Proactive occupational safety indicators in construction

NIVA online webinar
Practical perspectives on safety promotion in construction
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Appetizers for the NIVA course in Malmø

Practical perspectives

1. Safety culture maturity ladder

2. Vision Zero for safety in construction

3. Leading safety indicators

4. 'Safety observer' app for construction

Safety culture ladder

Generative

Vision zero

Proactive

Active

Reactive

Passive

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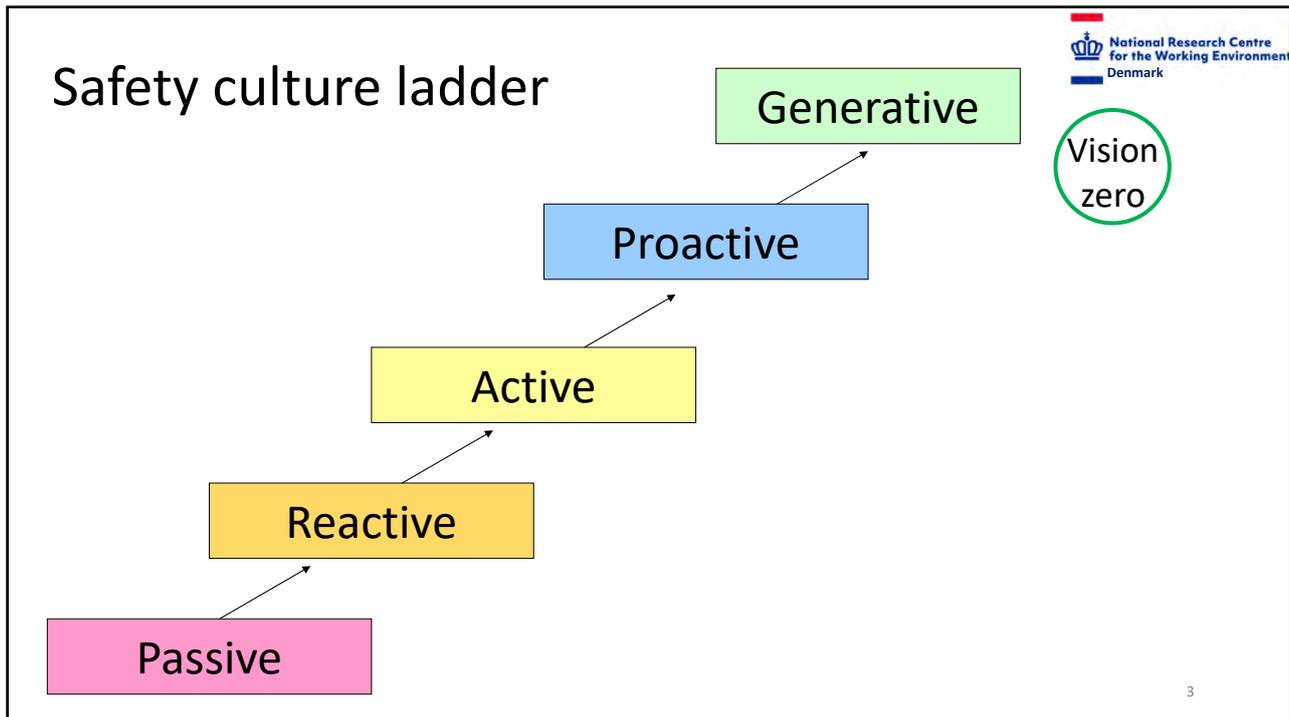
EU study – 'Vision Zero' companies

- 7 EU countries, 27 companies

- Interview, questionnaires and national workshops
- 8819 questionnaire respondents
- 66 % workers, 30 % leaders/managers/supervisors

- 13 manufacturing companies (51 % respondents)
- **7 construction companies (28 %)**
- 7 other companies (21 %)

Zwetsloot, Kines et al., Safety Science, 2017 a & b

Traditional safety approach vs. Vision Zero

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Safety **control** strategy	Safety **commitment** strategy
Safety is a **goal**	Safety is a **journey**, a **process**
Preventing accidents	**Creating** safety
Safety programs	Safety an **integrated** part of **business**
Risk **management**	Business **leadership**
Safety management **systems**	Safety **culture** and learning
Safety owned by **few**	Safety owned by **all**
Safety is a **cost**	Safety is an **investment**
Workers are part of the **problem**	Workers contribute to **solutions**
Incidents are **failures**	Incidents are **opportunities for learning**
Benchmark on **injuries**	Benchmark on **good-practice** and **leading indicators**

Measuring safety and health at work

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Traditional goals measured by reduction in:
- Accidents and injuries
- Sickness absence
- Disease
- Insurance and compensation costs
- Early retirement
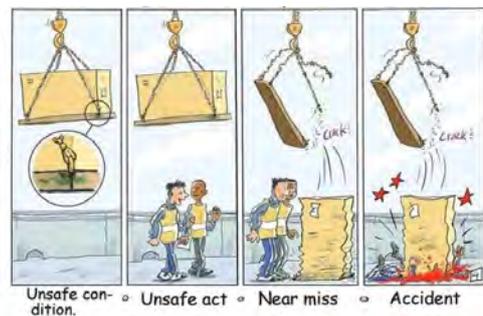
Leading indicators and actions
- Proactive
- Preventive
- Predictive

Unsafe condition. · Unsafe act · Near miss · Accident

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Methods – international collaboration

- Literature **review**

- **Companies** from around the world – small, medium and large, cross-sectoral

- International **sector organizations**: mining, construction, energy, trade and transportation

- Safety and health **educators** and **trainers**

- Safety, health and wellbeing **researchers**

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Inputs from literature and industries

	Safety, health and wellbeing themes	Leading indicators	
		Literature	Industry
1	Leadership commitment	12	6
2	Identify and control hazards and risks	7	10
3	Targets and programmes	14	8
4	Ensure SHW system	10	24
5	Well-designed equipment and workplaces	1	5
6	Qualifications, competences	10	8
7	Investing in people and participation	10	11
	Totals	**64**	**72**

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Evidence from the London Olympics 2012

100 million working hours - low accident rates - no fatalities

Five success factors
- Visible impactful leadership
- **Daily activity briefings**
- Following-up near misses
- Taking action on reports
- Recognition and reward

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Leading indicators
What do we count? How do we count it?

- ✓ Policy: SHW integrated
- ✓ Education
- ✓ Training
- ✓ Briefings (number, frequency)
— — — — — — — — — — — — — —
- ✓ Follow-up
- ✓ Action
- ✓ Evaluation
- ✓ Learning

Briefings

Toolbox meetings

Safety rounds

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The 14 Proactive Leading Indicators

1.1 Visible leadership commitment	1.2 Competent leadership
2.1 Evaluating risk management	2.2 Learning from unplanned events
3.1 Workplace and job induction	3.2 Evaluating targeted programmes
4.1 **Pre-work briefings**	4.2 Planning and organization of work
5.1 Innovation and change	5.2 Procurement
6.1 Initial training	6.2 Refresher training
7.1 Suggestions for improvement	7.2 Recognition and reward

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14 Fact sheets

←Aims

←Key concepts

←Good practice

←Limitations

←How to measure (3 options)

←Example of graphical results

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Three options for using the indicators

Example indicator 4.1: Are Safety, Health and Wellbeing an integrated part of discussions in <u>pre-work briefings</u>?

Option 1: YES / NO

Option 2: Frequency estimation - scale of 0 - 4, 'Never' to 'Always'

Option 3: Quantitative measurement – actual frequency or percentage
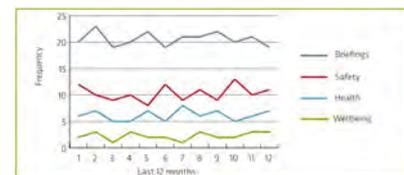
Working with leading indicators

• Identify your strengths and needs for improvement in SHW

• Discuss priorities with leaders and workers

• Adapt the indicators – make them relevant for your context and resources

• **Get experience with one or two indicators**

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Proactive leading indicators

- Guide with 14 fact sheets
- http://visionzero.global

- Available in:
  - English
  - French
  - German
  - Japanese
  - Russian
  - Spanish
  - Ukrainian
  - Etc.

Scientific publication

- Zwetsloot, Leka, Kines, Jain (2020). Vision Zero: Developing proactive leading indicators for safety, health and wellbeing at work. Safety Science. 130, 104890, 1-10.

- Open access
  (free to download)
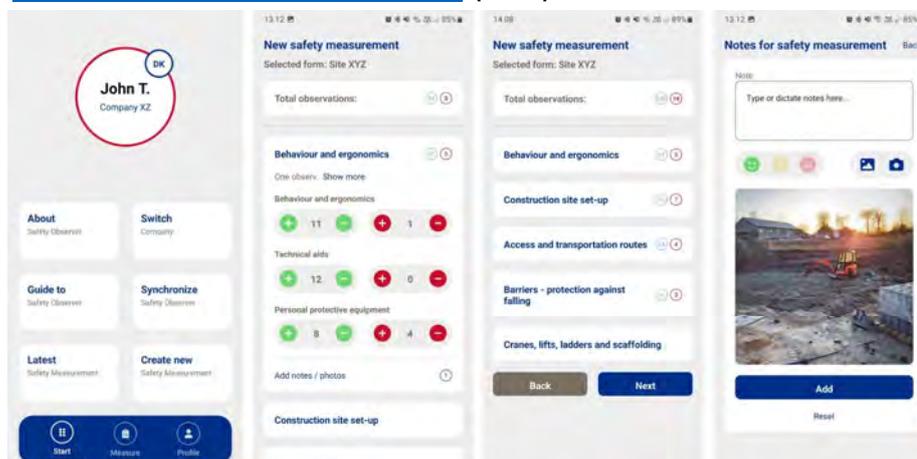
Safety Observer app (version 3.0)

- Measuring compliance to on-site safety conditions and behaviours
- For use in systematic safety rounds

Safety index

Safety Observer (version 3.0)
App for systematic safety rounds

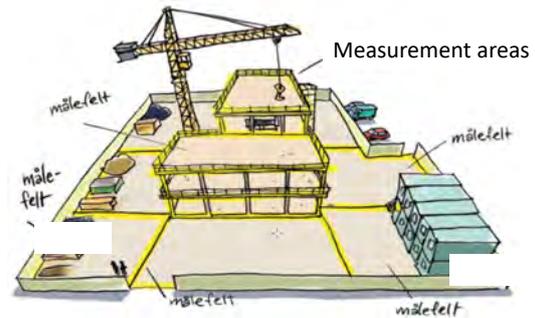- https://safetyobserver.dk
- https://nfa.dk/safetyobserver (info)

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Measuring compliance to on-site safety conditions and behaviours

- Behaviour & ergonomics
- PPE & technical assistive devices
- Signs, labels & warnings.
- Equipment & tools
- Order and tidiness
- Etc.

- **Make your own lists!!**

Measurement areas

Thank you for your attention

Hope to see you in Malmø

☺

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