



Finnish Institute of
Occupational Health

Well-being through work



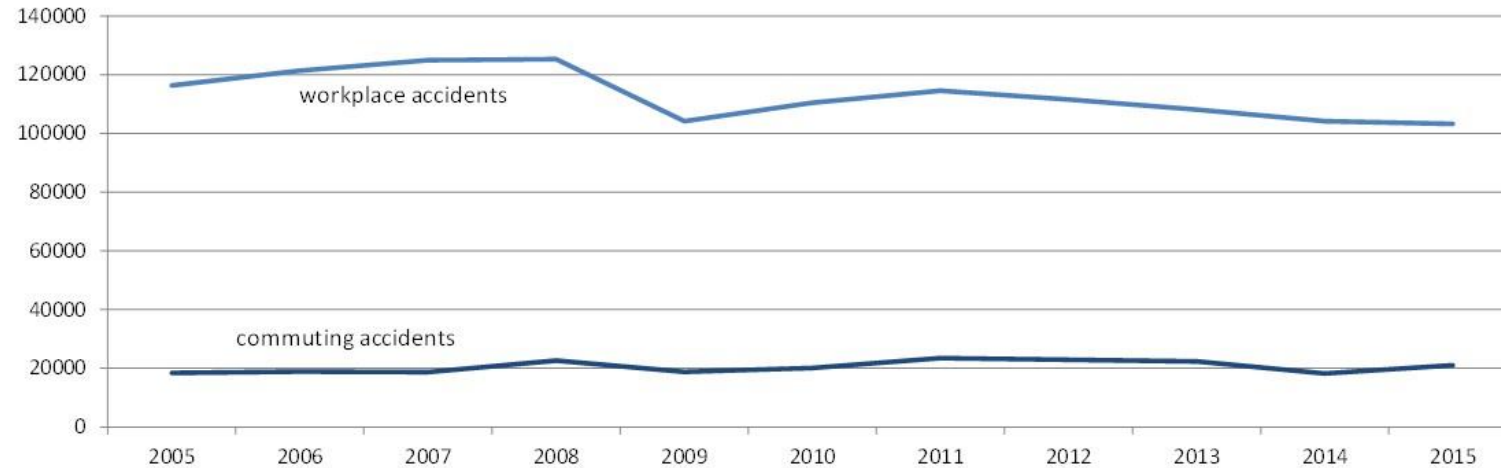
Finnish Institute of
Occupational Health

Safety training parks – A case study on the effectiveness of the trainings

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at Work (WOS.net)
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Tuula Räsänen, PhD, Senior Specialist

Number of wage earners' compensated accidents at work

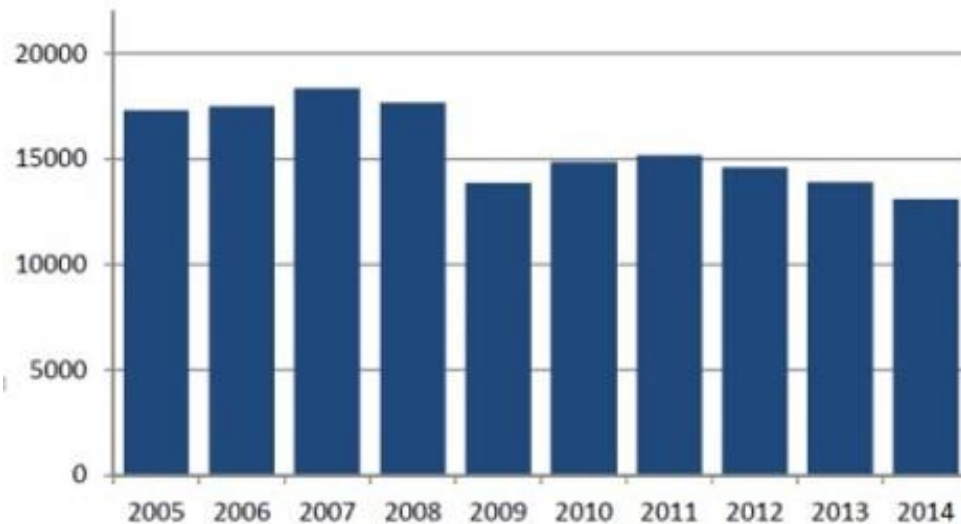


Accidents at work per one million hours worked (main industries)

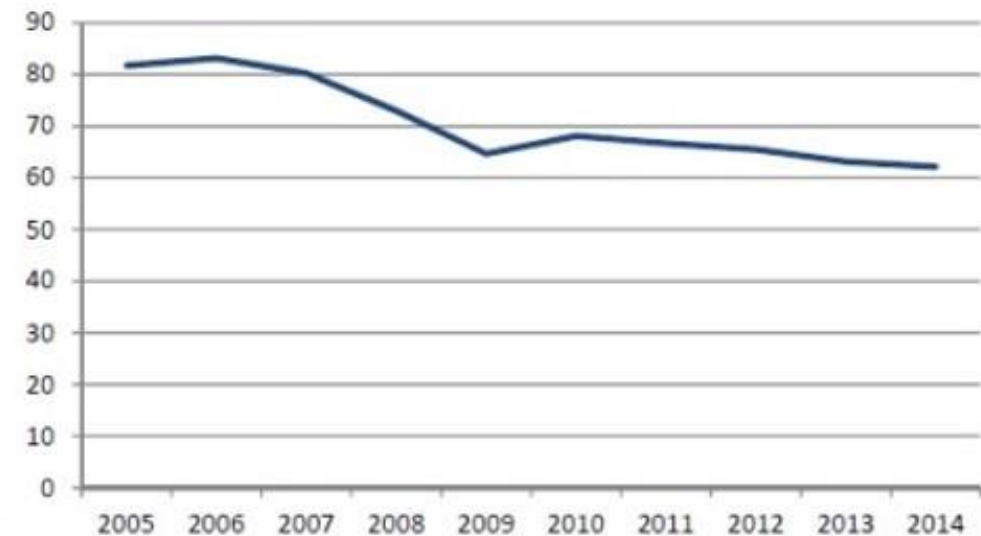
Industry	2012	2013	2014
C. Manufacturing	36,4	33,2	33,8
F. Construction	65,5	63,1	62,1
G. Wholesale and retail trade	29,6	29,1	29,5
H. Transport and storage	48,8	46,1	42,9
N. Administrative and support service activities	53,5	51,8	51,5
Q. Health and social services sector	28,2	30,8	30,1
Z. Municipal sector	23,7	24,2	22,8
ALL INDUSTRIES	30,4	29,6	29,1

Occupational safety challenges in generally in construction industry – What is the main target?

Accidents in construction industry in Finland (wages earners)



Accidents at work per one million hours worked (construction)



Safety training park – examples of training points



Background

- The Safety Training Park (STP) concept is a unique Finnish safety training innovation
- The STP provides different actors of the construction industry and other branches a practical occupational safety and health (OSH) training area



Objective

- Objective was to study the effectiveness of the STP trainings at a large case company which participated in this study and which has actively trained its personnel in the park.
- The study was conducted from February 2015 to February 2017.



Method

- Method of this study is based on a realistic evaluation framework.
- As the specific methods The Nordic Safety Climate Questionnaire (NOSACQ-50), company OSH statistics, and individual and group interviews were used.



Result 1: Occupational safety climate

- Several key success factors were identified in the interviews of this case study.
- In addition, the company OSH statistics (2010 – 2016) showed a positive development at safety level.
- However, The Nordic Safety Climate Questionnaire did not show any significant change of results in a one year period.
- According to the results of the group interviews the learning possibilities in the STP was evaluated positive most of the persons in groups.



Result 2: Individual and group interviews

- Experiences of the practical implementation and effectiveness of safety training were collected from supervisors and employees who participated in the training rounds, by focus group interviews before and after the training.
- As shown in Table 1, a total of 20 different learning findings were presented in the company's interviews
- These findings were divided into two different interviews. The first interview (D1) was conducted about one month after the visit in STP and the other interview (D2) a year after the visit in park

Table 1. The observations that support learning.

How STP supports learning	D1	D2
Demonstration of accidents and clear presentation of problems and protection	X	
Influencing the atmosphere and attitudes	X	X
Very useful especially for students		X
Good orientation for everyone		X
Good presentation of personnel protective equipment, epoxy treatment gloves		X
Working on the roof, various fixing mechanisms, use of safety harness, rack and ladder work		X
Useful for designers and architects		
The importance of occupational safety in business is highlighted		X
Order and cleanliness	X	
The risk of collapse of excavators and how to protect them	X	
Videos about work and protection are useful		X
Impact on home and leisure time accidents	X	X
The training point describing the explosion of the cement pump hose is useful		X
Electrical safety issues	X	
Hazards related to work machines (loading shovel)	X	
Dummies are a good thing		X
The practical training possibility (testing) of performing a job safely would be a good addition		X
Good place to meet and think together about safety issues		X
The effect of hurry and stress on safety	X	
TOTAL	8	12

Result 3:

"Maybe, a smaller group would be more effective in learning. When the 15 people there are talking with each other, so it is quite hard to concentrate to the point."

"Somehow I got the impression that we will do some exercises there and not just looking at it."

- The observations which do not support the learning according to interviews can be presented in the following table (Table 2).
- Participants in several focus group interviews thought that participants in the safety park rounds should have been activated more during the round.
- It was suggested, among other things, to test harnesses or other protections and to search for faults in small groups.

Table 2. The observations which do not support the learning.

What kind of shortcomings there are in present STP training?	D1	D2
Weather conditions	x	
Trainees should be more actively involved during training. Testing of equipment and things in different training points is missing, just watching.		x
Too big group on rounds, round should be done in smaller groups		x
Fire extinguishing training points were missing	x	
More sample examples of cleaning, now more man-made park		x
TOTAL	2	3

Result 4: Company OSH statistics

- Accident rate has clearly fallen by all target companies over the period 2010-2016 (Figure 1). The target company E is the only company that provided the ratings for each year over the period under study.
- The comparison data used was the nationwide, publicly available accident rate data of the RT (Construction Industry). RT's key safety figures are based on a local, annual questionnaire for member companies. According to the t-test of the student ($t = 0.52763$, $P = 0.609261$) there is no statistically significant difference between the nationwide accidents rate development of the target company E and R used. Company D's accident rate has dropped from 40 to 15 in 2014-2015.

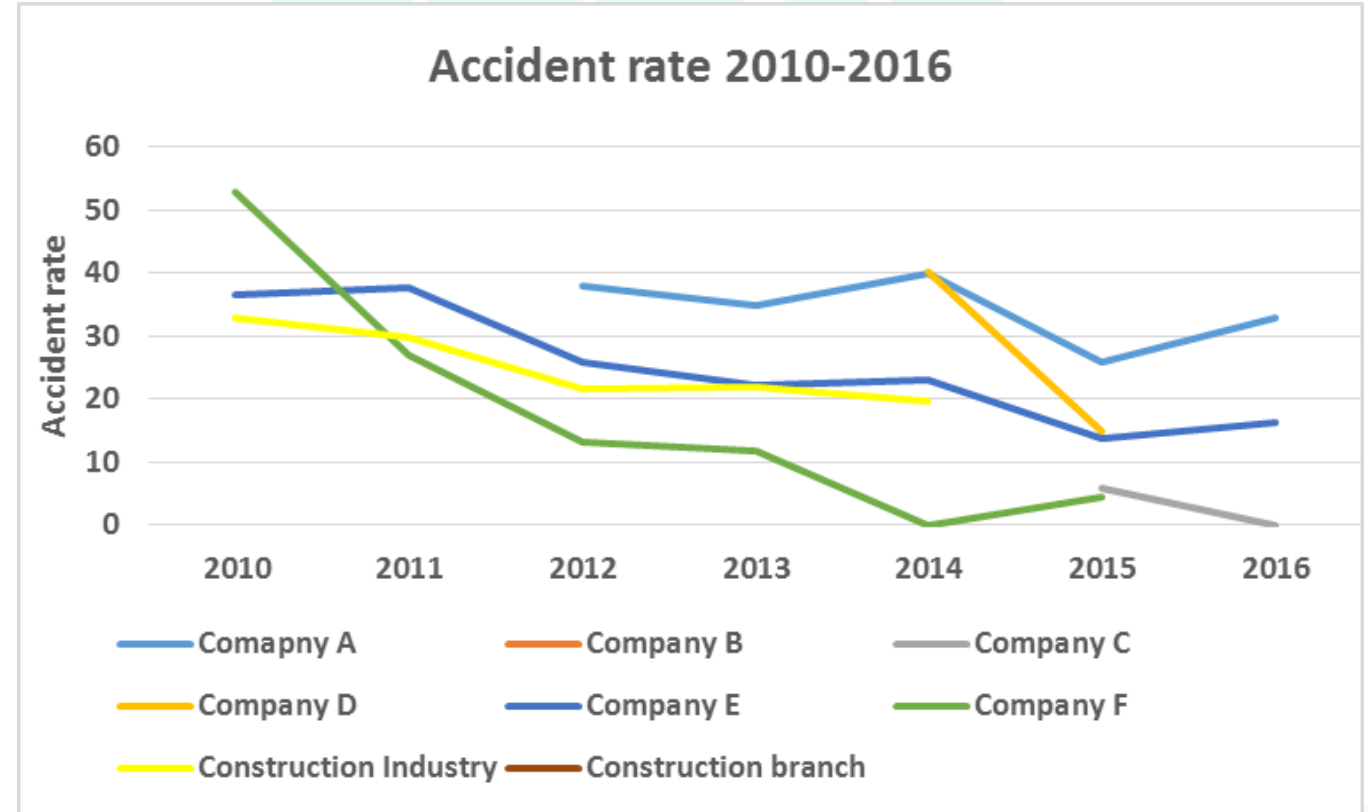


Figure 1. Accident rate of the company been studied (D) compared to other companies been studied and construction industry.

Examples from the interviews – What was the most impressive in the training park?

"The importance of the use of protective equipment is highlighted. So surely these good examples of the right way of doing things stay in mind."

"Especially if you have just come to working life, so yes, some useful things comes up."

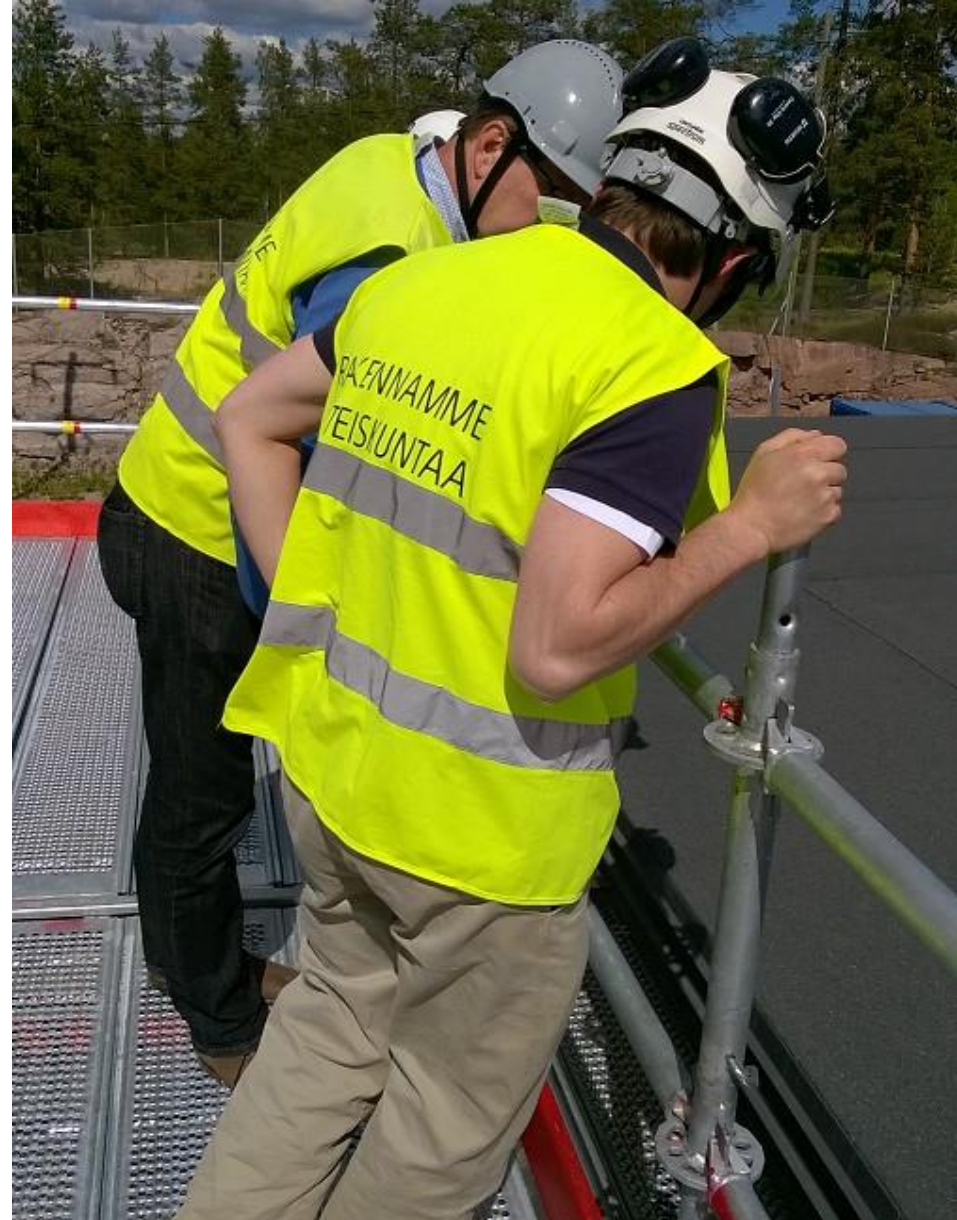
"It is good and funny idea to have those dolls in every training points, it will tell you what it is the problem."

"The trench supporting for the excavator is a scary training point. Really. It came to my mind that when those trenches are made even in leisure time. It does not come to mind when digging foundations that it can collapse."



Conclusions

- The results of this study indicate that a company can by actively using the park for safety training purposes have a positive OSH development.
- As a proof of a belief in the effectiveness of STP trainings several educational institutions and organizations representing broadly construction industry in Finland have adopted Training Park training into their curriculums.



What is the future of the safety training parks?

- Safety education in schools and universities
- Introduction of young workers to safety issues
- Introduction and guidance of new and temporary employees
- Training of superiors and directors
- Co-operation with contractors in safety training park training
- Continuous refresher training for the experienced employees
- The new training methods - digitalisation
- Measurement of the effects of the training



Further information

Tuula.Rasanen@ttl.fi,

+ 358 40 505 4546

Arto.Reiman@oulu.fi,

+358 40 539 4987

Pohjois-Suomen Turvapuisto ry

<http://pohjois-suomenturvapuisto.fi/>

Olli.Airaksinen@sinenkaari.fi,

+358 44 266 0055

Rudus Turvapuisto, Espoo

<http://www.turvapuisto.fi/>

Kari.Lohva@rudus.fi

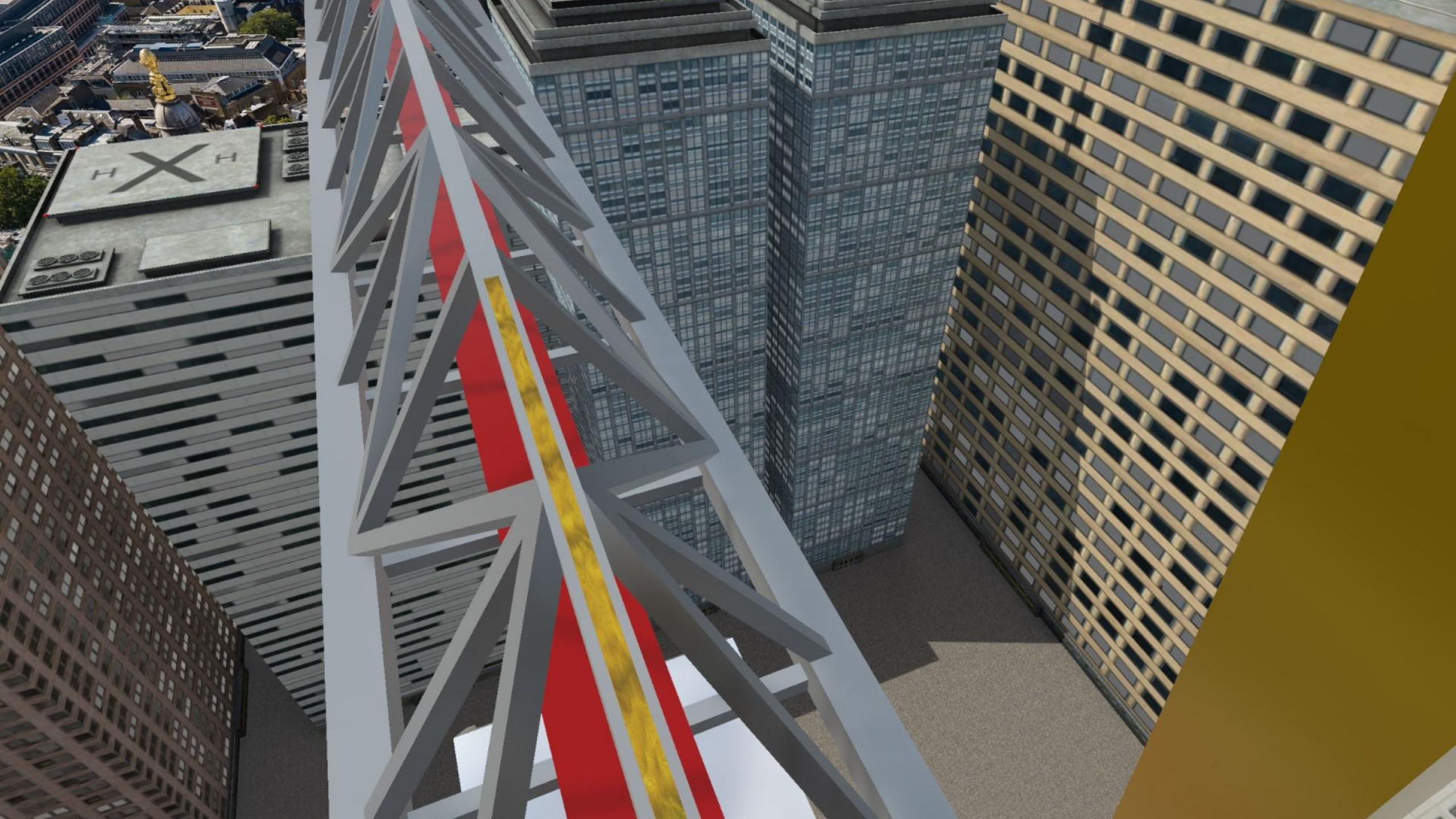
Safety training area in Kuopio (<http://www.ttha.fi/>)
(in connection with Emergency Services College)



Rasti #2: Korkealla oleva kohde
Työtovereisi Toinen tallei kukaan näin olemassa
metallisen tallei ajokonekoneen seinät. Kuka kukaan
pääsemään kukaan ajokonekoneen seinät. Kuka kukaan
kun kukaan kukaan ajokonekoneen seinät. Kuka kukaan
vasemmalla oleva ajokonekoneen seinät. Kuka kukaan
työn suoritusalueen ajokonekoneen seinät. Kuka kukaan
ajokonekoneen seinät. Kuka kukaan







Zero Accident Forum

Finnish national network for workplaces sharing a genuine desire for continuous improvement of occupational health and safety.

The main principle of the Forum is to share successful practices and to learn from each other.

Currently 380 members.





Zero Accident Forum is a national network for workplaces sharing a genuine desire for continuous improvement of occupational health and safety. The main principle of the Forum is to share successful practices and to learn from each other, across industries.



Facts about the Forum

- Established in 2003
- Over 350 workplaces as members
- Covers nearly 60 industries
- Close to 400 safety level certifications granted
- Annual member fee collected



Benefits for workplaces

- Opportunity for mutual learning
- Support from other workplaces and experts
- Seminars and webinars
- Website with tools for improving occupational health and safety (www.nollis.fi)
- Newsletter
- Yearly safety level assessment and certificate
- Reductions from certain training courses and services



More information

Mr. Tommi Alanko, Director
tommi.alanko@ttl.fi
tel. +358 30 474 2793

Forum for all workplaces

The Zero Accident Forum is a network of Finnish workplaces. It is open to any workplace committed to improving occupational health and safety and working towards the zero accident goal in cooperation with employees and management. The members of the Forum are also committed to openly sharing experiences and successful practices with other workplaces.

Supporting the journey towards zero

The aim of the Forum is to motivate and encourage workplaces to strive for a high level of occupational health and safety on a voluntary basis. The Forum promotes the "vision zero" approach and actions in accordance with it. It supports the needs of member workplaces providing e.g. networking possibilities and different tools for improving occupational health and safety.

Broader view of Vision Zero in the Forum

- Zero accidents
- Zero occupational diseases
- Zero tolerance for bullying
- Zero work related sick leaves
- Zero uncared violence or harassment cases
- Zero cases of long-term exhaustion
- Zero managers and workers ignorant of occupational safety



**TOGETHER
TOWARDS
ZERO**



Finnish Institute of
Occupational Health

Thank you!



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