
# Peer Review on the "Use of web-based tools for OSH risk assessment"

## Dublin, Ireland, 2-3 October 2017

## Thematic Discussion Paper

Written by Steven Sumner

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# 1 Introduction

This thematic paper has been prepared to support the **Peer Review on the 'Use of web-based tools for OSH risk assessment'** to be held in Dublin (Ireland), on 2-3 October 2017.

The paper will review the need for effective health and safety risk management. Integral to that process is risk assessment, and the introduction of risk prevention and management measures. It will provide an overview of the costs of poor health and safety risk management, and the impact at a global, European and Member State level. Thus, clearly demonstrating the benefits of effective risk management, in terms of the business case, and return on investment made from reduced costs of accidents and occupational ill health.

The challenges and barriers to undertaking appropriate and adequate risk assessment will be discussed. Followed by a review of the current web-based tools available to assist employers and others to undertake suitable and sufficient risk assessments. The paper will also explore the evidence to support the use of web-based tools and their penetration into businesses in terms of the number of users and their perceptions of the value of web-based tools.

Finally, the paper will attempt to draw conclusions from the existing tools and systems and identify issues which could usefully form the starting point for discussion at the Peer Review in Ireland.

# 2 Setting the scene

Risk assessment is the single most important tool available to employers to enable the effective management of workplace health and safety risks, thereby reducing accidents and work related ill health. Its origins in terms of EU legislation will be explored later in this paper. However, the process is considered challenging and difficult especially for small and medium-sized enterprises (SMEs) who may not have the expertise and resources to undertake the task[1].

SMEs make up approximately 93% of employers across the EU, yet only 69% of microenterprises report undertaking regular risk assessments compared with 96% for larger enterprises[2]. It can therefore be expected that initiatives which encourage smaller organisations to undertake risk assessments by making the process more easily understood and accessible would be of significant benefit to many smaller employers and have a positive impact on health and safety standards within these workplaces. Further evidence and discussion on barriers to risk assessment are discussed later in the paper.

## 2.1 Costs of poor health and safety management

The failure to effectively manage occupational safety and health (OSH) risks results in accidents, injury, death, occupational ill health, together with associated financial costs to both individuals, companies, countries and global Gross Domestic Product (GDP). The World Health Organisation (WHO)[3] has estimated that 20-50% of workers worldwide are exposed to various hazards at work, and this percentage is likely to be higher in newly industrialised and developing economies.

Takula et al (2014)[4] after reviewing employment, mortality and occupational ill health data from International Labour Organisation (ILO), WHO, European Union (EU), and other agency and public sources estimated an annual total number of work related deaths of 2.3 million, with 2 million being attributed to occupational ill health and 0.3 million to occupational injuries. Takula et al (2014) estimated that the cost of work related injury and ill health varies between 1.8% and 6% of GDP, depending on the country. Similarly, the ILO estimate that the average cost represents 4% of GDP. Individual country studies have shown a wide variation dependent on the method of calculation, e.g. a preliminary Singapore study estimated the cost at 3.2% of GDP. However, in Finland this rose to 15% when the costs of involuntary early retirement are considered, though work related issues may be only one aspect in many[5]. Others[6] have suggested that globally at least 960,000 workers are injured daily.

The European Agency for Safety and Health at Work (EU-OSHA) have been undertaking research to estimate the cost of ineffective health and safety management resulting in injury and ill health on the EU-28 together with Iceland and Norway[7]. The EU-OSHA research cites Eurostat (2016)[8], which estimates that across

[1] Commission Staff Working Document (2017) Ex-post evaluation of European Union occupational health and safety Directives (REFIT evaluation) SWD (2017) 10 Final http://ec.europa.eu/social/BlobServlet?docId=16875&langId=en

[2] Contexts and arrangements for occupational safety and health in micro and small enterprises in the EU – SESAME project, European Risk Observatory, EU-OSHA, 2016.

[3] World Health Organisation (2014) Global strategy on occupational health for all: The way to health at work, WHO. 2014. http://www.who.int/occupational_health/publications/globstrategy/en/index4.html

[4] Jukka Takala, Päivi Hämäläinen, Kaija Leena Saarela, Loke Yoke Yun, Kathiresan Manickam, Tan Wee Jin, Peggy Heng, Caleb Tjong, Lim Guan Kheng, Samuel Lim, and Gan Siok Lin (2014) Global Estimates of the burden of injury and injury at work in 2012 J Occup Environ Hyg. 2014 May; 11(5): 326–337. www.ncbi.nlm.nih.gov/pmc/articles/PMC4003859/

[5] Ibid.

[6] Mekkodathil A, El-Menyar A, Al-Thani H. (2016) Occupational injuries in workers from different ethnicities. Int J Crit Illn Inj Sci. 2016. Jan-Mar; 6 (1): 25 - 32. http://dx.doi.org/10.4103/2229-5151.177365

[7] Swenneke van den Heuvel; Lennart van der Zwaan; Liza van Dam; Karen Oude-Hengel; Iris Eekhout; Martijn van Emmerik (TNO); Claudia Oldenburg; Carsten Brück (KOOP); Pawel Janowski, Camille Wilhelm (VVA) Executive Summary: Estimating the cost of work related accidents and ill health: Analysis of European Data Sources. EU-OSHA 2017 https://osha.europa.eu/en/tools-and-publications/publications/executive-summary-estimating-cost-work-related-accidents-and-ill/view

[8] Eurostat (2016). Accidents at work statistics. http://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents_at_work_statistics

EU-28 in 2013 there were 3.1 million non-fatal injuries resulting in at least four days absence from work, and 3,764 fatal accidents. For the same period, Agilis[9] estimated that 7.4% of EU-28 population suffered from one or more work related health problems. The EU-OSHA research proposed a structured framework for the collection of data and cost categories of productivity losses, healthcare costs, quality of life losses, administration costs and insurance costs. It also highlighted relevant cost bearers, namely workers and families, employers, government and society. However, the research also concluded that there was insufficient robust data across Europe to calculate an overall cost, though partial estimation of costs could be made by using a number of assumptions. As such, further data collection and research is needed to improve the cost estimates. Notwithstanding such limitations, national data sources of cases and costs were completed for each individual Member State[10] and the essential elements of the various recording, insurance and health care systems were summarised in Member State profiles[11]. EU-OSHA, together with the ILO, have also presented new estimates of the cost of poor occupational safety and health (OSH). The findings reveal that worldwide work-related injury and illness result in the loss of 3.9 % of GDP, at an annual cost of roughly EUR 2,680 billion, and for the EU 3.3 % of GDP (€476 billion). The cost of work-related cancers alone amounts to EUR 119.5 billion[12]. The project results were presented at the XXI World Congress on Safety and Health at Work in Singapore in September 2017.

The UK Health and Safety Executive (HSE) estimate the annual cost of injuries, death and occupational ill health by dividing the total costs by the various categories of injury as specified in the injury reporting regulations and ill health; these costs are termed appraisal costs[13]. The costs are calculated for society and individuals. The appraisal costs for society at 2014 prices are indicated in Table 1 below, other tables can be viewed on the HSE website[14].

*Table 1. Cost to Society per case – average appraisal value estimates (£ in 2014 prices)*

| | Non-financial human cost (rounded) | Financial cost (rounded) | Total cost (rounded) |
|---|---|---|---|
| **Fatal injuries** | **1,149,000** | **421,800** | **1,570,000** |
| **Non-fatal injuries** | **4,500** | **2,900** | **7,400** |
| 7 or more days absence | 18,200 | 10,300 | 28,500 |
| Up to 6 days absence | 320 | 550 | 880 |
| **Ill health** | **9,400** | **8,200** | **17,600** |
| 7 or more days absence | 19,600 | 16,800 | 36,400 |
| Up to 6 days absence | 270 | 570 | 840 |

[9] Agilis, S. A. (2015). Statistics and informatics. Final statistical report on the quality assessment and statistical analysis of the 2013 ad hoc module. 2015. http://ec.europa.eu/eurostat/documents/1978984/6037334/Evaluation_report_LFS_AHM_2013.7z

[10] EU OSHA (2017) Accidents, deaths and health problems at work: the costs for Europe National Data sources. 10th March 2017 https://oshwiki.eu/wiki/Accidents,_deaths_and_health_problems_at_work:_the_costs_for_Europe

[11] Ibid.

[12] EU-OSHA (2017). An international comparison of the cost of work-related accidents and illnesses https://osha.europa.eu/en/tools-and-publications/publications/international-comparison-cost-work-related-accidents-and/view

[13] HSE website: Appraisal values or unit costs (for deaths, accidents and work related ill health) http://www.hse.gov.uk/economics/eauappraisal.htm

[14] Ibid.

*Source: HSE Cost to Britain model*

HSE calculated that the total cost of accidents and occupational ill health in the UK in 2014/15 was £14.1 billion, of which £9.3 billion is attributed to occupational ill health and the remainder to workplace injury. This total cost has remained largely unchanged since 2010[15].

Cancer is the single biggest cause of work related death across Europe. In 2012 between 57,700 and 106,500 cancer deaths were linked to workplace exposures to carcinogenic substances. The direct costs have been estimated at 5-7 billion EUR per year with indirect costs estimated at approximately 334 billion EUR[16]. Other studies have suggested that investment in health and safety management will bring returns of double the investment[17].

Moreover, failure to meet legal requirements has an impact on the organisation's reputation and can lead to prosecution through the courts resulting in fines. This has been brought into sharp focus in the UK in February 2016 when the sentencing guidelines for health and safety breaches and corporate manslaughter fines were changed[18]. These changes mean that fines of over a £1,000,000 are now not unusual.

It is clear from the numbers of those injured, killed or made ill by their work and the associated costs that adequate risk control measures must be in place not only to prevent personal injury and suffering but also to prevent loss and maintain company profitability and competitiveness across Europe. Investing in occupational health and safety risk management makes sound economic sense.

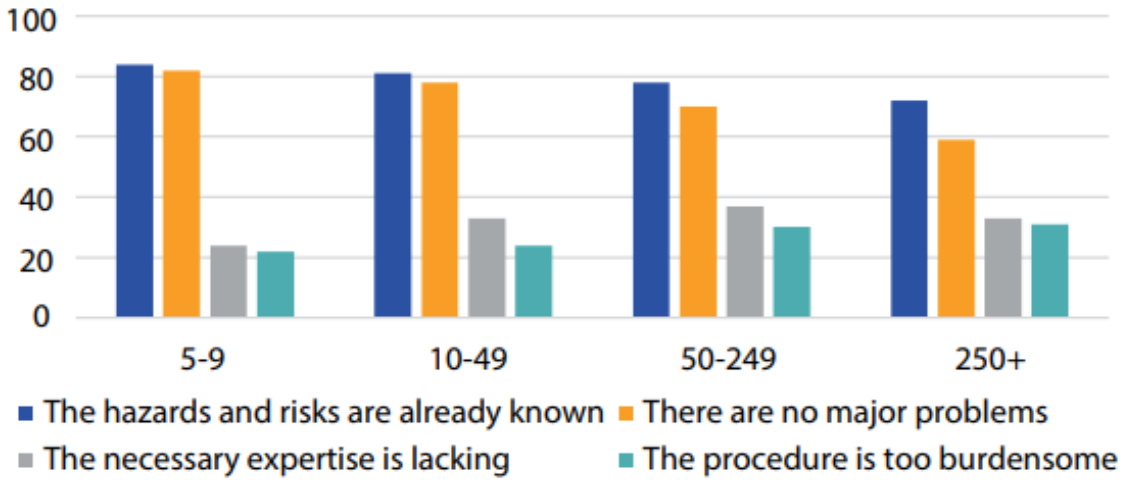
## 2.2 Barriers to effective risk assessment

Research into the barriers to risk assessment in the EU-28 has been undertaken by EU-OSHA as part of the ESENER-2 Project[19]. The research indicated that the vast majority of businesses surveyed undertook regular risk assessments, on average 78% across EU-28. There was a positive correlation between undertaking risk assessments and the size of the organisations, indicating that smaller organisations may find the process more difficult. However, there were wide variations between Member States in terms of the regularity of assessments. Both Italy and Slovenia reported 94% of organisations undertaking regular risk assessments with Luxembourg at 37% at the other extreme. There were also marked differences in who undertook the assessment, either internal employees or external contractors. For example, in Denmark 76% of assessments were undertaken by internal staff, compared with only 7% in Slovenia. The researchers comment that this is not a reflection on the quality of assessment, and that some Member States' legal framework requires external experts to undertake such work, but they do make the point that those who create the risks are best placed to manage them. Equally, the expertise may not exist in-house for some organisations. Among the organisations surveyed, 90% felt risk assessments were useful in managing occupational health and safety risks.

For those organisations who did not undertake regular risk assessments (24% of organisations surveyed), the most common reason for not doing so was that the risks and hazards were already known (83%) or that there were no major problems (80%). Interestingly, a greater proportion of larger companies considered the process burdensome than smaller companies (see Figure 1 below).

[15] HSE (2016) Cost to Britain of workplace fatalities and self-reported injuries and ill health 2014/15 November 2016 http://www.hse.gov.uk/statistics/pdf/cost-to-britain.pdf
[16] Joneneel et al (2016) Work related cancer in the European Union, Size, Impact and options for further prevention RIVM Letter report 2016-0010 W.P.
[17] International Social Security Association (2013) Calculating the international return on prevention for companies: costs and benefits of investments in occupational safety and health
[18] Sentencing Council, Health and Safety Offences, Corporate Manslaughter, Food Safety and hygiene Offences 2015 https://www.sentencingcouncil.org.uk/wp-content/uploads/HS-offences-definitive-guideline-FINAL-web.pdf
[19] EU-OSHA (2015) Second European Survey of enterprises on New and Emerging Risks (ESENER-2) https://osha.europa.eu/en/tools-and-publications/publications/reports/esener-ii-first-findings.pdf/view

*Figure 1. Reasons why workplace risk assessments are not carried out regularly, by establishment size (% establishments, EU-28)*




*Source: EU-OSHA Second European Survey of enterprises on New and Emerging Risks (ESENER-2) 2015. Base: Establishments in the EU-28 that do not carry out risk assessments regularly.*

Common errors in the risk assessment process are articulated in the EU-OSHA Fact sheet 32[20]. The most common errors include amongst others, failure in engaging competent staff in the assessment team, using contractors who are not familiar with the business, overlooking risks and failure to identify long-term health risks, failure to consider risks to non-employees, not cooperating with contractors, not considering those at greatest risk, missing infrequently used machines, failure to apply hierarchy of control, not involving workers in deciding control measures, considering risk assessment as a one off activity, and failure to record the assessment.

[20] EU-OSHA E- Facts 32 Common errors in risk assessment https://osha.europa.eu/en/publications/e-facts/e-fact32/view

# 3 Approaches to risk assessment

Risk assessment is the underpinning principle of effective management of health and safety risks within the workplace. Risk assessment provides a framework which enables employers to identify hazards, assess the risks posed and propose and implement adequate and proportionate measures, to prevent or control the assessed risks to an acceptable level.

Risk assessment was introduced as a key theme of the Framework Directive 1989[21], which required Member States to transpose the Directive's provisions into their own legal framework, the purpose being to encourage improvements in the safety and health of workers at work. The Directive's provisions applied to all work activities and workplaces in the public and private sectors with a few exemptions (e.g. military activity). The underpinning theme of the Directive was the principle of prevention, that is to say, where possible to remove the hazard, and thereby remove the risk. Where this is not possible then the risks should be managed to acceptable levels by the application of the principles of prevention articulated in the Directive.

These principles are (in order of application), avoid the risk, evaluate risks which cannot be avoided, combat the risk at source, adapt the work to the individual, adapt to technical progress, replace the dangerous with non- or less dangerous, develop an overall coherent prevention policy, collective prevention measures over individual measures and finally worker instruction. Under the Framework Directive it is the responsibility of the employer to ensure the safety and health of workers in every aspect related to the work. The Directive also places great emphasis on consultation and the participation of workers.

There is no set format for undertaking risk assessments set out in the Framework Directive, and this has allowed Member States the flexibility to develop tools and methodologies which are appropriate to their national context and sectoral composition.

A number of Member States have developed risk assessment tools to assist employers to undertake assessments, these tools will be discussed in more depth later in this paper. But in developing tools it must recognised that when completing a risk assessment using a preparatory tool the assessment must meet the requirements of the Member State legislation, and therefore enable the organisation to be legally compliant. There is also an issue with the tool becoming the default risk assessment process, and employers relying on the tool rather than using their knowledge and experience of the business to undertake the assessment. Therefore, there may be an argument for embedding the tools within Member State legislation. This would then mean that the tool would become the minimum standard for undertaking risk assessments, and this would not therefore encourage employers to seek standards beyond mere compliance. In those circumstances embedding tools into legislation would not encourage the adoption of best practice which exceeds the standards required by legislation.

As stated previously in this paper, SMEs appear to find the process of risk assessment more challenging than larger enterprises, therefore to encourage more SMEs to undertake the activity the process must be simplified and made more accessible. To address this issue a number of Member States and EU-OSHA have developed free online tools to assist businesses in undertaking risk assessments. Clearly, agencies and regulators within Member States have a pivotal role to play in encouraging the use of these tools with the objective of improving health and safety risk management within smaller organisations. In addition, there are also a number of commercially

[21] Council Directive of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work(89/391/EEC) (OJ L 183, 29.6.1989, p. 1) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0391-20081211&from=EN

available tools to assist with the management of occupational health and safety risks, which include risk assessment functionality[22].

Research outcomes from the ongoing SESAME project[23] suggest that the following are drivers for micro and small enterprises (MSEs) to adopt and make use of online tools:

- Recommended by the authorities as a way of complying with legal requirements
- Supporting a common reactive strategy within MSEs
- Simple to use with simple instructions for use
- Sector focused, so relevant and understood
- Adaptable to meet specific needs of users
- Available online and free
- Information uploaded is confidential
- Speeds up the unsupported risk assessment process
- Endorsed by social partners, insurance companies and labour inspectorates
- Include solutions to health and safety issues does not simply identify them
- Revised and updated to keep it relevant in consultations with stakeholders and SMEs

## 3.1 EU tools and measures

Initiated in 2009, following the European Risk Assessment campaign, OiRA (Online interactive Risk Assessment)[24] is a web-based system based upon the Dutch online risk assessment instrument, Risk Inventory and Evaluation (RI&E). It was developed and funded by EU-OSHA[25]. The system was piloted in 2010-11 and officially launched in September 2011. The project goals were as follows:

- to contribute towards simple tools to assist in risk assessment (a community strategy issue 2007-2012);
- to provide financial and technical support on implementing OiRA and other IT-based tools in order to facilitate compliance with OSH legislation, particularly by MSEs (EU Strategic Framework on Health and Safety at Work 2014-2020);
- to develop practical tools to assist MSEs in putting risk assessments in place and demystify the process; and
- to build a critical mass of social partners (EU and national), governments and public institutions interested in developing and disseminating risk assessment tools tailored to the specificities and needs of European MSEs.

OiRA allows for the creation of sectoral assessment tools in any language which are accessed through a website; once generated the tools are made available free to SMEs to utilise.

The initial challenge was the development of the software, the second challenge was to promote its use. Initially the focus was on developing the software platform, development of the OiRA community and development of the tools. More recently, the

[22] Top Ten Risk Assessment software http://www.capterra.com/sem-compare/risk-management-software?headline=Top%2010%20Risk%20Assessment%20Software&gclid=EAIaIQobChMIpJCk9sia1QIVgqntCh2a9QUtEAAYAyAAEgIn7_D_BwE

[23] Supporting Micro and Small Companies with Interactive Risk Assessment Tools Conference 17 May 2017 Brussels https://osha.europa.eu/en/tools-and-publications/seminars/supporting-micro-and-small-companies-interactive-risk-assessment

[24] OiRA project https://oiraproject.eu/en

[25] Dutch Risk inventory and Evaluation http://www.answersforbusiness.nl/regulation/risk-inventory-evaluation

focus has shifted to promoting the use of the tools. A communication strategy has been developed to promote the OiRA tools across the EU[26] .

The Safer and Healthier Work for All communication suggests that the following targets for OiRA should be achieved by 2018: 150 published online tools and 100,000 assessments created using the tools[27].

In terms of drivers and barriers of OiRA, these have been assessed as the following[28]:

| Drivers | Barriers |
|---|---|
| • Easy access, easy to use and free.<br>• Web based<br>• Evolutionary content, easily changed and amended.<br>• Step by step approach allowing users to work at their own pace. Encourage MSEs to manage health and safety internally.<br>• OiRA can be used as a training tool and improve hazard knowledge<br>• Provides a platform to access other information<br>• Their use can be monitored and statistics gathered on the use of tools. | • Lack of risk assessment awareness amongst micro and small enterprises, as mentioned earlier in the paper.<br>• Risk prevention and assessment are not the main concern of small and micro enterprises, they are likely to be concerned about economic survival and limited resources available.<br>• Difficulty in reaching SMEs |

Social partners are very much involved in the development of OiRA tools, this is clearly demonstrated on the OiRA website (https://oiraproject.eu/en/eu-national-partners). The sectoral social partners are directly involved in developing sector tools and recognise the benefit of improved occupational health and safety risk management. The social partners also play a crucial role in the OiRA community both at the EU and national levels. The community sees the benefit of sharing good practice across, disseminating information about the tool to end users and taking their views into account to ensure the tools meet their needs.

## 3.2 National tools and measures

In addition to OiRA, Member States have also developed separate online tools to assist SMEs with the risk assessment process. Together with OiRA, an Interactive Risk Assessment Tools (IRAT) Network has also been established. Member States who have developed tools and are members of the network include Ireland, The Netherlands, Spain, Estonia, Denmark and Norway. The Member State tools and measures in relation to risk assessment will be presented in the host country discussion and peer country comments papers and discussed at the Peer Review meeting in Ireland. As such, the Member State tools and measures are not covered in detail here. Nevertheless, it is worth highlighting a few examples:

- The Irish Health and Safety Authority's (HSA) Taking Care of Business Unit have created the BeSMART (an acronym for Business Electronic Safety Management and Risk Assessment Tool). The impetus for the creation of the tool came at the height of the recession when Government bodies were

[26] Supporting Micro and Small Companies with Interactive Risk Assessment Tools Conference 17 May 2017 Brussels https://osha.europa.eu/en/tools-and-publications/seminars/supporting-micro-and-small-companies-interactive-risk-assessment

[27] European Commission (2017) Safer and healthier work for all-Modernisation of EU Occupational Health and safety Legislation and policy COM (2017) 12 Final http://ec.europa.eu/social/BlobServlet?docId=16874&langId=en

[28] OiRA website https://oiraproject.eu/en/drivers-and-barriers

challenged to reduce administrative burdens on businesses to comply with legislation. The tool was launched in 2011 and was initially aimed at small employers operating in the retail, manufacturing and hospitality sectors. Subsequently, construction and agri-businesses have been added. The aims of BeSMART are: to reduce accidents and occupational illness, raise safety standards, reduce costs associated with compliance, improve compliance levels, improve health and safety management, and finally to empower employers to effectively manage health and safety in their company and dispel the impression that health and safety is time consuming, costly, onerous and beyond their capabilities. Users have to register and log-in to access the tool. The tool then guides the user through a four stage risk assessment process. The user will select their business type and they will be directed to the appropriate pages and will populate the screen with common hazards in the business. The user answers yes and no for the control measures until the form is complete. Employers will then consult with their employees. Completed forms are then downloaded in PDF format and can be personalised to the company. The BeSMART site also directs users to other sources of information such as e-learning modules. Content is developed with the assistance of user feedback and is subject to quality checks. BeSMART does not currently cover psychosocial risks.

- As mentioned above, OiRA was based upon the Dutch tool called Risico-Inventarisatie-Evaluatic-instrenten (RI&E), which was developed jointly by MKB-Netherland, the Government and TNO[29]. Launched in 2004, it allowed companies to download the RI7E questionnaire to be completed offline. This allowed SMEs to have access to generic risk assessments and provided the basis for sectors to develop their own sector-specific tools. The tools have been refined since their launch and a support website created (www.rie.nl), which provides a simple mechanism for accessing the sector risk assessments by having a separate page for each sector. The process of creating an assessment is in four stages. For companies, first identify the risks, then evaluate the risk, create an action plan and finally update. The Dutch now use OiRA technology and currently 182 different sectors have developed their own risk assessment tools which are available on the Ri&E website. Information regarding the tools are disseminated using the website, social media, digital newsletters and workshops. A short video has been created which explains the concept[30]. A number of campaigns have also been used to promote the use of the tools, including 2008-2009 EU-OSHA risk assessment campaign and the Dutch check your workplace campaign of 2011.
- The Norwegian Labour Inspectorate have decided to develop their own online risk assessment tools. The principle drivers for this is are the requirement of the Working Environment Act to risk assess the workplace and prepare plans to reduce the risks, an online tool is considered to have an important part to play in achieving this. The inspectorate's experience indicates that MSEs have poor knowledge of risks and the development of a new tool will improve compliance, make the risk assessment process easy and improve occupational health and safety efficiency. The decision was made to develop a new tool after evaluating other online tools currently available (including the Irish BeSMART). The tool will focus on three sectors initially, cleaning, transport and hairdressing. Progress thus far includes the establishment of a project group to provide leadership; the technical specification has been written and a developer has been appointed. The social partners representing the sectors covered by the project are engaged in the process. Further development work was undertaken following a workshop in June 2017. The Norwegian authorities intend to promote the online tool using social media, newsletters, and short films. Social

[29] https://oshwiki.eu/wiki/Dutch_Risk_Assessment_tools Anita Venema, Cillian de Roiste, palmerk, Thomas Winski 21st April 2017

[30] http://vimeo.com/90000560

partners will be involved in the marketing and employers will be informed of the tool when they are informed of their next inspection.

In terms of other Member States and their involvement in the development of online risk assessment tools, Spain has developed its own tool[31], whilst Estonia is in the process of developing a new tool. Slovenia, Portugal, Bulgaria, and Belgium are part of the OiRA community[32].

[31] https://www.prevencion10.es/p10_front/
[32] Lorenzo Munar EU-OSHA private communication. 16th August 2017.

# 4 Evidence on the effectiveness of measures

There is limited information concerning the effectiveness of risk assessment tools developed by the Member States in improving health and safety management and controlling risks. The current SESAME research project is looking at MSEs and OSH and the third phase of the project will be examining and assessing the effectiveness of policies and instruments. The phase 3 report will contain an overview and analysis of best practice instruments. However, the research findings will not be available until the report is published by EU-OSHA and this will be until 2018 at the earliest[33].

With regards to OiRA, as of the end of June 2017 124 tools had been published, 13 were in progress and 61 sectors were covered. The OiRA community comprised of 16 national partners and 12 EU sectoral social partners, who produce tools for their respective sectors. Since August 2011, 48,528 accounts have been opened and 59,979 risk assessments have been undertaken with OiRA[34]. User feedback is extremely positive, with 94% of respondents saying the tool met their needs and 95% saying they would recommend the tool to others[35].

The OiRA tool continues to expand, and a new website was launched in January 2017. An OiRA memorandum of understanding has also been signed between EU-OSHA and EU social partners in the education sector (EFEE and ETUCE). Further work is also being undertaken to update materials in the tanning sector. New promotional materials have been prepared including an infographic, a video featuring Napo and a flyer. Several training and promotional events are planned across Europe.

BeSMART has been in use since 2011, and since its launch there have been approximately 43,000 registered users. In 2016 alone, BeSMART was used by over 8,000 new users, produced 140,000 risk assessments, and 7,000 safety statements, received over 62,000 website visits and was estimated to have saved Irish businesses EUR 11 million (Irish Health and Safety Authority estimate). In terms of coverage, it offers 475 separate risk assessment templates available for around 300 business types that vary from accountancy and acupuncture to woodworking and youth services. In terms of user feedback, a 2016 survey demonstrated that 95% of respondents were highly satisfied with BeSMART. OSH consultants may, however, feel their business opportunities are reduced by the fact that BeSMART usage is free[36].

The Dutch RI&E tool has been evaluated on a number of occasions. For example, a 2006 evaluation of the 20 sector specific tools concluded that the risk assessment tools were well known by sector organisations, tools were used and the organisations were positive about them. A survey among RI&E users was also conducted in 2010 to obtain information on the usage of, and satisfaction with, the risk assessment tools. This also made use of the results from the TNO's (the RI&E Support Point) two-yearly WEA survey (Werkgevers Enquête Arbeid) from 2008/2009 of the number of SMEs that have prepared a risk assessment and an action plan. A total of 5,387 companies responded to this questionnaire. According to the WEA survey, the proportion of responding SMEs that have undertaken a full risk assessment, including an action plan, is in the range 26% to 86%. If it is assumed that the group of 5,387 respondents is representative of the total population of 800,000 companies in the Netherlands, a straight average of 60% would suggest that some 480,000 of all Dutch firms have completed a risk assessment. However, they concluded that it was difficult to directly link this result with the impact of the tool. As such, it was proposed that

[33] Prof Dr. Monique Ramioul, Private communication 15th August 2017
[34] On line Interactive risk assessment OiRA Team EU-OSHA January-June 2017 https://oiraproject.eu/en/oira-community/european-agency-safety-and-health-work
[35] EU-OSHA Inforgraphic on OiRA https://osha.europa.eu/en/tools-and-publications/infographics/oira-info
[36] Hrymak V. Peer Review on the Use of Web Based Tools for OSH Risk Assessment, Host Country Discussion Paper September 2017

further research further research would be required to make the link between the use of the tools and the completion of a risk assessment and action plan[37].

Based on the available literature there is no evidence to show that these tools lead to a reduction in administrative burden for the companies who use the tools, though this is often an aim of the tools. The Irish BeSMART has demonstrated costs savings for companies, some of which could be attributed to a reduced administrative burden.

[37] https://oshwiki.eu/wiki/Dutch_Risk_Assessment_tools Anita Venema, Cillian de Roiste, palmerk, Thomas Winski 21st April 2017

# 5 Conclusions

It is clear from the information provided above that the impact and penetration of the web-based tools that they are contributing to compliance with health and safety legislation among SMEs. However, there remain challenges, and additional effort must be expended to reach the businesses bearing in mind the around 50% of employees who work in small and micro businesses across Europe. Problems do however remain with the penetration of the tools into MSEs, raising awareness of the tools and their benefits to business in reducing costs and improving safety performance. This requires more initiatives and resources. It has been suggested that better support should come via intermediaries at both the European and individual Member State level to support the OiRA community.

It is suggested that the Peer Review focuses on providing answers to the following questions to inform the way forward:

- How can interactive tools be better promoted to further engage with MSEs?
- What are the key messages which will engage MSEs?
- What role can the key actors play in promoting the use of web-based tools? These will include regulators, intermediaries, such as trade bodies, policy makers at a European level and at Member State level.
- What might support for the use of web-based tools look like for MSEs?
- What is the primary driver for small and micro businesses to use the tools? This could include securing compliance, preventing accidents and work-related ill health and saving time and money.
- Are the tools themselves providing what the small and micro businesses want in terms of usability and functionality? And what mechanisms can be used to ensure that the target audience are engaged in tool development and dissemination?
- Could incentives play a part in encouraging the target audience to use online tools (e.g. could insurers be used as a lever to encourage their use by reducing premiums)?
- Could and should the use of online risk assessment tools be embedded in national legislation?
- Can it be demonstrated that the use of online risk assessment tools reduces the administrative burden on SMEs?
- What are the measures of success for online tools? What are the key metrics which could be used to assess the effectiveness of the various tools?
- What is the future for the development of online tools, and could one size fit all?

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