Partner in India for over 150 years

Sales of over ₹ 4000 crore with >6,400 employees

As a globally diversified industrial group, we want to create value for all our stakeholders and become the market leader in all our areas of operations in India.
Market leading technology across diverse industries

- Our unique cold cyclone technology with least emission levels for CFBC boilers
- Powering over 60% windmills in India
- Over 60% market share in Cryogenic Ammonia storage tanks
- Over 70% market share in Chlorine Plants
- First and only dedicated Aerospace material and logistics facility
- Only manufacturer of grain-oriented steel
How to move forward?

Electrical steels:
• Generation
• Transportation
• Motors

Storing of renewable energy:
• Advanced Redox Flow Battery
• Alkaline Water Electrolysis

etc.

Alternative Fuels:
• BioTFuel (= diesel)
• OME (no NOx)
BioTfueL – biomass becomes sustainable fuel.

Torrefication

Synthesis gas production

Basic material

Cleaning and synthesis

Cleaning and synthesis

260–280 °C

120–180 °C
Smart energy storage – Advanced Redox Flow Batteries (RDFB) and Alkaline Water Electrolysis (AWE)

- Renewable sources of energy

- Redox-Flow battery

- Water electrolysis

<table>
<thead>
<tr>
<th>Capacity /MWh</th>
<th>Output /MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Year</td>
<td>1</td>
</tr>
<tr>
<td>1 month</td>
<td>10</td>
</tr>
<tr>
<td>1 day</td>
<td>100</td>
</tr>
<tr>
<td>1 hour</td>
<td>1000</td>
</tr>
<tr>
<td>1 minute</td>
<td>10,000</td>
</tr>
</tbody>
</table>

- Power supply

- Positive electrolyte

- Negative electrolyte

- Water electrolysis

- Power supply

- Hydrogen (H₂)

- Oxygen (O₂)

- Hydrolysis (H₂O)
Carbon2Chem – cross-industry solutions for GHG challenges

Steel Production
- Coke Plant
- Blast Furnace
- Steel Making

Renewable Energy

Power Plant

Process Control

Chemical Plant
- Water Electrolysis
- Methanol Synthesis

Fuel
- Fertilizer
- Plastics

Energy

Off-gas: 43% H₂, 26% CO, 22% CO₂, 9% N₂, 2% CH₄

Bundesministerium für Bildung und Forschung

GEFÖRDERT VOM
How to get there?

Connectivity is not just between stations

- MULTI
- ACCEL
- Elevators
- Escalators
How to support it? – novel cement making
Oxyfuel - but also “intermediate“ solutions such as alternative fuels, PREPOL®, etc.
Climate Action must be holistic and inclusive

Mobility is a key factor

Increase mobility and decrease GHG emissions

Attractiveness is defined by the whole offer

Look intensely at components and ingredients

India can play a pivotal role