

A background image of a paraglider with a red and blue canopy flying against a blue sky with white clouds. The paraglider is silhouetted against the sky, and a wind turbine is visible on a hill in the bottom right corner.

**> A Critical Self-Assessment:
Implementation of VDMA WG
Wind Industry Safety Culture
Best Practices**

Hamburg, 28 September 2016

- 1 **Recap**
- 2 Implementation
- 3 Challenges
- 4 Self-Assessment
- 5 Key Take Aways

VDMA WG Wind Industry Safety Culture - Recap

Vision & Target Organisation



- Vision to align on best practices, common HSE guidelines
- Commit to a set of basic principles - paradigm shift
- Creation of safety culture - mind set change
- Improve safety by following 7 Safety Principles
- Commitment to strive for HSE excellence – not overnight, but steadily

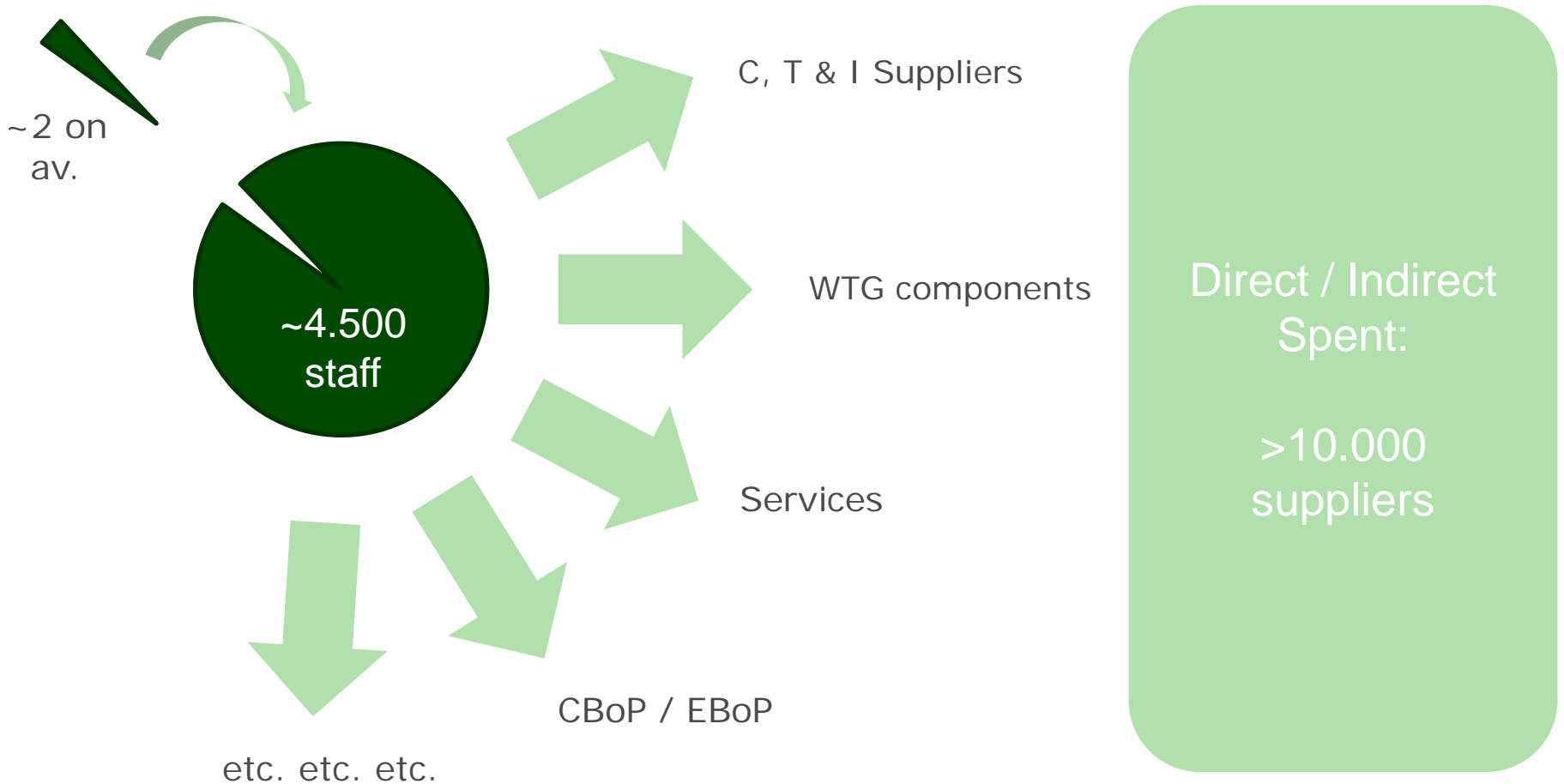


- culture change: daily routine, safe behavior, safety principles deeply sunk in everyone's consciousness
- Working safely is everyone's 2nd nature
- There is no "them" and "us", there is only "us"!
- "My responsibility" approach
- Everybody to return safe to their families

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VDMA WG Wind Industry Safety Culture - Implementation

Cascading the Information



Ways of Implementation

› How?

- › Management commitment: lead by example, give direction
- › Communication
- › Roll-out / cascade
- › Internal advertising
- › Posters / flyers
- › Briefing sessions
- › Power of repetition
- ›

Managers

Team Leaders

Supervisors

Employees

Contractors

VDMA WG Wind Industry Safety Culture - Implementation

Ways of Implementation - Examples

› Oct 14:

- › Publishing WG Safety Culture event on wind fair in 2014 on Intranet
- › Links to flyers and posters
- › Link to VDMA webpage
- › Internal advertising to relevant staff
- › Distribution of posters and flyers



The screenshot shows the NORDEX Intranet interface. At the top, the logo for NORDEX INFOCENTER is displayed, along with the text "The staff portal of the NORDEX-Group". A navigation bar includes "NIC > News > Internal News" and a search bar. The main content area features a news article titled "VDMA MEETING FOR MORE SAFETY IN WIND ENERGY" dated 2014-Oct-01. The article text discusses a meeting of six turbine manufacturers to discuss safety on installation sites and set up common principles. A sidebar on the left contains a "Web Navigator" with a dropdown menu set to "NIC" and a list of categories including "Company", "News", "Service & Support", and "Employee". Below the article text, there are three links: "Download Flyer as PDF", "Download Lars Bondo Krogsgaards speech as PDF", and "Read more on the website of VDMA".

NORDEX INFOCENTER
The staff portal of the NORDEX-Group

Welcome Asser, Gordon ▾ | My Site | My Links ▾ | ?

NIC > News > Internal News

NORDEX
We've got the power.

Search All Sites ▾ Search

VDMA MEETING FOR MORE SAFETY IN WIND ENERGY
2014-Oct-01 | [Internal News](#) | » German Version | » View all Internal News

Last week representatives of six turbine manufacturers met to discuss safety on installation sites and set up some common principles. The "Wind Industry Safety Culture Conference" was held within the framework of the Wind Energy Hamburg fair.


Under the auspices of the VDMA experts from GE, Nordex, Senvion, Siemens and Vestas formed a working group, to be completed by Areva and Alstom. In future the working group entitled "VDMA Working Group Wind Industry Safety Culture" will endeavour to encourage safe working and the establishment of binding guidelines with a view to promoting a culture of safety in the sector. Johannes Schiel, VDMA Power Systems, comments: "The event was a great success and a major step in the right direction. A common culture will be able to bring about a decisive change in industrial safety in the sector."

Ahead of the event Nordex created a flyer in conjunction with the other group members containing the most important principles and guidelines. This can be downloaded via the link below. The Management Board is solidly behind the initiative, as Jürgen Zeschky emphasizes: "Safety is everyone's business - all employees, all sectors, all companies in the industry. Together we can achieve more than alone! "

» [Download Flyer as PDF](#)

» [Download Lars Bondo Krogsgaards speech as PDF](#)

» [Read more on the website of VDMA](#)



The flyer features the text "WIND INDUSTRY SAFETY CULTURE" and an image of a wind turbine tower section being lifted by a crane.

VDMA WG Wind Industry Safety Culture – Implementation

Ways of Implementation – new HSE Policy as of 12 / 2014



Seven Safety Principles

The Wind Industry is committed to safety!

1. Health and safety of people is valued above all else
2. All injuries can be prevented – we plan for safety
3. Management at all levels is accountable for safety and leads by example
4. Everyone looks out for each other, no matter who they work for
5. Safe behavior is recognized, acknowledged and reinforced
6. ZERO tolerance for safety breaches
7. Everyone has the authority to STOP any unsafe work

Nordex HSE Policy

Nordex has embedded Health, Safety and Environment as top priority in the company.

Safety First! - No Injuries, to Anyone, at Anytime.

- Health and safety of our people is valued above all else
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- Safe behavior is recognized, acknowledged and rewarded
- ZERO tolerance for safety breaches
- Everyone has the courage to STOP any unsafe work
- We aim to use resources sustainably, minimize and reuse waste and mitigate negative environmental impacts as effectively as possible

Our vision is to provide an environment and working place free from harm by promoting a positive safety culture.

We believe that all injuries and occupational illnesses, as well as safety and environmental incidents, are preventable, and our goal for all of them is zero occurrence.

We will achieve this by identifying the hazards and risks involved in our activities, by focusing on eliminating these risks as fast as possible.

We are committed to continually improving our health, safety and environmental performance and will strive to eliminate incidents from our business.

We will strengthen our businesses by making health, safety and environmental issues an integral part of all business activities.

We will ensure that our Health, Safety and Environment standards are applied and followed by our partners, contractors and suppliers.

We meet the legal Health, Safety and Environment requirements of national, regional and local policies and ensure local implementation at any of our offices, factories, project and service sites.

Our Health, Safety and Environmental (HSE) Management System is accredited to both OHSAS 18001 and ISO 14001.




Lars Bondo Krogsgaard

Ways of Implementation - Examples

➤ 01/2016:

January 28, 2016

- Letter of Intent by the Board to all contractors underlining importance of HSE
- Introducing "Safety First" campaign

Dear Contractor,

I am contacting you in a matter that has top priority for Nordex, namely the health and safety of the many people that work with our wind turbines.

In 2013 Nordex implemented the Safety First programme with the vision of reducing incidents and accidents to zero.

We track progress in the health and safety field via various performance indicators, including the lost time injury frequency rate (LTIFR), i.e. the number of work related incidents causing absence per 1 million working hours.

Whilst we have been able to reduce the LTIFR on work performed by Nordex employees, we are seeing a significant increase of the LTIFR for our contractors.

It is with great sorrow and regret that Nordex has to record the loss of life of a Contractor employee performing works on a Nordex Wind Turbine. While the incident is still being investigated and the circumstances into the cause have not yet been fully established, Nordex believes that one fatality is one fatality too many.

This has to change, and to improve things we have decided to start a Safety First campaign focusing specifically on our contractors.

You will receive detailed information about the campaign shortly. In the meantime I wanted to personally address you, as a valued contractor for Nordex, to ask for your support for our vision of an accident free wind turbine business.

It is a moral obligation, and it is good business.

Yours sincerely,

Nordex SE



Lars Bondo Krogsgaard
Chief Executive Officer




i. V. Friedher W. Rumpel
Vicepresident, Head of Global
Quality Management/HSE

VDMA WG Wind Industry Safety Culture - Implementation

Ways of Implementation - Examples

➤ Summer 16:

- Release of new HSE Agreement
- Contractors and suppliers are asked to confirm adherence to NX/AWP HSE policies
- Reference is made to HSE best practices and in particular the VDMA WG work

	HSE Agreement	G0127P1F01 Version 2.0
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8.3 Role of Management

The Contractor's senior management must actively create an environment where people are fully involved in the HSE process and in which the HSE MS can operate effectively. This will include the following:

- Maintain the policy and objectives as contained within the Contractor's HSE MS;
- Promote the Contractor's HSE MS throughout the organisation to increase awareness, motivation and involvement;
- Ensure that appropriate processes are implemented to enable the requirements of THE NORDEX GROUP to be fulfilled and quality objectives to be achieved;
- Ensure the availability of necessary resources;
- Review the HSE MS at least once per month;
- Decide and implement on actions regarding HSE improvements and
- Decide and implement on actions for improvement of the HSE MS.

8.4 Commitment to a safe industry

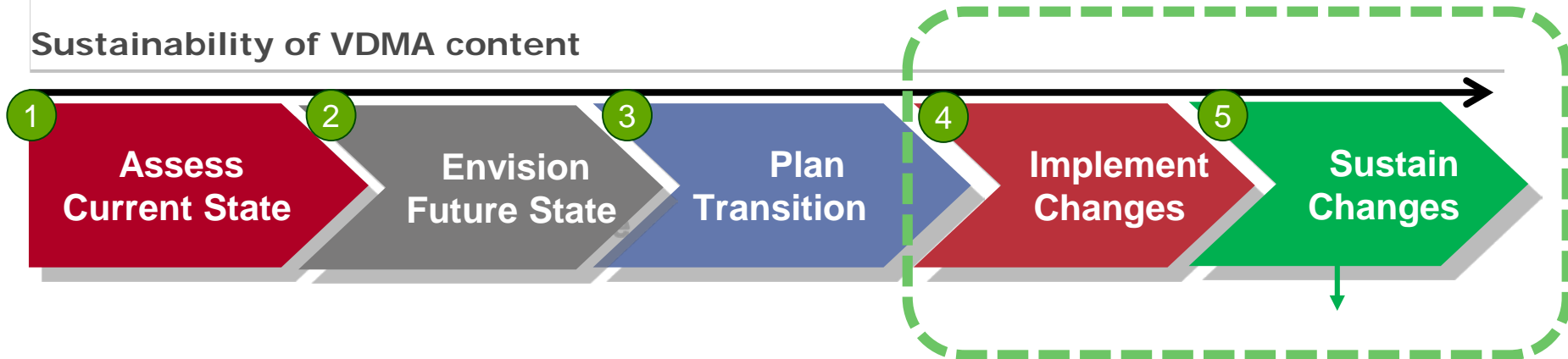
THE NORDEX GROUP is committed to raise the HSE standard within the whole wind industry. Together with other manufacturers, THE NORDEX GROUP has joined the VDMA (Verband Deutscher Maschinen- und Anlagenbauer) Safety Culture Working Group. This working group works on best practice guidelines. The Contractor shall comply with the best practice guidelines of the VDMA Safety Culture Working Group.

8.5 Audits and inspections

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VDMA WG Wind Industry Safety Culture – Challenges

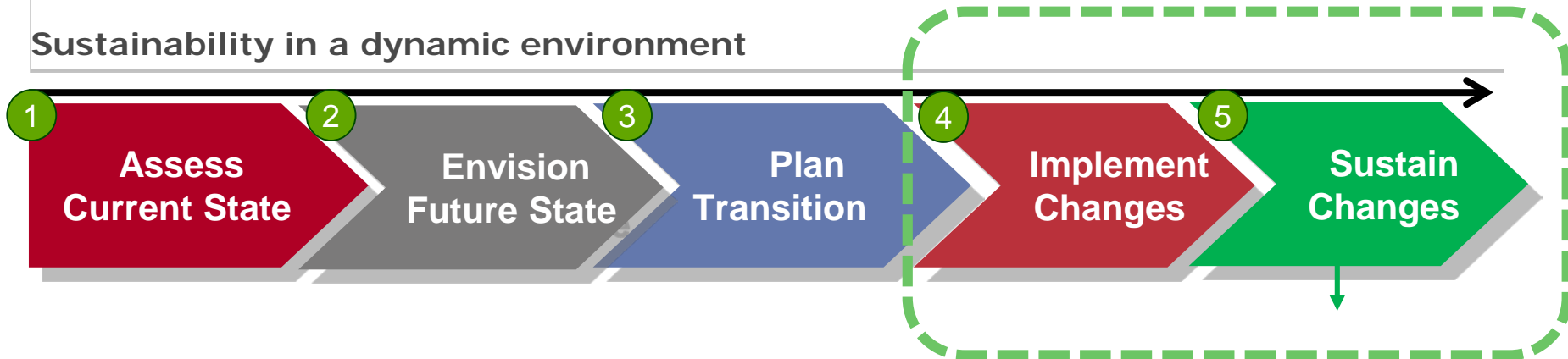
Sustainability of VDMA content



- VDMA WG Safety Culture: coffee club or game changer?
- Does content of VDMA work stay in the room or is it being lived in “the real world”?

VDMA WG Wind Industry Safety Culture - Challenges

Sustainability in a dynamic environment



Ever-changing environment:

dynamic industry, fast developing, staff fluctuation, new WTG designs, market consolidation / mergers, wind industry shifting to emerging markets, ...

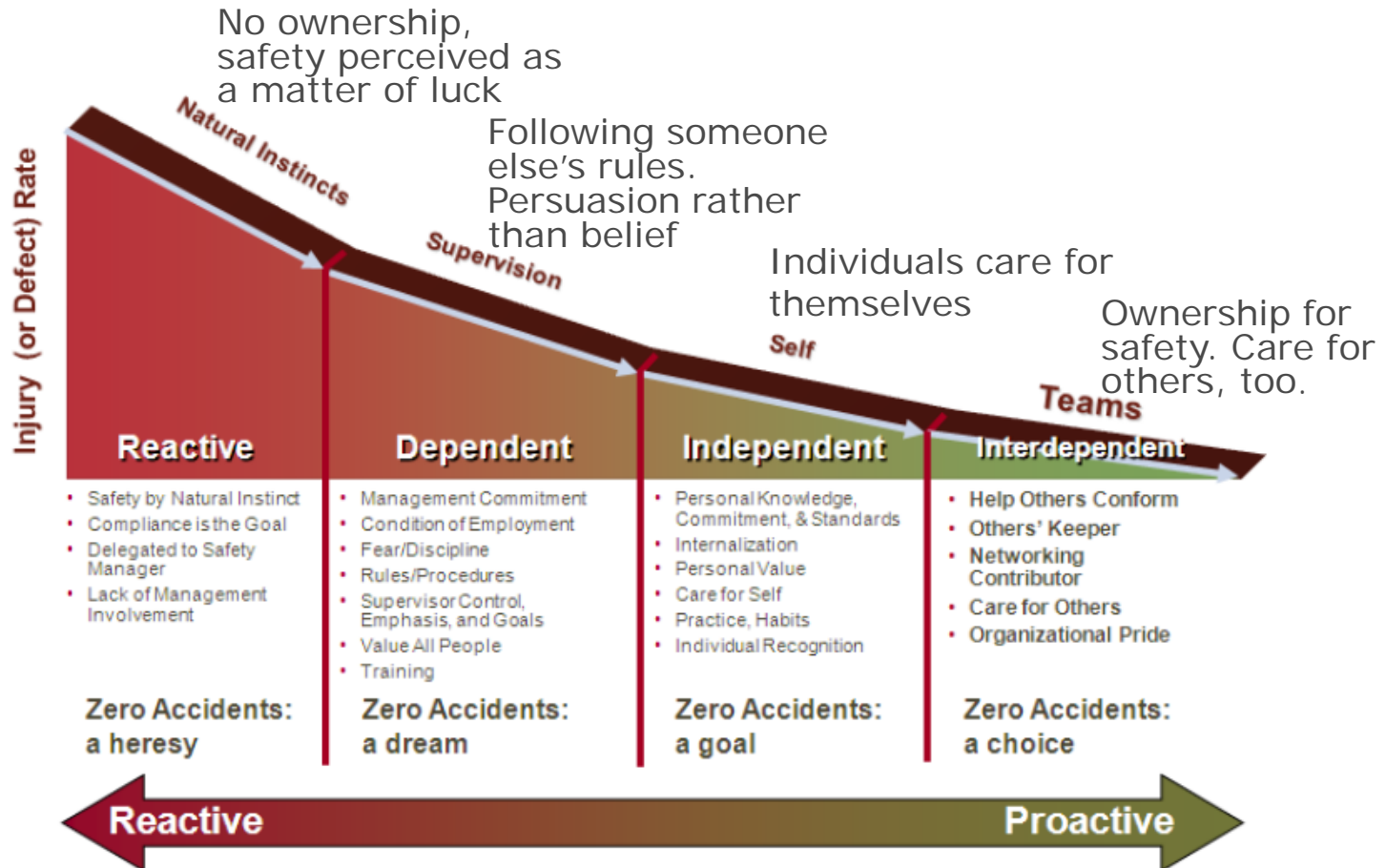
vs.

Sustainability:

Roll-out and implementation of best practices, measure results, audit to maintain progress, self-assess, verify

VDMA WG Wind Industry Safety Culture - Challenges

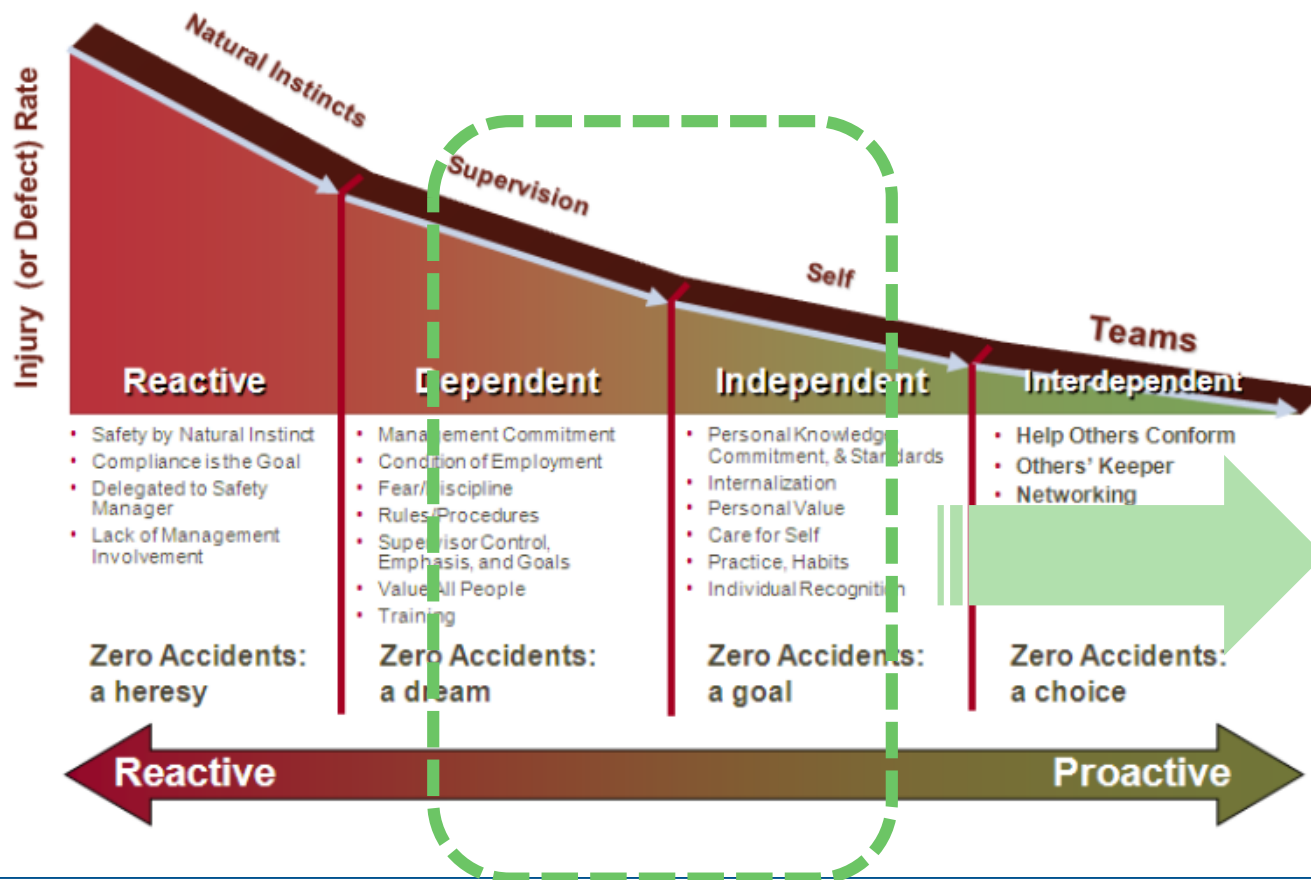
Sustainability: People's Safety Behavior - Du Pont's Bradley Curve



Source:
du Pont

VDMA WG Wind Industry Safety Culture - Challenges

Sustainability: People's Safety Behavior - Du Pont's Bradley Curve



Source: du Pont

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VDMA WG Wind Industry Safety Culture – Self-Assessment

Self-Assessment of Level of Implementation of Best Practices

➤ 09/2015:

- The VDMA WG not only shares information on incidents but agrees to provide a self-assessment on the level of implementation per best practice
- Regular follow up since September 2015

Nr.	Topic	Evaluation Criteria	Level of Implementation [%]	Remarks
1	7 Safety Principles	0% --> The 7 Safety Principles are not yet implemented 30% --> The 7 Safety Principles are partly known in the organisation. 60% --> The 7 Safety Principles are internally known and have been communicated 100% --> The 7 Safety Principles are internally and externally communicated		
2	Personal Protective equipment	0% --> The PPE guideline are not yet implemented 30% --> The PPE guideline are partly known in the organisation. 60% --> The PPE guideline are internally known and have been communicated 100% --> The PPE guideline are internally and externally communicated		
3	Safe Driving	0% --> The Safe Driving Guideline is not yet implemented 30% --> The Safe Driving Guideline is partly known in the organisation. 60% --> The Safe Driving Guideline is internally known and has been communicated 100% --> The Safe Driving Guideline internally is and externally communicated		
		0% --> The Working at Height		



VDMA WG Wind Industry Safety Culture – Self-Assessment

Self-Assessment of Level of Implementation of Best Practices – NX/AWP

Nordex HSE Policy

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We will achieve this by identifying the hazards and risks involved in our activities, by focusing on eliminating these risks as fast as possible.

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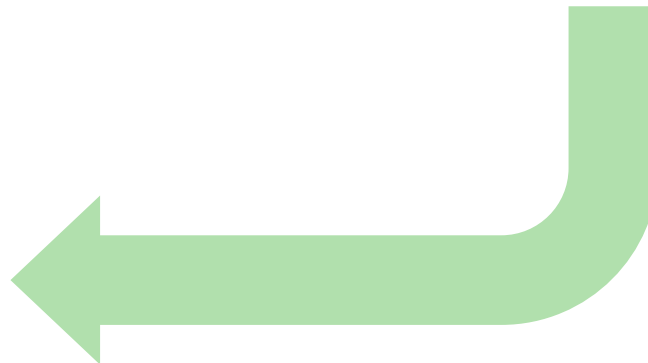
We will strengthen our businesses by making health, safety and environmental issues an integral part of all business activities.

We will ensure that our Health, Safety and Environment standards are applied and followed by our partners, contractors and suppliers.

We meet the legal Health, Safety and Environment requirements of national, regional and local policies and ensure local implementation at any of our offices, factories, project and service sites.

Our Health, Safety and Environmental (HSE) Management System is accredited to both OHSAS 18001 and ISO 14001.

Nr.	Topic	Evaluation Criteria	Level of Implementation [%]	Remarks
1	7 Safety Principles	0% --> The 7 Safety Principles are not yet implemented 30% --> The 7 Safety Principles are partly known in the organisation. 60% --> The 7 Safety Principles are internally known and have been communicated 100% --> The 7 Safety Principles are internally and externally communicated	100%	implementation of 7 Safety principles within the Nordex HSE Policy



Lars Bondo Krogsgaard

Self-Assessment of Level of Implementation of Best Practices – NX/AWP

	HSE Agreement	G0127P1F01 Version 2.0
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12.15 Personal Protective Equipment

All use of personal protective equipment (PPE) shall be required based on THE NORDEX GROUP's local or corporate standards.

	Service & Project Management Personal Protective Equipment	Safe System of Work PPE Version 1.0 Status: Issued
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Following:

Location: Harness attachments



Near WTG Substation
Full body harness attachment points vary depending on how the harness is to be used, as described below. Note that where reference is made to metallic rings these may be substituted with fiber loops in some harness designs.

Inside WTG general
Fall Arrest - The fall arrest attachment element is the back D-ring, located in the middle of the back between the shoulder blades when properly adjusted on the wearer.

On top of WTG
Work Positioning - For work positioning, use D-rings at each side of the hip. The D-rings used here are designed to be used as a pair, never only one. The work positioning D-rings should be located low on the hips, forward of the body center-line when properly adjusted and under tension.

Inside nacell
Travel Restraint - The most common point of attachment on the harness in restraint mode is the back D-ring. In some designs, an integral body belt may be incorporated with the full body harness and equipped with a restraint attachment in the center of the back at waist level.

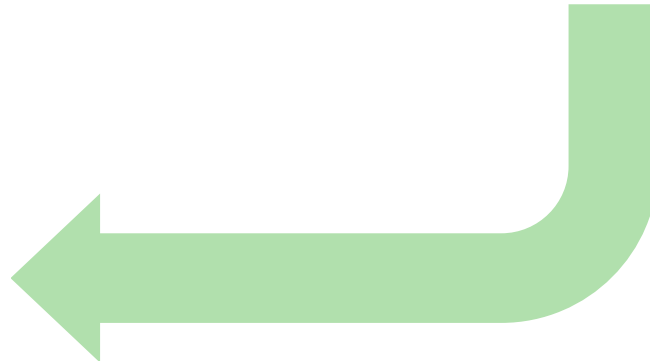
Construction site / wind Park
with Ankle Protection (S3)
climbing helmet
work gloves
on upper body, appropriate work clothing
height: Valid, certified harness, lanyards, trauma straps / fall arrester

Descent - Attachment elements for evacuation are located at the front of the harness, located between waist and chest level. They may be a single chest or waist D-ring, or they may be a pair of D-rings or fiber loops, typically mounted approximately at the waist (sometimes referred to as belay loops). These attachment elements can be used in raising or lowering the person and are often used in conjunction with a second line for back-up fall arrest connected to the back D-ring.

Evacuation - Attachment D-rings for evacuation are used as a pair, located at the top of the harness shoulder straps. They are used together with a spreader-bar for raising or lowering the person to a safe working level. Front attachment elements at the chest may also be used in evacuation.

Ladder Climbing Safety Systems - Harness attachments for use with ladder climbing safety systems are located at the front of the harness between waist and chest level. The attachment element is most often a single D-ring, but may be a pair of rings or fiber loops, for close connection to the ladder structure.

Nr.	Topic	Evaluation Criteria	Level of Implementation [%]	Remarks
	Personal Protective equipment	0% --> The PPE guideline is not yet implemented 30% --> The PPE guideline is partly known in the organisation. 60% --> The PPE guideline is internally known and has been communicated 100% --> The PPE guideline is internally and externally communicated	100%	



Self-Assessment of Level of Implementation of Best Practices – NX/AWP

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12.12 On-Site traffic

THE NORDEX GROUP defines "transport" as all vehicles used to transport personnel or materials to and from site and all plant vehicles operating on THE NORDEX GROUP sites.

On THE NORDEX GROUP sites a general speed limit of **30Km/h** is mandatory. If local requirements are lower, they shall be adhered to.



Seat belts shall be used at all times on THE NORDEX GROUP's sites.

All transport shall be fit for the purpose, maintained and compliant with all applicable rules, laws and regulations.

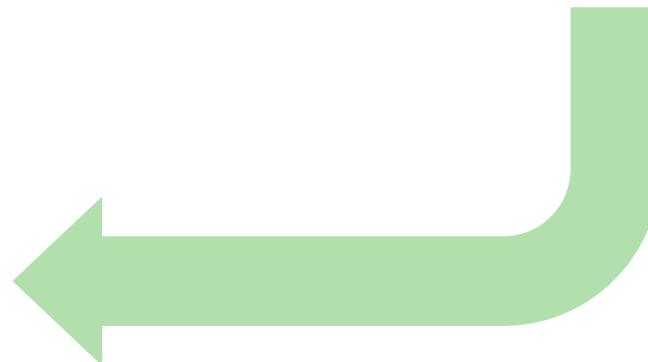
Vehicles and site plant shall only be used for the purpose for which they are intended and shall be used in compliance with the regulations applying to such vehicles and within their stated capability.

Vehicles and site plant shall only be operated by competent personnel holding appropriate licenses.

All vehicles on site shall be equipped with a flashing beacon which shall be turned on if driving on site.

The Contractors employees driving a vehicle in the course of their work shall comply with the legislative driving guidance and THE NORDEX GROUP location-specific traffic regulations apply on THE NORDEX GROUP's premises. Contractor employees driving a vehicle or plant in the course of their work will comply with these regulations, and observe any site rules with regard to driving on site.

Nr.	Topic	Evaluation Criteria	Level of Implementation [%]	Remarks
3	Safe Driving	<p>0% --> The Safe Driving Guideline is not yet implemented</p> <p>30% --> The Safe Driving Guideline is partly known in the organisation</p> <p>60% --> The Safe Driving Guideline is internally known and has been communicated</p> <p>100% --> The Safe Driving Guideline is internally and externally communicated.</p>	60%	



VDMA WG Wind Industry Safety Culture – Self-Assessment

Self-Assessment of Level of Implementation of Best Practices – NX/AWP

12.19 Work at Height

Work at height shall be avoided as far as is reasonably practicable. Alternative methods and procedures shall be evaluated. In any circumstances, THE NORDEX GROUP does not tolerate ANY risk as:



All work

Person of fall

Work at height
Organizational
for work
certification
Sites

Emergency
accident

Users
trauma

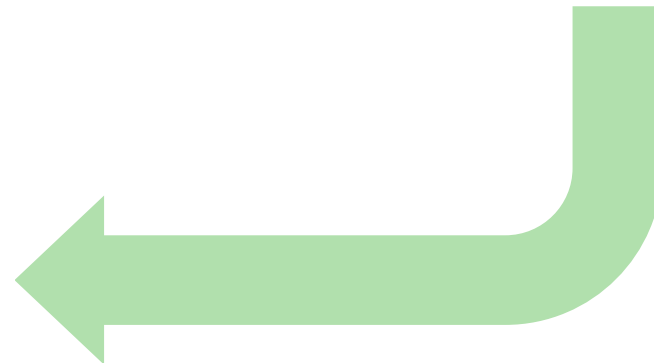
Work at height
measures
the risk

Safety manual

**Rules of conduct on, in and around wind turbines
Wind turbine classes K06, K07, K08 including gamma
All types**



Nr.	Topic	Evaluation Criteria	Level of Implementation [%]	Remarks
	Working at heights	0% --> The Working at Height Guideline is not yet implemented 30% --> The Working at Height Guideline is partly known in the organisation 60% --> The Working at Height Guideline is internally known and has been communicated 100% --> The Working at Height Guideline is internally and externally	100%	



NB: 2016/17 best practices such as "Civil Works", Electrical Safety, etc. will be subject to future communication and roll-out!

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VDMA WG Wind Industry Safety Culture – Key Take Aways

Key Take Aways...

- › We are not there yet, but will carry on to strive for a safer working environment on our sites!
- › The VDMA WG Wind Industry is continuously growing and attracts interest also from other bodies in the industry – we are on the right track!
- › We will continue to develop working principles across the wind industry – the 2017 working package has been defined already
- › Help us establishing a safety culture by the commitment of our employees and stakeholders in the industry



**> Thanks for
your attention**

> Together on the same course

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