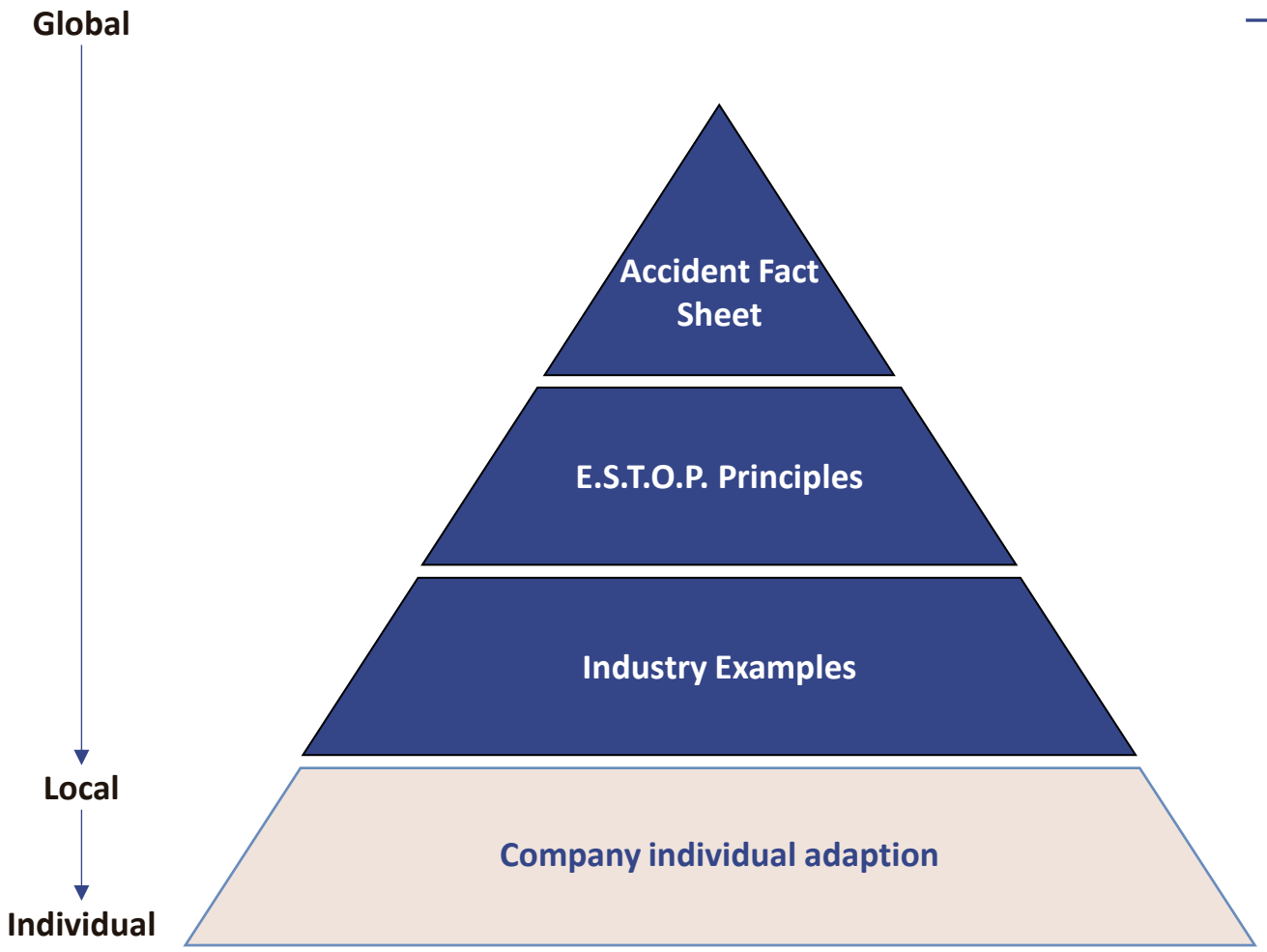
Accidents Avoidance Best Practices

Status June 2024

EUROPEAN
RENTAL
ASSOCIATION

Accident Practices
How to use this information?



"Four Level Principle"

- Every company and its accident-avoidance approaches are individual due to influencing factors such company policies or local legal requirements
- ERA OSH Tools support the member for higher efficiency and productivity

- **Accident Fact Sheets** deriving from the ERA accident statistics and can be used as an indication for accident "hot spots"

- **E.S.T.O.P** principle is a standardized global process for accident avoidance

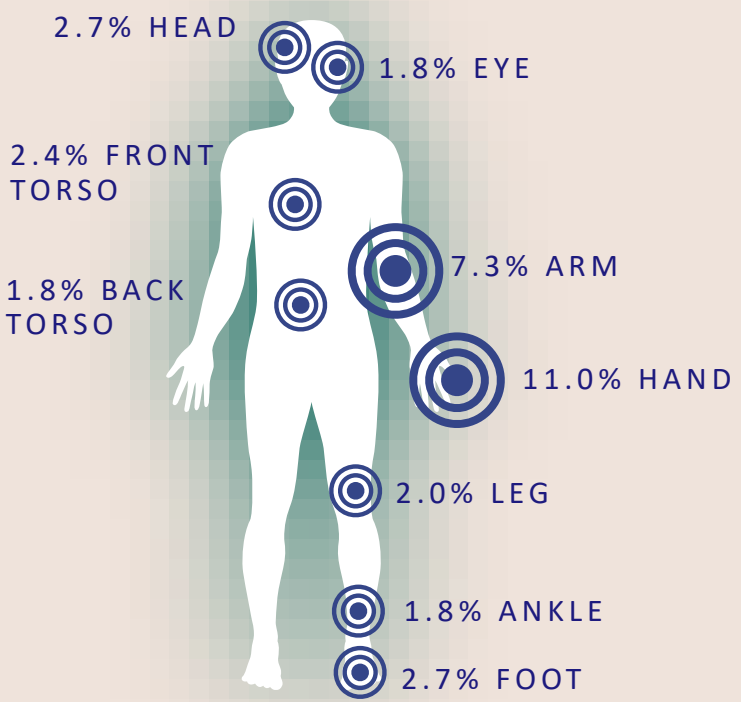
- **Industry examples** as addition input for the and as an idea pool and inspiration for the individual company

- Adaption based on **company individual** situation

Key Accidents

1# Mechanic - 35.5% share

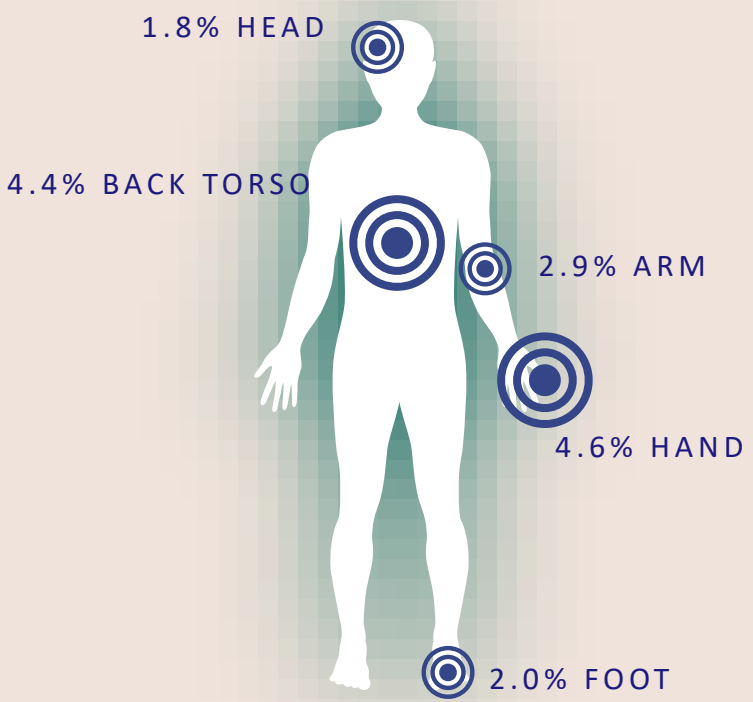
[N=189 from 532 accidents]



General Machine repair, maintenance

2# Delivery - 26.3% share

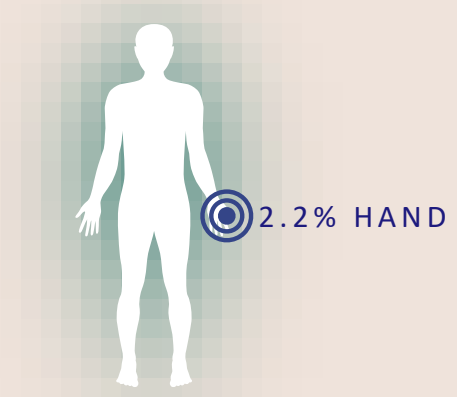
[N=140 from 532 accidents]



3.1% MULTIPLE

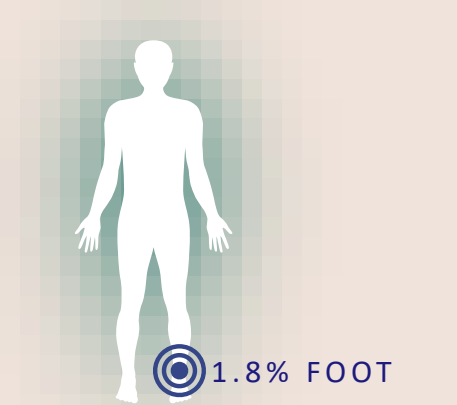
3# Warehouse - 11% share

[N=59 from 532 accidents]



4# Traffic Mgmt. - 7.5% share

[N=40 from 532 accidents]



Remark 1: Selection method → Top 10% of “function vs body part” matrix = 18

Remark 2: Body part % is related to total accidents, values > 1.8%

1.1 Foot-Ankle-Knee-Leg (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Leg (incl. foot, ankle, knee)
- 6,5% share = 18% within cluster
- 2,0% Leg related accidents
- 2,7% Foot related accidents
- 1,8% Ankle related accidents

Potential accident effects
- Sprains
- Fractures

Potential root cause
- Slips-trips-falls
- Low level, 1-2 steps
- Uneven ground
- Wet or icy conditions
- Stumble over objects

Severity level
- medium to high
- > 1 week absence time

E.S.T.O.P.

Elimination	• n.a.
Substitution	• n.a.
Technical	• Adding anti-slippery paint or tape to stairs • Adding handrails • Clean, paved walk-ways • State of the art support material and equipment if needed for working e.g., ladders, steps • Walkway installation and indication

Organization	• 5 S Initiative to systematically involve the total organization
	• Life Saving Rules: “Tidy is Safety” (keep floors, access doors and stairs free of obstacles, clean up spills immediately)
	• Life Saving Rules: “Climbing and working safely at heights” (right equipment, fall protection)
	• Ongoing and careful house keeping
	  • Cleaning and removing any kind of trash or waste
	  • Report or notify all “house keeping” requirements immediately
	• Define responsibilities e.g., “snow duties”

Personal	• Personal protective equipment e.g., high-cut safety shoes • Toolbox talk or Safety-Stand-Down, workplace or special duty instructions • Special campaigns e.g., “stepping off safely”

Industry Examples

1 Boels RENTAL

2 LOXAM

4 HILTI eLearning plattform

Leg Accidents: Example Boels

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H&S Getting in and out

Boels RENTAL

Introduction:

Many accidents happen as a result of actions we perform every day that we give little or no thought to. Examples include taking the stairs, walking, and getting into and out of vehicles and machines. It is this last activity that we want to look at in more detail in this Toolbox.

Accidents caused by getting in and out of vehicles, trailers, loading bins and machines are still too frequent at Boels. Injuries often range from a bruised or twisted ankle to a fracture, but can also result in a painful injury to the knee or ligaments.

These kinds of accidents are easy to avoid, provided we are attentive and take a number of measures.

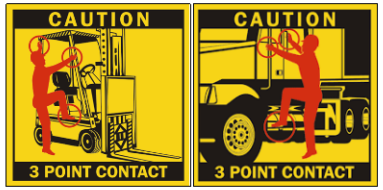
The three-point method:

The "three-point method" means that you always hold on to three points: 2 hands and 1 foot or 1 hand and 2 feet.

You hold on to the handles with your hands. If there are no handles, hold on to another stable object. For example, the handle of a moving door and the steering wheel do not offer suitable support!

Next, you step down or up the steps foot by foot.

This means that you enter the vehicle facing the cabin and exit backwards.



What do we expect from you?

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H&S Getting in and out

Boels RENTAL

- Check steps / handrails and platforms for cleanliness / technical condition before use;
- Always enter and exit the vehicle in a controlled and calm manner;
- Try to position your vehicle so that you can get out on a flat, stable surface;
- Before getting out of the car, check that there are no materials lying around on the ground (e.g. on the branch premises or at a construction site, etc.);
- Wait for the vehicle to come to a complete standstill before getting out;
- Switch off the engine and lock the vehicle (hand brake);
- Check in your mirror that there is no oncoming traffic;
- Use the "three-point method" as described above;
- Do not skip any steps, they are not there for a reason;
- Do not jump from the loading bay (Iveco) or trailer, but step off. You can also use the loading ramp for this;
- Preferably wear a high model of safety shoes. These offer more support around your ankle;
- Make sure you are always visible in traffic;
- Speak to colleagues about unsafe entering and exiting vehicles.

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- Check steps / handrails and platforms for cleanliness / technical condition before use
- Always enter and exit the vehicle in a controlled and calm manner
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- Wait for the vehicle to come to a complete standstill before getting out
- Switch off the engine and lock the vehicle (hand brake)
- Check in your mirror that there is no oncoming traffic
- Use the "three-point method" as described above;
- Do not skip any steps, they are not there for a reason
- Do not jump from the loading bay (Iveco) or trailer but step off. You can also use the
- loading ramp for this
- Preferably wear a high model of safety shoes. These offer more support around your
- ankle
- Make sure you are always visible in traffic
- Speak to colleagues about unsafe entering and exiting vehicles

Leg Accidents: Example Loxam

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Leg injuries

TYPE OF THE ACCIDENT

During the last 12 months in Ramirent, remarkable amount of all lost time injuries, medical treatments and first aid cases have been to the legs.

ROOT CAUSES

The most common activities and conditions causing injuries:

1. Jumping down from a vehicle or some other elevated level to an uneven ground
2. Poor housekeeping (stumbling to materials etc.)
3. Poor winter maintenance e.g. snow duties and sanding
4. Many times the severity of the injury could have been minimized by having a proper first aid right after the accident. This is often failed, but many times this way the LTI could have been avoided.

HOW TO PREVENT ?

- Use steps, never jump down
- It's up to each team and employee to keep their work area tidy and in order all the time while working
- Each employee must intervene and take corrective action when observing slippery conditions
- ASAP proper first aid. **RICE**: Rest, Ice, Compression and Elevation

LOXAM Powered Access

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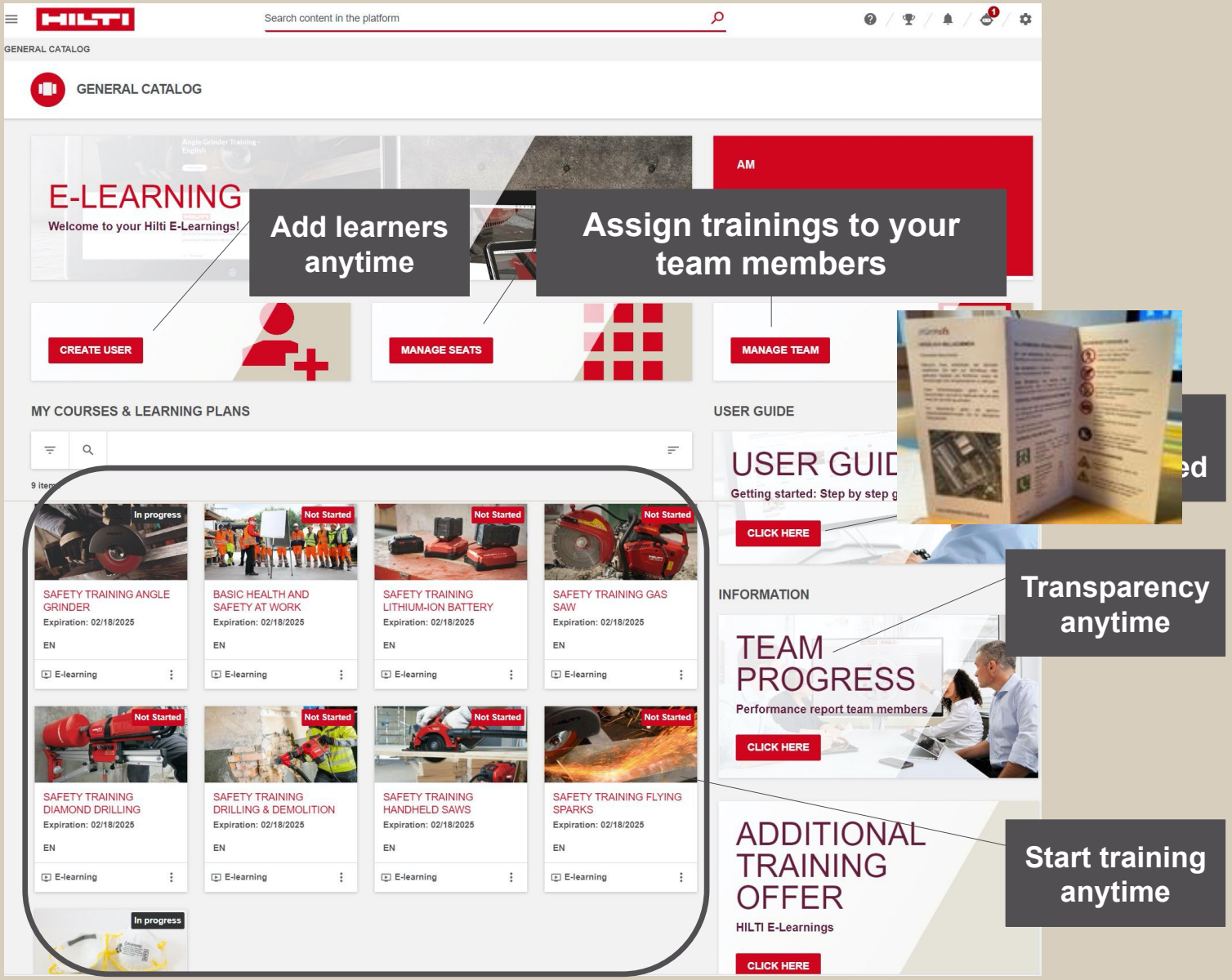
ELEARNING

Hilti Academy Landing Page



1.2 HAND-ARM (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Hand-Arm System
- 18,3% share = 51,6% within cluster
- 11,0% Hand related accidents
- 7,3% Arm related accidents

Potential accident effects
- Bruises
- Fractures
- Cuts
- Sprains & fractures

Potential root cause
- Minor trapping or contact & collision
- Tools & equipment, hand-held tools
- Shocks due to electrical, hydraulically, mechanical impact
- Slips-trips-falls

Severity level
- Low to medium

E.S.T.O.P.

Elimination	• n.a.
Substitution	• Task specific selection of low-risk tools with best safety features
Technical	• Make sure, that all technical safety features are in place and properly working (e.g., safety guards or covers)
Organization	• Before starting with a task - “stop, breath, think” • Be aware of dangerous tools, sharp tools, risky tasks

Personal	• Training awareness and behavior:
	  • Before starting with a task - “stop, breath, think”
	  • Be aware of risk within your work environment
	• Selection and usage of right safety gloves for the tasks
	• No safety gloves in case of rotating parts

Industry Examples

1 LOXAM

2 ZEPPELIN WE CREATE SOLUTIONS

Hand Accidents: Example Loxam / Ramirent

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Information classification: Ramirent Standard

Hand safety

In Ramirent remarkable amount of all occupational accidents happen to the hands. The most typical hand injuries are wounds due to hurry, negligence and use of sharp tools.

All this can be avoided with the systematic way of working:

Stop, Think and Act

- Take a breath and think about safety for a moment prior to start to work.
- Concentrate and keep your eyes on hands while working.

Risk awareness

- Be aware of the hazards of your working environment, such as sharp tools or materials, pinch points, moving parts etc.

Safe working method

- Select the working method that eliminates the risk of any kind of hand injury.

Proper tools

- Use only tools that are suitable for the planned work and in good condition. Avoid using knives whenever possible!

Safety gloves

- Wear gloves that fit and are right for the work being performed, e.g. cut resistant, electrical or chemical protective gloves

These tools come with no SPARE PARTS

RAMIRENT

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Hand Accidents: Example Zeppelin, part from eLearning Tool

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

Achtung:
An rotierenden Maschinenteilen ist das Tragen von Handschuhen verboten.

Handschutz

Fast 50 % aller Verletzungen betrifft Hände und Finger, die z. B.

- Stichverletzungen
- Schnittverletzungen
- Verbrennungen
- Kälte, Hitze
- Elektrizität
- bakteriologische Risiken
- chemische Risiken

entstehen. Auf die Auswahl eines geeigneten Handschutzes ist zu achten.

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1.3 TORSO (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Torso (Front & Back)
- 4,2% share = 12% within cluster
- 2,4% Front Torso related accidents
- 1,8% Back Torso related accidents

Potential accident effects
- Strain
- Sprains
- Fractures

Potential root cause
- Slips-trips-falls
- Low level, 1-2 steps, uneven ground
- Wet, stumble over objects
- Heavy weightlifting
- Carrying

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• n.a.
Substitution	• Use smaller or lighter batches, bundles
Technical	• Height adjustable desks, working areas, chairs • Use support equipment such as lifting aids, carrying straps, lifting trolleys • Use exoskeletons (active or passive) in case of high frequency of heavy loading or carrying task
Organization	• Lift and carry heavier weight with two people if no technical support is available • Assessment of workplaces and stations
Personal	• Periodic Training of right “lifting and carrying”

Industry Examples

1 ZEPPELIN WE CREATE SOLUTIONS

2 Boels RENTAL

Torso Accidents: Example Zeppelin, part from eLearning Tool

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4 HEBEN & TRAGEN

Reduzierung von Überbeanspruchung

- **Hilfsmittel verwenden**
  Hilfsmittel wie Hebehilfen, Tragegurte, Tischwagen oder Hubkarren zum Transportieren schwerer Lasten verwenden

- **Schwere Lasten vermeiden**
  Die eigene Kraft nicht überschätzen und Lasten lieber aufteilen und in mehreren Teilen transportieren. Nicht teilbare schwere Lasten zu zweit tragen.

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Torso Accidents: Example Zeppelin, part from eLearning Tool

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4 HEBEN & TRAGEN

Richtig Heben

Richtig Tragen

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Richtiges Heben und Tragen

Beim **Heben** mit gebeugtem Rücken werden die Bandscheiben keilförmig zusammengedrückt. Sie werden damit vorne viel stärker belastet als hinten, die Folge sind Rückenleiden und Muskelabbau. **Richtiges Heben** und Tragen entlastet die Bandscheiben, den Bewegungsapparat und trainiert die Muskulatur. Beim Heben sollte eine Last **nicht ruckartig und nur mit geraden Rücken** gehoben werden (kein Hohlkreuz, kein Verdrehen).

Beim **Tragen** sollte eine **aufrechte** Haltung eingenommen und die Last nah am Körper getragen werden. Transporthilfen unterstützen beim Heben und Tragen von Lasten.

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Torso Accidents: Example Boels

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H&S Toolbox

Lifting Safety

Boels RENTAL

November 2023

Back injuries are one of the most common injuries. With this Toolbox Talk we will address proper lifting techniques, how to reduce the risk of a back injury and some other general safety tips.

1. Preparation

- Ensure that you are wearing proper clothing and PPE
  - Safety shoes should always be worn
  - Gloves are also recommended when lifting certain objects (fe. sharp edges)
- Stretch before you attempt to lift a heavy object or at beginning of shift
- If possible, store materials at waist height to reduce the strain on your back
- Have materials delivered as close to final destination as possible
- Assess the object you are going to be lifting
  - Determine the weight of the object before lifting
  - Determine best place to grip the object
- Ensure that your travel path is free of slipping and tripping hazards
- Know your own lifting restrictions and capabilities

2. Get help!

- Use carts, dollies, forklifts and hoists to move materials
- When lifting a heavy or large load, ask help from another colleague

3. Proper lifting techniques

- Have your feet spread about shoulders-width apart
- Your feet should be close to the object, pull the object as close as possible
- Get a firm grip on the object, use two hands
- Keep your back straight and elbows close to your body
- Keeping your back straight and head up, straighten your legs to lift object
- At the same time tighten your stomach muscles to provide back support (Don't hold your breath while doing this)
- While carrying the object DO NOT twist or bend at the waist, move your feet and legs when turning
- Keep the load as close to your body as possible, do not lift higher than shoulder height
- To set the object down, use the same technique used to lift the object

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Toolbox

Lifting Safety

4. Other useful safety tips

- Take your time! You are more likely to be injured when you are tired or cold
- Lift as smoothly as possible, try not to "jerk" the lift
- Sensible lifting takes as much time as unwise lifting: use your mind
- Light load: Swing the leg back and bend forward with a straight back to pick up the load

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1.3 HEAD (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Head
- 2,7% share = 8% within cluster

Potential accident effects
- Impact
- Bruises
- Fractures

Potential root cause
- Contact and collision
- Hit by object
- Substance splashing

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• n.a.
Substitution	• n.a.
Technical	• Cover sharp edges
Organization	• Safeguard work environment against falling objects • Keep walkways free of dangerous parts at head height
Personal	• Use either helmet or safety ”baseball caps” in case of exposure • Training of exposed employees • Move slowly in tight spaces

1.4 EYE (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Eye accidents
- 1,8% share = 5% within cluster

Potential accident effects
- Scratches on cornea
- Splinters
- Burns

Potential root cause
- Substance splashes
- Chemical substances
- Particles

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• n.a.
Substitution	• n.a.
Technical	• Use safety features of equipment
Organization	• Only trained people for specialized tasks e.g., manipulation with hazardous substances, welding, drilling
Personal	• Training • Personal protective equipment - right safety googles

Industry Examples

1 ZEPPELIN WE CREATE SOLUTIONS

Eye Accidents: Example Zeppelin, part from eLearning Tool

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

Augenschutz

Unser Auge ist vielen Gefahren ausgesetzt:

- Schlag oder Stoßverletzungen
- Staub, Späne, Splitter, Funken
- Verblitzen beim Elektroschweißen
- Strahlungen (Infrarot-/Laserstrahlen)
- Spritzer von Säuren und Laugen

Wirksam schützen können wir unser Auge durch geeignete Schutzbrillen.

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1.6 Machine Repair & Maintenance (key accident)

Accident Fact Sheet

Mechanic function
- 35,5% of all accidents relate to the mechanic functions
- Most exposed rental industry function

Repair & maintenance
- Key task
- High degree of workplace risk
- Multiple different applications with specific hazardous situations
- Heavy parts, sharp edges

Potential accident effects
- In principle every body part can be affected

Potential root cause
- Any kind of mistake
- Bypassing safety rules
- Bypassing technical safety features

Severity level
- All levels possible

E.S.T.O.P.

Elimination	• Not possible due to key element of the workplace
Substitution	• n.a.
Technical	• Use safety features of equipment • Installation and usage of rails, guards, safety hooks, fall protection • Disconnect machine and equipment from any power source • Machine in ”off” mode, hydraulic pressure-less • Moveable parts blocked • Pressure cylinders blocked • Use right repair tools
Organization	• Hire skilled personal (education and knowhow) • Supervision • Ongoing workplace assessments and audits • Lean management and 5S principles • Repair and maintenance at ”un-known, new” equipment only after extensive training and safety briefing
Personal	• Ongoing training, toolbox talks • Personal protective equipment - right safety googles

Industry Examples

1 ZEPPELIN WE CREATE SOLUTIONS

Machine Repair: Example Zeppelin, part from eLearning Tool

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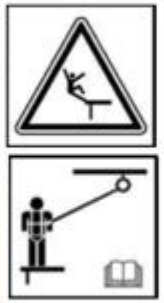
ZEPPELIN KAMPAGNE: MIT SICHERHEIT EIN GUTER TAG

AUF DER MASCHINE

- Auf- und Abstieg sicher? Check
  - 3 Punkteregel beachten? Check
  - Handläufe und Auftritte benutzen? Check
- Geeignete Hilfsmittel vorhanden? Check
  - Leiter, Tritte, Gerüste, Arbeitsbühnen? Check
- Sicherheitspunkte vorhanden und nutzbar? Check
- PSA-Absturz-Rückhaltesystem vorhanden/verwendbar? Check



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Machine Repair: Example Zeppelin, part from eLearning Tool

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ZEPPELIN KAMPAGNE: MIT SICHERHEIT EIN GUTER TAG

AN/IN DER MASCHINE

- Maschine energielos? Check
  - Hauptschalter aus und gegen Wiedereinschalten gesichert? Check
- Hydraulik drucklos? Check
  - Maschinenteile abgesenkt? Check
- Maschine gegen unbeabsichtigtes Bewegen gesichert? Check
  - Unterlegkeile, Zylinderblockierungen angebracht? Check




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Machine Repair: Example Zeppelin, part from eLearning Tool

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ZEPPELIN KAMPAGNE: MIT SICHERHEIT EIN GUTER TAG

UNTER DER MASCHINE

- Geeignete Hebezeuge vorhanden? Check
  - Kran, Wagenheber -> Traglast? Check
  - Ketten, Hebebänder -> Traglast, Beschädigung? Check
- Geeignete Abstützungen möglich? Check
  - Untergrund eben und belastbar? Check
  - Abstützböcke und -hölzer -> Traglast, Beschädigung? Check



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2.1 FOOT (key accident)

Accident Fact Sheet

Delivery function
- 26,3% of all accidents relate to the delivery functions
- Second most exposed rental industry function

Foot related accidents
- 2,0% share = 8% within cluster

Potential accident effects
- Fractures
- Sprains

Potential root cause
- Slips-trips-falls
- Low level, 1-2 steps, uneven ground
- Wet, stumble over object
- Tipping while loading or unloading
- Jump-off the vehicle

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• not feasible
Substitution	• not feasible
Technical	• Adding anti-slippery paint or tape to stairs • Adding handrails • Clean, paved walk-ways • State of the art support material and equipment if needed for working e.g., ladders, steps • Walkway installation and indication

Organization	• 5 S Initiative to systematically involve the total organization
	• Life Saving Rules: “Tidy is Safety” (keep floors, access doors and stairs free of obstacles, clean up spills immediately)
	• Life Saving Rules: “Climbing and working safely at heights” (right equipment, fall protection)
	• Ongoing and careful house keeping
	  ◦ Cleaning and removing any kind of trash or waste
	  ◦ Report or notify all “house keeping” requirements immediately
	• Define responsibilities e.g., “snow duties”

Personal	• Personal protective equipment e.g., high-cut safety shoes • Toolbox talk or Safety-Stand-Down, workplace or special duty instructions • Special campaigns e.g., “stepping off safely”

Industry Examples

1 LOXAM

2 ZEPPELIN WE CREATE SOLUTIONS

Leg Accidents: Example Loxam

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Leg injuries

TYPE OF THE ACCIDENT

During the last 12 months in Ramirent, remarkable amount of all lost time injuries, medical treatments and first aid cases have been to the legs.

ROOT CAUSES

The most common activities and conditions causing injuries:

1. Jumping down from a vehicle or some other elevated level to an uneven ground
2. Poor housekeeping (stumbling to materials etc.)
3. Poor winter maintenance e.g. snow duties and sanding
4. Many times the severity of the injury could have been minimized by having a proper first aid right after the accident. This is often failed, but many times this way the LTI could have been avoided.

HOW TO PREVENT ?

- Use steps, never jump down
- It's up to each team and employee to keep their work area tidy and in order all the time while working
- Each employee must intervene and take corrective action when observing slippery conditions
- ASAP proper first aid. **RICE**: Rest, Ice, Compression and Elevation

LOXAM Powered Access

CP Consulting

Leg Accidents: Zeppelin

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

Fußschutz

Jeder 7. Unfall ist eine Fußverletzung. Gegen Gefährdungen wie

- Stichverletzungen durch Nageleintritt
- Zehenquetschungen bei Transporten
- Verrenkungen, Verstauchungen
- Verbrennung der Fußsohle, usw.

schützt ein geeigneter Sicherheitsschuh oder -stiefel zuverlässig. Verwendet werden sollte mind. ein Schuh der Klasse S2, auf Baustellen der Klasse S3.

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2.2 HAND-ARM (key accident)

Accident Fact Sheet

Delivery function
- 26,3% of all accidents relate to the delivery functions
- Second most exposed rental industry function

Hand-Arm System
- 7,5% share = 29% within cluster
- 4,6% Hand related accidents
- 2,9% Arm related accidents

Potential accident effects
- Bruises
- Cuts
- Fractures & sprains

Potential root cause
- Minor trapping
- Tools & equipment
- Tipping while loading or unloading

Severity level
- Low to medium

E.S.T.O.P.

Elimination	• n.a.
Substitution	• Task specific selection of low-risk tools with best safety features
Technical	• Make sure, that all technical safety features are in place and properly working (e.g., safety guards or covers)
Organization	• Before starting with a task - “stop, breath, think” • Be aware of dangerous tools, sharp tools, risky tasks

Personal	• Training awareness and behavior:
	  • Before starting with a task - “stop, breath, think”
	  • Be aware of risk within your work environment
	• Selection and usage of right safety gloves for the tasks
	• No safety gloves in case of rotating parts

Industry Examples

1 LOXAM

2 ZEPPELIN WE CREATE SOLUTIONS

Hand Accidents: Example Loxam / Ramirent

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Information classification: Ramirent Standard

Hand safety

In Ramirent remarkable amount of all occupational accidents happen to the hands. The most typical hand injuries are wounds due to hurry, negligence and use of sharp tools.

All this can be avoided with the systematic way of working:

Stop, Think and Act

- Take a breath and think about safety for a moment prior to start to work.
- Concentrate and keep your eyes on hands while working.

Risk awareness

- Be aware of the hazards of your working environment, such as sharp tools or materials, pinch points, moving parts etc.

Safe working method

- Select the working method that eliminates the risk of any kind of hand injury.

Proper tools

- Use only tools that are suitable for the planned work and in good condition. Avoid using knives whenever possible!

Safety gloves

- Wear gloves that fit and are right for the work being performed, e.g. cut resistant, electrical or chemical protective gloves

These tools come with no SPARE PARTS

RAMIRENT

CP Consulting

Hand Accidents: Example Zeppelin, part from eLearning Tool

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

Achtung:
An rotierenden Maschinenteilen ist das Tragen von Handschuhen verboten.

Handschutz

Fast 50 % aller Verletzungen betrifft Hände und Finger, die z. B.

- Stichverletzungen
- Schnittverletzungen
- Verbrennungen
- Kälte, Hitze
- Elektrizität
- bakteriologische Risiken
- chemische Risiken

entstehen. Auf die Auswahl eines geeigneten Handschutzes ist zu achten.

CP Consulting

2.3 TORSO (key accident)

Accident Fact Sheet

Delivery function
- 26,3% of all accidents relate to the delivery functions
- Second most exposed rental industry function

Torso related accidents
- 20% total share
- 8% Leg related accidents
- 6% Foot related accidents
- 6% Ankle related accidents

Potential accident effects
- Musculoskeletal issues

Potential root cause
- Manual handling

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• n.a.
Substitution	• Use smaller or lighter batches, bundles
Technical	• Height adjustable desks, working areas, chairs • Use support equipment such as lifting aids, carrying straps, lifting trolleys • Use exoskeletons (active or passive) in case of high frequency of heavy loading or carrying task
Organization	• Lift and carry heavier weight with two people if no technical support is available • Assessment of workplaces and stations
Personal	• Periodic Training of right “lifting and carrying”

Industry Examples

1 Boels RENTAL

Torso Accidents: Example Boels

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H&S Toolbox

Lifting Safety

Boels RENTAL

November 2023

Back injuries are one of the most common injuries. With this Toolbox Talk we will address proper lifting techniques, how to reduce the risk of a back injury and some other general safety tips.

1. Preparation

- Ensure that you are wearing proper clothing and PPE
  - Safety shoes should always be worn
  - Gloves are also recommended when lifting certain objects (fe. sharp edges)
- Stretch before you attempt to lift a heavy object or at beginning of shift
- If possible, store materials at waist height to reduce the strain on your back
- Have materials delivered as close to final destination as possible
- Assess the object you are going to be lifting
  - Determine the weight of the object before lifting
  - Determine best place to grip the object
- Ensure that your travel path is free of slipping and tripping hazards
- Know your own lifting restrictions and capabilities

2. Get help!

- Use carts, dollies, forklifts and hoists to move materials
- When lifting a heavy or large load, ask help from another colleague

3. Proper lifting techniques

- Have your feet spread about shoulders-width apart
- Your feet should be close to the object, pull the object as close as possible
- Get a firm grip on the object, use two hands
- Keep your back straight and elbows close to your body
- Keeping your back straight and head up, straighten your legs to lift object
- At the same time tighten your stomach muscles to provide back support (Don't hold your breath while doing this)
- While carrying the object DO NOT twist or bend at the waist, move your feet and legs when turning
- Keep the load as close to your body as possible, do not lift higher than shoulder height
- To set the object down, use the same technique used to lift the object

H&S Department
H&S@boels.com

Toolbox

Lifting Safety

4. Other useful safety tips

- Take your time! You are more likely to be injured when you are tired or cold
- Lift as smoothly as possible, try not to "jerk" the lift
- Sensible lifting takes as much time as unwise lifting: use your mind
- Light load: Swing the leg back and bend forward with a straight back to pick up the load

H&S Department
H&S@boels.com

CP consulting

2.4 HEAD (key accident)

Accident Fact Sheet

Delivery function
- 26,3% of all accidents relate to the delivery functions
- Second most exposed rental industry function

Head
- 1,8% share = 7% within cluster

Potential accident effects
- Impacts
- Bruises
- Eye - injuries

Potential root cause
- Contact and collision
- Substances splashes (chemicals, water, particles)

Severity level
- Medium to high

E.S.T.O.P.

Elimination	• n.a.
Substitution	• n.a.
Technical	• Cover sharp edges
Organization	• Safeguard work environment against falling objects • Keep walkways free of dangerous parts at head height
Personal	• Use either helmet or safety ”baseball caps” in case of exposure • Training of exposed employees • Move slowly in tight spaces

3.1 HAND (key accident)

Accident Fact Sheet

Warehouse function
- 11% of all accidents relate to the mechanic
- Medium exposure level

Hand
- 2,2% share = 20% within cluster

Potential accident effects
- Bruises
- Cuts
- Fractures & sprains

Potential root cause
- Minor trapping
- Contact and/or collision
- Tools & Equipment
- Hand-held tools
- Tipping while loading or unloading

Severity level
- Medium

E.S.T.O.P.

Elimination	• n.a.
Substitution	• Task specific selection of low-risk tools with best safety features • Usage of safety knifes with automated blade retraction
Technical	• Make sure, that all technical safety features are in place and properly working (e.g., safety guards or covers)
Organization	• Before starting with a task - “stop, breath, think” • Be aware of dangerous tools, sharp tools, risky tasks

Personal	• Training awareness and behavior:
	  • Before starting with a task - “stop, breath, think”
	  • Be aware of risk within your work environment
	• Selection and usage of right safety gloves for the tasks
	• No safety gloves in case of rotating parts

Industry Examples

1 LOXAM

2 ZEPPELIN WE CREATE SOLUTIONS

4 **Safety Knives**

Hand Accidents: Example Loxam / Ramirent

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Information classification: Ramirent Standard

Hand safety

In Ramirent remarkable amount of all occupational accidents happen to the hands. The most typical hand injuries are wounds due to hurry, negligence and use of sharp tools.

All this can be avoided with the systematic way of working:

Stop, Think and Act

- Take a breath and think about safety for a moment prior to start to work.
- Concentrate and keep your eyes on hands while working.

Risk awareness

- Be aware of the hazards of your working environment, such as sharp tools or materials, pinch points, moving parts etc.

Safe working method

- Select the working method that eliminates the risk of any kind of hand injury.

Proper tools

- Use only tools that are suitable for the planned work and in good condition. Avoid using knives whenever possible!

Safety gloves

- Wear gloves that fit and are right for the work being performed, e.g. cut resistant, electrical or chemical protective gloves

These tools come with no SPARE PARTS

RAMIRENT

CP Consulting

Hand Accidents: Example Zeppelin, part from eLearning Tool

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

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- Kälte, Hitze
- Elektrizität
- bakteriologische Risiken
- chemische Risiken

entstehen. Auf die Auswahl eines geeigneten Handschutzes ist zu achten.

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Hand Accidents: Safety knifes to open cardboard boxes

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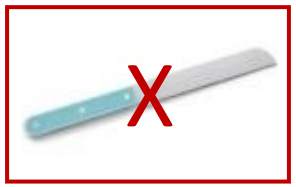
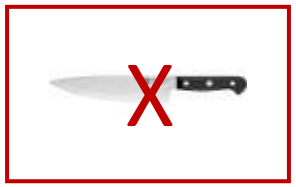
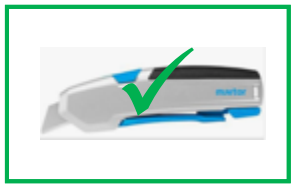
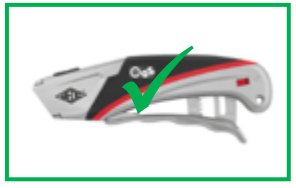
DON'T
Any kind of knife with fixed blade


DO
Knives with automated blade retraction




CP Consulting

2.2 FOOT (key accident)

Accident Fact Sheet

Traffic Management function
- 7,5% of all accidents relate to the mechanic

Foot
- 1,8% share = 24% within cluster

Potential accident effects
- Fractures
- Sprains

Potential root cause
- Sips-Trips-Falls
- Lower level, 1-2 steps, uneven or slippery ground
- Stumbling over objects
- Tipping while loading or unloading
- Jump-off the vehicle

Severity level
- Medium

E.S.T.O.P.

Elimination	• not feasible
Substitution	• not feasible
Technical	• Adding anti-slippery paint or tape to stairs • Adding handrails • Clean, paved walk-ways • State of the art support material and equipment if needed for working e.g., ladders, steps • Walkway installation and indication

Organization	• 5 S Initiative to systematically involve the total organization
	• Life Saving Rules: “Tidy is Safety” (keep floors, access doors and stairs free of obstacles, clean up spills immediately)
	• Life Saving Rules: “Climbing and working safely at heights” (right equipment, fall protection)
	• Ongoing and careful house keeping
	  ◦ Cleaning and removing any kind of trash or waste
	  ◦ Report or notify all “house keeping” requirements immediately
	• Define responsibilities e.g., “snow duties”

Personal	• Personal protective equipment e.g., high-cut safety shoes • Toolbox talk or Safety-Stand-Down, workplace or special duty instructions • Special campaigns e.g., “stepping off safely”

Industry Examples

1 LOXAM

2 ZEPPELIN WE CREATE SOLUTIONS

Leg Accidents: Example Loxam

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Leg injuries

TYPE OF THE ACCIDENT

During the last 12 months in Ramirent, remarkable amount of all lost time injuries, medical treatments and first aid cases have been to the legs.

ROOT CAUSES

The most common activities and conditions causing injuries:

1. Jumping down from a vehicle or some other elevated level to an uneven ground
2. Poor housekeeping (stumbling to materials etc.)
3. Poor winter maintenance e.g. snow duties and sanding
4. Many times the severity of the injury could have been minimized by having a proper first aid right after the accident. This is often failed, but many times this way the LTI could have been avoided.

HOW TO PREVENT ?

- Use steps, never jump down
- It's up to each team and employee to keep their work area tidy and in order all the time while working
- Each employee must intervene and take corrective action when observing slippery conditions
- ASAP proper first aid. **RICE**: Rest, Ice, Compression and Elevation

LOXAM Powered Access

CP Consulting

Leg Accidents: Zeppelin

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7 PERSÖNLICHE SCHUTZAUSRÜSTUNG

Fußschutz

Jeder 7. Unfall ist eine Fußverletzung. Gegen Gefährdungen wie

- Stichverletzungen durch Nageleintritt
- Zehenquetschungen bei Transporten
- Verrenkungen, Verstauchungen
- Verbrennung der Fußsohle, usw.

schützt ein geeigneter Sicherheitsschuh oder -stiefel zuverlässig. Verwendet werden sollte mind. ein Schuh der Klasse S2, auf Baustellen der Klasse S3.

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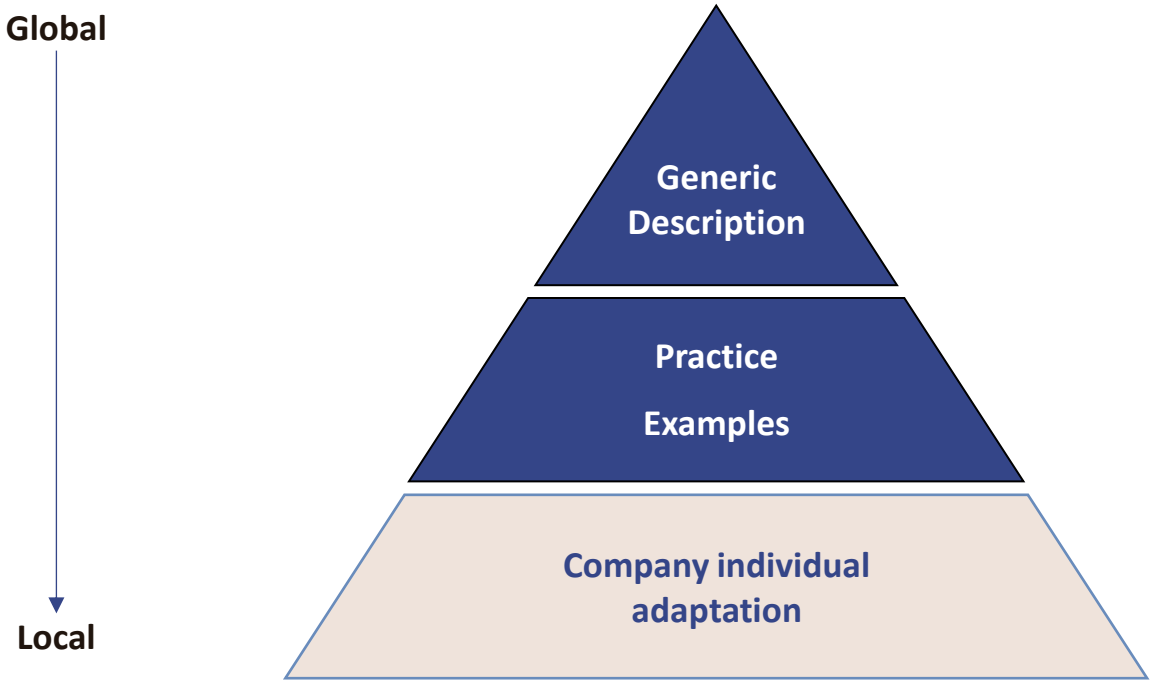
4. Instruments

Instruments
How to use this information?



“Three Level Principle”

- **Generic Description** provide a general overview about the instrument
  - Why, When, How to use it
  - Short description
- **Practice Examples** from the rental industry for further input and deeper understanding about the topic
  - Real life practices
  - Supporting material
- **Company individual adaptation** based on individual needs and local regulatory requirements

Why would you like to use this tool?

- Conformity to legal requirements
- Establish basics action steps in case of an incident

When would you use this tool?

- Once defined and set - ongoing
- Yearly review
- In case of an incident

How to make best use out of this tool?

- Company wide standard
- Define content with respective organizations
- Regular training of staff
- Regular check, assessment and review

What could be done next?

- Assess legal requirements
- Check actual definitions and status with audit
- Make risk evaluation

How to use this tool?

Context

- 1st. Aid systems, corresponding processes and required behavior are elements of legal requirements
- Integrated part of company risk assessment and management
- Standard for “good employers”
- Integral part of employment contract

Content

- Potentially describes all potential threads to a person, infrastructure or company - from accident to fire to …
- Person: typically linked to an accident
  - What to do first?
  - What not to do?
  - Basic first aid tips
- Infrastructure: typically linked to an incident e.g., fire, flooding
  - What to do first?
  - What not to do?

Training

- Initial build up of knowhow including periodical follow up

Target group

- Everybody acting within company “boarders”

Help Card

“Emergency Card”

Description

Basically, four development steps required to a

1. Design: Based on purpose and target group - employees, visitors, 3rd. party personal
2. Content: Definition of relevant content, rules, regulation, safety notes
3. Draft Version: As base for alignment within the organization, final modifications and adaptions
4. Distribution: Throughout the company incl. employee training
5. Review: Ongoing evaluation and adaption to changes

Industry Examples

1 GSV

2 ZEPPELIN WE CREATE SOLUTIONS

1st Aid Example: GSV - Description

FIRE AND EVACUATION INSTRUCTION

...in case of fire or accident

IN CASE OF VIOLENT FIRE OR EXPLOSION

- Make yourself aware of the extent of the fire and/or the development of smoke. Alert your colleagues by shouting "FIRE-FIRE"
- Move away from the fire - CLOSE THE DOOR BEHIND YOU
- Alert the fire service on 1-1-2 and report the fire at the address
- Go calmly and collected to the assembly point, as shown on your local evacuation plan
- Remember to be registered at the assembly point by the nearest manager
- No one leaves the company without information to the nearest managerial staff

IN CASE OF SMALL FIRE

- In the event of a small fire or smoke, extinguish the fire with the nearest fire extinguisher
- Do not endanger yourself - Find out where fire extinguishers are available in your department

IN CASE OF WORK ACCIDENTS

- Make yourself aware of the extent of the accident and create safety for yourself and the injured party
- Evacuate if you cannot create security on site
- Check the person's consciousness, airway, breathing and blood circulation
  - Unconscious persons without breathing - SEE INSTRUCTIONS IN CASE OF CARDIAC ARRESTS
  - Unconscious persons who are breathing are placed in the side position
  - Pale people lie down with their legs raised
  - Heavy bleeding, lift above the heart if possible
- Keep your composure, avoid panic actions

Humans before machines

GSV

- Call for an ambulance at 1-1-2. Describe the person's condition and state the address
- Provide first aid until the ambulance arrives such as: Provide support for injured body parts and protection against heat loss
- Stop bleeding and speak soothingly to the casualty. Monitor consciousness, weather- twitching and pulse

IN CARDIAC ARRESTS

Call 1-1-2. State your name, exactly where you are and what happened

- Lay the person flat on their back on a hard surface
- Press in the middle of the ribcage - Press the ribcage 5-6 cm down. Press 30 quick presses and then give two blow-ins
- Tilt the person's head slightly backwards, lift the person's chin with two fingers. Start by giving two in-blowing via the mouth-to-mouth method
- Continue treating with 30 compressions and two breaths until the ambulance arrives
- If the person begins to breathe normally, place the person in a stable lateral position as shown below

Humans before machines

GSV

1st Aid Example: Zeppelin

Erste Hilfe bei Unfällen

Wichtig: Ruhe bewahren

1. Schützen:
Sofortmaßnahmen: Überblick, Absicherung der Unfallstelle, Vermeiden von Folgeunfällen
Sich selbst nicht in Gefahr bringen

2. Melden
Ersthelfer holen, Verständigung und Kommunikation mit den Hilfskräften

Wo ist es geschehen?
Was ist geschehen?
Wie viele Verletzte?
Welche Verletzung?
Warten auf Rückfragen

(0)112

Rettungsdienst einweisen

3. Helfen
Ansprechen, Beruhigen, Eigenwärme erhalten

Bitte beachten Sie hierzu auch die jeweiligen Aushänge an den Standorten :

Why would you like to use this tool?

- Health Management is not organized
- Analyses of absence rates
- Identification of hot spots and adequate initiatives

When would you use this tool?

- In the beginning of any analyses and ramp up of health management

How to make best use out of this tool?

- During information collection process
- Structuring of feedback and input from employees

What could be done next?

- Check actual absence rates and development
- Check current level of detail and principal root cause
- Check legal situation regarding data privacy

Definitions

Physical	Musculoskeletal disorder	Conditions that affect the muscles, bones, and joints. Caused by repetitive motion, poor posture, or heavy lifting, or whole-body vibration
	White finger disease	Potentially caused by exposure to vibration (HAVS)
	Hearing loss	Potentially caused by exposure to loud noises
	Respiratory disease	Conditions that affect the lungs and can be potentially caused by exposure to dust, chemicals, harmful substances
	Skin issues	Different conditions potentially caused by exposure to e.g., chemicals, harmful substances, excessive sunlight
Psychological	Stress	Caused by a variety of factors such as workload, short deadlines, critical interpersonal relationships, and other factors from business or private life
	Depression	Serious mental health condition that can affect an employee's ability to work and function normally
	Anxiety	Caused by feelings of worry, fear and nervousness
	Burn out / Bore out	Phenomenon as a result of chronic private and work-related stress factors
Diseases	Diabetes	Growing problem, caused by a variety of factors among other lifestyle or eating habits
	Cancer	Potentially caused by chemicals, radiation, and other environmental or lifestyle factors
	Cardiovascular disease	Group of conditions which affect the heard, and blood vessels caused by a variety of factors such as high blood pressure, high cholesterol, and smoking
	Others	Such as obesity or any kind of seasonal diseases e.g. flue, corona

Why would you like to use this tool?

- Comply with legal requirements
- Comply with ISO requirements
- Position company vis-à-vis to key stake holders (e.g., employees, customers)

When would you use this tool?

- Within a certification process
- Starting point for systematic OSH management

How to make best use out of this tool?

- Assess the actual status
- Define problem and consequences
- Initiate stakeholder dialogue

What could be done next?

- Check if an OSH policy is available
- If yes, check document status e.g., time, title, last review
- Check if all structural elements are covered
- Assess quality and aspiration of formulations

How to use this tool?

Develop

- Analyze actual situation, define gaps and potential improvements
- Define structure according to standards
- Create draft text modules and discuss broadly
- Get Management commitment
- Implement CI guidelines and document management conformity

Update

- Revise actual OSH Policy periodically
- Update in case of changes within business model, company structure, strategic moves

Training

- Initial build up of knowhow including periodical follow up
- Base tools for new employees

Target group

- Everybody within company “boarders”

Don’ts

- Over complication or over-simplification
- Too generic definitions

Help Card

Structure

Description

The overall structure consisting of 7 modules

1. Mgmt. Commitment: Essential and required prerequisite for successful OSH management
2. Organization & Steering: Definitions about setup, resources, processes, responsibilities, KPI’s
3. Involvement: responsibilities, accountabilities, training elements
4. Process: integration of OSH within company processes
5. Review: Ongoing evaluation and adaption to changes
6. Compliance: legal and ISO related
7. Risk Management: pro-active implementation of risk mgmt. instruments

Why would you like to use this tool?

- Accident root cause with direct link to problems in cleaning, un-tidy workplaces, obstacles, deviation form work procedures
- Part of a "Lean Management" approach

When would you use this tool?

- Case related, based on accident analyses
- Being part of a company wide "Lean" initiative

How to make best use out of this tool?

- In the context of productivity
- "Ride the wave" of a broader "Lean" initiative
- "Step by step" implementation
- Team up with operations

What could be done next?

- Analyze last accidents and relation to actual workplace situations
- Workplace inspections (showcase)

How to use this tool?

Dependent on the different phase

1. Sort

- Check all items and remove unnecessary once or relocate to "red tag" area for later disposal
- Keep working floor clear of material

2. Set in Order

- Arrange according to use frequency and work process
- Easy selection for use and fixed equipment locations

3. Shine

- Cleaning daily
- In parallel inspecting

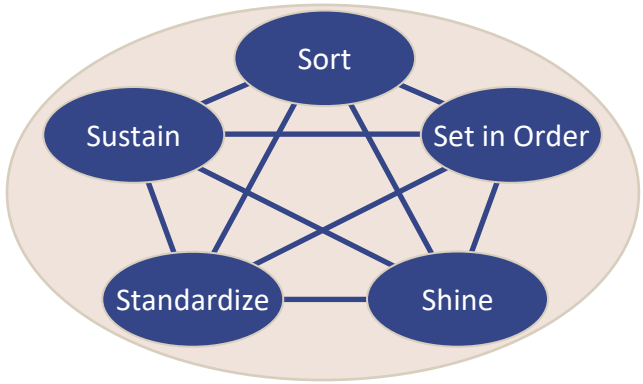
4. Standardize

- Develop supporting work structures
- Use photos, processes, visual controls
- Train and involve every team member

5. Sustain

- Organize training sessions
- Regular audits and workplace inspections
- Define and implement improvements

Help Card



- "5S" is a workplace organization methodology following five process implementation steps
- It is a systematic to organize the workspace for higher efficiency and effectiveness of the work processes with a very positive leverage on risk reduction and accident prevention.
- The overall approach aims for higher standardization and visualization based on an ongoing and intense involvement of the workforce

Industry Examples

1 Boels RENTAL

Detail

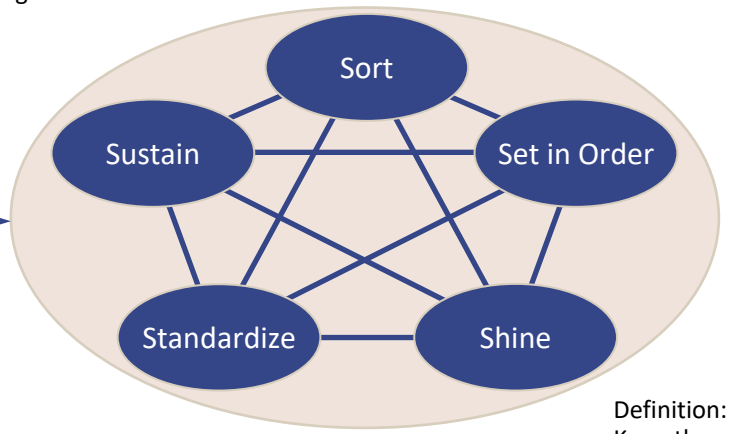
“5 S” Methodology

Definition:
Sorting through all equipment and items within a location and removing all unnecessary elements
Goal:
Reduce time losses for item search
Simplify work processes, inspections
Increase amount of useful space
Increase safety by eliminating obstacles

Definition:
Transfer the methodology into a procedure followed through by self-discipline of workers. “Doing without being told”
Goal:
Ensure that the full “5S” cycle is followed

Trigger

- Accidents due to chaotic workplaces
- Falls due to obstacles
- Accidents due to deviation from standardized work procedures
- …



Definition:
Put all required equipment and items in the optimal place to support the work processes
Goal:
Make the work process smooth and easy
Increase safety through avoidance of bypassing standards and safe work-flows

Definition:
Standardization of processes used and implemented to sort, order and clean the workplace
Goal:
Establish procedures and time schedules to ensure the repetition of the first three steps

Definition:
Keep the area clean, tidy, and inspect workplace, equipment and material on regular bases
Goal:
Improves the production process efficiency and safety
Reduces waste
Prevents errors and defects

5S Example: Boels - Training approach

PROGRAMMA VAN DE TRAINING

Boels RENTAL

Startpunt dag 1	Opdrachten tussen dag 1 en 2	Continue verbeteren dag 2
		
voor 5S	**na 5S**	**enkele maanden later...**

Dag 1:
- Wat is lean?
- Tim Wood
- 5S
- Gemba walk +- 1 uur
- Lunch
- Scheiden
- Red tag zone
- Schikken

Tussenperiode:
- Toepassen learnings 1ste training
- Belijningsplan maken en aanbrengen.
- Voor en na foto's

Locatie Eekels Ridderkerk: 4 December & 22 Januari
Locatie Site Prep. Nijkerk: 6 December & **25 Januari**
Locatie Site Acc. Sittard: 7 December & **23 Januari**

Dag 2
- S3
- S4
- Gemba
- S5

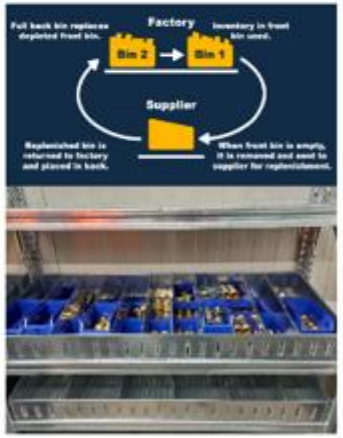
Deelnemerslijst

5S Example: Boels - Training approach

5S Example: Boels - Training approach

BEST PRACTICE

Boels RENTAL



Dave Kremer

blue print visuals

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Why would you like to use this tool?

- Systematically avoid and reduce risks for the workforce
- Cover legal requirements

When would you use this tool?

- Active in case of changes in technologies, processes, workflows, project parameters
- Re-active in case of any incident to systematically avoid future accidents

How to make best use out of this tool?

- As integral part of risk assessment
- Systematically use of all 5 levels
- Get management commitment
- Roll out to key functions

What could be done next?

- Check your current systematic against this tool
- Identify deviations and add step-by-step needed process steps
- Train responsible functions across the company (e.g., engineering, supply, project-management)

How to use this tool?

1. Elimination

- Physical hazard removal by search, find and implement business, project alternatives
- Substantial impact on the actual work processes and business but highest safety potential

2. Substitution

- Search, define and implement alternative solutions for currently used technologies or work-processes

3. Engineering Controls

- Isolate person from the hazard by implementing addition technical safety elements or barriers

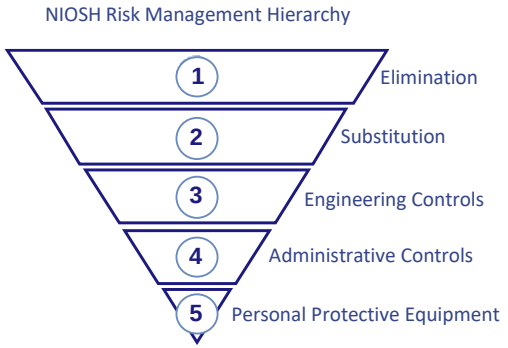
4. Administrative Controls

- Change the way of work by modifying workflow parameters and add process steps focusing on safety. E.g., regular breaks.

5. Personal Protective Equipment

- So called individual “last line of defense” for team-members
- Cover remaining risks with adequate and best fit PPE, information & training
- Check usage rules regularly

Help Card



Description

Starting with the risk assessment the hazard is avoided by using the 5-step E.S.T.O.P. systematic

”5 Level Model” in some countries also know as “STOP” model incorporating the ”E” dimension into the “S”

Dimension “1 to 4” typically preferable collective measures

Dimension “5” typically on individual workplace level

Why would you like to use this tool?

- Increase safety awareness and transparency
- Systematic incorporation of safety in daily routines
- Vehicle for implementing “near miss management”
- Visualization of incident status

When would you use this tool?

- Once implemented, every day
- Monthly for data collection

How to make best use out of this tool?

- Link it directly to the operational steering process e.g., shop-floor management
- Enable the individual unit
- Statistical evidence

What could be done next?

- Develop your own lay-out, prototype
- Alignment process
- Develop training material
- Start with one unit as a test phase

How to use this tool?

Development

- Define layout principles incl. space for short incident description, analyses and action taken

Implementation

- Start with one unit with a trail phase
- Inform about the basic philosophy and train usage principles
- Direct support of the team at during the starting phase
- Roll-out phase with management attention

Use-phase

- Every day as standard topic
- Periodic feedback-loops & optimization
- Open information about results

Analytics

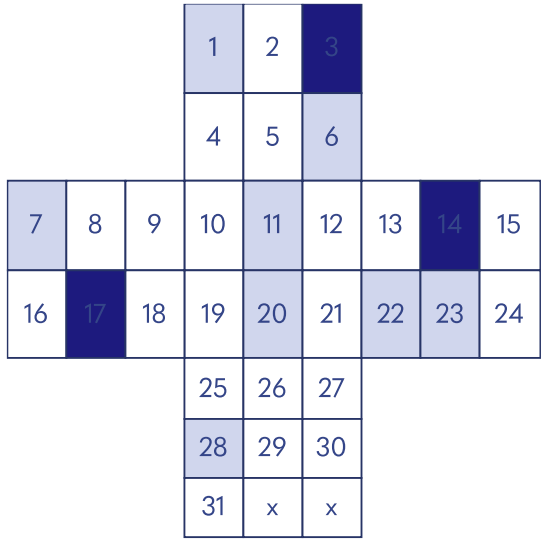
- Monthly statistics
- Number of actions taken

Tips and Traps

- Link initiative with “Near Miss” mgmt.
- Build statistics “accident” vs ”near miss” development
- Control the process in the beginning

Help Card

“Safety Cross - Lay out”



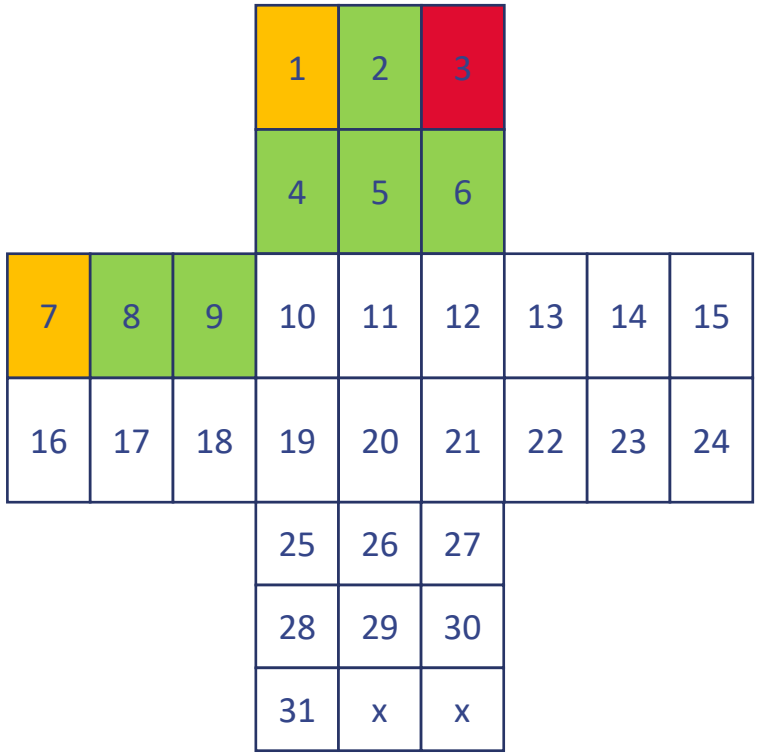
Description

“Safety Cross” as a vehicle for transparency, steering and communicating the safety situation in an organizational unit on a daily & monthly base

1. Days without Accidents: Celebration opportunity
2. Near Misses: To be treated in the same way as an accident - the more the better!
3. Hazardous Situations: Not a must have category at the beginning, could lead to confusion and is increasing complexity
4. Accidents: Every single accident, analyses with team and experts, definition of required improvement initiatives, implementation, follow up

Blank Slide - Layout

Company Logo	Name of Unit or Organisation	Name of responsible Manager, Coach, Unit leader	Month / Year



1st.	Header Short description Quick Analyses	How to proceed? Who? When?
3rd.	Header Short description Quick Analyses	How to proceed? Who? When?
7th.	Header Short description Quick Analyses	How to proceed? Who? When?
.	Header Short description Quick Analyses	How to proceed? Who? When?
.	Header Short description Quick Analyses	How to proceed? Who? When?

No Incident

Near Miss / Hazardous Situation

Accident

Why would you like to use this tool?

- Proper management of OSH documents is the pre-requisite and first indication for state-of-the-art safety management
- Foundation for legal compliance and any kind of certification

When would you use this tool?

- At any stage of the company
- Ongoing and permanent
- In case of any new or changing regulation, technology or processes

How to make best use out of this tool?

- Systematical implementation and ongoing use
- Digitalization of documents, no paper trails
- Train people

What could be done next?

- Assess actual situation on corporate and local level
- Identify gaps within the current system from “IT support” to the “single document”

How to use this tool?

Assess

- Do we have a doc mgmt. system at all?
- If so, what is the implementation level?
- What are the biggest gaps?

Adapt

- Define the best suited pragmatic process for the company
- Streamline and consolidate existing material, processes and supporting tools

Align

- Get the organization behind the initiative
- Process in general
- Priorities for implementation

Approve

- Get principal decision on highest possible level

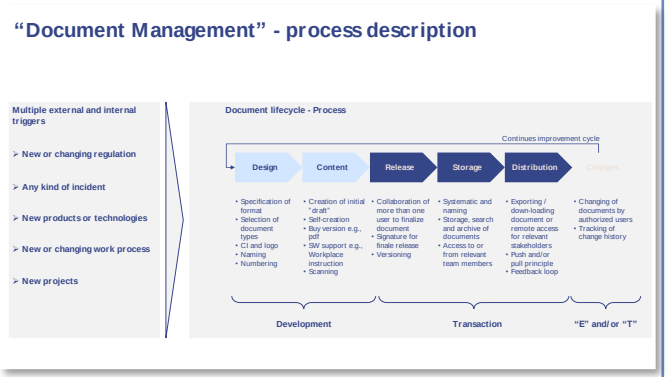
Implement

- Step-by-Step!
- Information and training package
- Consequence!

Help Card

“6 step process”

“Document Management” - process description



Description

Document management is a six-step process triggered by multiple internal and external triggers

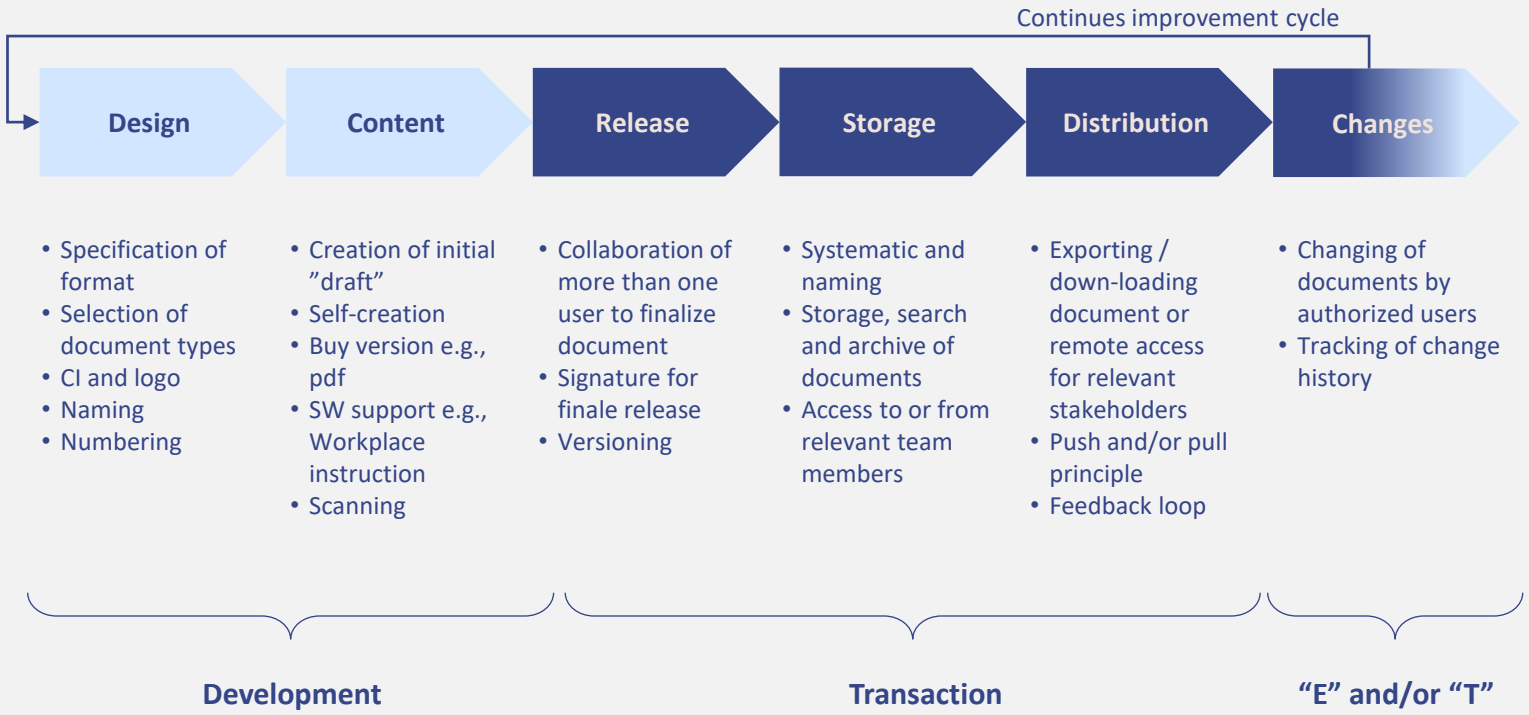
1. Design: From “system” to “lay-out”
2. Content: Definition of standards
3. Release: Final responsibility for content incl. versioning
4. Storage: Principles for search
5. Distribution: Addressing defined population
6. Change: Keep documents up-to-date

“Document Management” - process description

Multiple external and internal triggers

- **New or changing regulation**
- **Any kind of incident**
- **New products or technologies**
- **New or changing work process**
- **New projects**

Document lifecycle - Process



Why would you like to use this tool?

- Compliance
- Proactive reduction and / or avoidance of work-related risks

When would you use this tool?

- Any changes which affects the company, a project, a work-flow or task
- Implementation of new technologies and / or processes
- In case of an incident

How to make best use out of this tool?

- Systematic application
- Involve affected teams
- Get management commitment

What could be done next?

- Check current approach and identify gaps within the process
- Identify areas without proper risk assessment and close gaps step-by-step by starting with most critical

Examples from the Rental Industry:

Boels RENTAL

How to use this tool?

Identify trigger points

- Mapping departments or functions with decision power for change of current practices, workflows, projects, technologies, etc.
- Mapping ”first contacts” or “experts” linked to compliance issues

Install process gates

- Make sure, that in case of changes safety gets involved

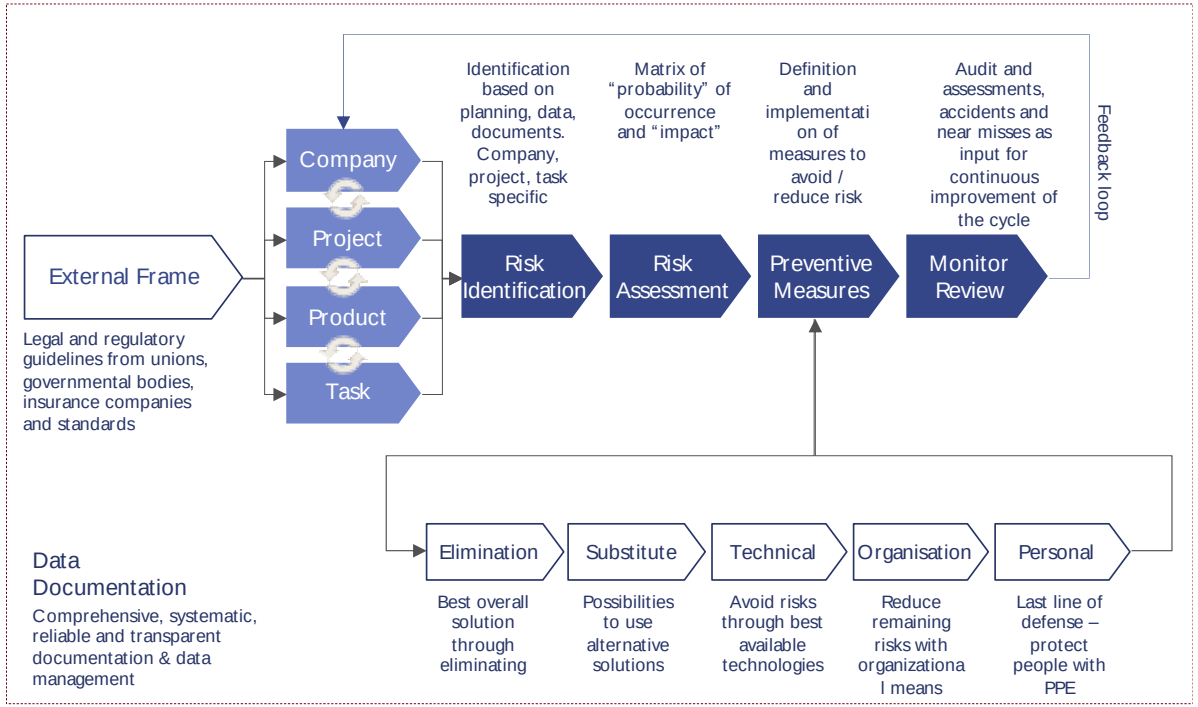
Perform risk analyses

- Lead or support the individual person, team or department to work out a proactive safety risk assessment
- Challenge the approach and detect weak spots with remaining risks
- Support with systematic, ideas for modification leading to an action plan
- Documentation

Tips and traps

- Always involve affected teams and identify solutions
- Get commitment for the organization
- Position it as a help / support instrument and not as a legal or administrative burden

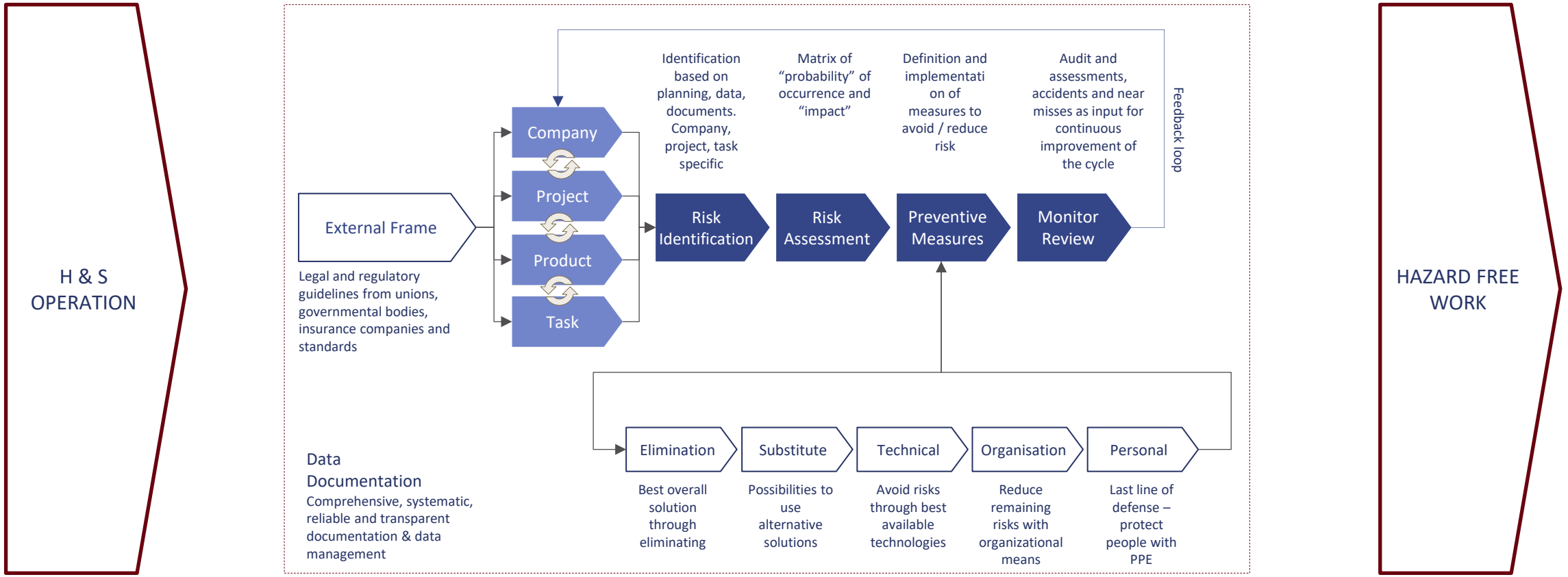
Help Card



The “Risk Assessment Systematic” is the basic process layout dividing the approach into five sections

1. Driving Factors - Any external or internal motivated changes with direct or indirect affect on workers safety
2. Core Elements - Risk identification, assessment, measures and review
3. ESTOP - The five-step principle of risk avoidance
4. Feedback Loops - Essential for overall organizational learning
5. Documentation - Key element for future reviews and improvement as well as general compliance requirement

“Risk assessment” - process flow



Last Minute Risk Analyses: Boels

H&S

Boels RENTAL

Q3 2024

LMRA
Last Minute Risk Analysis

What is an LMRA?

An LMRA (last-minute risk analysis) is a brief risk assessment carried out by the person who will actually do the work.

Why should the LMRA be used?

In our daily operations, tasks and other activities, we face quite a few risks that can cause injuries and other incidents. Despite all precautions in the form of (Task) Risk Assessments ((T)RAs), procedures, work instructions and work permits, risks may have been overlooked. Also, at any time the situation may change, bringing other risks to the fore. To still recognise these hazards and take appropriate action - even at the last moment when faced with them - we use the LMRA.

When do you carry out an LMRA?

An LMRA is carried out at the workplace and always immediately before work starts. This means not only before starting your work or job, but also when conditions change and after interrupting work. New risks may potentially be present.

An LMRA is also great for raising safety awareness in routine work. Even if you have done something many times before, things can go wrong at some point, if you do not pay attention and stay alert.

How to carry out an LMRA?

An LMRA is completed in three steps:

1. Assess the risks. Do not start the task if you do not think the risks are acceptable. Ask yourself what could go wrong while performing the task. What risk do I run if I start the work now?

2. Measures to reduce the risk! Determine the measures to be taken that are necessary to eliminate or make the risks acceptable.

3. Take action for safe execution! Implement the measures to enable safe execution of your work. Ask for help if necessary.

When in doubt, consult your supervisor first!

Ask yourself the following questions to get the 3 steps right:

- What can happen to me and how can it be ruled out?
- What are the possible dangers and how can I avoid them?
- What exactly should I do and can I do it like this?
- What does the Task Risk Assessment and any work permits say?
- What do I need to perform the work safely and is this available (e.g. PPE and tools)?
- Is the working environment in order for the work to be carried out safely?
- Is it really clear to me what I need to do to prevent incidents?

Check before leaving:

With the LMRA, we talk about the risk assessment at the workplace before starting work. Equally important is the 'check before leaving', which you carry out when you leave the workplace for a break, visit the toilet or at the end of the working day. Check that you leave the workplace in a safe condition. And before you start again carry out an LMRA.

Why would you like to use this tool?

- To enlarge the scope of accident mgmt. to become more pro-active
- Significantly reduce overall hazard level within the company
- Actively engage more employees

When would you use this tool?

- Integral part of daily shop-floor routines
- As a tactical starting point for change, since it is close to the standard, get people involved and is steerable

How to make best use out of this tool?

- Communicate the simple logic and underline with actual inhouse data
- Focus on the area with highest accident rates
- Step-by-step implementation

What could be done next?

- Analyze data and build own pyramid

How to use this tool?

Overarching:

- Use as supporting concept / frame
- Base for adding the pro-active elements into the accident management systems
- Implement top-down, start with the current system and work yourself to the bottom of the pyramid
- Old concept, statistics behind sometimes questioned, but the logic is still valid

1-3 Reactive Zone

- Legal obligation and required from insurance companies
- While a fatal accident typically leads to crises management, minor accidents are leading to limited stress

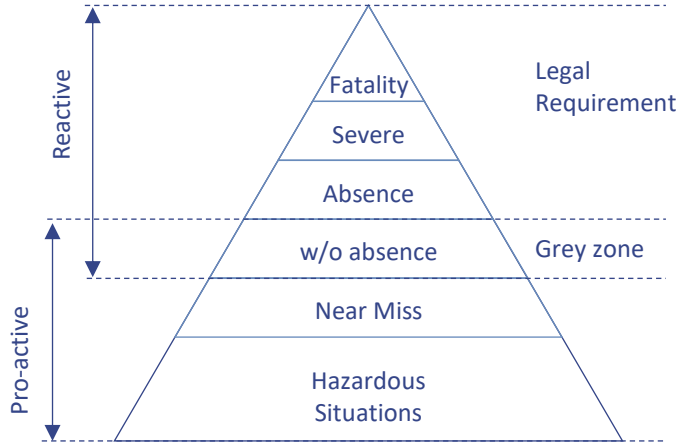
4 Grey Zone

- Depending on company already actively managed (e.g., Germany: Verbandsbuch, statistical reasons)

5-6 Active Zone

- Significant higher number of incidents
- Link activity to daily shop floor routines
- Make sure to have process and decision making in place to follow up any improvement suggestion (technical, processes, work-flows, etc.)

Help Card



	Statistic: Heinrich 1930	Bird 1966
1	1	1
2		
3	29	10
4	300	30
5	n.a.	600
6	n.a.	n.a.

FATALITY PYRAMID, Herbert William Heinrich, 1930, based on 75'000 accidents analyzed

Heinrich's Principles

1. Accidents result of a chain of consecutive factors
2. An accident derive from an un-safe act / un-safe technical condition
3. Most accidents result from un-safe individual acts
4. A single un-safe act does not necessarily lead in any case to an accident
5. The reason for an un-safe act is the base for corrective measures
6. The severity rate of an accident is random / coincidentally
7. Every accident can be prevented to a high degree
8. Accident prevention showing a high analogy to quality insurance / productivity increase
9. The Management must take responsibility for safety
10. Middle management (e.g., project managers) play a key role in prevention
11. Next to direct cost there are always indirect cost of an accident

Concept further developed by Mr.Bird, 1966, based on 1.7 million accidents
Confirmed by A.D.Swan in 1975

Why would you like to use this tool?

- Problems in getting things done
- Too many safety plans fail
- Safety is not top-of-mind

When would you use this tool?

- Personal: you can start at any time
- In case of an incident within or outside the company
- As integral element of a strategy
- As part of a safety campaign

How to make best use out of this tool?

- Start with yourself
- Take min. 30 days to develop a habit
- Decide on either a “bottom-up” or “Top-down” approach

What could be done next?

- Check your personal rituals
- Select one from the list
- Implement systematically

How to use this tool?

Status quo

- Reflect on the current situation within your company and identify tools which are already in place
- Prioritize the individual tools within the context of your company
- Use the parameters “effort vs impact”

Select

- Pick the one most promising tool for your current situation which potentially supports your company's journey to the next level of “safety mind-set”

Implement

- Safety culture grows ”one person at the time”
- Therefore, implementation require time, focus, consistency and patience

Tipps

- The larger the affected community the higher the complexity
- Daily routines are vital components of the safety culture
- Keep it simple

Help Card

“9 Options”

Personal	**Easy** **Routines which everybody can incorporate within the personal daily agenda, immediately**	Focus Clock Reset
Team Level	**Medium Effort** **Routines which a team can decide to implement and use on a regular base. Some preparation (e.g. reasoning) required**	Safety Contact Wording Walk the Talk
Corporate Level	**High Effort** **Routines which require more alignment in the organization, preparation and consequent implementation steps**	Fix Point Agenda setting Dialogue

Description

Differentiation of routines on three levels

Personal: most easy to implement, because it’s focus on a single team member

Team Level: medium effort required to create understanding and alignment within the team

Corporate: highest effort due to the engagement of the whole company

Daily Routines ”Vital components of corporate culture”

Personal	**Easy** **Routines which everybody can incorporate within the personal daily agenda, immediately**	1	Focus	• Key driver to miss targets is lack of disciplined execution • Pick from the to-do list only one single issues and focus until its done. Then, and only then pick the next one.
		2	Clock	• Make every hour a short break, breath and reflect about the last hour, your focus area and achievements • If needed adjust and continue
		3	Reset	• Every evening after you have cleaned your desk, review shortly (!) the day and write down 3-5 things for the next morning
Team Level	**Medium Effort** **Routines which a team can decide to implement and use on a regular base. Some preparation (e.g. reasoning) required**	4	Safety Contact	• Every meeting starts with a concise, relevant, action oriented and meaningful story by everybody • Can come from any source including personal experience
		5	Wording	• The more we talk about safety, the higher the importance • Add the safety aspect to tasks, orders or projects
		6	Walk the Talk	• Team-leaders at all levels must constantly, systematically act according to their talks, presentations and directions
Corporate Level	**High Effort** **Routines which require more alignment in the organization, preparation and consequent implementation steps**	7	Fix Point	• Use operational processes e.g., shop-floor-management to incorporate safety matters within the daily systematic briefings
		8	Agenda setting	• Incorporate “Safety” constantly & consistently into the management agenda at every level of the company
		9	Dialogue	• Conversation is key for building an engaging safety culture • “What are you working on?”, “What would I need to know to work safely?”, ”How could we make this job even safer?”

Why would you like to use this tool?

- Safety related basic rules are missing or not systematically applied
- Missing foundation for behavior change process

When would you use this tool?

- After implementation “24/7”

How to make best use out of this tool?

- Focus on top priority rules - Top 10
- Early involvement of functions
- Bottom up - Definitions
- Top down - Consequences in implementation

What could be done next?

- Analyze and define critical organizations or units with missing basic rules
- Critical assessment of actual rules and corresponding implementation status

How to use this tool?

Foundation principles

- Simplification to the extent possible and catchy formulations in “I” centric format, black & white and clear
- Implementation of max. of three rules per year
- Per rule approx. 3-to-5-month initial launch phase
- Long-term perspective - stick to it

Development steps

- Selection based on facts or incidents
- Differentiation between function
- Very specific, not generic
- Bottom-up definitions with strong involvement of team members

Implementation

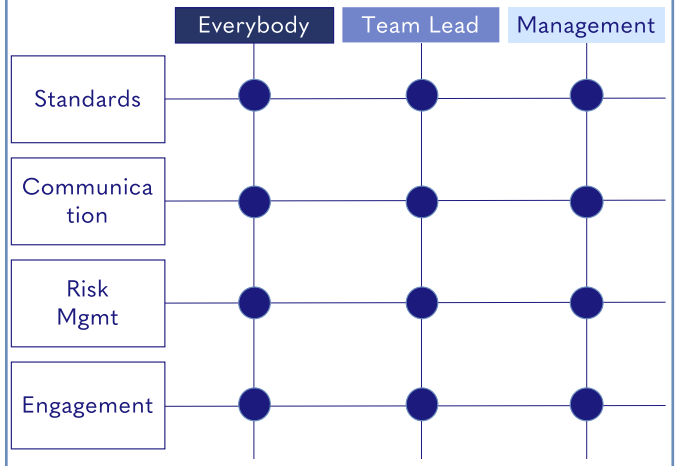
- Discipline (!) in the whole organization
- Careful with priority shifts
- Build understanding and know-how
- Global standards which local adaptions
- Ram up with a pilot phase

Consequences

- Transparency about consequences in case of deviations to defined rules
- “What will happen if?”
- Define escalation process

Help Card

“Responsibility Matrix”



Description

The “responsibility matrix” describes the contribution to the implementation of every function within the corporation:

1. Content: Definition of the
2. Everbody: 100% of all team members and employees within the company are obliged to follow the rules. No exceptions. Including visitors and people form third party
3. Teamlead: On to the consequent implementation of the rule (walk the talk) addition responsiblities
4. Management: Engagement and clear communication from Top Management vital for successful implementation

Industry Examples

1 ZEPPELIN WE CREATE SOLUTIONS

“Golden Rules” - responsibility matrix

	Everybody	Team Lead	Management
Standards	**Follow the rules** Learn and follow the “Golden Rules”	**Assure implementation** Checking whether the team follows the rules	**High ambition level** Strict but fair! Recognize the positive!
Communication	**Express the opinion** Intervene in deviations & report violations	**Encourage the team** Support the team and increase understanding	**Open Communication** Check understanding in during touch points
Risk Management	**Mindfulness** Rules are primarily for risky activities	**Promote risk awareness** Rules are made in areas for high-risk acitivies	**Risk avoidance** Ensure that violations are investigated
Engagement	**Participate** Joint the implementation and discussions	**Team involvement** Initiate team discussions	**Workforce stimulation** Strengthen implementation with new ways

“Golden Rules” - Examples

Blank slide - Working sheet

Symbol

Short description of the rule - one sentence only

More detailled description with links, examples, indications. Including the link to company principles or to the general terms of employement

How does this rule fit to my function or task?

Examples for supporting behavior

Follow the rule

Express opinion

Mindfullnes

Engagement

- Example, description

Team discussion

Commuting / Transport:

- I will wear my seatbelt
- I will obey speed limits
- I will park in a safe place when using my mobile phone
- I will stay 3-5 meters away from moving vehicles
- I will only load or unload a truck when it is secured

Production / Facilities / Machinery

- I will carry out a risk assessment for new, rare or dangerous tasks before starting work
- I will have qualified specialists carry out work involving electricity
- I will not consume alcohol or drugs during my working hours
- I will switch off systems and equipment and ensure that they cannot start up again before I start the procedure

Construction side / Storage / Plant engineering

- I will protect myself against falls when working at height

Generic rules

- I only accept a safe working environment
- I follow the safety instructions
- I act safely in traffic

Safety Rules: Zeppelin

Each accident is preventable

For your own safety, follow the safety rules

1. Work carefully
2. Only use intact equipment, machines and tool
3. Order and cleanliness
4. Use personal protective equipment - always
5. Do not improvise on your own
6. Remove or report accident hazards
7. Don’t work or manipulate with unknown equipment
8. Follow instructions
9. Always take care of team colleagues
10. Right behavior in case of emergency

Why would you like to use this tool?

- Bringing OSH mgmt. to the next level
- Gain efficiency and increase productivity
- Support shift from ”passive” to “active” safety management

When would you use this tool?

- As a comprehensive element of an OSH strategy
- Single solution for special workplaces

How to make best use out of this tool?

- As integrated part of an overall concept

What could be done next?

- Analyze state of the company in respect to digital support instruments
- Principle check of budget potential
- Key stakeholder interviews

How to use this tool?

Identification

- Assess current situation and identify processes or working areas which potentially require digital support instruments

Selection

- Define options in the context of “single purpose use” or “integrated systems”

Return on invest

- Business value of a digital solution compared to current situation
- Impact on OSH and employee satisfaction

Decision

- Aim for high level alignment and final initiative release

Dos

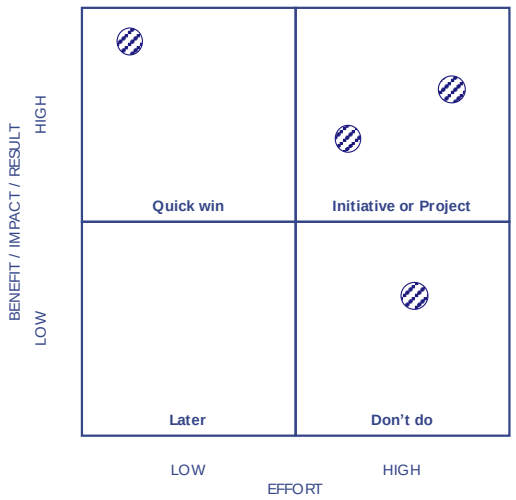
- High level preparation
- Communication and information
- Best training for involved functions
- Consequence in follow up

Don’ts

- Jumping on first available technical solution and/or price offer
- Overloading the organization

Help Card

“Selection Portfolio”



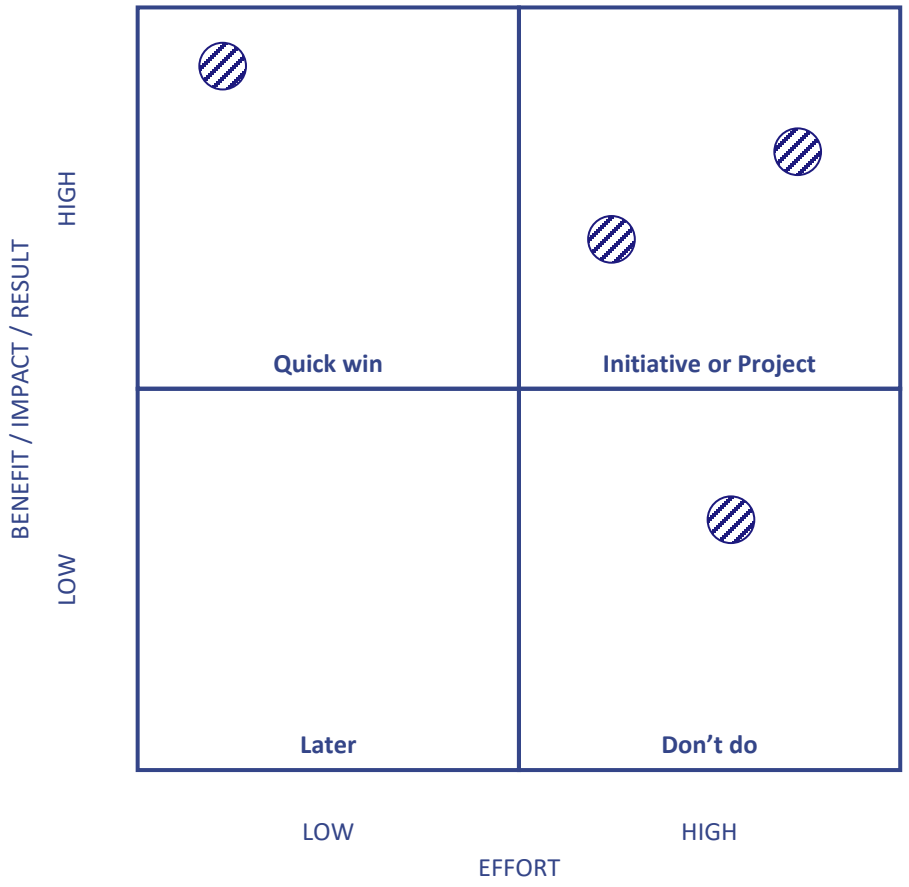
Description

Portfolio technique can support the selection of either the right field for “digitalization” or the right supplier & partner

1. Effort: all elements required to implement and maintain the system
2. Benefits: all positive direct and indirect effects
3. Matrix: Classical four quadrant creating a first and visual indication by comparing the different digital options or systems

Digitalization: selection portfolio

Digitalization Portfolio



ALTERNATIVE A: for multiple different systems
ALTERNATIVE B: one system from different suppliers

Potential Digitalization Initiative

1. Short description of system
2. …
3. …
4. …
5. …

EFFORT: (more direct, €)
- Investment, budget, resource requirement for implementation (e.g., training, system set-up, alignment with IT)
- Ongoing maintenance (e.g., update process, component replacement, data storage - management - reporting)

BENEFIT: (more indirect effects, avoided incidents)
- Increase of safety in respective area by x%
- Positive impact on accidents volume and severity
- Positive impact on employee satisfaction
- Corresponding increase of productivity or reduction of accident-related cost (theoretical calculation)
- Safeguard legal compliance

Digitalization option matrix - solution vs maturity (estimation)

	Regulatory Compliance	Safety Management	Mobil Worker Solutions	Technical Worker Solutions	Infrastructure Surveillance
Mature Well established	• Regulatory databases	• Internal Database	• Mobile Apps • Digital Trainings		• Stack emission monitors • Stationary environmental sensors • Access control
Growth Available, but...	• Online SDS databases • Product compliance software • Sustainability SW • Blockchain	• Contractor mgmt. platform • SW - on premise • SW - cloud solution	• IoT platforms	• Passive Exoskeletons	• Video surveillance
Launch / R&D Early stage		• Predictive Analytics	• Lone worker solution • Augmented reality • Virtual reality	• Proximity sensors • Wearable hazard sensors • Active Exoskeletons • Wearable vital sign monitors	• UAV - unmanned aerial vehicles e.g., drones

4.5.1. Organization — New Employees

Why would you like to use this tool?

- To safeguard new employees and avoid accidents
- Legal compliance

When would you use this tool?

- Within the first 2 weeks a new employee in the company

How to make best use out of this tool?

- Involve Safety Manager, HR and direct leadership within respective function
- Install a “buddy” system

What could be done next?

- Check actual processes and documents
- Check current level of detail, documentation and follow up system
- Check number of new employments and statistic of “early” accidents

Definitions

Frist Day

Welcome	Welcome new employee at the reception desk
Principles	Information about "Health and Safety Policy” within the company
Emergency & First Aid	Information about processes and standards, gathering points, fire and emergency drills
Personal protective equipment	Get required personal data about shoe sizes, gloves, googles to supply right material
Guide to workplace	Don’t leave new employee alone. Guidance to workplace required

Frist Week

Risk awareness	Training to increase and sharpen the awarness towards work related risks within the particulare work enviroment
“Safety buddy”	Introduce the experienced team colleague
Personal protective equipment	Hand out personal protective equipment and train proper use
Work procedures	Train and retrain work related procedure with special focus on safety & health

Follow up

Retrain	Watch behavior and re-train if required. Increase awareness and push for right behavior
Feedback round	Get first inputs and feedback from new employees. Use information to further strengthen OSH in the team, organizational unit
Special offers	Inform employee about any special health and safety related offers e.g., training, online courses, nutrition, company medics, etc.