



Evidence of the benefits of a culture of prevention

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Overview

- › From safety to prevention culture
- › Culture & evidence – a challenging combination
- › Evidence of the benefits of a prevention culture
- › Vision zero and business ethics (values)
- › Conclusions

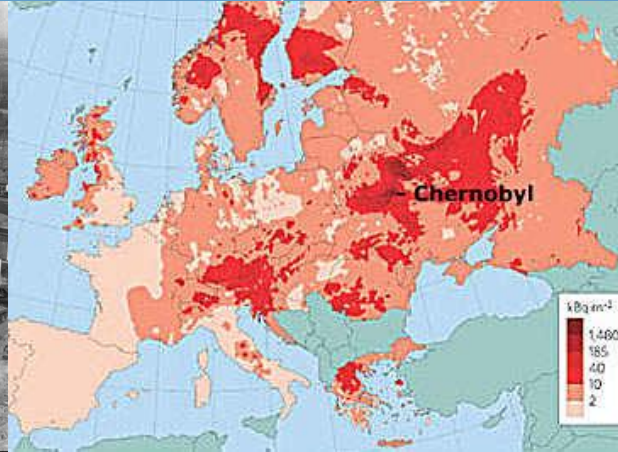




TRAGEDY IN THE NORTH SEA



167: People killed in the disaster
61: The number of survivors
£1.7bn: Total insured loss
10pc: North Sea oil came from Piper



The first references to safety culture: investigations in the aftermath of the Chernobyl disaster (1986) and the Piper Alpha disaster (1988)

The evidence of the relevance of safety culture stems from the tradition to learn from past experience (of what went wrong).

This is different from the tradition to predict and develop experimental evidence

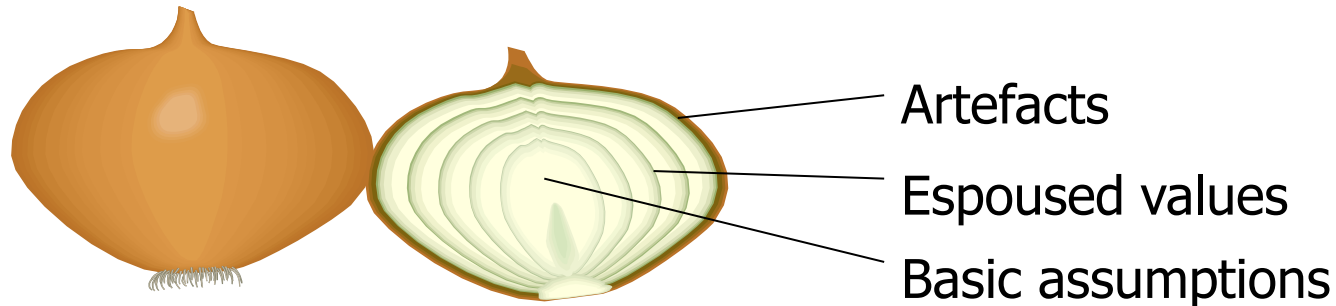


The safety culture paradox

- › Safety culture is widely recognised as important, especially after analysing accidents and incidents
- › It refers to intangible issues like: information difficulties, violations, failure to recognise emerging danger, role ambiguity, management complacency, poor communication, low prioritisation of safety, etc.
- › In prospective studies the evidence of the benefits of interventions in safety culture as such remains limited.
- › Most evidence concerns *the expressions of* safety culture (or of safety climate)



A culture has several layers



Characteristics of a prevention culture:

- Genuine management commitment and leadership
- Learning, improving, trust
- Informedness & evidence

The Value of Trust



Return on Influence

Sources: Schein 1997. A conceptual model for managed organizational change

Reason 1997: Managing the risks of organisational accidents



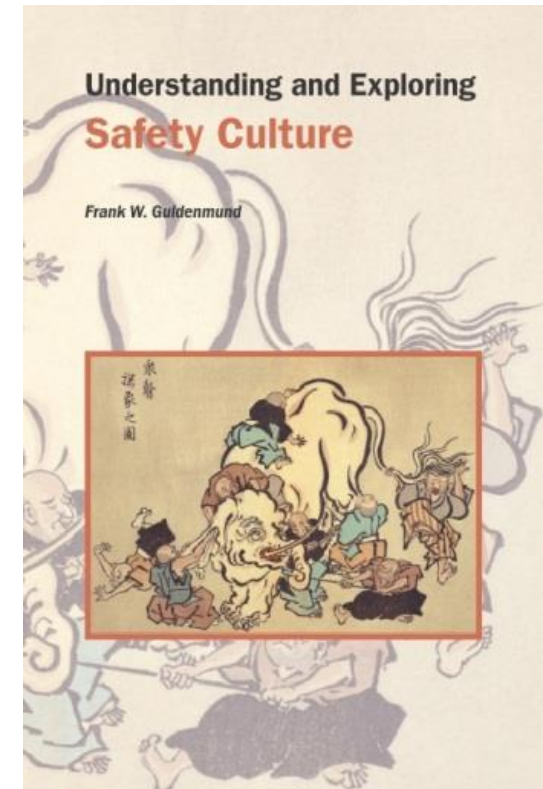
Determinants of safety culture

FORMAL

Management
Power
“Do as I say”
Policy
Safety rules
Decision making
Safety systems
Training
Structure
Espoused values

INFORMAL

Heroes
Credibility
“Do as I do”
Trust
Safety behaviour
Rituals
Perceptions of systems and risks
(body)Language
Stories
Values ‘in use’





Subcultures and ambiguities

Schein [1996] distinguished three subcultures in organizations:

- › Operator subculture
- › Engineering subculture
- › Executive subculture

- › Different agents with different risk perceptions and sub-cultures are the key to modern safety management.

- › The implication is that 'culture' is usually ambiguous (and therefore difficult to measure objectively)





Safety culture and climate

There are many different definitions of culture and of safety culture and the related concept of safety climate

Source: Guldenmund 2000, Saf Science. 2000;34(1-3):215–57

E.g. : Culture concerns what and how people believe, feel, think and how they behave (over time) and how this is reflected in collective habits, rules, norms, symbols and artefacts.

Source: Rollenhagen 2010, Saf Sci, 48, 268–278.

Safety climate is mostly focused on the perceptions of risk and elements of risks control (is easier to measure)



Prevention culture *(my definition)*

Prevention and promotion of Health Safety and Well-being at Work is mainstreamed into business practices and macro policies.

“Prevention is the way we do things around here”

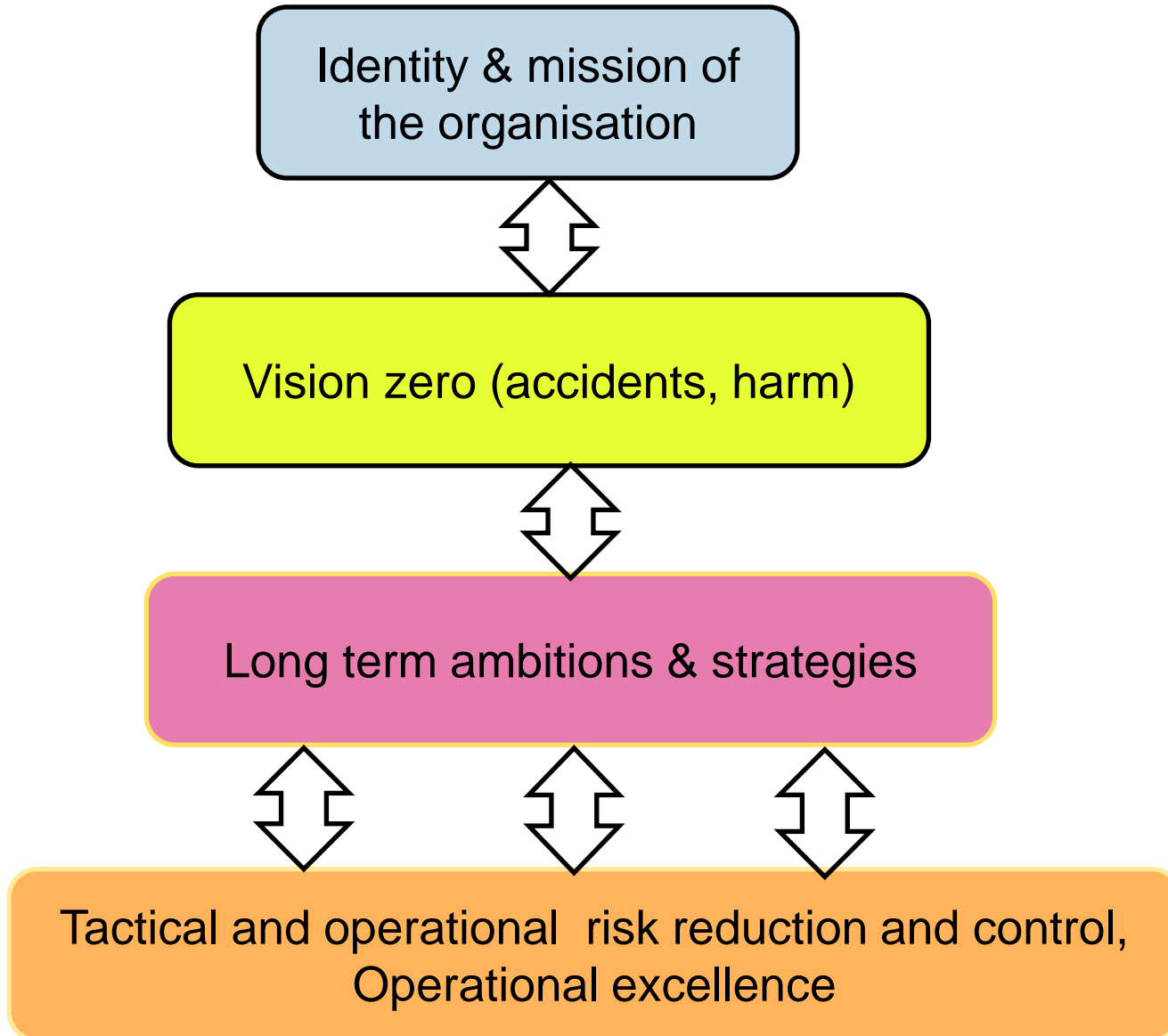
Two basic characteristics:

- The implementation of preventive and promotional activities
- The internalization of HSW prevention into the mind-sets, the values as well as behaviour and actions of policy makers, managers and employees



Prevention culture is an essential aspect of CSR

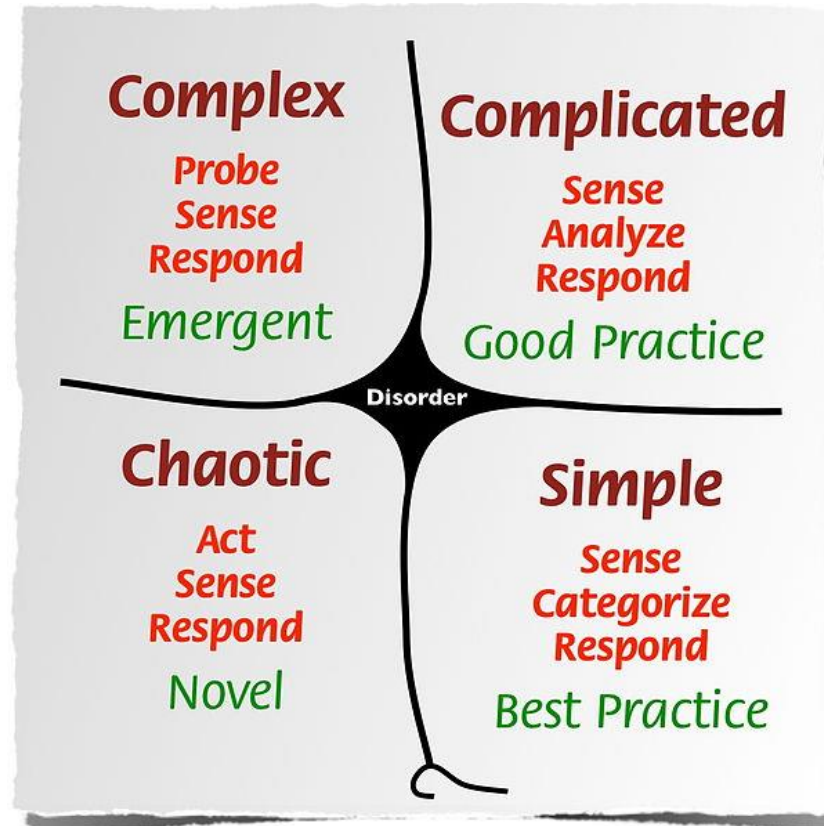
- › Prevention of “shifting consequences” (to others, to society, to the future) is a key principle in corporate social responsibility; This includes prevention of accidents and harm
- › In CSR “doing things right” (the rationalities of prevention) is not sufficient: it also requires “doing the right things” (value management, business ethics)
- › Health, safety and well-being at work represent values in themselves
- › Other values can support health safety and well-being at work





Research and evidence in different contexts

Wicked
Problems



Normal
Problems



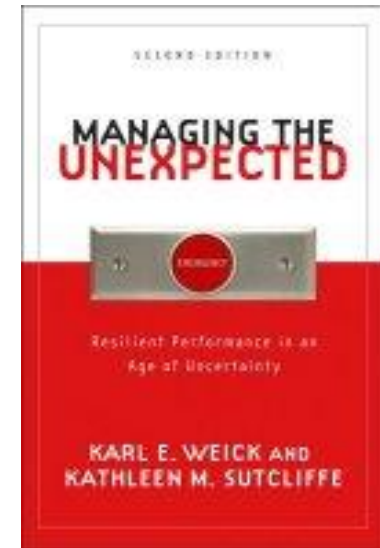
From safety to resilience !? state or ability!?

- › Resilience: the ability of a system, process or organization to adjust its functioning prior to, during, or following changes and disturbances, so that it can remain functioning even if unexpected disturbances occur.

Source: Hollnagel, Woods, Levison 2006

- › Organisational mindfulness is a characteristic of organisational culture for 'managing the unexpected'

Source: Weick & Sutcliffe 2001, Managing the unexpected





Health: state or ability?

- › The Dutch Health Council proposed a new dynamic definition of health (instead of a *state* of complete physical, mental and social well-being)
- › Health = the *ability* to adapt and self manage in the face of social, physical, and emotional challenges
- › Here, health is no longer defined as a state, not as the absence of disease, but as an ability in a dynamic context



Limitations of RCT type evidence

- › Bias towards contexts and interventions that can be easily controlled, measured, manipulated and predicted (in a limited time frame)
- › Not or only partially applicable to complex and chaotic contexts (e.g. precautionary principle, managing the unexpected, the continuously changing world of work)
- › Preference for instrumental interventions rather than processes of organizational development or change
- › Not possible for $N = 1$ (unique situations)



We need scientific and practical evidence

Scientific evidence	Practical evidence
Based on experimental research	Based on practical experimentation or learning from experiences
e.g. Randomised controlled trials	e. g. Case studies
Theory based	Practice based
Not always practically applicable	Not always theoretically sound
Universal knowledge	Local and context dependent knowledge
Can be the basis for practical implementation	Often precedes scientific knowledge
Simple and complicated contexts	Complex and chaotic contexts
High credibility for researchers	High credibility for practitioners



Types of benefits from a prevention culture: less HSW problems and costs & value creation

People:

- › Less Health and Safety problems and associated costs
- › Better and longer functioning of employees

Production and work processes:

- › Less problems (quality, delivery, complaints from customers)
- › Higher reliability, productivity, greater flexibility and more innovativeness

Organisation: better image and profitability

Society: several social and economic benefits



Evidence of essential OSH interventions in low- and middle income countries

- › Focus on: work-related cancer, dust-related diseases, asthma, chronic pulmonary diseases, noise, and injuries.
- › Regulation, enforcement of regulation and incentives are effective in stimulating implementation of the available effective (technical) tools
- › Feedback and rewards help to prevent occupational injuries
- › PPE has a potential, but is difficult to put into effect
- › No evidence that education and training, preventive drugs or health examinations are effective



Evidence -Safety Climate and Safety Performance

- › Safety climate has as positive, but weak, effect on safety compliance (task performance) and participation (contextual performance)
- › It plays a significant role in the promotion of employee commitment and involvement as well as in involvement in accidents and injuries
- › The influence will vary across occupational settings and work environments

Source: Source: Clarke: 2006, J of OHP 11 (4) 315-327 (meta-analytic review)



Evidence -Proactive risk assessments and participatory action-oriented approaches (I)

- › Focus on: small-scale and informal work places and primary prevention
- › Locally feasible, low-cost options
- › Design and use of locally adjusted action tool-kits
- › Effectiveness in many sectors by various intervention studies
- › In the local context, networks of trainers are essential in sustaining improvement activities
- › Source: Kogi K (2012), SH@W 3 (3), 155-165



Evidence - Proactive risk assessments and participatory action-oriented approaches (II)

Step wise participatory approaches are effective:

- 1 Learn local good practices
- 2 Identify significant risks and effective measures
- 3 Jointly plan locally feasible improvements
- 4 Implement prioritized measures and record the achievements
- 5 Review the performance and sustain step-by-step progress

Source: Kogi K (2012), SH@W 3 (3), 155-165



Evidence: Shell's 'life saving rules'



- ▶ Shell launched 12 life-saving rules in 2009, as part of pursuing “goal zero” The rules were not new, but were now specially promoted, emphasising that compliance is mandatory for all Shell employees and contractors while on Shell business or sites

- ▶ ***“If you choose to break these rules, you choose not to work for Shell”***

- ▶ LTI Frequency rate 2008-2011: - 40% (sector – 21 %)
- ▶ Fatal incident rate 2008-2011: - 71% (sector – 39%)

Source: Peuscher & Groeneweg 2012, (SPE 157465-MS)





Evidence - Positive Effects of Safety Leadership

Main elements:

- › Clear vision
- › Acting as role models, showing concern
- › Motivating employees, encouraging worker involvement
- › Communicating consistent safety messages
- › Setting clear goals and standards
- › Monitoring and recognising positive safety behaviours
- › Providing resources

- › Transactional and transformational leadership!

- › Source: HSE (2012) RR952, leadership and safety



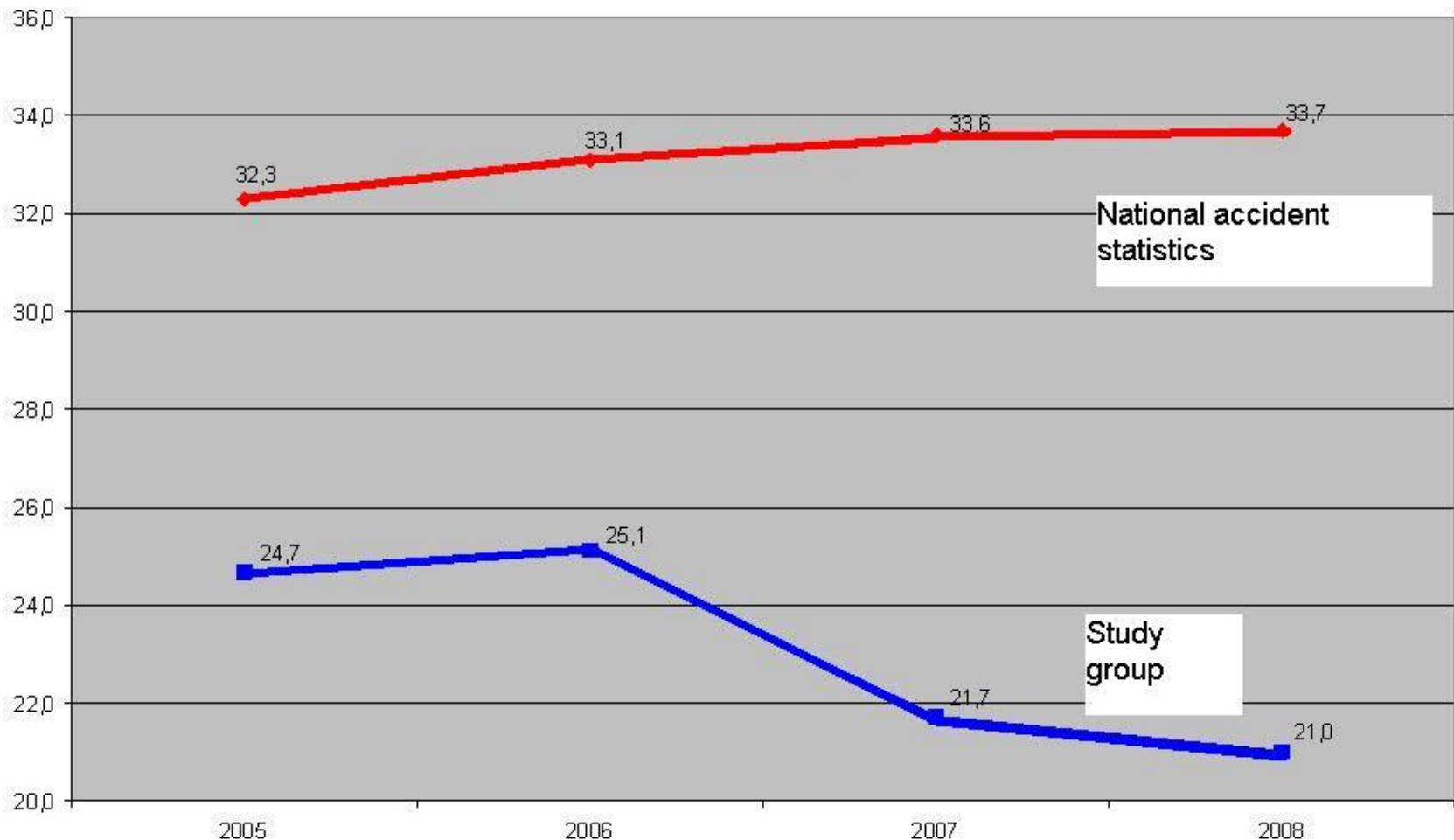
Vision Zero (accidents, harm)

- › Increasingly companies feel their identity and reputation do not allow for accidents and work-related diseases
- › Zero is the only ethically sustainable goal for safety and health
- › Vision zero is a corner stone of a prevention culture
- › Vision zero creates the conditions for excellent health and safety management
- › Zero Accident Networks are successful, and
- › share best practices and inspiration





Evidence: Accident rates (per million working hours) among the member organisations of the Finnish Zero Accident Forum and in the Finnish national accident statistics in 2005-2008





Core values that support HSW at work

Value clusters	Core values
Valuing people (being)	Interconnectedness
	Participation
	Trust
Valuing desired individual and collective behaviour (doing)	Justice
	Responsibility
Valuing (alignment of) personal and organisational development (becoming)	Development and Growth
	Resilience

Source: Zwetsloot et al 2013, Values that support HSW at Work (submitted)



Conclusions Prevention Culture

- › A prevention culture is dynamic and complex, based on vision zero, a vital aspect of corporate social responsibility
- › Prevention and promotion of Health Safety and Well-being at Work is mainstreamed into business practices and macro policies.

It requires:

- › The implementation of preventive and promotional activities
- › The internalization of HSW prevention into the mind-sets, the values as well as behaviour and actions of policy makers, managers and employees



Conclusions Prevention Culture and Evidence

- › Full evidence of the benefits of a prevention culture cannot be generated through traditional research methodologies
- › Innovative types of research, elaborating on practical evidence are key
- › There are benefits for the people, the quality of production and work processes, organisations and society at large



Conclusions - Effective Elements of a Prevention Culture

- › Regulation, enforcement of regulation and incentive
- › Participatory step-wise approaches
- › Leadership and genuine management commitment
- › Vision zero (accidents, harm)
- › Safety climate
- › Organisational enforcement of compliance to essential rules or principles ('life saving rules')



Thank you for your attention!

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