VISION ZERO.
The New Global Management Strategy for Safe Mining

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MINING IS SUBSTANTIAL
MINING IS HIGHTECH
MINING IS IMPRESSIVE
BUT MINING HAS OTHER FACES
KILLS
MINING
LET'S TALK ABOUT SAFETY
360,000

fatal accidents at work
Mining: The fatality rate of miners is $8 \times$ higher.
We need a strategy!
We need a strategy!
The story of
1811

As consequence after severe explosions of his powder mills in Wilmington (USA), Eleuthère Irénée du Pont

• made his managers responsible!
• defined safety rules!
• improved technology!
DEFINITION:

„Vision Zero is a prevention strategy for a safe future without fatal or serious occupational diseases, work accidents and traffic accidents in mining.“
Illusion?

or

Mission possible?
VISION ZERO.

SEVEN GOLDEN RULES
Take Leadership Commitment
Identify Hazards and Risks
Set Targets for Safety
Ensure a Safe System
5 Use Safe & Healthy Technology
6 Improve Qualification
Invest in People
VISION ZERO.

Safe Blasting!
Analysis
Causes of Open Pit Blasting Accidents

- staying in danger-zone
- inadequate cover
- unsafe handling
- misfire clearing
- drilling of explosives
- fly rock
Fields of Action for VISION ZERO

- Substitute of Black Powder
- Safer Explosives
- Safer Detonators
- Safer Blasting Technology
Fields of Action for VISION ZERO

- IT-Borehole Measuring

Workplace
Fields of Action for VISION ZERO

- Mine Design

Workplace
Fields of Action for VISION ZERO

- Education of Blasting Experts
Education of Blasting Experts in Germany

- Pre-Knowledge by CBT teaching
- Pre-Experience as blasting helper
- Physical Ability
- Proven reliability by police clearance certificate
- Courses for blasting experts
  - Basic training: 7 days
  - Special training: 5 days
    - Blasting in open cast mines
    - Demolition of buildings
    - …
- Repetitive training every 5 years: 1 day

25 Seminars
500 Participants per year
Fields of Action for VISION ZERO

- CBT Training Program

People
Fields of Action for VISION ZERO

Regulations for Safe Blasting

Rules
Blasting Safety

- Substitute of Black Powder
- Safer Explosives
- Safer Detonators
- IT-Borehole Measuring
- Mine Design
- Regulations for Safe Blasting
- Education of Blasting Experts
- CBT – Training Program
Results!
Blasting Accidents: Injured Persons by 99% reduced in 75 years
Blasting Accidents: Fatalities reduced to Zero in 75 years
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