



# Metso Outotec presentation

Metso:Outotec



# Agenda



**Metso Outotec in brief**



**Metso Outotec Merger 2020 Challenges and Benefits**



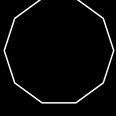
**Unique strengths for customers' benefit**



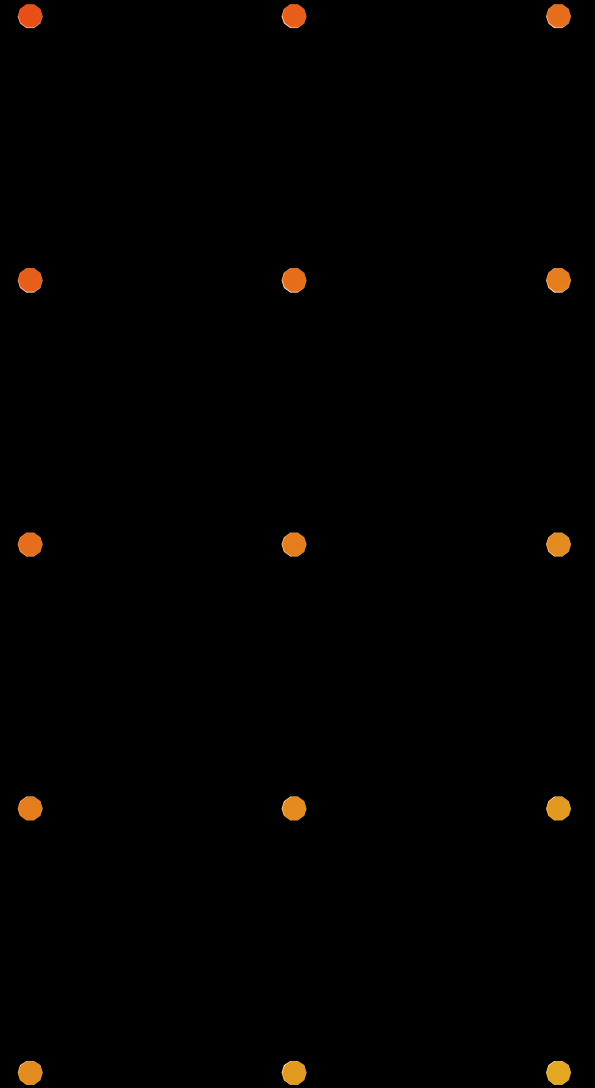

**Metso Outotec portfolio**



**Our business and customers**



**Metso:Outotec**



# Metso Outotec in brief after merger in July 1<sup>st</sup> 2020

Metso Outotec is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing, metals refining and recycling industries globally.

By improving our customers' energy and water efficiency, increasing their productivity and reducing environmental risks with our process and product expertise, we are the partner for positive change.

Metso Outotec is committed to limiting global warming to 1.5°C with Science Based Targets. We ranked 8th on the 2021 Global 100 list of the world's most sustainable companies.



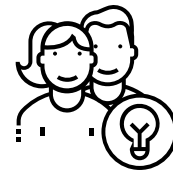
**3,9**

billion euro  
sales in 2020



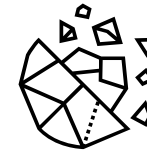
**50+**

countries with  
presence



**15,400+**

employees, 90+  
nationalities



**150** years of

expertise in mining  
and metal

# Planet Positive

## our 1.5°C journey

- Sustainability is at the core of Metso Outotec's offering and operations
- We are committed to limiting global warming to 1.5°C with Science Based Targets
- We are the net positive partner for change, with our handprint significantly bigger than our footprint
- The Planet Positive portfolio focuses on the most impactful technologies (>100) in our current offering
- We offer sustainable value to our customers through solutions and services that improve energy, emission and water efficiency, safety and circular business models
- We ranked 8th on the 2021 Global 100 list of the world's most sustainable companies.



# Our team - our values



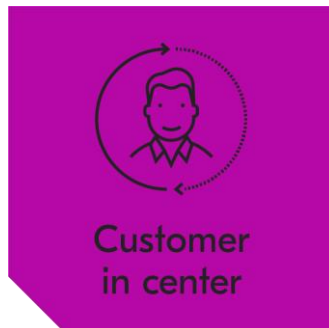
What are our measurable targets for today?

How do we improve on what we do already?



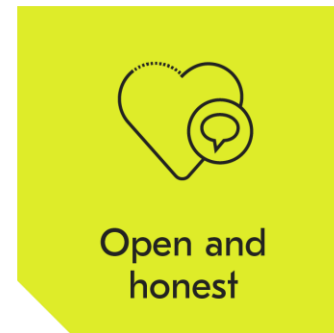
How are we breaking down silos today?

What decisions will we take today to move forward?



How does this improve life for the customer?

Who is representing the customer viewpoint today?



How are we ensuring everyone has a voice today?

Are we hiding issues from each other?

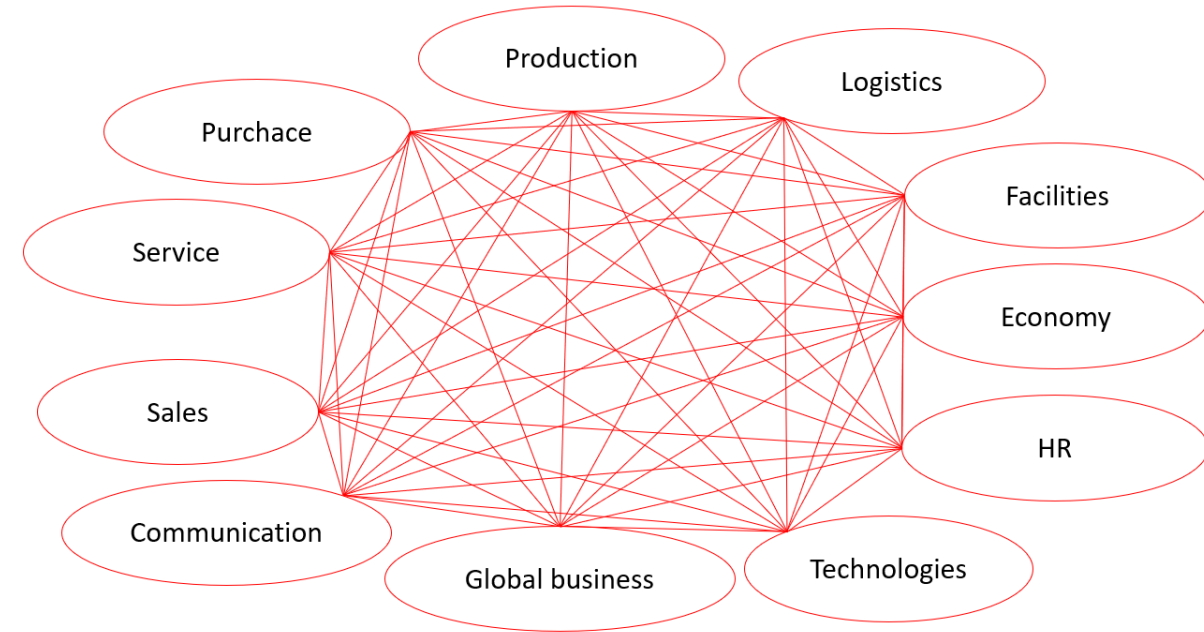
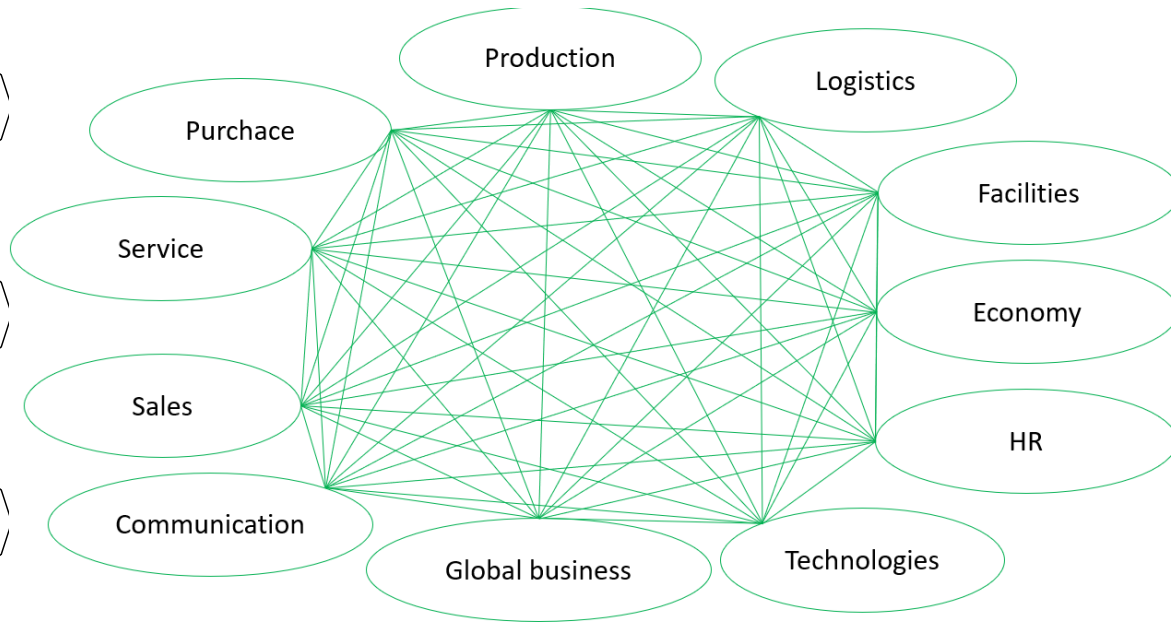
# Merger 2020 Challenge

# One + One = One

Metso

+

Outotec

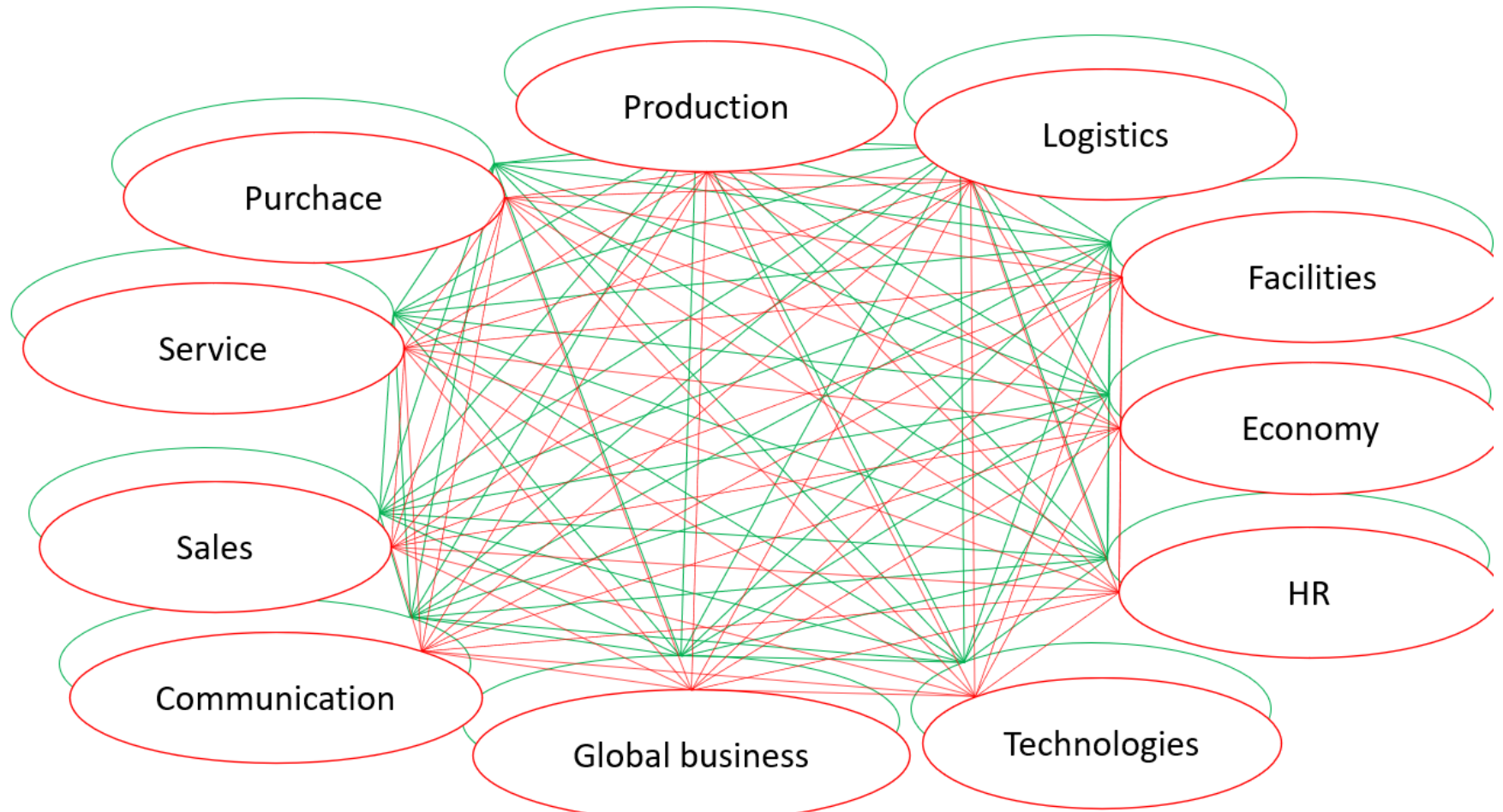


Metso:Outotec

# Merger 2020 Metso Outotec

# One + One = almost One

- Culture
- Technologies
- IT
- Stocklisted
- Covid
- Strong portfolio



# Unique strengths for our customers' benefit

## Full offering



Offering from ore to metal to improve customers' profitability

## Sustainable technologies



Technologies that reduce emissions and energy, resource, and water use

## Service



Industry-leading service expertise and comprehensive global network

## Innovation and R&D



Strong combined innovation and R&D power

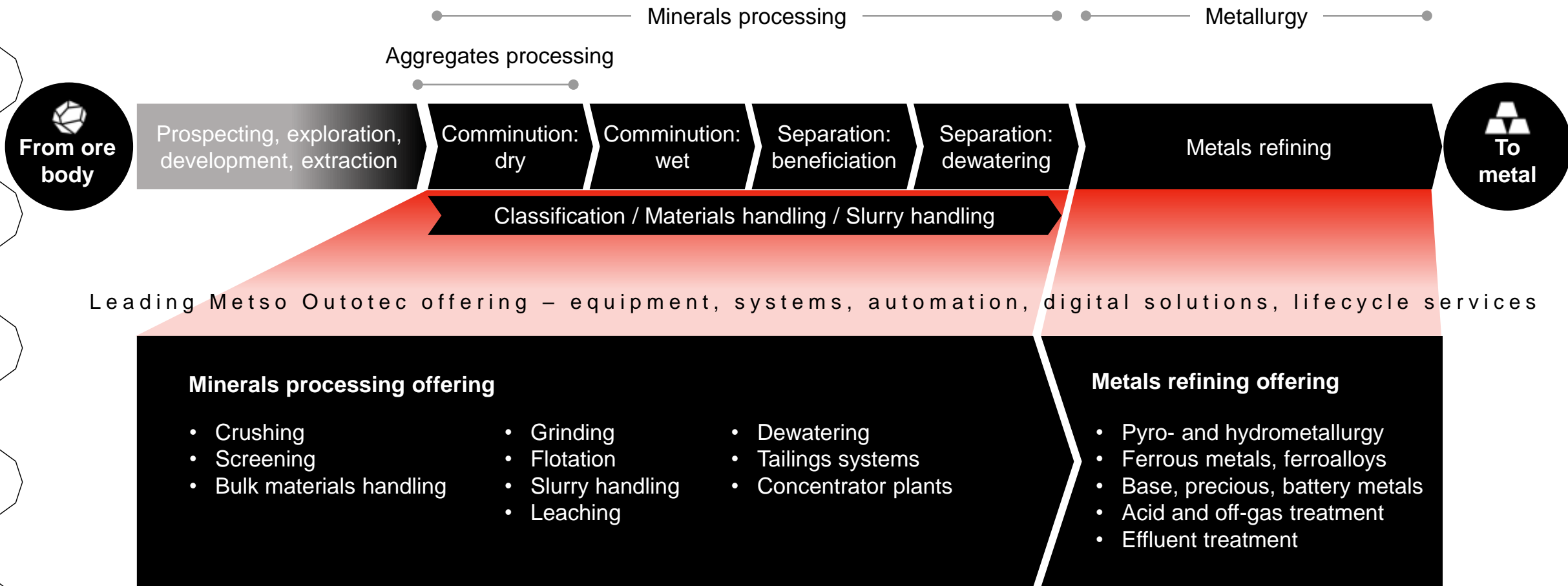
## Responsible partner



Uncompromising safety in offering and operations



# Full offering from ore to metal



Not in Metso Outotec scope
  In Metso Outotec scope

# Metso Outotec's businesses

## Aggregates



Crushing and screening equipment for the production of aggregates

## Minerals



Equipment and full plant solutions for minerals processing

## Metals



Processing solutions and equipment for metals refining and chemical processing

## Services



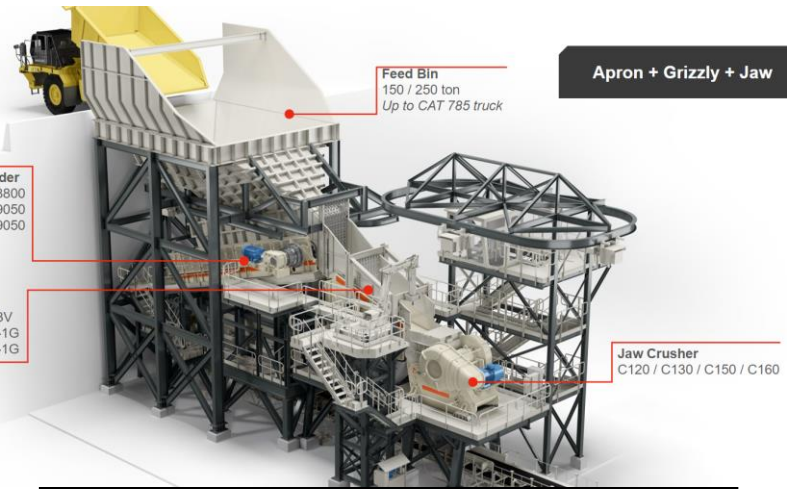
Spare parts, refurbishments and professional services for mining, metals and aggregates customers

## Consumables



Comprehensive offering of wear parts for mining and aggregates processes

# Metso Outotec for aggregates and minerals industry



## Our customers

Large international companies as well as numerous smaller and local ones in aggregates industry

## Our offering

- Crushers, screens and feeders
- Mobile and portable machines and plants
- Stationary crushing and screening plant systems
- Spares, upgrades, and wear parts
- Professional services: Installation, inspections, plant audit, maintenance, shutdowns, optimization
- Life cycle services and performance solutions

## Customer benefits

- Best cost, best availability, easy-to-buy, and easy-to-own solutions
- Range of brands and solutions that cover needs from essential to high-performance: Metso, McCloskey, Jonsson, Shaorui, Liugong Metso
- Environmentally friendly and low-noise, low-dust solutions for urban environments
- Timely and reliable expert service and parts near customers through our own and distributors' networks

# Minerals: full offering from ore to concentrate

## Vertimill®

Industry benchmark in stirred milling technology



## HIGmill®

Advanced and energy-efficient fine and ultra-fine grinding solution



## HRC™

High pressure grinding rolls for efficient size reduction in mining and aggregates



## Nordberg MP Series™ cone crushers

Maximum performance from high crushing force and availability



## TankCell® e300

The best selling flotation cell in the world in its size range



## Larox® PF pressure filters

Fully automatic recessed-plate diaphragm filters



## MD series mill discharge pumps

Heavy duty solutions for slurry pumping applications



## Life Cycle Services and Performance Solutions

Customizable packages delivering performance outcomes



# Advancing our unrivaled innovation legacy



**1898**

First horizontal grinding mill installed



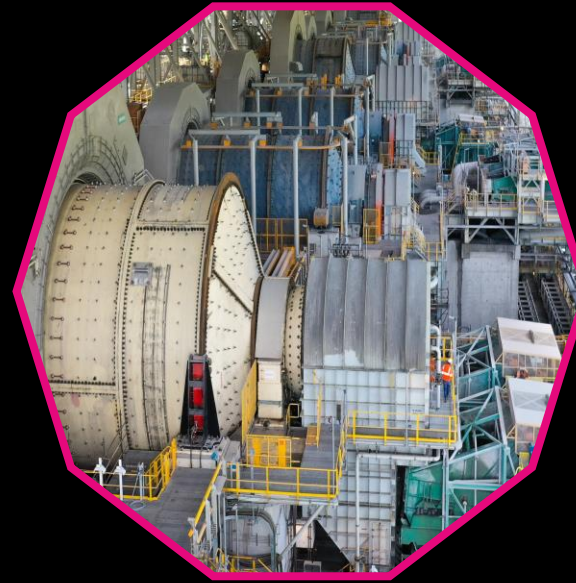
**Leading the way for 100+ years**

Designed, built and installed the world's largest horizontal grinding mills



**2021**

Premier™ mills launch



# Industry's widest portfolio



**Vertimill®**



**HIGmill™**



**Stirred Media  
Detritor (SMD)**

An icon showing a power plug connected to a circular arrow with a leaf inside, symbolizing energy efficiency.

*Energy efficiency*

An icon showing a price tag with a Euro symbol inside, symbolizing cost efficiency.

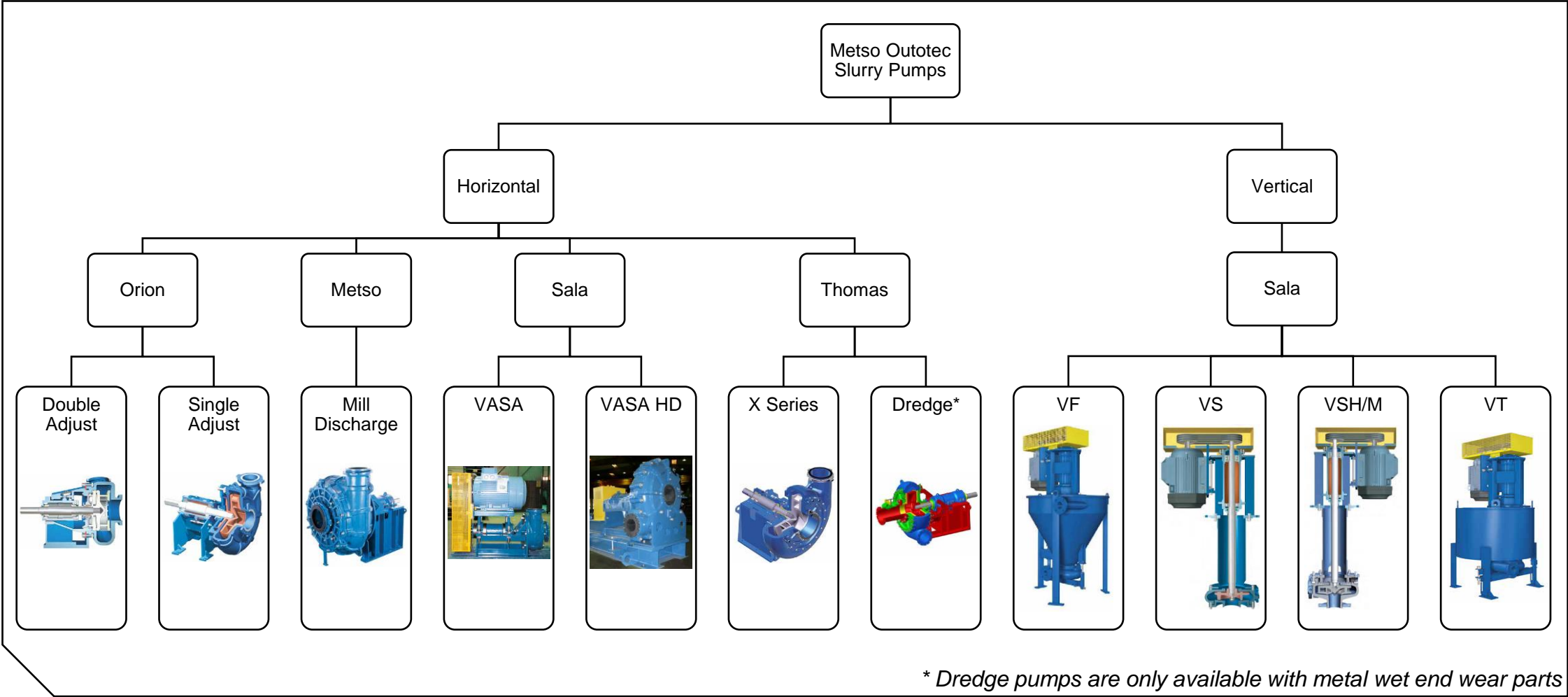
*Cost efficiency*

An icon showing a clock face with a circular arrow around it, symbolizing high availability.

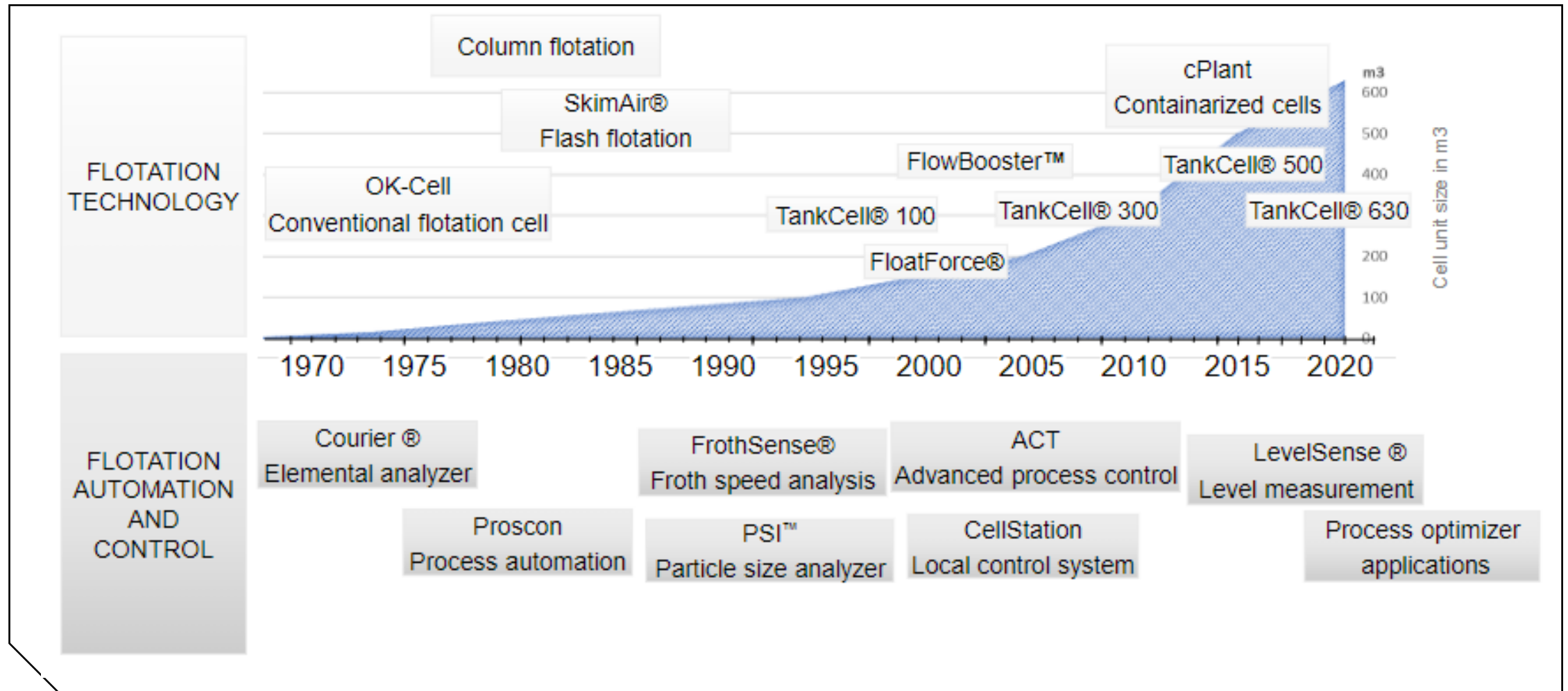
*High availability*

# Product range

## Slurry pump program



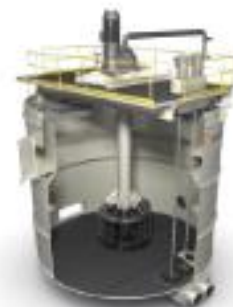
# Flotation Historical development





# Metso Outotec Flotation – Extensive product portfolio

- TankCell® (5 – 630 m<sup>3</sup>)
- OK Cell (0.5 – 38 m<sup>3</sup>)
- ColumnCell
- SkimAir® (80 – 2400 tph)
- cPlant® (1.5 – 11 m<sup>3</sup>)
- OKTOP Conditioner (dia. 2 – 12 m)
- GTK Labcell (lab unit 2, 4, 8 & 12 l)
- OK Pilot Cell (0.01, 0.025, 0.05, 0.15, 0.5 m<sup>3</sup>)
- RCS™ Cell (0.8 – 600 m<sup>3</sup>)
- DR Cell (0.3 – 14 m<sup>3</sup>)
- Microcell (dia. 1 – 5 m)
- Extensive test and simulation capabilities

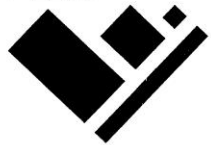


# Building our legacy

# Metso:Outotec

Outotec

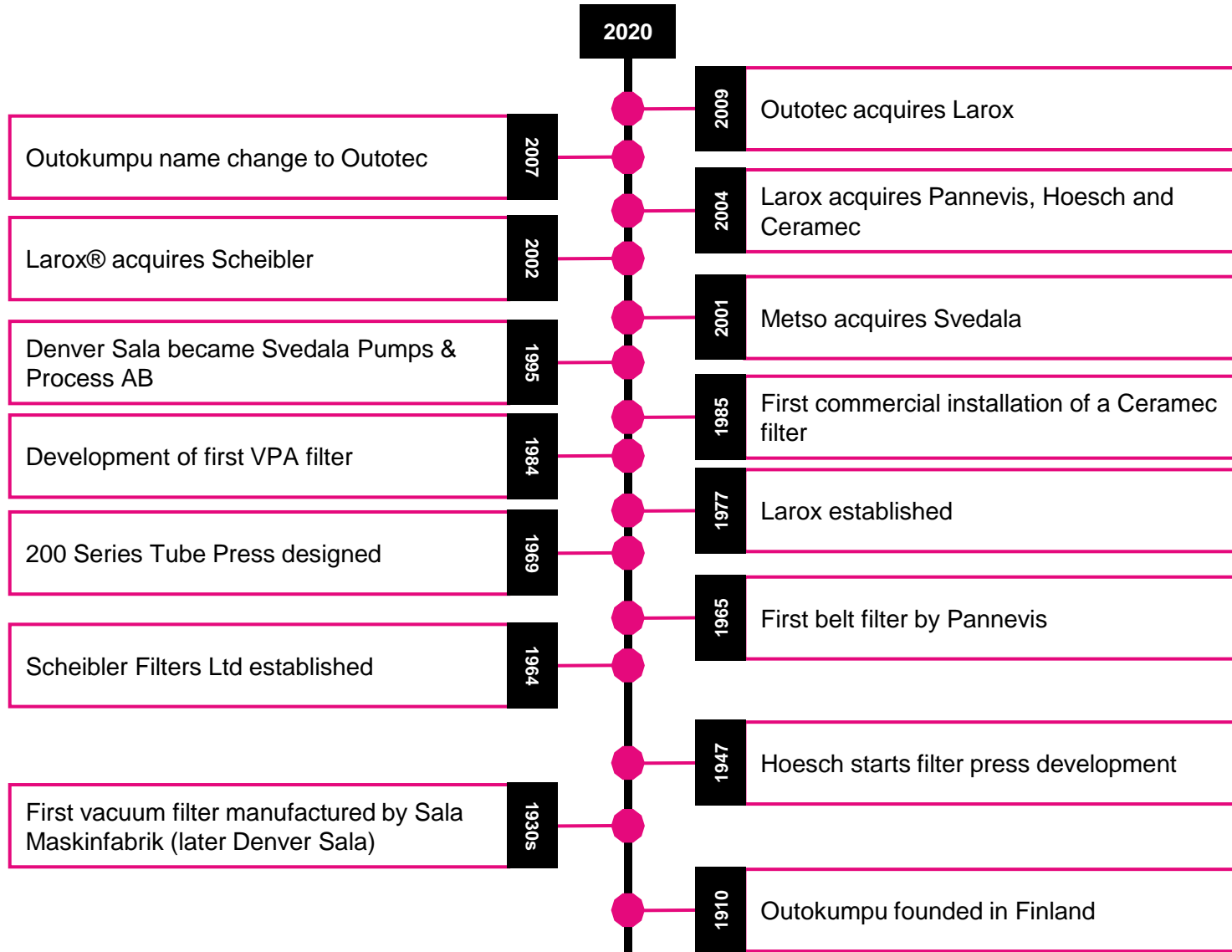
SVEDALA



Scheibler



Metso:Outotec



RESTRICTED

# Filters role in minerals processing



## Industry's most comprehensive filters portfolio

**Filtration BL key facts**

≈ 200 employees

≈ 14,000 DW tests in database  
> 5,000 filters delivered

Main locations in:

- Lappeenranta
- Suzhou
- Sala
- Turku

**Pressure filters**

Larox® PF	Larox® PF-DS	Larox® FFP	VPA	TubePress	TPS	FPS / FP

**Vacuum filters**

Larox® RT-GT	Larox® RT	CC	RB	SC

**Polishing filters**

AC	DM	LSF

# Metso Outotec Thickeners & clarifiers

## High Rate Thickeners



## High Compression Thickeners



## Paste Thickeners



## Inclined Plate Settlers



## Clarifiers



### Products & scope

Supply and installation of greenfield and brownfield equipment

### **Services:**

- Retrofits: Vane Feedwell™, bridge & mech
- Tech services and maintenance
- Spare parts
- Process control and instrumentation
- Process optimization

### **Plant and process islands:**

- Thickener plant
- Dewatering plant

# Portfolio for all automation and digital layers in mining and metals

## Measure



Image showing Outotec measurement equipment, including a large industrial unit and a smaller unit with a red cone on top.

## Control

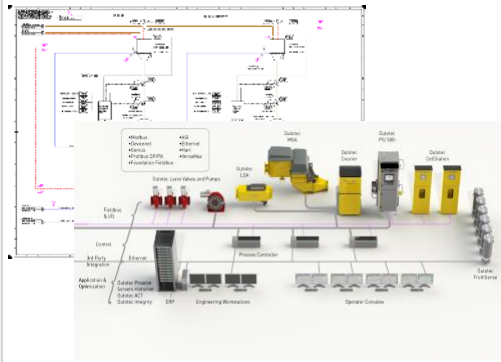


Image showing a control room interface with various screens displaying data and a 3D model of a plant layout.

## Optimize

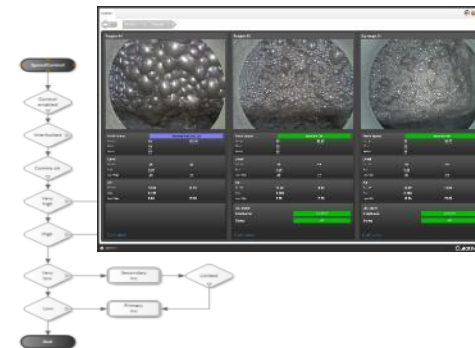


Image showing an optimization software interface with a 3D model of a plant and a flowchart.

## Simulate

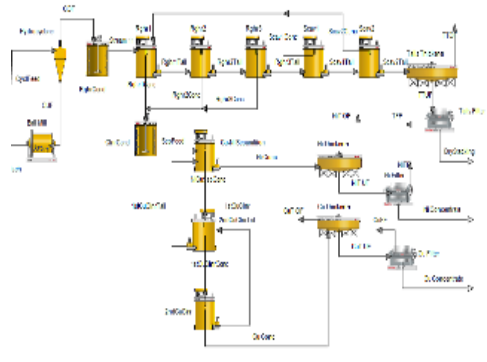


Image showing a simulation diagram of a plant layout with various components and flow lines.

## Manage



Image showing the Outotec Integrity management interface, featuring a keyboard and several monitors displaying data and charts.

## Diagnose

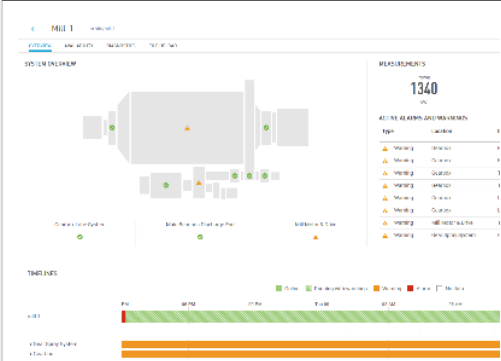


Image showing a diagnosis software interface with a 3D model of a plant and a table of measurements.

## Learn

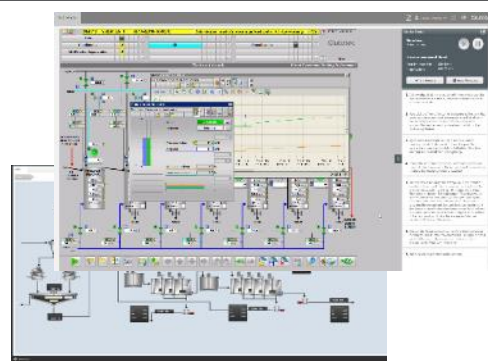


Image showing a learning software interface with a 3D model of a plant and a flowchart.

## Design

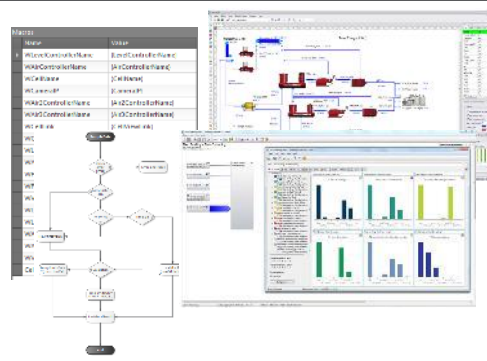
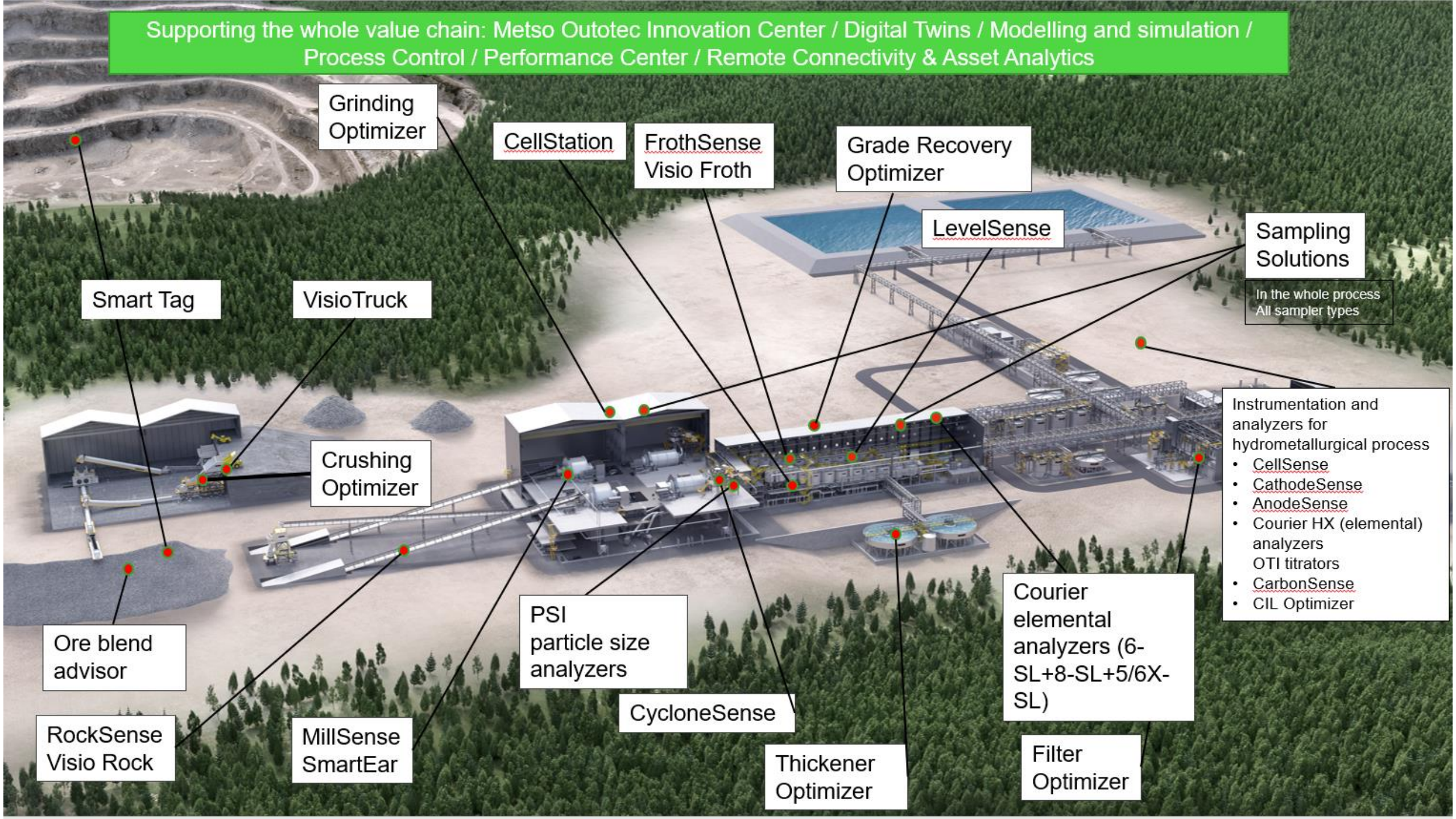


Image showing a design software interface with a 3D model of a plant and a flowchart.

Supporting the whole value chain: Metso Outotec Innovation Center / Digital Twins / Modelling and simulation / Process Control / Performance Center / Remote Connectivity & Asset Analytics



Grinding Optimizer

CellStation

FrothSense  
Visio Froth

Grade Recovery Optimizer

LevelSense

Sampling Solutions

In the whole process  
All sampler types

Instrumentation and analyzers for hydrometallurgical process

- CellSense
- CathodeSense
- AnodeSense
- Courier HX (elemental) analyzers
- OTI titrators
- CarbonSense
- CIL Optimizer

Smart Tag

VisioTruck

Crushing Optimizer

PSI  
particle size analyzers

CycloneSense

Thickener Optimizer

Courier elemental analyzers (6-SL+8-SL+5/6X-SL)

Filter Optimizer

Ore blend advisor

RockSense  
Visio Rock

MillSense  
SmartEar

# Sustainable technologies to help customers

Examples of technologies with higher energy, water, emissions and resource efficiency

25-35%

Lower energy consumption with Vertimills<sup>®</sup> in grinding

65%

Lower water consumption at copper concentrator with Pretium Water Advisor & Process Water Recycling Plant

6.6 Mt / y

Less CO<sub>2</sub> emissions thanks to our leading metals refining technologies<sup>1</sup>

Up to 60%

Lower crushing noise distance from Lokotrack<sup>®</sup> Urban<sup>™</sup> Series unique noise encapsulation features



1. Ferrochrome process, copper flash smelting, alumina calcination, ceramic filters, TankCell 300 and coated titanium anodes

# Strong innovation and R&D power

**15+**

New series of  
innovative products  
launched each year

**~100**  
million euros

Investment in research and  
development annually

**30**

R&D centers, co-creating  
with and customizing  
solutions to customers

**6,300+**

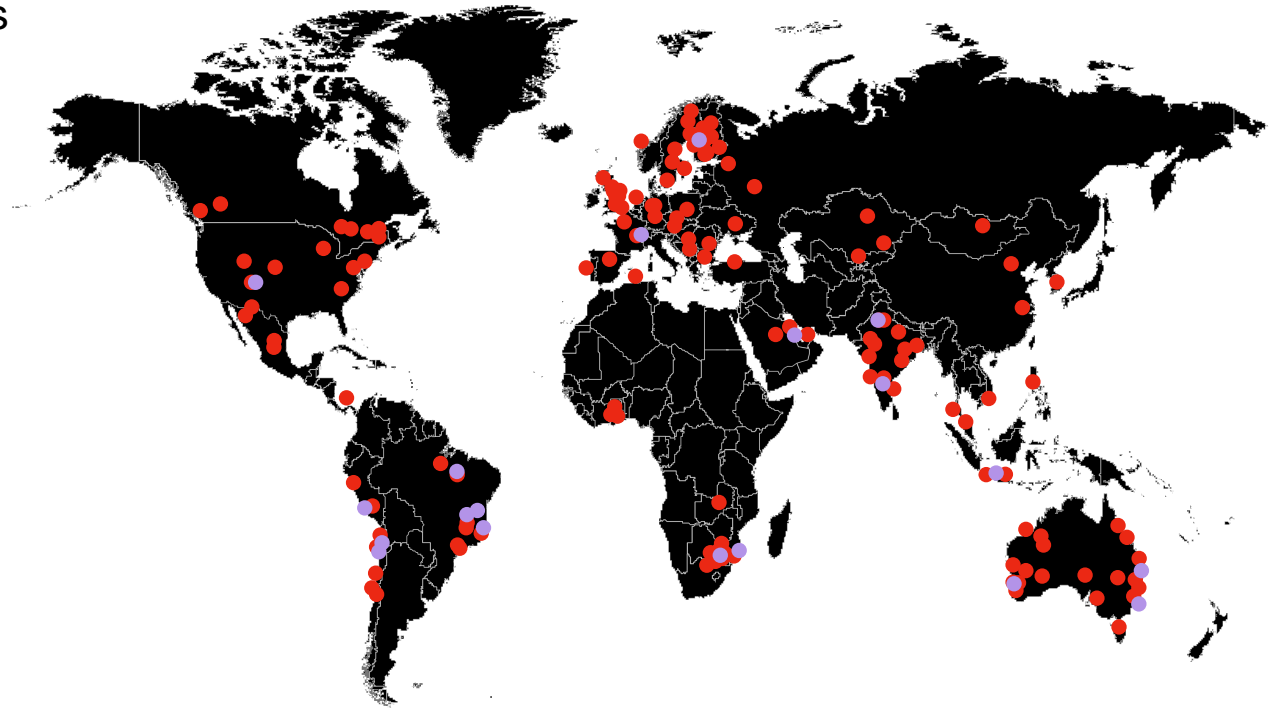
Patents





# Industry-leading service expertise and global network

- Comprehensive service portfolio from spares and wears to advanced lifecycle services
- World-class team of experts
- Efficient service processes to enable our experts to get it right – fast
- Deep understanding of customer process, product design and technology



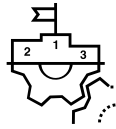
**~5,000**

Service experts



**~140**

Service locations



**3**

Performance Centers

● Service locations

● Repair Centers

# Uncompromising safety in offering and operations



## Safe products and services

- Products designed for safety
- Safe and professional service teams



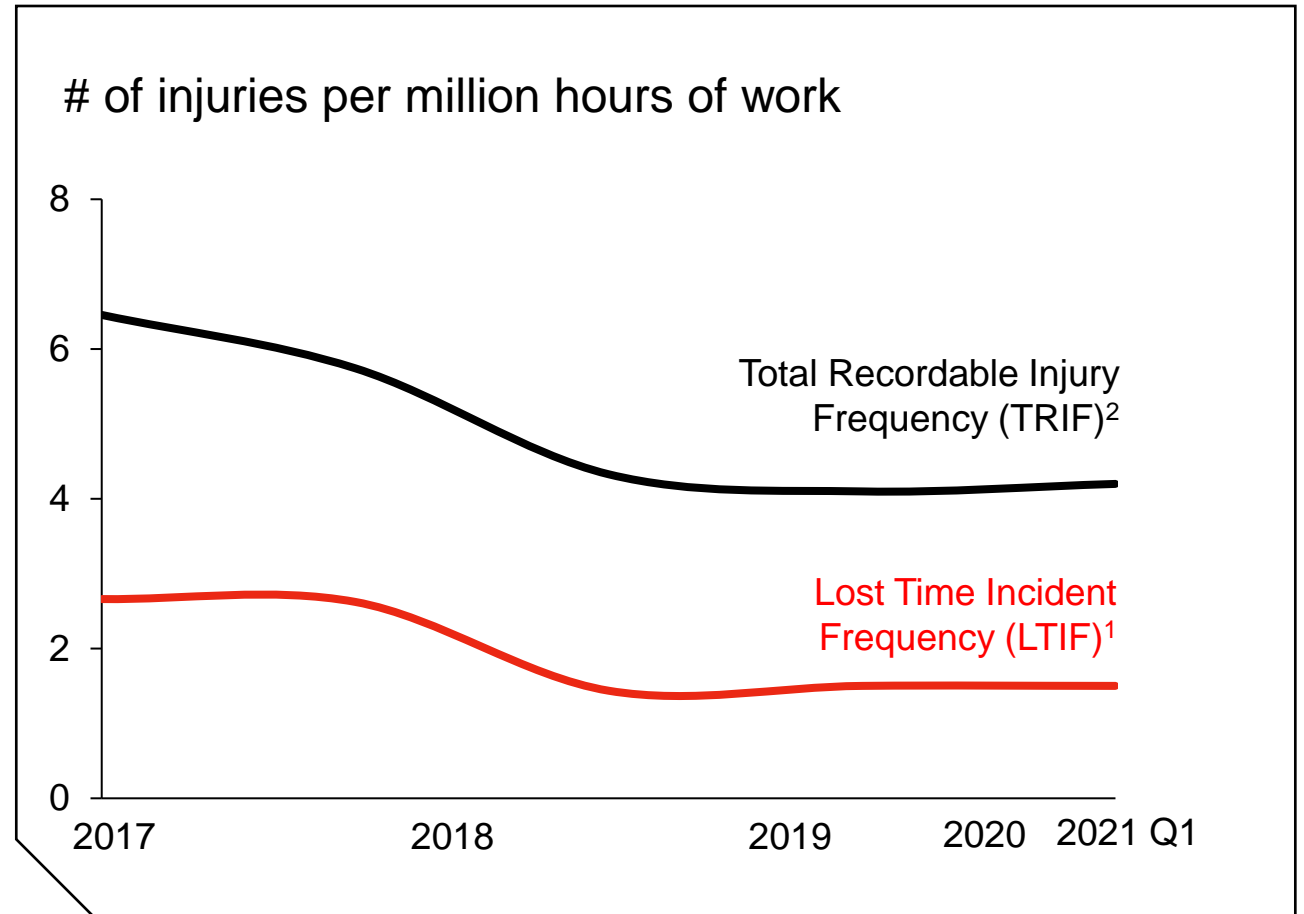
## Safe and responsible supply chain

- Rigorous supplier screening
- Supplier code of conduct



## Health and safety of people

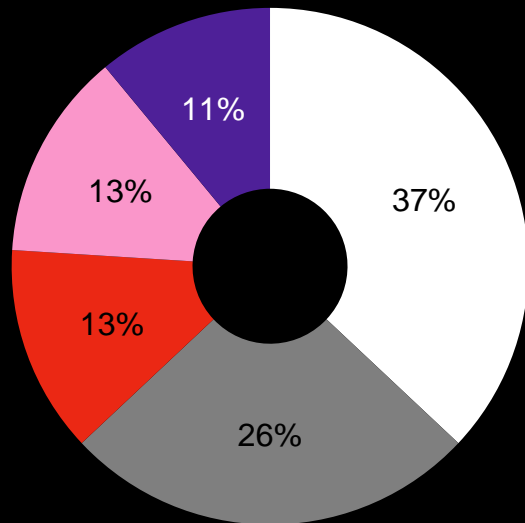
- Safe and secure workplace
- Proactive attitude towards zero harm



1. Number of injuries resulting in absence of at least one workday per million hours of work (own employees and contractors)  
2. Number of injuries per million hours worked (own employees and contractors)

# Metso Outotec global team of professionals

Our 15,000+ people by geography



- Europe
- South America
- Asia-Pacific
- North and Central America
- Africa and MEI



# Metso Outotec for metals refining



## Our customers

Large and mid-sized mining companies, as well as local mining and metallurgical companies in emerging markets

## Our offering

- Pre-engineered products and solutions for process islands and full plants
- EP and EPS plant deliveries
- Delivery, construction, commissioning, training, ramp-up of plant solutions
- Access & optimize, guaranteed production
- Remote services, R&D centers, pilot plants
- Spares and upgrades
- Professional services: Inspections, maintenance, shutdowns, optimization

## Customer benefits

- Full solutions for processing almost any ore or concentrate to refined metal, incl sulfuric acid production
- In-house test work and world-class R&D provide our customers with the optimum solution
- Technologies with low emissions, high energy efficiency
- Strong technological expertise and close support throughout the project

# Metals: advanced solutions from ore or concentrate to metal

## Iron Ore Agglomeration

World leader with more than 400 Sinter Plants and more than 100 -incl. the world's biggest-Pellet Plants supplied globally



## Acid plant process solutions

Over 650 completed acid plant deliveries to date



## Light Metals

Over 70 delivered Alumina Calcination and Tube Digestion Plants



## Fluid Bed Technology

More than 300 Fluid Bed Roasting installation incl. largest partial Roasting plant



## World-class smelting technologies

Operated by world's largest copper, nickel and ferrochrome operations and widely used in various secondary smelters. World leader in anode casting



## Hydrometallurgy solutions and equipment for Base Metals, Gold and Battery Metals

VSF<sup>®</sup> SX equipment used extensively in copper solvent extraction worldwide



# Hydrometallurgy BL – Our offering

Hydrometallurgical process technology for main metals (Au, Cu, Ni, Zn, Li, Co, ...)

## Process solutions

Leaching



Solvent extraction



Precipitation



Electrowinning



Electrorefining



## Process equipment

Atmospheric reactors



Autoclaves



Agitators



Solvent extraction



Tankhouse cranes & equipment



Stripping machines



# The world around us is changing



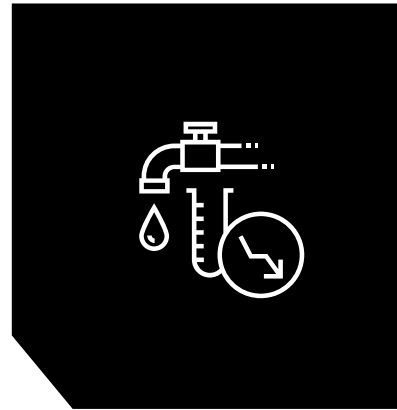
## Urbanization

Brings requirements for more aggregates, minerals and metals to build modern societies.



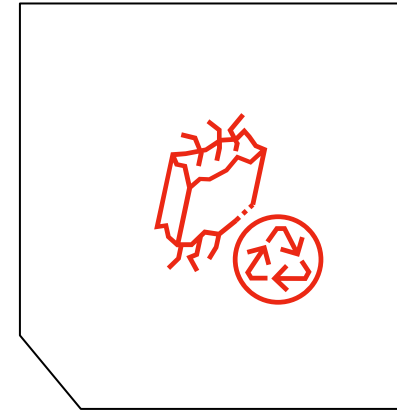
## Scarcity of natural resources

Sets the imperative for responsible processing of precious natural resources.



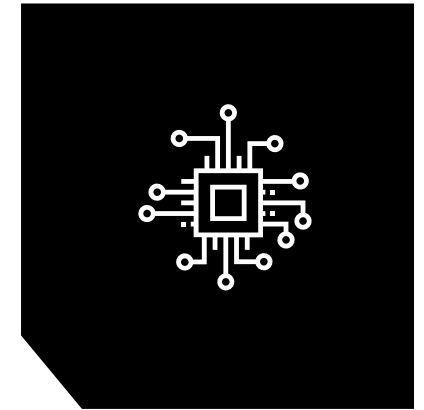
## Climate change

Calls for energy and water efficiency and the decrease of emissions from our industries.



## Circular economy

Drives recycling of minerals, metals, aggregates and waste.

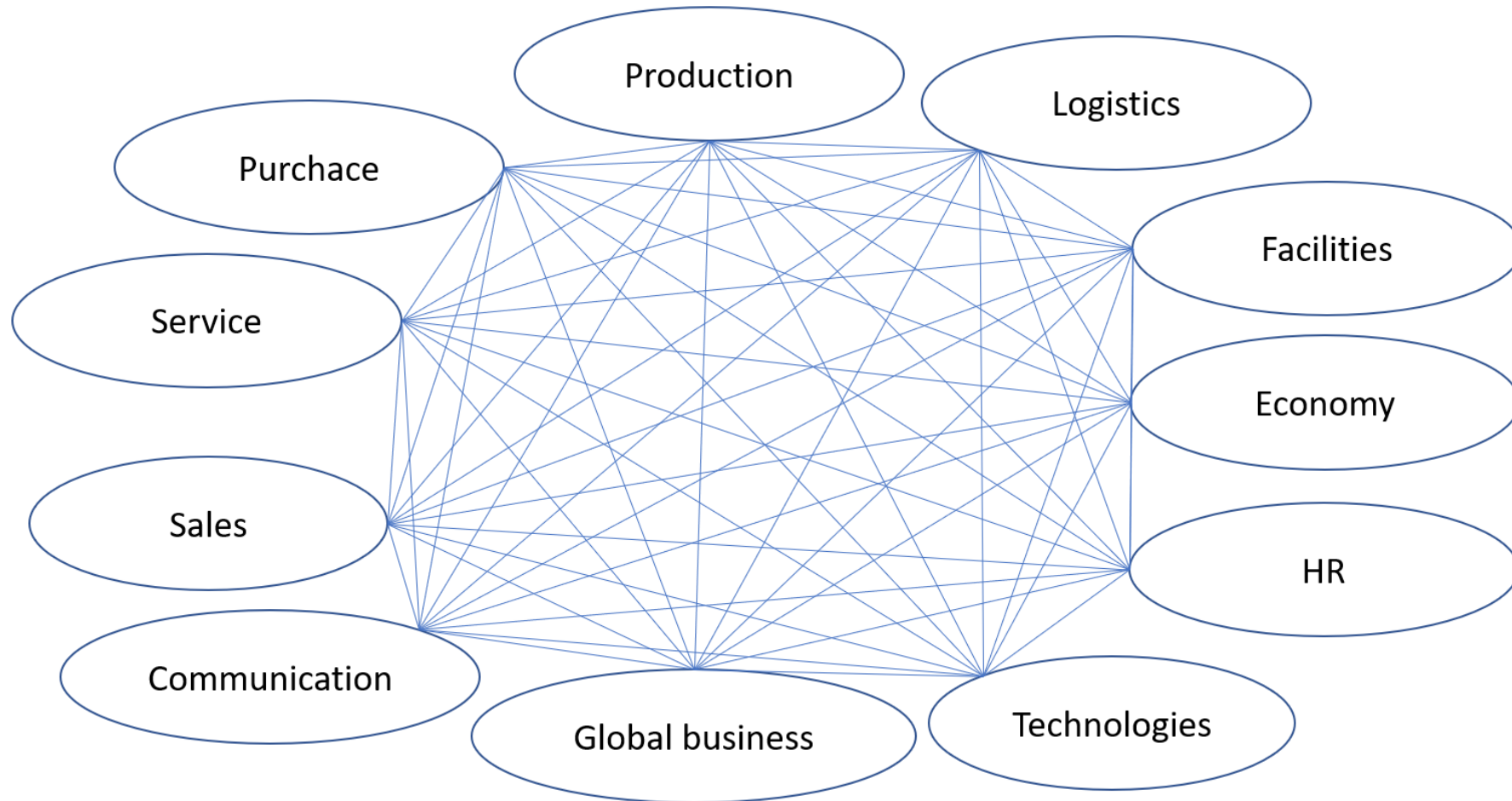


## Digitalization

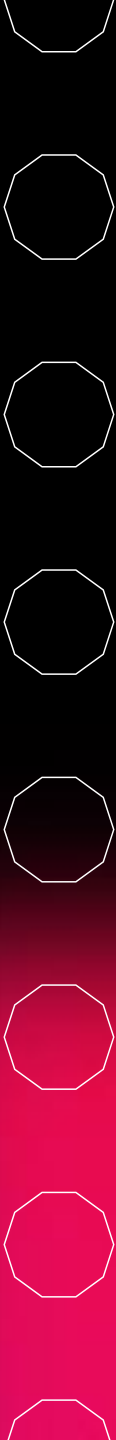
Advances new business models and improves efficiency and safety.

# Merger 2020 Metso Outotec

# One + One = One







# Partner for positive change



[mogroup.com](http://mogroup.com)

Metso:Outotec