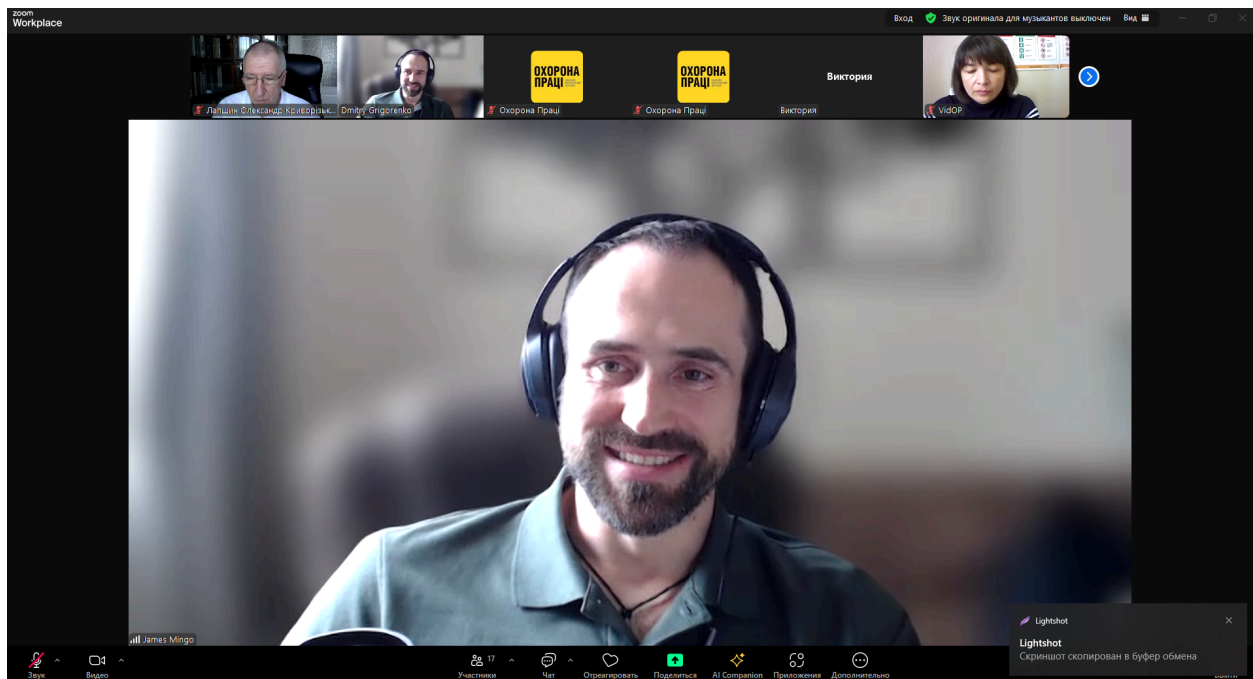
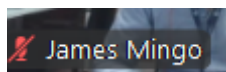
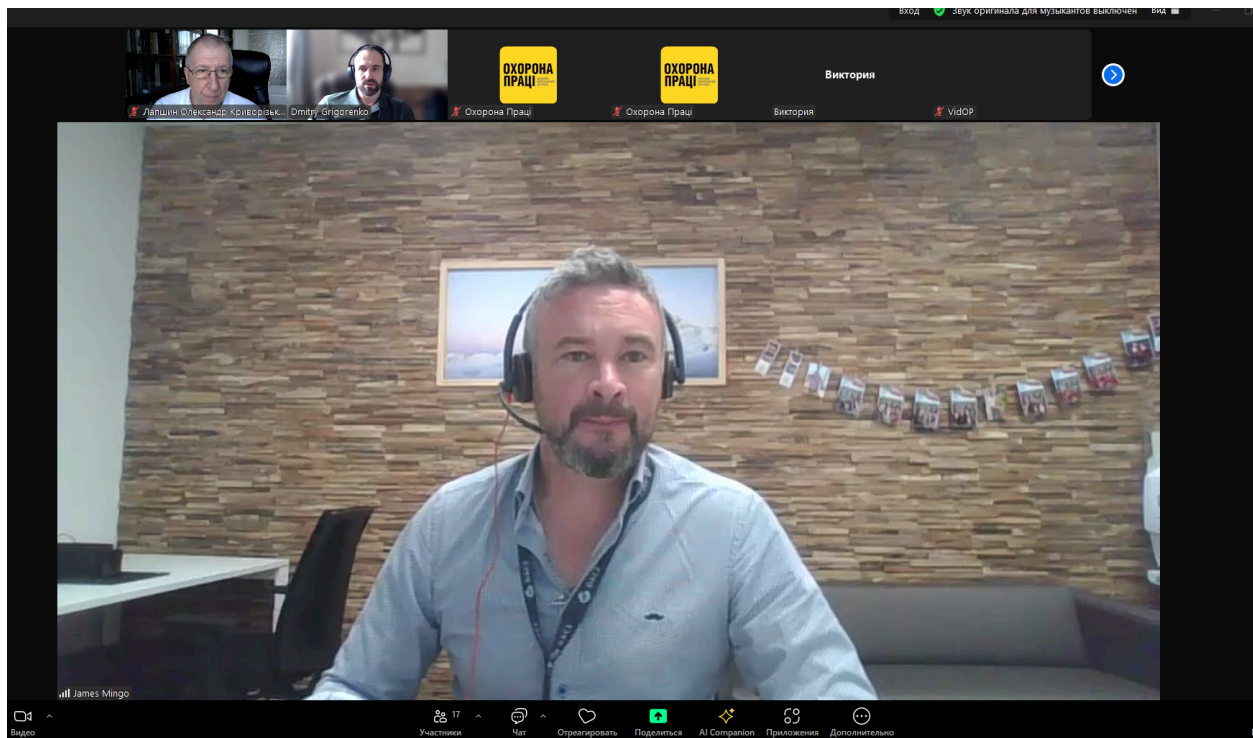


Учасники (18)



🔍 Найдти учасника

- Л

Лапшин Олександр Криворі... (Я) 🔇 📺
- ОХОРОНА ПРАЦІ

Охорона Праці (Організатор) 🔇 📺
- JM

James Mingo (Коорганізатор) 🔇 📺
- J

JanWillemVern... (Коорганізатор) 🔇 📺
- ОХОРОНА ПРАЦІ

Охорона Праці (Коорганізатор) 🔇 📺
- DG

Dmitry Grigorenko 🔇 📺
- B

Виктория 🔇 📺
- Nataliia 🔇 📺
- OT

Oleksandra Tereshchuk 🔇 📺
- V

VidOP 🔇 📺
- V

Viktoriia 🔇 📺
- B

Валерій 🔇 📺
- B

Владимир Надточий 🔇 📺
- Є

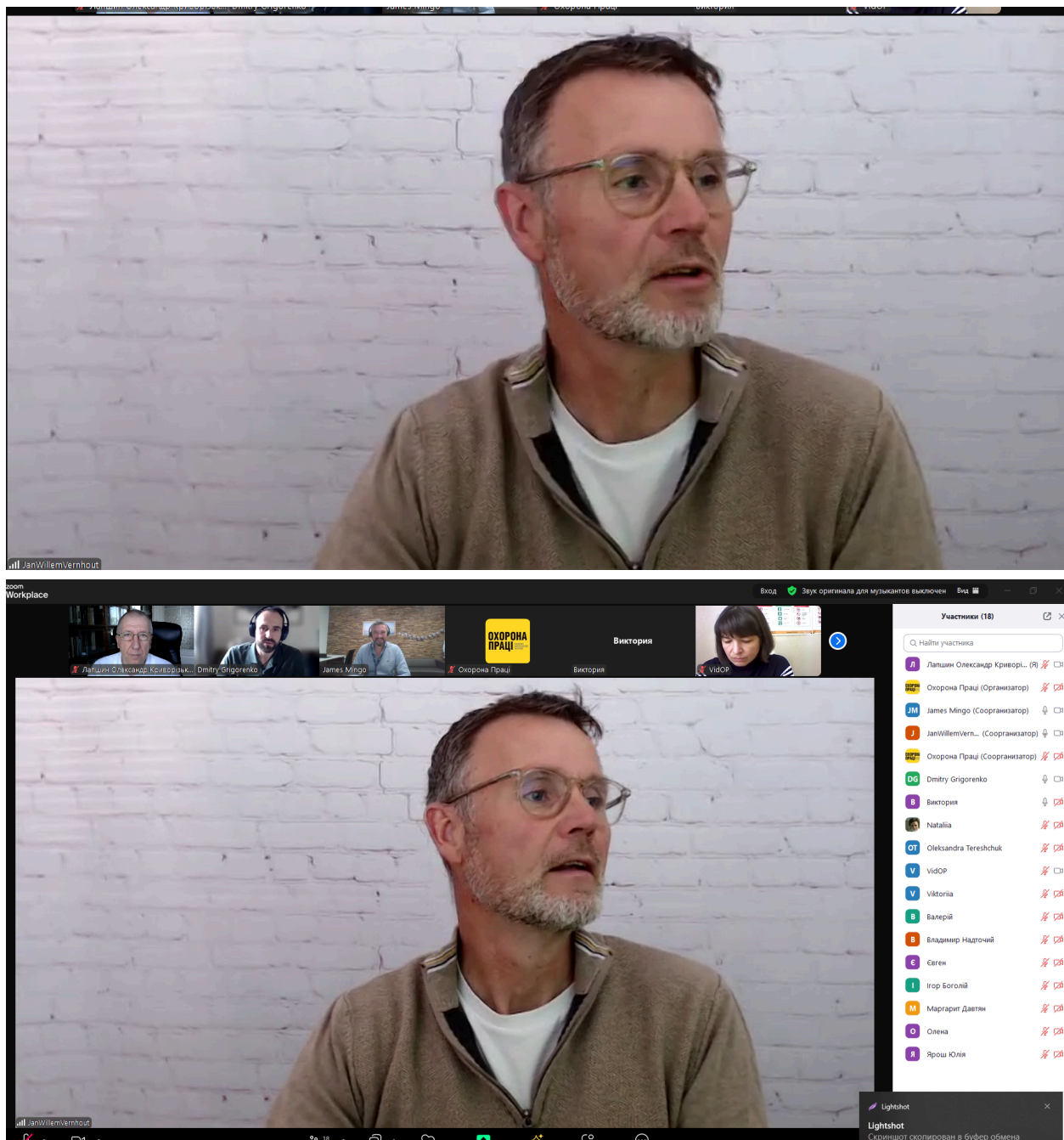
Євген 🔇 📺
- I

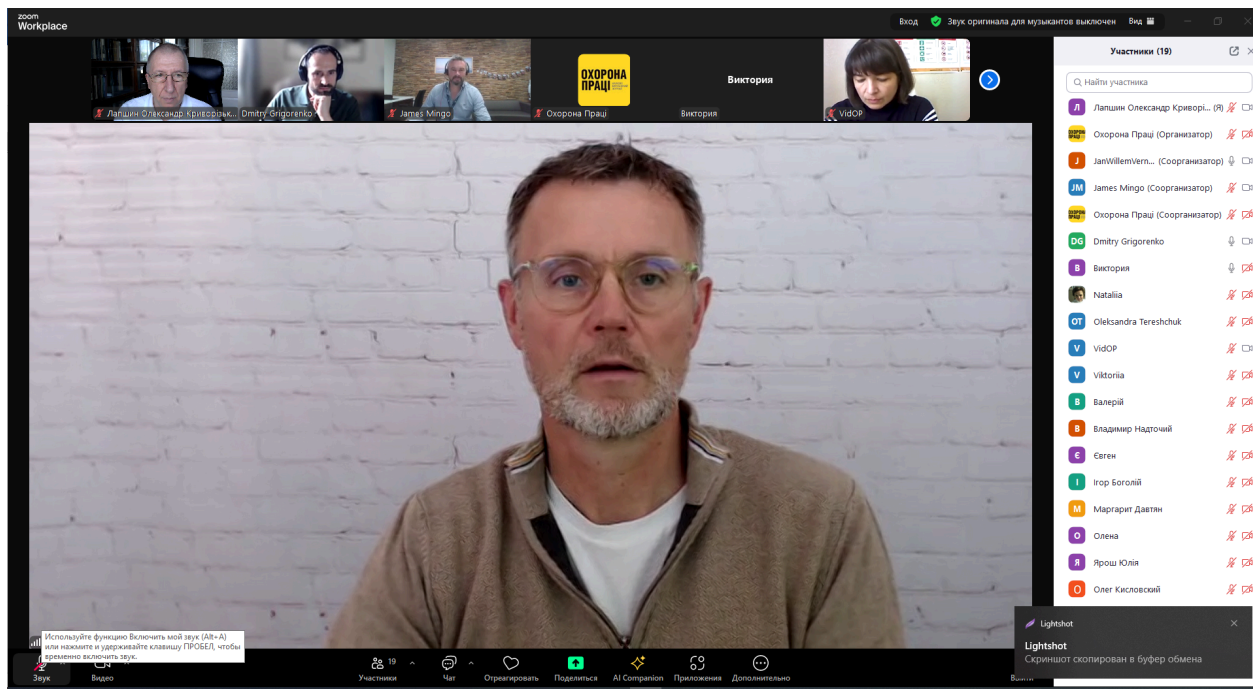
Igor Bogolii 🔇 📺
- M

Маргарит Давтян 🔇 📺
- O

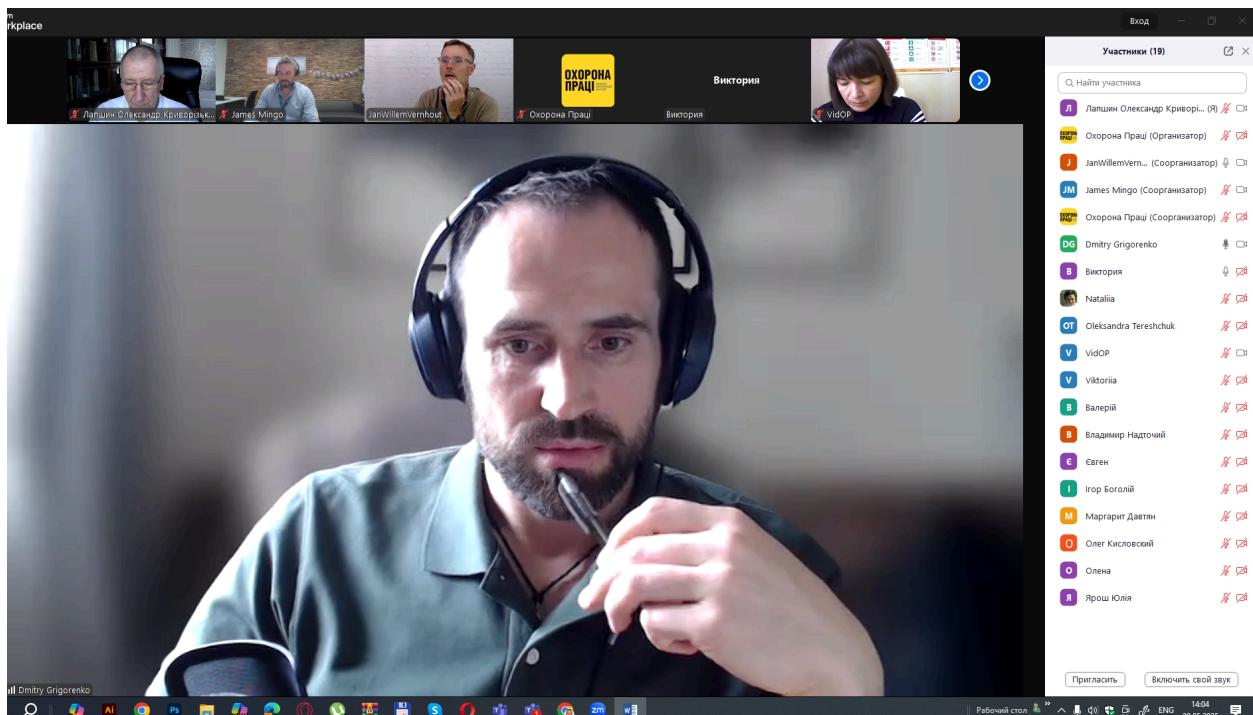
Олена 🔇 📺
- Я

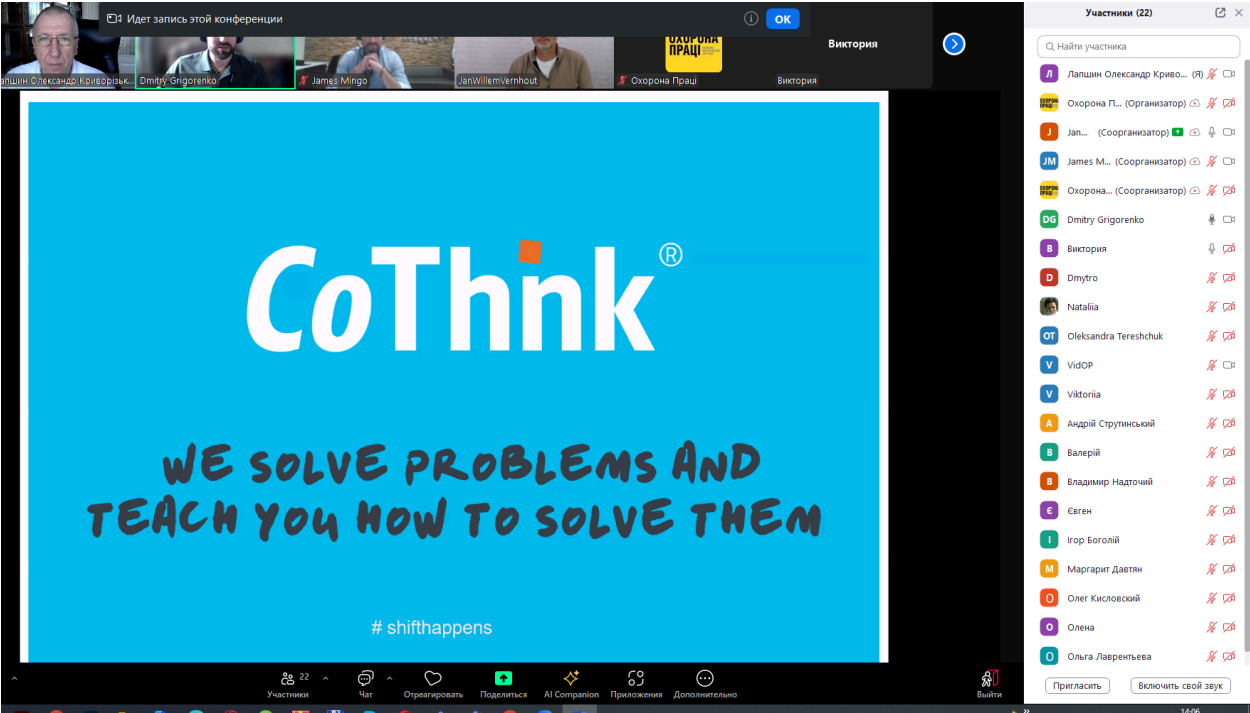
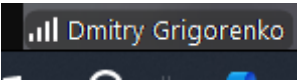
Ярош Юлія 🔇 📺

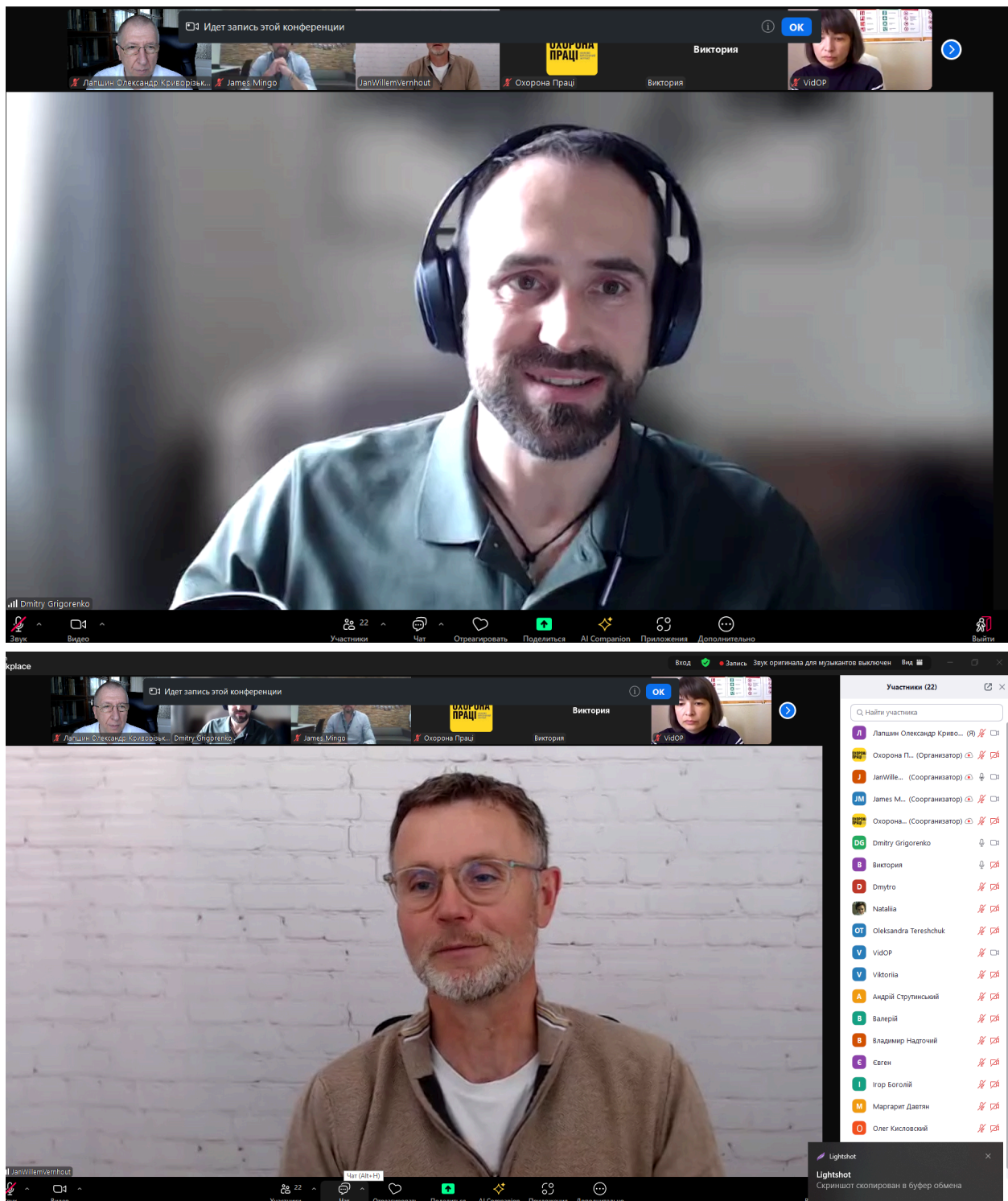




JanWillemVernhout







Идет запись этой конференции

Охорона Праці

Виктория

We are living in a different era

No Safety Awareness	Record Safety incidents	Factory Act machine fencing	Safety legislation	Safety support PPE & CE	Safety behaviour
<1800	1840s	1880s	1930s	1960s	Today

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Идет запись этой конференции

Виктория

Охорона Праці

Виктория

Фailing to offer
a reliable, safe
place to work

➔

Lawsuits
Penalties
Brand damage

CoThru®

Идет запись этой конференции

Олександр Криворізький Dmitry Grigorenko James Mingo JanWillemVernhout Охорона Праці Виктория



95% of today's safety incidents is caused by human behaviour

Understanding the causes brings you to a safer workplace

Introduction to Think

**WE SOLVE PROBLEMS AND
TEACH YOU HOW TO SOLVE THEM**

Expertise

- **Facilitation**
Powerfull process-support to resolve problems, implement and sustain solutions (technical & behaviour)
- **Training**
Practical training and coaching in the application of Root Cause Problem Solving structure & methods
- **Advice**
Practical consultancy to support the implementation of methods in daily practice and RCA tools

Идет запись этой конференции

Охорона Праці

Виктория

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James Mingo

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Охорона Праці

Виктория

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Конференция

Экран (JanWillemVernhout)

Идет запись этой конференции

Виктория

Охорона Праці

Purpose of RCA

- Avoid re-occurrence of issues, incidents, complaints, problems etc.



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Идет запись этой конференции

Олександр Криворівський Dmitry Grigorenko James Mingo JanWillemVernhout Охорона Праці Виктория

Purpose of RCA

- Avoid re-occurrence of issues, incidents, complaints, problems etc.
- Stimulate thinking and dialogue about what happened (facts) rather than just using checklists
- Choose effective and fact-based actions



Purpose of RCA

- Avoid re-occurrence of issues, incidents, complaints, problems etc.
- Stimulate thinking and dialogue about what happened (facts) rather than just using checklists
- Choose effective and fact-based actions
- Improve the process, system, organisation & behaviour
- Share & learn from deviations



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Do you recognize this?

Common issues with Root Cause Analysis



- Vague problem descriptions
- "Jumping to conclusions"
- "Jumping to solutions"
- Bad transfer of facts
- Fixing the symptoms instead of causes
- Poor communication about resolution process

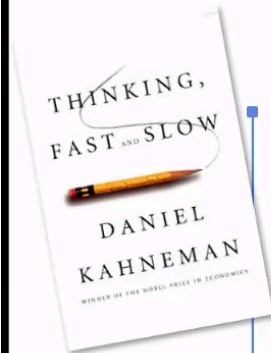


Consequences



- Lead time for resolving issues too long
- Recurring problems
- Lower customer satisfaction/trust
- Higher cost
- Bad reputation, risk of losing customer
- More waste (too many iterations & overprocessing, rework)
- Overburden of experts

Background on common RCA-pitfalls

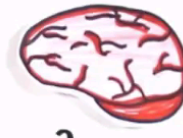


Rational Thinking isn't logical at all

Daniel Kahneman (psychologist & Nobel price for economics) did a lot of research on how we solve problems and make decisions. The way we do this can be observed in our normal behaviour

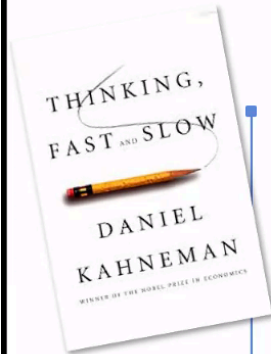


Unconscious
Automatic
Intuitive



Conscious
Planned
Rational

Background on common RCA-pitfalls



Rational Thinking isn't logical at all

Daniel Kahneman (psychologist & Nobel price for economics) did a lot of research on how we solve problems and make decisions. The way we do this can be observed in our normal behaviour

95%



Unconscious
Automatic
Intuitive

5%



Conscious
Planned
Rational

Идет запись этой конференции

Олександр Криворізьк...

Dmitry Grigorenko

James Mingo

JanWillemVernhout

Охорона Праці

Виктория

ОК

Охорона Праці

Виктория

Effective roles for succesfull RCA

The diagram consists of three overlapping circles. The top-left circle is labeled 'Facilitator' with the subtext 'RCA methods, logic & group dynamics' and the word 'Process' in red below it. The top-right circle is labeled 'Experts' with the subtext 'Knowledge, data & experience' and the word 'Content' in red below it. The bottom circle is labeled 'Problem-owner' with the subtext 'Money, Authority & Need' and the word 'Goal' in red below it. The intersections of the circles are empty.

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clear

128 / 5 000

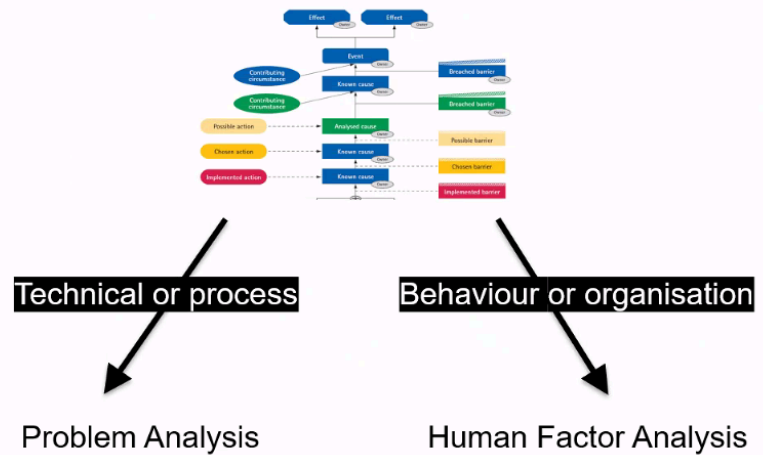
Результати перекладу

Результат перекладу

Метод RCA фасилітатора, логіка та групова динаміка Експертні знання, дані та досвід Контент Власник проблеми Грошова влада та потреба

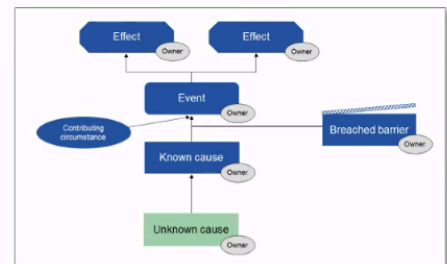
CoThink methods for RCA

Start with Event Mapping/Timeline/Pictures



Advantage of CoThink Event Mapping

- The tool to structure and **visualise** Root Cause Analysis
- A **picture** which is easy to understand by everyone and a solid base to develop effective solutions
- An aid to **understand** what really happened and what's missing based on **facts** instead of opinions, arguments and debate
- A questioning oriented **skill** to avoid RCA pitfalls which can be trained & applied



Идет запись этой конференции

Олександр Криворізький

Dmitry Grigorenko

James Mingo

JanWillemVernhout

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5 Why – example

Car unavailable

Идет запись этой конференции

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5 Why – example

Car unavailable

Car won't start

Battery flat

Battery drained by car lights

Driver forgot to switch off the car lights

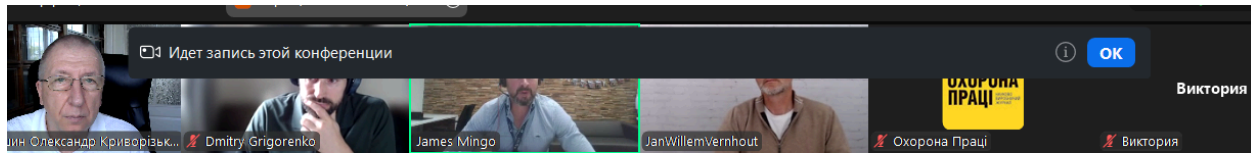
Why? / What is the cause ?

Why? / What is the cause ?

Why? /

Why?

Why?



“5 Why” is often not enough...

- No questions about effects / consequences
- Based on “mono-causal” thinking (< 10 % of problems)
- No questions about failed prevention/barriers
- Often inadequate distinction between facts and assumptions
- Only asking the question “Why?” provides inadequate logic and wrong direction
- “5” is sometimes used as a gospel
- Tendency to be used as a brainstorm-tool

Идет запись этой конференции
OK

Contributing factors: Car example

```

graph BT
    A[Car unavailable] --> B[Car won't start]
    B --> C[Battery flat]
    C --> D[Battery drained by car lights]
    D --> E[Driver forgot to switch off the car lights]
    E --> F[?]
    G([No jumper cables available]) --> B
    H([Car not used for 10 hours]) --> E
  
```

Contributing factors: Car example

```

graph BT
    A[Car unavailable] --> B[Car won't start]
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    E --> F[?]
    G([No jumper cables available]) --> B
    H([Car not used for 10 hours]) --> E
  
```

➔ Contributing circumstances provides relevant information about normal situations other than direct causes

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Идет запись этой конференции

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Breached Barrier analysis: Car example

```
graph BT; Q[?] --> D[Driver forgot to switch off the car lights]; D --> B[Battery drained by car lights]; B --> F[Battery flat]; F --> W[Car won't start]; W --> U[Car unavailable]; L[Light indicator made no sound] --> D;
```

Идет запись этой конференции

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Dmitry Grigorenko

James Mingo

JanWillemVernhout

Охорона Праці

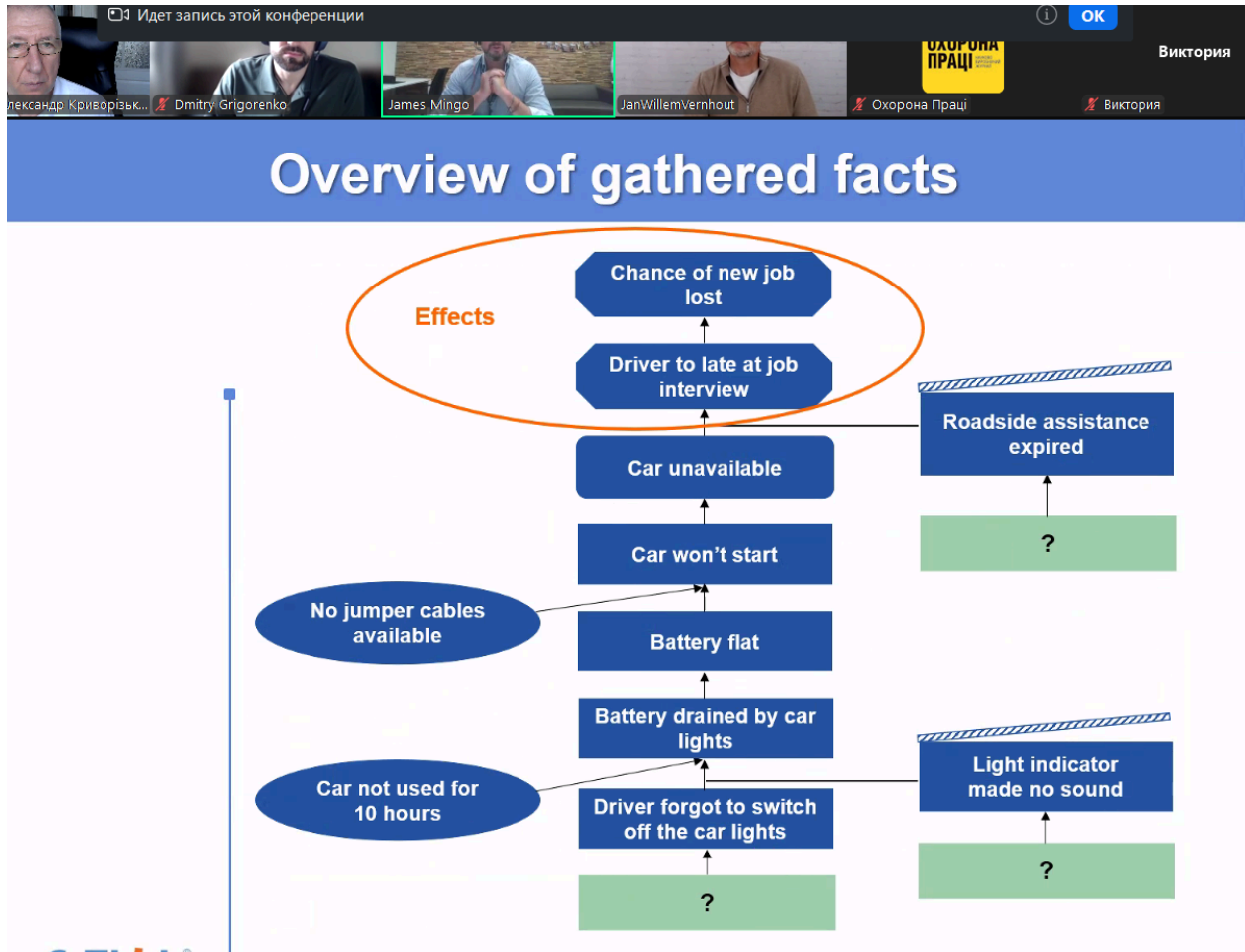
Виктория

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Barrier analysis: Reality



An aerial photograph of a road intersection. A red dot is placed on the road surface, indicating a specific point of interest for barrier analysis. The road curves around a grassy area, and there are parked cars and trees in the background.



Overview of gathered facts



Идет запись этой конференции

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Олександр Криворізький

Dmitry Grigorenko

James Mingo

JanWillemVernhout

Full RCA: Facts + investigations + actions

```

graph TD
    A[Chance of new job lost] --> B[Driver to late at job interview]
    B --> C[Car unavailable]
    C --> D[Car won't start]
    D --> E[Battery flat]
    E --> F[Battery drained by car lights]
    F --> G[Driver forgot to switch off the car lights]
    G --> H[?]
    
    I[No jumper cables available] -.-> D
    J[Car not used for 10 hours] -.-> F
    
    K[Roadside assistance expired] --> C
    L[?] --> K
    
    M[Light indicator made no sound] --> G
    N[?] --> M
    
    O[Buy jumper cables] -.-> I
    P[Renew roadside assistance subscription] -.-> K
    Q[Install automatic light switch off after 10 minutes] -.-> M
    R[Repair light indicator] -.-> M
  
```


Идет запись этой конференции

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Олександр Криворізк...

Dmitry Grigorenko

James Mingo

JanWillemVernhout

Охорона Праці

Виктория

Event Mapping summary

- Facts instead opinions
- Chain of cause/effect
- Contributing circumstances
- Breached barriers
- Owner for each deviation

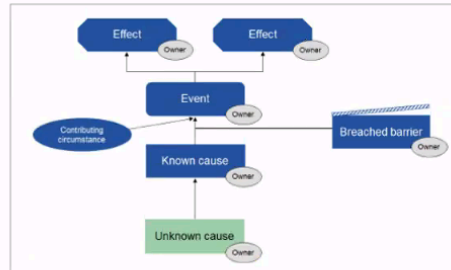
- **Why/Therefore logic**

- New/better actions
- New/better barriers
- Check effectiveness

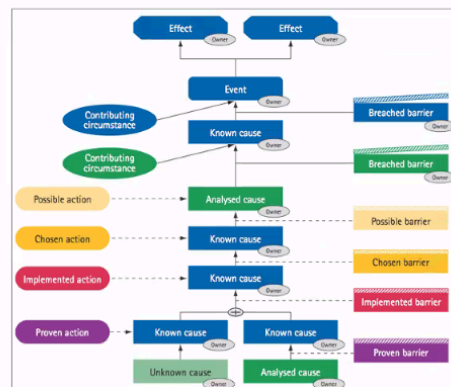
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Event Mapping summary

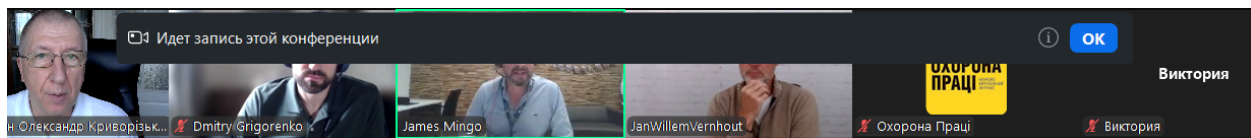


- Facts instead opinions
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- Contributing circumstances
- Breached barriers
- Owner for each deviation



Why/Therefore logic

- New/better actions
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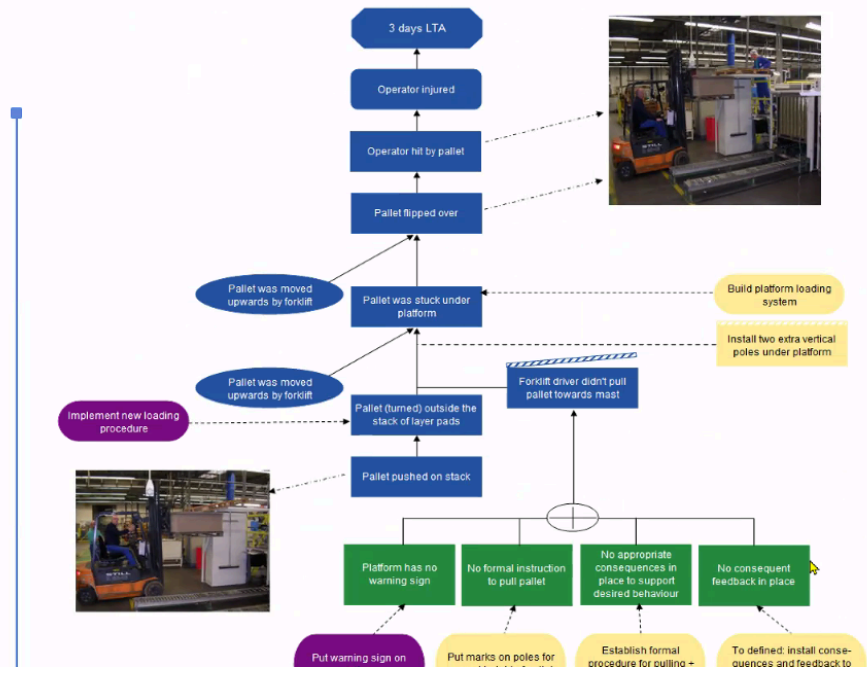
When to use Event Mapping

When to use

- To analyse and visualize a problem, complaint, incident or accident in full, including all interrelations and dependencies
- To create simplicity and easy-to-understand analysis
- To establish priorities among linked problems
- To identify all parties involved
- To determine and visualize all actions
- To gain consciousness and commitment
- To have a quick and clear way of communication to management, experts and other stakeholders (agencies like FDA, EFSA, ISO, etc)



Example Event Map (safety issue)



конференция экран (JanWillemVernhout) выход

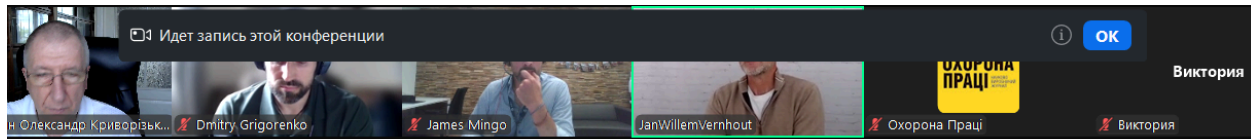
Идет запись этой конференции

Олександр Криворізкий Dmitry Grigorenko James Mingo JanWillemVernhout Охорона Праці Виктория

Human Factor Analysis

What it is...

- A method to analyse unknown causes of human (behavioral) or organisational problems based on evidence-based research from Prof. Skinner & dr. Brown



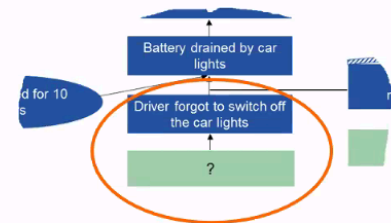
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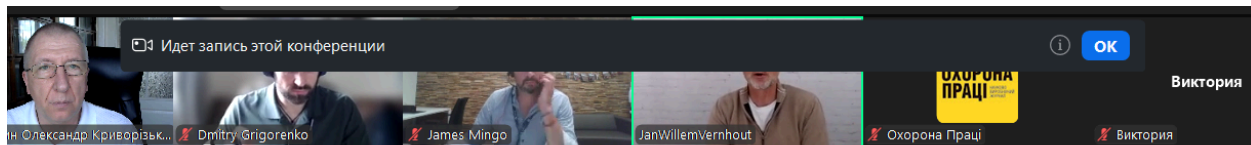
Why use it...

- To determine unknown causes of human (behavioral) or organisational problems
- To prevent “jumping to conclusions”
- To prevent “finger pointing” and “blaming”

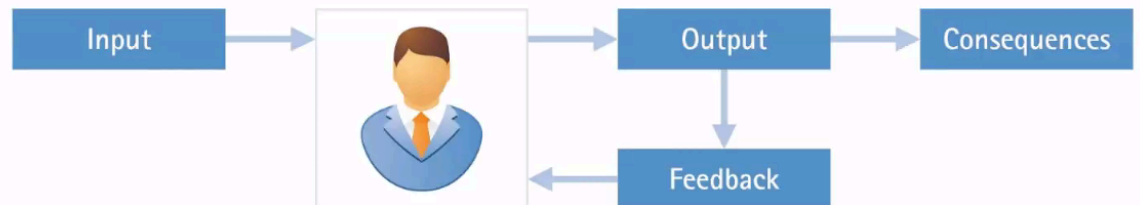


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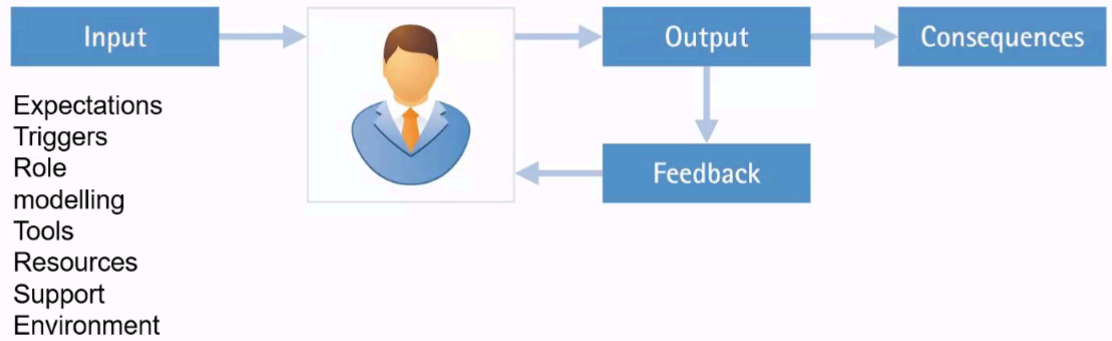


Human Factor Analysis (2)



Human Factor Analysis (2)

Person with observed / shown undesired behaviour



Q

Л

**ОХОРО
ПРАЦІ**

A

D



A

B

B

€

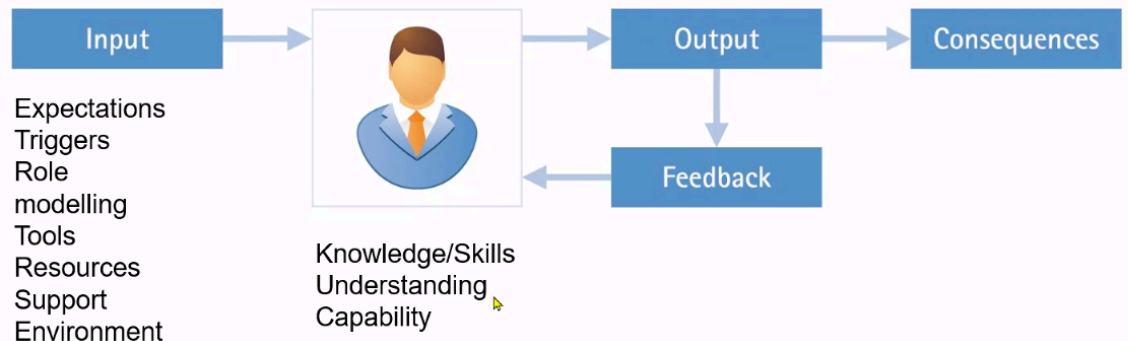


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Включить свой звук

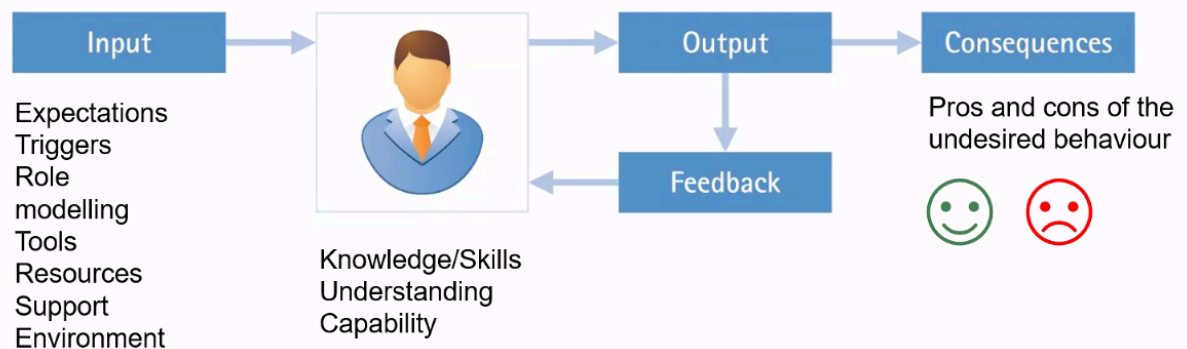
Human Factor Analysis (2)

Person with observed / shown undesired behaviour

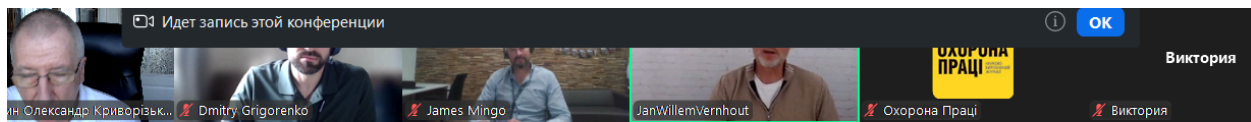
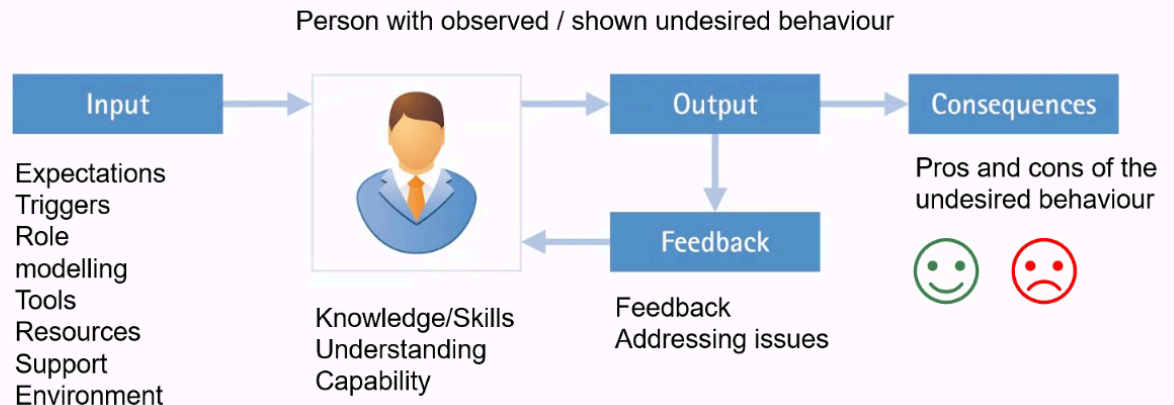


Human Factor Analysis (2)

Person with observed / shown undesired behaviour



Human Factor Analysis (2)



Human Factor Analysis (3)

How it works...



Gendraganalyse

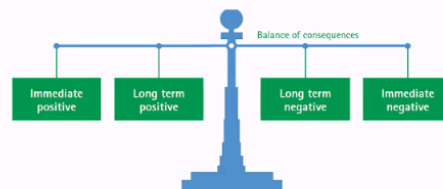
Form for conducting a human factor analysis, including sections for:

- General information
- Incident description
- Analysis of causes
- Recommendations
- Conclusion


```

graph LR
    Input[Input] --> Person(( ))
    Person --> Output[Output]
    Output --> Consequences[Consequences]
    Consequences --> Feedback[Feedback]
    Feedback --> Output
  
```

The diagram illustrates a control loop. It starts with an 'Input' box pointing to a central figure of a person. From the person, an arrow points to an 'Output' box. The 'Output' box points to a 'Consequences' box. A 'Feedback' box is positioned below the 'Output' box, with an arrow pointing from 'Consequences' to 'Feedback' and another arrow pointing from 'Feedback' back to 'Output'.

[illegible][illegible]

Output Human Factor Analysis

Human Performance Analysis

Person or group of persons: Operator

System: [Blank]

What behavior is being observed? [Blank]

What is the desired behavior? [Blank]

Have any (measurable) standards been specified for the desired behavior and how fast is the difference? [Blank]

Input

Have expectations been communicated clearly and consistently? [Blank]

Does the person receive a clear signal to display the desired behavior or perform the task? [Blank]

Is the information which the person required complete, correct and timely? [Blank]

Are practices clear for the person? [Blank]

Are procedures and work processes logical and effective? [Blank]

Does the person have enough time to perform the task? [Blank]

Does the person receive sufficient support from others, if necessary? [Blank]

Is the information system which may be required for the task effective? [Blank]

Are the right tools / equipment / systems available in order to be able to perform the task effectively? [Blank]

Is the physical environment optimal to stimulate desired behavior? [Blank]

Person

Does the person know exactly what is expected of him/her? [Blank]

Does the person consider the expectations to be feasible / realistic? [Blank]

Does the person understand the importance of the desired behavior? [Blank]

Does the person have the required knowledge and experience? [Blank]

Is the person mentally, physically and emotionally qualified? [Blank]

Consequences

What reward balance between the consequences and the desired behavior? (See "Balance of consequences") [Blank]

Are the consequences important for the person? [Blank]

Are the consequences timely enough to stimulate the desired behavior? [Blank]

Feedback

Does the person receive feedback about his/her behavior or the task performed? [Blank]

Is the behavior and/or the performance of the task measured objectively? [Blank]

Is the information which the person receives:

- Accurate? [Blank]
- Timely? [Blank]
- Specific? [Blank]

Balance of consequences

Person or group of persons: Operator

Observed behaviour: Using wrong cleaning procedure and drying with machine, still running

Input → Output → Consequences

Feedback

Direct positive consequences

No down time for drying

2 instead of 20 minutes of cleaning

Easy to use / no fuss method

Long term positive consequences

Cakes are given for the teams that achieve the highest OEE in a month

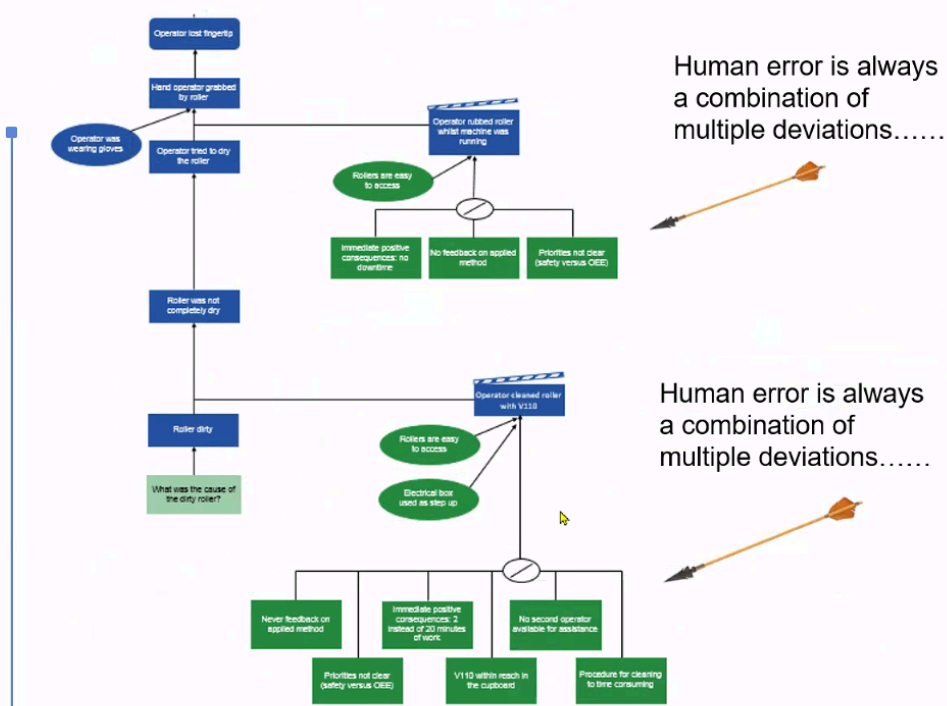
Long term negative consequences

Relatively low probability of accidents

Direct negative consequences

None

Output of Human Factor Analysis



Конференция

Экран (JanWillemVernhout)

Идет запись этой конференции

OK

Олександр Криворізький

Dmitry Grigorenko

James Mingo

JanWillemVernhout

Охорона Праці

Викторія

ОХОРОНА ПРАЦІ

Output of Human Factor Analysis

```

graph TD
    A[Operator lost fingertip] --> B[Hand operator grabbed by roller]
    B --> C[Operator tried to dry the roller]
    B --> D[Operator rubbed roller until machine was running]
    C --> E[Roller was not completely dry]
    C --> F[Roller dirty]
    E --> F
    F --> G[What was the cause of the dirty roller?]
    D --> H[Rollers are easy to access]
    D --> I[Immediate positive consequences: no downtime]
    D --> J[No feedback on applied method]
    D --> K[Priorities not clear (safety versus OED)]
    D --> L[More supervision and feedback on not working according to procedures]
    D --> M[Underline and communicate safety as top priority]
    G --> N[Provide machine with covers]
    G --> O[Rollers are easy to access]
    G --> P[Electrical lock used as stop-up]
    G --> Q[Never feedback on applied method]
    G --> R[Immediate positive consequences: 2 minutes of work]
    G --> S[No second operator available for assistance]
    G --> T[Priorities not clear (safety versus OED)]
    G --> U[V110 within reach in the customer]
    G --> V[Procedure for cleaning to time consuming]
    G --> W[More supervision and feedback on not working according to procedures]
    G --> X[Underline and communicate safety as]
    G --> Y[Remove V110 from customer]
    G --> Z[Determine and introduce new cleaning]
  
```

Human error is always a combination of multiple deviations.....

thus also a demand for multiple actions

Using Event map guarantees specific targeted actions to a specific deviation to increase the likelihood of success

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Application in practice

Energy/Infra



Pharma



IT/Tech



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Summary



- Use logic and factual analysis
- Active involvement (Gemba) is a must
- Practice Questioning & Listening
- Build Structure and common approach
- Train and coach your workforce (95/5)
- Improve existing preventive actions
- Make Things Visible

Лапшин Александр Криворізак... Emily Chigorenko James Mingo JanWillemVernhout Охорона Праці Виктория

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WE SOLVE PROBLEMS AND
TEACH YOU HOW TO SOLVE THEM

shifthappens

AI Chrome Ps ... S ... zm W

Идет запись этой конференции

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