



VISION ZERO

**CIBW099W123**

**DIGITAL  
TRANSFORMATION  
OF HEALTH AND  
SAFETY IN  
CONSTRUCTION**



21 & 22 June 2023  
Porto, Portugal

**Coordination and Leadership for Safety in Construction**



Dr. Reinhard Obermaier – President of ISHCCO



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**Coordination and Leadership for Safety in Construction**

**ISHCCO**

**Dr. Reinhard Obermaier - President**

**International Safety & Health Construction Co-ordinator's Organisation**

**[www.ishcco.org](http://www.ishcco.org)**

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# ISHCCO Members

**ISHCCO**  
International Safety and Health Construction Co-ordinators Organisation

Founded in 2002

European Umbrella Association of Coordinators for Safety and Health Matters



Member Countries – Member Associations

AT: BAUKO, BE: VC-CS, CH: Lobsiger & P. GmbH,  
CY: CYACE (SPOLMIK), CZ: CSSK, DE: VSDI & VSGK,  
DK: IDA, ES: ACSYS, FR: GOK SPS,  
IT: AIAS, LU: ACSSL, PT: OET, SK: BOZPO

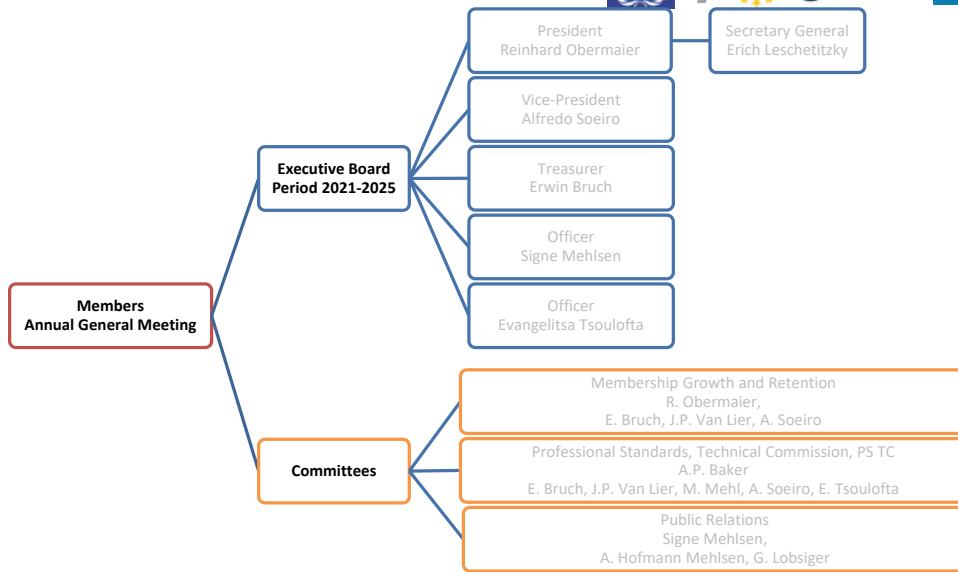
Representing

**60.000 SHCC**  
(Safety and Health Construction Co-ordinator)





# ISHCCO Mission



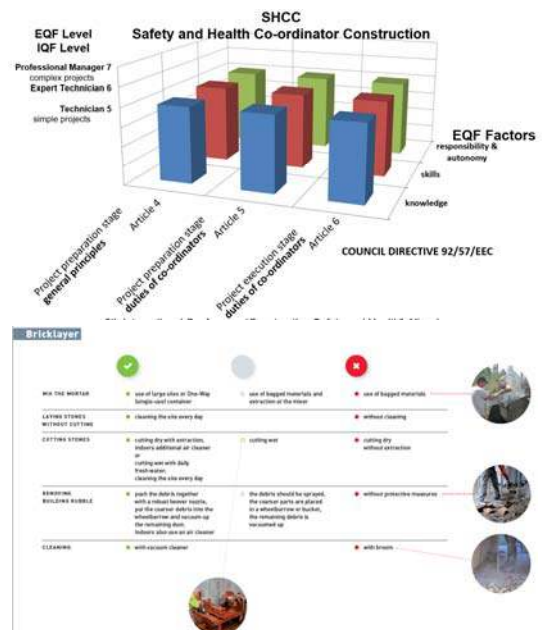
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# ISHCCO Products

## Publications of ISHCCO

- Recurrent reports on the implementation of GL 92/57 in Europe
- ISHCCO Qualification Framework (IQF)
- Reducing Respirable Crystalline Silica Dust Effectively (RCSD) mapping of good practise 32 craft / 12 EU languages by EFBWW & FIEC [www.fiec.eu](http://www.fiec.eu) RCSD )



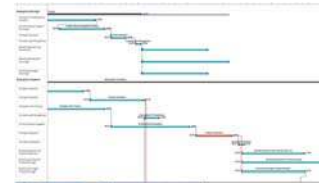
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# Construction Sites

## Construction Site an extraordinary workplace

- Temporary working place
- Workplaces with changing conditions
  - Progress of the construction project
    - Building, traffic routes, infrastructure facilities, plant complexes
    - New construction, renovation, deconstruction
  - Weather
  - Unstable safety environment
  - Protective measures must be actively created
- Several / many companies
  - simultaneously at the same site
  - one after the other - conditions encountered
  - Different working methods, protective measures:
  - Responsibility for health and safety per company
  - Mutual hazards and risks
  - different cultures and languages:
- time and cost pressures:

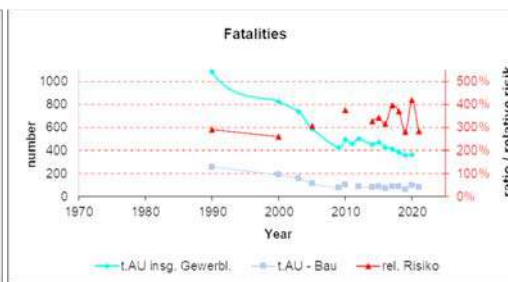
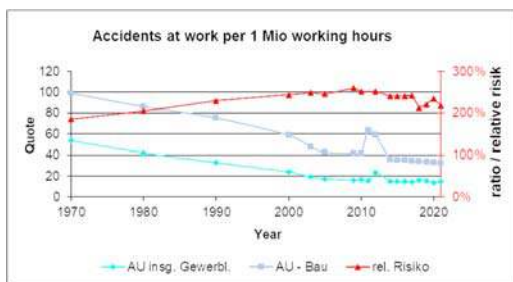


technical standards: home country v. country of the site

communication, social behaviour and manners, nutrition wages, living expenses (at site and home)



# Construction Sites



Risks

Accident:  
More than twice  
Fatal:  
3-times

Fatal: Rout Causes 60 % by decisions prior to work



Situation 2012 \*  
35,1 % of the of the avoidable fatal accidents originate from causes in the planning phase

Confirms the assessment in 1992

\*) PhD Thesis (2009-2013)  
Bianca Vasconcelos, Universidade Pernambuco, Brasil  
Prof. Alfredo Soeiro Universidade Porto, Portugal



# SHCC – The Mandate

## Safety and Health Construction Coordination (SHCC)

**Initiate and accompany measures to coordinate safety and health (of employees) and to ensure their implementation**

- Coordination in planning (planning phase)
  - Initiating and coordinating measures
    - Information on structure and design for safe working general principles of prevention and safety
    - Setup of the safety and health plan (S&H-Plan)
    - Prior notice
- Coordination in execution (construction phase)
  - Safety and health plan
    - Publication / Distribution
    - Implementation
    - Update
  - Establishment of a health and safety regime and monitoring
    - Information on mutual risks and planned protective measures Including the adaption of changes
    - Initiating OSH control measures
    - Implementation of the Follow-up of deviations
- Safe, subsequent work on the structure
  - Initiate and assemble the health and safety documentation (**the File**)



# SHCC – The Mandate

## Safety and Health Construction Coordination (SHCC)

- The task is: to
  - To apply the OSH regulations
  - To introduce good and approved praxis
  - To adapt the OSH measures specifically - what is needed at the particular project
  - To arrange a system enabling the contractors to provide the OSH measures in time
- The SHCC guides the client towards a safe project as  
**designer of the inherent, specific safe & healthy works at the construction project**



# SHCC – The Mandate

## Task of Safety and Health Construction Co-Ordination (SHCC)

- Prevention of occupational accidents
- Health protection

Target and mandate of the SHCC



## Vision Zero = avoiding accidents

### 7 Golden Rules

- Tool for companies

Vision Zero Plan

- **Useful Rules for SHCC**

### 7 Golden Rules for Vision Zero

1. Take leadership – demonstrate commitment
2. Identify hazards – control risks
3. Define targets – develop programmes
4. Ensure a safe and healthy system – be well-organized
5. Ensure safety and health in machines, equipment and workplaces
6. Improve qualifications – develop competence
7. Invest in people – motivate by participation



# SHCC – The Mandate

## Sustainability

## 17 goals of the United Nations



Taks for everyone

Relevant for occupational safety and health protection on construction sites:

11. Sustainable Cities and Communities – e.g. site traffic
12. Responsible Consumption and Production – e.g. production, waste
13. Climate Action – e.g. waste of energy

Implemented in S&H-plan

# Digitalisation

- GPS Control
- Scheduling
- Document Management
- Prefabrication CAD-CAM
  
- Architecture CAD
- Planning
- Visualisation
- Reality Capture
- BIM
- Simulation
- Machine Control
- Printing (3D)
  
- Risk Management



Quelle: ME Image, AdobeStock

# Digitalisation

## Robotics

## Artificial intelligence

- Reduction of physical strain
- Residual work not suitable for machines
  
- Risks from machine handling
- Machinery faults
- Interaction faults
  
- Substitution of workers

- Overall planning
- Complex production
- Complex visualisation
  
- Criteria of evaluation?
- Basis of decision-making?
- Responsibility?
  
- Substitution of technical intelligence



# Digitalisation

## OSH and SHCC

### Assessment – Safety & Health Plan – Safety File – Site Management

- Coordination of risk assessments (from individual companies)
- Document management / Databases
- Visualisation
  - Risk analysis and assessment
  - Reviewing of methods and substituting
  - Trainings / digital trainings
- Follow-up of deviations

AI = autonomous safety / autonomous coordination?



# Summary SHCC

- ISHCCO European Umbrella Association for Safety and Health Coordination
  - European Voice of the SHCC,
  - Collects technical and professional information on SHCC
- Construction sites - high potential hazards due to complex conditions and relations & many companies and many nationalities





## Summary SHCC

- Coordination of occupational Safety and Health
  - Implementation of the principles of prevention – safety and health matters at planning, execution and to subsequent works
  - Vision Zero rules support SHCC
  - Sustainability correlates to health matters at SHCC
  - Digitalisation will change the environment of SHCC and needs attendance and awareness
- SHCC can be addressed as the designers of the inherent safe & healthy works at the construction project



**ISHCCO**  
Coordination and Leadership for Safety in Construction

**Thank you for your attention.**

**Do you have questions?**

**I am looking forward to your suggestions.**

Dr. R. Obermaier, President

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