

# Healthy Workplaces Good Practice Awards 2020-2022

## CASE STUDY



### Implementing customised solutions to heavy lifting in a metalworking company



#### ORGANISATION/COMPANY

SIA Silkeborg  
Spaantagning Baltic

#### COUNTRY

Latvia

#### SECTOR

Manufacturing (steel)

#### TASKS

Machining



Source: SIA Silkeborg Spaantagning Baltic

### Background

SIA Silkeborg Spaantagning Baltic is a metalworking company in Latvia. Its production process includes such operations as producing customised parts using computer numeric control turning and milling on metalworking equipment, welding, cutting metal and other materials on automatic and manual saws, degreasing and pickling of stainless steel. Handling of weights and physical work are some of the company's most significant workplace hazards.

Heavy materials and parts are present in the production process at all stages, and they frequently vary in size

and weight. Therefore, it is often difficult to use standard lifting equipment (cranes, forklifts, pallet trucks).

### Aims

The company aims to create a safe and ergonomic workplace using practical solutions for the handling and lifting of heavy loads.

## What was done and how?

Some problems were company-specific, in which case it was difficult to purchase ready-made equipment to solve the problem. It was also necessary to find solutions to manual lifting and physical strain that could be used by all employees working at the specific workstations.

The following problems were identified:

1. Milling tools had to be placed very tightly in the milling tool holders, which was done by hand, by supporting the tool holder against a table or securing the tool holder with vices. These activities required a lot of physical effort and posed an accident risk due to uncomfortable working postures.
2. The specific weight and size of parts called motors were in principle impossible to grip with a crane hook or secure with lifting straps.
3. The equipment runs using emulsion, which must be refilled at least once per shift at each workstation. From the main filling point, employees had to lift and carry to the workstation filled emulsion cans weighing up to 20 kg.
4. Finished products for shipment were packed in boxes that were placed on pallets located on the ground. As a result, warehouse employees had to reload and lift several boxes weighing up to 15 kg while bending over the pallets.

Altogether, 23 smaller solutions were implemented to improve ergonomics and reduce manual handling. Practical solutions were based on the ideas, designs and handiwork of the employees themselves, and included the following:

1. **Tool holder stands at workstations:** Two options were presented. An employee designed and created a special tool holder stand in which the tool holder can be inserted and repositioned, making it convenient and relatively easy to attach the required tool. For the second option, the employee adapted a ready-made stand that allowed the holder to be placed at eight different angles. The tool holders not only improve work postures but also reduce the risk of accidents.
2. **Motor holders:** Employees created special holders in which the 100 kg motors could be safely and easily fastened to the crane hook, thus making it possible to lift them by crane.
3. **Emulsion trolley:** Using available materials, employees created a trolley to carry the emulsion cans, thus eliminating a lot of extra manual lifting.
4. **Improving the warehouse workplace:** After consulting with the employees, it was decided that the best solution was to create a packing table of appropriate size on which the boxes could be moved and lifted at a comfortable height. With the change, the warehouse employees now move the boxes in the 'power zone' (elbow height), which reduces the risk of injury during lifting.

## What was achieved?



Source: SIA Silkeborg Spaantagning Baltic

After implementing these solutions, the following planned results were achieved:

- safer and more convenient lifting at the workstations where motors are lifted, as well as in the warehouse;
- more comfortable working positions when performing work that requires physical effort (placing tools in the tool holder); and
- reduced manual lifting by introducing the trolley to transport the emulsion cans.

## Success factors

- Employees were involved in identifying problems in their work environment and used their technical know-how to design and create solutions. Workers' ideas are gathered on an ongoing basis, for example, through channels for them to submit individual ideas and perform brainstorming sessions.
- Following the philosophy of 'What to do when there is nothing to do', the company made use of low production periods to allocate time and resources to developing and implementing ergonomic solutions in the workplace.
- Internal resources were efficiently used to implement solutions by recycling available materials such as waste from other production processes.



Source: SIA Silkeborg Spaantagning Baltic

## Transferability

The concept of producing tailor-made devices to improve ergonomics within the workplace and by employees themselves may not be transferable to all fields of work. However, the idea of involving employees in finding, designing and developing solutions, especially during periods when work is slow, could be transferred to many companies in different industries.

## Costs and benefits

### Costs:

- Low cost of materials by recycling waste metal from other processes
- Efficient use of employee time to design and create solutions during slow periods in production

### Benefits:

- Reduced risk of musculoskeletal disorders
- Reduced risk of injury and accidents
- Improved working postures
- Improved ergonomic lifting

## Key features of good practice example

- The company found and created customised solutions to reduce manual lifting of heavy loads and physically demanding work tasks where standard mechanical lifting solutions could not be used.
- They set an example by taking advantage of their own time, skilled workforce and material resources to create the tailor-made solutions.
- Strong worker involvement meant that workable solutions could be identified and implemented.

Further information can be found at

<https://mssp.group>

<https://www.facebook.com/SilkeborgSpaantagningBaltic>

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