

Contract Manufacturing

for Product Modifications in
Life Science and Technical Applications



Flexible

Innovative

Efficient

JRS – Your Strong, Reliable Partner



As an innovative systems and technology partner, the JRS group of companies work globally in the research and processing of functional plant fibers for almost all sectors of modern industry across the world.

Our aim is to adapt the functions and properties of fibers, using a diverse range of modifications to meet a wide range of requirements. This will generate value and fulfill the demands of global marketing.

JRS brings together the resulting expertise in process engineering and decades of application experience from a whole host of sectors to create contract services in the business unit of Contract Manufacturing.

Our aim: creating functional added value through the adaptation of clients' raw materials for specific products.

At our contract manufacturing locations, technical process modifications are implemented in the most variable forms, e.g. in the fields pharmaceuticals, animal nutrition, food products, cosmetics, plastics and many other technical applications.

Depending on the assignment, assistance can be arranged from JRS' global production network infrastructure, which spans more than 30 different locations.

The owner-managed family group of companies stands for quality, reliability, trust and long-term prospects in international partnerships.

... Across the Globe

As a Systems and Technology Partner, JRS Offers Client-Specific Services Across the Value Chain:

DEVELOPMENT



- Innovation management
- Application consulting
- Preliminary testing in the laboratory or technical department

**PRODUCTION
IMPLEMENTATION**



- Versatile, flexible systems
- Project-based documentation
- Individual special system construction

**LOGISTICS
MANAGEMENT**

- Network partners in international business
- Warehousing and shipping

Areas of Expertise



Pilot Projects

- Manufacturing without own capital expenditure
- Simple and fast product testing
- Efficient product development thanks to broad expertise



SPECIAL ORDERS

Special Orders

- Execution of individual customer requirements
- Modular plant and machinery that can be adapted to suit specific requirements for optimal solutions



MARKET ASSISTANCE

Market Assistance

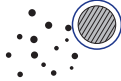


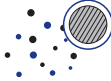












- Provision of flexible production volumes to suit individual market requirements
- Capacities and processes can be adapted quickly and easily thanks to in-house mechanical engineering

Versatile Forms of Delivery



Powders – Fibers – Granules – Mixtures – and More

We produce and process powders, fibers, granules and mixtures, which we further refine on the individual assignment:

	Powders	Fibers	Granules	Mixtures
Encapsulation				
Colouring				
Retarding				
Your individual requirements?				

... and Applications



Life Science

GMP manufacturing,
suitable use with
kosher, halal and
allergenic products



Pharmaceuticals



Animal feed



Food products



Cosmetics

Technical Applications

Optimum delivery
form



Plastics



Automotive



Chemicals



Building chemistry



Adhesives



Detergent raw materials

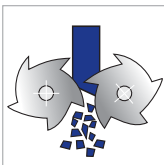


Textiles



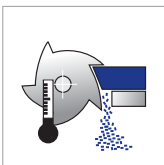
Special applications

Mechanical Process Engineering



Shredding/Pre-crushing

Transforming of sheets, blocks, sealings, v-belts and more into coarse broken pieces for further processing



Grinding

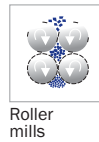
- Large network of solutions for various applications and self-constructed mills
- Cryogenic grinding available on request



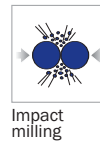
Hammer
milling



Pin disk
milling



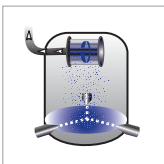
Roller
mills



Impact
milling

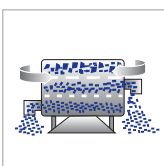


Self-
construction



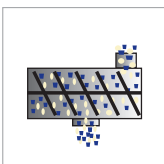
Micronising/Jet milling

Milling to a fineness range of 2 to 80 μm



Sieving/Air classification

- Fine and coarse separations up to a fineness range of approx. 75 μm
- Air sieving for an even greater fineness



Mixing/Homogenization

- Mixer for all quantities
- Can be integrated within the production process if required



Ploughshare
mixer with
5.000 L

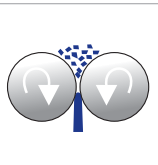


Ruberg mixer
with
5.000 L



Mixing silos
with
60.000 L

... for Individual Contract Manufacturing



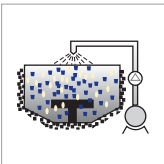
Granulation on roller presses

- Compaction of powders and fiber mixtures with adjustable degree of compaction under low temperatures
- Production of granules in various grain sizes with adapted crush and sieving equipment



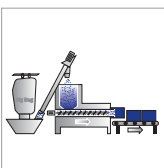
Pelletising

- Conversion of powder mixtures into cylindrical pellets with diameters from 1 to 10 mm
- Adjustable degree of compaction, secondary crushing to fine granules possible



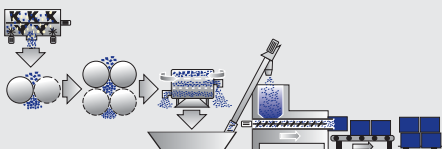
Encapsulation/Coating

- Optical treatment through colouring
- Functional treatment
- Setting the product release rate



Filling/Decanting

into cartons, small bags, big bags or silo trucks



Individual production lines

- Combination of several process stages in one plant
- Special packaging solutions

A Service Partnership with Expertise



As an expert full-service provider, JRS offers a comprehensive range of services: from application consulting to the temporary warehousing of raw materials.



Individual Product Development

- In-house process development for specific solutions
- Provision of initial sample quantities thanks to pilot plants
- Confidential handling of all sensitive information

... Across all Areas



Production With Strict Quality Management

- Quality control in well-equipped test laboratories
- Tailor made documentation
- Various standards available depending on requirements
- Different quality managers for pharmaceuticals, food products and animal feed, as well as internal microbiology laboratory
- Certified product safety using X-ray technology



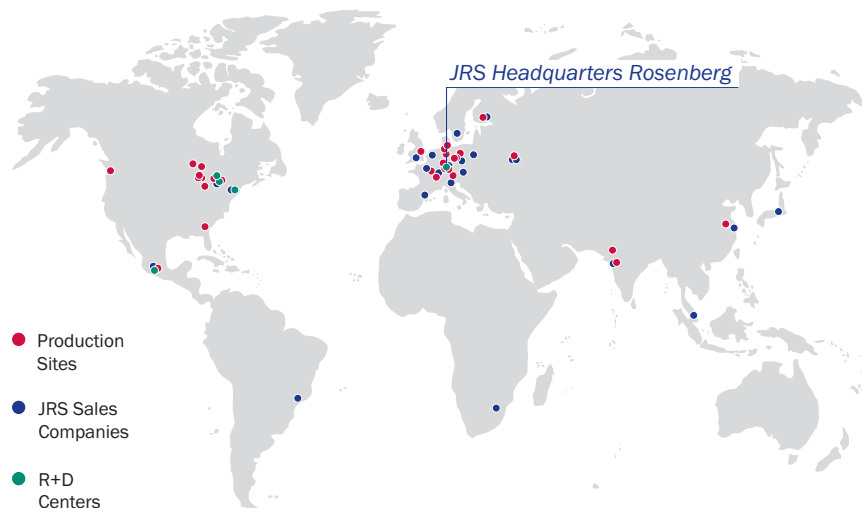
Reliable Logistics Management

- Temporary warehousing with barcode administration
- International network
- Various packaging options:



JRS – Your Strong Systems and Technology Partner

JRS – YOUR Qualified Partner – worldwide



Worldwide logistics and presence

High availability and efficient, high-capacity production

In-house research and development, application services

Over 250 technical representatives around the world

Decades of experience and comprehensive application know-how

Quality manufacturing according to ISO 9001

Contract Manufacturing Key Plants

Depending on the assignment, support from the global JRS production network infrastructure



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