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FORESIGHT

**FOR OCCUPATIONAL
SAFETY AND HEALTH**

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Future trends and their impact on OSH

The German Social Accident Insurance's Risk Observatory

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Conférence INRS - FOOSH - 14/11/2024

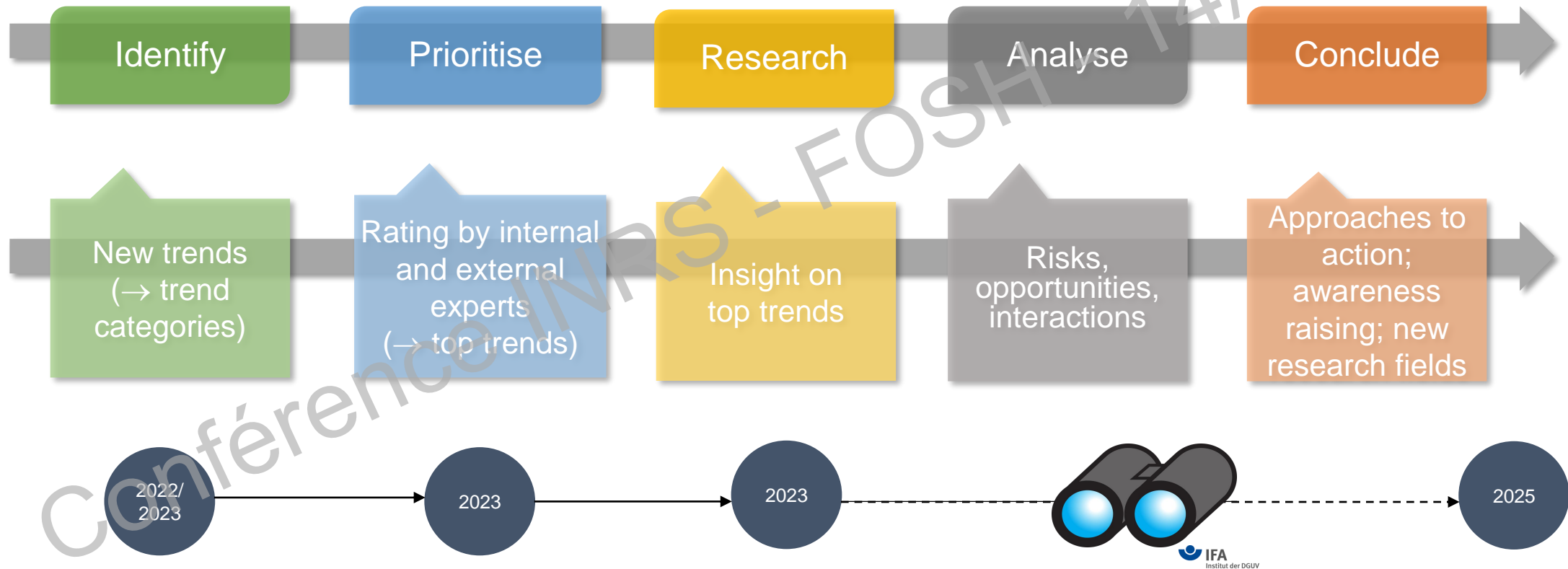
Why a risk observatory for OSH?

- to be prepared
- to be ready to react to changes in the world of work and in education in good time
- to become aware of various possible future scenarios

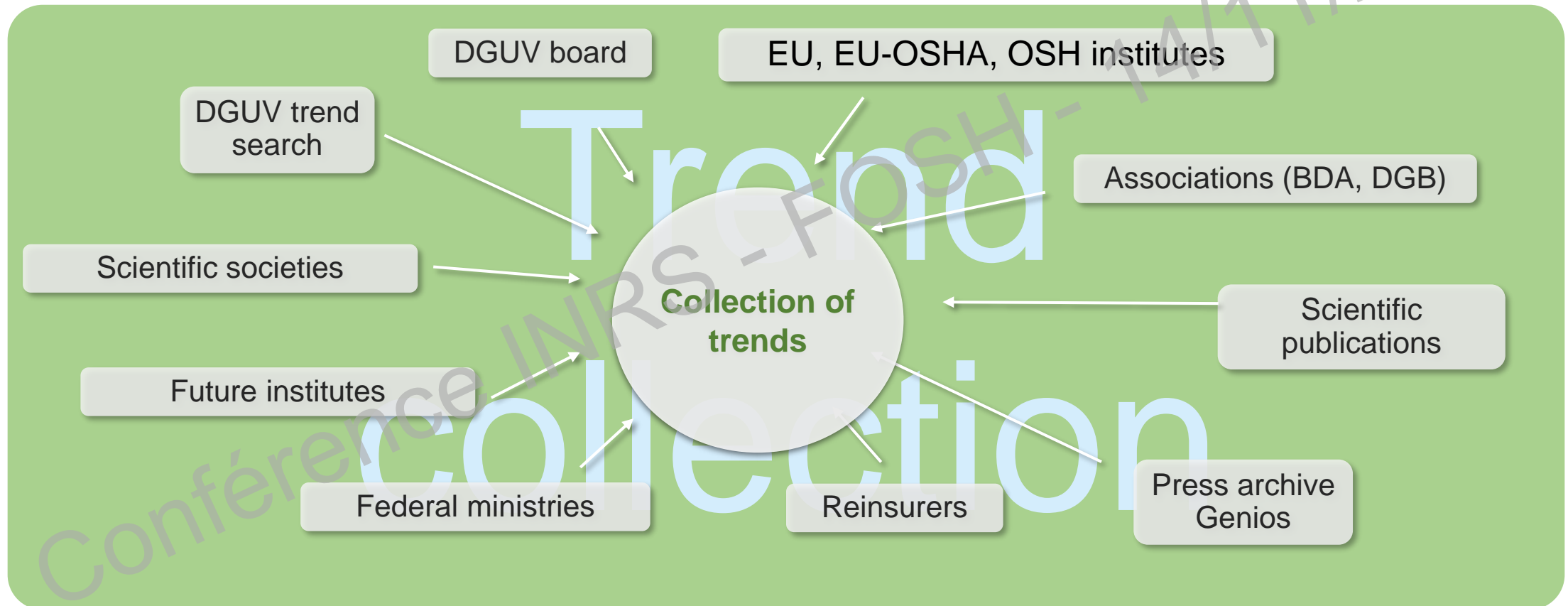


**support the accident insurance institutions
in proactive prevention**

Method and process

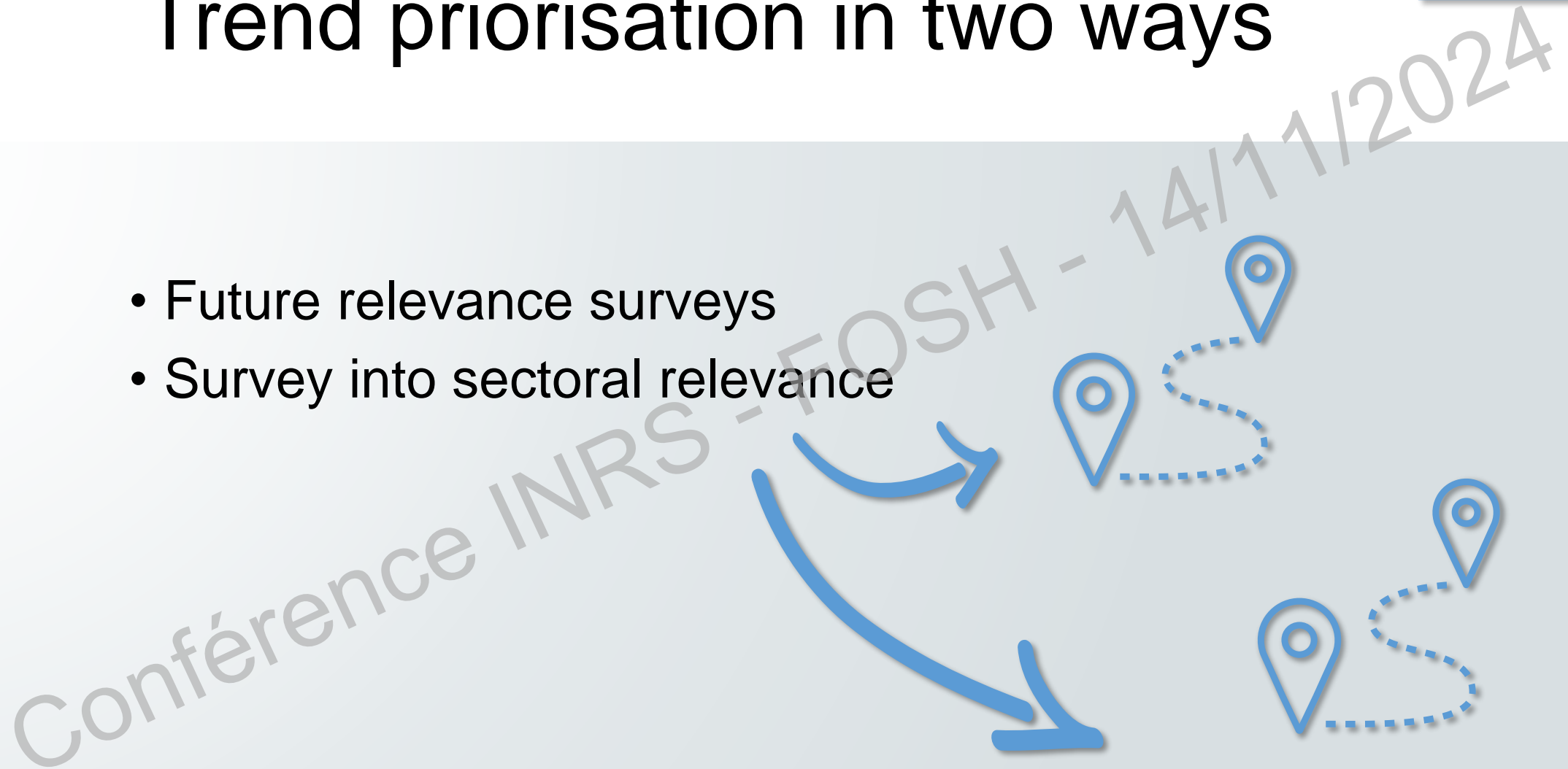


Trend collection as a basis



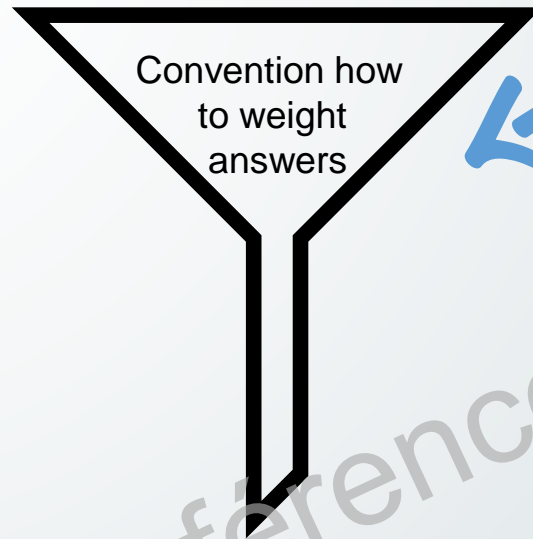
Trend prioritisation in two ways

- Future relevance surveys
- Survey into sectoral relevance



Future relevance surveys

117 trends



36 top trends

10 surveys

- one per trend category
- mostly scientists, but also OSH experts rate trends

How do you assess the influence of [trend x] on the world of work in the next 5 to 10 years in Germany?

[only OSH experts] How do you assess the influence of [trend x] in the next 5 to 10 years on OSH in Germany?

1 = no influence – 2 – 3 – 4 – 5 = moderate influence – 6 – 7 – 8 – 9 = very high influence

Response rate of future relevance surveys

Trend category	N mailed to	n replied	Response rate (%)
All	1332	219	16,4
Digital transformation and connectivity	157	24	15,3
New technologies	138	16	11,6
Globalization	70	11	15,7
The economy	95	12	12,6
New Work	148	44	29,7
Climate change, nature and resource conservation, the low carbon economy	368	53	14,4
Infrastructure	86	10	11,6
Mobility	82	19	23,1
Demographic developments and diversity	88	19	21,5
Social affairs and health	100	11	11

36 top trends

(future relevance, statistically by trend category)

<p>Digital transformation and connectivity</p> <ul style="list-style-type: none"> • Artificial intelligence • Networked automation • Cloudcomputing • Robotization • Big Data 	<p>New technologies</p> <ul style="list-style-type: none"> • Digital models for visualization • New battery types (rechargeable and non-rechargeable) • Sensors and (ultra-sensitive) detectors • Lightweight construction 	<p>Globalisation</p> <ul style="list-style-type: none"> • Global migration • Changing world order and international relations • National self-interest and protectionism in Europe 	<p>The economy</p> <ul style="list-style-type: none"> • Monopolization • Platform economy • Logistics and delivery services 	<p>New Work</p> <ul style="list-style-type: none"> • Flexibilization of working hours and place of work • New office concepts
<p>Climate change</p> <ul style="list-style-type: none"> • Renewable energies • Energy efficiency • Sustainability • Recycling and the circular economy • Climate change • Natural disasters and extreme weather 	<p>Infrastructure</p> <ul style="list-style-type: none"> • Insecurity of supply • Expansion of the communication network • Upgrading and expansion of the electricity grids 	<p>Mobility</p> <ul style="list-style-type: none"> • Sustainable mobility • Networked mobility • Driver assistance systems • Modified or innovative means of transport, including autonomous transport 	<p>Demographic developments and diversity</p> <ul style="list-style-type: none"> • Shortage of personnel and skilled workers • Demographic change and imbalanced age structure 	<p>Social affairs and health</p> <ul style="list-style-type: none"> • Physical inactivity • Unhealthy diet • Self-optimization • New pharmaceuticals, vaccines and therapies

Survey into sectoral relevance

- 117 trends – evaluation by sector experts from the accident insurance institutions
- Tendencies (n ranged from 1 to 17) (N = 252 over all sectors)
- 57 sectors considered

With regard to the next 5 to 10 years:

How do you assess the influence of [trend x] on the safety and health of insured persons in your specified sector?

1 = no influence – 2 – 3 – 4 – 5 = moderate influence – 6 – 7 – 8 – 9 = very high influence

Identification of trends with high influence in numerous sectors (≥ 17 of 57 sectors)

Trends with high influence in numerous sectors

(by trend category, numerical over all sectors)

<p>Digital transformation and connectivity</p> <ul style="list-style-type: none"> • <i>Cybercrime*</i> 	<p>New technologies</p> <ul style="list-style-type: none"> • New battery types (rechargeable and non-rechargeable) 	<p>Climate change</p> <ul style="list-style-type: none"> • Renewable energies • Energy efficiency • Recycling and the circular economy • <i>Alternative fuels*</i>
<p>Infrastructure</p> <ul style="list-style-type: none"> • Insecurity of supply • <i>Modernization, renovation, maintenance and refurbishment backlogs*</i> 	<p>Mobility</p> <ul style="list-style-type: none"> • Driver assistance systems 	<p>Demographic developments and diversity</p> <ul style="list-style-type: none"> • Shortage of personnel and skilled workers • Demographic change and imbalanced age structure

**not included in the 36 top trends from the future relevance surveys*

In-depth research

- Focus on 39 top trends
- Research and information processing
- additional interviews where necessary
(with inhouse-experts or willing survey participants)



deeper understanding of the trends
and their impacts on OSH

Structure of trend descriptions

- What is meant by the trend (definition)?
- What accelerates the trend, what slows it down? (→ interactions with other top trends)
- Which sectors/groups are particularly affected by the trend?
- What changes will result for the safety and health of employees? (→ opportunities and risks)
- **What are the findings and perspectives for OSH?**

 **Descriptions of all 39 top trends**

Trend portal: Analyses of top trends



available in English
as HTML:



[IFA - Fachinfos : Risk Observatory - trend portal \(dguv.de\)](https://www.dguv.de/ifa/fachinfos/risk-observatory-trend-portal)

Fokus on 3 Ds

Demography

→ Shortage of labour and skilled workers

Digitalisation

→ Cybercrime

Decarbonization

→ Expansion of renewable energies

+

→ Climate change



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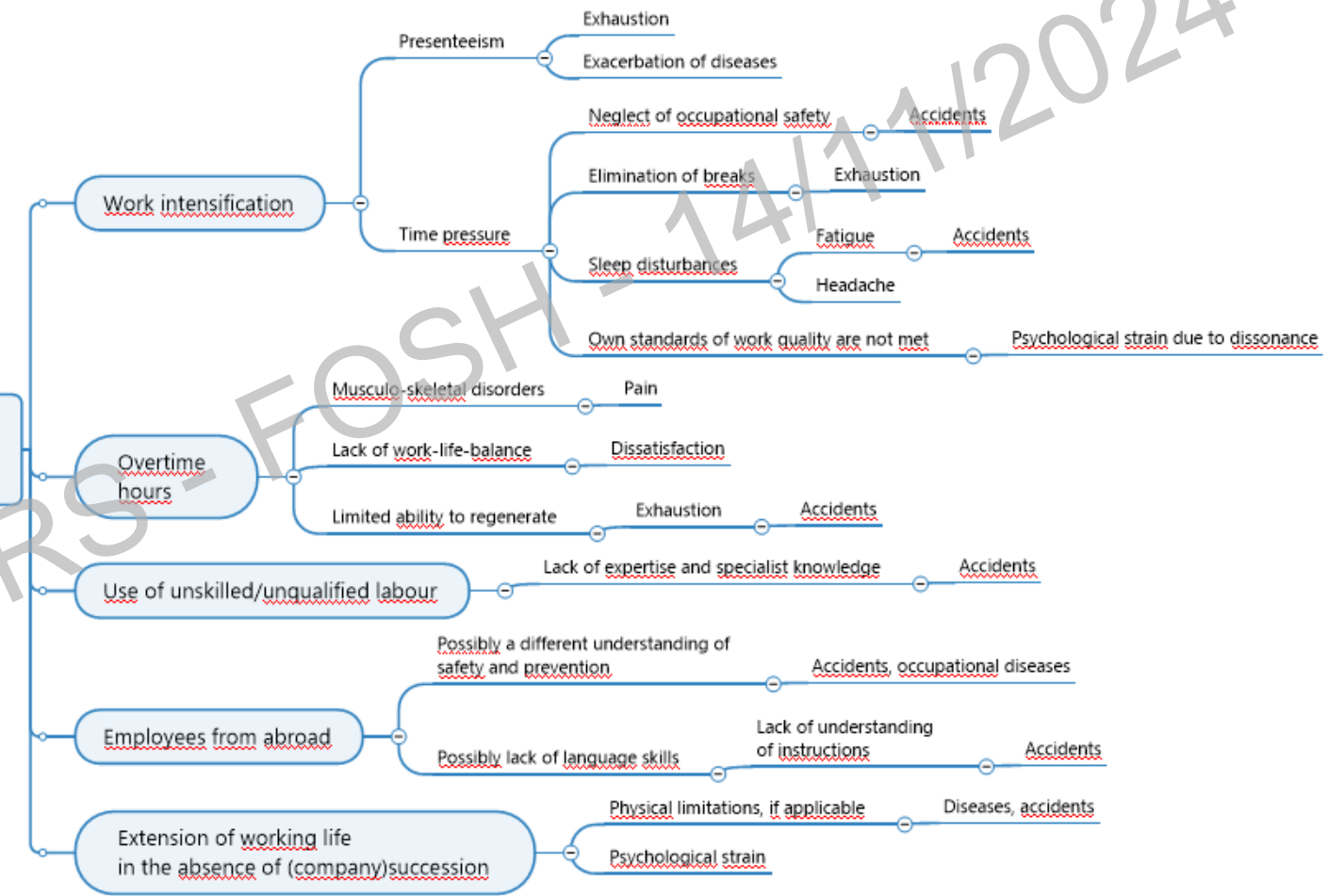
Shortage of labour and skilled workers

Decreasing individual working hours
 Demographic change
 Unhealthy lifestyle
 Poor working conditions



Shortage of labour and skilled workers

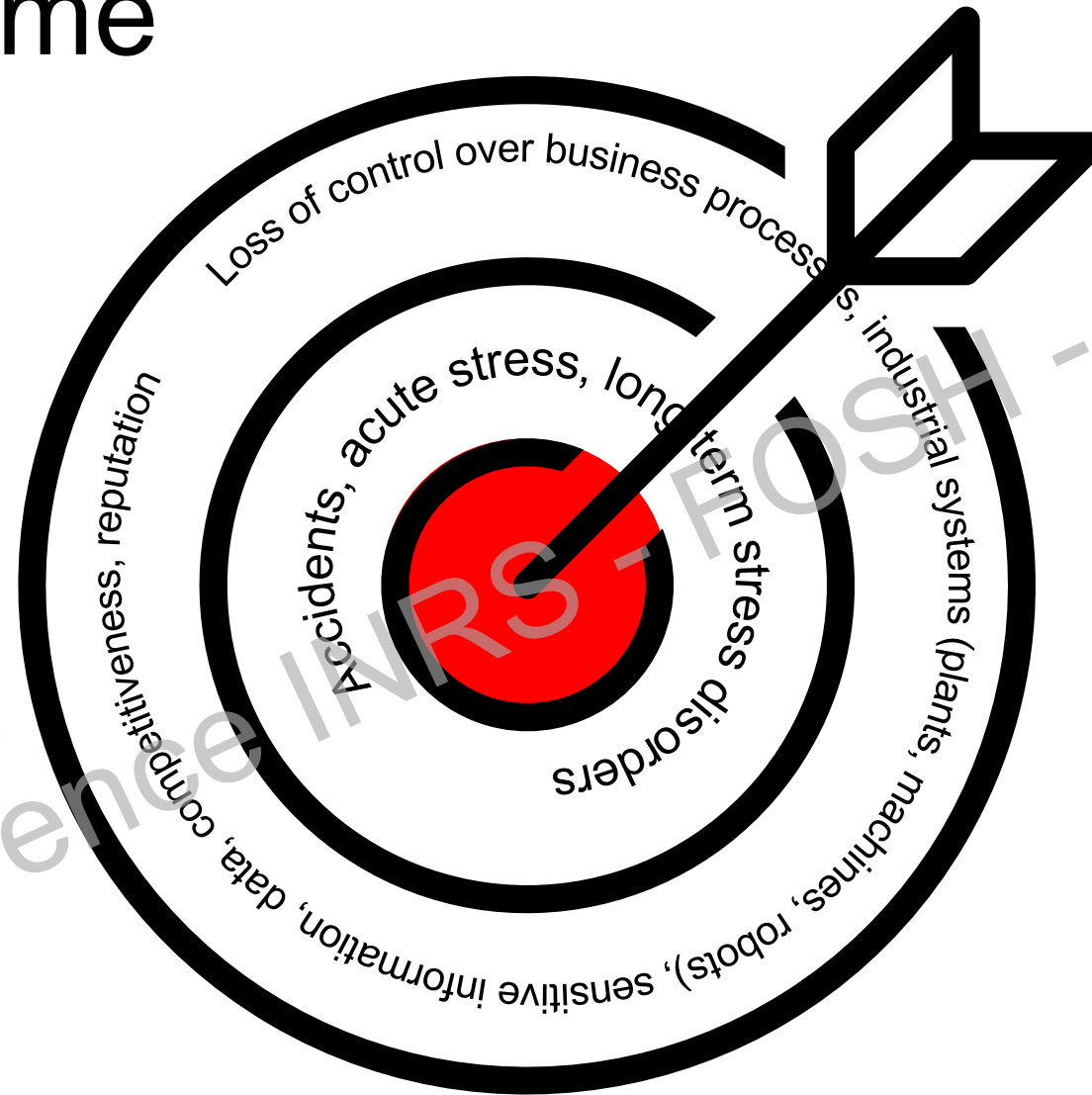
Health in All Policies
 Flexibilisation of working hours and location
 Global migration
 Artificial intelligence, digitalisation
 Robotisation



Decarbonization, digitalisation, industrial security, infrastructure maintenance and expansion, ...

Cybercrime

- New crime opportunities due to boost in digitalisation
- Increase in offences abroad
- Increase in networking (IoT)
- Increased use of mobile devices, networks, GPS technologies, centralised databases, open source software
- Careless handling of data...

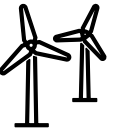

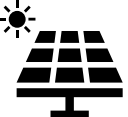



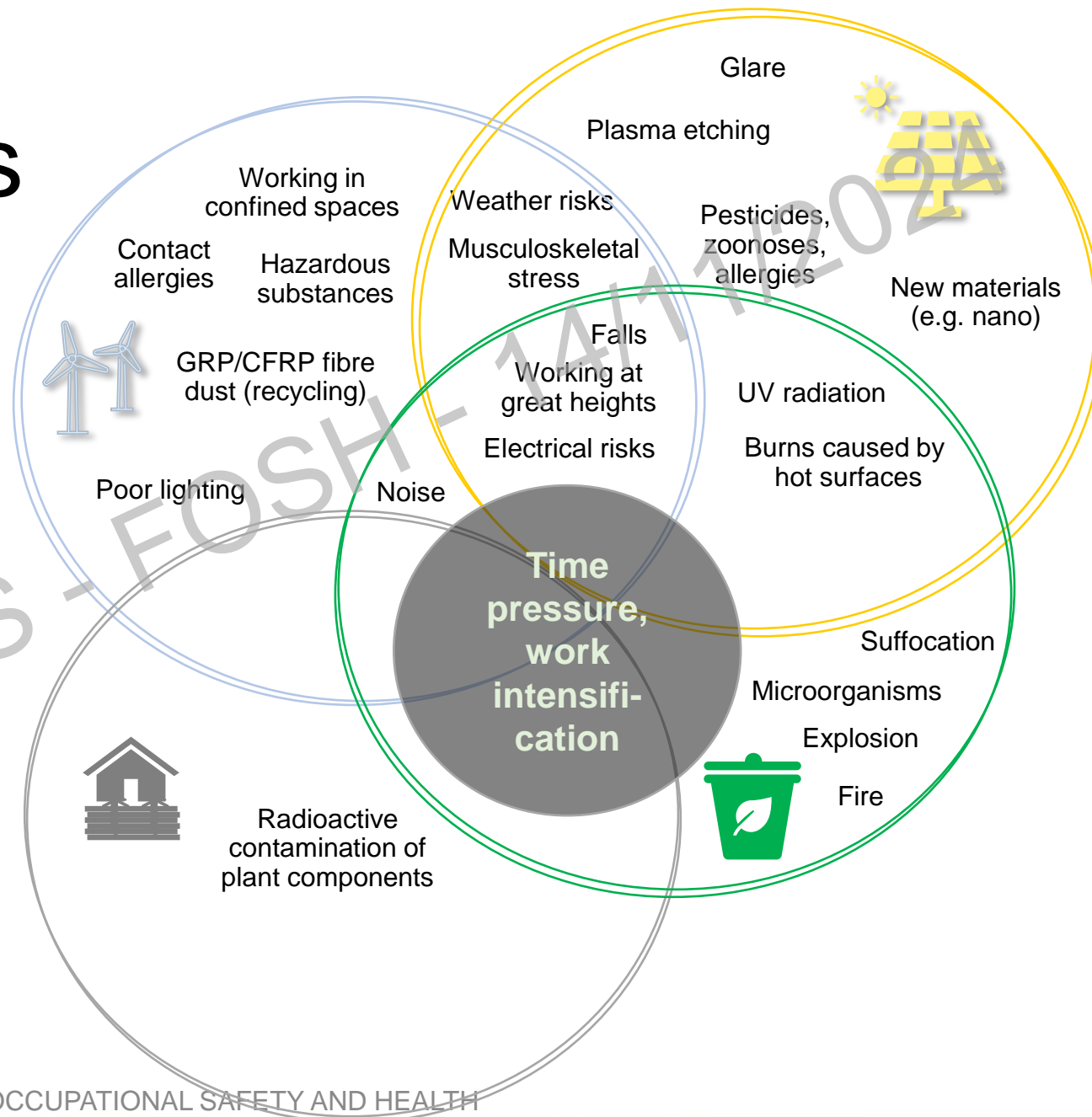
Cyber resilience!

- Qualification/raising awareness among employees
- Industrial security
- Zero trust paradigm
- Crisis management/emergency plans
- AI to identify conspicuous network activities
- ...

Expansion of renewable energies

65 % reduction in GHG emissions by 2030

	2023	2030	Factor
	61 GW	115 GW	1,89
	8,5 GW	30 GW	3,5
	82,2 GW	215 GW	2,62
 deep and medium-depth	0,0005 TW	10 TW	20 000



Climate change in Germany

„Climate change is the biggest health threat facing humanity.”
WHO, 2021



Conclusions



The Risk Observatory...

- relies on a **sound methodology** that **combines** research, expert evaluation, statistical data analyses, expert review
- **identifies** top trends and puts them **to the fore** (awareness, new fields for research & prevention)
- **analyses** top trends regarding their **concrete and systemic effects on OSH**
- **documents** analysis results as written output (trend descriptions) that include **hints for action** and give stakeholders **a basis to address topics**

Thank you for your interest!

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IFA

Institut der DGUV