Safety culture and leadership fundamentals

The effective mindset and skills needed to create safer and more reliable workplaces

worldsteel ASSOCIATION

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Tata Steel

Introduction

Eliminating fatalities and serious injuries is the main challenge for the global steel industry. Our focus at the World Steel Association (worldsteel) is to provide our members and the industry with actionable recommendations and guidance to create safer and healthier workplaces.

Traditional assumptions for safety and health have driven improvement and positively impacted injury reduction in the steel industry. Regardless of this improvement, serious injuries and fatal events do still occur.

Our members are increasingly concluding that an evolution in approach is needed and more effective assumptions need to be made.

Four safety culture and leadership fundamentals

With these new fundamentals, worldsteel establishes common ground to talk about culture and leadership in the steel industry. They are a tool to create safer workplaces by enabling positive changes in the existing operating contexts.

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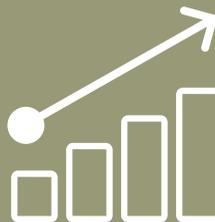
This publication provides a basic understanding of the fundamentals and the actionable recommendations to create safer workplaces.

More information can be sourced through the following areas of knowledge: human and organisational performance, psychological safety, polarity management, human factors and various complexity theories.

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01

Ensure the organisation at all its levels has the right mindset about safety and health.

Safety and health systems and people's interpretation of risks and opportunities need to be rooted in a mindset that allows the organisation to create more effective improvement actions.

The following statements exemplify the evolving mindsets for our industry leaders and workforce:

MINDSET 1:

Safety is not the absence of accidents, errors, or mistakes; it is the ability to fail safely.

EXPLANATION

Processes, equipment and especially high-risk activities should be tolerant of any errors, violations, and mistakes and have the ability to fail safely (presence of controls that mitigate harm in case of failure).

MINDSET SHIFT CONSEQUENCE

Organisations stop focusing on lagging metrics and start measuring the effectiveness and placement of safeguards.

MINDSET 2:

It is more effective to focus on what goes right rather than on what goes wrong.

EXPLANATION

In every organisation, there is something that works and that can be built upon, strengthened and expanded. The identification and enhancement of capacities that make organisations successful is essential.

MINDSET SHIFT CONSEQUENCE

Leaders actively inquire with their workforce (particularly at the frontline) about what is working in the system and start expanding and growing these characteristics.

Qatar Steel

MINDSET 3:

We should always determine the system characteristics that contributed to any failure event.

EXPLANATION

Frequently and improperly, 'system problems' are labelled 'people problems'. People problems are when we assume someone was being 'complacent', 'should have seen that coming', 'needs refresher training', or 'needs to take safety more seriously'.

MINDSET SHIFT CONSEQUENCE

Improvement actions go beyond retraining or implementing other administrative controls.

MINDSET 4:

In general, human characteristics are not changeable.

EXPLANATION

Inattentional blindness, a tendency to use mental and physical shortcuts, improperly categorising information, and improperly retaining information are a few examples of natural human characteristics.

MINDSET SHIFT CONSEQUENCE

There is a better adaptation of controls and procedures considering natural human characteristics.

MINDSET 5:

Accountability and disciplinary actions are not interchangeable concepts.

EXPLANATION

Organisations that overly focus on disciplinary action, or do not seek to understand the context that drove the behaviour, will likely create a blame culture. High accountability organisations show higher levels of ownership and engagement by moving from a blaming to a learning culture within a psychologically safe environment.

MINDSET SHIFT CONSEQUENCE

If an important safety rule is broken, the immediate result is not disciplinary action. Organisations strive to understand the actions that led to failure.

MINDSET 6:

Most work processes are not nearly as predictable and repeatable as we have led ourselves to believe.

EXPLANATION

Site and process conditions are complex and not always predictable. Workers often deviate from procedures and adapt to multiple variable scenarios to execute the work successfully.

MINDSET SHIFT CONSEQUENCE

Organisations understand that variability is normal and adapt their controls to safely respond when it happens.

Baotou Steel

We cannot improve a system without understanding how work is done from the worker's perspective.

EXPLANATION

There is a tendency to design work and procedures based on what we imagine is the best way to avoid accidents, errors or mistakes; however, people find ways to skip steps or compensate for flaws they discover by actually doing the activities.

MINDSET SHIFT CONSEQUENCE

Organisations start designing safer work activities and procedures with workers' perspectives integrated into the design.

MINDSET 8:

It is vital to recognise cognitive biases that prevent us from learning from each other and our workers.

EXPLANATION

Cognitive biases can be characterised as the tendency to make decisions or take actions based on limited acquisition and/or flawed processing of information, self-interest, overconfidence, or attachment to experience.

'Nothing bad happened last time, so it won't the next time.'

MINDSET SHIFT CONSEQUENCE

Organisations show more effective decision-making to adapt and improve controls and procedures considering cognitive biases.

Organisations need to put traditional thinking behind them and embrace a new mindset. This new approach will allow them to create safer and more reliable workplaces.

02

Educate organisational leaders on how to create a safer working environment.

Organisational leaders are the people who create and sustain organisational culture; they range from executive leaders who are part of the company leadership team to the supervisors that are in the frontline interacting with the workforce on a daily basis. They all define and promote the organisational attitude towards risk.

Education and situational awareness are essential if leaders are to take effective decisions to solve complex problems. The following are key areas to consider:

Reactions to failure

Polarities and complexity

Psychological safety

Reactions to failure

Teaching leaders how to respond to failure is vital to creating psychologically safer environments (where people will share mistakes, errors, challenges and ideas).

Instead of searching for where people went wrong, ensure leaders understand the constraints, pressures, and adjustments that caused undesirable events. Leaders understand that context drives behaviour. Ensure leaders understand that language is key in their response to failure. Interviews, discussions and reports should avoid judgmental or blaming language.

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Polarities and complexity

There will always be polarities that challenge leaders' decisions; one clear and old example is safety versus productive output. This can be seen as polarity to be managed instead of a goal conflict to be resolved. Organisations need both, not just safety (or just production).

The following sequence provides an overview of polarity management (safety systems versus productive output):

1. Favouring productive output very often leads to an increase in failure events (accidents or near misses).

2. Leaders often respond to this by increasing the focus on safety systems (managing or implementing effective safeguards).

3. If there is too much attention to safety systems, this can result in excessive bureaucracy that very often compromises productivity.

4. Leaders often respond to this by favouring productive output and giving people flexible procedures and liberties while releasing some boundaries. This cycle repeats itself all the time.

Managing polarities needs clear and actionable indicators. These will inform organisational leaders whether they are starting to move towards the downsides, as well as the actions required to gain or maintain the positive benefits from the upsides.

Example of polarity management:

|	Safe production	
Effective safeguards UPSIDE		Simple and flexible safety systems UPSIDE
Safety systems		Productive output
Excess of bureaucracy DOWNSIDE	Warnings	Increase of failure events DOWNSIDE
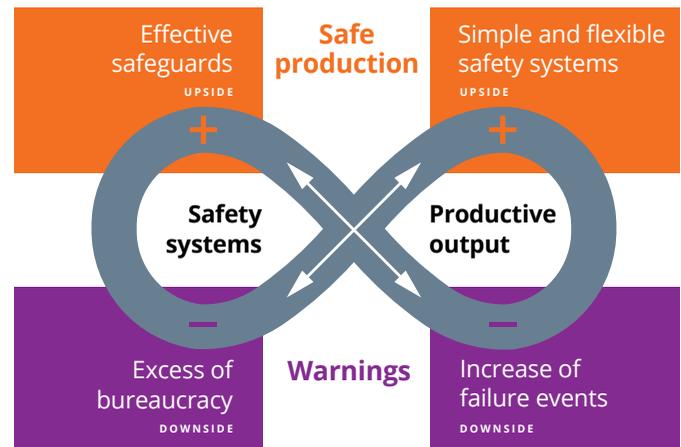
Psychological safety

Psychological safety is about creating an environment where people feel safe to speak up with ideas, questions, concerns, or to admit to making mistakes in the workplace.

Psychologically safe environments have the following advantages:

- People feel safe to contribute new ideas to improve safety and health.

- People feel involved in the relevant decisions about the activities they execute. They have a strong sense of inclusion.

- People feel safe to challenge current practices and work methods.

- People feel the need to constantly learn, improve and apply innovation to all safety and health risks and opportunities in the workplace.

Everyone in the steel industry should take ownership and create psychologically safe environments through everyday actions.

Psychological safety promotes and enables a trust environment.

The fear loop (or blame cycle):
- People are the problem
- Focus on behaviour
- Reward or punish
- Fear and extrinsic motivation
- Learning and reporting inhibited

The trust loop:
- People are the solution
- Focus on relationships and enquiry
- Increased trust and learning
- High psychological safety
- Intrinsic 'speak up' culture
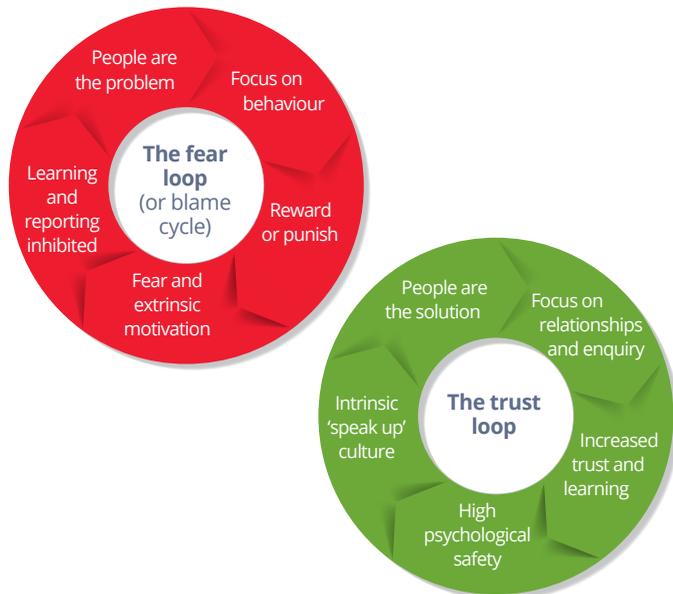
Ensure all organisational leaders are educated on how to effectively create and maintain safe working places.

Provide the educational framework around effective reactions to failure, polarity management and psychological safety.

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03

Foster reliability through proactive learning and involve workers in all safety and health activities.

Operational Learning is a technique to learn from those closest to the work. It has been proven to lead to the development of improvement actions that increase system resilience by addressing deviation prone rules, identifying error traps, and improving or adding defences that reduce the consequences of human error. It also fosters engagement and builds connection between people.

A Learning Team (a form of operational learning) is a facilitated means of engaging with workers to understand and then learn from the opportunities that are presented by everyday successful and safe work as well as learning from events or incidents.

Organisations in the steel industry should create a continuous programme to implement Learning Teams or other means of operational learning and incorporate these as part of everyday dialogue.

Design safer work activities and procedures with workers' perspectives integrated into the design.

Implement local learning teams, analyse work and improve the effectiveness of safeguards.

Case study

The following case study provides an example of what adopting a Learning Team means:

1. Using traditional approaches

A couple of commonalities are found in the incident reports:	Improvement actions:
• Employees are not always completing the mandated safety walk-around of their vehicles prior to operation. • Some employees lose situational awareness during the operation of forklifts, resulting in damage to property.	• Increase audit process to ensure safety walk-arounds are completed. Field and plant operations are graded on a scorecard to track compliance and progress, which the area manager reviews in a monthly safety meeting. • The area manager approves the expense to hold region-wide situational awareness training. • Each location is given a training packet to teach employees hazard recognition and "stop when unsure".

2. Applying Operational Learning

Locations run several Learning Teams to learn what it is like to operate the equipment from the drivers' perspective, learning some of the difficulties operators face daily. Here are a few examples:	Improvement actions:
• For most styles of forklift, the operator's view is blocked, even with no load on the forks. • Each plant has several areas that are frustrating to operate in. The reasons for the frustration in each of these areas is different and include restricted space, cross-traffic with low visibility, and glare on scratched windshields. • In one of the warehouses, many of the columns are painted the same colour as the forklift. When the driver looks over his/her shoulder quickly, the column blends in with the vehicle. • There is a large amount of variation in control response between two models of scissor lifts used, making it simple to make an error when switching between the models.	• The manager/supervisor for the area approves a small trial of a new front-facing camera designed to reduce the forklift's blind spot. • Each plant addresses frustration areas with actions tailored to the specific problems. The actions are developed by a cross-functional team, with a majority of the improvement ideas coming from operators. • Some of the actions taken: rearrangement of tight spaces, redirecting traffic patterns, adding bumpers around columns that are struck frequently, adding attention activators for blind cross-traffic, replacing scratched windshields. • In the warehouse, columns are repainted a different colour of the operators' choosing. • The manager/supervisor requests a review and renegotiation of the lift rental agreement, considering a consistent lift model across the site. Operators are involved in the decision process.

Appreciative inquiry

Appreciative Inquiry (AI) is one approach to organisational change; it is an easy way to engage with groups of people and ask powerful questions. It focuses on what's working (what is contributing to success) rather than what's not working (failures) and leads to teams co-designing safer workplaces. Below is an example of AI in practice:

Define - What is our desired outcome?

Organisations might want to explore times when their safety systems were most effective and successful at managing Lock Out, Tag Out, Try Out (LOTOTO).

Discovery - What are our strengths?

The organisation starts the active inquiry process, identifying various strengths in different sites (e.g. effective training, availability of LOTOTO equipment, good coordination between contractors and own employees, clear procedures). They also identify sites with good safety trends and KPIs to learn what is successful (this is very different from focusing on high accident-rate sites and exploring what is wrong).

Dream - What would work well in the future?

The organisation brings the whole system (people, strengths, and all successful capacity) together to co-design and articulate a vision of where the organisation wants to be in the future with their LOTOTO practices.

Design - What action do we need to take to make it happen?

The vision defined previously becomes the roadmap of how LOTOTO is going to be. In this stage innovation and design principles blend to define the practices, processes and tools that will build upon the organisation's strengths. A pilot project for LOTOTO is defined

Deploy - We are taking that action.

The LOTOTO practice is delivered and continuously tracked making sure it moves forward in the organisation and gets traction. Deployment combined with healthy accountability sustains results in the long term.

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04

Build upon organisational successes and strengths.

In practice, identifying success and leveraging learnings from it can be challenging. Therefore, organisations should rely on integrating the fundamentals into existing structured processes.

Examples of operational learning and evolving mindset applied to foundational safety and health processes:

Worker safe act observation

BUILDING ON STRENGTHS

Consider changing language to conversations, engagements or learning opportunities rather than audit or observation in some circumstances.

Examples of questions:

I would like to learn about your work – talk me through this task?

What is working well? What is challenging? What ideas do you have so we can improve together?

Incident investigation

LEARNING FROM ISSUES

A Learning Team is a tool that can be used in lieu of some investigations.

Examples of open questions as input into investigations:

When doing this task, what normally works well and why?

When doing this task, what aspects are the most challenging and why? What suggestions would you make to improve this task?

Implement practical tools to identify strengths in your organisation and build upon them.

Focus on what goes right, organisational strengths and the capacity to be successful every day.
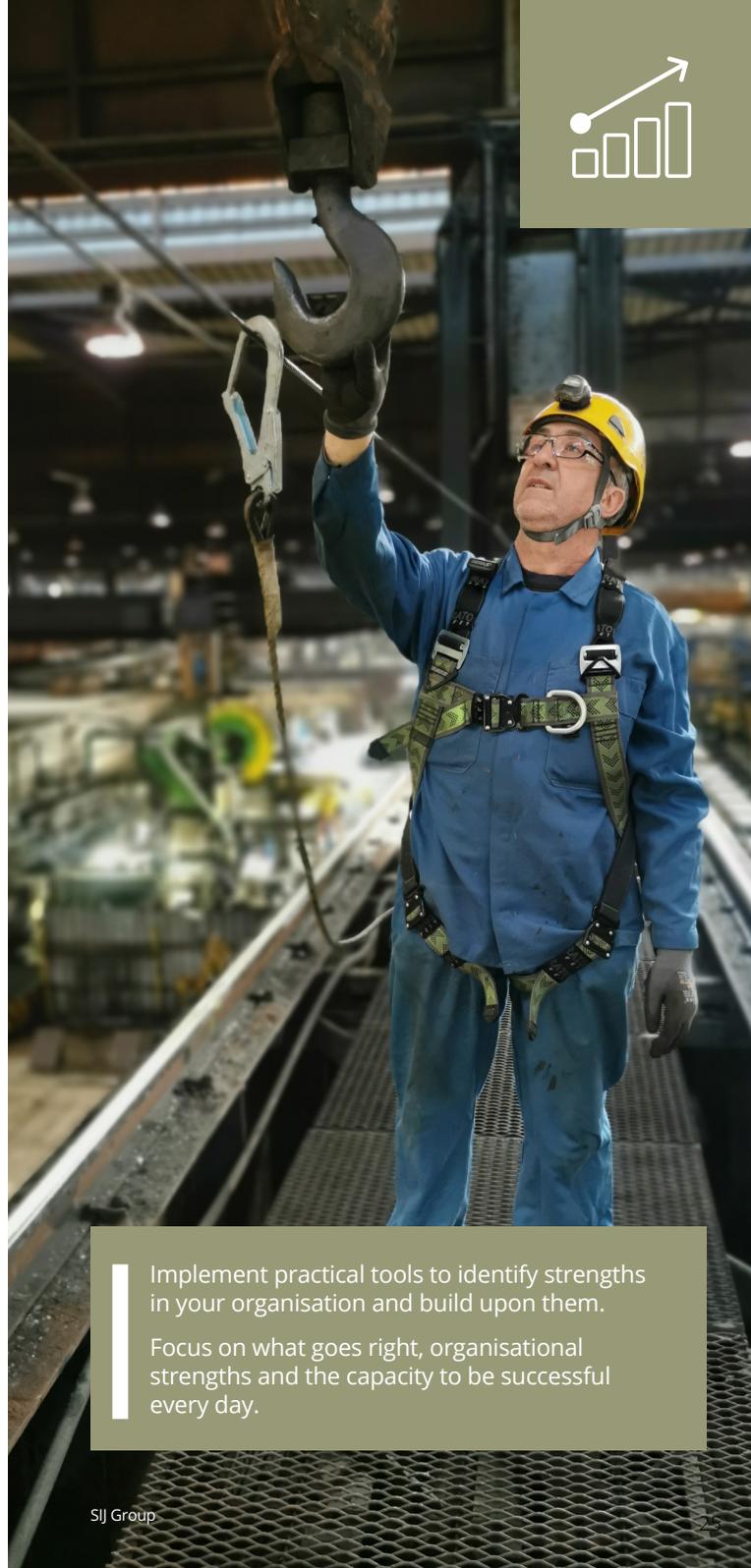
Pre-shift meetings

Foster 2-way conversation in pre-shift meetings:

What worked well in yesterday's shift and why?

What was challenging and why?

In the work we are doing today, what could cause harm or go wrong?

What do we have in place to stop that from happening?

Is that good enough? What ideas do you have to make it better? What suggestions would you make to improve this task?

Training

ENCOURAGE FEEDBACK

Foster 2-way conversation in training:

I want you to give me feedback on anything in this training that is difficult to do in reality – what are your thoughts?

From your experience, what tips do you have for others doing this task?

What suggestions do you have to make this training more practical?

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Safety and health indicators

INTEGRATE POSITIVE LEADING INDICATORS

Many traditional indicators are lagging and may have unintended consequences of people not reporting, not learning, and not focusing on what goes right.

An integration of positive leading indicators can better assist with performance evaluation, leading to improved decision-making.

Some ideas for indicators to support the fundamentals:

- Projects completed where risk controls have been strengthened or moved up the hierarchy of control
- Participation of frontline personnel in improvement projects
- Participation of leaders attending educational leadership workshops
- Shared stories of successes and solutions
- Use the power of storytelling for people to share what they are learning or improving
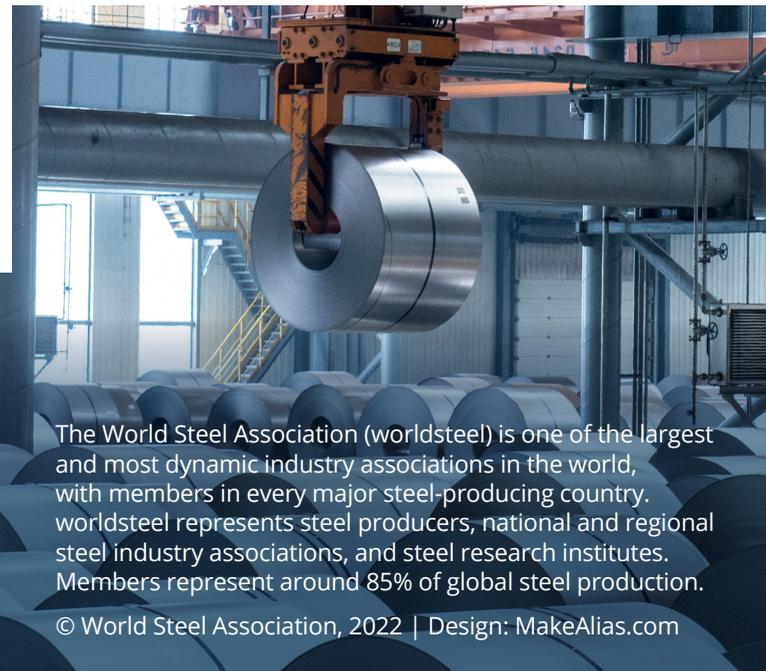
The World Steel Association (worldsteel) is one of the largest and most dynamic industry associations in the world, with members in every major steel-producing country. worldsteel represents steel producers, national and regional steel industry associations, and steel research institutes. Members represent around 85% of global steel production.

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