Healthy Workplaces Good Practice Awards 2023–2025

CASE STUDY

Digitalisation of health and safety supervision, involvement and communication at construction sites

ORGANISATION/COMPANY	COUNTRY	SECTOR	TASKS
YIT LATVIJA Ltd	Latvia	Construction	Constructing residential and non-residential buildings

Introduction to the case study

Management at YIT LATVIJA Ltd, a small construction company, realised that its procedures for safety inspection and communication of protocols were outdated and inefficient. This put site personnel and subcontractors at high risk of accidents. To address this, the company implemented a digital tool for computers and mobile apps that integrates all work processes into one system. With the use of QR codes and 3D building information modelling (BIM) models, safety observations and their exact on-site location can now be communicated quickly for immediate correction, thus preventing potential accidents.

Background

YIT LATVIJA, a subsidiary of YIT Group OY, provides services to develop and construct new blocks of flats and other real estate properties in Latvia. The company has 36 workers and it hires subcontractors and suppliers during construction works.

OSH is an integral part of YIT's values and daily operations. Its goal is to be a zero-accident working community. At all construction sites, the company's OSH requirements apply to the entire supply chain, including company personnel, subcontractors and independent contractors.

Problems identified

- The work procedures were time-consuming, with safety inspections of sites done on paper protocols and the use of a separate device to process and attach photos. After the safety round, acts of non-compliance for subcontractors were recorded at the site office, and only negative observations and tasks were documented.
- Response to safety rule violations was delayed as the protocols were not always prepared and handed over to subcontractors on the day of the safety inspection.
- Safety observations were often incomplete or contained errors, so the location of the task was not always clearly identifiable based on the photos.
- A lack of communication and safety information flow inhibited data from being collected and communicated to the subcontractors, as well as between YIT site teams.
- Subcontractors neglected to report any near misses or minor accidents and generally lacked sufficient knowledge about OSH to communicate issues to YIT personnel.

Aims

The company aims to leverage digital tools to effectively facilitate OSH management and help to identify and mitigate work-related risks at construction sites.

What was done and how?

The company digitised its OSH monitoring process and integrated safety observations into the 3D BIM system that can be used on a computer or mobile application.

The steps taken included:

- allocating resources and appointing responsible persons;

- procuring and formalising a contract with the digital tool provider;
- creating a test version;
- selecting a pilot project, involving different company specialists;
- conducting practical tests of the mobile application at the construction site;
- improving the digital function after the performed tests;
- training system users;
- updating personnel about ongoing changes;
- amending subcontractor contracts regarding legal aspects;
- training subcontractors;
- monitoring digital functions through regular system audits;
- setting OSH targets and developing actions regarding safety observations;
- improving safety communication through discussions at weekly production meetings with subcontractor representatives, individual talks with workers during site visits and regular exchange with YIT site personnel teams.

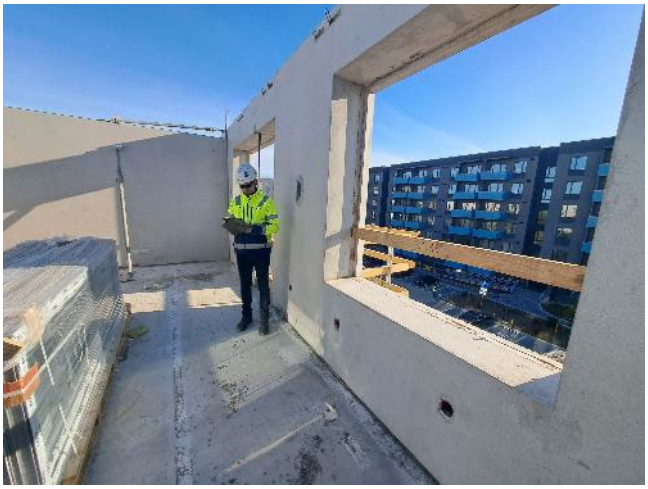
What was achieved?

The system has been in place since September 2023 and operates successfully at all active construction sites.

- YIT personnel actively create daily safety observations (positive and negative) that are immediately communicated to the responsible subcontractor.
- Once a week, the company's OSH specialist conducts a safety inspection, informing responsible persons of any deviations as well as positive observations.
- Subcontractor representatives use the software to report corrections, allowing YIT site personnel to confirm the completed task. Subcontractors not only receive tasks concerning issues, but also get positive feedback on the implementation of good practice.
- YIT personnel manually create safety observations from subcontractors who are not registered to access the system.
- Site managers place plans with QR codes in blocks of flats and construction site areas.
- Users locate and review observations by linking their location to the actual 3D BIM model.
- Analysts regularly review data and communicate findings to management, project teams and subcontractors.
- Top OSH management conducts walk-throughs and talks at sites.
- OSH specialists perform monthly audits regarding the system functionalities.

Despite the effective and timely management of safety issues, there is still room for improvements, such as:

- encouraging feedback from subcontractors through renewal of contract requirements, training before starting work and provision of visual information;
- adjusting digital accessibility of QR codes, so safety observations can be made by any person employed at the construction site without involving YIT personnel or subcontractor representatives;
- reporting of near misses and minor incidents.



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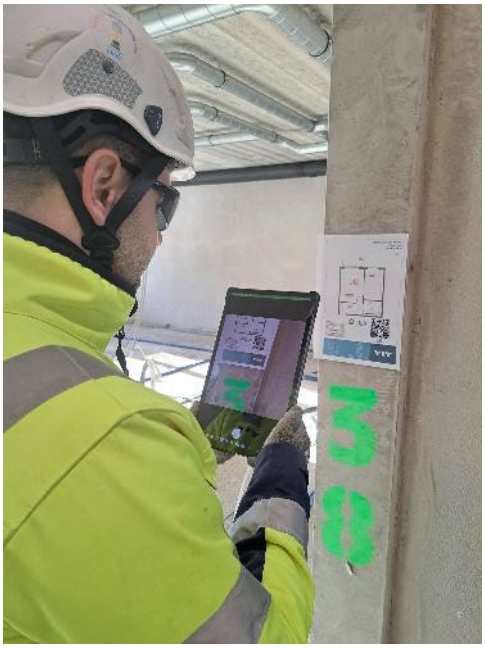
Success factors

1. Company workers (BIM specialist, OSH specialist, site manager, production manager, real estate development director) collaborated to integrate OSH into the production process by selecting a digital tool suited to the company's needs and operations, in which:
    - the entire construction process is monitored and controlled using one system, taking into account OSH and environmental protection requirements and quality control checks;
    - the system could successfully be integrated with the 3D BIM model, making the project site visually more understandable and the location of identified safety observations easier to find.
    - the software is user-friendly;
    - system versatility enables updates and the creation of new digital functions;
    - easy data export options enable data to be conveniently collected and quickly communicated.
2. Top management showed support and invested in the digitalisation of OSH processes and their improvement.
3. Implementation of digital processes was well-planned, starting from the creation of a steering group, selection of a pilot project, practical testing

of functionality and constant improvement until it could be implemented in projects.
4. Workers and subcontractors received both theoretical and practical on-site training.
5. The system functionalities are regularly monitored, and feedback from personnel and subcontractors is used for further development.
6. The system enables regular OSH monitoring and data analysis.
7. All problems and system deficiencies, as well as necessary improvements, are discussed openly, while good practices and positive examples are also recognised.



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Transferability

This digital solution could readily be adopted by construction companies of any size. As seen from the example of this small company, work processes, including OSH and environmental monitoring, are integrated into one efficient system that is easy to use.

Costs and benefits

Costs
The company pays €3,000 per month for the system, including human resources and maintenance fees.

Benefits
The digital system facilitates work processes and the timely prevention of safety issues, which has a positive impact on accident frequency.

Key features of good practice example

- Safety observations and protocols can be created efficiently and communicated quickly.
- YIT workers and subcontractors are all involved in improving OSH and solving safety issues.
- An open work culture and better understanding of OSH in the workplace has been created.
- The company has implemented a digital tool that improves OSH, not only in the company itself, but also in the subcontractor chain management.

Further information

Further information can be found at:

https://www.yit.lv/en/

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