

Voorstelling

Borealis Antwerpen Compounding

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13.20 – 13.35

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SHAPING *the* FUTURE *with* PLASTICS

Presenting Borealis

2011



SHAPING *the* FUTURE *with* PLASTICS

Borealis at a Glance

- **Leading provider of chemical and innovative plastics solutions that create value for society**
- **More than 50 years of experience**
- **Unique Borstar® technology to develop polyolefin solutions that are tailored to customers' needs**
- **Around 5,100 employees worldwide and customers in over 120 countries**
- **Ownership 64% IPIC / 36% OMV**
- **Joint venture in Middle East and Asia: Borouge (Abu Dhabi)**



Borealis and Borouge locations

Borealis locations

Customer Service Centres/ Representative Offices:

Abu Dhabi (UAE), Austria, Belgium, Finland, Hungary, Italy, Russia, Singapore, Turkey, United States

Production Plants: Austria, Belgium, Brazil, Finland, Germany, Italy, Sweden, United States

Innovation Centres: Austria, Finland, Sweden

Head Office: Austria

Borouge locations

Sales Offices/ Representative Offices: Abu Dhabi (UAE), Australia, China, India, Lebanon, New Zealand, Singapore

Production Plants: Ruwais, Abu Dhabi (UAE); China

Logistics Hubs: Abu Dhabi, China, Singapore

Head Offices: Abu Dhabi, Singapore



Providing Solutions in Polyolefins



Infrastructure



Mobility



Advanced Packaging

...and Base Chemicals



Phenol and Acetone



Feedstocks and Olefins



Melamine



Fertilizer

Wire & Cable: Strippable insulation shield brings benefits for the entire value chain

The challenge

more consistent product using
fewer raw materials and less manual labour,
ensuring a long and reliable service life

The solution

Borealis LE 0520 semicon PE

The benefits

Simple product formulation
Good processing characteristics
Less by-product residues during cable extrusion
Solid material handling and storage ability



Investments in Europe

- **Linz, Austria: groundbreaking of a new semi-commercial catalyst plant in March 2011. Total investment of approximately EUR 75 Mio**
- **Stenungsund, Sweden: EUR 7.8 Mio investment in new butane storage cavern in 2011**
- **Stenungsund, Sweden: Low-density PE plant inaugurated in June 2010**
- **Schwechat, Austria: Four-reactor configuration of PP plant completed and Borstar® PP pilot plant start-up in 2009**



Stenungsund, Sweden

Expansion in the Middle East and Asia

Borouge 2: Completed start-up of all related plants in 2010

- Increased annual production capability to 2 million tonnes of Polyolefins

Borouge 3: Expansion of PO capacities

- The Borouge 3 plant expansion will be completed at the end of 2013
- A further capacity of 2.5 million tonnes per year (t/y) will be fully operational in mid-2014

New logistics hubs constructed in Shanghai and Guangzhou, China in 2010



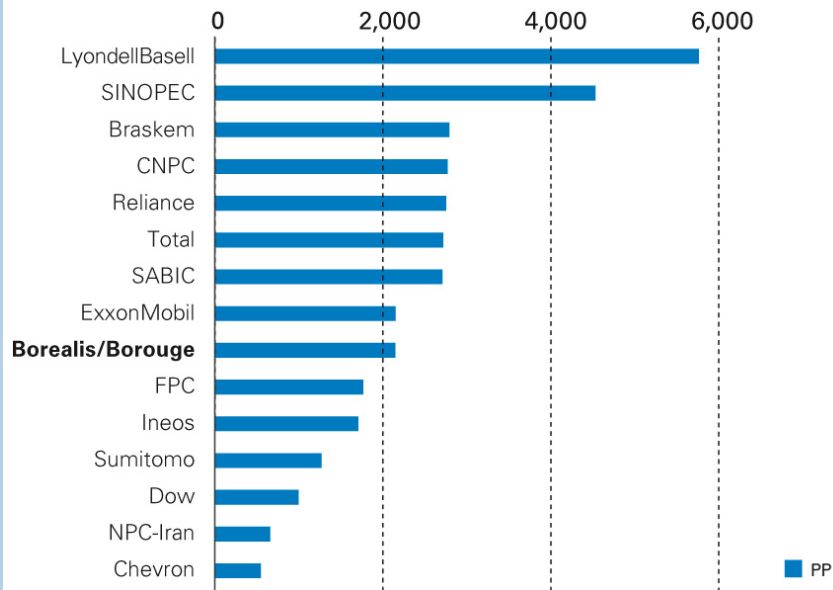
Borouge 2, Ruwais, Abu Dhabi

PP Producers 2010:

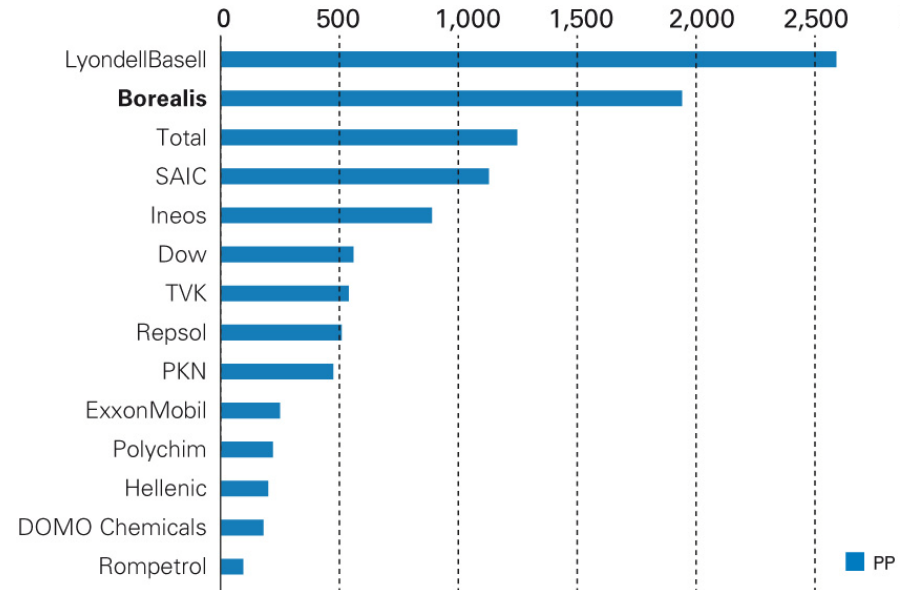
Borealis/Borouge 9th in World, Borealis 2nd in Europe

Capacities 2010 based on ownership share %

World



Europe



Source: Borealis/CMAI

Our Values drive our actions



Responsible

We are leaders in Health, Safety and the Environment

We are good neighbours wherever we operate

We do business according to high ethical standards

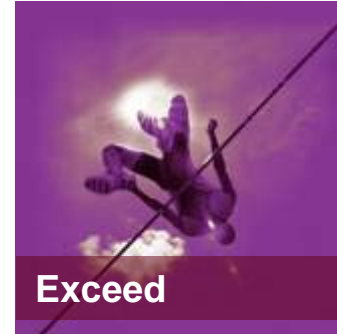


Respect

We involve people and communicate in a straightforward way

We work together - helping and developing each other

We are "One Company" - building on diversity



Exceed

Our customers' and owners' success is our business

We win through commitment and innovation

We deliver what we promise - and a little bit more



Nimbllicity™

We are fit, fast and flexible

We create and capture opportunities

We seek the smart and simple solutions

Borealis Antwerpen Compounding



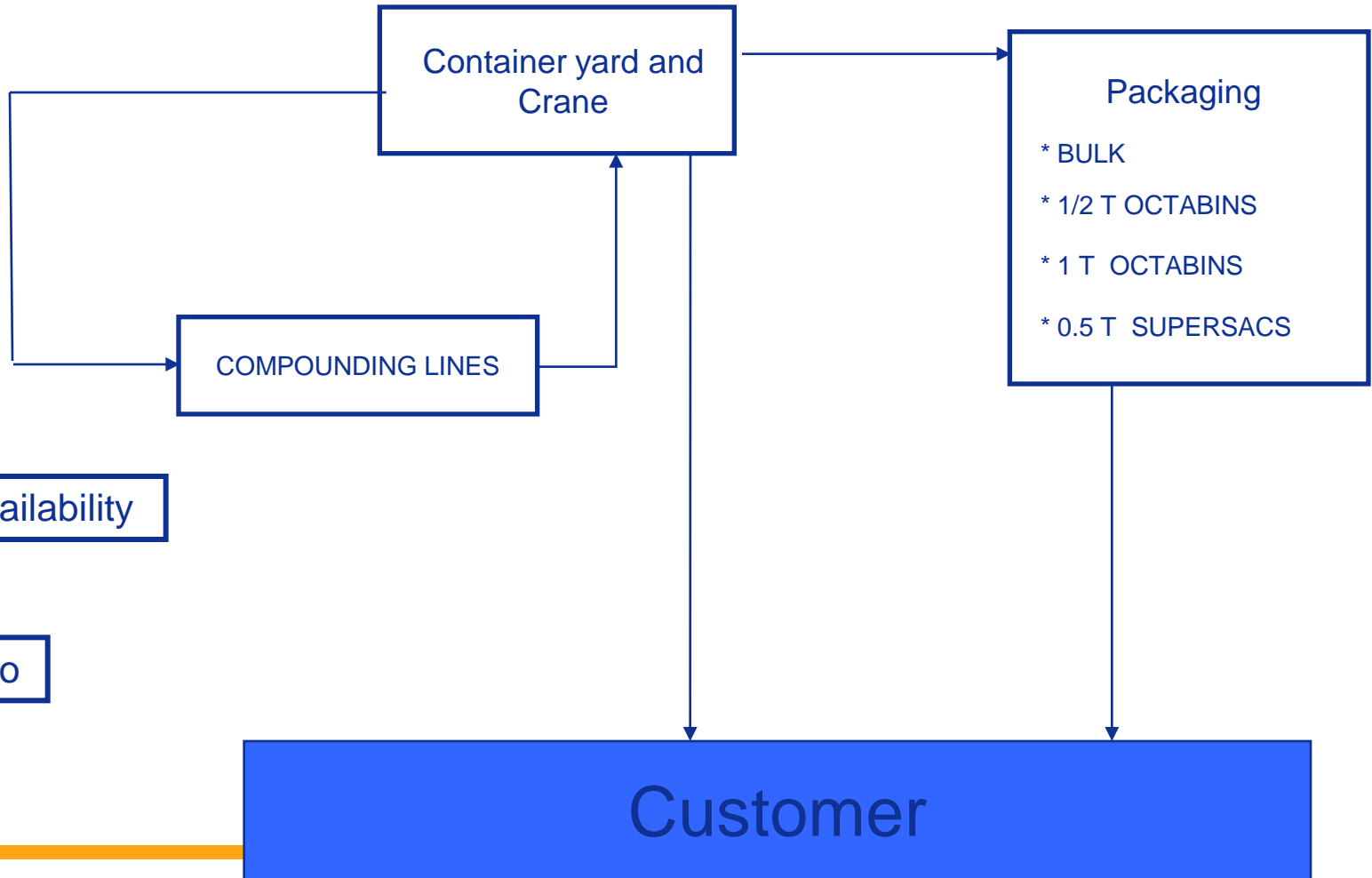
SHAPING *the* FUTURE *with* PLASTICS

Borealis Antwerpen Compounding

- Technology: Compounderen van low density poly ethyleen (LDPE), specifiek voor “Wire & Cable” markt.
- Productgroep: Wire & Cable
 - Peroxide cross-linkable insulation and semicon for medium and high voltage power cables
 - Low voltage (Visico and peroxide cross-linkable)
- Applications
 - Semi conductive
 - Insulation (PEX)
 - Building wire (Flame retardant)



Overview of Borealis Zwijndrecht



Historical overview – Antwerpen

- 1979 Purchase by BP Chemicals of all Antwerp PE-facilities
(High pressure LDPE-plant +Compounding plant + Material handling)
Start-up of two compounding lines 1&2
- 1987 Start-up of a new semicon compounding line 3
- 1993 Purchase by Neste Chemicals of all W&C PE-facilities
- 1994 Merger with Statoil to form Borealis
- 1997 Start-up of a new semicon compounding line 4
- 2000 Oct. 2, joint venture between Borealis and DuPont => SPA
- 2003 Split of Compounding production plant of SPA.
Founding of Borealis Antwerpen Compounding

Control room
compounding

Line 3 & 4
semicon

VPE 1 (natural ins)
VPE 2 (black semic)

Van box
washing

Admin
building

Line 1 (insulation)
Line 2 (FR)

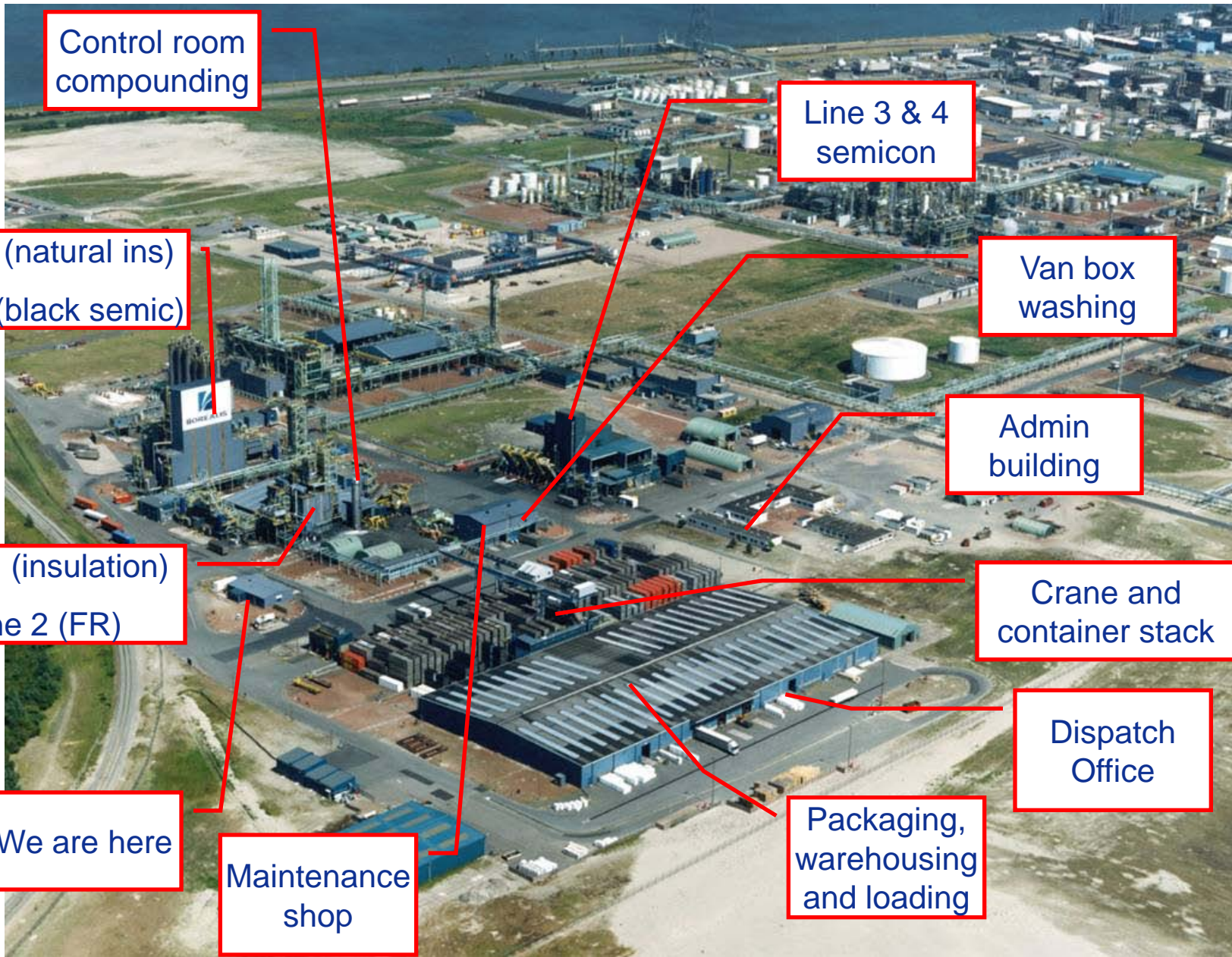
Crane and
container stack

Dispatch
Office

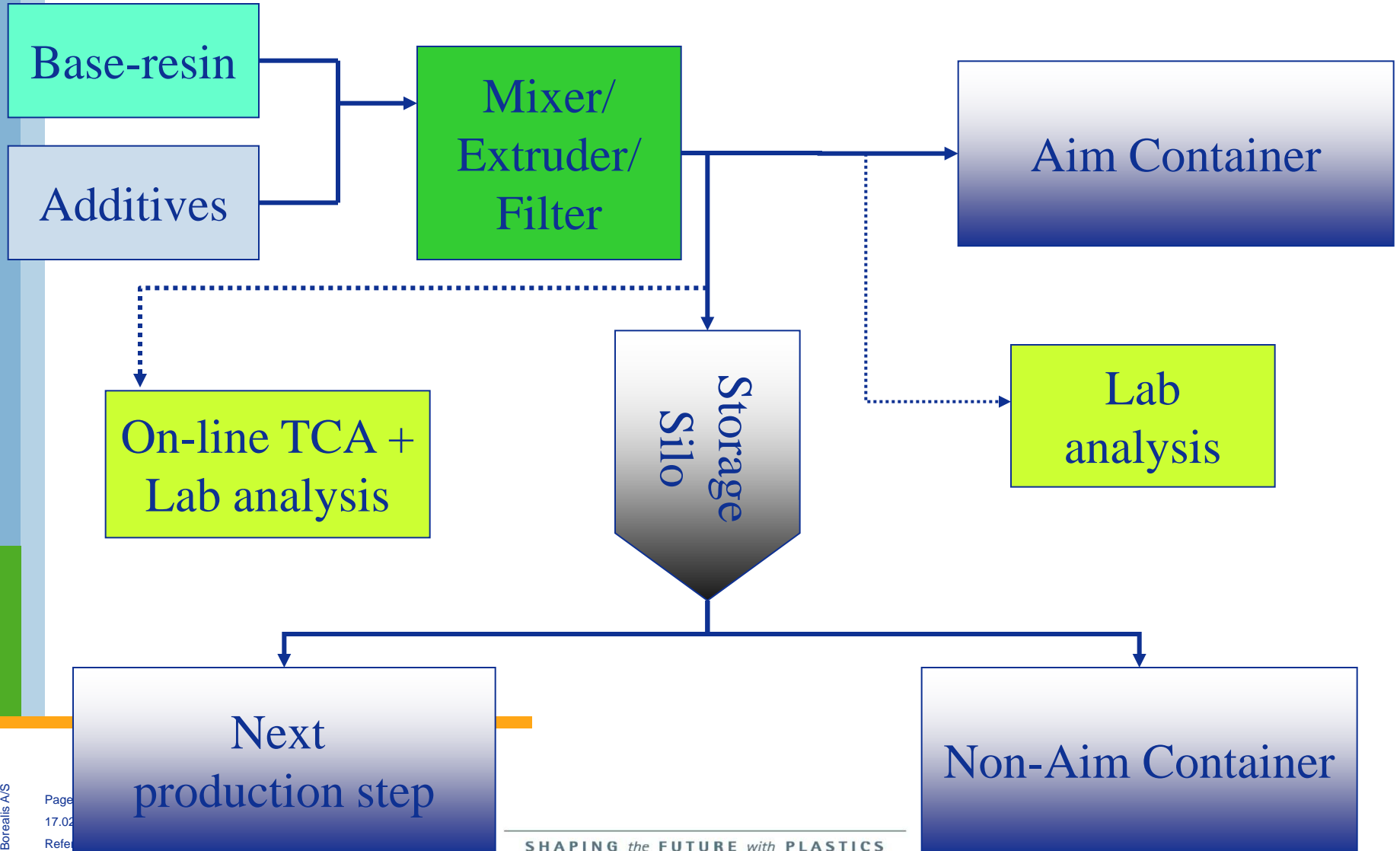
We are here

Maintenance
shop

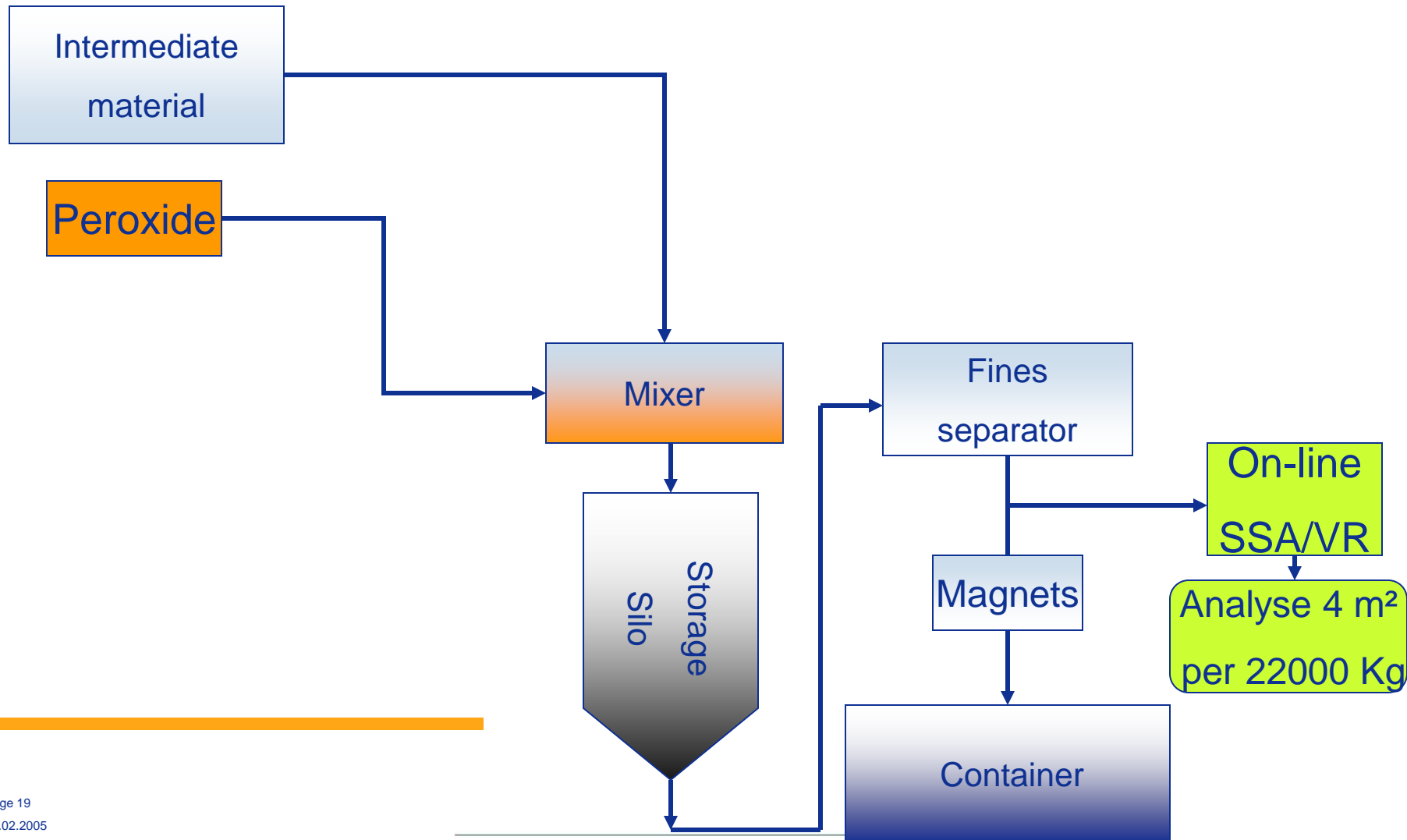
Packaging,
warehousing
and loading



Flowchart : insulation line



Flowchart : VPE 2 production line



On-Line Equipment

Tape Cleanliness Analyser On-line



MH Storage capacity

Area	Capacity	Surface
Container yard	13,000 ton	
Heated warehouse	1,200 ton	2,160 m ²
Non heated warehouse	4,000 ton	7,840 m ²
Raw materials warehouse	1,200 ton	1,200 m ²
Peroxide	38 ton	



MH Octabin packaging equipment (2-2)

- 2 Filling stations for 1-1.2 ton or 0.5-0.6 ton octabins (non telescopic)
 - Coloured grades
 - Natural grades
- 1 Automatic film stretch wrapper
- 1 Inkjet printer (common for 2 filling stations)
- 1 Stretch wrapper – manual



MH Truck loading

- 3 Packed goods loading boards



- 2 Bulk loading stations
 - 1 system by gravity
 - 1 system with blower



- 1 Weighing bridge - Toledo (60 ton capacity)

BAC : People

- Locally
 - Production teams in full continuous shift system
 - Packaging teams in early/late shift system
 - Plant availability team
 - Quality control in daytime
 - Supervision team and staff
- Supported by the Borealis organization
- Research and developments in Stenungsund innovation centre