

# I-BLAST

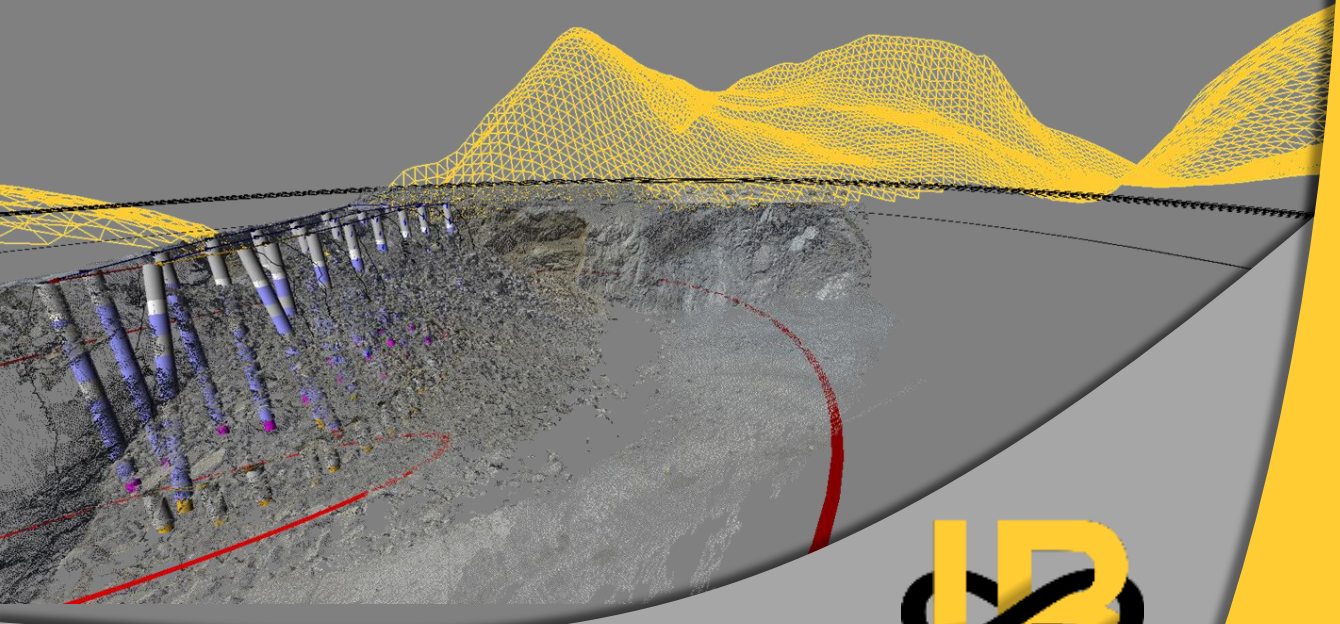
3D PHYSICS-BASED & SIMULATION SOFTWARE

**8 GOOD REASONS TO USE IT**

**8 AWESOME INNOVATIONS**

**8 NEW KEY FUNCTIONALITIES**

**8x8 UNBELIEVABLE READY-TO-USE FUNCTIONALITIES**



# I-BLAST $\infty$

## 8 GOOD REASONS TO USE IT

1. INTEGRATED BLAST DESIGN AND SIMULATIONS  
ONE PACKAGE, ALL INCLUDED, SAVE MONEY
2. SURFACE & UNDERGROUND  
ONE PACKAGE, ALL INCLUDED, SAVE MONEY
3. FRAGMENTATION ANALYSIS  
YOU CAN'T MANAGE WHAT YOU CAN'T MEASURE
4. ACCURATE SIMULATIONS  
NO SURPRISE
5. INTUITIVE  
MINIMUM TRAINING
6. 3D MODEL  
EASY UNDERSTANDING
7. AFFORDABLE  
HAVE ACCESS TO THE BEST
8. PHYSICS BASED  
FORGET TRIAL & ERROR



## 8 AWESOME INNOVATIONS



1. MULTIVIEW
2. AUTOMATIC LOADING (VERSUS BURDEN, PPV, ROCK STRENGTH)
3. AUTOMATIC PATTERN DESIGN
4. HOLE DEVIATION, 3D BUBBLE ANALYSIS
5. 3D ENERGY DISTRIBUTION VERSUS TIME
6. DNA-FRAG (MANUAL+AUTOMATIC+UAV)
7. CUSTOM AUTOMATIC REPORT
8.  $8 \times 8 = 64$  ! FAST AND EASY CALCULATIONS

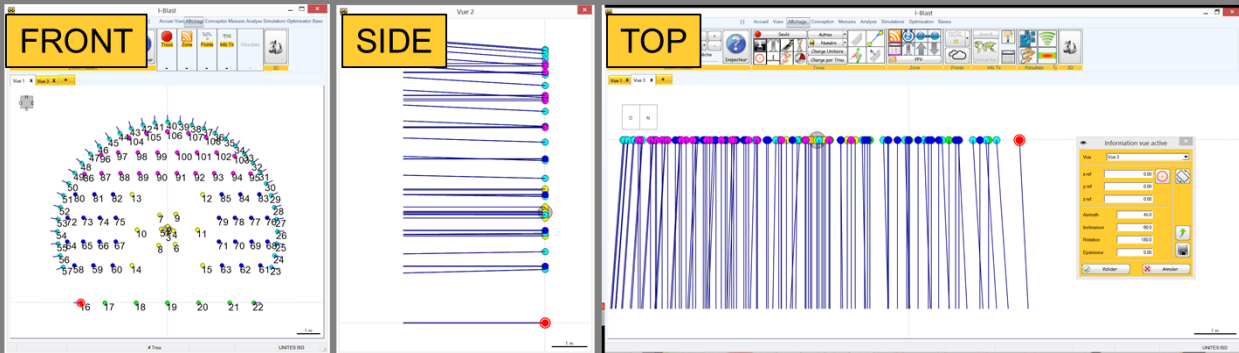


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## #1 MULTI VIEW INTERFACE

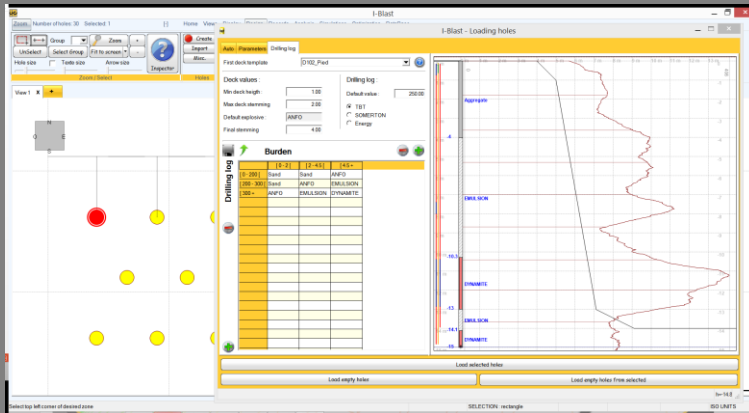
- Visualize your design in any customized view
- Select different display options per view



### THE EXPERT'S COMMENT:

Perfect functionality for underground design such as tunnel. Very useful for ring blasting design where geometry might be complex.

## #2 AUTOMATIC LOADING HOLE



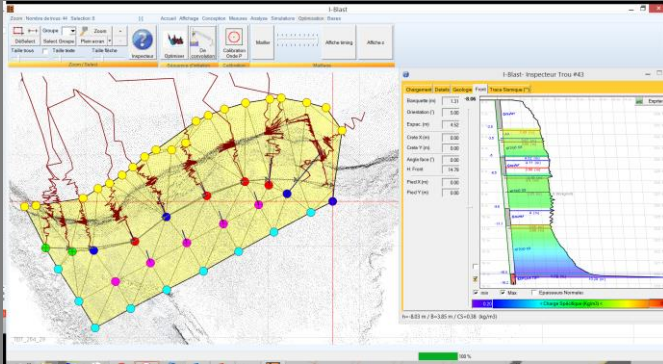
- Define your own rules for loading depending on :
  - Burden
  - Rock strength
  - Charge per Delay
- I-Blast will load automatically holes

### THE EXPERT'S COMMENT:

Adjusting loading hole to geology is a great and unique feature when fragmentation distribution is key especially for fine control.



## #3 AUTOMATIC PATTERN DESIGN

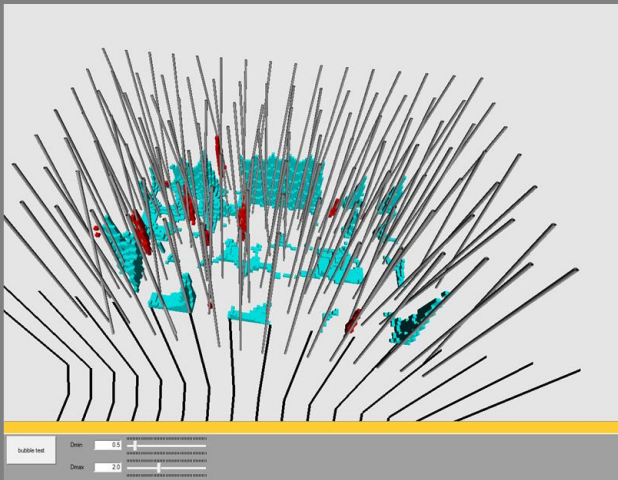


### THE EXPERT'S COMMENT:

Adjusting hole location and angle automatically versus bench profiles ensures that fly-rock will be under control. **Safety first with I-Blast.**

In version 8, I-Blast automatically places holes (location and angle) of the first row to maintain a defined burden versus the critical profiles obtained from a cloud of points. Moreover I-Blast adjusts hole location and angle of next rows in order to obtain a flat wall for the last row.

## #4 HOLE DEVIATION, 3D BUBBLE ANALYSIS



### THE EXPERT'S COMMENT:

It has never been so easy to understand the impact of hole deviation on blast results. **Red bubbles for high concentration of energy and risk of fly rock,** **Blue bubbles for lack of energy and bad fragmentation.**

In version 8, you can import hole deviation from various equipment. Moreover you can visualize in 3D :

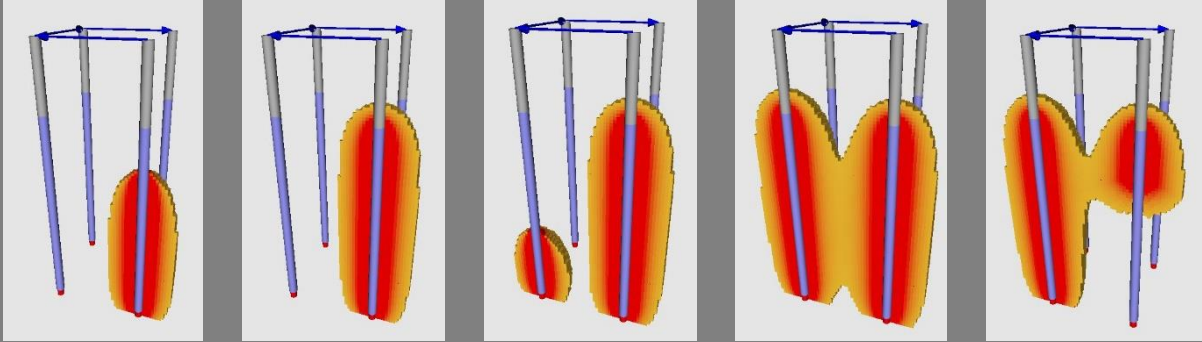
- Hole deviation itself, color coded
- **Red bubbles** where holes are too **close**
- **Blue bubbles** where holes are too **far** from each other

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## #5 3D ENERGY DISTRIBUTION VERSUS TIME

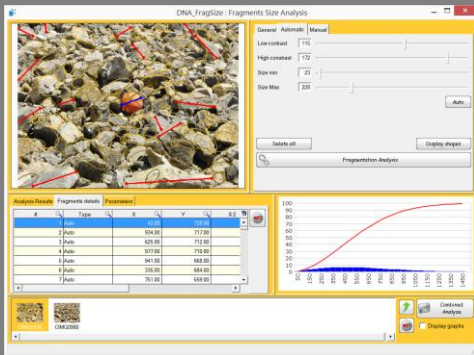
In version 8, you can visualize Energy Distribution development in 3D versus the initiation sequence. A real time calculation to analyze where the energy goes in the rock mass and the impact of the initiation sequence



### THE EXPERT'S COMMENT:

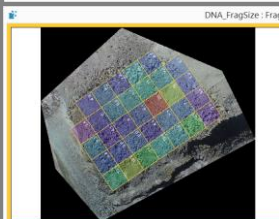
A perfect tool to analyze the impact of short timing versus regular or long timing when using Electronic Delayed Detonators.

## #6 FULL FRAGMENTATION ANALYSIS AUTOMATIC + MANUAL + UAV



In version 8, your fragmentation analysis software progresses with a new combined module for images captured with a reference scale :

- A fast automated sieving process, combined with
- An intuitive manual fragment detection



Use UAV to safely capture the whole blast muck-pile fragmentation and process it in a few click. DNA-Frag provides a geo-referenced fragmentation distribution analysis.



### THE EXPERT'S COMMENT:

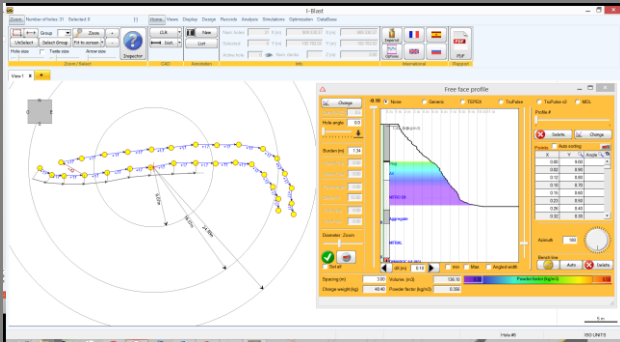
Your fragmentation distribution has never been so accurate.



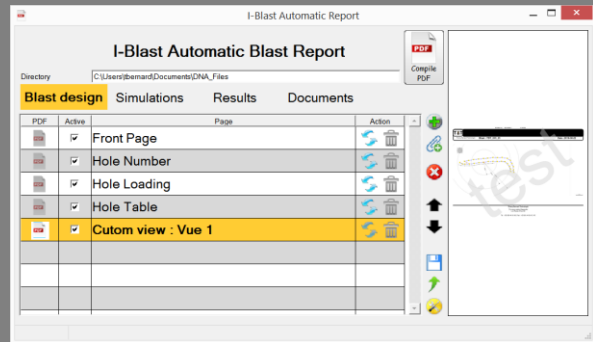
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## #7 CUSTOM AUTOMATIC REPORT



In version 8, you can create your own page for automatic report based on your preferred screen.



You can also customize and save your own report structure dedicated to your company or job.

### THE EXPERT'S COMMENT:

It's saving me lot of time and I can create dedicated document for my client.

## #8 8x8 = 64! FAST & EASY CALCULATIONS



Example of acceleration benefit			
FUNCTIONNALITY	VERSION 7	VERSION 8	BENEFIT
DNA-Frag Image Fragmentation Analysis	30 s	3s	+1000 %
Importing 7 Million Point Cloud	154 s	3 s	+5100 %
Energy Distribution 3D (100 Holes)	20 min	15 s	+8000 %
Hole Deviation 3D Bubble	Impossible	Real Time	$\infty$

In version 8 I-Blast is compiled in 64 bits that guaranties the fast processing of large files. Moreover it uses the power of your graphic card to boost most of the calculations.

### THE EXPERT'S COMMENT:

You can test various parameter configurations even for heavy and complex calculations.



# I-BLAST

## 8 NEW KEY FUNCTIONALITIES

Minimum Version	Functionality	Comment
<b>DESIGN EXPRESS</b>	Inspector : capability to insert charges	Save time
	Insert Floating Text and Lines on your design	Easy comment of your design
<b>PRO</b>	Usage of any spatial reference systems	UTM or any state plane coordinates
	Exportation to IREDES & DBS format	Drilling and EDD compatibility
<b>SIM</b>	PPV per zone on cloud of points	Accurate vibration prediction
	Adapt Hole Collar to terrain	Save time Accurate drilling
	Timing Iso Line or Contour	Analyze movement
<b>ADV</b>	3D Muck-pile + Movement prediction	Dilution control



**FOR A MILLION DOLLAR  
BENEFIT**



# I-BLAST

## 8x8 READY-TO-USE FUNCTIONALITIES

### DATA BASE

- Geology
- Explosive
- Loading Hole Template
- Cloud of points

### ERGONOMICS

- Options (colors, parameters)
- Units (metric, imperial)
- Languages (ENG., FR., SPAN., RUSS.)
- Share Design and data

### DESIGN & CAD FUNCTIONALITIES

- Create & Move Holes
- Backfilling & Ramp
- Create Free Faces
- Load Hole with Smart Template
- Draw Line and Info Text
- Import :
  - Holes & Loading
  - 2D & 3D Profiles
  - Borehole Deviation
  - Drilling Log and Parameters
  - Cloud of Points
  - Lines
  - Seismic Records
- Distance tool
- Background (image or Google map)
- Underground Module  
(Tunnel and Ring Blasting)

### ANALYSIS CAPABILITIES

- Timing Overlaps
- Drilling Depth
- Deviation Bubbles
- Timing Sequence
- Seismic (Filtering, Acceleration, Displacement, ...)
- Regression Analysis, Attenuation Law
- Energy Distribution 2D & 3D including Timing
- Critical Burden Heat Map
- Fragmentation Measurement (Image Analysis)

### SIMULATION CAPABILITIES

- Vibrations
  - Scaled Distance Model
  - Signature Hole Model
    - Far & Near Field
    - Multiple SH
- Fragmentation
  - One Hole, Whole Blast
- Cast & Muck Pile
  - One Hole, Multiple Rows
- Air Blast, Damage

### OPTIMIZATION CAPABILITIES

- Timing Sequence versus
  - PPV
  - Frequency
- Loading Hole versus
  - Charge per Delay or PPV
  - Burden
  - Rock Strength (UCS)
- Pattern : Burden & Spacing versus
  - Fragmentation
  - Cast
- Deconvolution of Signature Hole
- P wave calculation

### REPORTING FUNCTIONALITIES

- Automatic Blast Design PDF
- Automatic Simulation PDF
- Reporting of Actual Data versus Theoretical Design

### 3D DISPLAY

- Timing Sequence Development
- Critical Burden Heat Map
- Vibration Simulation
- Energy Distribution
- Cloud of Points
- Rock Strength

