

Process technology in the mining industry

Bergforsk May 5th, 2009

Staffan Tapper, Business Development Mining

- 1. The Metso company**
- 2. A market trend**
- 3. Technology for mining production**
- 4. The mining industry opportunity**
- 5. Industry players' role**

Metso Mining and Construction Technology

A global engineering and technology company

11000 employees in 50 countries

2'600 MEUR sales (2008)



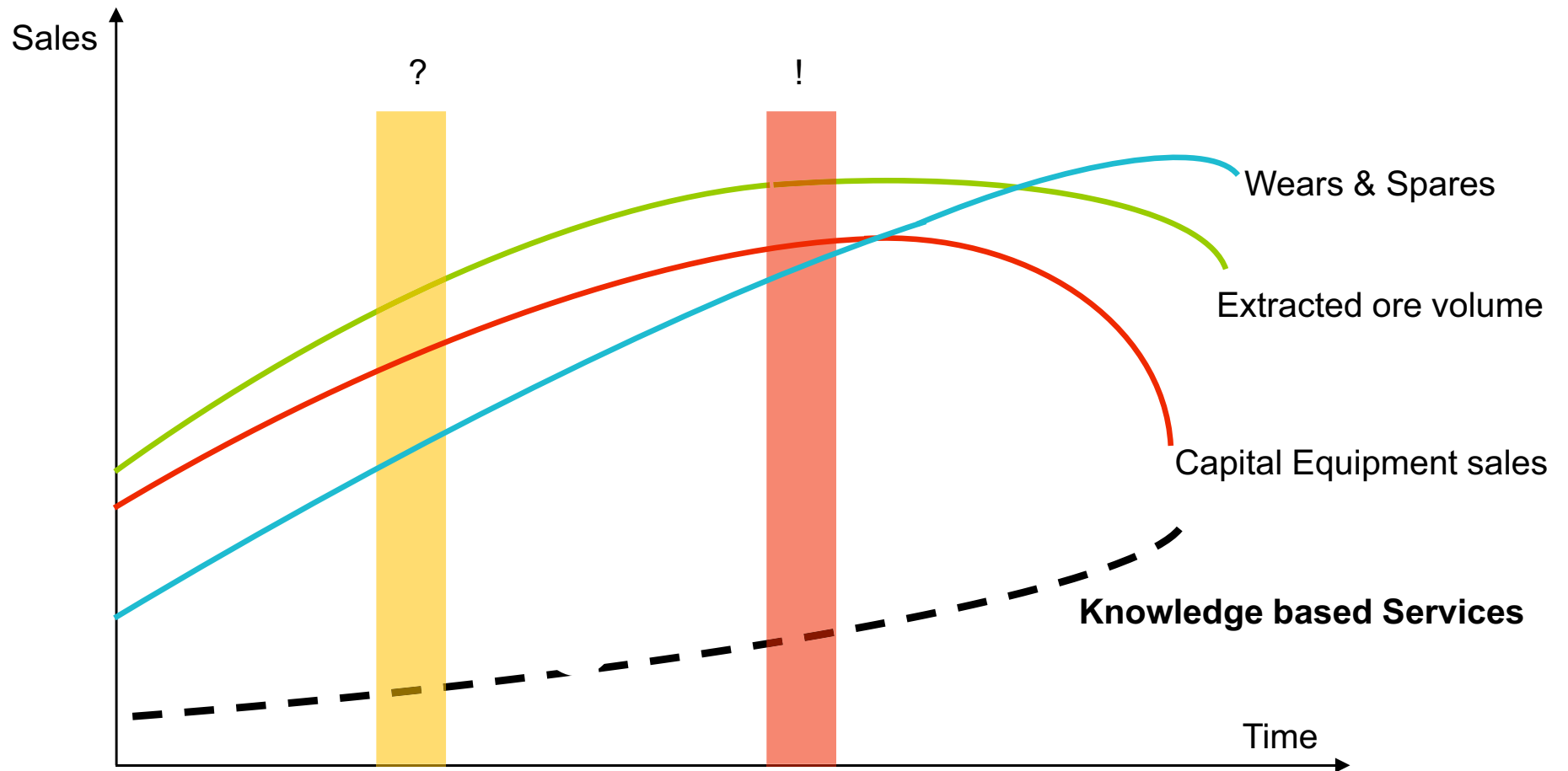
'One Metso'

...but a history of well-known predecessor companies

- Svedala
- Nordberg
- Allis Chalmers
- Boliden Allis
- Cable Belt
- Denver
- Dravo
- FACO
- Flexowell
- Hardinge
- Hewitt-Robins
- Kennedy Van Saun
- Koppers
- Ludlow Saylor
- Marcy
- McDowell Wellman
- McNally
- McNally Wellman
- Mead Morrison
- MPSI
- NICO
- Orion
- Pyrotherm
- Sala
- Seco
- Skega
- Stansteel
- Stephens-Adamson
- Strachan & Henshaw
- Superior
- Symons
- Thomas
- Trellex
- Tyler

A market trend

"End of the supercycle" scenario



Complex Industrial Service Offerings

Selling "know-how" instead of "steel".

Equipment

- Machines
- Systems

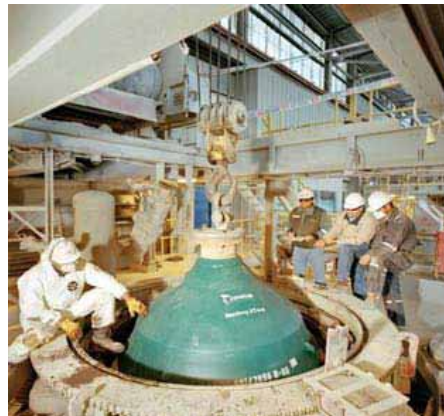


Performance

- Process/Application
- Capacity

Aftermarket

- Wears and spares
- Traditional service

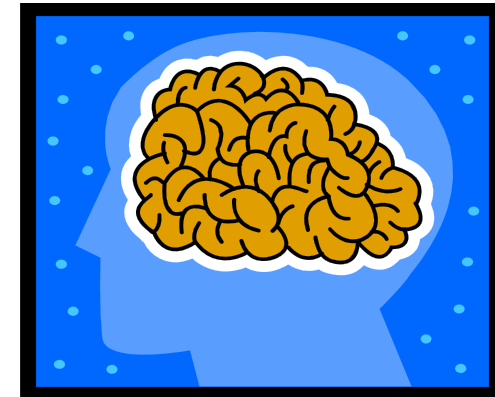


Availability

- Up-time
- Wear costs

Complex Industrial Service Offerings

- Process Optimization
- Process Automation



Business results

- Revenue
- Cost
- Risk

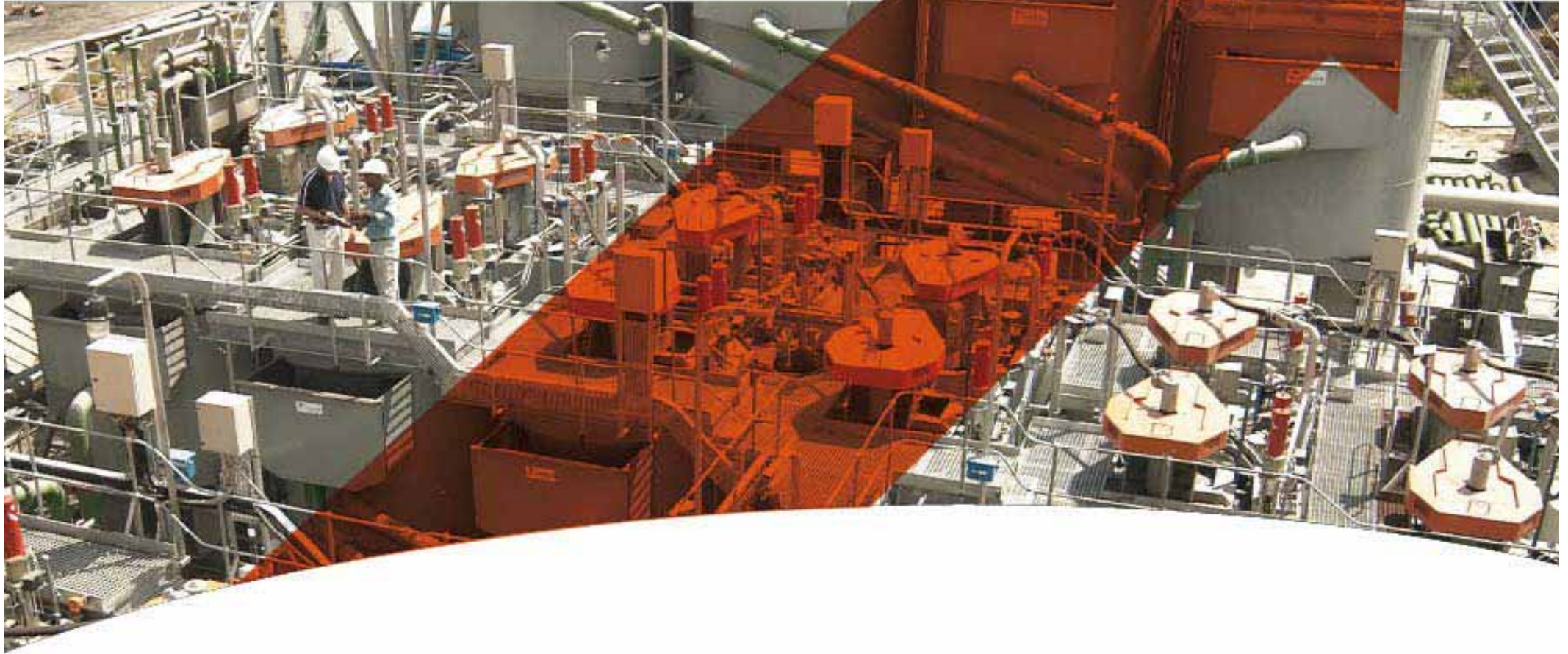
At your service

Metso Process Technology

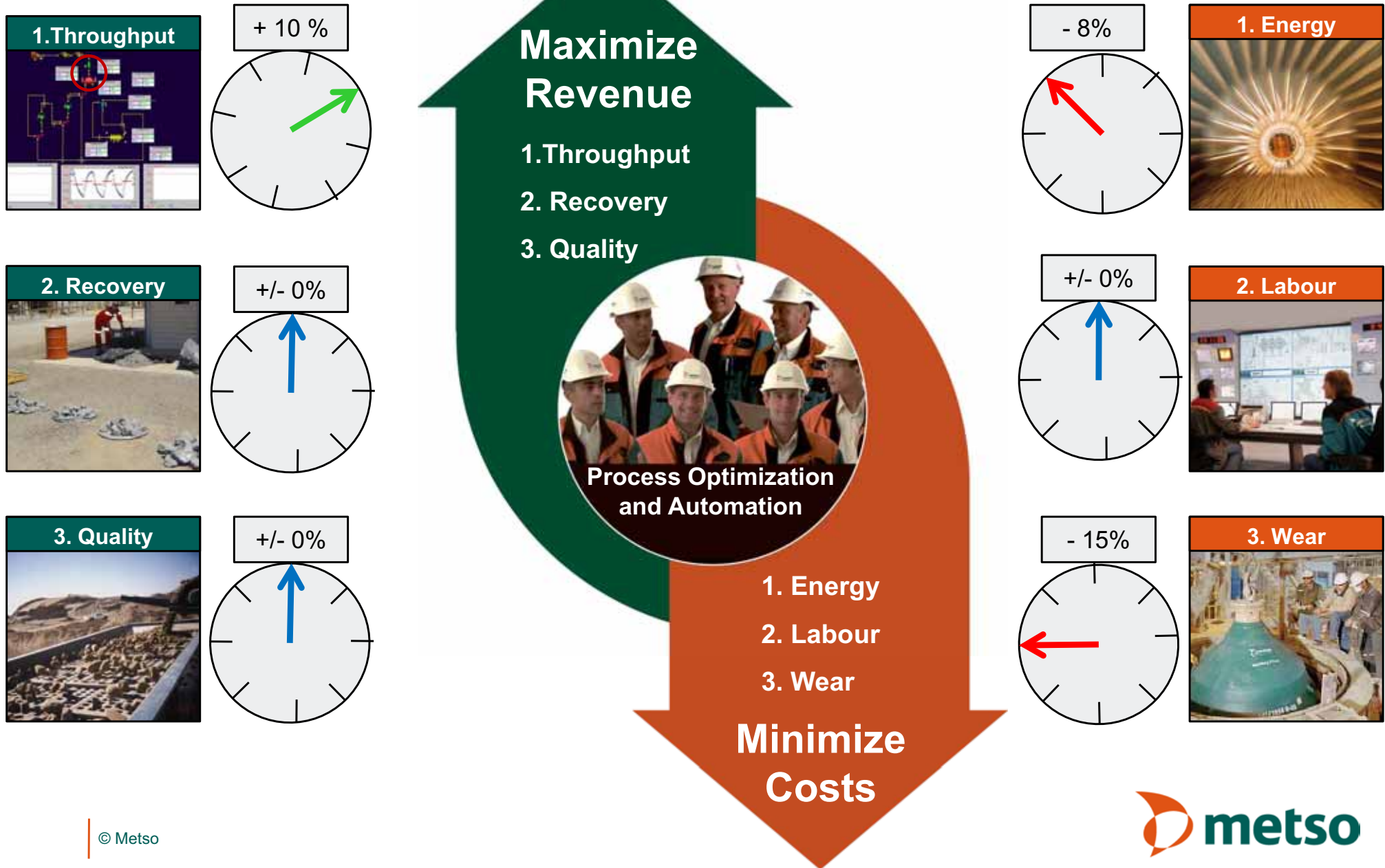
A global network of the process and technology experts



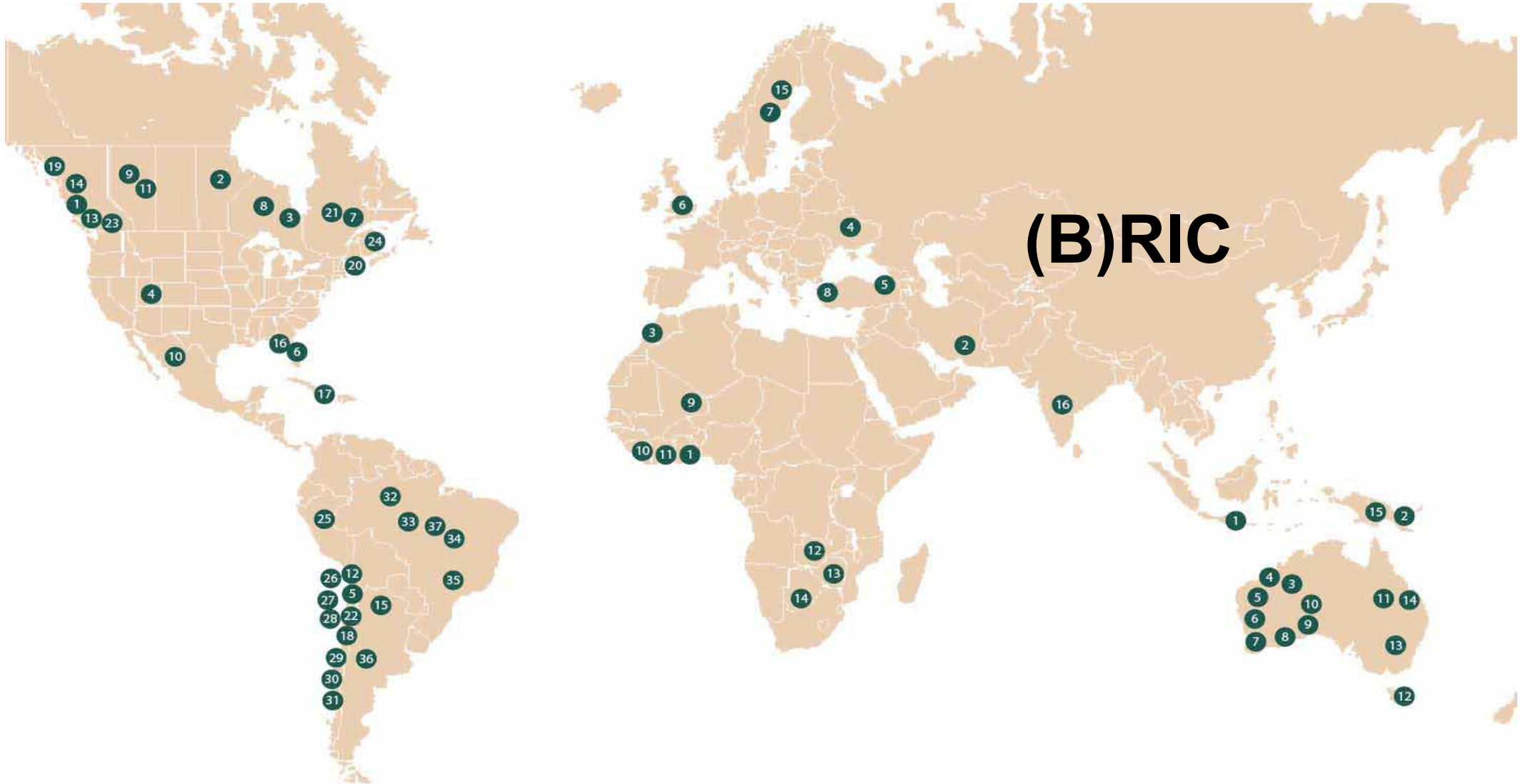
Process technology mission: To improve customer production efficiency



Goal: productivity improvement



Our footprint and the market opportunities



(B)RIC

What technology can do to increase production

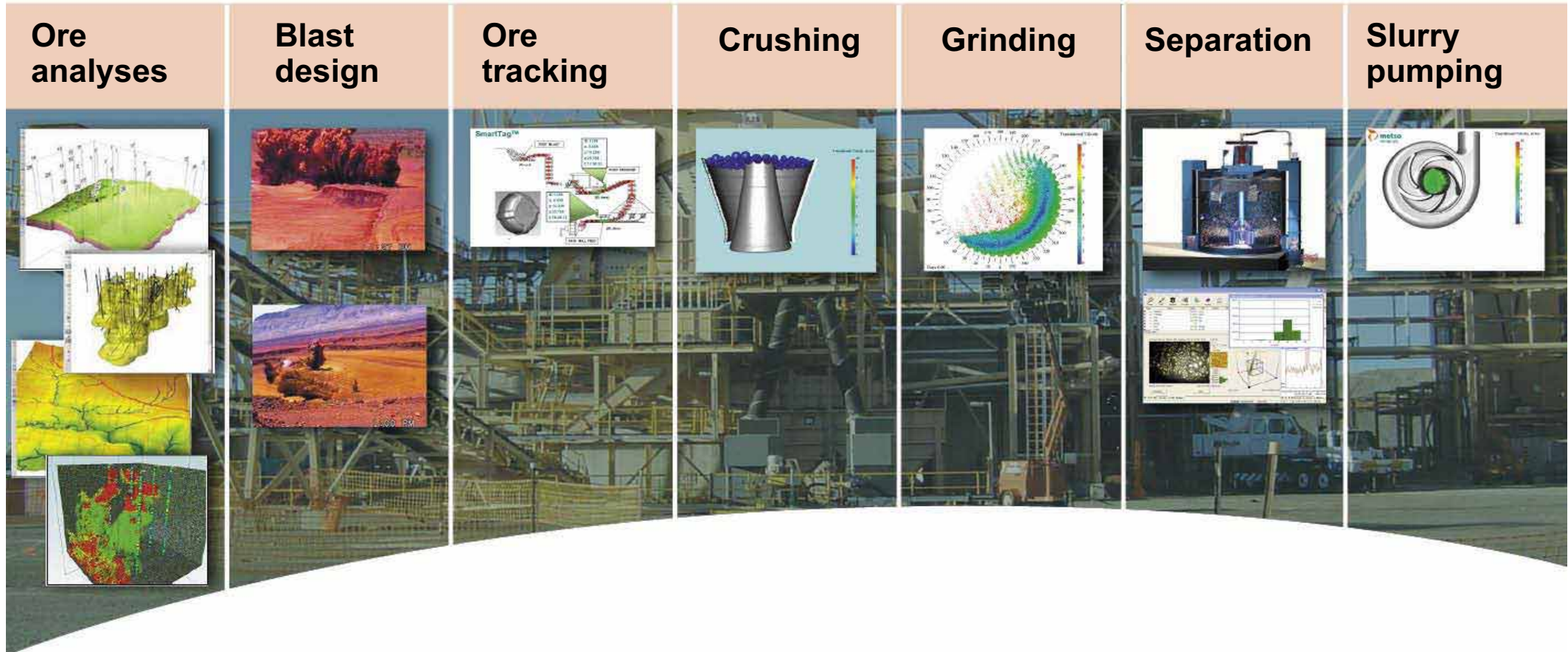
1. Process improvement



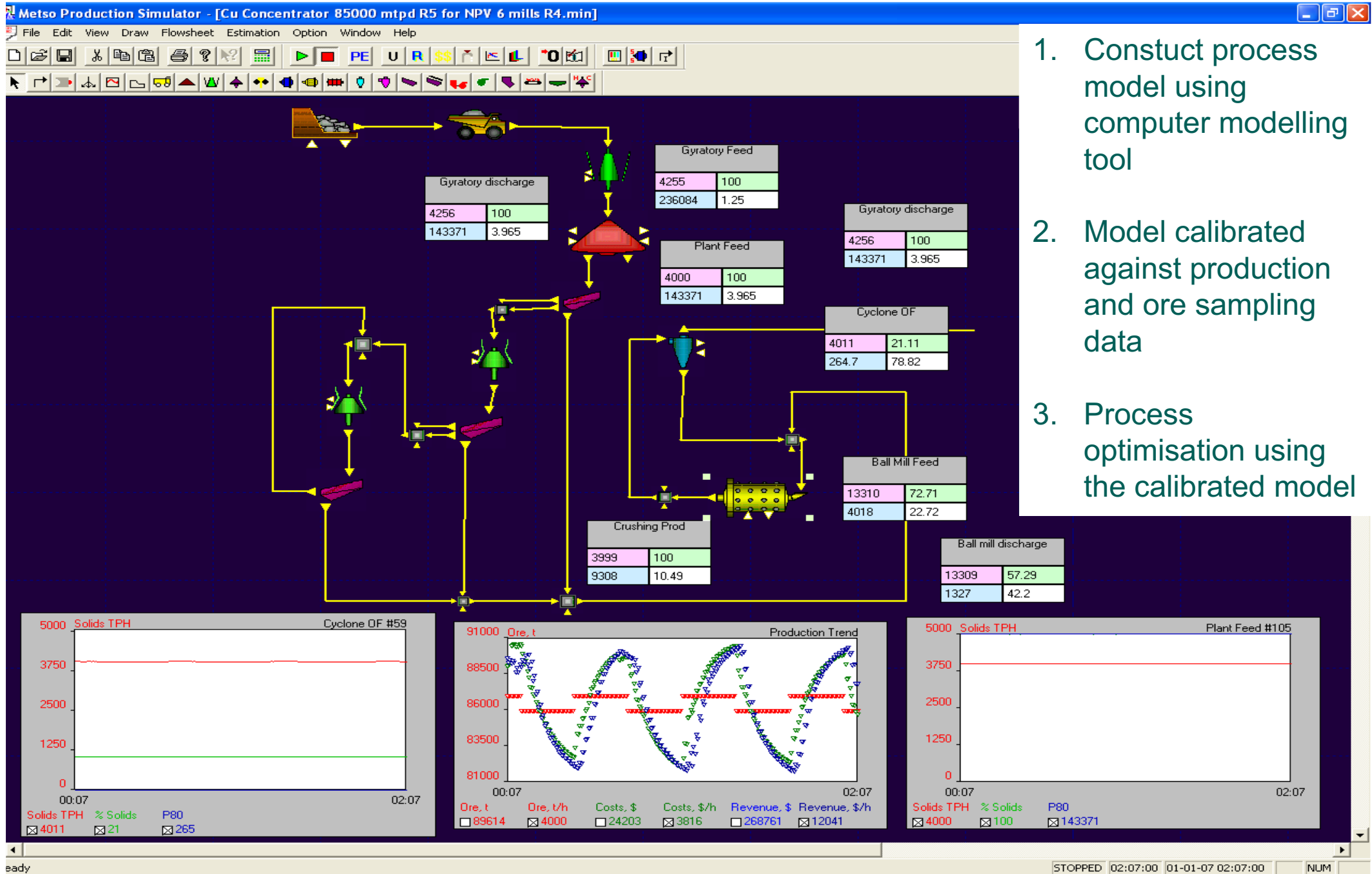
2. Automation



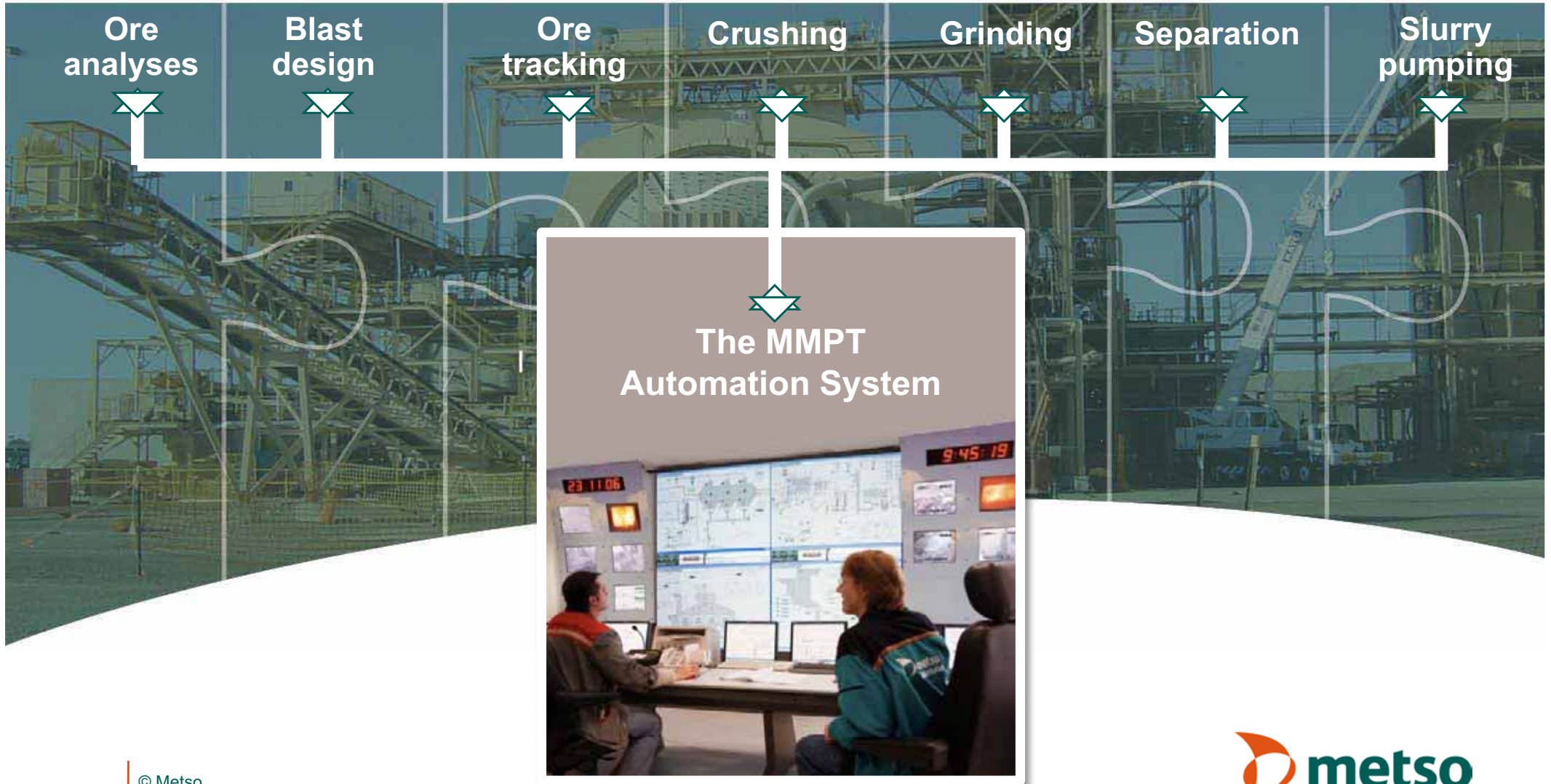
Optimisation of each unit process



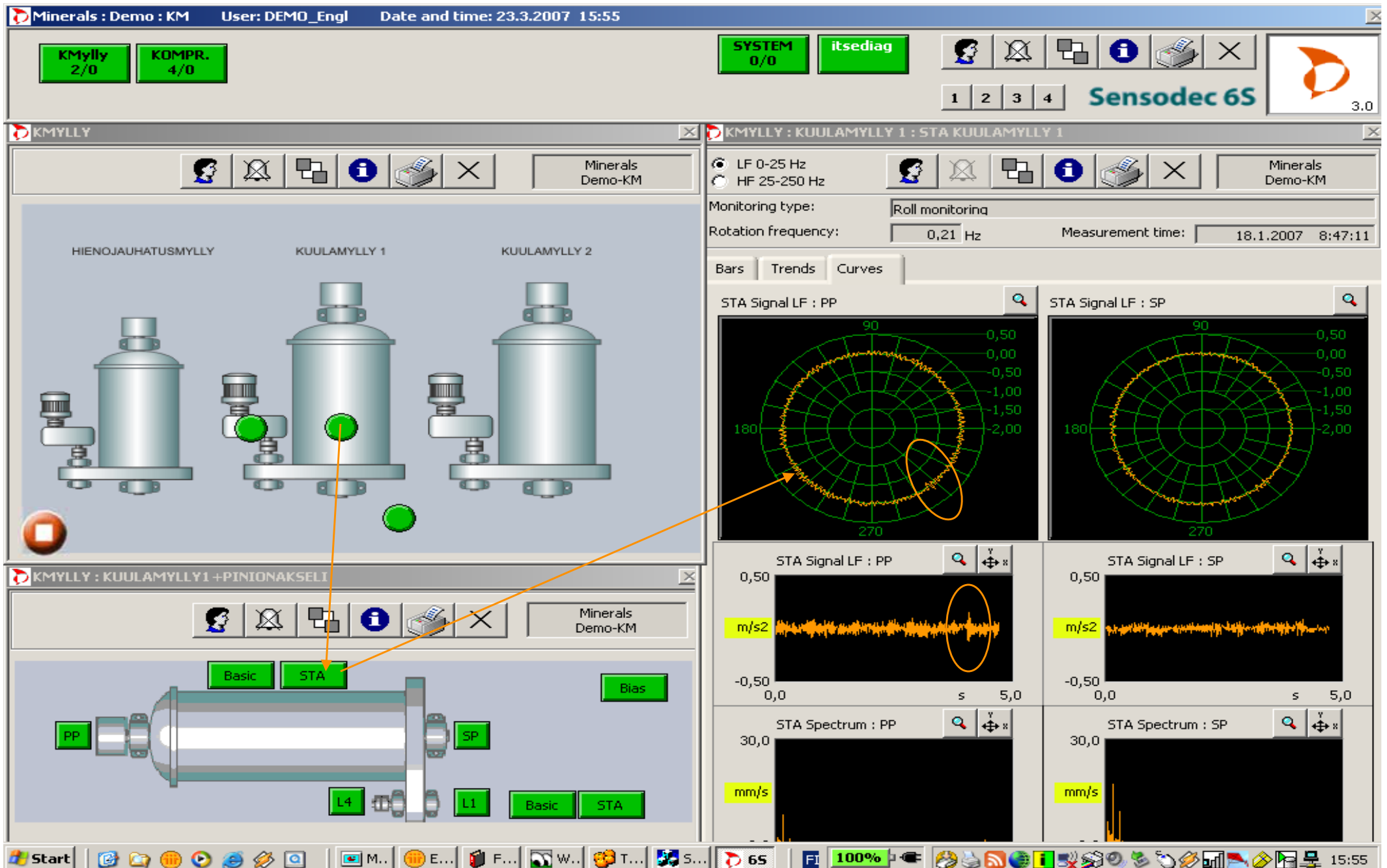
Process optimization from mine to concentrate



The MMPT Automation System



Preventive maintenance for improved availability...



The mining industry opportunity



The implementation challenge...



Industry players role?

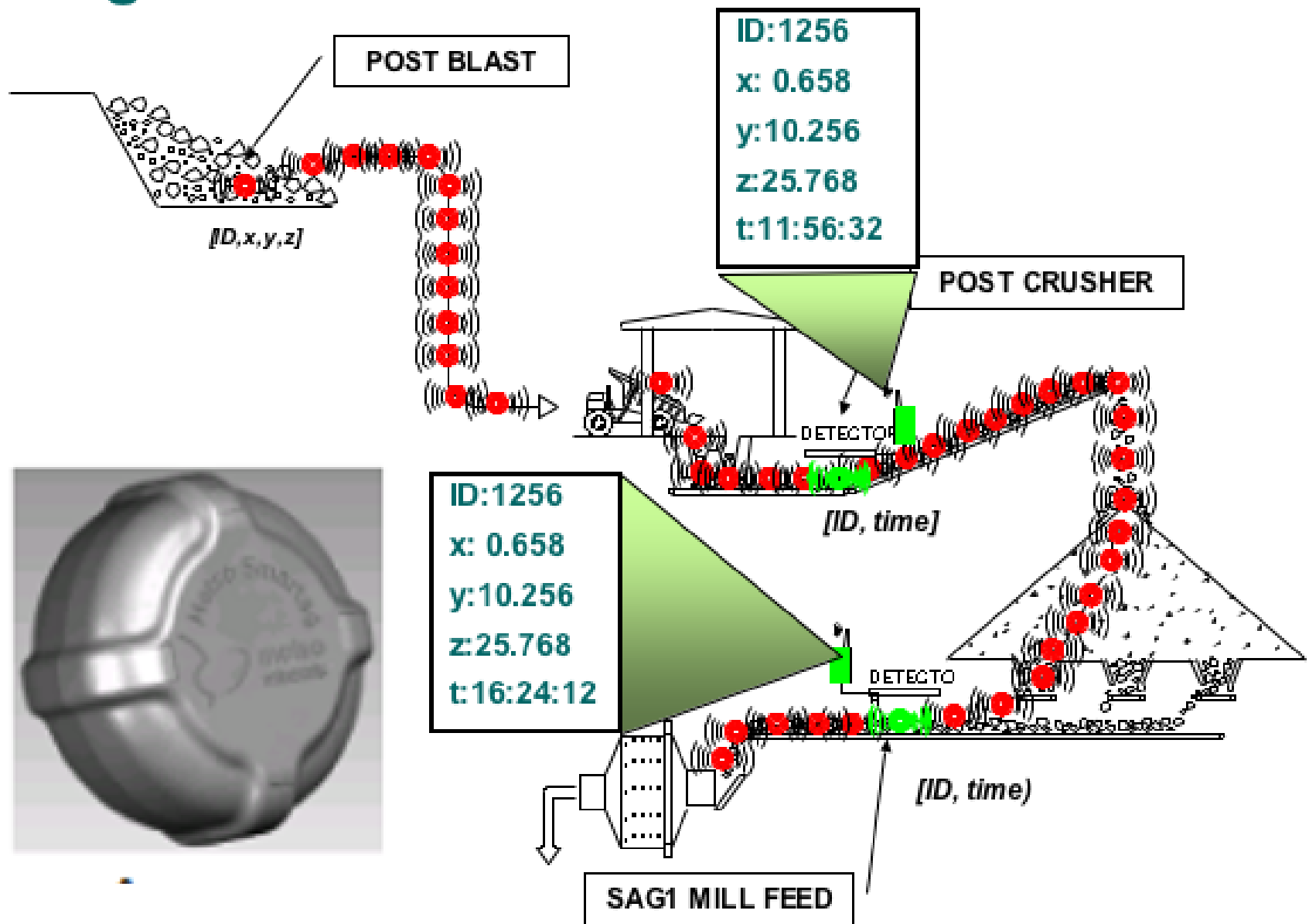
- Mining Companies
- Engineering Companies
- Universities





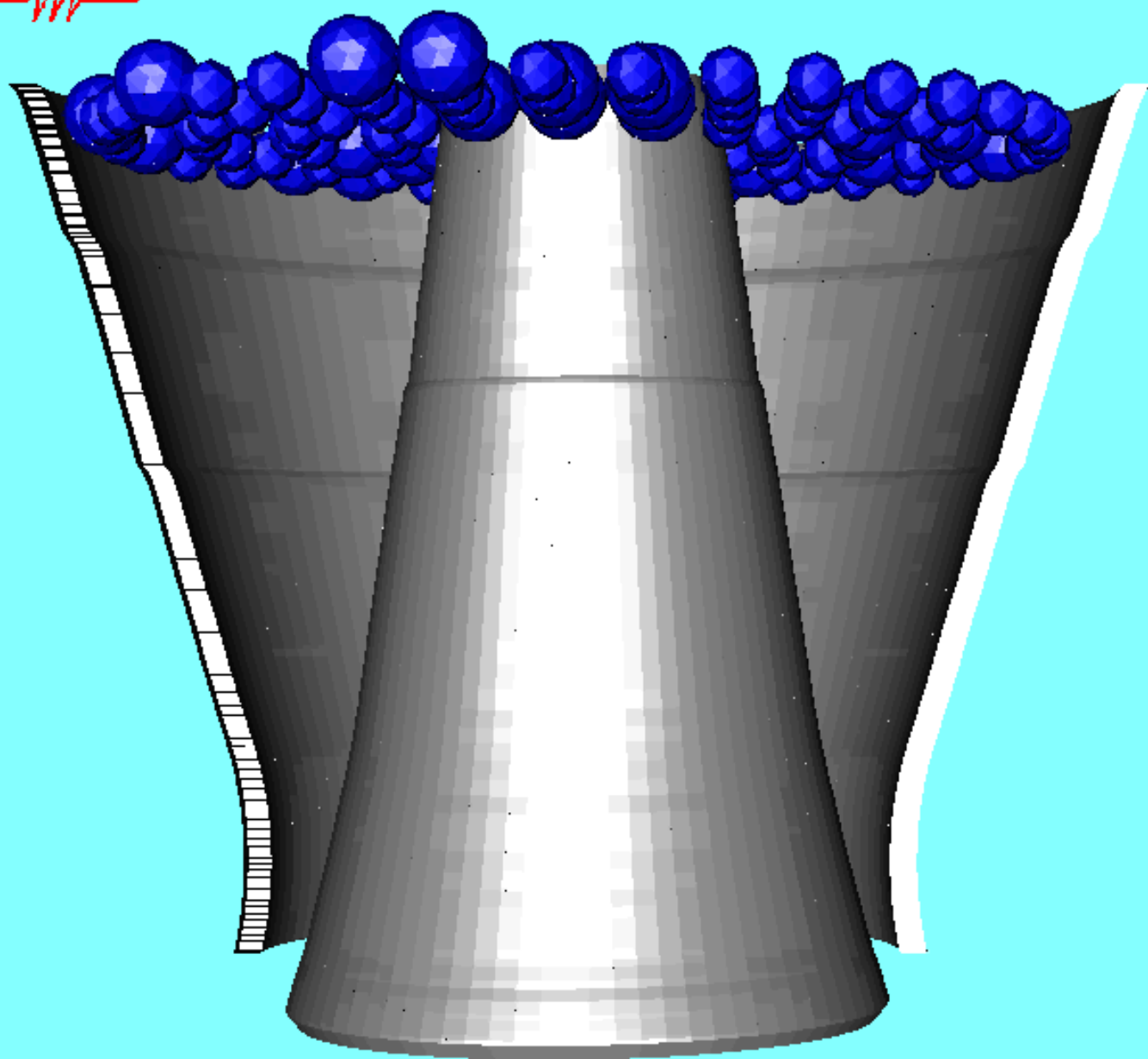


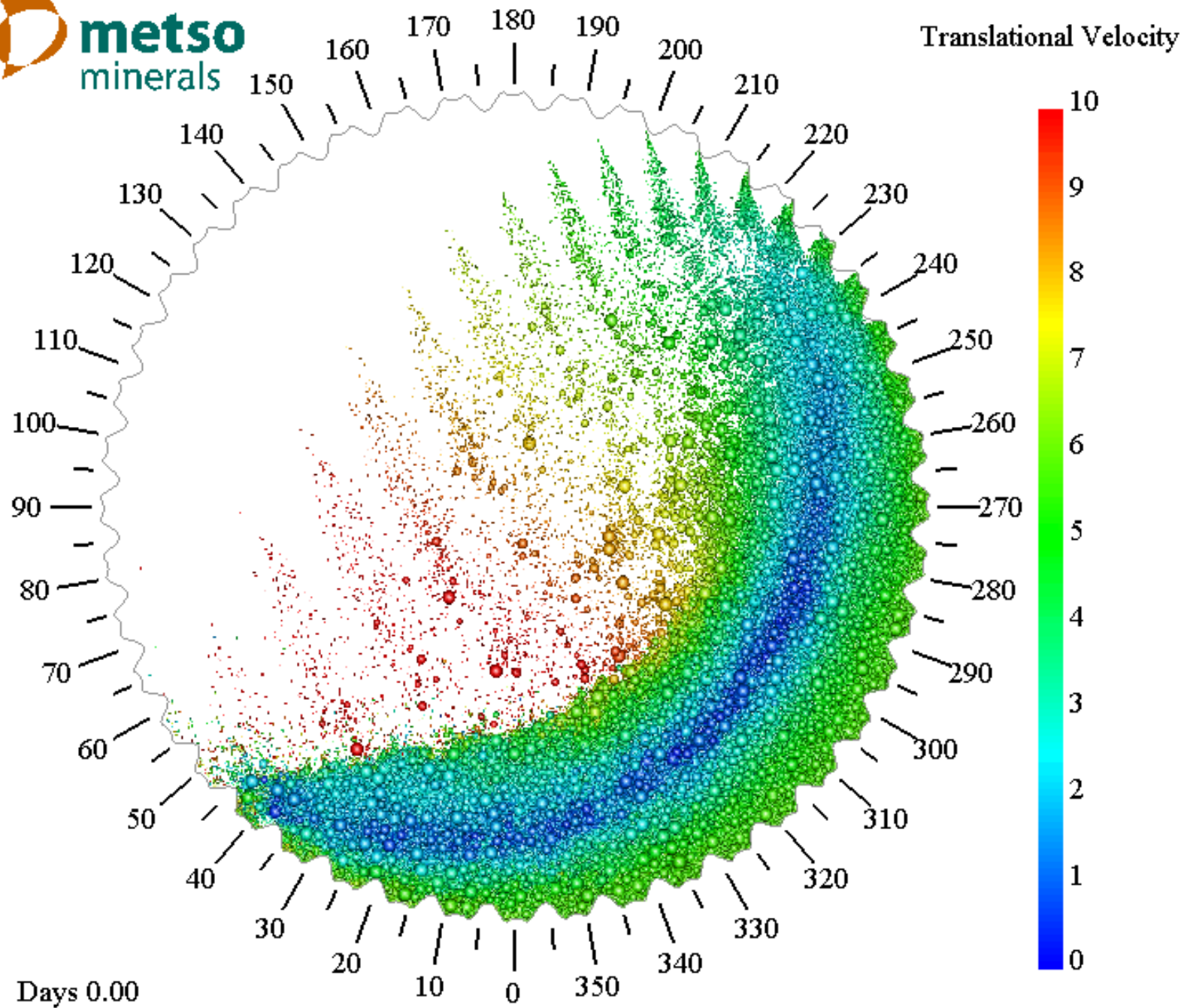
SmartTag™

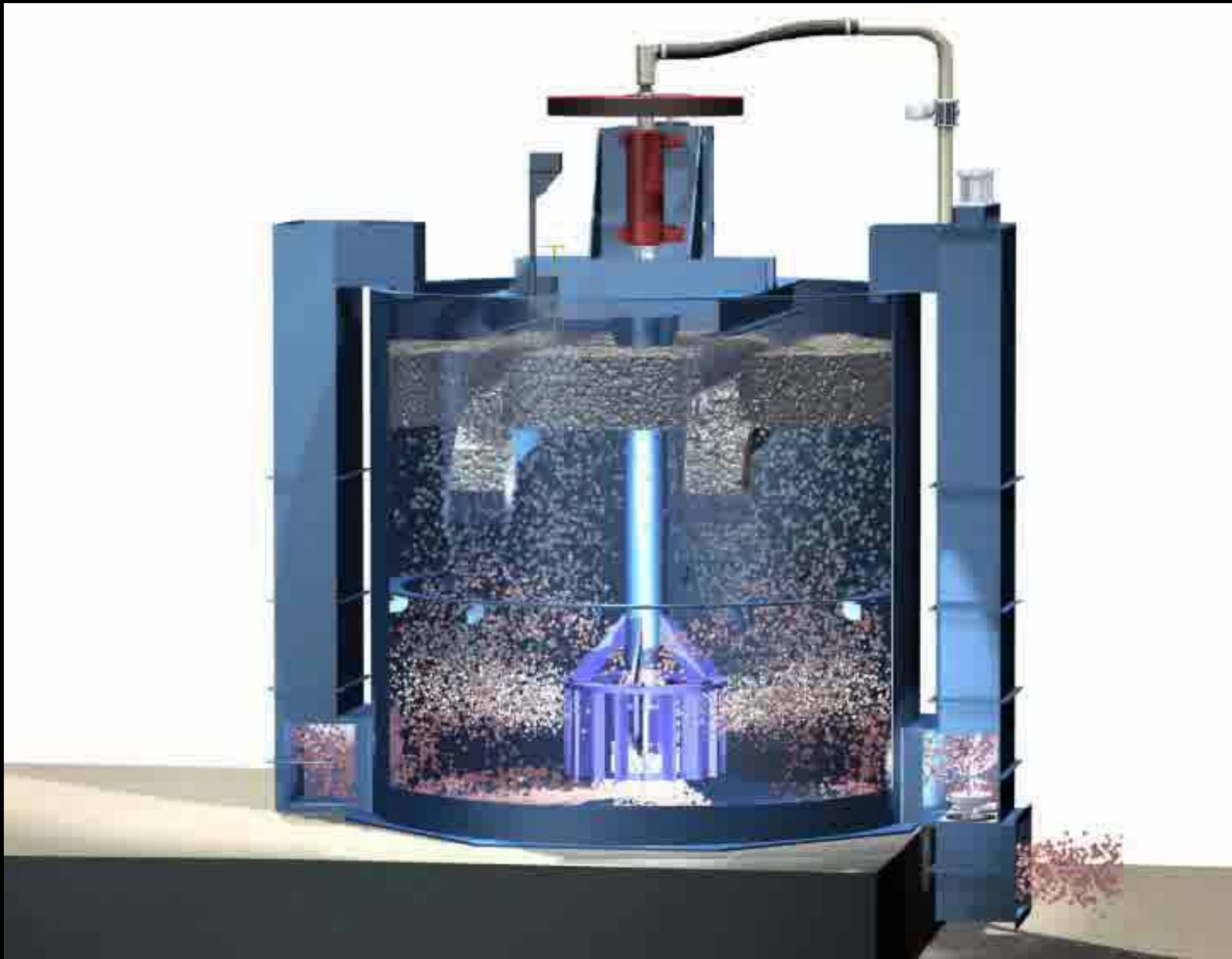




Translational Velocity, m/sec







QCS - [VisioFroth.ocx - Vision]

File Edit View Window Help

Setup Edit Update Process Stats Expert Model

Type	Name	Value	Unit	Quality	Mir
out	Xvelocity	-0.604927	cm/s		
out	Yvelocity	-5.93929	cm/s		
out	D50	43.7929	mm		
out	D80	68.3359	mm		
out	Count	79.3	.		
out	Red	154.356	0/255		
out	Green	150.056	0/255		

Cell1

Timeout: 030 sec Frames: 158 Collapse: 010 % Texture: 0.80

Velocity

-2 cm/s

-10 cm/s

2 mm
5 mm
8 mm
10 mm
25 mm
50 mm
75 mm
100 mm

Replay VisioFroth Camera

Type Id: Froth Bubble size

Calibration

Size

Color Cube

38% in RGB(101,10

Watch Individual Bubble Size - Cell1

Cell1 Stability

Time

00:02:59 03:59 04:59 3:20 12:47 09:24 8:09

Thu 03 Jun 17 Jun Mon 21 Jun

Mosaic Cell1 Replay

Connected 0/0 Read Only

5 sec Calc 0.046 +Com 0.14 Cyc 10

