The Triple Impact Technique

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The Threat
In the rare case of an accident the Deminer’s life rests upon his Protective gear!

The Explosion
During an explosion hot gases expand violently generating a fast moving high pressure interphase called Blast Front. In its path obstacles shutter and are entrained towards the deminer.

The Blast
The blast overpressure may cause severe injuries and amputations or even death. Its strength is higher close to the point of the explosion.

The Fragments
The fragments are primary threat to the eyes and may also cause death if no sufficient PPE is used.

The Future
Perfecting the technique, Setting a Standard

Validation & Classification
Evaluation of the fragmentation and blast threat of real mines will set the bars for the Triple Impact Technique.

Ranges of Materials
Determination of the technique’s parameters for different material families.

CWA for H.D. PPE
The Triple Impact Technique will be the basis for a new EU guideline for selecting PPE.

The Launcher
The new version of the Triple Launcher.

The Technique
The Triple Impact Technique is a "new" ballistic testing technique.

Why Multiple?
After one impact the material is in shock! Stress waves, cracks, deflection, increase the energy density per unit surface. In multiple impacts these disturbances interact resulting in reduced ballistic performance.

Why Triple?
Inspired from the Euclidian geometry, two points define a line, three points define a surface!

Simultaneousness
Simultaneous Impacts is an absurd claim. There will always be a \( \Delta t \). The interactions of multiple impacts define how simultaneous two impacts may be. These depend on the specific material properties. Three main degrees with distinctive characteristics can be identified.

Example: 15 layers of Kevlar 29 PW fabric V50 Single Impact V50 Triple Impact 449m/s 419m/s