

ERA-MIN Project Partner – Added value to your project

A work package dealing with Health and Safety will give added value to your ERA-MIN application. We can assist with experience from big projects like *The smart mine of the future (SMIFU)* and *The Intelligent deep mine (I²mine)*. In both these projects, we lead the sub-projects on health and safety.

The aim of this work package is to study and assess ergonomic aspects of new production system concepts and its implementation in mining industry. Our studies are often divided into four phases:

- Phase 1, named *Criteria for work environment factors*, contain a specification of criteria for work environment factors based both on modern research and EU- and national legislation.
- Phase 2, *Evaluation of the industrial environment and the production context* will mainly respond to the following question: In what environment will the new production system function? For answering it several studies and analysis will be made: *job analysis* describing the functions, tasks and subtasks under production, standing idle, adjustment and maintenance; *work organization*: What kind of skills and abilities are needed for effective operator performance? What will be the impact on working-hours, teamwork, communication, stress, etc?; *material analysis*: What material will be used? What hazards and problems are related to those materials?; *risk analysis*: a risk analysis method, Work Safety Analysis, will be used to identify risks at the work place associated with the new technology. The method focuses on both technical and organizational dysfunctions that could lead to accidents, occupational injuries, quality problems and production disturbances. We use modern computer simulations methods such as Transom Jack, ERGOMAS and ERGOplan if *ergonomic analyses* is needed.
- Phase 3, *Evaluation of the new production concept*, will take charge of the particular hazards and problems present due to the technology used. Aspects such as chemical emission of new materials, radiation and laser safety, noise and vibration, vision and lighting, static and dynamic work-load, temperature and climate will be considered. Measuring and assessment of emissions (at source), immission (rooms) and exposure levels of workers will be accomplished.
- In phase 4 different forms of technical and organization solution will be discussed. The results are continuously returned to the other project members in the ERA-MIN-consortium. The final results will be presented as a set of *guidelines for implementation* of the new production system concepts in industry. The guidelines are expected to include: restrictions for work environment hazards, safe working procedures and practices, recommendations for work place design, recommendations for work organization and recommendations for skill requirements and competence development.

If you are interested in further information about the *health and safety package* please contact:

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