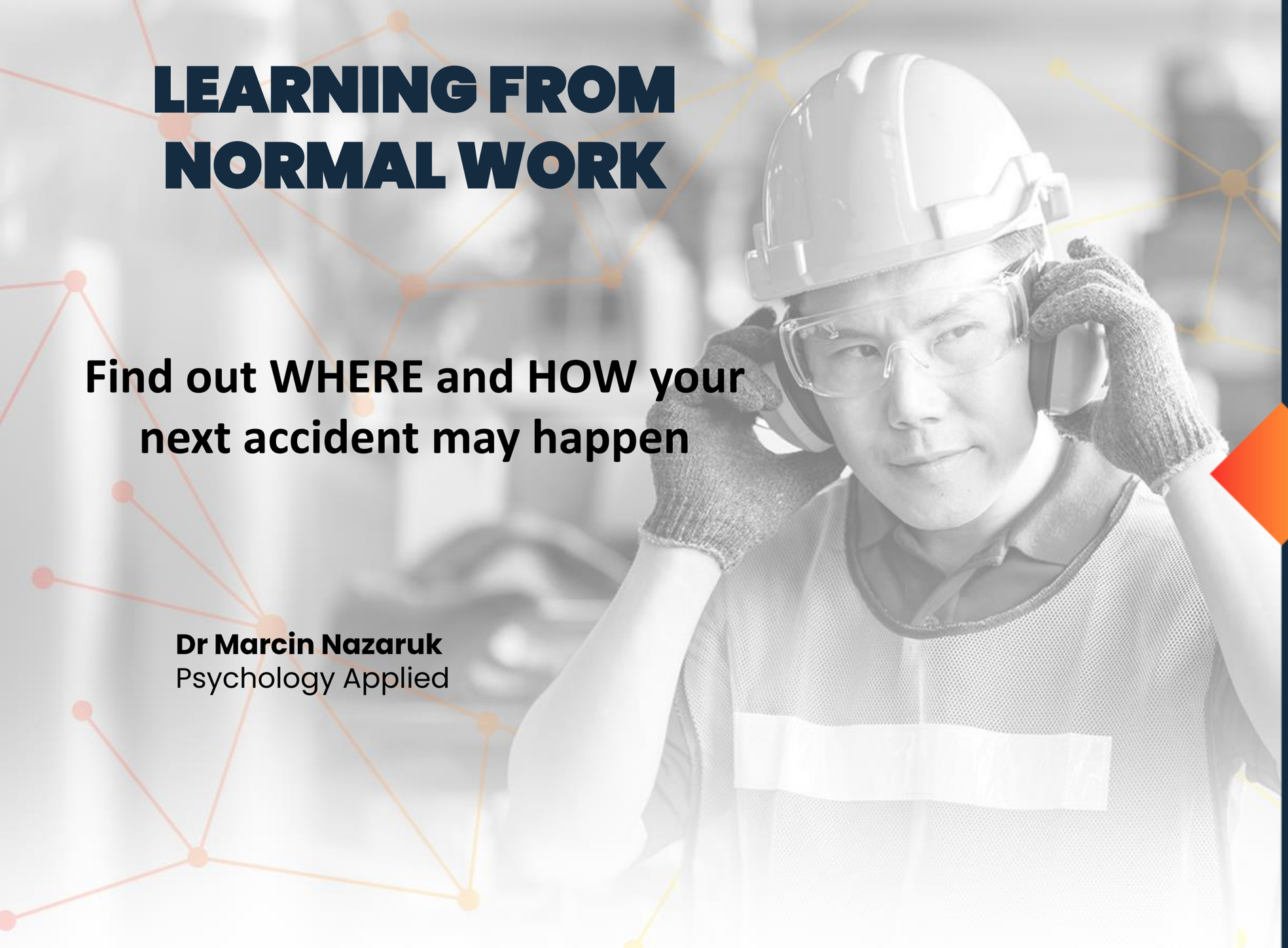
LEARNING FROM NORMAL WORK



Find out WHERE and HOW your next accident may happen

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Psychology Applied

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HOW WOULD YOUR PEOPLE ANSWER?

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Agree ⟷ Disagree

1. When I make a mistake at work, I tell my team leader so we can learn from it
2. Errors are useful for improving the work processes
3. My managers frequently ask us what makes it difficult to follow the rules and procedures
4. My managers are honestly interested in what's behind non-compliance
5. My managers welcome when people admit non-conformance

FROM REACTIVE TO PROACTIVE...

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LEARNING FROM INCIDENTS:
IMPORTANT BUT LIMITING

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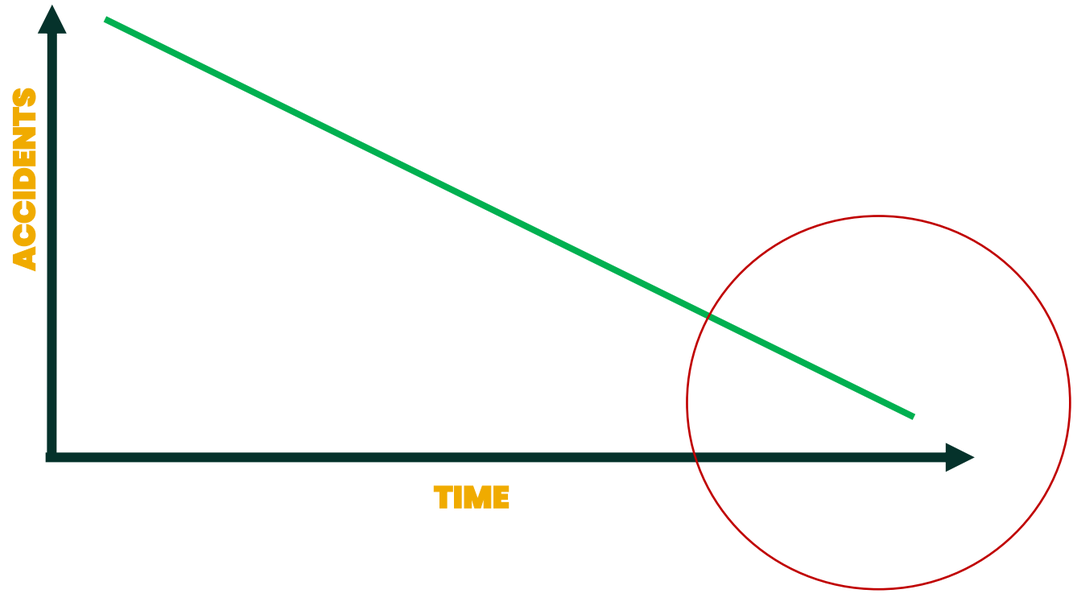

- Few learning opportunities
- Lagging indicators are not helpful
- Focusing on unsafe behaviors is no longer sufficient to further reduce risk
- Frustrating repeat accidents

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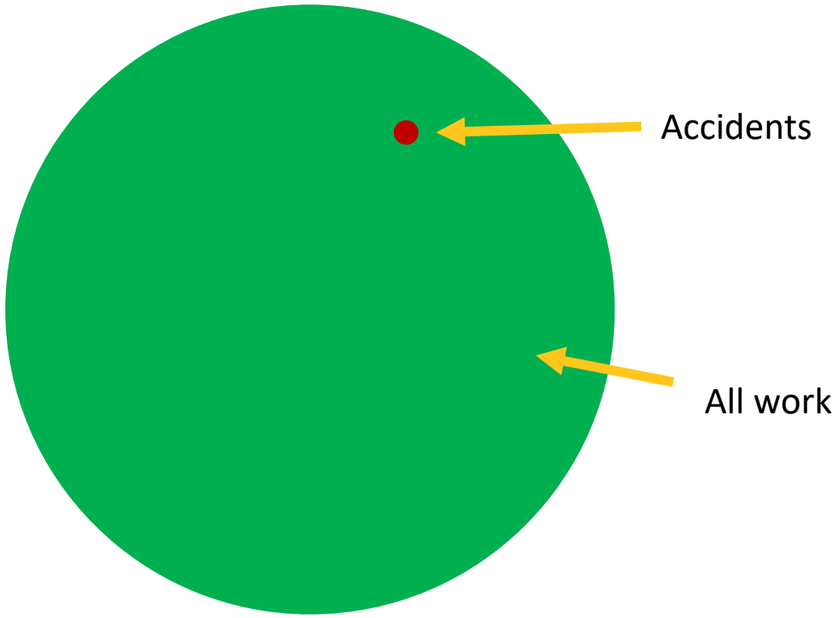

- Only a very small percentage of all activities result in an undesired event.
- Does it mean that all other work was executed flawlessly?
- If not, could we learn about the issues and challenges that could, but did not, result in an accident?

THINGS GO WRONG FOR THE VERY SAME REASONS THAT THINGS GO RIGHT

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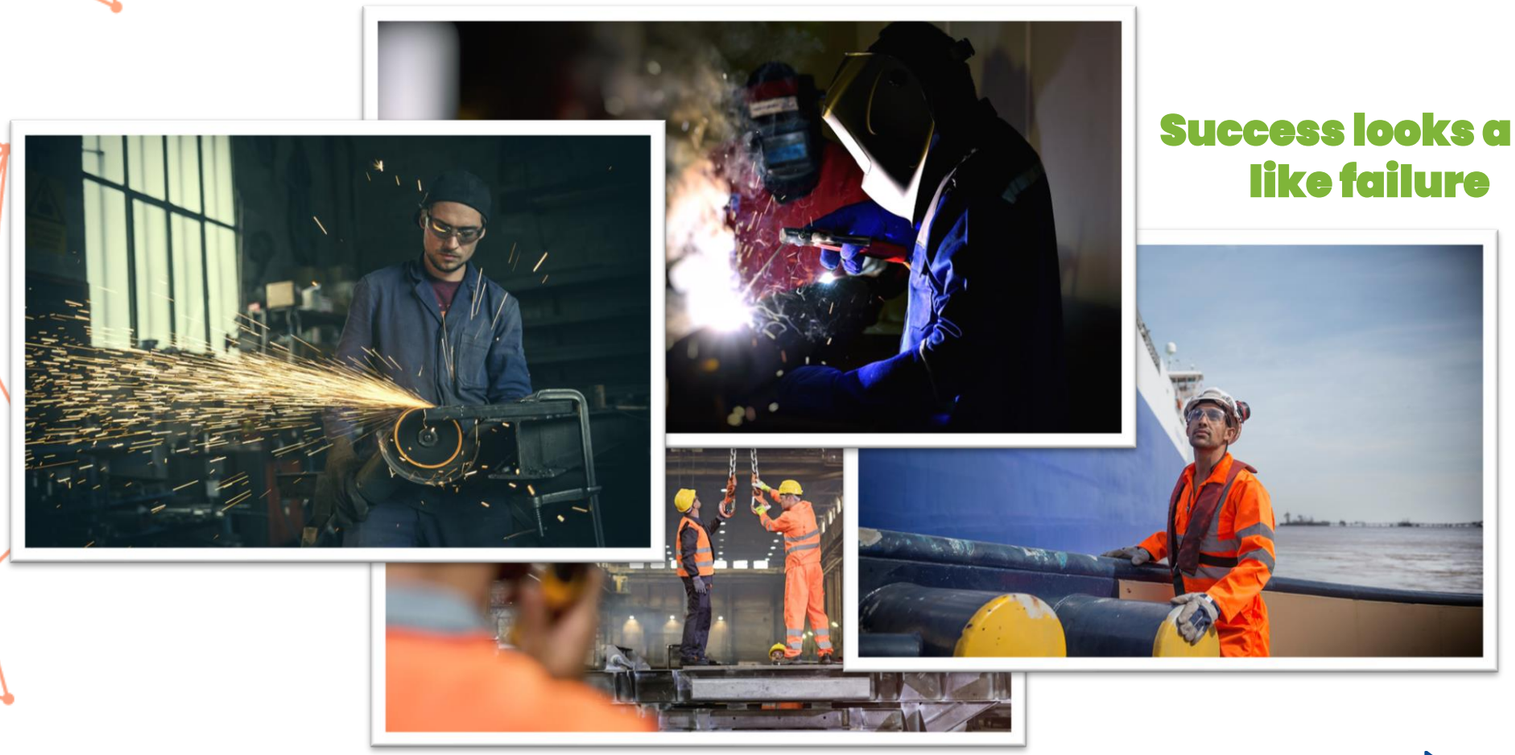
SOMETHING WENT WRONG →



Success looks a lot like failure

NOTHING WENT WRONG →

Incident

Success

&

Failure

No Incident

EuroControl, “Systems Thinking for Safety: Ten Principles A White Paper. Moving towards Safety-II,” 2014.

WHAT IS (LEARNING FROM) NORMAL WORK?

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‘Normal work’ is about how people adapt to changing conditions and challenges as part of their job.

For example, using a crane to lift a load. Every time an operator does it, there may be something different about the situation, for example:

- Less time available than planned
- Additional people in the area
- One person being off work
- Correct tools not available, e.g. lifting slings

Adapting to overcome the various challenges is part of what needs to be done. It’s ‘normal work’.

Constraints

↓

Adaptations

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PHYSICAL SOURCES OF HARM SUCH AS:

- Ignition sources
- Confined space
- Electricity
- Lifting
- Chemical Exposure
- Hot Surfaces
- Noise
- Hazardous Atmosphere

LOCAL CONSTRAINTS, E.G.

- Incorrect procedure
- Insufficient time available
- Incorrect tools for the job
- Confusing design
- Insufficient spacing
- Unfamiliar situations

ADAPTATIONS AND WORK AROUNDS TO THE CONSTRANTS, E.G.

- Developed unique procedure because the official one was incorrect
- Fabricated own tools in the workshop as the provided tools were not adequate

INDUSTRY EFFORTS

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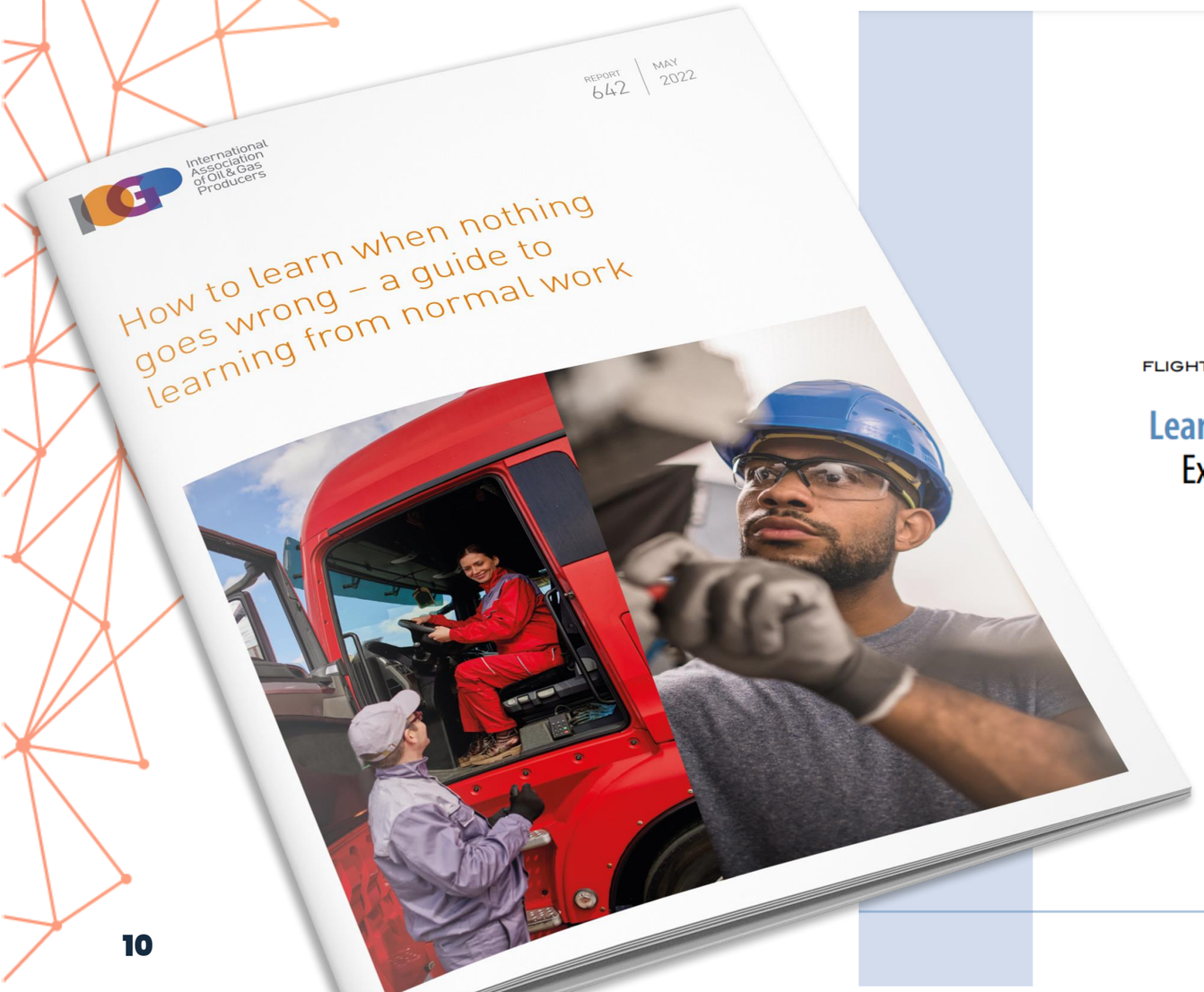

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Learning From All Operations: Expanding the Field of Vision to Improve Aviation Safety

JULY 2021

SPECTRUM OF LFNW TOOLS

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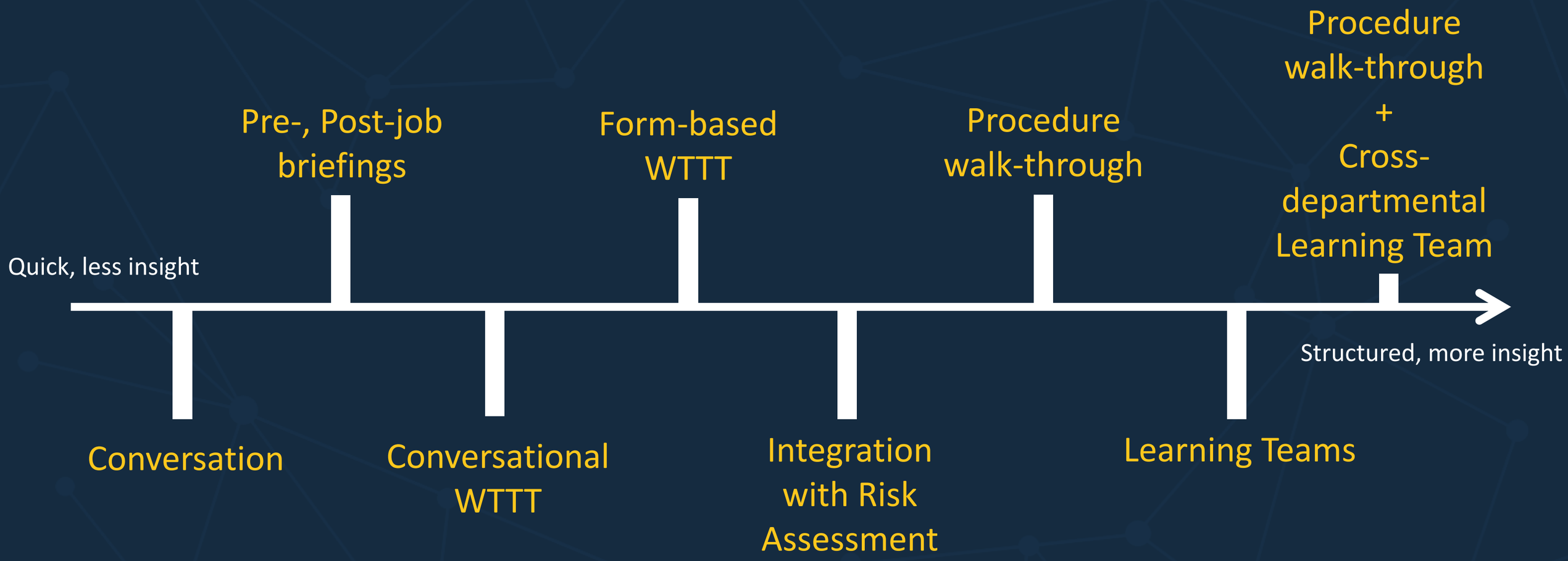

NEW CONVERSATIONS

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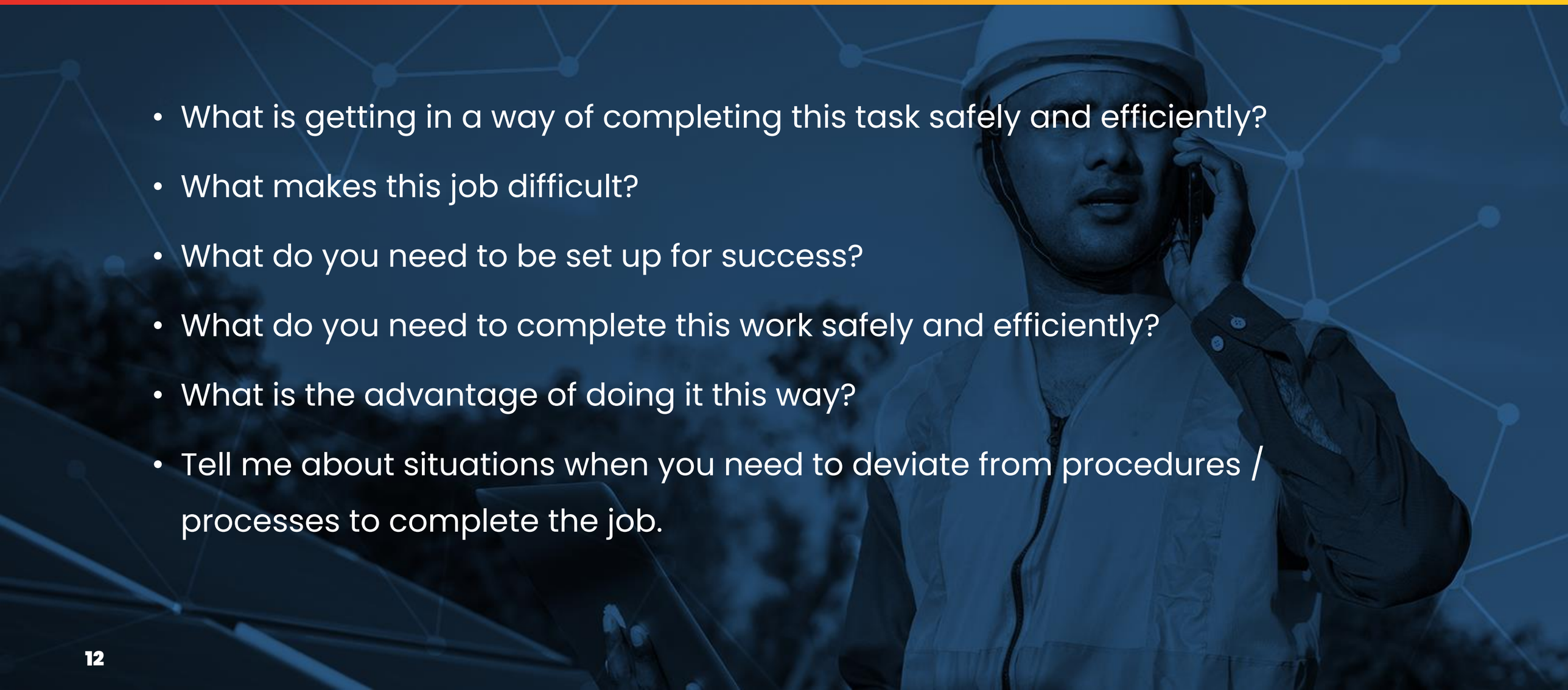

- What is getting in a way of completing this task safely and efficiently?
- What makes this job difficult?
- What do you need to be set up for success?
- What do you need to complete this work safely and efficiently?
- What is the advantage of doing it this way?
- Tell me about situations when you need to deviate from procedures / processes to complete the job.

WALK THROUGH TALK THROUGH – EXAMPLE

Preventive Maintenance Lathe Machine	Preventive maintenance to lathe machines has to be performed monthly using the protocol and checklist created for this process.		
Steps (According to the person doing the job)	**What might go wrong? (According to the What error traps increase the likelihood of error? What person doing the job) Does this step match reality? Are there steps, which are done that are not included in the procedure?**	**What error traps increase the likelihood of error? What makes a mistake more likely? What makes the step more difficult to perform? (According to the person doing the job)**	**Photo**
1. "Review Oil, Grease and Refrigerant Liquid Levels, in Hydraulic and Lubrication Unit of Spindle and Magazine, Benches and Table."	The operator may misread the levels, leading to the equipment overheating.	The display does not clearly show what the correct level of oil is. Procedure does not explain what the minimum oil level is.	
2. "Change the Air Filter of the Electrical Cabinet"	The Air Filter may not need to be changed. Potential waste of time as the life time for air filters is longer than one month. Increased cost due to higher number of filters used.	The procedure requires to change the filter. The real instruction should be "Change the filter if you find X, Y, Z characteristics."	
3. "Check machine air pressure is 85 PSI"	Too much pressure may lead to equipment damage.	The pressure units on the machine (MP) are different to pressure units used in the procedure (PSI). This may confuse the operators.	
4. "Level oil lubrication guides. Use DTE24 oil or equivalent."	Equipment damage due to incorrect lubrication	The instruction is not clear. Specifically, what to check and how much lubricant is correct for the equipment. The container for the lubricant has white marks. However, it's not clear if these indicate the maximum or minimum level of lubricant required.	
5. "Check load of Waste of time if the operator tries to find this Instruction includes steps for old equipment. This component is hydraulic accumulator"	Waste of time if the operator tries to find this accumulator. If something is not obvious next time while performing another task, operator may presume that procedure is incorrect, and skip the step.	Iinstruction includes steps for old equipment. This component is no longer part of the equipment, and need to be updated.	
Opportunities to improve?			
• Update the procedure based on the specification for the new equipment • Upgrade the oil and lubricant containers to indicate minimum / maximum levels • The maintenance personnel to conduct a WTTT with the equipment operators and the maintenance supervisor to ensure that he instructions are clear and up to date • Standardize measurements system and displays to they can indicate the correct level of liquid and pressure.			

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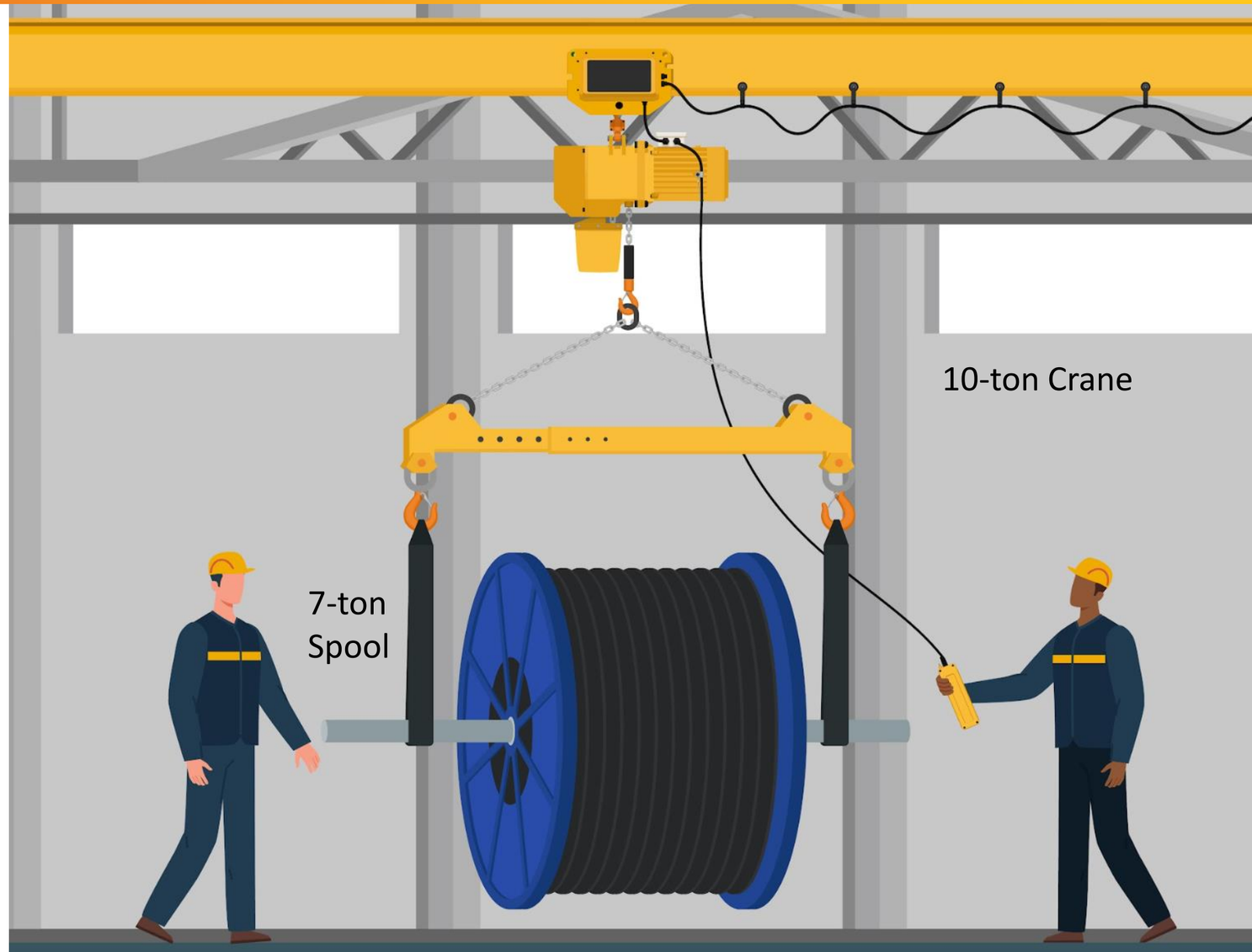
Wired crane control:
- restricted movement
- restricted visibility
- need for a spotter
- forces the operator to be in line of fire

Wireless crane control:
- RISK DOWN



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