

Grinding & Dispersing

NETZSCH

Proven Excellence.

NETZSCH Grinding & Dispersing

Introducing the Business Unit
Specialty & Custom Chemical Show 2023

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1. The NETZSCH Group and the Business Unit Grinding & Dispersing
 2. Business Fields and Applications
 3. Technologies of the Business Unit
 4. Scope of Work and Service

1. The NETZSCH Group and the Business Unit Grinding & Dispersing

Erich NETZSCH GmbH & Co. Holding KG



Analyzing & Testing

Thermal analysis instruments, instruments for the determination of thermophysical properties and fire testers.



Grinding & Dispersing

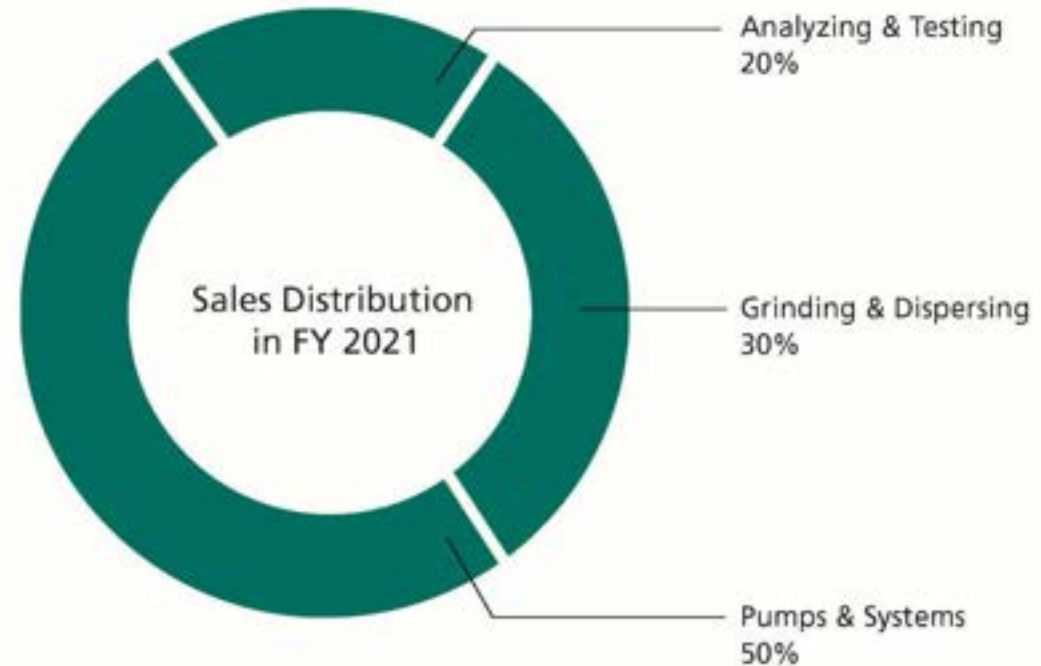
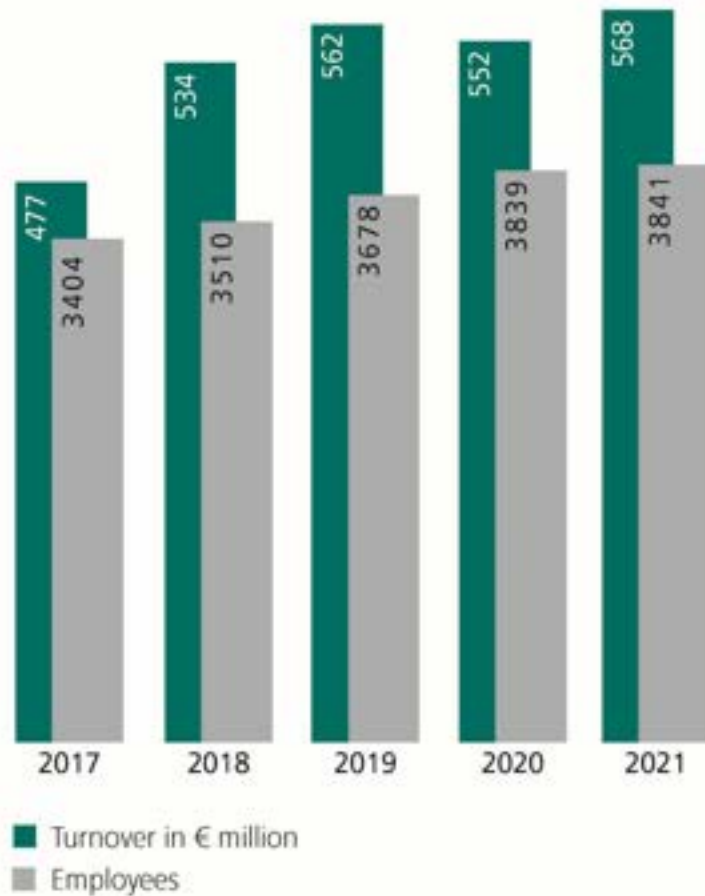
Comprehensive machine program for wet and dry grinding, mixing, dispersing, homogenization, deaeration and classification



Pumps & Systems

Innovation leader for the three positive displacement pump technologies: progressive cavity, rotary lobe and multi screw pumps

- Founded in 1873 by the Netzsch brothers in Selb
- More than 3800 employees worldwide
- € 568 million in sales in fiscal year 2020/2021 (fiscal year: July 1 – June 30)



GRINDING & DISPERSING

CHEMICALS & MINERALS

FOOD & PHARMA

ENERGY SOLUTIONS

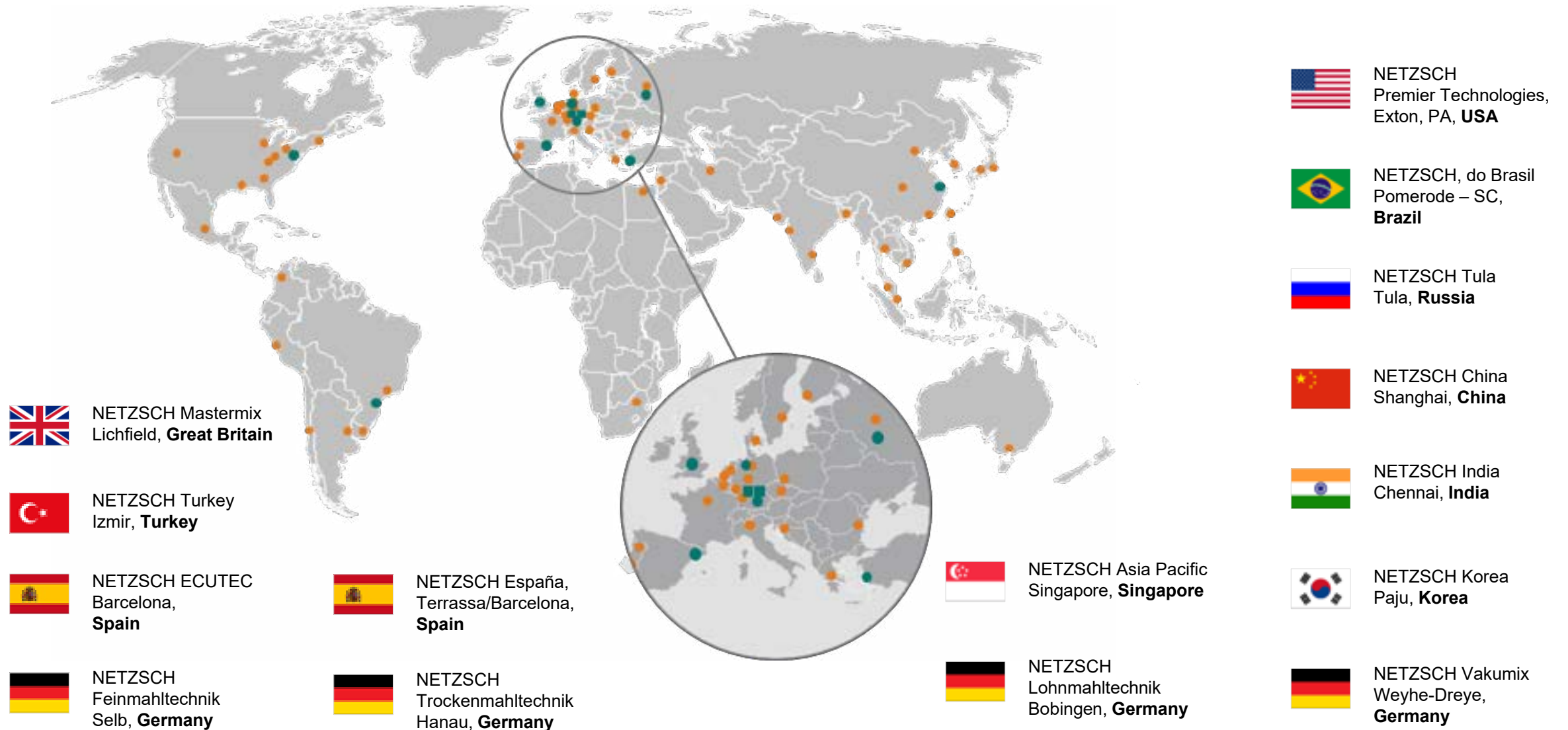
AFTERSALES SERVICE



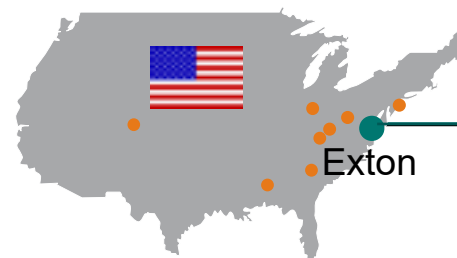
With innovative material processing solutions, we enable our customers to create exciting products for a sustainable world.

Locations of the Business Unit Grinding & Dispersing

NETZSCH



- Based in Exton, PA since 1969 with engineering, sales, laboratory and service
- A well-appointed and spacious laboratory offers comprehensive customer-specific tests in the area of wet and dry processing technologies
- Systems engineering capabilities
- Field service support group and spare parts support personnel
- Project engineering support capabilities



Sales and
Administration



Laboratory



Support
Group



Project
Engineering
Office



| 2. Business Fields and Applications



The Chemicals & Minerals business field guarantees state-of-the-art production facilities and technology leadership.

We guarantee top performance for customer-oriented process solutions for the processing and comminution of natural and synthetic raw materials.

CHEMICALS



- Paints and Coatings
- Printing inks
- Adhesives / Sealants
- Pigments / Dyes
- Fertilizer / Plant Protection
- Nanomaterials
- Cellulose / Chemical pulp
- Ceramic / Glass

MINERALS



- Metal ores
- Calcium carbonate
- Quartz
- Dolomite / Feldspar
- Talc, Graphite
- Rare earths



With the "Energy Solutions" business field, we shape the future of tomorrow with you.

Leading manufacturers trust our grinding machines and process solutions for the production of the latest batteries and accumulators.

ENERGY SOLUTIONS



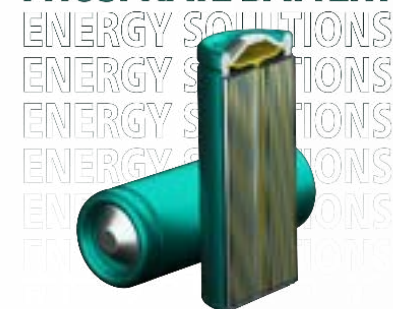
LITHIUM-ION BATTERY



ALL-SOLID-STATE BATTERY



LITHIUM-IRON PHOSPHATE BATTERY



MIXING SOLUTION





The "Food & Pharma" business field combines the latest production facilities with process engineering expertise and guarantees future-proof process solutions.

We rely on the highest quality, hygiene and safety standards in order to provide you with long-lasting systems and thus investment security.

FOOD



- Chocolate
- Cocoa
- Fillings/coatings and compound masses
- Sugar
- Spices
- Nuts
- Hydrocolloids
- Special Flours

PHARMA



- Toothpaste
- Injections
- Creams / Lotions
- Make-up
- Eye Drops
- Sprays



Close to the Heart of NETZSCH!

The NETZSCH Service Network:
quick, reliable, competent,
worldwide

From initial contact, through
planning and commissioning, to
technical consultation, NETZSCH is
with you for every step of the
journey.

In NETZSCH, we are totally convinced that *AFTERSALES* service really matters to our customers. When you acquire NETZSCH equipment, it is our commitment to keep it in operation under optimal performance through the rest of its lifetime.

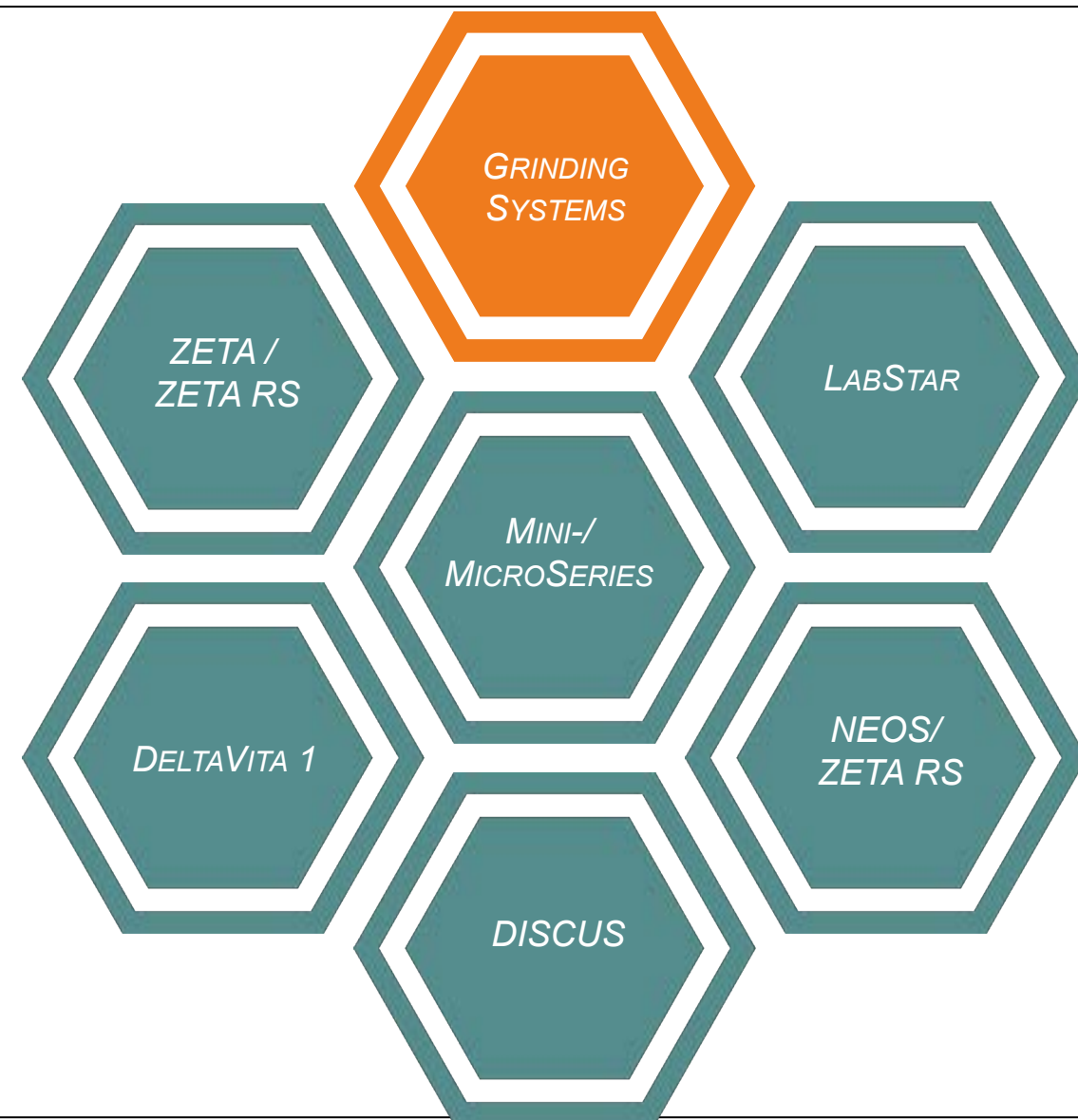
- Specialists provide quick and reliable support
- Included in the service offer:
 - Installation Support
 - Spare Parts
 - Fieldservice & Support
 - Optimization Services
 - NETZSCH-BEADS®

Bennedikt Wenisch



3. Technologies of the Business Unit

3.1 Wet Grinding



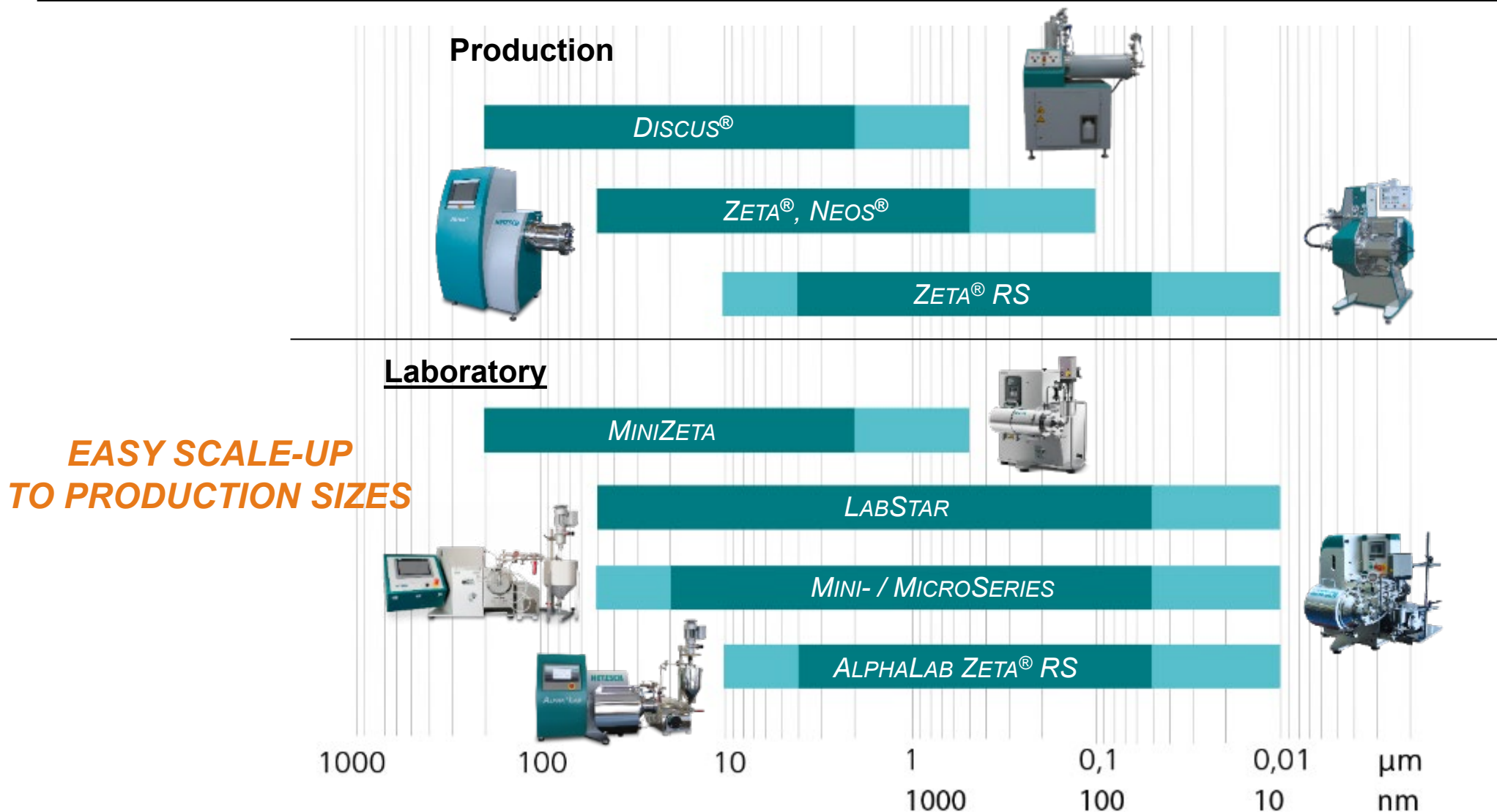
Wet Grinding

- World's market leader in wet grinding technology
- Bundling of process technology know-how and the extensive machine program ranging from laboratory to production-scale machines to complete production lines
- Customized for every application
- Innovative process systems



“Our many years of experience in customized technologies ensure the perfect solution for you.”





New Name → New Design

- LMZ (ZETA) → NEOS
- LME (Discus) → Intensive Rotor (ICC)

■ 5th Generation of Innovations

- Last 2 generation 30-300% performance increase!

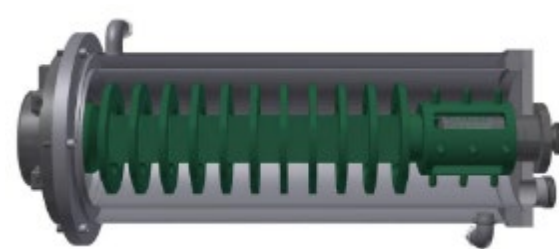
■ Biggest Changes

- Design – Wetted Parts
- Increased Production & Capacity
- Mill Capabilities
- New materials of construction

■ Bead Size, Efficiency, & Cooling!



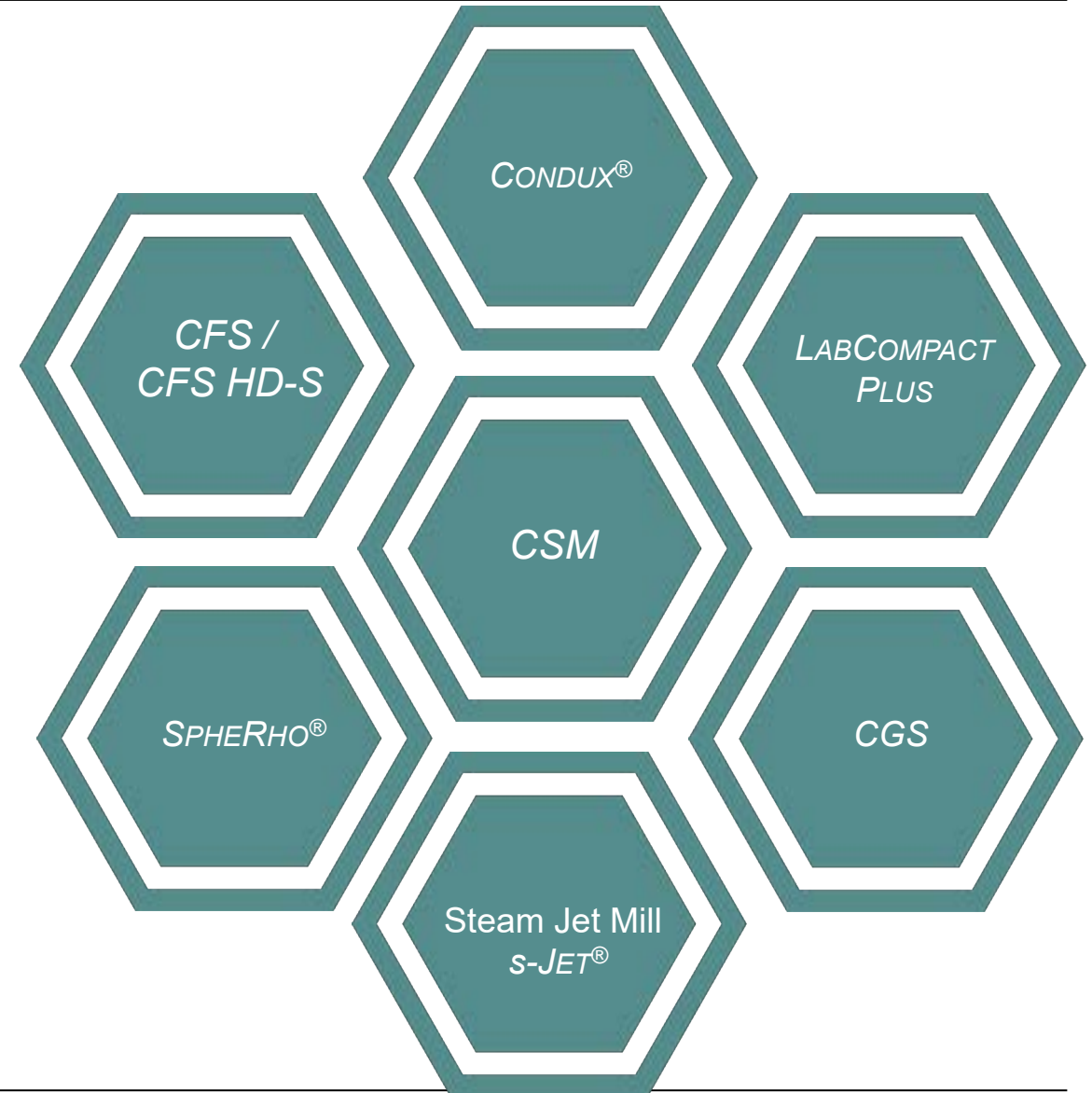
Neos 50 shown



Discus 100 shown



3.2 Dry Grinding



Dry Grinding

Extensive mill program for all fineness levels down to the submicron range

- Rotor impact mills
- Classifier mills
- Jet mills
- Fine-cutting mills

High-performance classifier for classifying the finest products

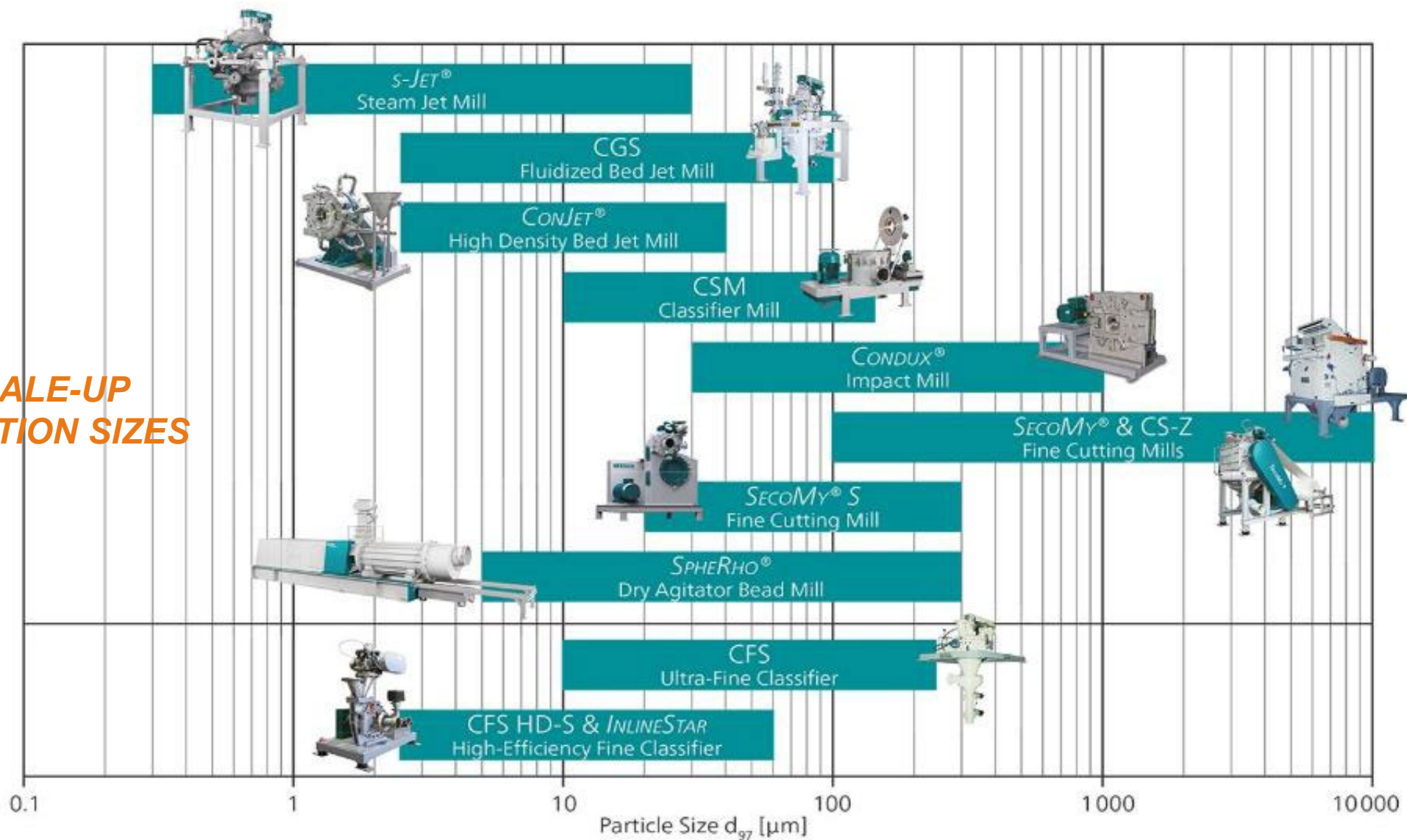
Innovative dry-grinding technology from the single mill to complete turnkey systems



“Your processes will be more economical with our innovative dry grinding technology.”



**EASY SCALE-UP
TO PRODUCTION SIZES**





CGS Jetmill



Condux Impact Mill



CFS Classifier



CSM Classifier Mill

- Impact Mill & Jet Mill Dry grinding
- Milling with integral classification
- Fine to ultrafine particle Size Reduction
- Narrow Particle size distributions
- Energy efficient
- Ultra fine Classification Technology
- Hot gas , Cold gas, inert processing options
- Contamination free options available
- Complete Systems

3.3 Mixing/Dispersion

MASTERMIX

*EPSILON /
PSI- MIX*

*MINIMASTER /
SHEARMASTER*

PMD-VC

OMEGA®

Mixing / Dispersion / Homogenization Technology

- Mixing, kneading and dispersing machines for the entire range of applications for low- to high-viscosity substances
- Solutions for the optimum economical and eco-friendly product quality
- Concentration on emulsions, suspensions, solids in liquids, multi-phase dispersion



“We achieve the best product quality for our customers with our superior dispersion.”



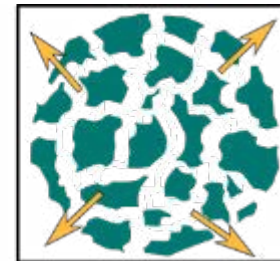


- Stainless Steel
- Conical designs
- Variable capacity
- Cooling/Heating
- Vacuum operation
- Large Capacity available
- Automated Cleaning Systems
- Automated Mixing
- Feeding Systems
- Energy efficient design





EPSILON



| 4. Scope of Work and Service



Laboratory and Process Technology / Toll Grinding

- Process laboratories in
 - Germany
 - Russia
 - USA
 - Brazil
 - China
 - India
 - Korea
- Tests for machine design
- Tests for process optimization
- Tests for quality assurance
- Toll services



“Our process technology know-how is available to you in our applications labs around the world.”



Single Machines

- Extensive product program – from machines for the laboratory to production-scale machines
- Qualitative and quantitative scale-up to production machines is possible
- Machines in high demand worldwide for the following technologies:
 - wet and dry grinding
 - mixing and dispersing
 - homogenizing
 - deaeration and classification



“We offer cutting-edge technology for the entire value chain.”

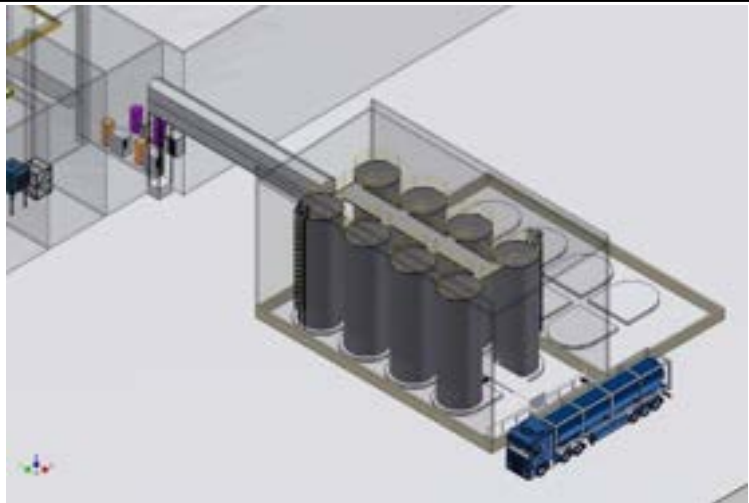
Systems & Plants

- Complete systems from a single source
- Team of highly-qualified specialists
- Outstanding machine technology
- Knowledge from decades of experience
- Plants with conventional and modular construction
- From planning through commissioning, supported by NETZSCH



“Our systems are the key to maximum efficiency.”







NPT Laboratory- Put our systems to the test on your materials !!!

NETZSCH



You can rely on NETZSCH.

NETZSCH
Proven Excellence.

COME SEE US AT BOOTH 418

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