



**Multiplicity**  
**Flexibility**  
**Partnership**  
**Trust**  
**Service**  
**Speed**

P h a r m a Z e l l

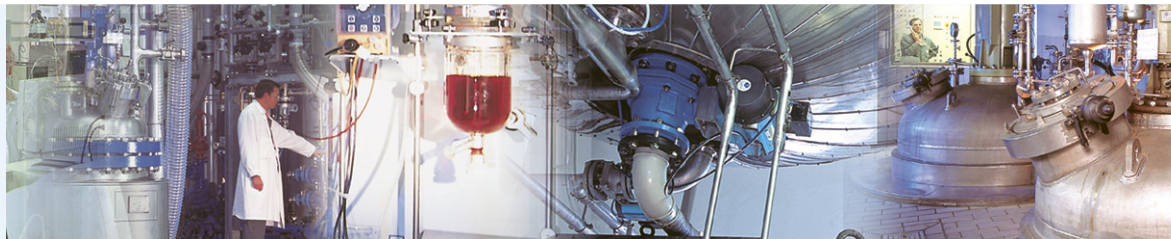
**Your Sources for High Quality Products & Services**

**PharmaZell offers**

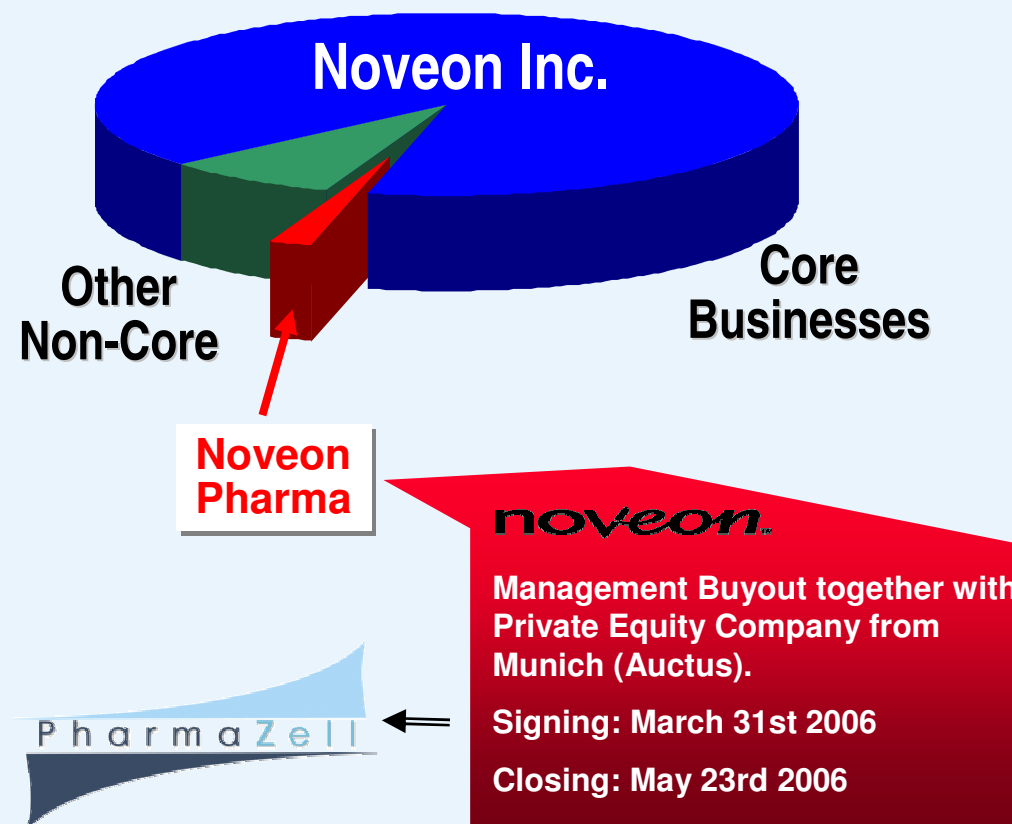
- Active Pharmaceutical Ingredients (API)
- Advanced Intermediates
- Custom Synthesis (Development & Manufacturing)
- Analytical and Regulatory Services
- Pharmaceutical Development **new !**

**from laboratory scale to commercialization**

**[www.pharmazell.com](http://www.pharmazell.com)**



Where we come from:

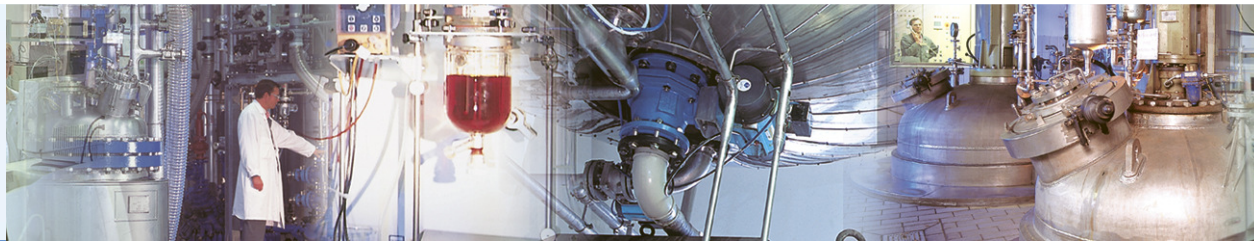


In June 2007 GEA Pharmaceuticals A/S in Copenhagen, Denmark was acquired.

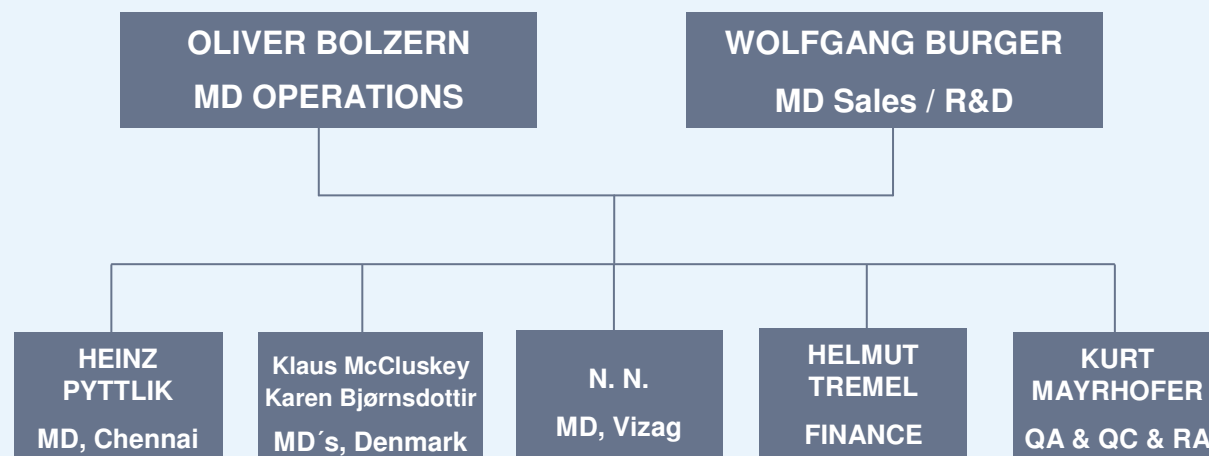


## 6 Key Characteristics of PharmaZell

- Mission:** provide sustainable quality ingredients & services at competitive prices
- Service:** competent and fast solutions on standard APIs, intermediates, custom synthesis & pharmaceutical development
- Structure:** separate manufacturing sites in Germany, Denmark and India
- Certification:** all sites are cGMP certified by European authority, proven long track record with the US-FDA
- Flexibility:** cost structure and capacity through European and Indian manufacturing sites
- Commitment:** state of the art quality products & services; specialized to meet specific customer formulation requirements



## PharmaZell Organization







## PharmaZell is now active on four sites

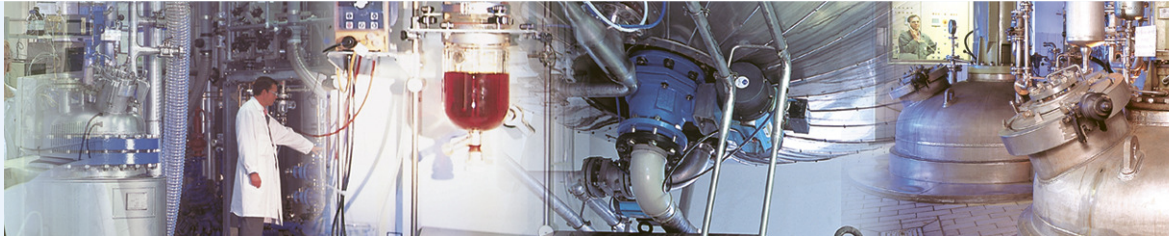
	<b>Raubling, Germany</b>	<b>Copenhagen, Denmark</b>	<b>Chennai, India</b>	<b>Vizag, India</b>
<b>Site founded</b>	1947	1927	1996	2007
<b>Production scale</b>	Pilot & commercial	Pilot & commercial	kg-Lab & commercial	commercial
<b>Employees*</b>	119	83	181	85
<b>Compliance</b>	cGMP	cGMP	cGMP	cGMP
<b>Total reactor volume (m<sup>3</sup>)</b>	> 100	29	65	expandable
<b>Key characteristics</b>	<i>Group Head Office</i>	<i>Production of Controlled Substances</i>  <i>Drug Product Development</i>	<i>Attractive labor &amp; raw material cost structures</i>	<i>Gradually expandable</i>  <i>R&amp;D center to start-up in Q.1. 2008</i>

\* Number of employees as per 31<sup>st</sup> of December 2007





PharmaZell



Site Raubling

## PharmaZell Site **Raubling**, Germany (close to Munich)

**API Production since 1947**

**Fully Integrated Site:**

- R&D, Pilot Plant, Commercial Production
- QA/QC/RA, Sales & Marketing
- Project Assessment & Management

**cGMP compliant** (incl. product specific certificates)

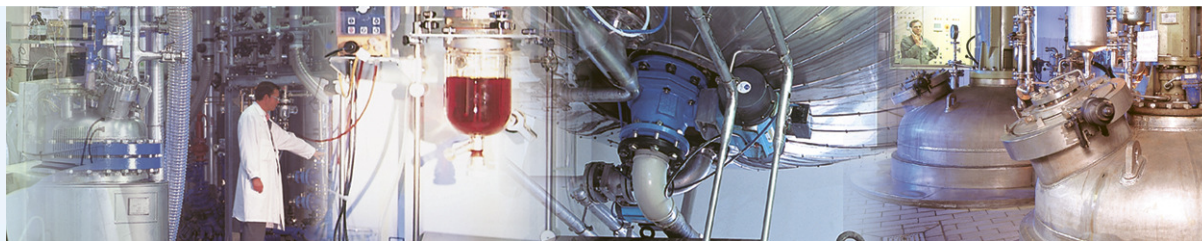
**last FDA Inspection Nov. 2007**

**Activities:**

- Process Development
- Custom Manufacturing
  - of new APIs
  - of advanced Intermediates
- Analytical Method Development



PharmaZell



Site Copenhagen

## GEA Pharmaceuticals A/S

a PharmaZell Company

**Copenhagen, Denmark**

**API Production since 1927**

**Fully Integrated Site:**

- R&D, Pilot Plant, Commercial Production
- QA/QC/RA, Project Management
- Pharmaceutical Development

**cGMP compliant** (incl. product specific certificates)

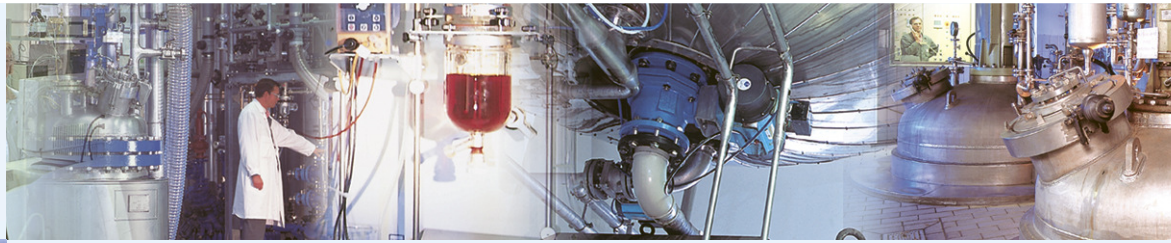
### **Activities:**

- Process Development
- Custom Manufacturing
  - of new APIs
  - of Advanced Intermediates
  - including **controlled substances**  
(e.g. Amphetamines, Opioids)
- Analytical Method Development
- Complete Dossier Development for Finished Dosage Forms
- Manufacture of Clinical Trial Batches





PharmaZell



Site Chennai

## PharmaZell Site Chennai, India

**Inauguration in 1996**

**German Management**

**Fully Integrated Site**

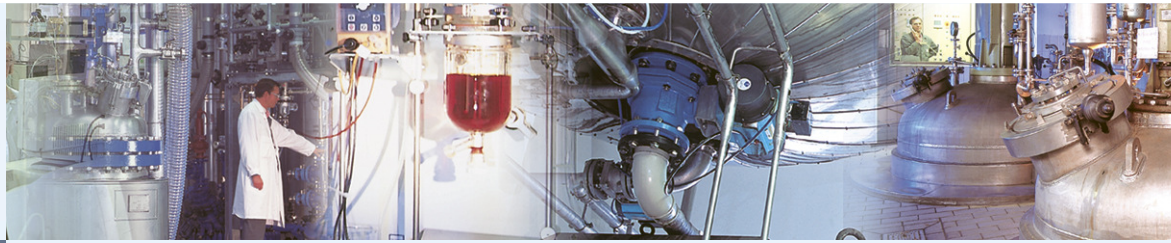
- R&D, Kilo-Lab, Production, QA/QC/RA

**cGMP compliant** (incl. product specific certificates)

### **Activities:**

- Process Development
- Custom Manufacturing
  - of mature APIs
  - and Intermediates
- Analytical Method Development



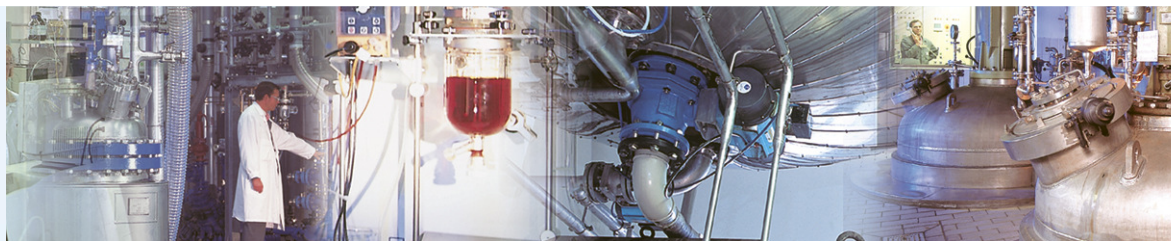


## PharmaZell Site **Vizag** - Pharma City, India

### **“Bhoomi Puja” (Groundbreaking Ceremony) 06/2007**

- R&D Center (Dezember 2007: fully operational)
- Production Units (Summer 2008: Start up of Mesalazine production)



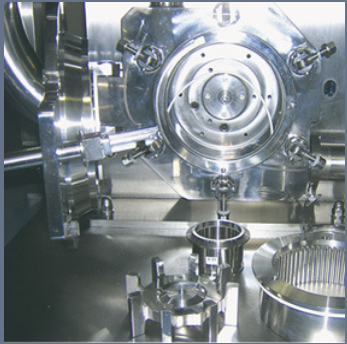
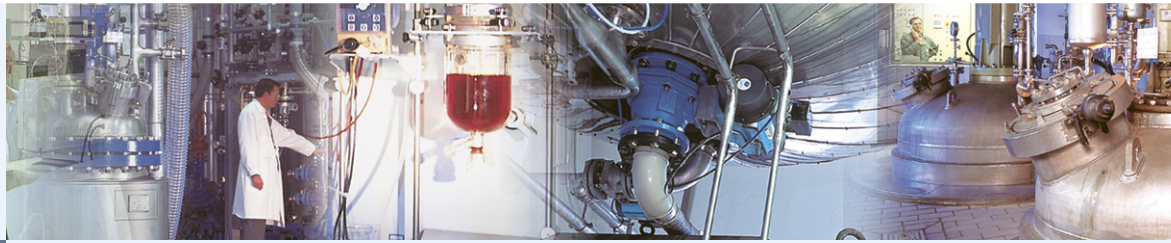


## Technical and Chemical Capabilities

- Large “Toolbox” of Chemical Reactions suitable for Multi Step Synthesis
- Multi Purpose Batch Production with Reactor Sizes from 200 – 14000l
- Drying and Product Handling in Controlled Areas
- Milling and Micronization in Controlled Areas

### Specially Equipped Units exist for:

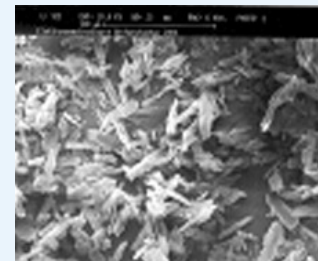
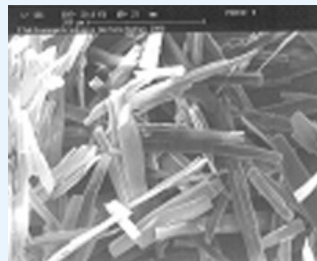
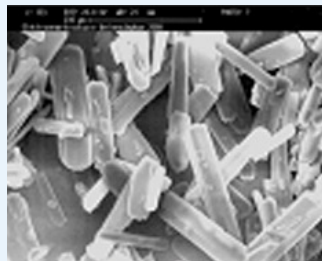
- Electrochemical Reductions
- Halogenation
- Nitration 100% Nitric Acid
- Diazotation
- Epichlorohydrine Chemistry
- Catalytic Hydrogenation
- Acylation and Alkylation
- Synthesis and Handling of Synthetic and Opioid Controlled Substances



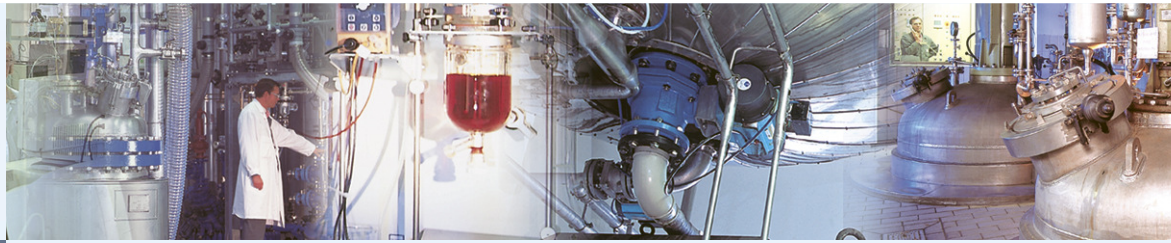
**We put particular emphasis on custom made particle forms to meet formulation needs of our customers by:**

- **Designing Crystallization Processes**
- **Drying Technology**
- **Milling and Micronization**
- **Micronization with Ball Mill e.g. for Inhaler Products**

**Challenge us to convert your product to the right form!**







## Pharmaceutical Development

- Formulation and Process Development
- Manufacture of Clinical Trial Batches
- Scale up/Tech. Transfer to Customer Sites
- Development and Production Support

-> Excellences:

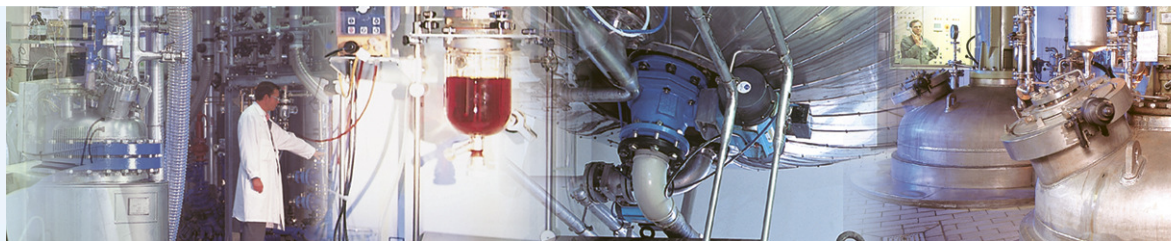
- Functional Coatings
- Pellets

## Clinical Support

- Bioequivalence Studies
- Bioanalytics, Method Development/Validation
- Biometry

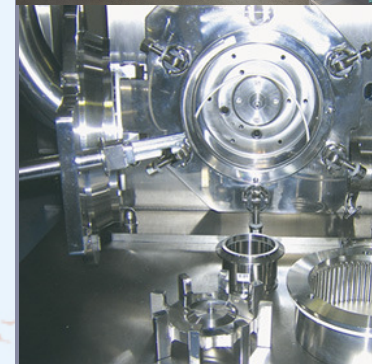


PharmaZell



... we are your partner for

- ✓ **API's and Advanced Intermediates**
  - Tailor Made Physical Characteristics of API's
- ✓ **Custom Synthesis**
  - Projects in Clinical Phases
  - Outsourcing Requirements
- ✓ **Pharmaceutical Development**
  - Formulation and Process Development
  - Projects in Clinical Phases
- ✓ **Product Volume from few kg to multi ton Scale**



The background of the slide is a photograph of a majestic, snow-capped mountain range under a blue sky with scattered white clouds. The mountains are rugged, with sharp peaks and some snow patches. The sky is a clear, pale blue. The overall image has a vertical orientation. The logo for 'Pharmazell' is centered in the upper half. It consists of the word 'Pharmazell' in a sans-serif font. The 'Z' is a large, stylized letter that is blue and has a white outline. The other letters are black. Above the 'Z' is a blue, curved shape that looks like a stylized 'P' or a swoosh. Below the 'Z' is a black, curved shape that looks like a stylized 'e' or a swoosh. The entire logo is framed by a thin black line.

P h a r m a Z e l l

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