



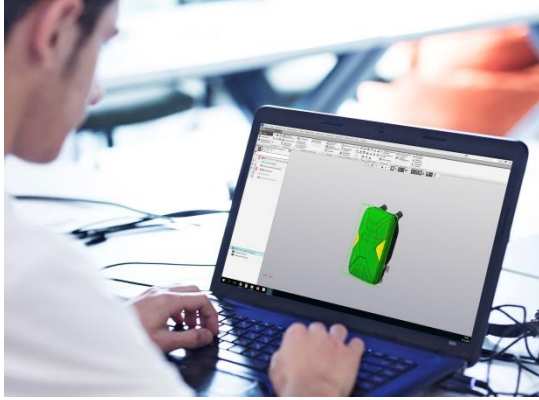
Compressed Oxygen SCBA: as a Key to Mine Rescuer Safety and Health

09.2025

IMRB 2025

Łukasz Niewiadomski

WHO WE ARE



INNOVATE

DESIGN



DEVELOP

MANUFACTURE



TEST

SUPPLY

mining 

tunneling 

confined 

high-rise 

toxic gases / oxygen deficiency

DEZEGA®

LIFELONG SAFETY EXPERIENCE

WHAT WE DO



New training and auxiliary products

New RPE

Continuous product modernization

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5th GENERATION OF SCBA

1st gen



PKK-1
(1931)
USSR

2nd gen



PKK-2
(1948)
USSR

3rd gen



P-12
(1966)
USSR

4th gen



P-30
(1980)
USSR, EAC
comply



P-30EX (2008)
EN, EAC
comply

5th gen



P-70
(2024)
EN/IS comply

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LIFELONG SAFETY EXPERIENCE

CO SCBA - THE LIFELINE FOR RESCUERS

Provides Unmatched Safety

Resilient in New Fire and Search-Rescue
Scenarios

Built for Growing Demands

Optimal Size-Weight-Time

Long-Duration: 4 Hours



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LESSONS FROM THE FIELD

- **“Ensemble is too heavy ... Ensemble is too hot ... SCBA hose location is not right ... Face mask and helmet interface problems ...”**
 - Rescuers’ feedback on contemporary mine rescue SCBA designs
- **“Typically, commercial self-contained breathing devices for mine rescue have been heavy, bulky, and uncomfortable to use.”**
 - NIOSH summary of standard mine rescue SCBA limitations; older units weighed ~18,6 kg and delivered inhalation gas up to ~49 °C
- **“... extended range system may be 15,9 kg or more ... weight may be lighter than 11,3 kg... current systems ... are too large ... limited duration.”**
 - Testimony on design trade-offs between duration and mobility from Bureau-funded research

WEARING COMFORT

Lightweight for Longer Focus

Compactness Drives Mobility

Comfort Enables Performance

Casing Protecting Integrity Of The Device

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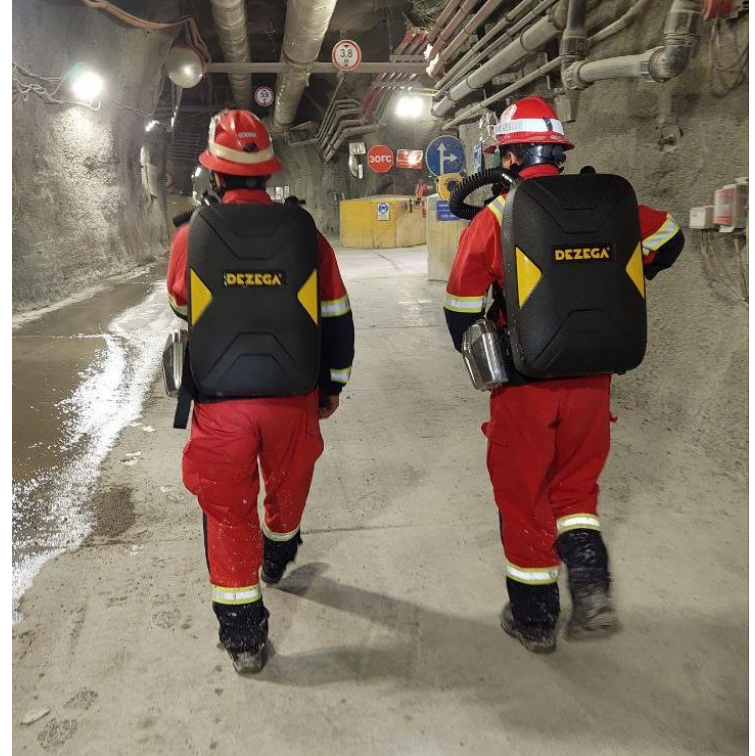
THERMAL LOAD REDUCTION

Cooling Airflow Design

Flushing to provide immediate relief

Low Breathing Resistance

Reliable, Field-Replaceable Cooling



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4 HOURS OF PROTECTION

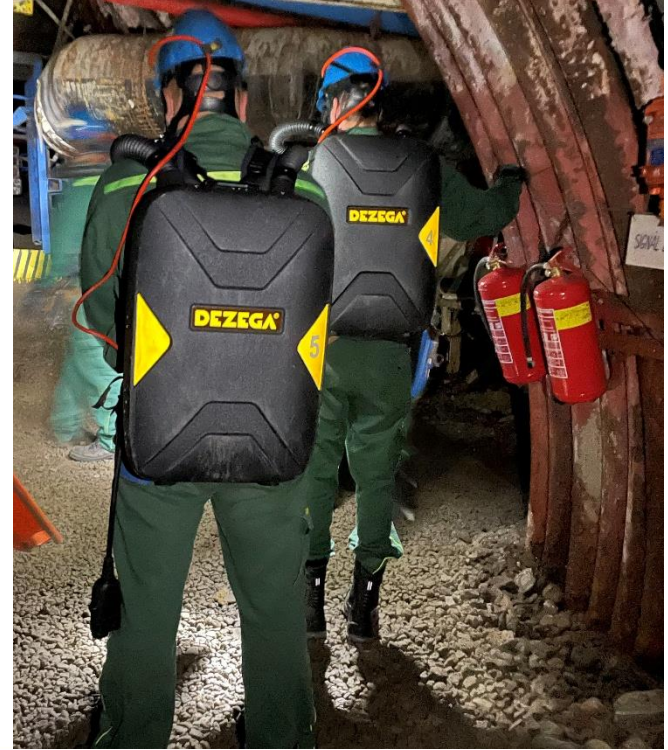
Additional oxygen volume

Buddy-Buddy connection

Positive pressure

CO₂ absorption effectiveness

Digital Monitoring Adds Safety



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TOTAL COST OF OWNERSHIP

Infrastructure cost

Consumables within Service Life

Service and Testing



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LIFELONG SAFETY EXPERIENCE

OPEN PLATFORM FOR FUTURE INNOVATIONS

Seamless Electronic Integration

Reliable Mission Communication

Expanding Accessory Ecosystem



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LIFELONG SAFETY EXPERIENCE

THE NEW GENERATION – DEZEGA P-70

Focus on human factors and usability

Development together with the users

Seven years developing with hundreds Lab and Field tests

10+ top notch innovations

7 patented technologies



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LIFELONG SAFETY EXPERIENCE

CONCLUSION



- ✓ CO SCBA is and will remain key factor in ensuring rescuer safety and health
- ✓ 4 hours operation time ensures safety and operational flexibility
- ✓ Trouble-free operation and ergonomic design are crucial
- ✓ CO SCBAs are more than tools — they are a lifeline

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DEZEGA Night Awaits!

SEPT | 23 | 2025



Join Us
at Stiegl-Brauwelt,
Salzburg

An evening to connect,
unwind, and enjoy:

- Meet DEZEGA experts
- Exchange ideas with the worldwide community of mine rescue experts
- Delicious food, drinks, and music
- Great mood guaranteed in a relaxed atmosphere

Dress code: smart casual

Transfer included - just bring
your energy and curiosity!



Prost!
Celebrate safety, innovation,
and friendship with us!

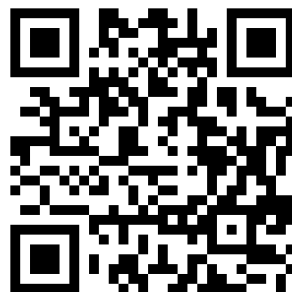
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Q&A

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