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# Introducing CSM

CSM is the global leading player in Bakery Supplies and Lactic Acid

- the largest supplier of Bakery ingredients and products
- the leading player in natural food preservation and biobased chemicals



Annual sales c.€3.0 billion ■ Workforce of c.10,000 ■ Operations in > 25 countries worldwide ■ > 35 manufacturing sites

# CSM's vision

We help to create a society where people can make a conscious choice for safe, healthy, nutritious food and to protect the planet by offering environmental friendly solutions made from renewable resources



# Purac leading the trend of natural sustainable solutions

## Food market:

- Leader in natural preservation solutions
  - Meat & poultry
  - Food



## Chemical & Pharma markets:

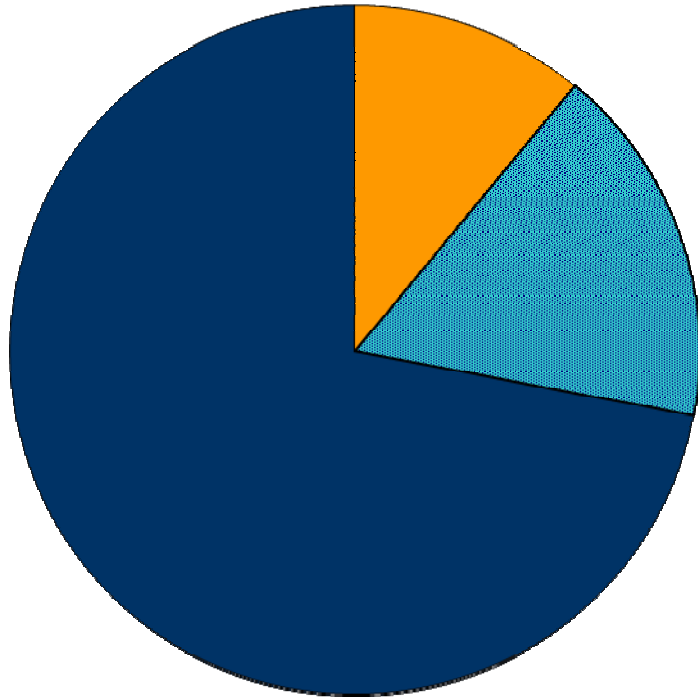
- Leader in biobased building blocks
  - Lactides for bioplastics
  - Lactic Acid and Succinic Acid as platform molecule for biobased chemicals



# Sustainability and natural food preservation

- Characteristics natural food preservatives:
  - Safe to eat and drink
  - Environmentally friendly
  - Biodegradable
- Focus of natural food preservation:
  - Improved food safety
  - Longer food shelflife
- Impact:
  - Less waste products =
  - Less waste handling and processing and
  - Less energy use for production and distribution of food products

# Purac is well positioned to benefit from the growth of the preservatives segment



- Total market size in 2008:
- € 780 million\*
- The market of preservatives will continue to grow
- The “natural segment” will outgrow the total market
- Purac is well positioned in this segment



# Purac shaping the future of biobased plastics



# Market for PLA is estimated to reach over 3 million tons within 10 years

Segments with highest penetration potential for PLA

## Consumer products:

- Mostly polystyrene replacement in durables 100 k.tons

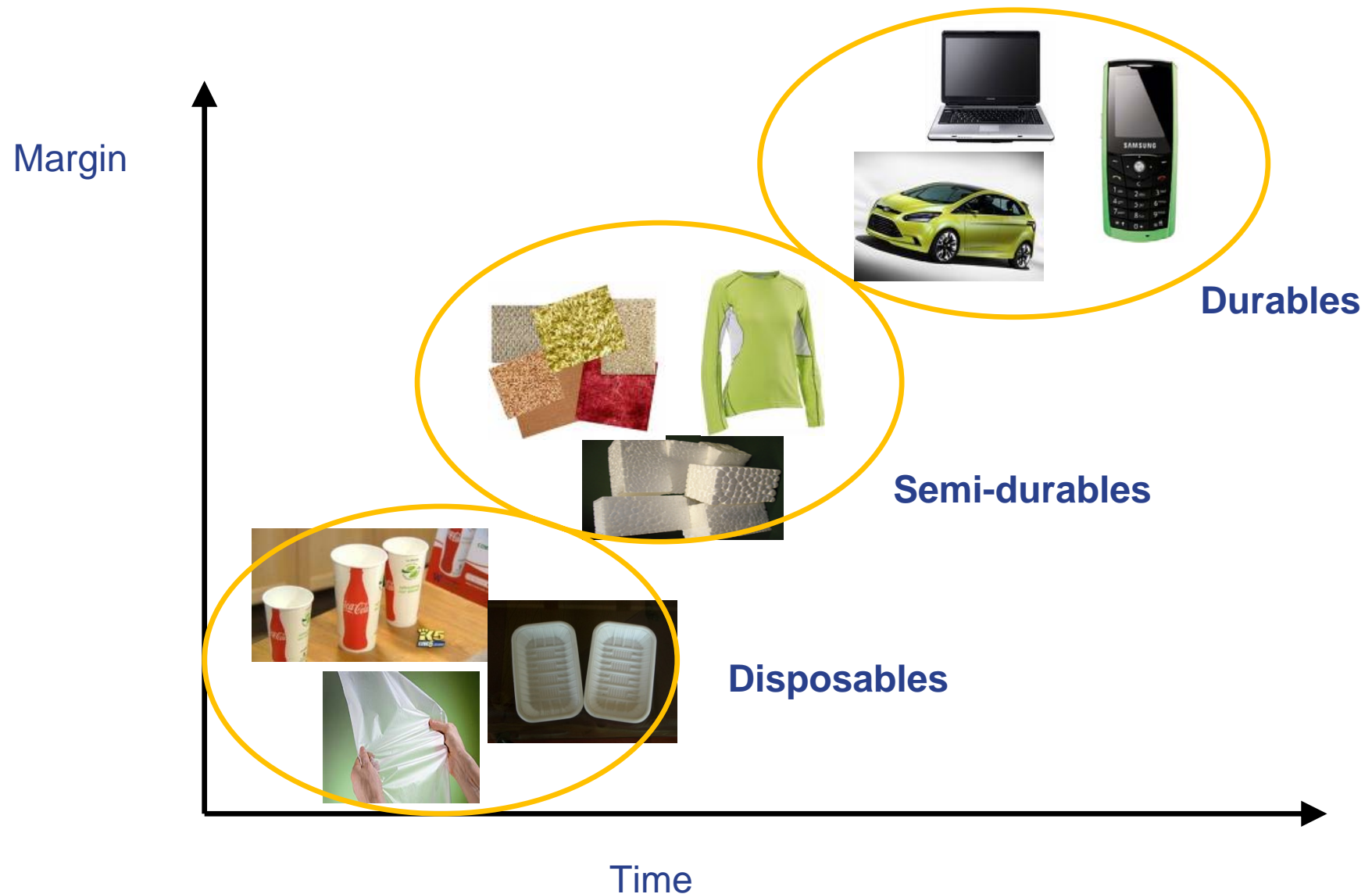
## Packaging:

- Applications with high visibility for consumers 2600 k.tons

## Fibers:

- Close match of PLA and PET fiber properties, need for high temperature PLA 400 k.tons
- Penetration in high end apparel markets and in non-woven products

# Application milestones for PLA



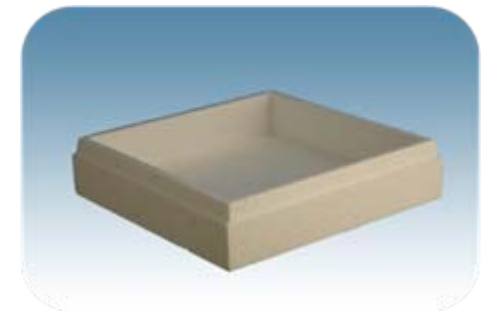
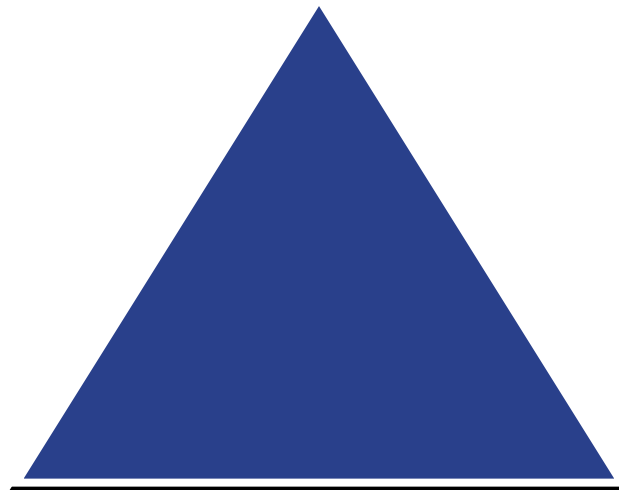
# Example partnership in bioplastics

## SULZER

Polymerization equipment



Lactides



Synbra



Expanded foam  
products from PLA

# Purac status Lactide developments

Plant	Capacity	Status
Semi industrial plant	5 kton	Running
1 <sup>st</sup> Industrial plant	75 kton	Under construction



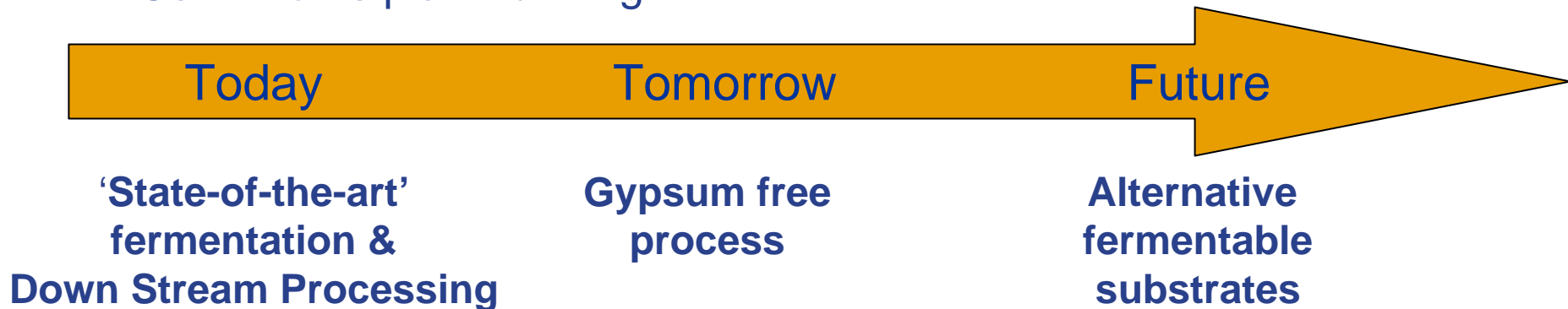
# Purac continues to accelerate the growth of the PLA market

- **Lactide plant in Thailand under construction**
  - Start-up 4<sup>th</sup> Quarter 2011
- **Customers and partners continue to develop**
  - Synbra plans to start BioFoam<sup>®</sup> production Q4 2010
  - Joint development project Purac – Huhtamaki – Unilever
  - Increasing # of business partners
  - Increasing # of technology partners

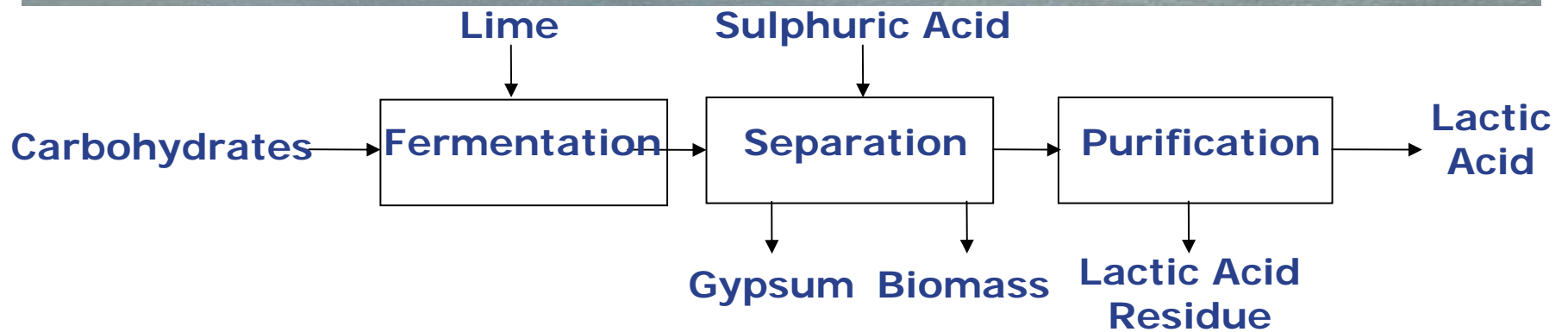


# Innovation in Lactic Acid processing

- Sustainability is key in green chemicals and bioplastics:
  - CO2 reduction
  - Longer term: use of alternative substrates (“Non Food”)
  - PURAC is on track in developing a new efficient Lactic Acid process which significantly improves the CO2 footprint:
  - Gypsum free Lactic acid manufacturing
  - Semi works plant running



# Gypsum free Lactic Acid production



# Alternative substrates for lactic acid production

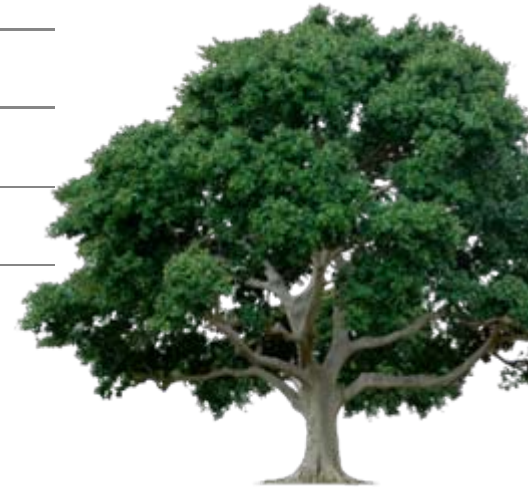
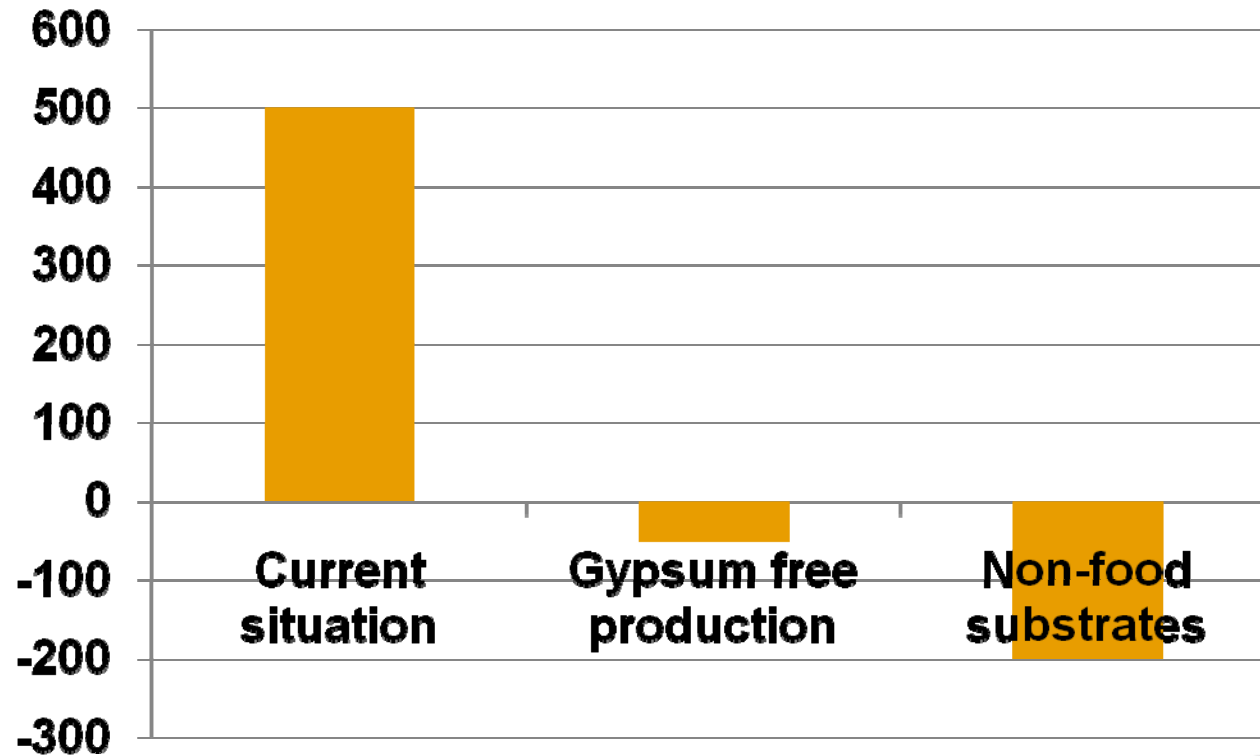
Aim: Non-food substrates for non-food applications

Goal: A commercial Lactic Acid plant based on alternative substrates by 2015

Examples of potential substrates:



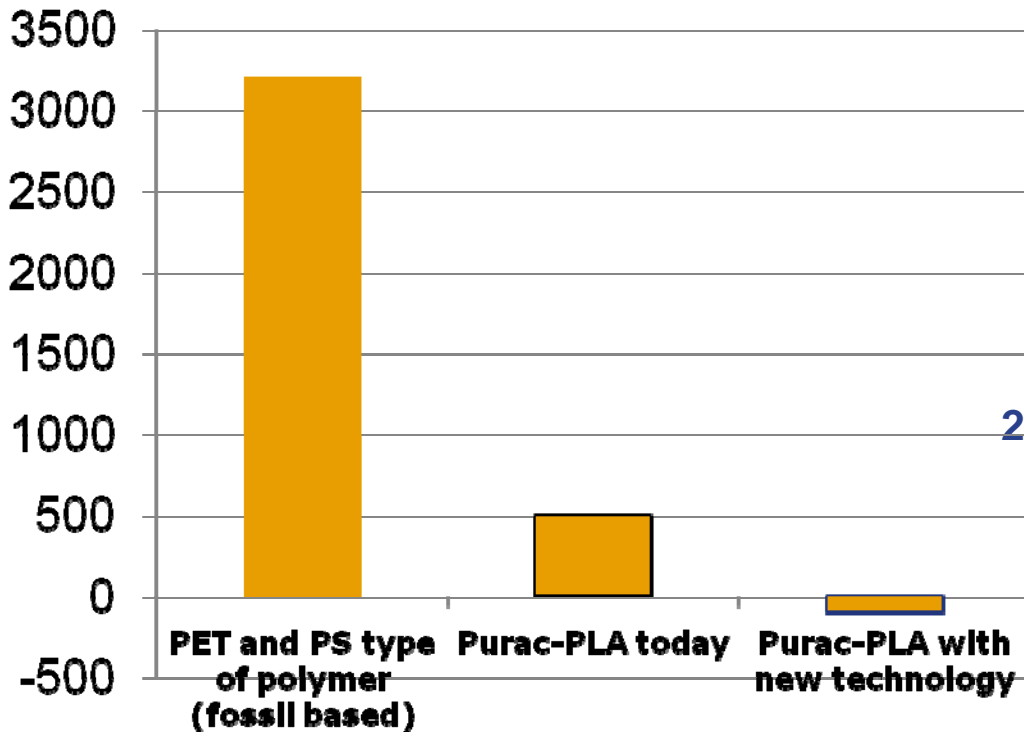
# The new innovations in the Lactic Acid process will greatly improve the CO<sub>2</sub> footprint of Poly Lactic Acid (PLA)



# Purac based PLA can become a net carbon sink

Use of 1 kg of PLA bioplastic from Purac Lactide in stead of oil-based plastic reduces CO<sub>2</sub> emissions by 3 kg

Kg CO<sub>2</sub> emitted in the production of 1 ton polymer



**2010:** 75 kton bioplastic from Purac's Lactide plant in Thailand compensates:

130,000 cars\*

100 grams CO<sub>2</sub>/km



**2020:** 1000 kton bioplastic compensates:

4,000,000 cars\*

50 grams CO<sub>2</sub>/km



\* 15,000 km/a

# Purac participation in biorefinery research

Purac is investing several million euro in next generation feedstock development with various partners:

- BE-Basic R&D program : € 120 million
  - Global Industrial, Academic & Financial Partners
  - PURAC is Research Member
  - Bioprocess Pilot Facilities
- Kluyver Centre
- SenterNovem
- Bio Based Europe (BBE)
- Dutch Separation Technology Institute (DSTI)



GHENT  
BIO-ENERGY  
VALLEY



Agentschap NL  
Ministerie van Economische Zaken

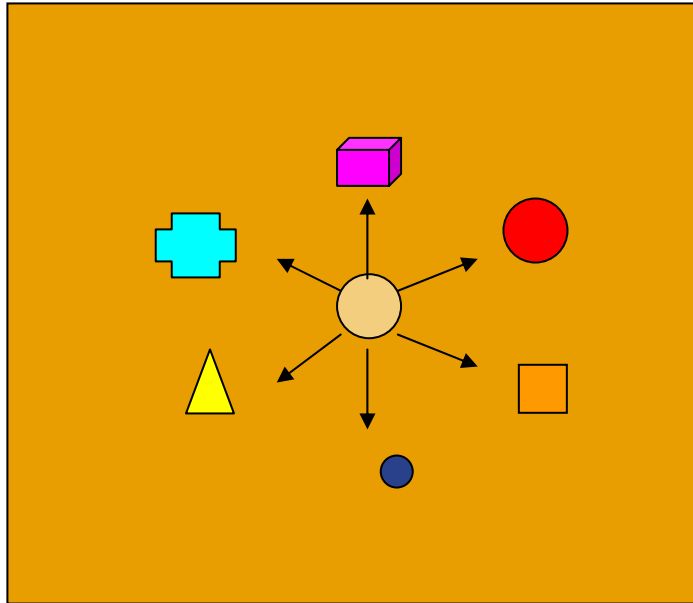
Science Port Holland



# Biobased Succinic Acid: a high potential building block

- Succinic Acid is a building block for the production of many different chemicals in a variety of applications
- In September 2009 Purac and BASF signed an agreement on the development of the production of biobased Succinic Acid
- The partnership aimed at demonstrating the production of commercial quality and volumes in the second quarter of 2010
- The campaign on commercial scale fermentation of succinic acid was carried out in June 2010. Critical process steps have been validated
- Sample material is available for selected customers and development partners

# Application fields of biobased Succinic Acid



Coolants and  
De-icers

Chemical  
Intermediates

Fuel Additives

Plasticizers

Polyamides

Biopolymer /  
Polyesters

Fine Chemicals

Polyurethane

Solvents

Cosmetics /  
Pharma

# Positive references for Succinic Acid



United States Department of Agriculture

“USDA 2008 report “US Bio-based Products” rates Succinic Acid as top value added chemical from biomass feedstock”

F R O S T & S U L L I V A N

F R O S T & S U L L I V A N

“Frost & Sullivan 2008 report rates Lactic Acid and Succinic Acid among the top 4 renewable building blocks for chemical industry”

# Conclusions

- CSM has embedded sustainability in our culture and in all our businesses
- Purac has 80 years of experience in biobased chemistry, 99% of our products are biobased today
- Strong innovation focus on sustainability:
  - Natural food preservatives
  - New biobased building blocks:
    - Lactides
    - Succinic Acid
  - Gypsum free lactic acid process
  - Next generation non-food feedstocks for fermentation processes



# *Appendices*

# Results per business segment

	Net Turnover € x 1M		EBITA* € x 1M		ROS* %	
	2010 YTD	2009 YTD	2010 YTD	2009 YTD	2010 YTD	2009 YTD
BSNA	1143.6	894.0	90.5	72.8	7.9	8.1
BSEU	752.2	756.6	46.2	30.2	6.1	4.0
<b>Total BS</b>	<b>1,895.8</b>	<b>1,650.6</b>	<b>136.7</b>	<b>103.0</b>	<b>7.2</b>	<b>6.2</b>
PURAC	303.6	267.6	44.6	24.1	14.7	9.0
Holding costs			<22.1>	<18.8>		
<b>CSM total</b>	<b>2,199.5</b>	<b>1,918.2</b>	<b>159.2</b>	<b>108.3</b>	<b>7.2</b>	<b>5.6</b>

\* Excluding one-off costs  
Best Brands

# Organic growth Q3 – Net sales

Net sales third parties - QTD Amounts in Million EUR	2010 SEP	2009 SEP	Total growth	Acquisition Effect	Currency effect	Organic growth
CSM Bakery Supplies North America	418.4	286.4	131.9 46.1%	95.2 33.2%	34.0 11.9%	2.8 1.0%
CSM Bakery Supplies Europe	260.9	255.7	5.2 2.0%	0.0 0.0%	2.8 1.1%	2.5 1.0%
PURAC Division	104.4	92.4	12.0 13.0%	0.0 0.0%	8.4 9.1%	3.6 3.9%
<b>CSM Group - Continued Operations</b>	<b>783.7</b>	<b>634.5</b>	<b>149.2</b> 23.5%	<b>95.2</b> 15.0%	<b>45.2</b> 7.1%	<b>8.9</b> 1.4%

# Organic growth YTD September – Net sales

Net sales third parties - YTD Amounts in Million EUR	2010 SEP	2009 SEP	Total growth	Acquisition Effect	Currency effect	Organic growth
CSM Bakery Supplies North America	1,143.6	894.0	249.6 27.9%	213.9 23.9%	39.7 4.4%	-4.0 -0.4%
CSM Bakery Supplies Europe	752.2	756.6	-4.4 -0.6%	0.0 0.0%	6.4 0.9%	-10.8 -1.4%
PURAC Division	303.6	267.6	36.0 13.5%	0.0 0.0%	13.7 5.1%	22.3 8.3%
<b>CSM Group - Continued Operations</b>	<b>2,199.5</b>	<b>1,918.2</b>	<b>281.2</b> 14.7%	<b>213.9</b> 11.2%	<b>59.9</b> 3.1%	<b>7.5</b> 0.4%

# EBITA bridge YTD Q3 2010

Amount in M€

