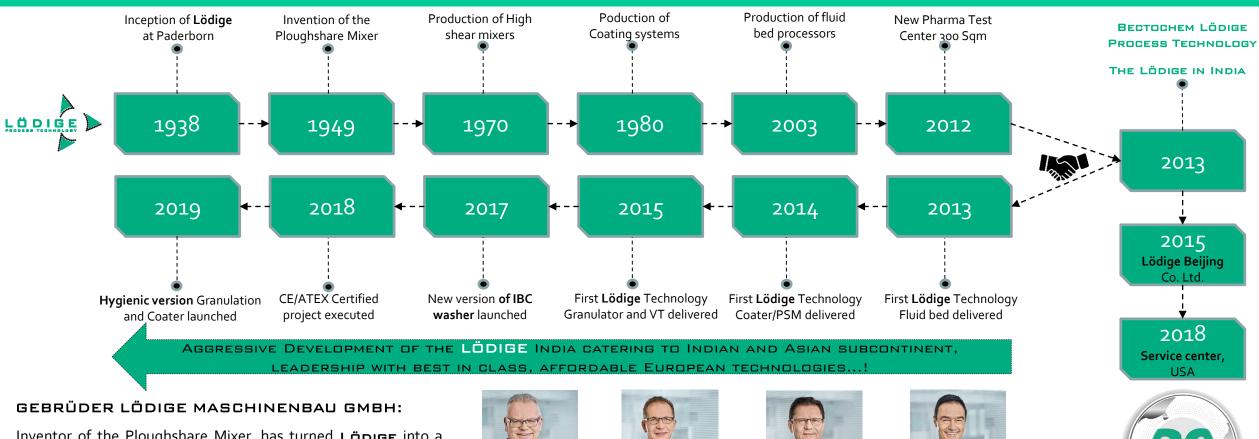
BECTOCHEM LÖDIGE Process technology



Corporate Profile

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



Dr. Dirk Sunderer Managing Director



Georg Keich Commercial Director



Dr. Herald Reinach Technical Director

LÖDIGE GERMANY MANAGEMENT

Sales Director

LÖDIGE- ALWAYS THE RIGHT MIX

BECTOCHEM LÖDIGE

TECHN

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PROCESS

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

JOINT VENTURE PARTNERS: PROCESS SOLUTIONS EXPERTISE



GEBRÜDER LÖDIGE MASCHINENBAU GMBH:





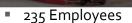
290 Employees

BECTOCHEM LÖDIGE PROCESS TECHNOLOGY:

14,500 m² Production Area

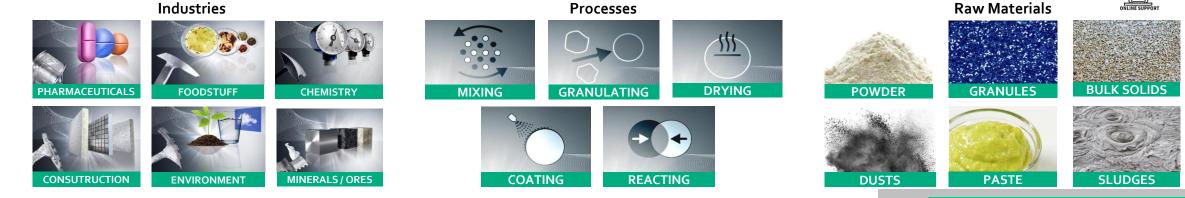
German technological and quality standards while major performance defining components are imported from Europe to ensure superior performance.

BECTOCHEM LÖDIGE PROCESS TECHNOLOGY:



20,900 m² Production Area

GAMP 5



Bectochem wanted to raise conventional technology platform to meet highest guality 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

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

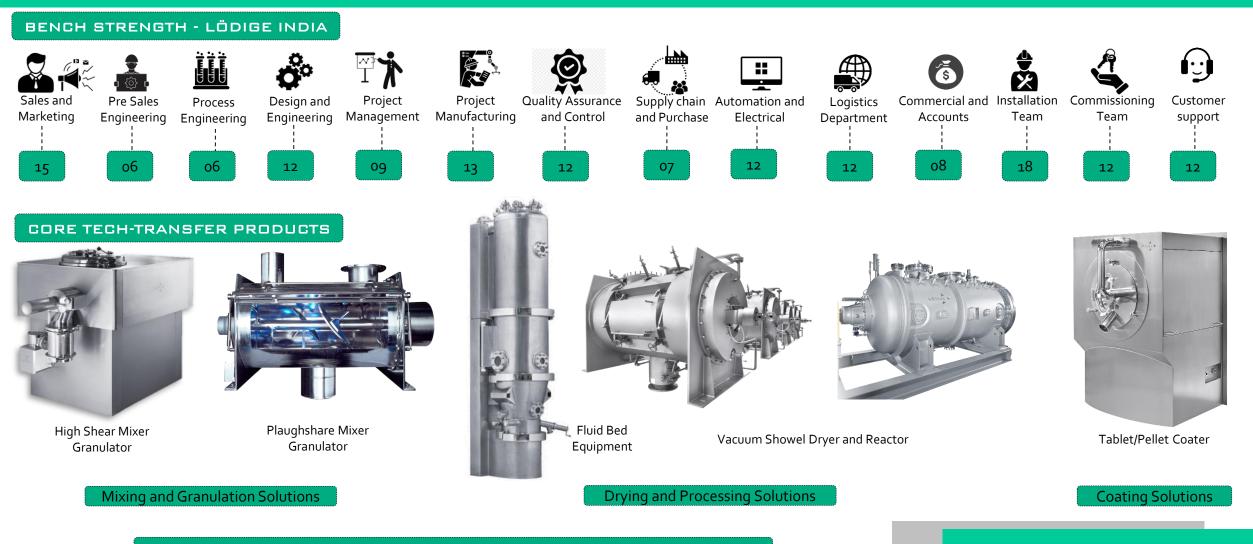
team to ensure identical execution platform in Germany and India. This collaboration had been aggressive since inception and have successfully commissioned over 400 pharmaceutical process systems in India and its neighboring countries. This has allowed Lödige to enter a regional market which is practically inaccessible from Europe. In turn, **Bectochem Lödige** delivers systems built according to

WIDER RANGE OF PROCESS EXPERTISE AND SOLUTIONS!

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 LÖDIGE PROCESS TECHNOLOGY, "LÖDIGE"INDIA

BECTOCHEM LÖDIGE



KEY COMPONENTS IMPORTED TO ENSURE IDENTICAL PERFORMANCE!

BECTOCHEM LÖDIGE PROCESS TECHNOLOGY, "LÖDIGE"INDIA





DEVELOPMENT SCALE SOLUTIONS



Mixing and Granulation

Drying and reacting

Coating

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

"LÖDIGE" NEXT-GENERATION TECHNOLOGY





CONTINUOUS GRANULATION



Continuous Granulator KM-5 with weigh feeders



High Speed Granulator Corimix[®] CM-5



DWD

scale CWG

R&D

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

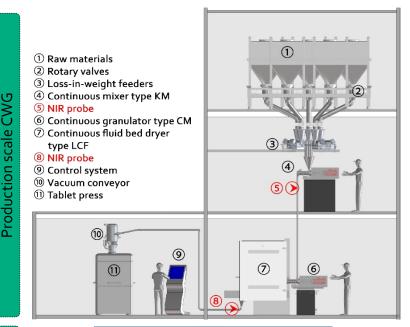
The continuous mixer/granulator and the dryer are the heart of the Lödige line for the continuous process in the pharmaceutical industry - a complete production line from powder components to finished granulate.

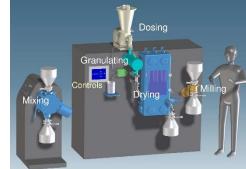
The line also includes dosing units, mixers, sieves and the overall control system. Thanks to the continuous operation the product is handled by the operator only at the beginning and end of the production line. In between, it passes from one machine to the other, from one process step to the next - 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





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

BECTOCHEM LÖDIG





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.

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



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

"LÖDIGE"INDIA – QUALITY MANAGEMENT



PROCESS TECHNOLOGY



LÖDIGE INDIA PROJECT MANAGEMENT

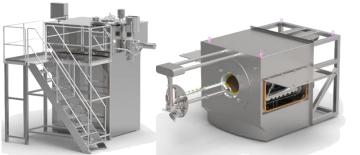
- Centralized SAP system for seamless data management
- Inquiry to commissioning: End to end system driven by SAP
- Total transparency with streamlined work flows
- Traceability

Sustain

Strict adherance of

5 S

• System generated reports for project activities tracking





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

PQ (Customer) URS (Customer) Conclusion of a contract Functional requi Commission Spe Qualification- a Projectpla Computer-validation Safety Review Risk Analysis Training DQ: 00 FS SD S **MM Test Reports** First Calibration HDS DS SAT FAT Traceability Matrix Nonconformity and Change Control Management

FDA CONFIRMING EU STANDARDS

Projecting phase

HIGHEST QUALITY DELIVERANCE BY "LÖDIGE"INDIA!

Implimentation ensures Continuous improvement

CUSTOMER PARTNERED "LÖDIGE"INDIA

BECTOCHEM LÖDIGE

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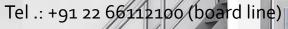
SUN NUSTRIES LTD. Cipla Abbott gsk Mylan Cadila Healthcare Limited SBiocon **(** GRANULES Promise for Life GlaxoSmithKline s believing USV JUBILANT LIFESCIENCES Mankind /// Alembic **AUROBINDO** USV LIMITED Pharma meiji Meiji Group ÷ HLL Lifecare Limited Harman NICHOLAS PIRAMAL LYRUS adcock ingram (A Govt. of India Enterprise) MEDREICH ARISTO INDIA LIMITED MICRO LABS LIMITED LEODY <u>Rūsan</u> INTAS Centaur BioMatr**y**x amneal A TECHNOLOGY DRIVEN ENTERPRI J.B. Chemicals & Pharmaceuticals Ind-Swift LADORATORIES LIMITED **H**imalaya[®] Amarox SINCE 1946 ACTOVERCO 兵 neopharma Hindustan Unilever Limited RENATA LIMITED **OMAN PHARMACEUTICAL** X Pharma core NICOMAC 2 MAY & BAKER NIGERIA PLC. PRODUCTS US**PharmaLab** CHEMICAL COMPANY OF MALAYSIA Unique Pharmaceuticals Ltd. Zynova Innovative Natural Solutions SigmaPharm LABORATORIES

...THE PARTIAL LIST ...!

Contact us:

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