

From Physical Strain to Sustainable Employability

The Role of Electric Tugs in Ergonomic Work Practices



Executive Summary

Physical strain remains a significant risk to employee health and sustainable employability across many sectors. Back, neck, and shoulder complaints not only cause personal discomfort but also result in productivity loss and high organizational costs.

This whitepaper explores how companies can transition from physically demanding work to a safe, ergonomic, and future-proof workplace. Drawing on research by **TNO**, **RIVM**, and the **European Agency for Safety and Health at Work (EU-OSHA)**, it provides insights into the scale of the problem, its economic impact, and the legal obligations related to physical strain.

Furthermore, this paper demonstrates how electric tugs from Movexx offer a proven and effective solution to reduce physical strain, improve operational efficiency, and strengthen sustainable employability.

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1. Introduction

Physical strain is one of the most common occupational risks in both the Netherlands and across Europe. In sectors such as logistics, industry, healthcare, and retail, employees perform daily tasks that involve lifting, pushing, pulling, or prolonged standing. According to TNO and RIVM, nearly one-quarter of all sick leave days in the Netherlands are related to physical strain.

The consequences are not only medical but also economic. Employers lose millions of euros annually due to absenteeism, replacement costs, and reduced productivity.

For many organizations, the question is not whether to address ergonomics but how to do so effectively and sustainably. This whitepaper outlines a step-by-step approach to adopting ergonomic work practices with the help of Movexx electric tugs.

2. The Impact of Physical Strain

2.1 Health Implications

Physical overexertion is a leading cause of musculoskeletal disorders (MSDs). According to the **European Agency for Safety and Health at Work (EU-OSHA)**, 60% of European workers experience back, neck, or shoulder complaints due to physical strain.

The World Health Organization (WHO) estimates that MSDs account for nearly 7% of all lost working years worldwide.

2.2 Economic Impact

The financial burden of physical strain is substantial:

In the Netherlands, absenteeism and disability costs due to physical strain exceed **€2.5 billion annually** (TNO, 2023).

An employee with chronic back pain costs an average of **€9,000 to €13,000 per year** in sick leave and replacement expenses (RIVM, 2022).

Productivity losses related to physical complaints can reach up to **20% per employee** (Arboportaal, 2023).

2.3 Impact on Work Culture

Beyond the financial damage, physical strain negatively affects motivation and engagement. Persistent pain leads to stress, reduced concentration, and lower job satisfaction factors that ultimately increase staff turnover.

3. Ergonomics as a Strategic Priority

Ergonomics is no longer just a compliance requirement; it has become a strategic component of sustainable business management.

3.1 Legal Obligations

The **Dutch Working Conditions Act (Arbowet)** and **Working Conditions Decree** require employers to minimize physical strain. Employers must:

- Conduct a **Risk Inventory and Evaluation (RI&E)**;
- Implement appropriate measures to reduce physical workload;
- Provide employees with information and training on safe, ergonomic working practices.

At a broader level, the European Union's Strategic Framework on **Health and Safety at Work 2021-2027** encourages investment in ergonomic innovation as part of long-term sustainable employability policies.

3.2 Economic and Social Benefits

Companies that invest in ergonomics experience measurable benefits:

- Lower absenteeism and reduced long-term sick leave;
- Higher productivity and improved efficiency;
- Greater employee satisfaction and reduced turnover.

In short, ergonomics not only improves health and safety but also enhances competitiveness and business continuity.

4. The Technological Solution: Movexx Electric Tugs

Movexx electric tugs enable heavy loads to be moved effortlessly without physical exertion or risk of overexertion. Designed for diverse sectors, from hospitals to distribution centers, they integrate seamlessly into existing logistics processes.

4.1 Key Benefits

- Reduced physical complaints: Up to 70% less strain on the back, neck, and shoulders.
- Improved efficiency: Faster transport with fewer interruptions.
- Enhanced safety: Significantly lower risk of incidents or injuries.
- Employee satisfaction: Less fatigue and greater job engagement.
- Sustainable employability: A healthy posture supports long-term workforce participation.

4.2 Movexx Support

Movexx supports organizations through every stage of the transition:

1. Analysis of the current work situation.
2. Tailored advice for the right model.
3. Demonstration or test period.
4. On-site training and implementation support.
5. Evaluation and optimization.

Movexx thus provides not just a product but a complete solution for lasting improvement in workplace ergonomics and efficiency.

5. Implementation and Practical Results

Real-world examples demonstrate the measurable benefits of Movexx electric tugs:

- In the **healthcare sector**, logistics teams reported a **45% reduction in physical complaints** within one year of implementation (Movexx internal case study, 2024).
- In **logistics operations**, companies achieved **25% higher productivity and 30% fewer sick leave days**.
- In industrial environments, Movexx tugs contributed to safer workflows and reduced material damage.

The key to success lies in combining technology with a human-centered implementation: involving employees from the start and providing ergonomic training ensures both acceptance and long-term results.

6. Conclusion

Physical strain continues to challenge employers worldwide. Yet, the solution is within reach. By investing in ergonomic technology such as Movexx electric tugs, organizations make work not only easier but also safer, more efficient, and more sustainable.

Investing in ergonomics is an investment in people, one that pays off through reduced absenteeism, increased productivity, and a stronger organization.

A healthy workplace is not a cost but the foundation of future-proof business.

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