

# The business case for safety and health at work: Cost-benefit analyses of interventions in small and medium-sized enterprises

Executive summary

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Small and medium-sized enterprises (SMEs) are often referred to as the backbone of the European economy as they account for 67 % of employment. However, at the same time, they also account for 82 % of occupational injuries. It is widely recognised that occupational safety and health (OSH) in SMEs involves a number of particular challenges.

Smaller businesses face greater risks, as the relevant statistics show. It is not only that their employees are disproportionately likely to suffer from accidents or ill health; but because of their size, SMEs are also more vulnerable to the damaging financial effects of neglecting OSH (for example, a small business is more likely to be badly affected if an employee has to take time off to recover from a work-related injury). Many OSH improvements are low-cost solutions, but sometimes SMEs may have problems financing an OSH policy (because they have less access to capital than larger businesses and do not benefit from economies of scale) or implementing one (because of a variety of organisational features, such as a relatively informal management structure or a lack of experience of OSH incidents). Governments also face difficulties in fostering effective OSH management policy in smaller companies, mainly because there are so many SMEs and these businesses usually have limited resources.

However, although SMEs typically, have very limited resources to invest in OSH, research has shown that once SMEs understand the relationship between OSH and productivity, they are then able to see the link between OSH and economic performance. Therefore, good information on how interventions might both improve safety or health and reduce costs is of great importance. The aim of this report is to provide clear case studies that can act as 'eye-openers' for SMEs, raising awareness of the benefits of OSH at enterprise level and helping to change the perception of OSH, so that it is viewed not as a cost factor but as a beneficial investment.

This study had two main strands: identifying case studies of OSH interventions in the existing literature and developing new case studies on OSH initiatives in European SMEs. Seven institutes from various European countries were involved.

There were 91 existing case studies were identified, 19 of them from Europe. In addition, 56 cases of ex ante estimations of the costs and benefits of particular OSH interventions (all in European countries) were identified from the benOSH project<sup>1</sup> on the costs and benefits of OSH, funded by the European Commission.

Some of the problems identified with the existing literature included a paucity of business case studies in relation to SMEs, and particularly of case studies from Europe, and a lack of comparability, with a wide variety of methods used to calculate costs and benefits.

The 13 new case studies of OSH-related interventions in European SMEs developed for this report go some way to tackling these issues. For each intervention, a business case was

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<sup>1</sup> <http://ec.europa.eu/social/BlobServlet?docId=7416&langId=en>

developed, examining all the costs and benefits, regardless of whether they were purely OSH-related or not. This approach is the most appropriate when assessing decisions taken at enterprise level, as the decision to initiate an OSH intervention is taken on the basis of its overall business impact, rather than on the basis of the improvement in safety and health alone. These interventions were described using a common template and were assessed using a common accounting model that resulted in an estimated payback period. Short descriptions of the case studies are presented in Table 1 below.

**Table 1: Case studies developed in this study**

| Case number | Sector                         | Short description of the intervention  | Results  | Payback period (years) |
|-------------|--------------------------------|--|--|------------------------|
| Case 1      | Manufacturing (metal)          | Purchase of individual air cleaning and supply systems, in collaboration with workers                                      | Improved productivity due to enhanced protection and ergonomics of new personal protective equipment (PPE) | 1.00                   |
| Case 2      | Manufacturing (bakery)         | Implementation of equipment to reduce concentration of flour particles in the air  | Elimination of baker's asthma cases  | 3.40                   |
| Case 3      | Waste management               | Training and improved PPE to reduce slip and trip accidents  | Reduction in accidents (20 %)  | 1.30                   |
| Case 4      | Construction (floor coverings) | Training in correct lifting, exercises lifting equipment, reminders about safe lifting, incentives (from health insurance) | Reduction in back pain and sick leave due to back pain   | 2.16                   |
| Case 5      | Manufacturing (bakery)         | Training and issuing of instructions   | Reduction in delivery accidents (67 %)   | <1.00                  |
| Case 6      | Construction (houses)          | Individual visits from a physiotherapist, a rest break tool, training (in empowerment)                                     | Reduction in musculoskeletal disorders and related absenteeism   | <1.00                  |
| Case 7      | Construction (window panes)    | Renting equipment for handling window panes during deliveries (charged to customers)                                       | Elimination of absenteeism due to occupational accidents and ill health, improved productivity.            | 2.62                   |
| Case 8      | Construction (agriculture)     | Implementation of equipment to reduce physical strain in load handling   | Reduction of related incidents, improvement in quality of work   | <1.00                  |
| Case 9      | Agriculture (cucumbers)        | Implementation of equipment to reduce physical strain in load handling   | Improvement in job tenure, improvement in productivity   | >4.00                  |

| Case number | Sector                       | Short description of the intervention   | Results   | Payback period (years) |
|-------------|------------------------------|---|---|------------------------|
| Case 10     | Agriculture/construction     | Implementation of equipment to reduce accident risks and physical strain        | Reduction in accident risks and physical strain, improvement in productivity  | >4.00                  |
| Case 11     | Construction                 | Automatisation through provision of equipment                                   | Reduction in accident risks and physical strain, improvement in productivity  | 3.20                   |
| Case 12     | Manufacturing (food)         | Use of lifting equipment and a film-stretching machine in the packaging sector. | Reduction in back pain, improvement in productivity and reliability.  | 2.00                   |
| Case 13     | Construction (pipes, houses) | Use of a material lift, continuous training, OSH awareness raising initiatives. | Productivity raised by up to 30 %, improvement in quality of work and working conditions (noise, dust), reduction in sick leave | 1.31                   |

Of the 13 interventions, 11 were found that provide a positive return on investment in the five-year period examined. Looking more closely at a couple of the interventions studied, it can be seen clearly that OSH initiatives in SMEs can both bring about a significant improvement in working conditions and be highly profitable.

One of the interventions took place at Kwekerij de Lindenberg, a cucumber cultivation company employing 3 permanent workers and seasonal staff member in the Netherlands. Picking and processing cucumbers is physically demanding. Before the intervention, employees had to lift and move heavy boxes, adopt awkward postures and perform repetitive movements. The workers were getting older and the firm had plans to expand, increasing the surface area of its greenhouse by almost half. The company's owner therefore expected more musculoskeletal disorders among his employees.

With the aim of avoiding this and improving efficiency, the company, working closely with a supplier, developed a new system to make the work of picking and processing cucumbers easier. After concepts had been created and prototypes tested, a new system using an ergonomic container was introduced. Sick leave caused by work-related MSDs was reduced by 20 %. Picking became 15 % and sorting 5 % more efficient. The quality also improved, as fewer of the cucumbers were damaged during processing. The investment in the new equipment was substantial, but it was earned back in a little over four years, and it helped the company to grow in a sustainable way.

Another of the case studies demonstrates the importance of worker participation in a successful OSH intervention. Statga, a furniture manufacturer in Lithuania employing about

90 workers, received complaints from its employees, who found that the ventilation system and respirators that were in use to protect them from dust, fumes and metal particles were inefficient and uncomfortable. The management and the workers worked together to improve the situation, trying out various kinds of protective systems before deciding on the one that best met their needs.

The new system, which consisted of individual air filtration and supply apparatuses, was considered a major improvement by the workers, and from an economic point of view it saved money on spare parts, tools and accessories, and enabled greater productivity. Even looking only at the costs of the old protective equipment in comparison with those of the new system, the intervention was a financial success, resulting in savings of €450.64 per worker per year. It paid for itself in one year.

Although SMEs are not only motivated by profit in introducing improvements to OSH — looking after their workers, protecting their reputation and complying with the law are bigger factors — it is encouraging to see that OSH interventions can often contribute to cutting costs and improving productivity.

With regard to the profitability of OSH initiatives, some qualitative results from the new case studies included in the report are identified:

- Broad interventions appear to be more profitable than interventions targeting a particular issue related to the sector of the enterprise.
- Interventions that include worker participation appear to be more profitable, regardless of whether or not increased productivity benefits are taken into account in the economic evaluation.
- In most cases, the enterprises managed to estimate benefits related to increased productivity. Increased productivity does not always come as a result of improved safety and health, but it is taken into account in the context of a business case for an OSH intervention.

The fact that broad interventions appear to be particularly profitable means that certain beneficial interventions, such as automatic palletising and use of load-handling equipment, are widely applicable and can be implemented in a variety of businesses in many different sectors.

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