



**Conference 2011**



Conference under the  
patronage of the Polish  
National Contact Point for  
Research Programmes  
of the EU



Supported by:



**Let's Construct Europe's Future  
With Innovative Buildings and Infrastructures  
*Construction and Societal Challenges***

**Radisson Blu Centrum Hotel - WARSAW  
04 / 05 October 2011**

# reFINE initiative

## P6 Health and Safety



## Strategic Targets

**Focus Themes  
(Europe 2020 strategy)**

	Urban Mobility (1/6)		Long Distance Transport (2/6)	
Greening (3/6)				
Smart and Resilient (4/6)				
Inclusive society (5/6)				
Health and Safety (6/6)				



## □ SOCIETAL NEEDS

- Awareness on occupational risks must be further developed: **reduction in the number of injuries is mandatory.**
- Modify the organization of the work to reduce occupational risks during all phases of a project: innovation is needed to move away workers from hazardous conditions, to develop risk management systems and advanced alert systems.
- Mitigation strategies and accident management procedures must be introduced to prevent or reduce safety and health hazards in order to decrease the incidence rate of accidents and work-related diseases.
- Reduction of costs needed to ensure healthy and safe working conditions for SMEs
- Promotion of sector-related awareness campaigns is needed, with specific reference to risks associated to emerging technologies.



## □ OBJECTIVES OF THE RESEARCH

- Improve methods and tools for risk assessment and management and for dynamic reliability assessment.
- Develop new systems for preventing workplace hazards: remote control techniques and automation.
- Re-engineer the construction processes from an integrated H&S point of view to reduce worker exposures to hazards: work flows and construction methods, inspection techniques, materials, behaviours, tools, ....
- Improve or develop personal protection equipment for specific construction sites and extreme working conditions.
- Develop specific training measures also aimed at vulnerable workers in order to maximize Human Performance & Technology Usability.



## □ RESEARCH ITEMS (Selection)

- Development of new tools, materials and machinery introduced in the construction process at all stages: design, organisation and management, development.
- Risks associated to new technologies, new materials.
- Innovative methods and tools for risk assessment and management: methodology, alert devices, ..(BIM, numerical modelling, ICT, ...)
- Safe design considering the whole lifecycle of infrastructure
- Automation/robotic assistance for hazardous occupations such as: underground excavation, surface finishing, concrete compacting...
- Early warning of natural hazards during construction.
- PPEs: Innovative materials, ergonomics and test methods. Specific PPEs for extreme conditions. Test methods for PPEs against new specific hazards. Protection of vulnerable workers.



## □ IMPACT OF THE RESEARCH ITEMS

- Reduction of workers exposure to hazards at worksites and reduction of the consequences (fatalities, economical losses, construction delays) of man-made hazards in construction due to more efficient risk analysis and contingency plans.
- Inherent safety is implanted early in the design phase with specific mention for emerging technologies.
- Definition of consistent design criteria and specifications for temporary structures.
- Increased workers performance and protection and reduced risk of accidents and of inconvenience to users.
- Progress towards a more inclusive society.