, the quality of the organisation of work and career quality, obtaining and retaining work will remain attractive for all in 2010. In 2010 the workability rate will be substantially higher." A strategy to promote the quality of work is one of the paths in the pursuit of achieving an increased participation in the labour market. As such this policy statement makes references to the Lisbon agenda that speaks of 'more' but also 'better'.

Conceptual framework and methodological design

The Flanders Social and Economic Council (SERV) committed itself to monitor the workability rate. A survey instrument and a scientifically validated indicator set were developed by its research unit 'STV-Innovation & Work' to monitor the Flemish workability. The first survey for wage-earners residing in the region of Flanders was conducted in 2004, a second in 2007 and a third one is planned for 2010. A similar survey is provided for self-employers. The results of the first survey will be published at the end of 2007.

The data for the Workability Monitor for Flemish wage-earners were compiled from an individual random sample survey taken from a representative group of Flemish employees, the written questionnaire was sent to 20,000 persons. High response rates were obtained, 60,6% (2004) and 53,3% (2007).

Workability is defined as a multidimensional concept with four components: work-related stress, well-being at work, learning opportunities and work-family balance. From a policy point of view, assessing 'workability' is only useful when also an insight is gained into the causes of the detected problems. In this regard, in addition to the four workability indicators, six risk factors were selected: workload, emotional load, task variety, job autonomy, social support and physical working conditions. Workability indicators are measured by the use of psychometric scales. Based on the risk-effect-results, cut-off points were defined for the workability indicators. Subsequently content-related discussions were held and with the help of statistical techniques, responses on the obtained measurement scales were classified into three categories: unproblematic, problematic or acutely problematic.

New projects on new and emerging risks starting at PT-DLR



Stephanie Becker, PT-DLR

The first projects on demography and occupational health selected for funding within the call "Prevention at work" have started in Mai 2007. The call was part of the programme "Innovation capability in a modern working world". The owner of the programme is the German Ministry of Education and Research. All projects on this topic aim to promote lifelong employability of the workers and employees under good psychosocial and physical working conditions.

Among different industrial partners participating in the projects, two airports are also involved with interesting approaches: The "Flughafen München GmbH" is working on a preventive health system. Managers will be trained so that they are appreciative of the benefits of healthy work, encouraging them to introduce appropriate measures in the workplaces. In another project at the "Fraport AG" (Frankfurt Airport), a baggage loader has been developed for the staff involved in loading luggage onto and off of airplanes. This innovation should ease the physical demands of this type of work so that

baggage handlers will not be retiring prematurely. Also the staff responsible for supervision and control of the baggage handling will benefit from the project because additional methods will be developed which should reduce stress in this kind of work, demanding a constant level of high attention.

The aim of the project "DIWA-IT" of the Institute for Work and Qualification at the University Duisburg-Essen is to develop methods on how to reduce mental stress of IT workers. Training seminars are being developed for the scientific staff in the enterprises involved where they will be taught about life-cycle models and workplace health issues.

All projects are based on a strong scientific approach and a special emphasis will be placed on transfer and dissemination of results. Research institutes and enterprises are working together in order to promote employability of the workers during their entire working life.

Statutory accident insurance: the BGs and the public sector accident insurers created a common umbrella organization: German Social Accident Insurance (DGUV)



Stefan Boltz, DGUV

The institutes for statutory accident insurance and prevention (the BGs) and the public sector accident insurers created a joint umbrella organization for the statutory accident insurance system with effect from 1st July 2007. The new association has emerged from a combination of the federation of institutions for statutory accident insurance and prevention (HVBG) and the central federation of public sector accident insurers (BUK). It is named "Deutsche Gesetzliche Unfallversicherung (DGUV)" (German Social Accident Insurance). The merger of the associations forms part of a concept with which the autonomous administration comprising employers and insured individuals is striving to adapt the structures of the accident insurance system to changes in the wider conditions. The concept provides for further mergers between BGs and public sector accident insurers and for new mechanisms by which the obligations can be redistributed between the sectors in the accident insurance system for the industrial sector.

"In this way, we have created the foundation for a modern accident insurance system in Germany," explained Joachim Breuer, Managing Director of the HVBG, and Hartmut Weber-Falkensammer, Manager of the BUK. "The concept enshrines the key role of prevention in the accident insurance system, and differs crucially in this respect from the green paper presented in June 2006 by the national and regional governments."

The members of the new association insure some 70 million people in Germany - employees, schoolchildren, students, and voluntary workers - and this insurance covers the effects of occupational disease and occupational and commuting accidents. At the same time, some 3.7 million businesses and public institutions are indemnified against liability for the consequences of such incidents.

The number of BGs is to be reduced from the current 26 to nine by 2012. This structure reflects a realistic and modern division by sector. Further consolidations, however, would spell the beginning of the end for sector-specific prevention activity. At the same time, they would not resolve the problems posed by structural change.

The number of public sector accident insurers and local authority accident insurance associations is also to be reduced further. This fusion process of the members was started some time ago; the original 54 accident insurance institutions have been reduced in number to the current 32, and are to be reduced still further. However, it has to be guaranteed that a local presence - a major advantage of the current structure - will remain.

The BGs further propose that the obligations be redistributed between the sectors. The reason: in the manufacturing and production industries, structural change is resulting in a declining number of companies having to shoulder the costs of pensions inherited from times when the economy was healthier. The new system will be equitable only if legacy pension costs are shouldered collectively and the costs of new accidents and diseases borne by those responsible for them with a degree of immediacy.

This is precisely the scenario for which the autonomous administration's concept makes provision: in the first instance, each BG would bear the pension costs only up to a level corresponding to the number of occupational accidents and diseases within its sector. The philosophy resembles that of a system with capital cover. Conversely, obligations above this level - the excess of inherited obligations - would be borne collectively by all BGs together. Consequently, the administration and health sectors would incur higher charges, whilst the burden upon the production sectors would be alleviated. This solution promotes prevention, since the sectors causing a high number of accidents would immediately be sensitive to the fact. The new system provides a firm framework for solidarity and is not at risk of being held hostage to future developments, as it responds immediately to structural changes. In addition, linking obligations to their source will contribute towards retaining sectoral diversity. As a result, Germany's entire economic should benefit.

Moves by the state to seize control, such as the incorporation of the joint umbrella association as a public-law body as envisaged in the green paper, were rejected by the heads of both associations as state interventionism: "Employers and insured persons have demonstrated their capacity for action, and concrete proposals have been tabled." The autonomous administration insists that policymakers should now respect their promise of "priority for the autonomous administration".

Press contact:

Stefan Boltz
Tel.: +49 30 288763-62
Fax: +49 30 288763-70
presse@dguv.de

Changes in the administrative system of occupational health and safety in Hungary

Dr. Imre Nagy

There was a fundamental change in the legal provisions concerning OSH supervision in Hungary, in December 2006. Parliament approved law No. 129/2006 accrediting the ministers supervising mining and occupational issues, together with the occupational health and safety authority to govern OSH at the national level. The law has created the legal framework essential for the organisational integration of the two disciplines of OSH (safety and health at work). The tasks and duties of the integrated OSH authority are outlined in the legal document. This has reorganised the supervisory activity of safety and health at work, which was previously conducted by separate organisations.

The law assigns to the Labour Inspectorate of Hungary (*Országos Munkavédelmi és Munkaügyi Főfelügyelet, OMMF*) the responsibilities for OSH in an integrated manner, except for the inspection of mine and mining safety, which is regulated separately. According to the law, supervision of the rules related to health and safety at work have been re-allocated out of the jurisdiction of the Minister of Health to the Minister of Social Affairs and Labour. These tasks include definition of major regulatory groups like workplaces, tools, personal protective equipment, characteristics of work environment and requisites for fitness-for-job. Thus provisions concerning the National Public Health and Medical Officers Service (*Állami Népegészségügyi és Tisztiorvosi Szolgálat, ÁNTSZ*) and the tasks thereof were moved of the legislation related to ÁNTSZ under the jurisdiction of the OSH authority. These provisions clearly define:

- the organisational framework of OSH tasks to be accomplished in the integrated structure;
- the administrative authority, governing tasks in occupational health (occupational hygiene and medicine);
- the institution with appropriate scientific, theoretical and investigatory activity required to execute these tasks, the Hungarian Institute of Occupational Health (*Országos Munkahigiénés és Foglalkozás-egészségügyi Intézet, OMFI*).

OMFI was part of the NEW OSH ERA contractor National Center for Public Health (*Fodor József Országos Közegészségügyi Intézet, FJOKK*) and as a result of these changes, it became an individual institute in 2007. The experts from OMFI were assigned to participate in the NEW OSH ERA project from the onset, and the reorganised institute will carry on this work.

Upcoming NEW OSH ERA events

NEW OSH ERA Strategic Workshop
Brussels, Belgium, 22 January 2008

NEW OSH ERA Mid-term Conference
29-30 May 2008, Cracow, Poland

Other events

European NanOSH Conference –Nanotechnologies: A Critical Area in Occupational Safety and Health 3–5 December 2007, Marina Congress Center, Helsinki, Finland
www.ttl.fi/euronanosh

3rd European Conference on standardisation, testing and certification – Safer products for competitive workplaces Cracow, Poland, 11-12 September 2008

4th International Conference “Prevention of Occupational Accident in a Changing Work Environment”, Crete, Greece, 30 September-3 October 2008

About NEW OSH ERA

NEW OSH ERA is a project funded by the European Commission within the ERA-NET scheme in context of the specific programme ‘Integrating and strengthening the European Research Area’. It aims at building a European dimension in research on new and emerging risks in the workplace by rationalising and pooling of resources.

<http://www.newoshera.eu>

Members of the Consortium

Coordinator

- Finnish Institute of Occupational Health, FIOH, Finland

Partners

- Finnish Work Environment Fund, TSR, Finland
- Finnish Ministry of Social Affairs and Health, Finland
- Federal Institute for Occupational Safety and Health, BAUA, Germany
- Central Institute for Labour Protection - National Research Institute, CIOP-PIB, Poland
- Project Management Organization at DLR, Project Management Organization for the Federal Ministry of Education and Research, PT-DLR, Germany
- German Social Accident Insurance, DGUV, Germany
- National Research Centre for the Working Environment, NRCWE, Denmark
- Research Unit for the Improvement of Working Conditions DiOVA/DiRACT, General Directorate for the Humanization of Work, Ministry of Labour, FOD WASO, Belgium
- Italian National Institute for Prevention and Safety at Work, ISPESL, Italy
- Swedish Council for Working Life and Social Research, FAS, Sweden
- Hungarian Institute of Occupational Health, OMFI, Hungary
- European Agency for Safety and Health at Work, EU-OSHA, EU
- Hellenic Institute for Occupational Health & Safety, ELINYAE, Greece
- Ministry of Employment and Social Protection, Greece
- Federal Ministry of Labour and Social Affairs, Germany
- Ministry of Health, Italy
- Ministry of Labour and Social Policy, Poland

The NEW OSH ERA Newsletter is published twice a year.

Editorial board: Katalin Sas (editor), Kai Savolainen, Maria Castriotta, Beata Oleszek and Henrietta Orban

Comments and contributions may be sent to the editor: Katalin Sas

European Risk Observatory Unit

European Agency for Safety and Health at Work

sas@osha.europa.eu

The views expressed in this newsletter are those of the authors and do not necessarily reflect those neither of the NEW OSH ERA consortium nor of the European Agency for Safety and Health at Work.

Reproduction is authorised provided the source is acknowledged.