Agenda

1. Introduction to Evonik
2. Introduction to Evonik in Southeast Asia
3. Evonik Products and Services for the Palm Oil Industry
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Where we stand

Evonik is the creative industrial group from Germany.
Who drives 5,000 kilometers without a drop of gasoline? We do.
Evonik – a global leader in specialty chemicals

<table>
<thead>
<tr>
<th>Key financial data 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
</tr>
<tr>
<td>Profitability</td>
</tr>
<tr>
<td>Employees</td>
</tr>
</tbody>
</table>

- A worldwide presence
- Production sites in 26 countries, active in over 100 countries
Megatrends drive our business

**Definition:**
A megatrend is a big, far-reaching and sustained trend.

**Megatrends**
- are long-term
- are all-encompassing
- send out signals in many areas of life
- are generally global in scope
Alignment to megatrends leads to sustainable growth in all segments

<table>
<thead>
<tr>
<th>Key examples</th>
<th>Consumer, Health and Nutrition</th>
<th>Resource Efficiency</th>
<th>Specialty Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evonik applications</td>
<td>Compound animal feed</td>
<td>Baby Care</td>
<td>Green tires</td>
</tr>
<tr>
<td></td>
<td>#1 in feed amino acids</td>
<td>#1 – 2 in superabsorbent polymers</td>
<td>#1 in Silicas</td>
</tr>
</tbody>
</table>

End market growth

<table>
<thead>
<tr>
<th>GDP +</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Integrated technology platforms ensure cost leadership and leading market positions</td>
</tr>
<tr>
<td>• 80% of sales revenues from leading market positions</td>
</tr>
<tr>
<td>• 70% of sales revenues from integrated technology platforms</td>
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</tbody>
</table>
Innovation: global network, focus on customers’ needs

Research & Development

- Innovation for attractive markets with high growth potential
- Regional focus of R&D activities is still on Germany, USA and Asia
- Key statistics 2011:
  - R&D spend: €365 m. (~3 % of sales)
  - Employees: ~2,400
  - Facilities: ~35
  - >25,000 patents / >7,700 trademarks

Examples of successful innovation

- Lithium-ion battery technology
- Myristyl myristate - emollient for personal care products
- PMMA for LCD screens
CLIB2021 – strong cross-industry open innovation cluster for global networking
We are continuing to build our presence in growth regions.
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Evonik in South East Asia, Australia & New Zealand

Facts

Operations since 1920s
Headcount 2011 512
Turnover 2011 € 460 million*
Structure 12 Legal Entities
7 Production Sites
2 Rep. Offices
Population ≈ 622 million
GDP ≈ 3 trillion US$
Real GDP growth > 5% CAGR 2010-20
(SEA w/o ANZ)

* portfolio adjusted, excl. exports
Evonik in Malaysia

Country Head Malaysia
Michael Wilkes

Evonik Malaysia Sdn. Bhd.

<table>
<thead>
<tr>
<th>Established</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Located</td>
<td>Plaza Sentral Block 2 B Level 9, Jalan Stesen Sentral 5 50470 Kuala Lumpur</td>
</tr>
<tr>
<td>Headcount</td>
<td>7</td>
</tr>
<tr>
<td>Scope</td>
<td>Sales &amp; Marketing of imported Evonik products</td>
</tr>
<tr>
<td>2011 Turnover</td>
<td>47 m €</td>
</tr>
</tbody>
</table>
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The proposition

We are exploring whether Evonik's products and services, which have proven successful in other industries, can also be applied to the palm oil industry.

Why?

By increasing yields and utilizing by-products, we may contribute to the sustainability ("people, planet, profit", or "economy, ecology, social") of the industry through increased profitability, reduction of environmental impact and creating new jobs.
1. Stockosorb

2. Sepuran (using POME Methane for captive/regional demand)

3. Use of 2nd generation mass in general (EFB, PK shells, PK fibers, fronds, trees) for sugars, syngas, paper, biochar

4. Biodiesel and biodiesel additives
1. STOCKOSORB®

- Increases water holding capacity of soils
- Reduces frequency of irrigation
- Prevents leaching of valuable nutrients
- Reduces labor and maintenance costs associated with irrigation
- Enhances survival rates of new trees and shrubs
- Improves plant quality
- Allows for plant growth in extremely hot and dry climatic conditions
2. New benchmark in biomethane production: SEPURAN® Green

Evonik’s contribution to an efficient biomethane purification process
2. SEPURAN® membranes to purify biogas

- Based on polyamide
- Functions by controlled diffusion
- Low maintenance
- Low space requirements
- Direct feeding (via a transmission pipeline) into the natural gas grid is possible without an additional compressor
3. Biochar

The slow-pyrolysis of biomass is a biorefinery process that will yield more than just biochar.

Scheme of the pyrolysis process and its products application

The Biochar production process is a biorefinery with multiple products for various application:

Biooil:
- as feedstock for energy generation
- as raw material in chemical processes

Biochar:
- a carbon sink
- a soil amendment material
4. Biodiesel and biodiesel additives

NM 30 and KM 32: Catalyst for transesterification

\[
\begin{align*}
\text{H}_2\text{C} \& \text{O} \& \text{C} \& \text{R} & \quad + \quad 3 \text{CH}_3\text{OH} & \quad \frac{\text{NaOCH}_3}{\text{NM 30/KM 32}} \\
\text{H}_2\text{C} \& \text{O} \& \text{C} \& \text{R} & \quad \text{H}_2\text{C} \& \text{O} \& \text{H} & \quad \text{H}_2\text{C} \& \text{O} \& \text{H} & \quad + \quad 3 \text{R} \& \text{C} \& \text{OCH}_3
\end{align*}
\]

Defoamer TEGO® Antifoam

Cold flow improver VISCOPLEX CFI®