



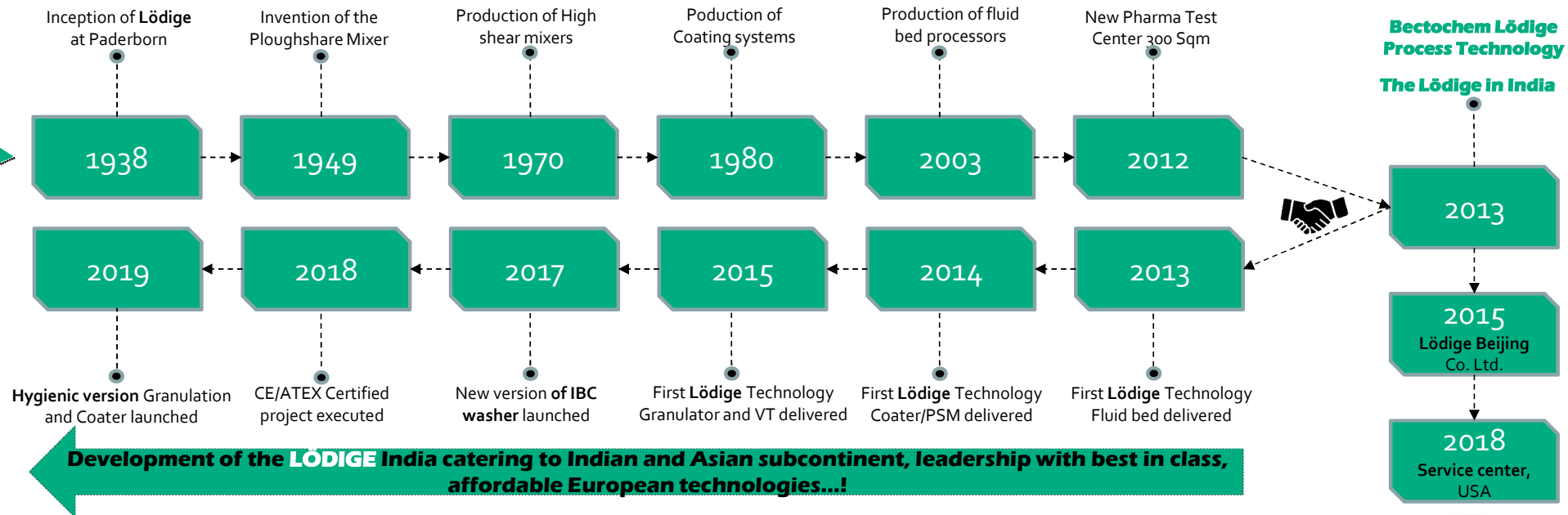
BECTOCHEM
LÖDIGE
PROCESS TECHNOLOGY



Corporate Profile

LÖDIGE- ALWAYS THE RIGHT MIX

GEBRÜDER LÖDIGE MASCHINENBAU GMBH, THE "LÖDIGE"!



GEBRÜDER LÖDIGE MASCHINENBAU GMBH:

Inventor of the Ploughshare Mixer, has turned **Lödige** into a World Leaders in Process Equipments and integrated systems for the Pharmaceutical, Food, Environmental, Consutrction and Minerals industries for solid powders, granulates, dusts, pastes and slurries.



Dr. Dirk Sunderer
Managing Director



Reiner Lemperle
Sales Director



Georg Keich
Commercial Director



Dr. Herald Reinach
Technical Director

LÖDIGE GERMANY MANAGEMENT



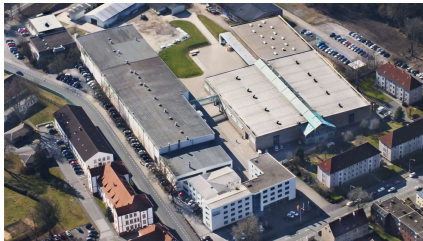
Successful venture Press release: https://www.loedige.de/fileadmin/user_upload/2019-11-12_loedige_pr_india_en.pdf

LÖDIGE- ALWAYS THE RIGHT MIX

Joint Venture Partners: Process Solutions Expertise



GEBRÜDER LÖDIGE MASCHINENBAU GMBH:



- 290 Employees
- 14,500 m² Production Area

BECTOCHEM LÖDIGE PROCESS TECHNOLOGY:



- 235 Employees
- 20,900 m² Production Area

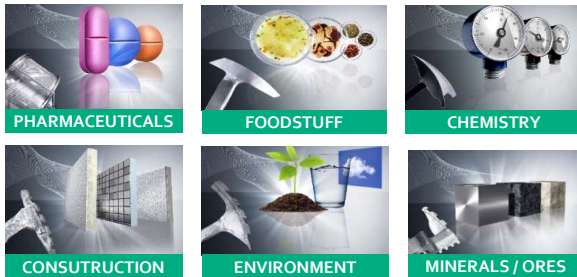
Bectochem Lödige Process Technology:

Bectochem wanted to raise conventional technology platform to meet highest quality standards and Ernst & Young had been appointed to implement strategic decision of finding strong process driven organization. While **Lödige** were to enhance their presence in Asian continent and were looking for a versatile partner in India and were assisted by Price Waterhouse Cooper for this due diligence activity. After extensive audits and detailed assessment on numerous parameters, **Lödige** with controlling stake, decided to venture in Mumbai-based Bectochem in April 2013.

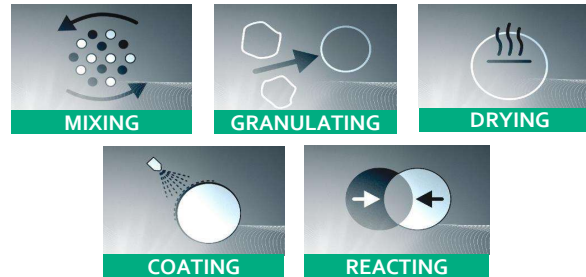
Bectochem Loedige is ISO 9001:2015 certified company for Quality Management Systems. Indian teams like Quality, Manufacturing, Sales and Project management are continuously trained by German team to ensure identical execution platform in Germany and India. This collaboration had been aggressive since inception and have successfully commissioned over 400 pharmaceutical process systems in India and its neighboring countries. This has allowed Lödige to enter a regional market which is practically inaccessible from Europe. In turn, **Bectochem Lödige** delivers systems built according to German technological and quality standards while major performance defining components are imported from Europe to ensure superior performance.



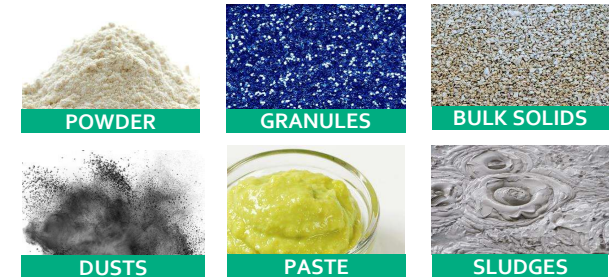
Industries



Processes



Raw Materials



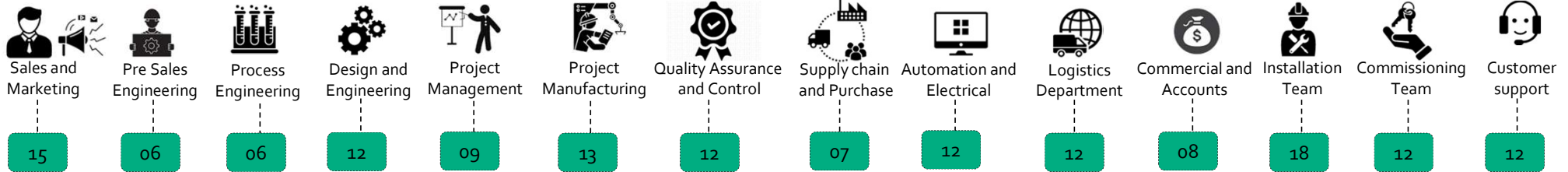
WIDER RANGE OF PROCESS EXPERTISE AND SOLUTIONS!

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BECTOCHEM LÖDIGE PROCESS TECHNOLOGY, "LÖDIGE" INDIA



BENCH STRENGTH - LÖDIGE INDIA



CORE TECH-TRANSFER PRODUCTS



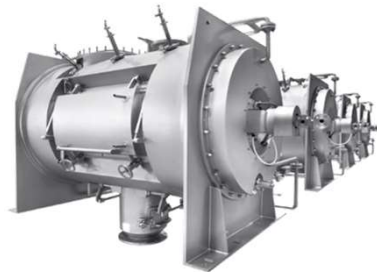
High Shear Mixer Granulator



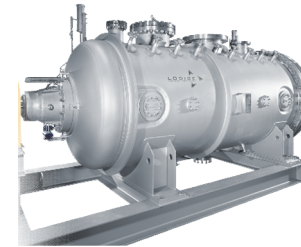
Ploughshare Mixer Granulator



Fluid Bed Equipment



Vacuum Showel Dryer and Reactor



Tablet/Pellet Coater



Tablet/Pellet Coater

Mixing and Granulation Solutions

Drying and Processing Solutions

Coating Solutions

KEY COMPONENTS IMPORTED TO ENSURE IDENTICAL PERFORMANCE!

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BECTOCHEM LÖDIGE PROCESS TECHNOLOGY, "LÖDIGE" INDIA



VALUE ADDED PRODUCTS AND ACCESSORIES



IBC Bins IBC Lift PTS System

Bulk storage and Handling

Siever Multimill Underdriven Mill

Classification and Wet/Dry Sizing

IBC Blender V Blender Octagonal Blender Double cone Blender

Blending

IBC Washer CIP Skid

In Place Cleaning

DEVELOPMENT SCALE SOLUTIONS



Mixing and Granulation

Drying and reacting

Coating

AND MANY MORE PROCESS DEVELOPMENT SOLUTIONS WITH ESTABLISHED SCALE UP STUDIES...

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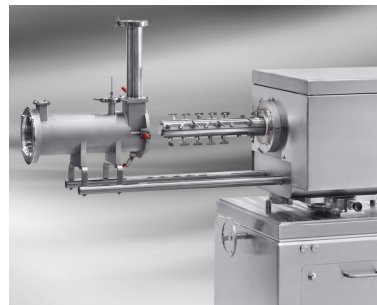
“LÖDIGE” NEXT-GENERATION TECHNOLOGY



CONTINUOUS GRANULATION



Continuous Granulator KM-5 with weigh feeders



High Speed Granulator Corimix® CM-5



Continuous Fluid Bed LCF-5 with integrated Granulator CM-5

The continuous mixer/granulator and the dryer are the heart of the Lödige line for the continuous process in the pharmaceutical industry - a complete production line from powder components to finished granulate.

The line also includes dosing units, mixers, sieves and the overall control system. Thanks to the continuous operation the product is handled by the operator only at the beginning and end of the production line. In between, it passes from one machine to the other, from one process step to the next – without handling. Less operator interaction results in a safer process and a reduction of manpower.

ADVANTAGES

- **CONSISTENT QUALITY**
- **SMALLER FOOTPRINT**
- **LESS PRODUCT HANDLING**
- **LESS PRODUCT EXPOSURE**
- **PROCESS MONITORING**

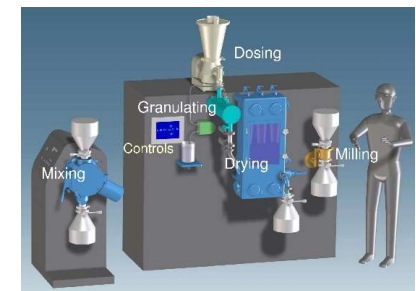
- **LESS MANPOWER**
- **LESS CLEANING HASSLES**
- **LOW CHANGEOVER TIME**
- **PRODUCT MONITORING**
- **LOWER OPERATING COST**

Production scale CWG

- 1 Raw materials
- 2 Rotary valves
- 3 Loss-in-weight feeders
- 4 Continuous mixer type KM
- 5 NIR probe
- 6 Continuous granulator type CM
- 7 Continuous fluid bed dryer type LCF
- 8 NIR probe
- 9 Control system
- 10 Vacuum conveyor
- 11 Tablet press



R&D scale CWG



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"LÖDIGE" TEST CENTER-WHERE INNOVATION BEGINS...!



TEST CENTERS @ PADERBORN OVERVIEW



CONTINUOUS GRANULATION



BATCH GRANULATION



MIXING & REACTION

TEST CENTRE MIXING AND REACTING APPLICATIONS BEING BUILT IN INDIA SHORTLY!

THE KEY TO YOUR SUCCESS!



COATING

As our customers, you develop products that are not only based on new recipes and components, but also require new processes. Of course, before you invest, you need to be sure that your new product can also be manufactured in the appropriate size, as well as in the expected quality and economy. We can give you this certainty: either through a multitude of references of the same or similar applications or through appropriate tests with original raw materials.

These should be manufactured with the same system systems and the same process control as you have in production. We can optimally support you in our technical center. We have machines for small batches and a secure scale-up on a production scale.

Our technical center is suitable for tests in the following fields of application:

- Pharmaceuticals
- Food
- Chemistry
- Minerals
- Environment

The following process steps, individually or in combination, can be carried out:

- Mixing
- Drying
- Reactions
- Coating/Layering
- Granulation
- Emulsification

- Product Development
- Process Development
- Process Optimization
- Scale up studies

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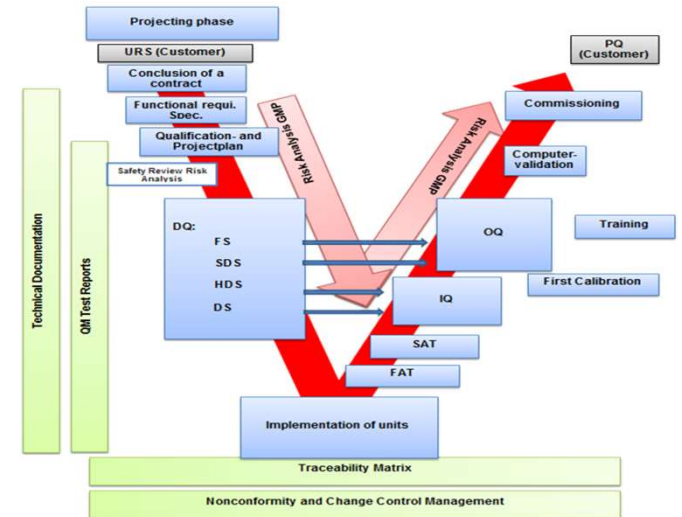
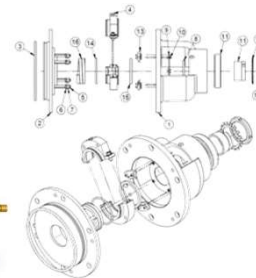
"LÖDIGE" INDIA – QUALITY MANAGEMENT



LÖDIGE INDIA PROJECT MANAGEMENT



- Centralized SAP system for seamless data management
- Inquiry to commissioning: End to end system driven by SAP
- Total transparency with streamlined work flows
- Traceability
- System generated reports for project activities tracking



DETAILED ENGINEERING IN 3-D VIEWS FOR 100% CLARITY AND BOQ ACCURACY

FDA CONFIRMING EU STANDARDS



Strict adherence of 5S



Implimentation ensures Continuous improvement



HIGHEST QUALITY DELIVERANCE BY "LÖDIGE" INDIA!

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CUSTOMER PARTNERED "LÖDIGE" INDIA



...THE PARTIAL LIST...!

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