No 2/2017

CLR News

EU OSH POLICIES AND THEIR IMPACT ON THE CONSTRUCTION SECTOR

CLR European Institute for Construction Labour Research www.clr-news.org

Contents

Note from the editor

The evolution of Social progress is not uniform and its history, trends and results differ from one country/region to another and also within societies. When taking for example a look at discrimination and the fight against discriminating practices in EU countries, one discovers a diverse picture of topics, timelines and actors/ coalitions fighting discrimination. However, one also finds policy areas in which you can witness maybe not pure harmonisation, but at least something like co-evolution or adjustments. Social progress was and is possible because of knowledge exchange, cooperation, providing room for changing practices and the interaction between people.

One of these fields is occupational safety and health. One driver in this respect is surely technological development, resulting in an alignment of working conditions. This is, however, only a formal condition. More interesting is the political digestion of these processes. Accordingly, you find a long tradition of co-evolution and growing cooperation in Europe. Take for example the fight of Italian workers at Farmitalia in the early sixties of the last century. Their fight for the participation of workers in the company's prevention policy became a model for unions and workers in many countries. Their slogan "Health is not for sale" became a slogan in many other countries too. And, finally, this fight for stronger worker participation guided the later discussion of EU policies on worker participation.

A second aspect of importance, when talking about what I like to call co-evolution, is that the EU not only provides a legal framework for health and safety at workplaces, but is equally a field for exchange and cooperation, serving as a laboratory for changing practices. There are various EU-funded programmes open to stakeholders, for instance we have the institutionalized social dialogue and research programmes which create action, based on communication between societal sub-systems.

All the above opportunities are, of course, also fields for differing political orientations and for disputes. One of these disputes is about the EU Directive on carcinogens and mutagens at work. Chemicals in general and more specifically carcinogenic, mutagenic and reprotoxic substances are a kind of time-bomb, responsible for some 100,000 work related cancer deaths in Europe every year. The existing EU Directive was revised in 2004 and is totally insufficient in terms of coverage and other aspects

(see Ulrik Spannow's article in this issue). It should have been revised again ten years ago. Despite all the justified criticism towards the European Commission for not having initiated the process of revision earlier, and despite all the fights in the political arena and some attempts by employer organisations to impede the inclusion of single substances or the whole process in the current revision procedure, we do nevertheless see some progress.

The other subject articles in this issue are likewise examples based on or facilitated by cross border and European cooperation and initiatives. One can certainly lament over the EU, its austerity policy, missing initiatives in the area of social policies and much more, but it is the institutional framework for cooperation that gives numerous opportunities to meet, to cooperate and start initiatives.

Unfortunately, we now face the stepping out of one important player in the European OSH policy. The UK is no longer on board. Of course, one could analyse the role of the UK government in EU OSH policies over the last two decades (or even over a longer period) and would find that the UK authorities acted as a brake shoe. Having said that, EU policy has strongly influenced the situation in the UK and OSH experts, unions and other stakeholders from the UK were a driving force for progress and equipped with excellent expertise in many debates, processes and actions. Having this in mind and having in mind workers' interests in the field of occupational safety and health, it would be best to end up with a Brexit agreement that keeps the UK on board in as many structures as possible dealing with workplace health and safety policies.

Rolf Gehring

Ulrik Spannow, Chair of the EFBWW Co-Ordination Group on occupational health and safety

STOP WORK-RELATED CANCER: REVISION OF THE CARCINOGENS AND MUTAGENS DIRECTIVE

After years of hesitation, the European Commission wishes to revise the Carcinogens and Mutagens Directive. As strong regulation will save lives, trade unions have welcomed the initiative in general. Unfortunately, the ambitions of the European Commission and the European Council seem to be too low. In this article, the EFBWW calls for a stronger roadmap to the elimination of carcinogens at the work place.

Construction workers suffer from a variety of substances with carcinogenic potential, including respirable crystalline silica (RCS), asbestos, wood dust, diesel engine exhaust, and welding fumes. Other common chemical substances that may cause cancer include bitumen and formaldehyde.

Facts about cancer caused by work

- With more than 100,000 deaths/year, cancer is the number one work-related killer in the EU 28
- 53% of all work related deaths are caused by occupational cancer
- 50 carcinogens account for more than 80% of all exposure cases at work
- Today, only 5 occupational exposure limit values have been adopted at EU level

Almost 1 in 5 workers in the EU is routinely exposed to carcinogens. 50 carcinogens account for more than 80% of all exposure at work. In Europe, every year more than 100,000 workers die because of work related cancer. Between 4% and 8.5% of the total number of cancers is attributable to occupational exposure. Annually, 53% of occupational deaths are attributed to cancer.

Directive aiming at protection

The EU Carcinogens and Mutagens Directive (CMD) aims to protect workers from the risks related to exposure to carcinogens or mutagens at work. The directive sets out minimum requirements, including binding occupational exposure limit values.

For years, trade unions, some member states and the European Parliament have been urging the Commission to take legislative initiatives on cancer. After a long run-up, the European Commission has finally taken an important step to open and revise the CMD.

In March 2014, a strong message was sent to Commissioner László Andor from the Dutch Minister of Social Affairs and Employment and his colleagues from Austria, UK and Germany. The four ministers urged the Commission to update the CMD and recommended to establish a basic set of 50 high quality binding limit values in the CMD by 2020. It was claimed that the selection of 50 substances could count for more than 80% or 90% of all exposure situations.

The year after, in 2015, the Council of Ministers agreed to urge the Commission to improve the regulation on carcinogens and mutagens by assessing the existing limit values of the CMD and adding new ones. Also in 2015, the European Parliament in a resolution invited the Commission to amend the CMD and to add new binding limit values.

Commissioner Marianne Thyssen announced the year after - in May 2016 – that a sound legal framework on carcinogens is crucial for the successful protection of workers whilst it also provides a level playing field for the economic activities of companies. Thyssen announced to add 25 limit values in the CMD in 2016, to reach a total number of 50 limit values in the Directive by 2020.

The Commission initiative on amending the CMD has so far been divided into three batches. The first batch was tabled in 2016, the second in 2017 and a third batch is envisaged in early 2018.

As the CMD goes back to 1990 and has only been updated a few times, the initiative of the Commission has been welcomed by European trade unions including the EFBWW. The EFBWW is now calling for a strong Directive, as the existence of legal obligations is a main driver for companies to prevent work-related risks.

1st batch

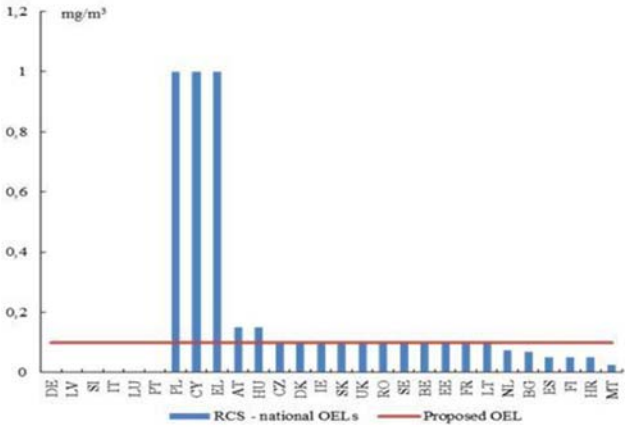
The Commission's first batch from May 2016 proposes to introduce 11 new limit values and to lower two existing values in the CMD. The 13 substances covered by the proposal include respirable crystalline silica (RCS), hardwood dust, chromium (VI) compounds, acrylamide and refractory ceramic fibres.

RCS

It is estimated that 5,300,000 EU workers are potentially exposed to RCS, more than 70% of them in the construction sector. The Commission has proposed a limit value for RCS to be set at 0.1 mg/m³. According to the Commission's impact assessment, such a limit value would result in 98,670 less deaths in the period 2010-2069 as compared to the current situation.

The EFBWW is very pleased indeed with the idea of including RCS in the Directive, but we find the proposed limit insufficient. The trade union federations of ETUC, IndustriAll and ETUC are in a joint position calling for limit value of 0.05 mg/m³ after a less protective value of 0.1 mg/m³ during a transition period of maximum 10 years. The 0.05 mg/m³value is already in force in some countries in Europe.

Respirable Crystalline Silica (RCS) - Current national OELs vs. proposed EU OEL



Source: European Commission, Fact Sheet, 13 May 2016, fig. 5

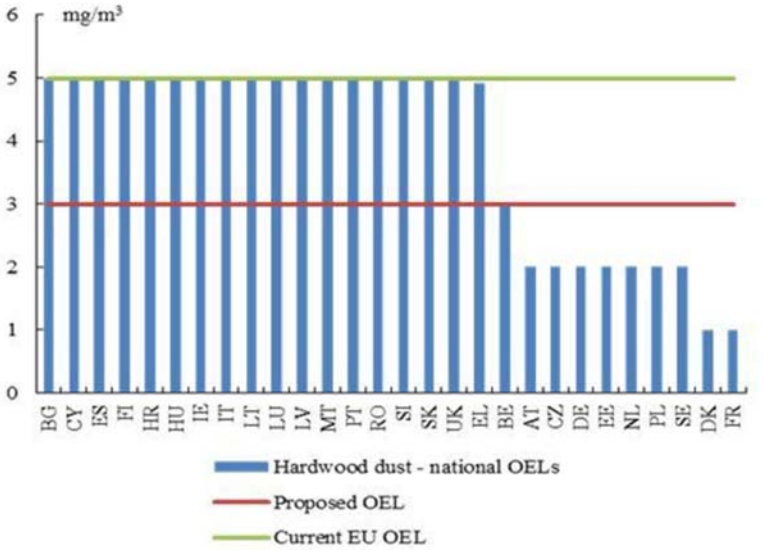
Wood dust

Wood dust is another key substance for workers in the construction and in the wood working industry. Over three million EU workers are potentially exposed to hard wood dust, mainly in the wood working industry, furniture manufacturing and construction sectors.

The Commission has proposed to reduce the existing limit value for hard wood dust from 5 mg/m³ to 3 mg/m³. This value is insufficient in the view of the EFBWW as it does not reflect existing technical possibilities for the prevention of the carcinogenic dust. In this case, a limit value of 1 mg/m³, applicable for all types of wood, has been recommended by the EFBWW to protect workers.

In the Impact Assessment of the Commission, it is considered that the EU industry is already compliant with an exposure limit of 3 mg/m³ for hardwood dust, and that no additional significant costs for firms are expected.

Hardwood dust - Current national OELs vs. proposed EU OEL



Source: European Commission, Fact Sheet, 13 May 2016, fig. 3

Co-decision procedure

The revision of the CMD must be decided upon by the Council and the European Parliament (EP) by using the so-called Ordinary legislative procedure ('co-decision'). The Council reached a general approach on 13 October 2016 and decided to maintain the limit values as proposed by the Commission. Some Member States expressed concerns about the limit value of Chromium VI, which was not considered ambitious and protective enough.

Progressive line in the European Parliament

The EP took a stand on the first batch on 7 March 2017. The EP resolution calls for stricter limit values for a number of substances including RCS and wood dust:

- **RCS:** The EP calls for a limit value of 0.05 mg/m³ (instead of 0.1 mg/m³)
- **Wood dust:** The EP does not wish to distinguish between hardwood dust and softwood dust, and considers

that the limit value of 2 mg/m³ should constitute the EU's common limit value (as mentioned, the Commission proposed a limit value of 3 mg/m³ for hardwood dust)

The EFBWW supports the view of the EP on RCS, and finds that the wood dust value agreed by the EP is an important first step in the right direction. Unfortunately, the trialogue between the Commission, the Council and the EP has found it difficult to find a common position between the EP and the Council.

Once the CMD is decided upon by the decision makers, the revised directive will be transposed into national legislation. To support the transposition into practical prevention measures at the work places, the EFBWW intends to take part in some implementation projects as part of the European social dialogue in the construction industry as well as in the wood and furniture industries. The implementation projects may especially cover RCS and wood dust, and may include good examples, guidelines and workshops.

Reprotox

It is estimated that more than 1700 reprotoxic substances are on the market in the EU and that 2-3 million workers in the EU are exposed to reprotoxic substances. As many reprotoxic substances are as hazardous as mutagens or carcinogens, EFBWW finds it relevant to include reprotoxic agents into the CMD. Also the EP suggests broadening the scope of the Directive to allow for the inclusion of reprotoxic substances. Unfortunately, the Council does not seems to share the view of the EP. One may wonder why reprotoxic substances are regulated so poorly in the OHS directives in Europe? Caring for the reproductive ability of men and women and the health of the children of tomorrow should be high on the agenda of the European Union.

2nd batch
In January 2017, the Commission tabled a 2nd batch consisting of 5 new substances to be included in the CMD. On top of this, skin notations were added to a few substances. For the construction industry, the amendments regarding 'used engine oils' and 'complex PAH mixtures with benzo[a] pyrene as an indicator' are of high interest. Unfortunately, no limit values have been set for these two carcinogens. The EFBWW supports used engine oils being added with a skin notation. We also support adding a skin notation to the complex PAH mixtures, but regret that no limit value is proposed.

The positions on the 2nd batch in the Council and the EP are both expected in 2017. Thereafter the trialogue process will start to find a common position and to achieve a formal decision.

3rd batch
The 3rd batch is expected to be tabled early 2018. As 50 limit values are meant to be included in the CMD by 2020, and as the Commission is behind schedule by now, high expectations are linked to the 3rd batch. The EFBWW calls upon the Commission to propose much more limit values to safeguard the health of the millions of workers in the construction and wood industries.

Formaldehyde is of high concern in construction and in the wood and furniture industries, as formaldehyde is classified by IARC as a human carcinogen (group I). Formaldehyde affects in total probably nearly 2,000,000 workers. In 2016, the ETUC and federations representing producers of formaldehyde based products made a common request to the Commission, calling for the inclusion of a limit value for formaldehyde of 0.3 ppm in the CMD. Due to this request, one may expect that formaldehyde will be included in the CMD.

Diesel engines are heavily used in mobile machinery in the construction industry. The EFBWW is indeed calling for the inclusion of diesel engine exhaust emissions into the CMD. IARC has classified diesel engine exhaust emissions as carcinogenic to humans (group 1). It is estimated that some 4,000,000 workers in Europe are regularly exposed to diesel emissions and many more are exposed temporarily.

EFBWW finds it important to add limit values to the CMD for other carcinogenic substances that are present in the construction and wood sectors, including creosotes, solvents such as dichloromethane and nanomaterials such as Carbon Nano Tubes.

Roadmap to health

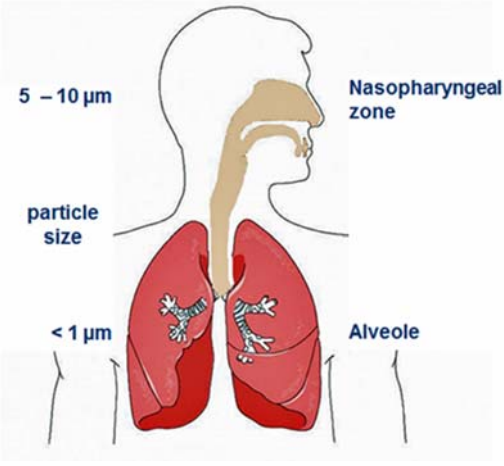
It is evident that construction workers face a potential risk of being exposed to carcinogens at work. Often prevention is not sufficient. For construction and wood workers, it is important to keep up the momentum on revising the CMD. With regulation as a main driver for prevention, we really need the Commission to make proposals for a wide range of carcinogenic substances. The Council and the EP should always reach out for high standards on the protection of workers from risks related to carcinogens at work – standards based on technical and social development and taking the highest standards of protection in the Member States into account.

Reinhold Rühl

BANNING DUST FROM WORKPLACES IN CONSTRUCTION

Dust in the workplace is often viewed as a painful reality, whether it is the dust in the office, the dust in the quarry, in agriculture or at construction sites. Especially on construction sites many different and very dangerous dusts occur. Diseases caused by dust from asbestos, wood and quartz dust are testament to these dangers and the high exposure on construction sites. However, there are cost-effective techniques that can be used to perform with low dust, sometimes even dust-free.

Dust - small and mean



The problematic dusts are those that are not seen. Dust particles are inhalable if they are smaller than about 10µm. Dust particles smaller than 1 µm can reach the alveoli (Fig. 1) and can cause chronic damage. Visible dust contains particles of this size, but alveolar dust is also present when nothing is visible.

Figure 1: The smaller the dust particles, the deeper they enter the body

This dust is only visible in direct sunlight. Everyone knows the experience that small dust particles can be seen where the sun shines into the room. Of course, these particles are everywhere in the room, not just where the sun's rays invade.

These very small dust particles are not only invisible, they also sink very slowly to the ground. Dust particles of 1 µm need

almost 7 hours to fall by 1 m (Fig. 2). When dust is whirled up (drilling holes, sweeping, etc.), the dangerous small dust particles have to be inhaled for hours.

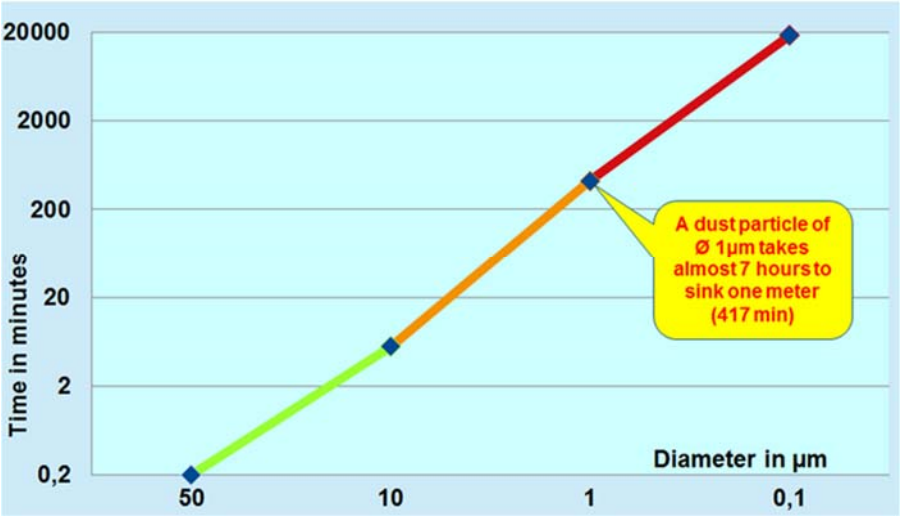


Figure 2: How fast do dust particles drop off?

In 2014 the workplace limit value (AGW) for alveolar dust (A-dust) was reduced to 1.25 mg / m³ in Germany. The aim of this AGW for A-dust is the avoidance of chronic, particle-induced inflammatory processes in the lung, which also prevents the development of lung tumors observed in animal experiments with rats. Together with environmental-medical data, the information obtained in occupational medicine studies shows that even very low dust loads can cause not negligible effects (AGS*, 2014).

Dust on construction sites

On construction sites, mixing dusts are almost always present. These can include numerous problematic substances (Figure 3). Quartz dust is almost always present (Fig. 4). In 2002, activities with quartz dust in Germany were classified as carcinogenic, a decision that was taken much earlier in many

other European countries. In 2016 the Senior Labour Inspectors' Committee published a guidance for National Labour Inspectors, addressing risks to workers exposed to respirable crystalline silica (RCS) on construction sites: "Respirable crystalline silica (RCS) is one of the substances with the highest respiratory health risk to construction workers, together with asbestos" (EU Commission, 2016). This makes clear how dangerous quartz dust is; alongside asbestos, it is one of the substances with the greatest health risk.

Asbestos	carcinogenic
Lead	teratogenic
Diesel engine emissions	carcinogenic
Hardwood (oak, beech)	carcinogenic
Other woods	suspected carcinogen
Ceramic fibres	carcinogenic
Old mineral wool insulation materials	suspected carcinogen
Quartz	carcinogenic

Figure 3: Dust on construction sites

Since mid-2015 there has been an assessment criterion for quartz dust (0.05 mg/m³; AGS 2015) in Germany. However, it cannot be assumed that there is no longer a health risk when it is observed. It must therefore also be minimized below 0.05 mg/m³.

Sandstone, quartzite, flint	more than 70%
Concrete, mortar	25% to 70%
Shale	40% to 60%
China stone	up to 50%
Tile	30 to 45%
Slate	up to 40%
Granite	up to 30%
Brick	up to 30%
Basalt, dolerite	up to 5%

Figure 4: Crystalline silica concentrations in common materials (COSHH, 2006)

In the USA, the workplace limit value for quartz dust was reduced from 0.1 mg/m³ to 0.05 mg/m³ (50 µg/m³) in 2016. In this context, the US Occupational Safety and Health Administration (OSHA) explained:
"The Occupational Safety and Health Administration (OSHA) has issued a final rule to curb lung cancer, silicosis, chronic obstructive pulmonary disease and kidney disease in America's workers by limiting their exposure to respirable crystalline silica. The rule is comprised of two standards, one for Construction and one for General Industry and Maritime.
OSHA estimates that the rule will save over 600 lives and prevent more than 900 new cases of silicosis each year, once its effects are fully realized. The final rule is projected to provide net benefits of about $7.7 billion, annually.
About 2.3 million workers are exposed to respirable crystalline silica in their workplaces, including 2 million construction workers who drill, cut, crush, or grind silica-containing materials such as concrete and stone, and 300,000 workers in general industry operations such as brick manufacturing, foundries, and hydraulic fracturing, also known as fracking. Responsible employers have been

protecting workers from harmful exposure to respirable crystalline silica for years, using widely-available equipment that controls dust with water or a vacuum system."

With the assessment criterion for quartz dust the results of the many quartz dust measurements of BG BAU can be evaluated. Thousands of measurements are assigned to activities and the measured A dust and quartz dust concentrations. Table 1 shows some results of the evaluations of the measurement data of BG BAU.

Table 1:
Exposure to A dust and Quartz dust on construction sites without protection measures (unless otherwise stated 95% values of the respective data collectives)

	A-Dust		Quartz-Dust	
Limit values	1.25 mg/m³	**values**	0.05 mg/m³	**values**
Pavement, cut dry	19.2 mg/m³	10	up to 5.7 mg/m³	9
Drywall, grind	28.9 mg/m³	32	0.2 mg/m³	14
Dry sweeping	8.4 mg/m³	33	0.4 mg/m³	33
Drilling in concrete	7.0 mg/m³	18	2.2 mg/m³	18
plaster cut off	12.5 mg/m³	13	0.8 mg/m³	13
Chiselling	9.3 mg/m³	56	0.8 mg/m³	56
Drill bit for socket outlets	up to 8.0 mg/m³			
stonemasonry, grinding	up to 10.1 mg/m³	8	up to 2.2 mg/m³	8
stonemasonry, cutting	up to 8.8 mg/m³	11	up to 3.4 mg/m³	11

Occupational diseases caused by dust

Table 1 shows that very high concentrations of quartz dust and A dust are present on construction sites. It is therefore not surprising that a declining trend in quartz-related diseases is not apparent in construction companies insured with BG BAU. Almost 100 new cases of silicosis, silico tuberculosis and lung cancer caused by quartz dust (Figure 5), as well as about 30 deaths per year are recorded.

The majority of construction companies are members of BG BAU. But construction activities are also insured with other accident insurers: the electricians, half of the heating, plumbing and air conditioning companies, half of the stonemasons, half of the demolition companies, many temporary workers, the municipal authorities. With regard to all construction jobs, the number of cases reported in Fig. 5 is about 130 new cases and about 40 deaths per year due to quartz-related diseases.

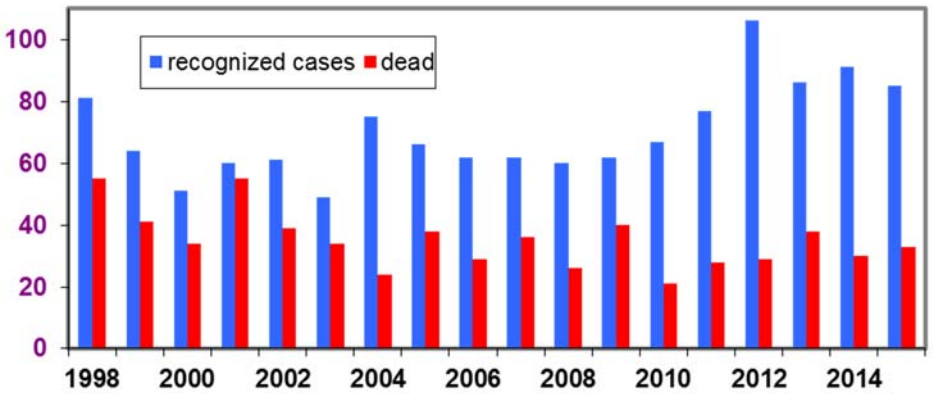


Figure 5: Crystalline silica-related occupational diseases at BG BAU (silicosis, silico-tuberculosis, lung cancer; BK-DOK)

In the case of asbestos-related occupational diseases (Fig. 6), a declining trend is expected in the coming years. The cause for the many diseases are not current exposures, but because of

the long latencies of up to 40 years attributable to very high exposure until about 1985. However, in Germany and Switzerland, high current asbestos exposures are known. In the case of unprotected use of asbestos-containing plasters, tiles and fillers, up to 4 million asbestos fibres /m³ have been measured, above 1 mg/m³ quartz dust and A dust above 9 mg/m³ (Scherer, 2016).

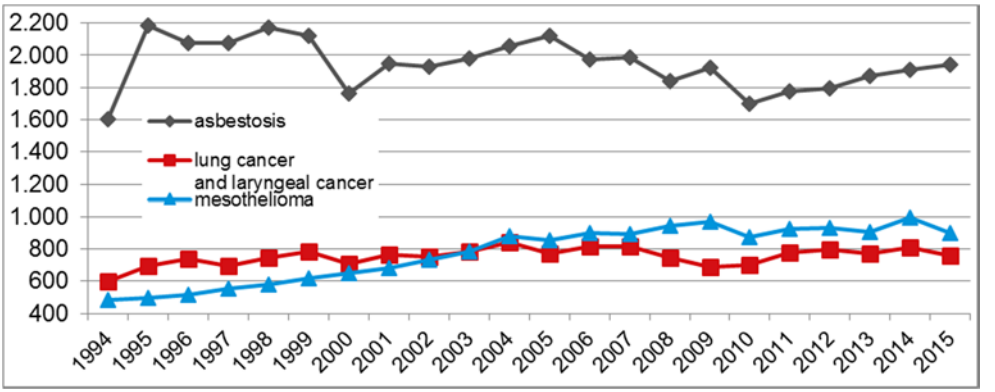


Figure 6: Asbestos-related occupational diseases in Germany (BK-DOK)

The number of adenocarcinomas, the cancer of hardwood dusts, has been increasing for years (Fig. 7). This is probably less a sign of rising exposure, than a reference to increasing sensitivity to this illness on the part of physicians. The latencies for the adenocarcinomas as well as for the quartz-related diseases are over 30 years.

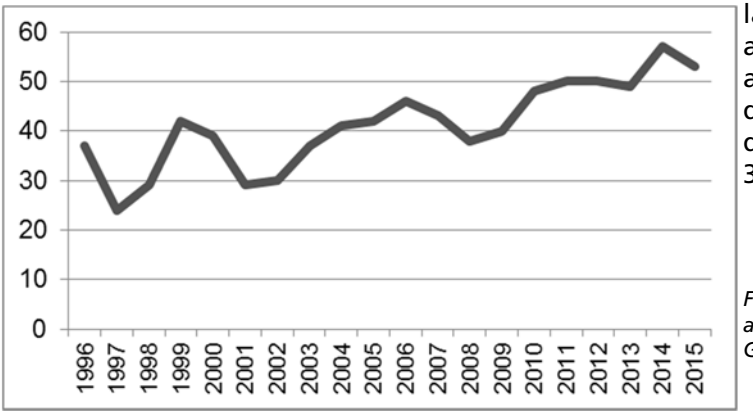


Figure 7: Occupational adenocarcinomas in Germany (BK-DOK)

Solutions for practice

Dust-free work on construction sites is possible or at least low-dust working. The techniques for drilling without dust, for grinding and cutting with little dust and even for almost dust-free demolition of plaster exist. There are a multitude of low-dust techniques for construction sites (Table 2) and working on construction sites is only allowed when using these techniques. The "basic equipment" - Sucked off hand-held hand tools, construction dust extractor, air cleaner (fig. 8) - is already available for below 3,000 euros and allows dust-free working on many construction sites. Almost all hand-held machines (demolition hammer, milling, etc.) can be equipped with a suction device. When connected to a construction dust extractor, work is virtually dust-free.

Table 2: Low-dust techniques for construction sites

•	Construction dust collector, dust class M
•	Air cleaner
•	pre-separator
•	Sucked off hand-held hand tools (like demolition hammer, sander, grinding machine)
•	Driller with integrated exhausting systems
•	Abraded fox-cut saws
•	One way container

Construction dust collectors can be used to suck up dust and to suck off hand-held hand tools. Construction dust collectors are not normal dust collectors, but have features that are particularly required on the construction site, among others:

- approved for dust class M (EN 60335-2-69, Annex AA);
- Cables in H 07 RN-F - Equipment (up to 4 m cable also H 05 RN-F);
- washable filters (PES filters);

- moisture-resistant fleece removal bag or plastic disposal bag;
- fully automated filter cleaning;
- robust chassis.

Dust cannot always be avoided. Thus, even with a sucked-off demolition hammer, some dust will still be released during the removal of tiles or plaster. Here air cleaners are used. Air cleaners are basically nothing else but suction systems, a filter makes the air "dust-free". The exhaust air is normally directed into the open air. Numerous tilers use these air cleaners already and can advertise with the slogan "we sanitize your bath dust free".

Figure 8: Sucked off hand-held tools (here a demolition hammer), construction dust collector and air cleaner. To meet requirements, the minimum equipment with low-dust techniques does not even cost 3,000 euro for each enterprise

In the case of a higher dust concentration, higher efficiency dust collectors should be used. They are more powerful than the normal construction dust collectors, both in terms of the suction force, as well as in terms of the maximum quantity which fits into the dust collector.

Finally, more pre-separators come to the construction sites, primarily for large amounts of dust. They are used for

instance during parquet grinding between the suction nozzle and the construction dust collector. The bulk of the dust collects in this pre-separator. The advantage is that the construction dust collector and its filter are less stressed. The dust collected can be removed from the pre-separator and a new collecting bag can be inserted again.

Suction drills are a symbol of dust-free working. Conventional drills have a drilling helix for the extraction of drilling dust from the hole. In contrast, suction drills have a largely smooth cylinder shaft and openings at the tip, through which the dust is sucked off via a coupling attached to the rear part of the drill and the construction dust collector connected to it (Fig. 9). The dust of drill holes, for example for dowels, is thus removed at the point of origin and blow-out of the borehole is not necessary.

Figure 9: Suction drill

References

- AGS, 2014: Begründung zum Allgemeinen Staubgrenzwert (2014/2001) in TRGS 900. www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/pdf/900/900-allgemeiner-staubgrenzwert.pdf?__blob=publicationFile&v=2
- AGS, 2015: Begründung für den Quarz-Beurteilungsmaßstab www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/pdf/900/Quarz.pdf?__blob=publicationFile&v=2Begründung
- BK-DOK: Berufskrankheiten-Dokumentation der Unfallversicherungsträger - Occupational diseases documentation of the accident insurance institutions. www.dguv.de/en/facts-figures/ods/index.jsp

- COSHH: COSHH essentials in construction: Silica, 10/2006; www.hse.gov.uk/pubns/guidance/cn0.pdf
- EU Commission: Guidance for National Labour Inspectors on addressing risks from worker exposure to respirable crystalline silica (RCS) on construction sites. Senior Labour Inspectors' Committee (SLIC); October 2016; https://osha.europa.eu/en/highlights/respirable-crystalline-silica-construction-sites-new-european-guidance-labour-inspectors
- OSHA, 2016: Federal Register / Vol. 81, No. 58 / Friday, March 25, 2016 / Rules and Regulations; DEPARTMENT OF LABOR, Occupational Safety and Health, Administration
- Scherer, Stefan: Erfahrungsbericht Schweiz: Staubende Arbeiten an asbesthaltigen Fliesenklebern. SUVA, Bereich Chemie; 3. Erfahrungsaustausch „Asbest", 15. Juni 2016, BAuA, Dortmund
- TRGS 559: Technical Rules for Hazardous Substances 559: Mineral Dust. GMBl 2010 Nr. 22/23; 459-493 (9.4.2010); https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/TRGS-559.html

EFBWW ASBESTOS CAMPAIGN
Project on asbestos registries launched

Stephen Schindler

Despite the ban on its production and use in the EU, asbestos continues to pose a significant health threat to workers in the construction sector as long as it remains a part of the existing building stock in the EU. This is particularly concerning when it is not identified or is just ignored during the course of consecutive renovations, leaving a hidden killer behind. Considering the relatively low rate of asbestos removal in the EU today, the annual death toll of an estimated 47,000 lives will not decline significantly any time soon. To put things into perspective, this number is greater than the toll on human life through traffic-related deaths of 25,000-30,000 a year. Yet public awareness is dwindling and knowledge about the dangers of asbestos is fading as older workers retire and a new generation with little experience of the dangers of the substance take their place.

Although the EU established a legal basis for the protection of workers in EU directive 2009/148/EC "against risks to their health, including the prevention of such risks, arising or likely to arise from exposure to asbestos at work", the transposition in many Member States is insufficient. Whereas the directive clearly states that "before beginning demolition or maintenance work, employers shall take, if appropriate by obtaining information from the owners of the premises, all necessary steps to identify presumed asbestos-containing materials", this obligation is often insufficiently applied in Member States. It may be limited to workers in specialised asbestos removal companies, especially with regard to training, while for instance, roofers, painters or electricians are often not covered by these precautions and remain largely unprotected.

This situation is further complicated by the fact that identifying asbestos-containing products can be a tricky

business. Sometimes they can be easily detected and located in plain sight, such as in the case of asbestos-cement roofs. All too often though they remain hidden in virtually every part of a building or structure, such as its flooring, windows, insulation and heating and cooling systems. This puts workers conducting maintenance, renovation or demolition at risk of exposure to asbestos fibres on a regular basis, yet they are often unaware of the dangers and in many countries lack the necessary awareness training and safety precautions. In recognition of this significant danger to workers in the construction sector, asbestos has been a priority for the EFBWW (European Federation of Building and Wood Workers) in recent years. The EFBWW has addressed a range of different aspects pertaining to awareness raising, a better legal framework, asbestos related occupational diseases and their compensation, and registration of asbestos in buildings. So far, the efforts of the EFBWW have already covered a wide range of activities, such as advocacy towards policy makers in the European institutions, a stakeholder conference in 2015 at the European Economic and Social Committee, and projects funded by the European Commission. Examples of previous project activities include data collection on asbestos related occupations in Central and Eastern European countries to fill the gap left by a previous study on the situation in Western Europe, as well as a social partner project to develop asbestos awareness modules together with the employers' federation FIEC. The modules were designed for workers who may encounter asbestos unintentionally during the course of for example maintenance, renovation or demolition. The main purpose was to contribute to raising sensitivity to the dangers and providing examples of possible locations of asbestos.

Awareness training is highly important as it is the only way for workers conducting maintenance, renovation or demolition tasks to identify potential sources of asbestos visually in order to protect themselves. Nonetheless, it is of utmost importance for building owners and employers to acquire reliable information about the presence of asbestos

and other harmful substances prior to commencing work, for example through pre-demolition and pre-renovation audits or consulting registries for harmful substances. This is necessary to protect workers and inhabitants as, once released, asbestos fibres cannot be detected without technical equipment. Unfortunately, in practice this is not done consistently.

Registries can be a cost efficient preventive measure where they exist, or even serve as an incentive to facilitate removal. The city government of Hamburg, Germany for instance conducted the project "Hafenkante" to map harmful substances in an entire district of the city and subsequently facilitating the removal of asbestos and refurbishing the neighborhood. Overall however registries remain underutilized by companies and workers' representatives. One reason for this is that they are sometimes not publically available, for example in the case of registries that were established by finance ministries' to assess the cost of removal.

Recognizing their potential, the European Parliament resolution on asbestos related occupational health threats and prospects for abolishing all existing asbestos (2012/2065 (INI)) calls on the Commission and Member States "to develop, implement and support a model for asbestos screening and registration in accordance with Article 11 of Directive 2009/148/EC, and the European Economic and Social Committee proposed similar measures in its opinion on Freeing the EU from asbestos (CCMI/130). The EFBWW has a similar view and would like to see publically available registries for harmful substances established at the appropriate administrative level everywhere in Europe.

Many Member States already feature registries for harmful substance at different administrative levels (state, regional or local; e.g. national asbestos registry in Poland, and local government project Hafenkante in Hamburg, Germany), and many providers offer expert services for the assessment and

lab analysis of harmful substances in buildings. Currently company and trade union representatives often lack awareness of these instruments and knowledge of where to find this information and how to access it in accordance with the European Parliament Resolution suggesting the need to "ensure that such information is available to workers who may disturb such materials."

In order to fill this knowledge gap, the EFBWW applied for EU project funding to conduct a mapping exercise and to develop a guide for trade union representatives on how to use them as a preventive health and safety tool. After the project was accepted, data collection began in the spring of 2017. The research is conducted by the Kooperationsstelle Hamburg IFE, which will gather available information about existing registries for harmful substances as well as additional information about alternative detection measures (e.g. in the form of pre-renovation and pre-demolition audits) that can help to promote or strengthen a preventive health and safety culture in companies. Once the empirical data collection is completed, the information will be compiled in a guide. This is intended to equip trade union representatives with knowledge about existing systems that they can apply to protect workers on the ground, as well as to enable an informed discussion in negotiations with their employers in the context of industrial relations and to improve existing health and safety management.

In summary, the project aims to further develop trade union capacities to tackle health and safety threats in the construction sector with regard to asbestos and other harmful substances. The results of the research will be compiled in a guide on different asbestos registration models in Europe, including practical information on how to access and use information and expert services.

Unlike awareness raising campaigns and information material, designed as a 'last line of defense' the current

project is meant to enable trade unions in the construction sector to:

- intervene at an early stage, before commencement of, for example, renovation, maintenance or demolition work, and
- identify harmful substances such as asbestos through existing resources such as registries for harmful substances and the services of experts.

Given high workforce mobility in the construction sector within the internal market, there is a distinct added value in mapping systems of registration in Member States of the EU to enable trade union representatives to take the necessary steps to address this health and safety issue in companies and protect their colleagues from the risk of asbestos exposure. Last but not least, the mapping exercise of existing registries in Europe can become a basis for policy makers at EU and Member State level to compare and develop solutions in order to establish registries, where these do not already exist, as well as to use them more effectively to facilitate national asbestos removal strategies.

Fabio Strambi, Massimo Bartalini, Stefano Boy, Claudio Stanzani

THE FEEDBACK METHOD – A STANDARDIZED METHOD TO GIVE WORKERS A VOICE

Introduction

The Technical Report CEN– TR 16710-1 "Feedback method - A method to understand how end-users perform their work with machines", was approved by CEN on 17 November 2015 and published on 14 December of the same year. The report has been drawn up by the Technical Committee CEN/TC 122 "Ergonomics" and prepared with regard to Cen/CLC Guide 17 "Guidance for writing standards taking into account micro, small and medium-sized enterprises (SMEs) needs". It represents part 1 of the standard EN 16710, which consists of two parts under the general title "Ergonomics".

The publication of this Technical Report can also be considered as a significant step towards the possibility of carrying out cooperative projects for the benefit of the engineering industry, social stakeholders, OHS Bodies, public authorities. The "Feedback Method" has been designed specifically to collect the contribution of the end users of machinery for reconstruction and understanding of how the work is actually performed. The acquired knowledge can help to improve technical standards, as well as the design, manufacturing and use of machinery.

The standardization process does facilitate the direct participation of end users and we risk losing an important opportunity to improve the application of ergonomic principles in technical standards. The "Feedback Method" enables gathering the direct contribution of end users, to provide information and suggestions to standard makers (technical committees and working groups of the CEN), designers, manufacturers, and also to employers for the improvement of standards and health and safety at work. The activity of RLS (Safety Workers Representatives), Labour

Inspectors and Market Surveillance Authorities may also benefit from the knowledge acquired by applying the Feedback Method.

The seven main steps of the "Feedback Method" may be summarized as follows:

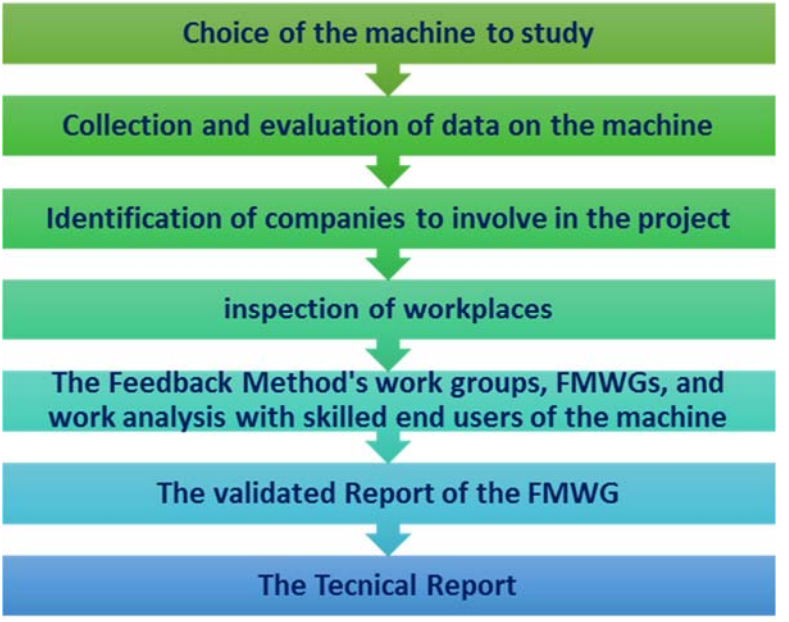


Fig. 1: "Feedback Method" flow chart.

Choice of the machine to study and collect and evaluate data on the machine

The Feedback method is applied whenever stakeholders identify a machine and a corresponding harmonised standard that merits closer examination and analysis. The first step of the method is to collect any available technical documentation on the machine under review: harmonized standards, safety guidelines, accidents or undesired events etc…

Identification of companies to involve in the project and inspection of workplaces
After identifying the district and the production sector where the method is to be applied, safety experts/ergonomists select the companies/enterprises to be inspected and where skilled machine users will be recruited; trade unions and employers associations help with this step. Inspections are carried out by using forms containing the following elements: general company data; description of working environment as well as relevant working methods; characteristics of the machines used; information about accidents and near misses etc. This information will be used during the ergonomic analysis of the work, carried out in working groups.

The Feedback Method Work Groups (FMWGs) and work analysis with skilled end users of the machine
Working groups (FMWG) are then formed, each made up of 5 to 9 skilled end users These reconstruct work activities in detail and then carry out a systematic analysis of each work activity/phase. The facilitators (researchers, ergonomists...) encourage the active participation of all the participants with the help of the reported Feedback Method sheet, Tab. 1 (see right).

The validated report and the technical report
At the end of the meeting, the facilitators write a draft of the final report that is submitted to all participants. Once all participants have validated the draft, a final report on the study and a technical proposal for the amendment of the standards is prepared. Suggestions for designers, manufacturers, employers-buyers, end-users, safety workers representatives, labour inspectors and market surveillance authorities are also drafted.

Tab. 1 - "Feedback Method" sheet used by the work group

Sequence of tasks/ activities	Operating Procedure	Competence	Critical aspects: hazards/risks; disorders/ diseases/ injuries.	Solutions, suggestions for prevention; need of further research
1).....	*[Detailed description of each action, procedure and method of executing each task/ activity, with information on the equipment used, safety devices and personal protective equipment (PPE)...]*	*[Information about the competence required for: (1) optimal execution of the task/activity and each action (use of equipment; choice, use, and handling of materials); (2) the organisation and disposition of work/ workplace and layout and environment; (3) understanding and applying the instruction handbook]*	*[Identification of: (1) the critical aspects affecting the health and safety of workers or limiting the efficient performance and reliability of tasks and actions; (2) every hazard and risk; (3) intrinsically safe machinery and equipment; (4) awkward postures, incorrect work practices, environmental conditions (microclimate, dust lighting, layout, etc.); (5) fatigue, complaints, occupational diseases, accidents or injuries; (6) work related stress or problems linked to organizational aspects (rhythm, shifts, etc.).]*	*[Identification of solutions/suggestions on how to eliminate or minimize the identified problems, hazards and risks and apply the relevant ergonomic principles to: machines, equipment, safety devices, PPE, work procedures, work organisation, environment, etc.;* *Guidance on: Training, Inspection, Instruction handbooks.* *Proposals for further research to find new solutions]*
2).....				

Results obtained by the application of the Feedback Method

The Feedback method has up to now been applied successfully to different types of machines (Tab. 2), marked "CE" and manufactured according to the associated "C" standards (if available) in collaboration with public authorities, market surveillance bodies, social partners organization and technical institutes, involving many EU member states.

Tab. 2: "Feedback Method" application.

"Feedback method" application						
Machinery	Country	Enterprises	Users	Feedback working group	N. machinery	years
Woodworking machinery 	1	14	28	4	58	2000-2001
Forklift 	5	45	60	11	1658	2003-2004
Angle grinde 	1	19	19	3	85	2005
Telehandler 	5	35	35	5	39	2006-2008
Combine harvester 	4	46	110	6	117	2009-today
Tractors 	1	74	110	7	87	2012-today

Some examples of the main results obtained are published [1] and reported on the Ergomach website (https://ergomach.wordpress.com). One of the most interesting machines represented in the construction sector is the

telehandler, used in almost all the member states in different contexts of production, environment and work organization. Many critical aspects have been observed from the use of the telehandler and a specific project was designed to acquire more information about this machine and its relative standard, EN 1459-1: 2012, by using the Feedback Method. The project involved a qualified group of technicians, ergonomists, researchers and expert users of the machines in 5 different member states as synthetized in the following table, Tab. 3:

Tab. 3 - Telehandler project

Type of machine	C standard	Countries	Factories	Users	Feedback Working groups	Machines	Period
Telehandlers	EN 1459-1:1998	I, UK, FIN, S, D	35	35	5	39	2006-2008

In each country a FMWG analyzed the telehandler (machine and real work activities performed with the telehandler) following the process provided by the FM sheet step by step. Examples of activity description with Telehandlers are reported in Tab. 4, from the WG of Italy, Florence.

Tab. 4 Telehandlers working groups, Florence, Italy: Work activity: preliminary operations

Sequence of tasks	Operating procedure	Competence	Hazards/risks critical aspects	Suggestions for prevention
Sitting in the drivers' cab	The operator, once seated, adjusts the height and depth of the seat. In some models, it is also possible to adjust the suspension to the operator's weight	Knowledge of the position of the seat-adjusting controls	If the seat is not adjusted, the driver's position may not be ergonomic and may increase the exposure to vibrations	Requirement for the manufacturer to report the exposure to vibrations under normal conditions of use (relative to the type of terrain on which the vehicle can operate)

	Adjustment of the rear-view mirrors	The adjustment is carried out manually and help from a colleague is needed to adjust some mirrors that are far from the cab	Even with well-placed rear view mirrors, blind angles remain, thereby increasing the risk of collisions and accidents	Install rear-view mirrors that can be adjusted from the driver's cab to provide full visibility around the vehicle
	Use of holding systems on the driver's seat - safety belt buckled at the waist (users have reported the need to get up and get out of the vehicle very frequently during normal work. This is not conducive to the use of safety belts).	Knowledge of how to use the belt and awareness of the need to use it when the vehicle is moving	Risk of more serious accidents in case of collision and overturning	Because the safety belt buckled at the waist gives workers the impression that they are not properly seated in the driver's cab, it has been proposed to use belts buckled on the chest. Or, as an alternative, to adopt other systems for securing the driver. However, such systems must be easy to use

Some relevant suggestions from the FMWG to improve the aspects related to the ergonomics, health and safety of the user and productivity of the telehandler are:

- Controls are needed on the speed, based on the variation of the inclination/height of the arm and the loading unit, fixing maximum limits that exclude the risk of overturning under the conditions foreseen by the manufacturer.
- Indicators must be made compulsory for inclination (lateral and longitudinal, on both axes of the vehicle), on the load in the forks, on the pressure in the tyres, etc.
- Adoption of alarm signals to warn that the vehicle and the load are in danger of overturning or of losing stability
- Better solutions must be proposed to solve the problems linked to the safety belts' design and use.

Another main aspect highlighted by all the FMWGs and reported in Tab. 6, is a lack of visibility in all the telehandlers actually available on the market.

Tab. 5: Extract from the sheet compiled by the "Feedback Method" Work Group - Telehandler – Visibility

Sequence of tasks/ activities	Forward travel
Operating procedure	For movement of the vehicle, the arm is lowered to the rest position, forward gear is engaged, and the accelerator is depressed. The vehicle's direction of travel is determined by means of the steering gear according to the desired form of manoeuvre. With the aid of the mirrors and to some degree by leaning out of the window, the driver can observe the entire space surrounding the vehicle.
Competence	Knowledge of the position and form of operation of the forward/reverse selector, the controls for the arm, and the accelerator pedal. Training in and knowledge of the clearance around the vehicle. The clearance is not clearly visible in all directions from the driving position.
Critical aspects: hazards/risks; disorders, disease - injuries.	Incorrect manoeuvre with a risk of collision or of hitting pedestrians. Visibility to the right of the vehicle is reduced when the arm is raised. Risk of collision/hitting pedestrians.
Solutions, suggestions for prevention; need for further research	Systems must be in place that enhance visibility to the right of the vehicle. Precise definition of the methods for assessing the visibility from the driving position, and adoption of auxiliary systems for ensuring adequate visibility around the vehicle should this not already be the case.

The conclusion of the FMWGs is that, in relation to self-propelled machines, it is necessary to define specific standardized methods for evaluating visibility from the driver's cab and to introduce auxiliary systems to ensure sufficient visibility around the vehicle as and when needed; these machines also need an adequate, standardised design of the position and functions of the controls. The adoption of auxiliary systems for improving visibility (such as CCTV) proposed by the users would reduce the risk to which the workers are exposed.

Further important recommendations related to the maintenance of these machine are:

- to improve the automatic cleaning devices for glazed surfaces and mirrors;
- to provide the possibility to visually check the tire pressure;
- to include in the standard a statement by the manufacturer concerning the level of noise and vibrations produced by the machine in the conditions of intended use, in the cockpit and not just outside the self-propelled machine.

The results of each FMWG were validated by all the participants and a final technical report collected all information. All the results were presented in a work shop organized by the ETUI, Bruxelles on the 26th March 2009.The commitment to improve the standard, the manufacturing and the correct way of using the telehandler is still in progress.

Further development

In future, it would be useful to run a new project to verify, by applying the Feedback Method, the state of the art in the manufacture and use of the telehandler and propose, if needed, further improvements especially of the standard. The improvement of the standard is particularly relevant because all the users in all member states, may benefit. Taking account of the positive results obtained by the application of the Feedback Method to different types of machines, following the content of the Technical Report CEN–TR 16710-1, it was recently decided to conduct a study using the same method, as well as to collect the experience of workers in a non-machinery sector to understand how they perform their work in different contexts using specific equipment.

The scaffolding sector was selected for many reasons, above all for its relevance for the health and safety of the employees. The first FMWG was organized in Tuscany, Italy and the results, validated by the participants, were presented in a workshop in Poggibonsi, on 18.01.2017. In March 2017, in

the EFBW premises, a project of the ETUC was presented that intends to apply the Feedback Method to the scaffolding sector in the Belgian context with the support of the Belgian Construction Association of Employers and Trade Unions. The hypothesis of the project is that by understanding the real work situation in the scaffolding sector, studying the activities that workers perform every day in different contexts by collecting their experiences, is a useful basis to design a good and effective prevention project to improve health and safety in this sector.

Conclusions

The Feedback method, described in the CEN–TR 16710-1, represents a standardized instrument to collect the contribution, the voice, of the users of the machines, mainly the workers, to improve both the protection of health and safety at work and the wellbeing of the workers and the whole efficiency and productivity of the enterprise system.

The Feedback Method is also demonstrating its effectiveness in collecting the contribution of workers and their experience to acquire profound knowledge of actual work activities, difficulties and risks involved and possible solutions or the need for further studies and foresight in preventing them.

The Feedback method is the first ergonomic method standardized in the CEN Technical Report that deals with the active participation of workers/end users of machine in improvements to standards and to the knowledge of what to do to organize and manage a healthy and safe work place, one oriented to guaranteeing the best possible efficiency and productivity of the system by respecting human resources.

References:

F. Strambi & others - End users "Feedback" to improve ergonomic design of machinery Work, Volume 41, Supplement 1/ 2012, pagg. 1212-1220 (DOI: 10.3233/WOR-20) IOS press.

Dr. Reinhard Obermaier
Leitung VDSI Fachbereich Bau
ISHCCO Executive Board Member,
Department PSTC (Professional Standards, Technical Commission)

THE OSH COORDINATOR IN CONSTRUCTION ACTIVITIES - STATE OF PLAY

1. Construction Site Directive

One of the important economic sectors of our economies is the construction industry. In the Federal Republic of Germany alone, approximately 775,000 people are employed on an annual average[1]. Despite the large global players in this sector, the main work is done by small to medium-sized enterprises (KMUs/SMEs). As measured by the total turnover throughout Europe, approximately 50% are employed in companies with fewer than 50 employees[2]. Besides greater efforts to ensure construction work and quality, the split-up of construction work to a variety of companies creates a greater need for action with regard to the safety and health protection of employees as the accident statistics show. To achieve an improvement in these circumstances in the course of the alignment of the working world, the Construction Site Directive (Directive 92/57 EU) was adopted and introduced in the European Union in 1992. The Directive has been gradually transposed into national law in the European member states. Meanwhile, several decades of experience with safety and health protection coordination for construction sites exist.

The need to introduce the European Directive is founded on the following explanation in its preface: "unsatisfactory architectural and/or organizational options or poor planning of the works at the project preparation stage have played a role in more than half of the occupational accidents occurring on construction sites in the Community."

1. Zentralverband Deutsches Baugewerbe: https://www.zdb.de/zdb-cms.nsf/id/baugewerbe-umsatzwachstum-von-55-in-2016-und-von-rund-3-in-2017-erwartet-de
2. Hauptverband der Deutschen Bauindustrie e.V.: http://www.bauindustrie.de/zahlen-fakten/bauwirtschaft-im-zahlenbild/europaisches-baugewerbe/

In order to achieve the objective: "to ensure a better level of protection of the safety and health of workers" coordination of safety and health protection has been introduced. For a long time now commitment to coordinate measures are an essential element in occupational safety. Directive 92/57 transfers coordination commitments to the complex situation of construction projects and makes the task of planning and implementing construction projects effective, thus effectively counteracting deficits in the sector (see above), as described in the preface.

2. Heterogeneous application

Implementation of minimum standards into national law has not been uniform in the individual states in terms of either time or content. The detailed scope of activity varies from Member State to Member State. There are significant differences in the requirements demanded of persons who wish to work as health and safety coordinators, in particular in the education demanded or training proposed. This ranges from individual instruction to dedicated, comprehensive training with state-controlled, formal approval. Therefore the heterogeneity of this situation leads to a lack of transparency in qualifications and performance targets and to significant restrictions on the mobility of safety and health coordinators in Europe, despite the fact that safety and health protection of construction workers throughout Europe have improved overall.

3. Co-ordinate

The contribution of health and safety coordinators to activities in the construction sector relates to the following issues:

- Safety and health protection need to be taken into account during the planning phase of a building project.
  - The planning of the construction project has to be designed in such a way that the work can be carried out safely and the interests of the health protection can be considered to a sufficient degree.

  - The planning of the building must be carried out so that at a later date maintenance and repair work or rather partial dismantling on the building can also be safely executed.
- Introducing and monitoring a communication and control system by the safety and health protection coordinator during the execution of the construction project ensures that the
  - planned protective measures are implemented by the companies executing the project and if necessary,
  - modifications are customized

For the safety and health protection coordinator, a wide variety of requirements results from cooperation, often through different spokespersons, between the many companies on the construction site. If coordinators are able to include these requirements and issues into their work, the health and safety plan for the construction phase, the documents for subsequent work on the structure can be individually and accurately created and actual coordination in the execution phase can be successfully and competently implemented so that the construction site can be handled safely and health risks minimized. If technical differentiation is required, it is possible for a distinction to be made for the coordination task between the planning and execution of the construction project. Of course the size and complexity of the construction project also produce great economic pressure on companies from prevailing competitive conditions; where there is tough competition, occupational safety savings are made. Finally, pressure of work is passed on to the staff and this strengthens the risk of increased individual unsafe behaviour.

4. Evaluations

In the meantime, the European Commission has produced evaluations of Directive 92/57 and reports on this topic have been published or are ready for publication. Furthermore, in 2008 a compendium[3] was published, which provides

explanations in relation to general understanding, obligations and typical risks.

The 2008 report on practical implementation of Directive 92/57 contains the results of the evaluation carried out in 2003 and 2004. For this purpose, inspection campaigns were carried out in what were at that time 15 Member States, including available statistics on accidents at work. A central finding formulated in the report is as follows: "In general, Member States report on problems resulting from the lack of clear information on the role, tasks and qualifications of the coordinators, depending on the nature of the project."

Overall, however, there are also studies that show that well-executed coordination leads to considerable improvements in safety-relevant construction site facilities (for example, high-level workstations or scaffolding), so significantly reducing the risks to employees.

In 2011, the Commission issued the decision to carry out a new evaluation on the construction site directive. Inquiries by the national authorities began in 2013 and a preliminary report was compiled in 2016. The final report has not yet been published. In the comments[4], deficiencies in qualitative aspects were again noted; in particular, lack of uniformity in roles, tasks and qualifications is once again pointed out.

5. Potential for Improvement

5.1 Involvement in the planning phase

As also stated in the evaluations, the control activity in the execution phase of the project in the form of safety inspections on site is often seen as the main task of the entire health and safety coordination. The health and safety

3. Nicht verbindlicher für bewährte Verfahren zum Verständnis und zur Durchführung der Richtlinie 92/57/EWG – Baustellen, Europäische Union, 2011, ISBN 978-92-79-15720-2,
4. Practical implementation of Health and Safety at Work Directives 92/57/EEC (temporary and mobile sites) and 92/58/EEC (safety signs at work), Brussels, 6.11.2008, COM(2008) 698 final

coordinators are deployed too late or not at all during the planning phase of a building project. The potential - already in the run-up - to have a positive impact on embodiments, techniques and methods, cannot be realized or only in reduced form. By too late inclusion, the planning process is already so far advanced and fixed that modifications are hardly possible or only feasible with great effort. This applies both to the planning of the construction work (SiGe-plan) and to the planning of safety related equipment (document for subsequent work on the building).

Opportunities in the planning stage are wasted. The companies executing the project are faced with situations that under certain circumstances considerably complicate the employment of safe working practices, in particular when the timing of the execution is committed in preference to the constraints of the project plan.

5.2 Health and Safety Plan

The quality of the health and safety plans compiled is also of a broad range. Coordination instructed too late in the planning phase combined with interpretable specifications concerning the content lead to an unsatisfactory situation. Safety and health protection plans are often only available in the form of extended construction schedules with essentially general statements on hazards and protection measures. Furthermore, it is often to be regretted that the rules listed in the document are outdated.

Frequently the necessity that a planning document as lead instrument must be available to the persons affected is confused with displaying the SiGe-plan on the construction site. The document is needed for the planning and preparation of the work. Site Manager and supervisors are involved in these processes and therefore need these documents at their workplace.

Employees are not the addressees of the safety and health plan. Employees receive their equipment and instructions

from their company, which bears the responsibility and obligation to adapt safety-relevant aspects to the surroundings.
Besides adapting planning, the safety and health protection plan shall provide the information necessary for the preparation of the work.

5.3 Document for subsequent work on the building
As concerns the health and safety plan, by bringing the Health & Safety Coordinator in too late during the planning phase important key points related to risks in the future use of the building cannot be identified and implemented in the planning phase. Subsequent adjustment, if at all possible, usually requires appreciably higher effort. Therefore, implementation is often waived and the necessary protective measures are left over as an individual commitment for subsequent executors. Planned safety for maintenance and repair with cost awareness can for this reason even fall by the wayside entirely.

5.4 Participation in the Execution Phase
It is often observed that the most important activity of a health and safety coordinator is apparently the "inspection" of the works on the construction site: to inspect the construction site frequently enough and to record all deviations in individual safety behaviour or inadequacies in technical safety devices and to document them in writing. The deficiencies (also known as violations) discovered in the process lead to a mandatory interruption in the work, so that a safe status can be established. Furthermore the health & safety coordinator is expected to present the best safety solution to the company.

The necessary self-control and self-regulation of companies is , in terms of organisation, transferred to the health and safety coordinator (construction supervisor occupational safety). However, occupational safety and health protection is and remains the legal responsibility of the company. It has to be

effectively implemented in the company by an appropriate organization. This entrepreneurial task includes the selection of suitable working processes and controlling that the instructions are implemented.

The domiciliary right of the builder or the general contractor respectively main contractor is also frequently transferred to health and safety coordinators in order to impose sanctions against "safety violations". If mandatory instructions or even sanctioning measures are imposed, the coordinator comes into massive conflict with the actual task. Apart from the fact that this leads to leaving the framework of the rule of law (the SiGeKo is at the same time investigator, prosecutor and judge), it creates a work environment that makes cooperative behaviour and teamwork much more difficult or even impossible. In this respect, it is obvious that the health and safety coordinator can no longer perform the actual task. Observations in the evaluations prove this.

The aim is nevertheless to increase the effectiveness of health and safety coordination and therefore to meet the social requirements for occupational health and safety adequately.

6. Qualification and Education

As referred to above, in Europe there exist very different guidelines with regard to the qualifications required of health and safety coordinators. An assessment of the existing situation might therefore also be that the inadequate qualifications of those entrusted with the coordination of health and safety inhibits a collateral corrective to inappropriate performances. In any case, the evaluations show that deficits and lack of training standards exist and that substantial improvements in the activity are possible and necessary.

It is therefore necessary that the qualification of safety and health coordinators is more comprehensible and if necessary, improved, so that more coordinators with adequate expertise

in health and safety and appropriate management skills are available to perform appropriately. Only qualified health and safety coordinators are able to successfully plan, steer and manage health and safety specifically on the construction site and to successfully coordinate with modern methods.

Furthermore, it is important that, at least in the European economic area, these guidelines and tasks are mostly available and implemented in an uniform way. Construction companies and employees in the construction sector do business across national borders and require the same framework. With free movement health and safety coordinators should have adequate expertise to work transnationally, without obstacles. For this reason, ISHCCO[5] proposes a qualification framework for health and safety coordinators.

7. ISHCOO - Qualification Framework

The umbrella organization of national associations and associations of health and safety coordinators, ISHCCO, founded in 2003, has therefore set itself the aim to act as an international mouthpiece for its members to support their activities. The aim of "strengthening the occupational identity of the Health and Safety Coordinator in Europe" has as an essential aspect and focus "to promote training qualifications, practical experience and professional development". ISHCCO has framed the question of the necessary and sufficient qualifications of SiGeKo according to their self-imposed tasks. The methods of the European Qualifications Framework for Lifelong Learning (EQF) have been picked up in multi-national cooperation, applied and implemented to health and safety coordination. For that purpose, the knowledge, skills and competencies required were selected and assigned and specified for the tasks of both the planning and the execution phase.

5. International Safety and Health Construction Coordinators Organization, Luxemburg

To fulfil activities on, for instance, small-scale sites respectively up to sites with special processes or complex large-scale construction sites, requirements are differentiated and assigned to the three relevant education levels of the EQF[6] (see Figure 1 below: schematic representation of the IQF as well as Table 1 to Table 3).

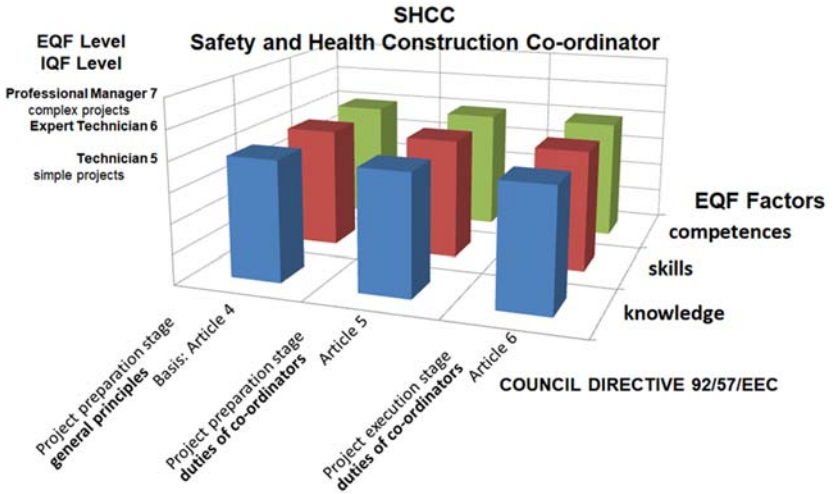


Figure 1: Schematic diagram of the IQF - The result represents the ISHCCO Qualification Framework for Health and Safety Coordinators (IQF).

7.1 ISHCCO Qualification Framework (IQF) - Core Knowledge, Skills and Competences of the Coordinator - generally speaking

When the entire training or recognition procedure for previous knowledge is complete, the participant has the knowledge, skills and competences of processes within the discipline of the SHCC (Safety and Health Coordinator on Construction Sites), as shown in the table below. The requirements are to be understood cumulatively: level 7

6. QUALIFIKATIONSRAHMEN IN EUROPA, KURZBERICHT DEZEMBER 2016 ISSN 1831-242X, Europäisches Zentrum für die Förderung der Berufsbildung, 2017, ISBN 978-92-896-2101-4, http://publications.europa.eu/en/publication-detail/-/publication/5059e2bb-ee93-11e6-ad7c-01aa75ed71a1/language-de/format-PDF

includes level 6, level 6 includes level 5. The specifications for individual remits exist in further tables. In addition, classifications of learning methods and learning success controls are available.

EQF description of performances at **Level 5** applied to the Safety and Health Coordinator Construction		
Knowledge	**Skills**	**Competences**
comprehensive, specialised, factual and theoretical knowledge within HSCC and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems in HSCC	exercise management and supervision in contexts of HSCC activities where there is unpredictable change; review and develop performance of self and others in HSCC
Example of project: Two story project with traditional materials, simple foundations and execution methods; simple road works following natural contours without structures or geotechnical challenges.		
Examples of functional descriptor: Germany - Polier Portugal - Tecnico		

Table 1: IQF Level 5

EQF description of performances at **Level 6** applied to the Safety and Health Coordinator Construction		
Knowledge	Skills	Competences
advanced knowledge of the HSCC field, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in HSCC	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable HSCC contexts; take responsibility for managing professional development of individuals and groups
Example of project: Projects that are not at Level 5 or Level 7.		
Examples of functional descriptor: Germany – Engineering Technicians, Architects Portugal – Technical Engineers		

Table 2: IQF Lefel 6

EQF description of performances at **Level 7** applied to the Safety and Health Coordinator Construction		
Knowledge highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; critical awareness of knowledge issues in a field and at the interface between different fields	**Skills** specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Competences manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
Example of projects: Process plant; complex geotechnical challenges; multi-storey above 25 metres/10 floors; bridge structures with pre-stressing; tunnelling; deep excavations greater than ten metres; dams		
Examples of functional descriptor: Germany - Engineer, Portugal -		

Table 3: IQF Level 7

7.2 Unanimous Agreement of the European Member Associations to the IQF

The IQF was unanimously adopted at the annual general meeting of ISHCCO 2017 by all 16 national member associations from 13 (12[7]) European nations and released for national and European implementation. With the IQF, ISHCCO provides a general valid requirement and assessment scheme to the national member associations.

8. IQF - Guideline and National Specifics

The IQR indicates the remit of the stepped requirements for the necessary knowledge, skills and competences of the Health and Safety Coordinator. Expertise and knowledge about legal regulations can easily be added as a single topic, where applicable, country-specific standards are required. To broaden the content of the qualification framework, it is

7. The national decision to withdraw the United Kingdom from the European Union took place after the annual general meeting of ISHCCO 2017

recommended to use the non-binding guidelines of the European Commission (see footnote [3]) in addition to national requirements. This describes in great detail and with illustrative examples good practice in health and safety coordination for individual project phases as well as site-specific risks. This makes it possible to comprehensively compare the qualification levels of health and safety coordinators by means of the IQF. By these means it is also equally possible to align or classify the content of training and/or further training measures.

Summary
The implementation of Directive 92/57 EU, the construction site directive in Europe, has established health and safety coordination on construction sites. The work of coordinators has improved health and construction sites, but, as evaluations show, the potential is not utilised. As a major deficit, which also leads to the need for improvement in the execution of the tasks, the unclear non-uniform specifications for the qualification and training of coordinators can be localized.
The ISHCCO umbrella organization of the European associations and associations of health and safety coordinators has developed the ISHCCO qualification framework for health and safety coordinators (IQF) using the European Qualifications Framework for Lifelong Learning (EQF). The criteria listed there can be consistently supplemented by additional national specifications. For this reason the IQF serves as an overall orientation matrix for classifying the qualifications of health and safety coordinators and as a curricular framework for the content of relevant training and further training courses.
The European associations assume that with the IQR additional essential improvements for the implementation of health and safety coordination on construction sites can be achieved and the recognition of the activities of coordinators can be substantially strengthened, also on an international basis.

Reports

Hanne Sanders

250 shop-stewards discussing sustainable and safe jobs in the construction industry in Belgium

On 15th and 16 December 2016, 250 shop-stewards from Centrale Générale/FGTB active in the construction industry in Belgium, gathered for their sectoral congress (every 4 years). This congress is the highest decision making body in the trade union. An analysis of the situation in the Belgian construction industry over the last four years was made: how did the sector do and how did the employment-, wage and working conditions in the Belgian construction sector evolve over the last few years? They also looked at the future: how do we make sure that working in the Belgian construction sector stays sustainable and healthy for the workers? This is the reason why the shop-stewards chose this topic as the main subject for the congress: how do we respond to the increasing presence of hard labor and difficult working conditions in the Belgian construction industry.

The economic crisis did not have a big influence on the Belgian construction industry; the activity-level remained stable. For the last five years, there was even a small productivity increase and economic growth. The same increase is noticeable in the amount of profits being made by the construction companies and their shareholders (yield of 12% on their investments). In contrast, workers in the construction industry did not share in the profits. Due to anti-social measures decided by the right-wing government, wages almost did not grow. Less cost and more profit for the employers.

In the last five years the number of Belgian construction workers decreased by 25,000. This does not mean that there are less people working on construction sites. The number of temporary workers, bogus self-employed and especially posted workers increased spectacularly in the Belgian construction industry. In other words, correct and well-paid construction jobs have been replaced by low paid jobs and worse working conditions.

For Centrale Générale/FGTB it is clear: equal work means equal pay AND equal working conditions!

During the congress the shop-stewards reported on the hard physical and dangerous work on construction sites, increasing time-pressure during work and the impact of these circumstances on the mental health of workers. Workers experience more and more stress concerning their jobs. Some bore witness to the burn-outs of themselves and their colleagues. Worsening working conditions have an impact: in Belgium there are on average 10 work-related accidents per day and in the year 2015 there were even 14 fatal work accidents.

Others witnessed broken backs by the age of 49, working days of 12 hours, long travels every morning and evening to construction sites, the increasing 'flexibility' demanded by the employer…

And even so, the Belgian government decided to postpone the retirement age to 67. For the Belgian trade unions it is clear: the members of our government have never visited a construction site and talked to the workers. For the shop-stewards who know the construction industry the best, it is clear: working until 67 under the same working and health conditions is nonsense.

The conclusions of the congress were clear: sustainable and healthy working conditions are the priority for the next four years. Therefore we have to keep on combatting social dumping and investing in safe and healthy working conditions for all workers on Belgian construction sites.

Reviews

Jörn Janssen

HesaMag#13, health and safety at work magazine, spring-summer 2016, edited by the European Trade Union Institute (ETUI), Brussels.

This special issue of HesaMag, the 'health and safety at work magazine' of the European Trade Union Institute, on the conditions in the construction industry has been edited by Laurent Vogel/ETUI and Rolf Gehring/EFBWW. As everybody knows, this is a sector notorious for high rates of fatal accidents. Falling from high roofs and scaffolds or being hit by earth moving machines, as well as exposure to asbestos and other toxic materials, considerably reduce the health and life expectancy of construction workers. The wide range of risks and variety of causes are explored in eight major contributions. Laurent Vogel highlights the 'invisible' hazards looming in the most diverse environment of building sites and work organisation. Jan Cremers points out how the construction industry employs an international mobile workforce and the consequent difficulties in enforcing and implementing preventive regulations. Rachel Knaebel has explored in great detail the working life of a Polish crane driver employed at often short intervals on West European sites, with all the problems of adjustment to changing social, technical and linguistic environments. Denis Grégoire, again, presents a huge variety of exposures in construction work to toxic air and materials that are not covered by health protection. Stephen Schindler focusses on the continuing health risks associated with exposure to asbestos especially in repair, maintenance and retrofitting due to a lack of training as a governmental responsibility at the levels of nation states and the European Union. Emmanuel Sanséau, referring to 'Women into Construction', reminds us of the continuing gender discrimination and underrepresentation of women in the construction industry. Rolf Gehring directs attention to the risks caused by construction machinery as a matter of design to prevent accidents. Denis Grégoire, in his second contribution, attributes early death to the inhalation of toxic air at the workplace. Elsa Fayner, finally, recalls the

catastrophic collapse of the Rana Plaza textile factory in Dhaka/Bangladesh and the continuing poor working conditions, despite a greatly improved labour organisation.

The issue is a highly informative update on the scandalous health and safety conditions in the construction industry. It exposes this production sector as a place with systematically reduced life expectancy for its workers. It also reveals what could be done to save life and health by improvements in the working conditions.
The ETUI, publisher of this documentation, is a permanent campaigner in this field at the level of the European Union, but its efforts seem still rather distant from implementation in the reality of construction sites. It desperately needs support through more radical action at transnational level.

Editor
Rolf Gehring
Phone: +32/2/2271043
rgehring@efbh.be

Review editor
Jörn Janssen
Phone: +44/207/7007821
joern.janssen@btinternet.com

Layout and Production
Frank Leus
Phone: +32/2/2271041
fleus@efbh.be

Contact and Orders
CLR-News
c/o Frank Leus
EFBWW
Rue Royale 45/1
B - 1000 Brussels
Phone: +32/2/2271040
Fax: +32/2/2198228

CLR News 2/2017 ISSN 1997-1745