



PRESENTATION OF NITROERG S.A.

Seminar: Polish Contribution to the EU Raw Materials Initiative
Brussels, 6th November, 2017

Elżbieta Błotny – Marketing and Business Development Manager



MISSION AND VISION



MISSION

Brand
Tradition
Responsibility



VISION

Effective and Innovative Organization
operating internationally

PRODUCTS



INITIATING SYSTEMS



EXPLOSIVES



DIESEL FUEL ADDITIVE

EXPLOSIVES



Rock explosives

- dynamites
- powderous
- emulsion (in bulk or cartridge form)

Intended for use in places where there is no risk of methane explosion or coal dust explosion.

Permitted explosives

- emulsion
- powderous

Can be used in places where there is a risk of methane explosion or coal dust explosion.

Benefits

- a wide range of explosives for different application conditions
- a large selection of available diameters and weights of cartridge-type explosives, adapted to the customers' requirements
- a technology of production of emulsion explosives which ensures that products are adapted to individual customers' needs (materials in bulk or cartridge form, different sensitization techniques, a possibility of mechanical loading)

INITIATING SYSTEMS



Electric detonators ERGODET

- detonators for rocks ERGODET
- permitted against coal dust ERGODET W
- permitted against methane atmosphere and coal dust ERGODET M

Non-electric detonators NITRONEL®

- detonators for rocks NITRONEL MS and NITRONEL LP (for tunnel works and rock quarrying in open pit and underground non-coal mines)
- surface detonators NITRONEL QS and in-hole detonators NITRONEL QH (for use in quarries and open pit mines)



Benefits

- a wide selection of electric and non-electric detonators, including reinforced detonators, pressure detonators and heat-resistant detonators
- available in different transport classifications (1.1 B, 1.4 B, 1.4 S)

INITIATING SYSTEMS



Shock tube

Intended for production of non-electric detonators, and for application in blasting technology to extend the blasting line when using non-electric detonators.



Detonating cords

- **rock** – for use in open pit and underground non-coal mines, as well as for demolition and ground engineering works.
- **methane** – for blasting works in mines in areas with methane or coal dust explosion hazard.



Blasting caps

- instantaneous
- millisecond delay
- half-second delay
- decisecond delay

DIESEL FUEL ADDITIVE



NITROCET 50®

Diesel fuel additive that increases the cetane number of diesel fuel.

Benefits

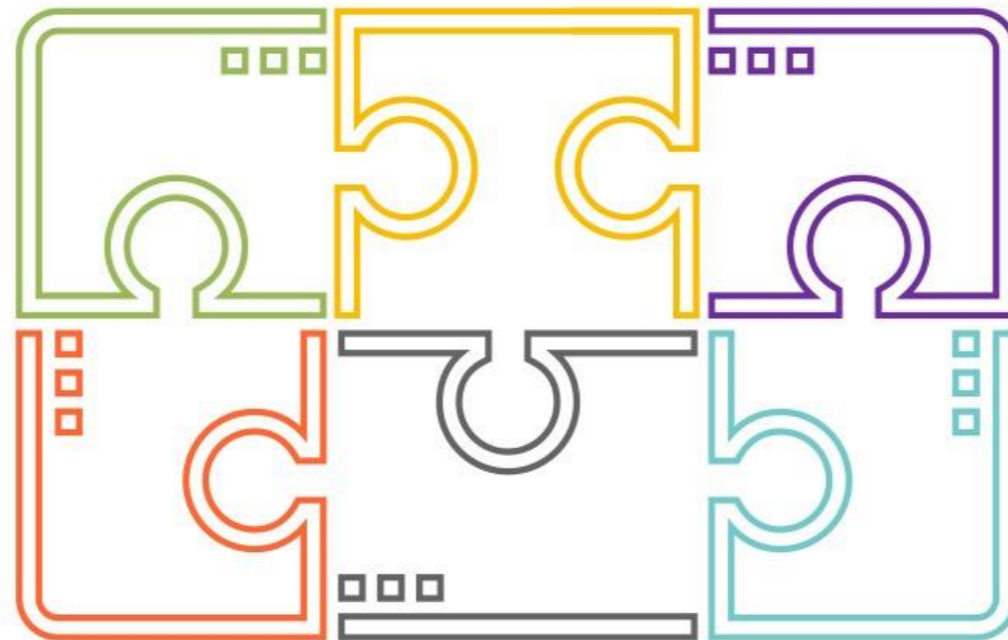
- reduces noise and toxic exhaust emissions
- eliminates carbon deposits on washer nozzles
- maintains the engine and ensures its smooth operation at a lower pressure
- causes faster ignition when the engine is cold

POTENTIAL

18 000 tonnes
DYNAMITES

28 000 tonnes
EMULSION EXPLOSIVES

13 000 km
DETONATING CORDS



40 million pieces
DETONATORS

140 000 km
SHOCK TUBE

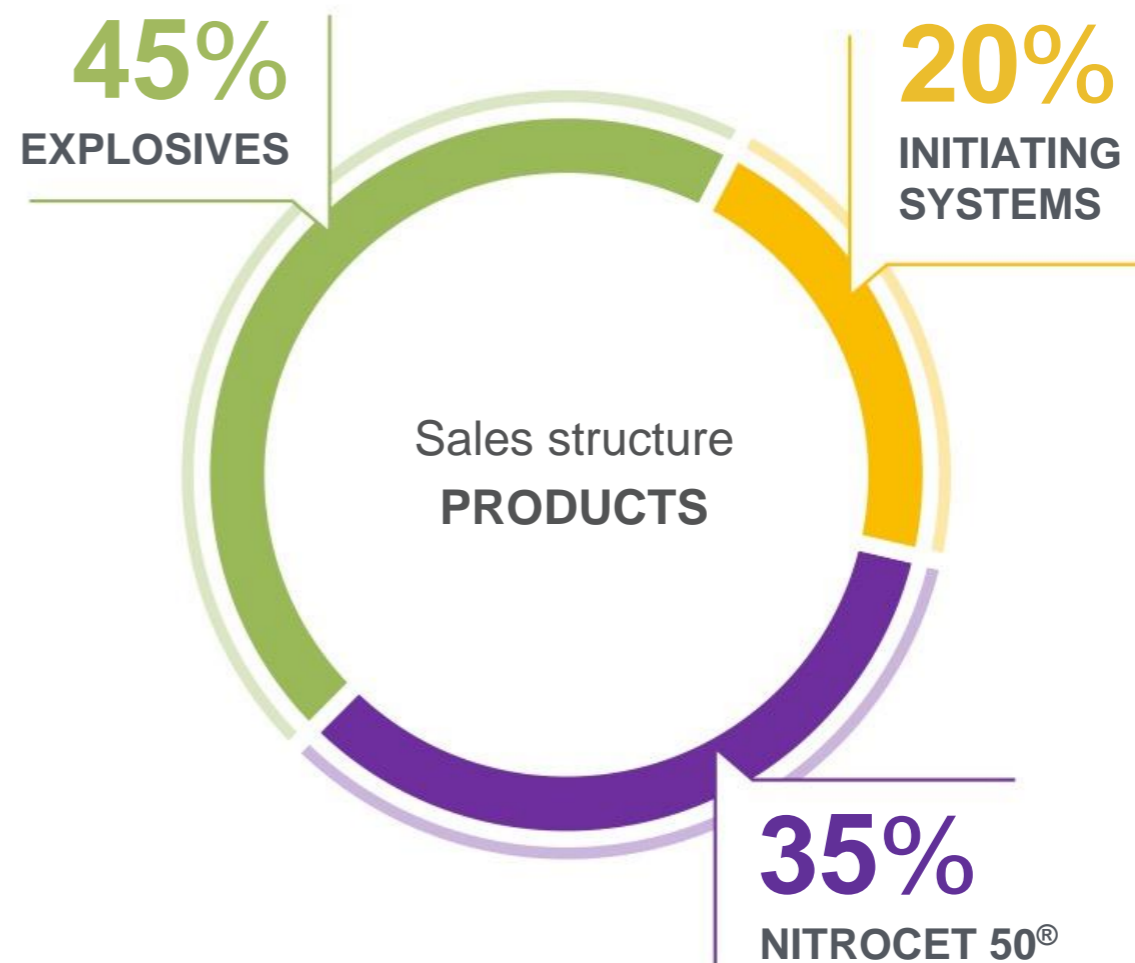
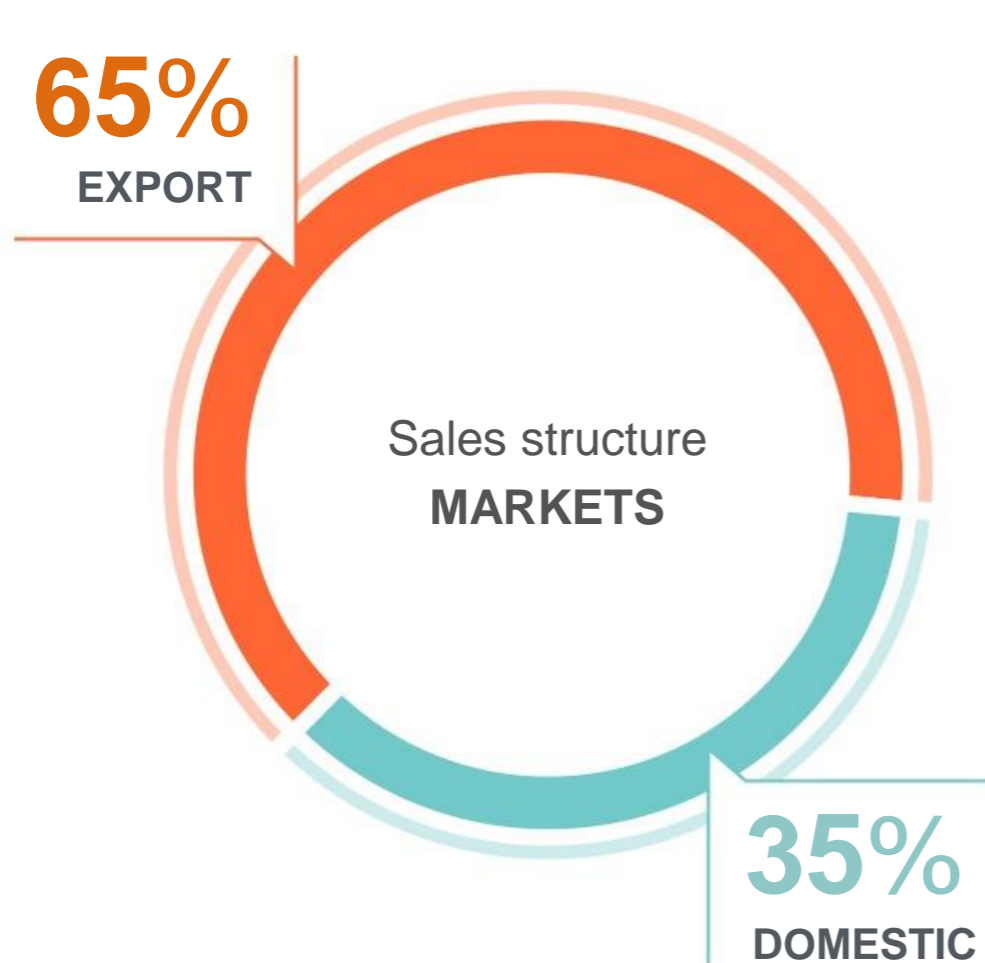
24 000 tonnes
NITROCET 50®

SALES DEVELOPMENT OPPORTUNITIES



NITROERG S.A. sells its products to over 40 countries of the world on all continents.

SALES STRUCTURE



CHALLENGES

ADVANCED
TECHNOLOGIES

MODERN
PRODUCTS

COMPREHENSIVE
MARKET
SOLUTIONS

**CHALLENGES
ADVANCED TECHNOLOGIES
STATE-OF-THE-ART PRODUCTION LINES**



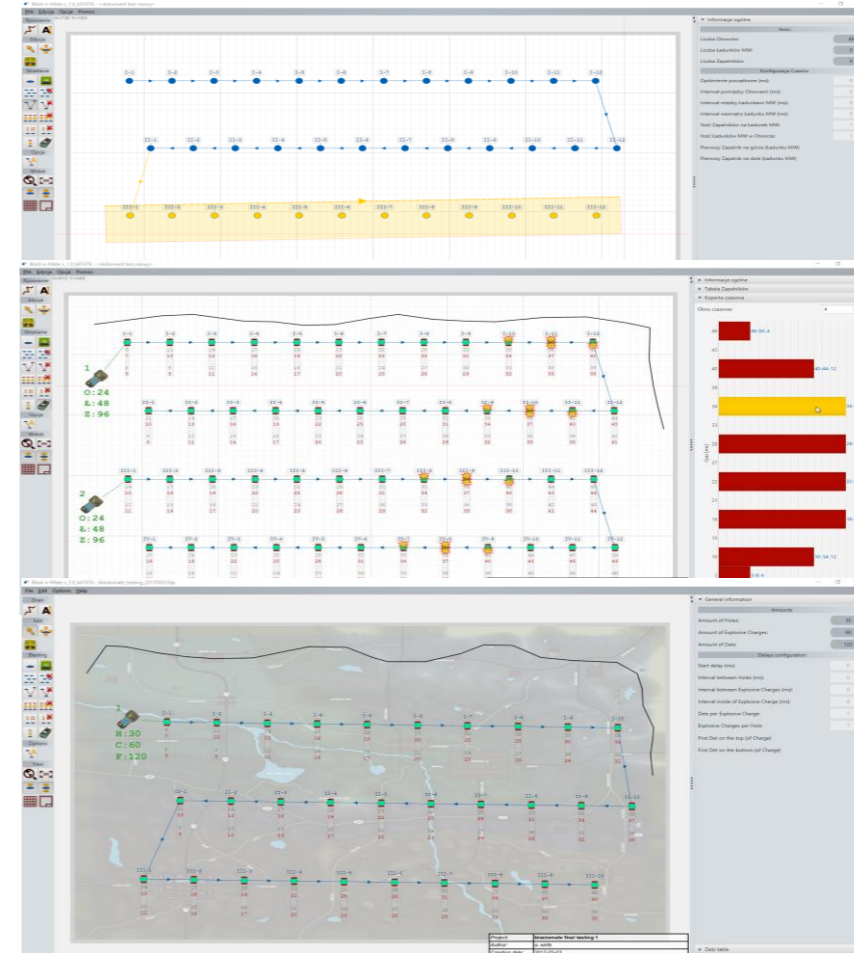
- The new plant for emulsion explosives production – fully automated, annual capacity 20 000 tons
- The new plant for NITROCET®50 production – fully automated, start-up planned for Q2 2018, annual capacity 24 000 tons

CHALLENGES MODERN PRODUCTS – under development ELECTRONIC INITIATION SYSTEM **ERGONIC-I**



Elements of the system:

- ✓ Detonator
- ✓ Logger
- ✓ Blaster
- ✓ Software Blast-o-Mate



Advantages:

- ✓ Safety of application
- ✓ Individually programmed delay time
- ✓ Accuracy of delay time to 0,1 ms
- ✓ Better control of rock fragmentation and vibration



CHALLENGES MODERN PRODUCTS – under development INNOCET

Technologically advanced additive for diesel fuel for non-road machinery, particularly for underground mining machinery, of significantly improved energy, economy and emission properties.

Advantages:

- Fuel economy resulting from using the new fuel additive
- Increasing cetane number of diesel fuel up to 58
- Preserving nominal engine power
- Decreasing emission of contaminants in combustion gases

Operational Programme Smart Growth 2014-2020 co-funding within Sectoral Programme Innochem, Priority Axis I: Supporting R&D carried out by enterprises.

NITROERG's Project has won 4th position among 40.



CHALLENGES

MODERN PRODUCTS – Mobile Pumping Unit (MUP-4) cooperation with KGHM ZANAM



KGHM ZANAM

Mobile Pumping Unit MUP-4 produces bulk emulsion explosives from matrix and sensitizer directly during the loading into boreholes in the mine.

The control panel enables full control of the loading process and makes possible to report the volume of explosives pumped into holes.

The Unit is equipped with the control computer and the remote system.



**CHALLENGES
COMPREHENSIVE MARKET SOLUTIONS
BLASTING SERVICES**



NITROERG SERWIS is a professional team of blasting engineers with comprehensive mining knowledge. It distributes explosives and initiating systems manufactured by NITROERG S.A. in the market of open pit mines and the area of civil works carried out with the use of explosives.

NITROERG SERWIS sp. z o.o. provides services in the field of comprehensive contracting of drilling and blasting works.

**CHALLENGES
COMPREHENSIVE MARKET SOLUTIONS
BLASTING SERVICES**



NITROERG SERWIS has extensive operational and storage facilities. This guarantees reliability, quality and just-in-time deliveries and services.

The company possesses 6 state-of-the-art MEMU vehicles (mobile explosives mixing unit) and has capabilities to offer the vast range of bulk explosives that can be pumped directly into boreholes at the place of rocks excavation.



QUALITY

Quality, occupational health and safety, concern for the environment. These are the values that guide us in our day-to-day activity.

Our own quality control laboratory and production based on the applied procedures **ISO 9001:2008** and **ISO 14001:2004**, and the conducted quality improvement programmes (including EQS), enable us to manufacture products that meet the highest standards.

In connection with the certificates that we hold, we are supervised by the **TÜV Rheinland InterCert Kft's** auditors.

COOPERATION

In terms of production and safety of explosives, we cooperate with certification bodies, research and development institutes. We are members of the organisations that bring the manufacturers of explosives together.

 <p>BAM Bundesanstalt für Materialforschung und -prüfung</p>	 <p>INERIS <i>maîtriser le risque pour un développement durable</i></p>	 <p>GŁÓWNY INSTYTUT GÓRNICZWA</p>
 <p>GŁÓWNY INSTYTUT GÓRNICZWA 1925 - 2015 GIG KOPALNIA DOŚWIADCZALNA JABŁONIA</p>	 <p>Instytut Przemysłu Organicznego z siedzibą w Warszawie</p>	 <p>INSTYTUT NAFTY I GAZU Państwowy Instytut Badawczy</p>
 <p>SAFEX INTERNATIONAL EST•1954</p>	 <p>Federation of European Explosives Manufacturers</p>	 <p>International Society of Explosives Engineers</p>

COMPANY IN NUMBERS



1050
EMPLOYEES



OVER **145** years
OF EXPERIENCE

40

COUNTRIES,
TO WHICH
OUR PRODUCTS
ARE EXPORTED



3 MAIN AREAS OF
ACTIVITY



THANK YOU FOR YOUR ATTENTION



NITROERG
KGHM Group

43-150 Bieruń, Plac Alfreda Nobla 1
tel. (+48) 32 46 61 900 | fax (+48) 32 46 61 357
e-mail: nitroerg@nitroerg.pl

42-693 Krupski Młyn, Zawadzkiego 1
tel. (+48) 32 46 62 1 02 | fax (+48) 32 46 62 100
e-mail: nitroerg@nitroerg.pl