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TIC Council & DEKRA Webinar Occupational Health & Safety Webinar Series: Tackling Ergonomic Challenges in the Manufacturing Industry 8 June 2021

## Work-related musculoskeletal disorders in times of COVID



Moderator



Martin Michelot, TIC Council, Policy and International Affairs Manager

## Work-related musculoskeletal disorders in times of COVID





Alberto Schiavon Pirelli, Group Health & Safety Manager



Carina Strömberg, Toyota Material Handling Europe, Sustainability Controller

Sebastian Bartels, DEKRA Senior Vice President, Head of Business Line, HSE & Sustainability





TIC Council - DEKRA occupational health & safety webinar series:

### Tackling Ergonomic Challenges in the Manufacturing Industry

Sebastian Bartels, DEKRA Group, SVP, Head of Global Business Line HSE & Sustainability

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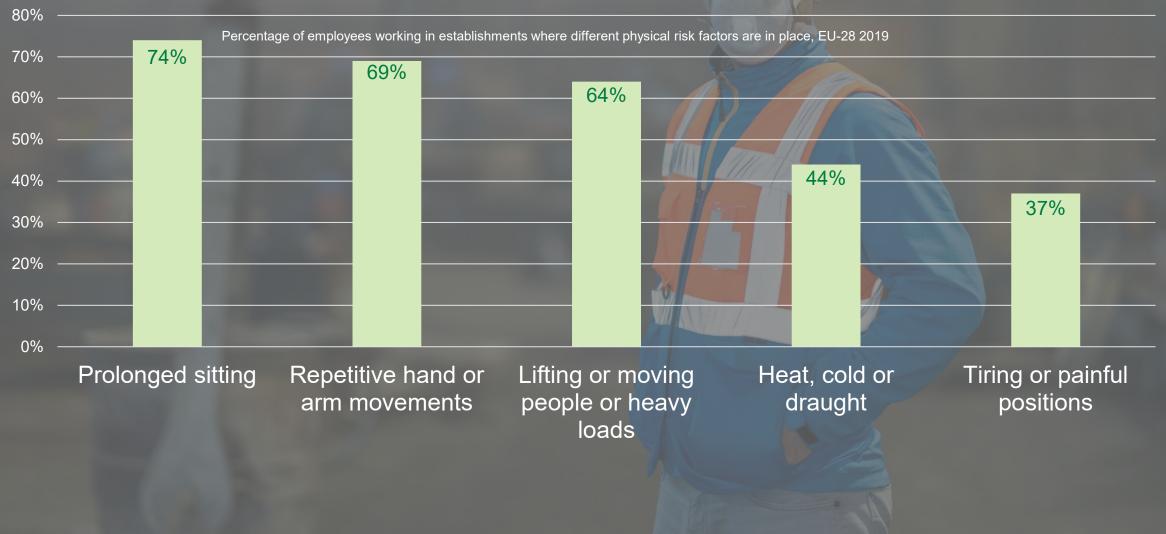




## Physical risks are ongoing and major challenges in industry.

#### Physical risks are ongoing & major challenges







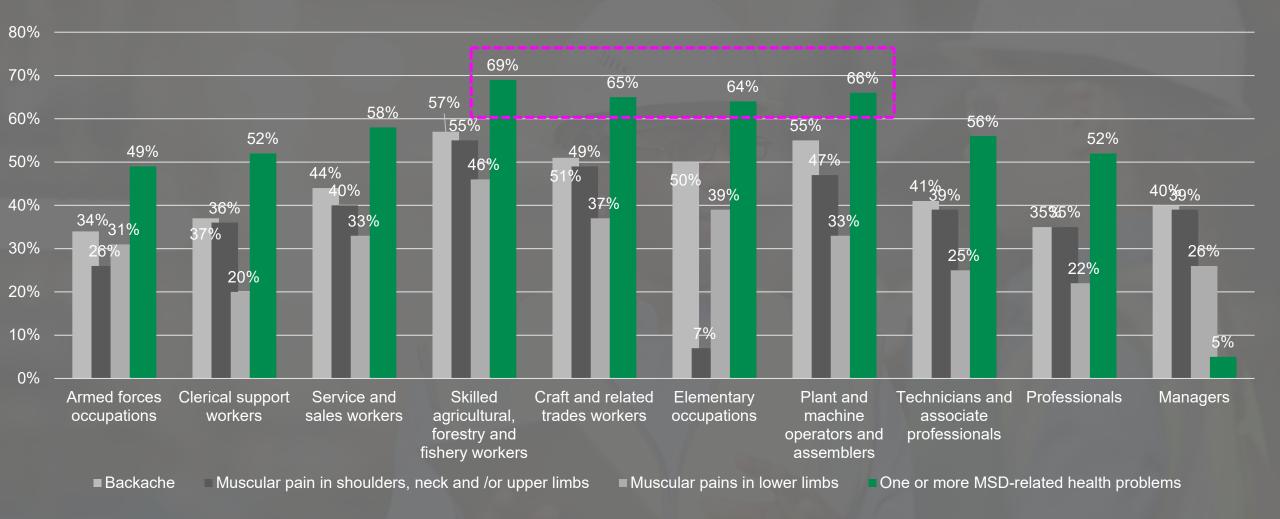
# 58% of all workers

### in the EU report MSD complaints.

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#### MSD related complaints – job comparison

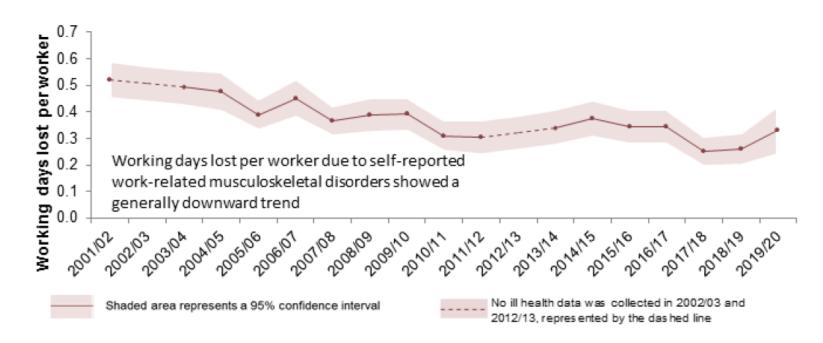




#### Sample annual development in the UK



Figure 2. Estimated days lost (full-day equivalent) due to self-reported WRMSDs in Great Britain, for people working in the last 12 months 2019/20

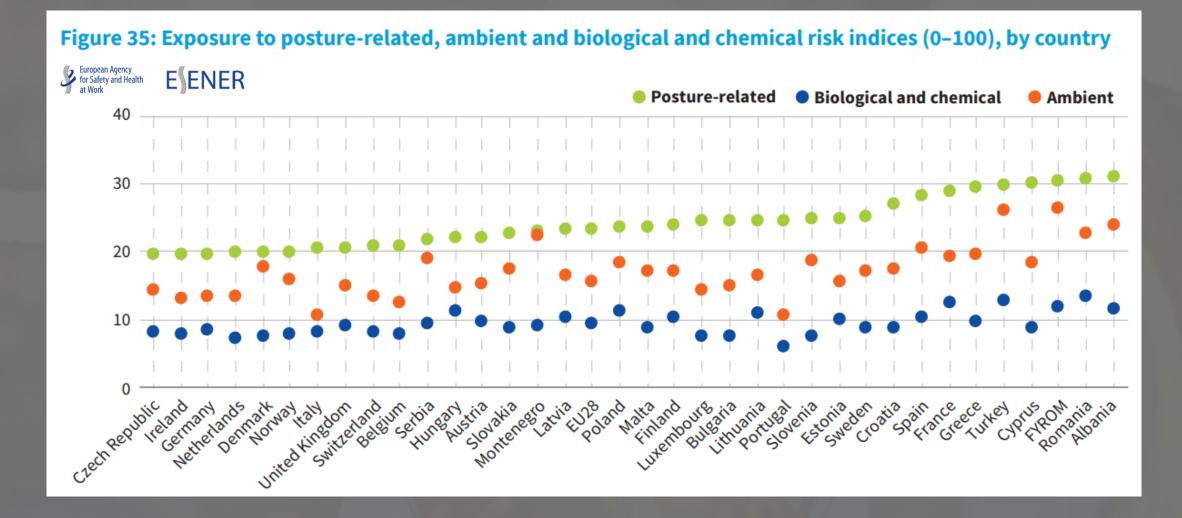


Source: LFS annual estimate, from 2001/02 to 2019/20

In 2019/2020 MSD accounted for 30% of all work-related ill health cases in the UK and 27% of all working days lost due to work related ill health.

Source: UK HSE Authortyy



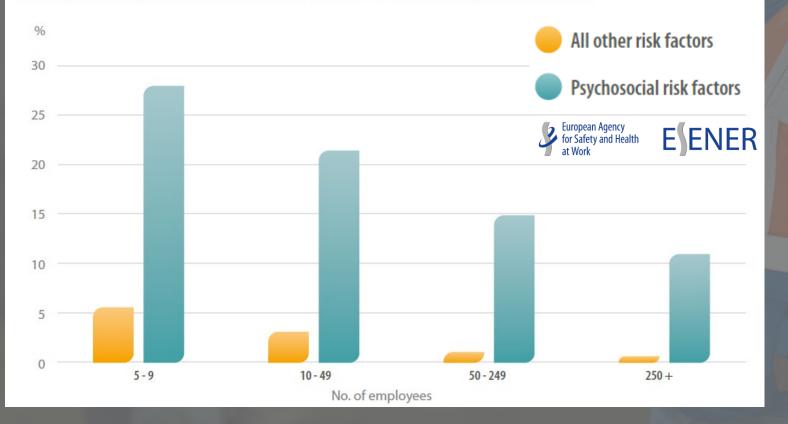




### How about awareness?



#### Workplaces reporting zero risks, by size (number of employees), 2019

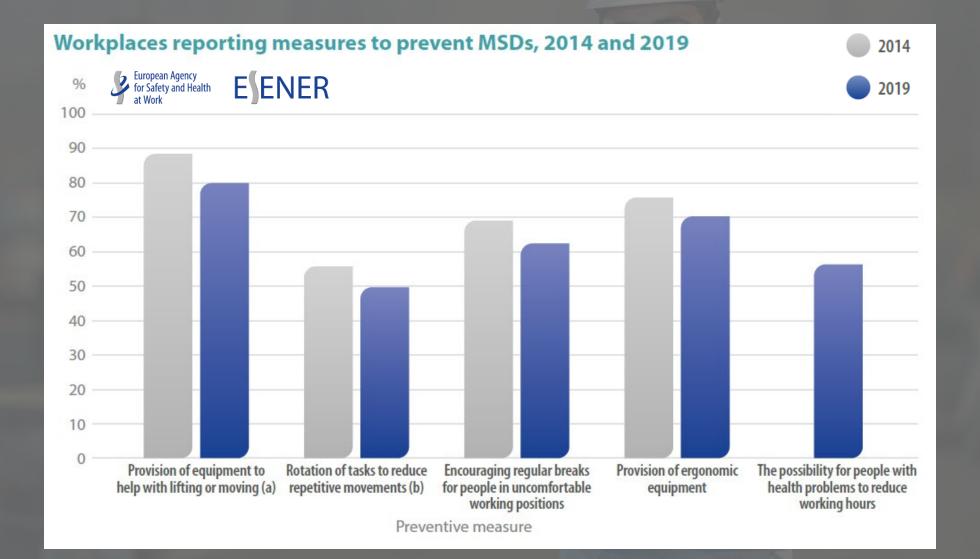


A report of zero risks probably indicates a lack of awareness rather than a safe and healthy workplace



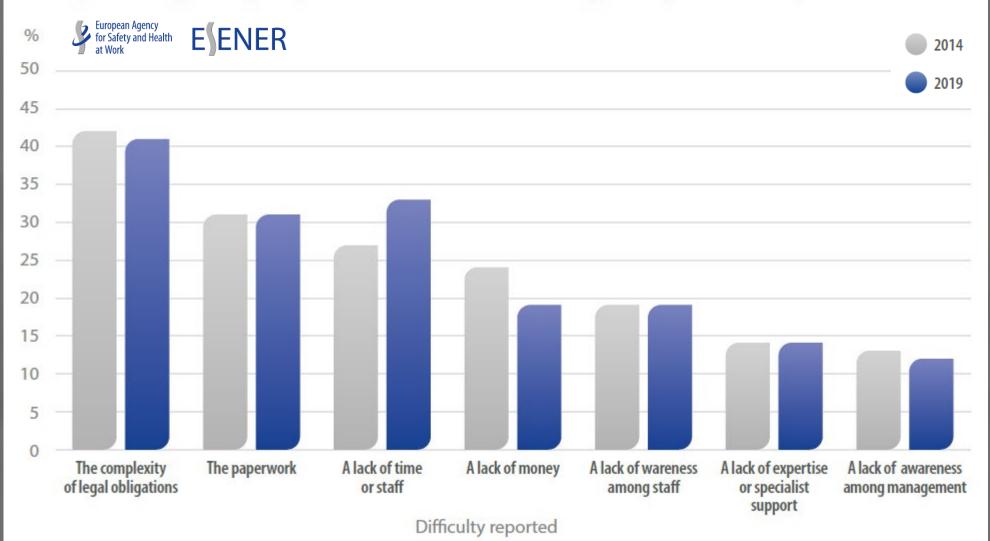
### How about prevention?

#### DEKRA



#### DEKRA

#### Workplaces reporting major difficulties in addressing safety and health, 2014 and 2019





## Let's see some

1111

# best practice

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#### **Pirelli:**

#### Alberto Schiavon Group Health & Safety Manager





## The value of moving ergonomics to process design

Alberto Schiavon

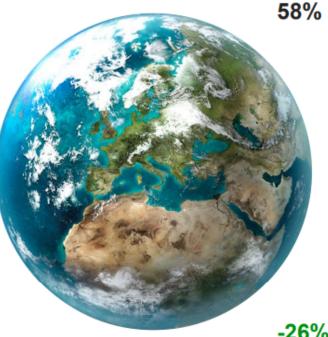




#### PIRELLI OUR SUSTAINABILITY LEADERSHIP IN NUMBERS

2020 KPIs<sup>1</sup>

-54% Accident frequency index



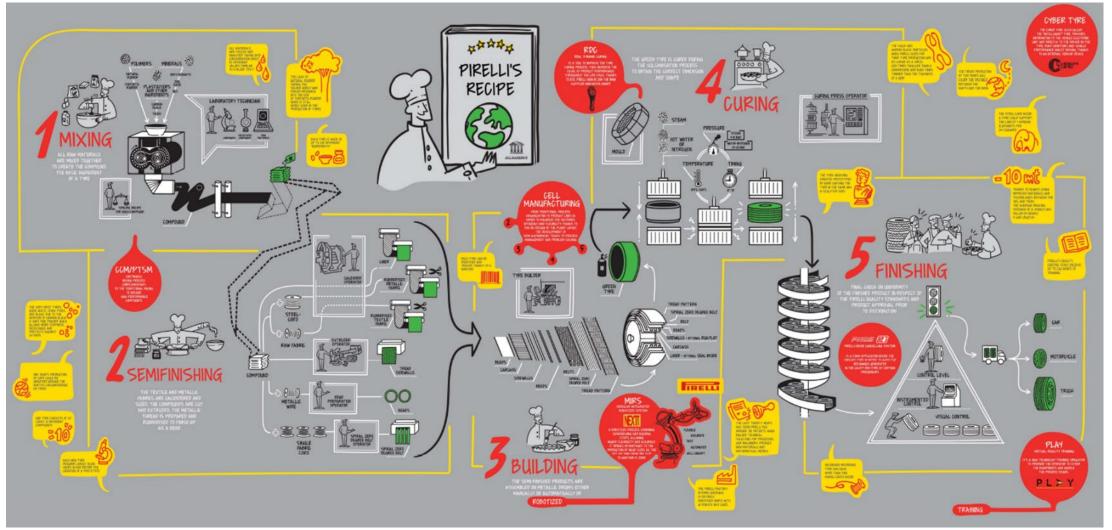
- **Eco & Safety performance**<sup>2</sup> revenues
  - -9% Avg. rolling resistance of car tyres
    - 52%<sup>3</sup> Electricity from renewable sources
    - -31%<sup>4</sup> Plant CO<sub>2</sub> absolute emissions
  - -22%<sup>5</sup> Raw materials suppliers CO<sub>2</sub> absolute emissions

-26% Specific water withdrawal (vs.2015)

97% Waste sent to recovery



#### THE PRODUCTION PROCESS

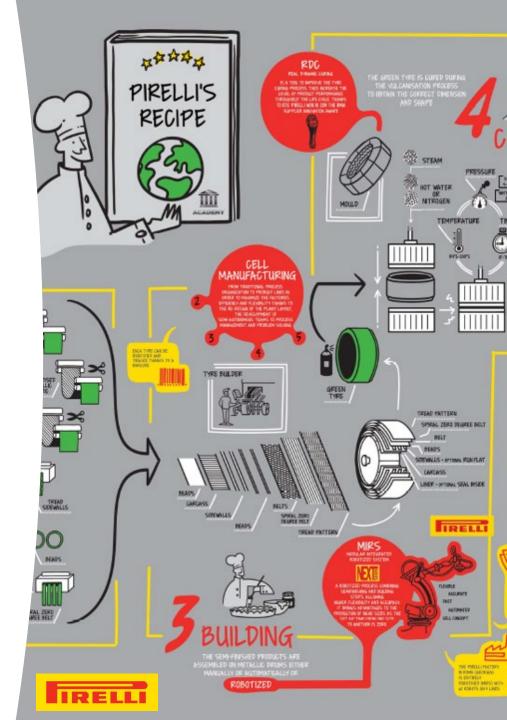




#### THE PRODUCTION PROCESS

#### **KEY POINTS**

- Mature process
- High variability
- High number of tasks/positions
- New products evolution

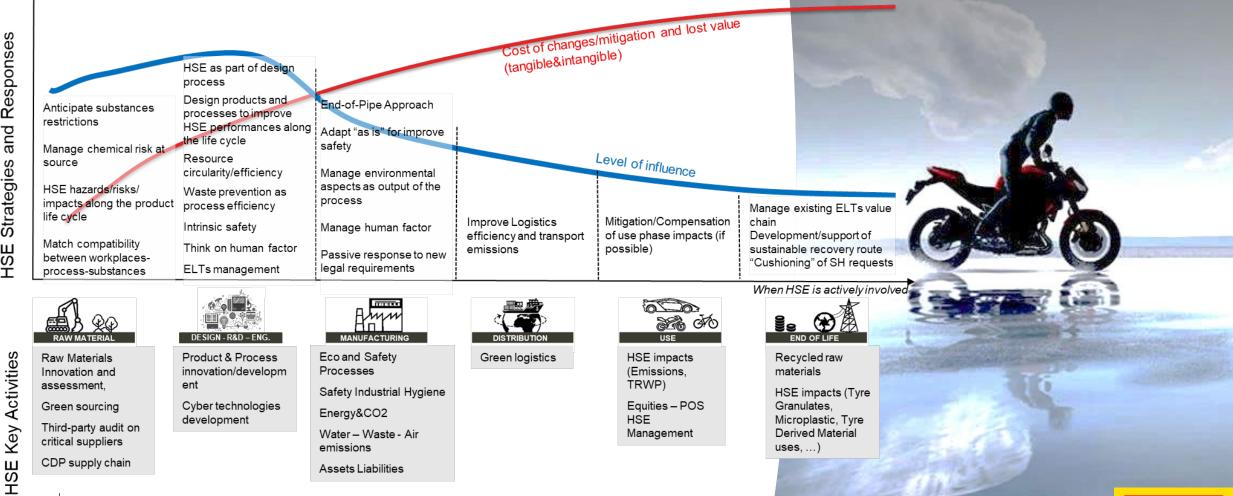


#### THE HSE STRATEGY

LEAD (prevent, anticipate, drive, competitive advantage)

REACT (mitigate, compensate, follow)

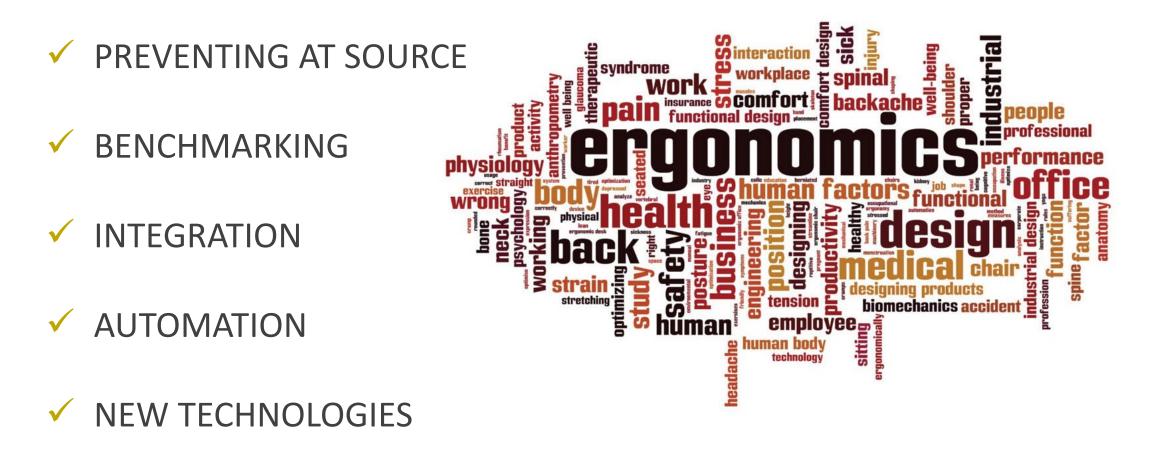
Moving from end of pipe to preventive approach through a systemic HSE process integration



IRELL

WHICH STRATEGY APPLIED ON ERGONOMICS ?

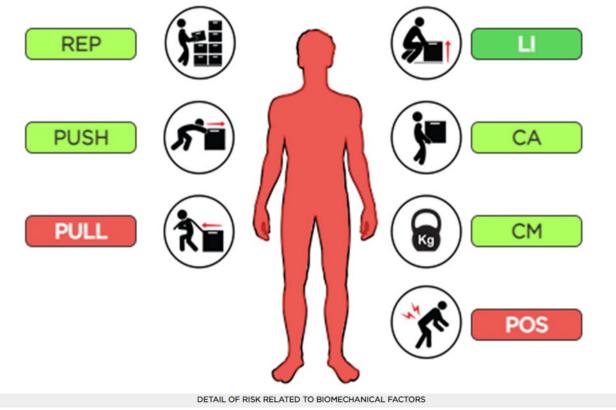
#### ✓ STANDARDIZATION





#### **STANDARDIZATION**

- Jobs characterization requirements
- Common criteria in risk assessment
- Common language
- Common data set
- Reporting designed for sharing

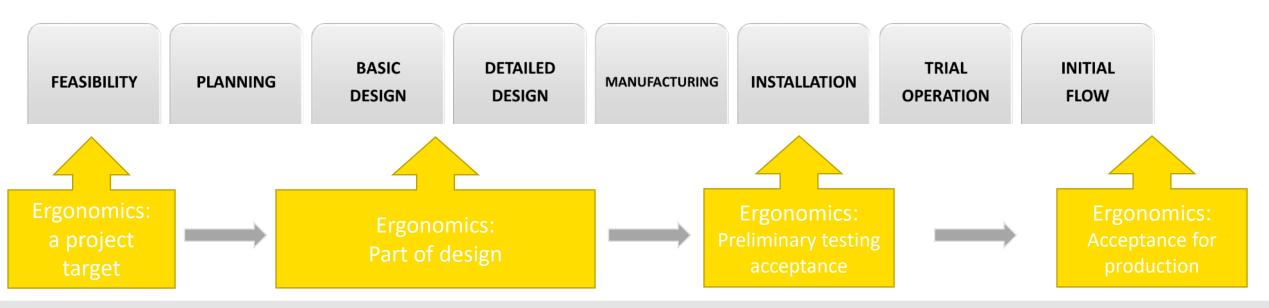


LIFTING	CARRYING	CUM. MASS [KG]			REPETITIVE TASK	PUSHING	PULLING	POSTURE					
INDEX	INDEX	8 Hour INDEX	1 Hour INDEX	1 Min INDEX	INDEX	INDEX	INDEX	TRUNK Forward Beding	TRUNK Side Bending	ARM	VISION	NECK	OTHER
0.6	0.48	0.02	0.00	0.08	8.8	0.6	2.1	Ok	Ok	Not Ok	Ok	Ok	Ok



#### **PREVENTING AT SOURCE**

#### Ergonomics is part of projects design review system



HSE topics are values for the process not constraints

- Engineering, R&D and Technical functions involved, competent, aware
- Tools for ergonomic simulations

- HSE initial requirements are verified before installation of equipment prototype
- Any adjustment enter in a corrective action flow
- Cumulative effects check

- Testing consider work environment and any additional condition
- From risk assessment to safety procedures
- Review and improvements



#### BENCHMARKING

Results on activities on ergonomics topics (improvements, results, best practices, issues, etc.) are shared in a dedicated tool within the Group for fostering knowledge and continuous improvement







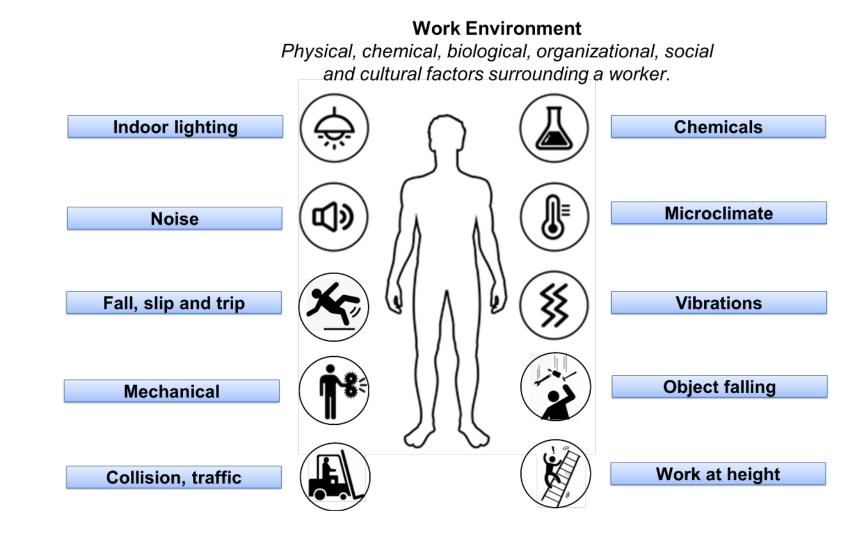
The Region





#### INTEGRATION

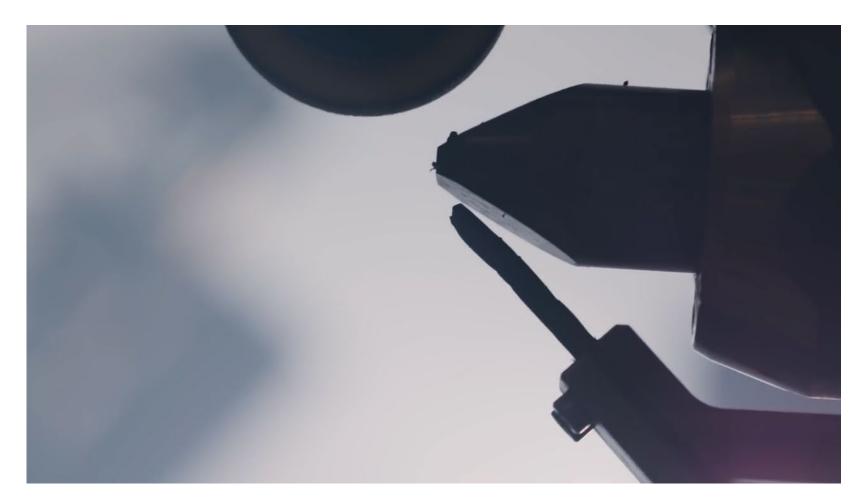
Managing ergonomics approaching the risks globally in order to have a full framework of job activity.





#### AUTOMATION

More and more Pirelli is committed to introduce automation on its processes





#### **NEW TECHNOLOGIES**

Looking forward on opportunities from technology development on materials, processes, etc.





#### Thank you for your attention







#### Toyota Material Handling Europe

#### Carina Strömberg Sustainability Controller



#### ΤΟΥΟΤΑ

MATERIAL HANDLING

TMHE Safety Health Wellbeing

Employees, customers and other stakeholders

2021-06-08





MATERIAL HANDLING

Carina Strömberg Sustainability controller Toyota Material Handling Europe Based in Mjölby, Sweden Safety Health Wellbeing for own staff



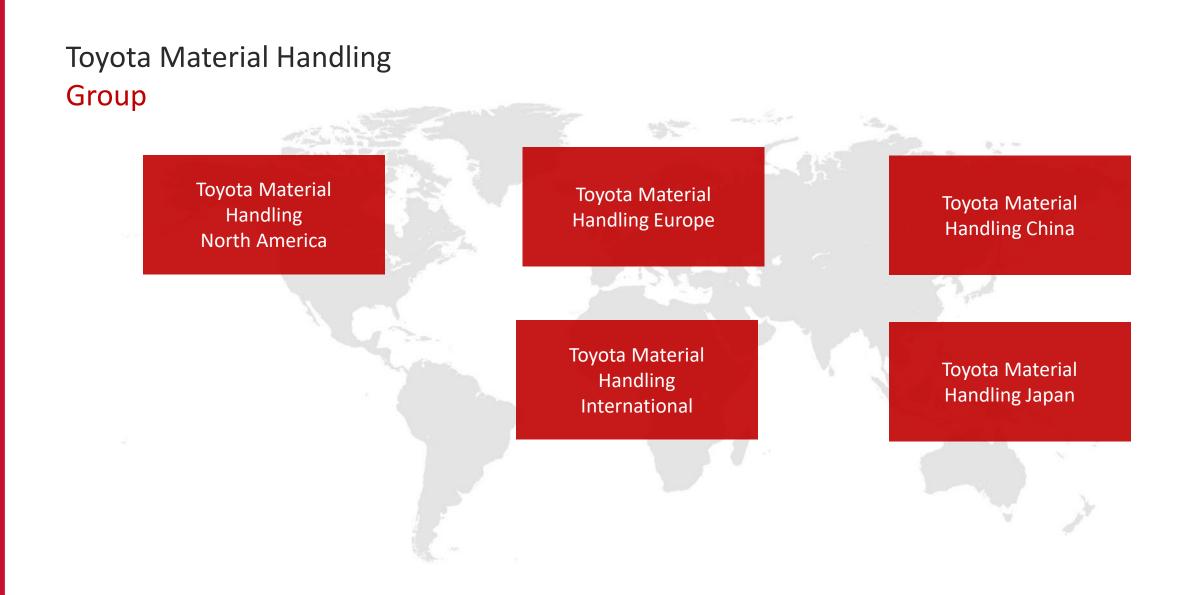


MATERIAL HANDLING

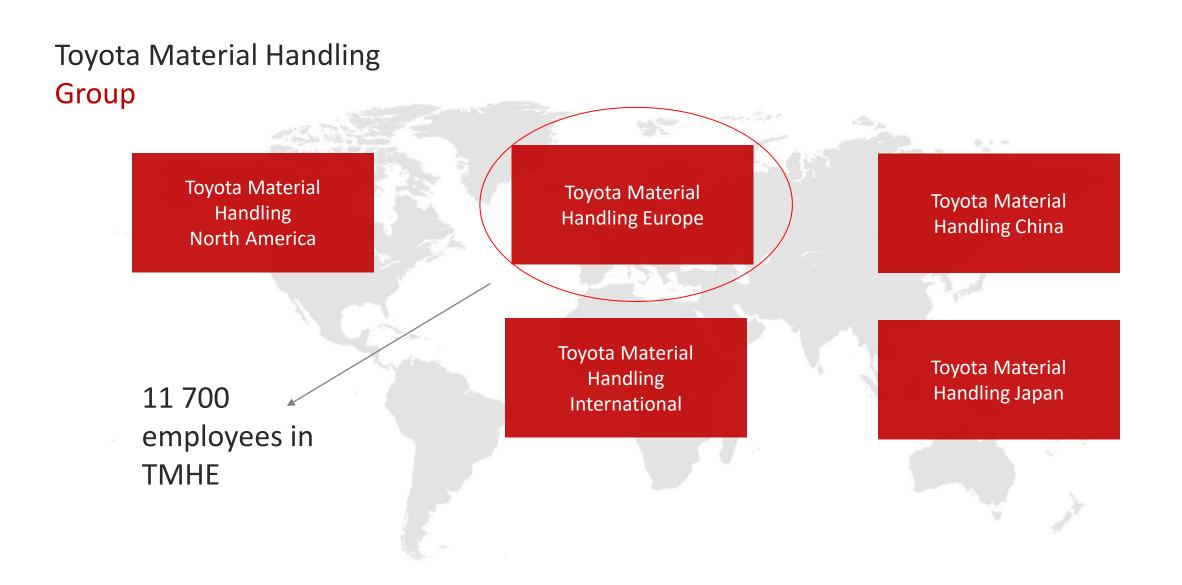
#### About us

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#### MATERIAL HANDLING

# What/Where We are local

Local Marketing & Sales companies Own subsidiaries & independent distributors

HQ functions Mjölby – Willebroek – Gothenburg

Production sites Mjölby – Ancenis – Bologna – Ferrara – Milan

Regional distribution centres for spare parts Mjölby – Antwerp – Hannover – Ancenis – Vienna – Bologna





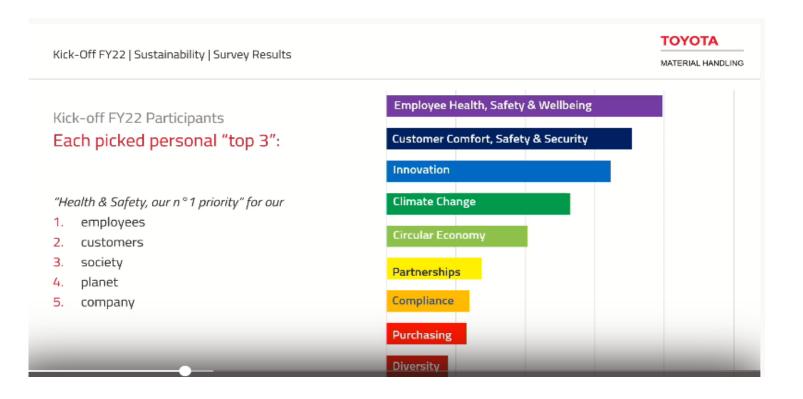
MATERIAL HANDLING

# What do we do to keep our people safe and healthy?

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# What is most important for TMHE? Some 250 leaders ranked the topics



## How to ensure physical and mental wellbeing Staying close to our people, benchmarking and being assessed

With safety as the number-one priority, Toyota Material Handling Europe has been a campaign partner fully supporting the EU-OSHA campaigns for ten years now <u>Our</u> work with EU OSHA

Since 2012, Toyota Material Handling Europe has been continuously assessed by EcoVadis, with focus on key topics including environment, **labour & human rights**, sustainable procurement and ethics. During recent years, Toyota Material Handling Group has consistently received Gold level scores, but now - two years in a row - the **Platinum award** has been achieved by the company. This is the highest possible score, ranking us amongst the top 1% of companies in the 'general-purpose machinery' sector. This together with the other awards amongst our network makes us unique. <u>TMHE and EcoVadis</u>

Toyota Industries Corporation (TICO) has been selected for the A-list, the maximum score, in surveys conducted by CDP on climate change for the third year in a row now, as well as the 2nd time on water security. Toyota Material Handling Europe, its European operations of the material handling division, continues to run local initiatives that fully support Toyota Industries' Sixth Environmental Action Plan. <u>CDP A-list 2020</u>

When something special happens:

In the current Covid-19 pandemic, Toyota Material Handling Europe and all its entities are following the Corona virus development with utmost care. Our priorities are clear: **the health and safety of our employees, as well as our customers and suppliers, coming first**. Second is to do everything we can to uphold our service to our customers and partners. Thus, our policy is not only to protect our own and our customers' personnel, but also to maintain our role as part of the supply chain for essential supplies (especially in food retail and health care) whilst adhering to local regulations. <u>Our priorities are clear</u>

ΓΟΥΟΤΑ

w Our

in a row now,

initiatives

20.22

MATERIAL HANDLING

20 Since 2012, Toyota Material Han htinuously h focus on key topics including environment, labour & human rights, ecovadis sustainable procurement and etl ecovadis Toyota Mat Platinum award has been achiev is the highe. Sustainability Sustainability sector. This together with the othe network make nd EcoVadis Rating Rating Toyota Industries Corporation (TICO) has been selected for the A-list, the maximum score, in surveys cond as well as the 2nd time on water security. Toyota Material Handling Europe, its European operations of the A LIST A LIST 2020 2020 **CLIMATE** WATER

PLATINUM

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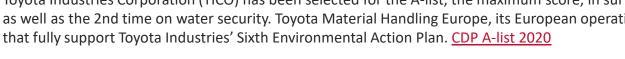
Health

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Healthy Workplaces

Campaign Partn



PLATINUM

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MATERIAL HANDLING

# How to prevent MSD's and other work related issues?

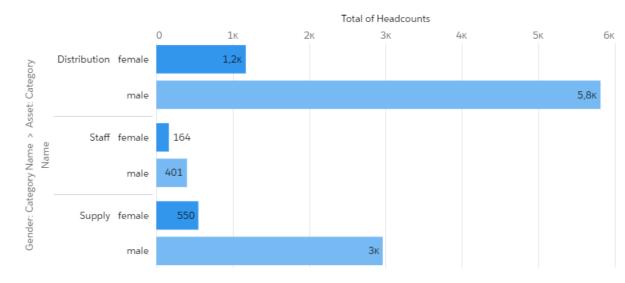
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# Category and age How do we meet the different needs

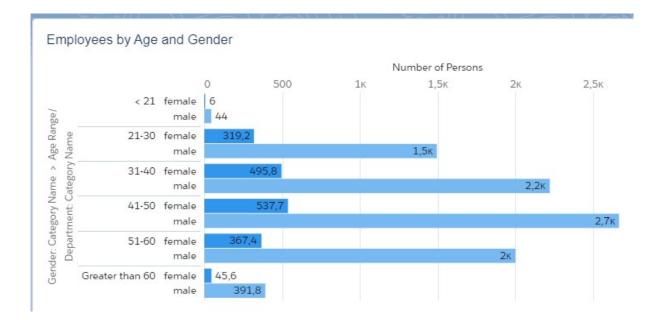
In our company we we have a lot of different occupational **categories** and ages to take into consideration when we plan our OSH activities.

- Distribution = our MSCO's Service technicians, Office workers, Sales persons
- Staff: Office workers
- Supply: Factory workers, Office workers





# Category and age How do we meet the different needs



As in many other companies, our staff is getting **older**. With that in mind, we must constantly update our knowledge and adapt equipment and aids accordingly.

We actively took part in the EU OSHA campaign "Healthy workplaces for all ages" and learned about minimising negative effects and increasing productivity by making work safer and healthier for all ages.

# Our safety work includes all Office worker, service technicians, sales persons, factory staff

- Routines and procedures are constantly being checked and improved and it is not seen as a responsibility of the mangers only, it is the responsibility of everyone!
- When you are new in the company or if something serious has happened you must visit and take lessons in our Sustainability Dojo.
- Regular risk assessments and as soon as a work station or office should be changed we conduct extra assessments.





MATERIAL HANDLING

#### Instructions that all our staff need to take part of Example from one of Our continuous work with kaizen activities Workshop work To consider before lifting: Image Plan, estimate the weight, and how to carry/lift it. 1 Straight back, bend the knees. Lift calmly and securely. Do not twist your back while lifting. BEFORE the Picasso paint shop: Image Heavy lifts from a low level caused strained lower back 2 Example: Lifting 20 kilos with an unergonomic posture creates a load of 530 kilos in the lower back. In case of lifting a roof section weighing 20 kilos, the compressive force in the lower back is 530 kilos. This may be compared to lifting a crate of beer. AFTER the Picasso paint shop: Image 3 The material arrives standing upright on a load carrier, no manual lifting When unhooking, the material is lowered directly onto a kobo trolley, no manual \_ lifting

n classification: Internal

MATERIAL HANDLING

# Instructions that all our staff need to take part of Our continuous work with kaizen activities

	The chair, the basics are:	ple from one
inage o	- Sit with both feet on the floor	Nefr
	- The back must be supported - Sit close to the desk	os 'Om
	It is important to learn the chair's settings and to use them. Varying work posture is important in avoiding problems.	Tices One
	Desks:	
	The procedure for setting the correct height of the desk is as follows: Relax your shoulders and keep your elbows at a 90-degree angle, regardless of whether you are sitting or standing.	
	Monitors:	
	Arrange your monitor so that you are looking at the top half of the monitor and so that you half-close your eyes when you look at the screen.	
	The following applies to work both when sitting or standing:	
	- Work with your shoulders lowered	
	- Work close to your body	
	<ul> <li>Keep frequently used work materials within easy reach</li> <li>Alternate your working position</li> </ul>	
	- Take short breaks	Information classification: Information: Informat

MATERIAL HANDLING

Information classification: Internal

# Instructions that all our staff need to take part of Our continuous work with kaizen activities

	SÄKERHE	TSINSPEKTION	I FÖR SERVICEBILAR	R - TMHSE	to	
Datum Bilmodell		_	Tekniker Servicechef			
Reg.nr		_	Övrig			
KATEGORI	Fråga	Svar		Åtgärd	Service technician	
IN LOOK	Finns andningsmask med kombifilter?	and a		- mBara	=	S
	Finns hörselskydd?					
PPE	Finns skyddsglasögon/Visir?					
	Finns skyddshjälm?					
	Är skyddsskor i gott skick?					
	Finns skyddshandskar?				-	
	Finns svetsglasögon?					
PPE	Finns varselkläder/väst?				-	
	Är arbetskläder profilerade enligt nuvarande profil?				-	
	Finns Första Förband och är det komplett?				-	
	Finns ögon dusch?					
1:a Hjälpen	Är bäst-före datum kontrollerade på Första förband/ögondusch?					
	Har 1:a förband en specifik plats i bilen?					
	Finns brandsläckare?				-	
	Är brandsläckare kontrollerade?				-	
Brand	Har brandsläckare en specifik plats i bilen?					
	Finns dekal för gastuber i de fall det är tillämpat?					
	Är Heta Arbeten tillstånd giltigt?				-	
Tillstånd	Är Fallskyddskurs genomförd?					
Handbok	Är samtliga körtillstånd giltiga?					
Datablad	Finns tillstånd för Transport farligt gods? Se teknikerbandbok				Information	classif



MATERIAL HANDLING

# What do we see in the near future?

# Future way of working Return to work and new normality

#### Prepare for:

Increased muscoloskeletal issues amongst home office workers. How can we secure they are taken care of?

Increased anxiety due to traumatic experiences due to the pandemic. What can we offer in terms of psychological aid etc?

More than ever we need to STAY CLOSE TO OUR PEOPLE!





MATERIAL HANDLING

# How to prevent MSD's and other work related issues for our **customers**

# Our safety work includes all Customers and other stakeholders

#### MAXIMISE QUALITY AND CUSTOMER SAFETY

With our new **quality** strategy, our aim is to provide our customers with excellent quality, by being proactive and offering attractive products that answer their needs. "Quality in everything we do" is key in all processes: product development, purchasing, manufacturing and service.

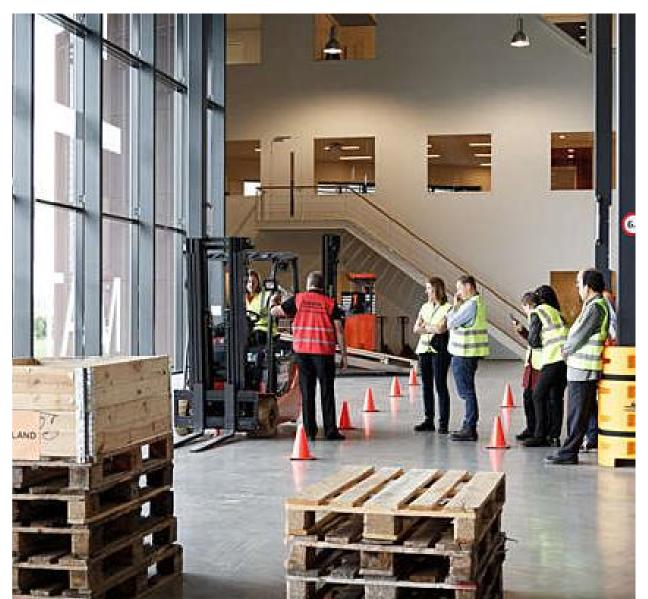
Another key priority for us is the **safety** of our customers, we want to contribute to zero accidents in their workplace. By exchanging best practices, we believe we can make a difference in their operations.

#### MATERIAL HANDLING

# Safety for our customers Why choose Toyota as your partner?

We help you understand your legal obligations
We train your supervisor & managers
We manage your training records
We provide both in-house and on-site training
We analyse the performance of your drivers

A productive warehouse starts with a safe workplace. Since working with material handling equipment creates a highrisk environment, it's important to raise awareness among drivers. Knowing how to drive a forklift efficiently and safely already reduces the risk of accidents happening. This not only contributes to your employees' safety and well-being, but also to reduce damage cost and labour cost.



Information classification: Internal



### Raise productivity and create a safety culture Win win situation

- 1. Improve driving skills
- 2. Improve operators' motivation
- 3. Improve truck knowledge

Having a properly trained team with excellent driving skills will boost the workflow in your operation. Standardisation in your warehouse will increase, and your trucks will need less service and repairs.

- 1. Minimise risks
- 2. Starting with management
- 3. Direct impact on the bottom line

An effective culture of safety only works if everyone is aware of the risks and cooperates to prevent accidents. Having received correct training is therefore essential, not only for operators, but also for managers and supervisors and other warehouse staff. This way your entire team and organisation can help to improve productivity and reduce damage costs.

#### Interested in learning more: Improve ergonomics for your fork lift drivers





# DEKRA

# Sebastian Bartels

## Senior Vice President, Head of Business Line, HSE & Sustainability







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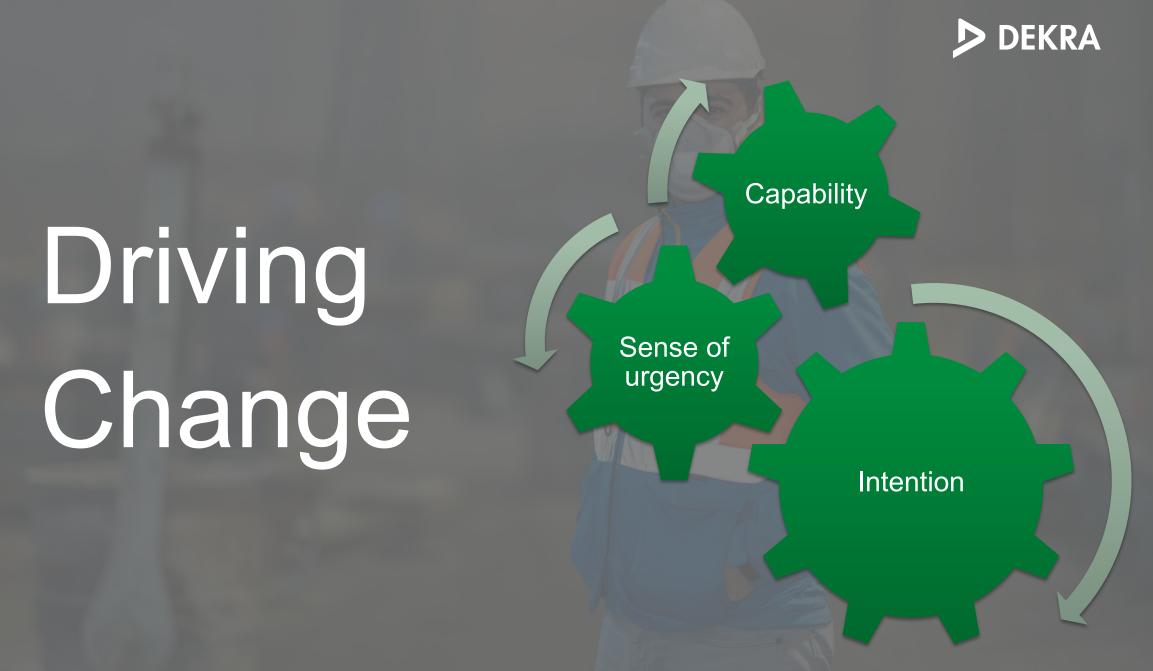
# How insights, leadership & competences help to avoid MSD in industry

Sebastian Bartels, DEKRA Group, SVP, Head of Global Business Line HSE & Sustainability

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Source: EU-OSHA / EU ESENER-3 survey



# Identify the individual targets



#### Table 1: Physical environment index: proportion of workers in EU28 (%) and mean index scores (0–100), 2005–2015

	2005	2010	20 <b>1</b> 5				
Proportion of workers in EU28 exposed one-	Proportion of workers in EU28 exposed one-quarter of the time or more (%)						
Vibrations from hand tools, machinery	24	23	20				
Noise so loud that you would have to raise your voice to talk to people	30	29	28				
High temperatures which make you perspire even when not working	25	22	23				
Low temperatures whether indoors or outdoors	22	23	21				
Breathing in smoke, fumes (such as welding or exhaust fumes), powder or dust (such as wood dust or mineral dust)	19	17	15				
Breathing in vapours, such as solvents and thinners	11	10	11				
Handling or being in skin contact with chemical products or substances	14	15	17				
Tobacco smoke from other people	20	11	9				
Handling or being in direct contact with materials which could be infectious, such as waste, bodily fluids, laboratory materials, etc.	9	11	13				
Tiring or painful positions	46	46	43				
Lifting or moving people	8	9	10				
Carrying or moving heavy loads	35	34	32				
Repetitive hand or arm movements	62	63	61				
	Mean index scores (0–100)						
Physical environment index	82	83	84				



# Using cloud technology forData collection

- Assessments
- Analysis
- MeasuresGuidance

Sample: DEKRA Workplace Well-Being Solutions Dashboard



Sample: DEKRA Safety Platform

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# Create measurable improvement



Industry Case Study

Sample Measures: "Warm Up and "Work Hardening" Programs

Outcomes Produced for 5 Consecutive Years Measured Against 61 Total Distribution Centers:

- 6% Increase in Work Output
- Most Cases Picked Per Man Hour Worked
- Lowest Injury Claims

# Thank you!

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# **Questions?**





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Wikipedia page: Testing, inspection and certification **TIC-Council.org**