

“Open Innovation in practice”

A successful combination of :

- Make it yourself**
- Buy or license-in**
- Form a strategic Alliance**

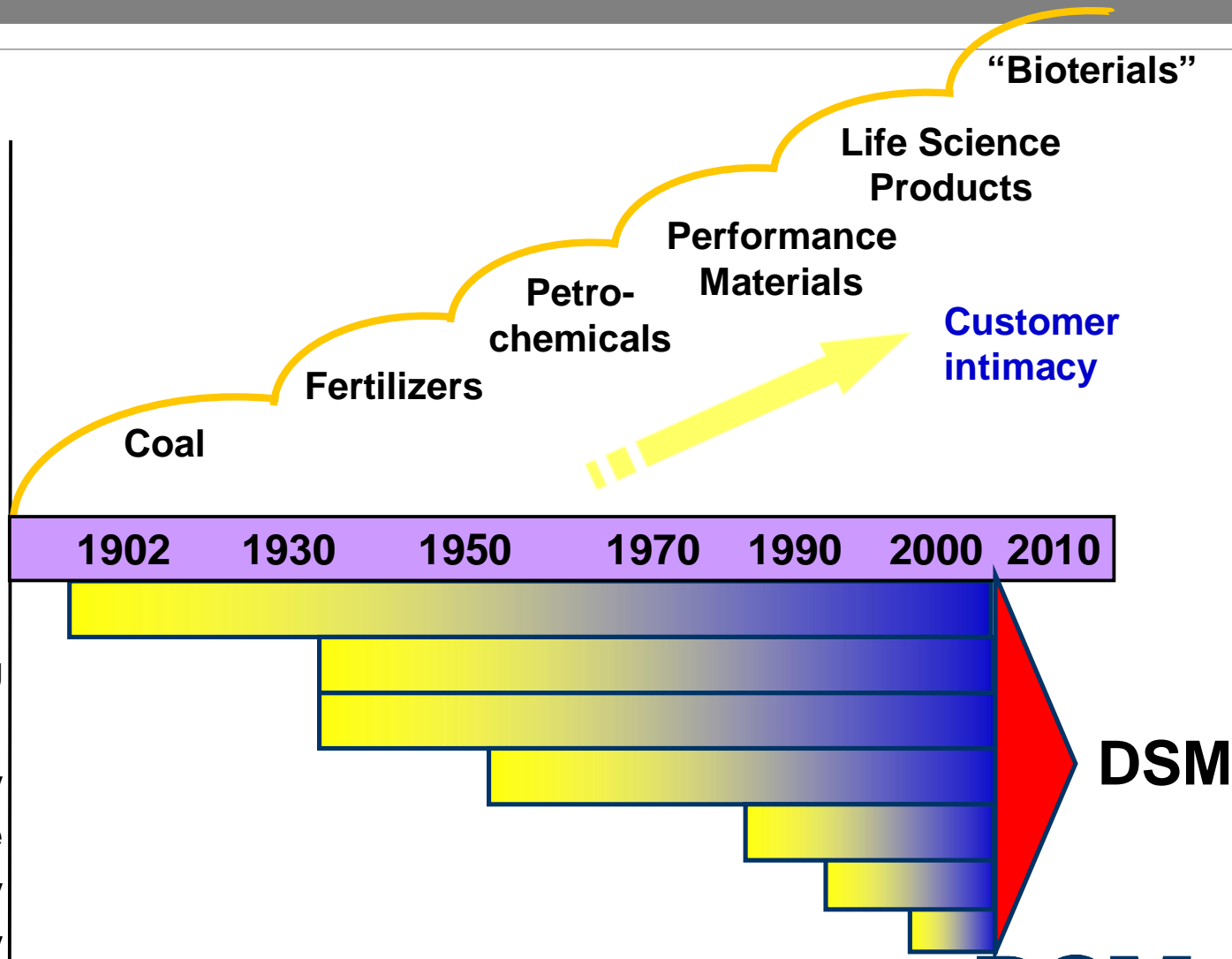
Rob Kirschbaum ; VP Innovation

- **Introduction to DSM**
- **Vision 2010**
- **Open Innovation at DSM (How)**
 - Process
 - Venturing
- **Innovation examples (What)**
 - Renewable Chemicals & Bio Materials
 - Functional Coatings
 - Nutrition
 - Health
- **Conclusions**

A century of successful transformations

2

Evolution



- mechanical engineering
- chemical engineering
- chemistry
- polymer technology
- material science
- adv. organic chemistry
- nano-/ biotechnology

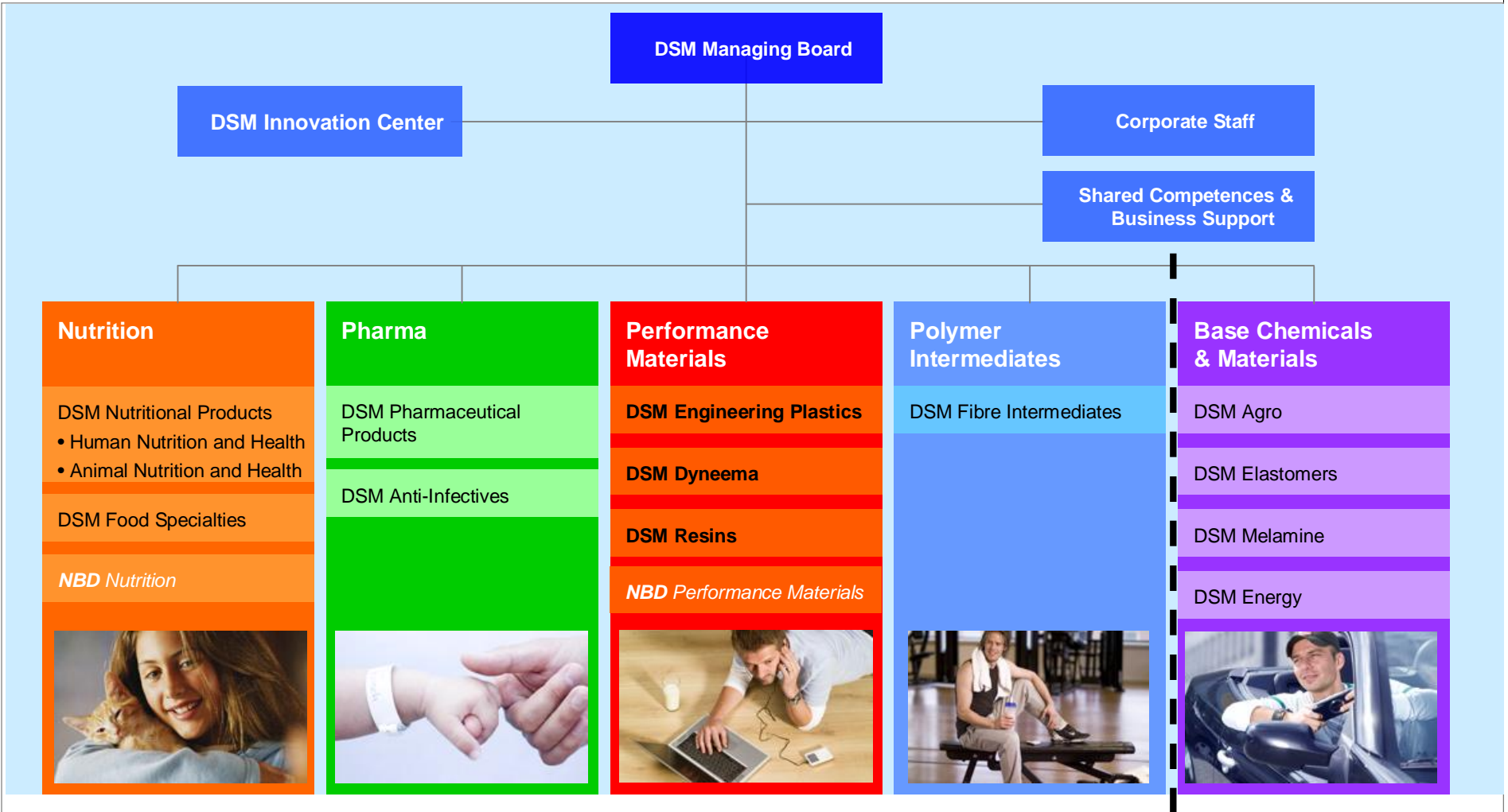
DSM

Unlimited. DSM

DSM Performance Materials

Den Haag 30-10-2008

DSM Organizational Chart (as of Jan. 2008)



DSM 2007 : a company to be proud of !

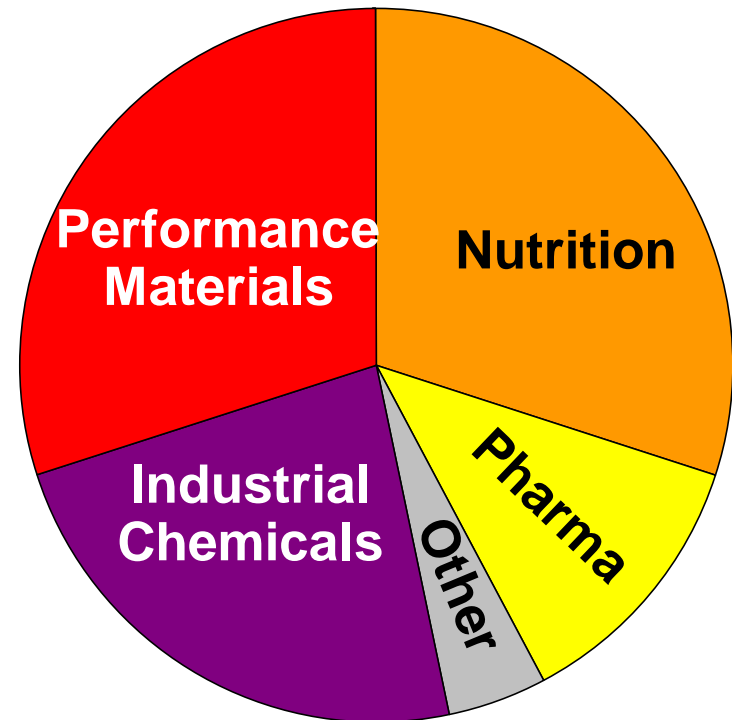
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Annual Sales ~ €8.6 billion
EBITDA ~ €1.2 billion
EBIT €823 million
Net Profit €429 million

Capital employed ~ €6.0 billion
Net Debt ~ €1.3 billion

Single A Credit Rating

Strong Corporate Governance



Global #1 DJSI (Chem. sector '04-'05-'06)

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The intention of DSM



Feike Sijbesma:

“Business cannot survive in a society that fails !

By partnering with the United Nations World Food Programme (WFP), DSM has made a commitment to fight malnutrition and hunger in nations around the world.”





Building on Strengths

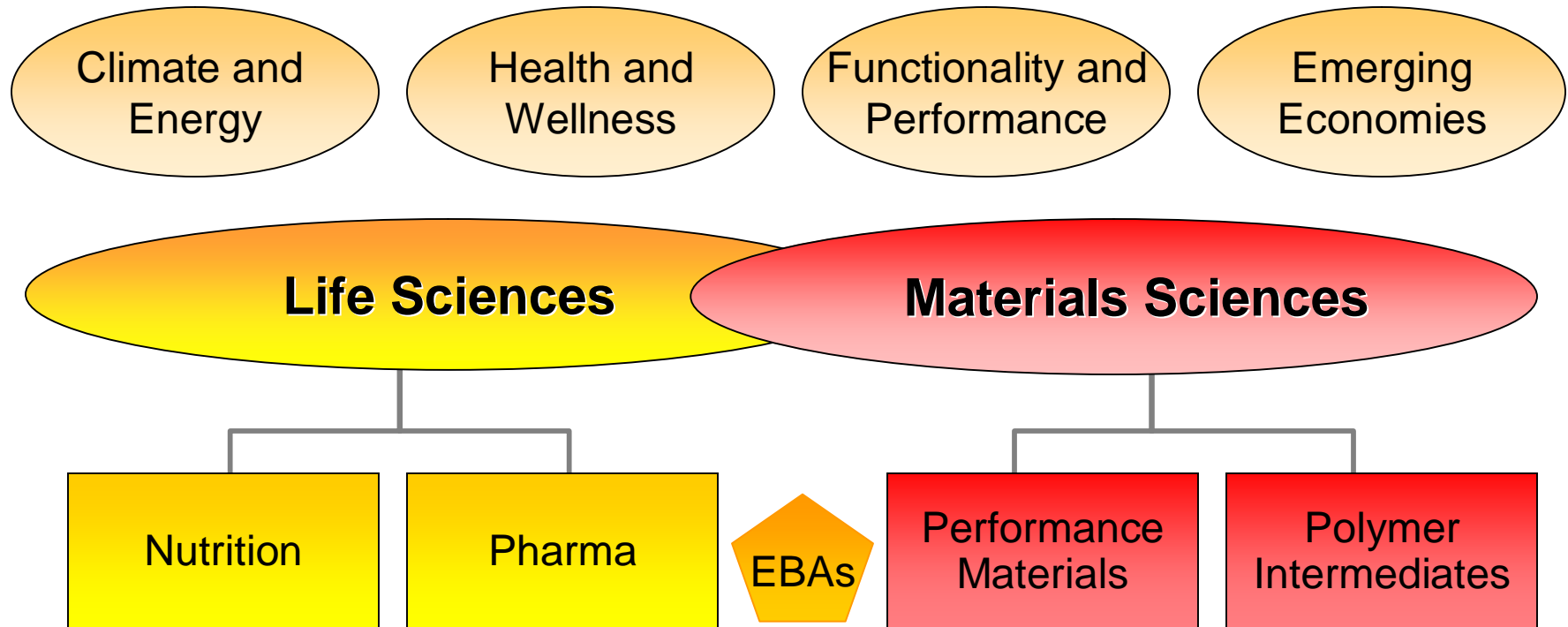
**Market-driven growth
and innovation**

Increased Presence
Emerging Economies

Operational
Excellence

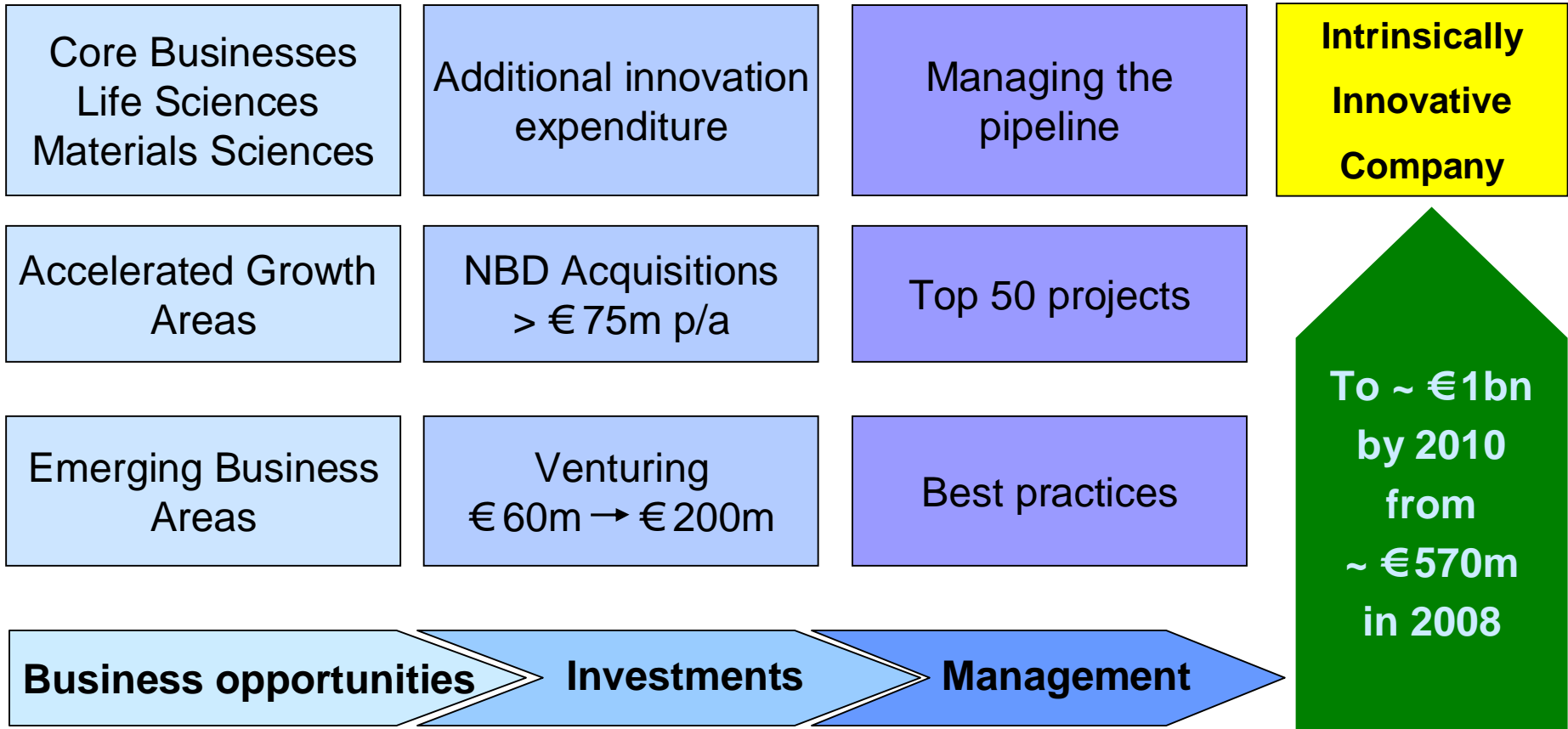


Value Creation

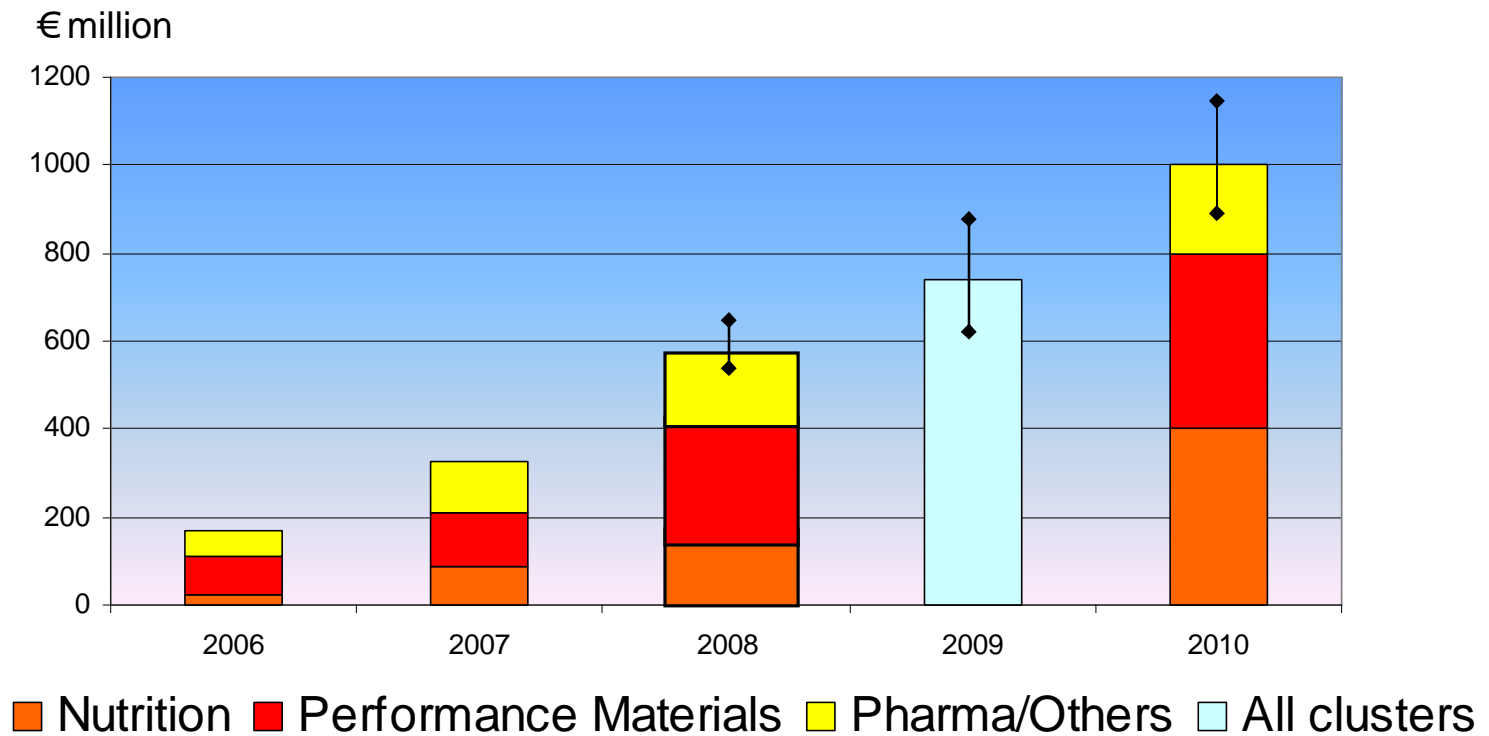


Exploiting strong market positions and technology platforms

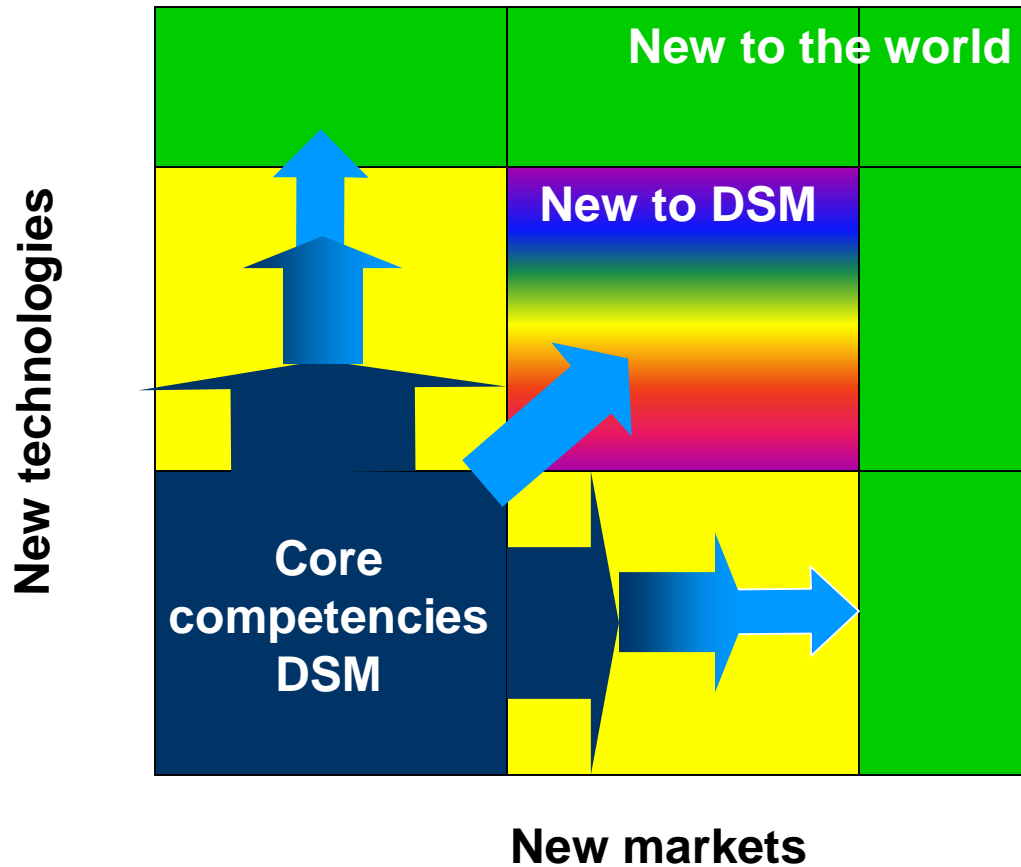
Commitment to innovation



Innovation Sales Growth per Cluster



Target Vision 2010: innovation sales of €1 billion

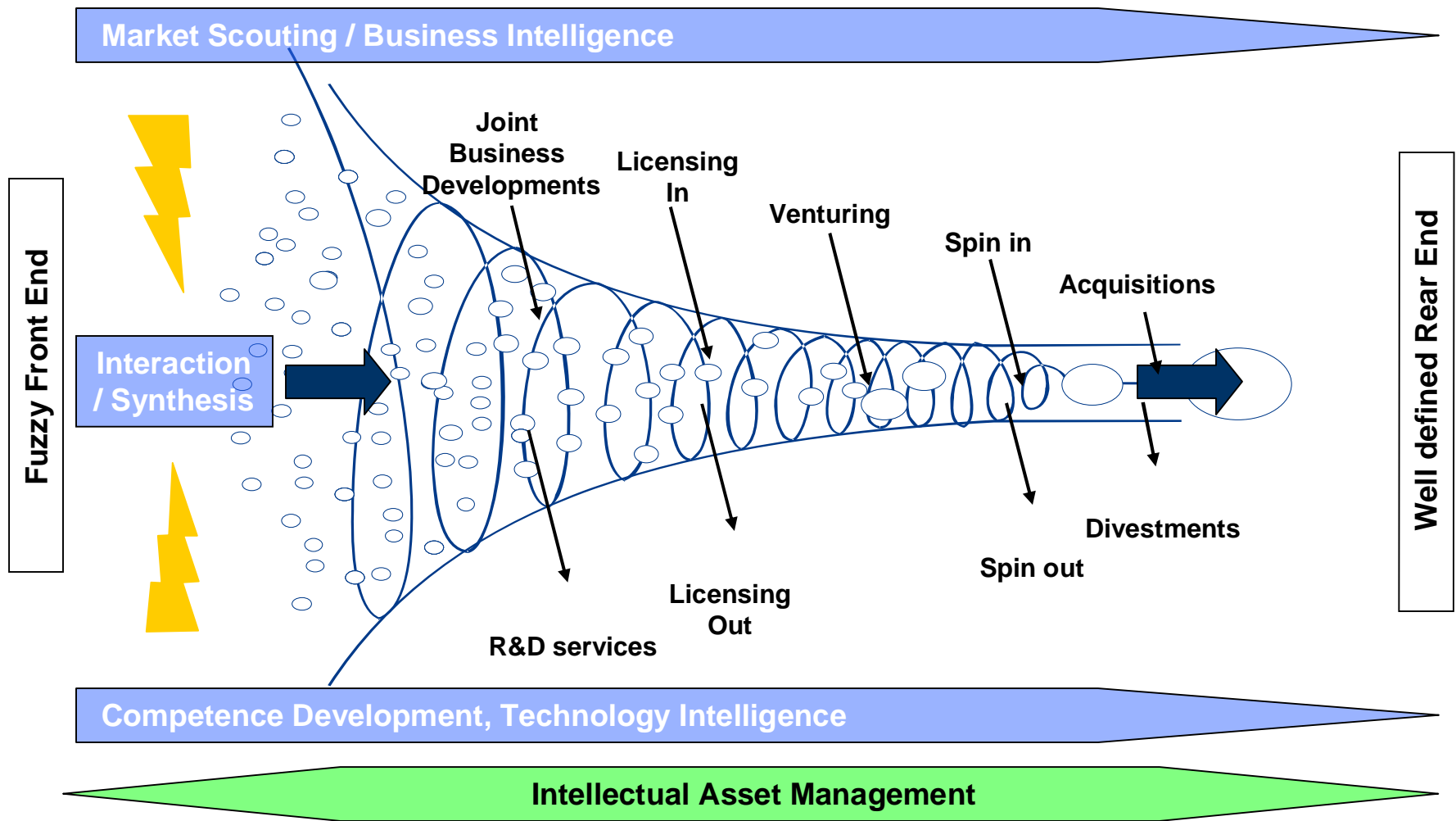


- **Business Groups:**
Launching products to exploit unmet market needs
1-4 years.
- **Cluster NBD:**
Extending business / technology into emerging spaces
3-7 years.
- **EBA's/Incubator:**
Exploring and developing options for the future
5-10 years.

Value Creation by Open Innovation

12

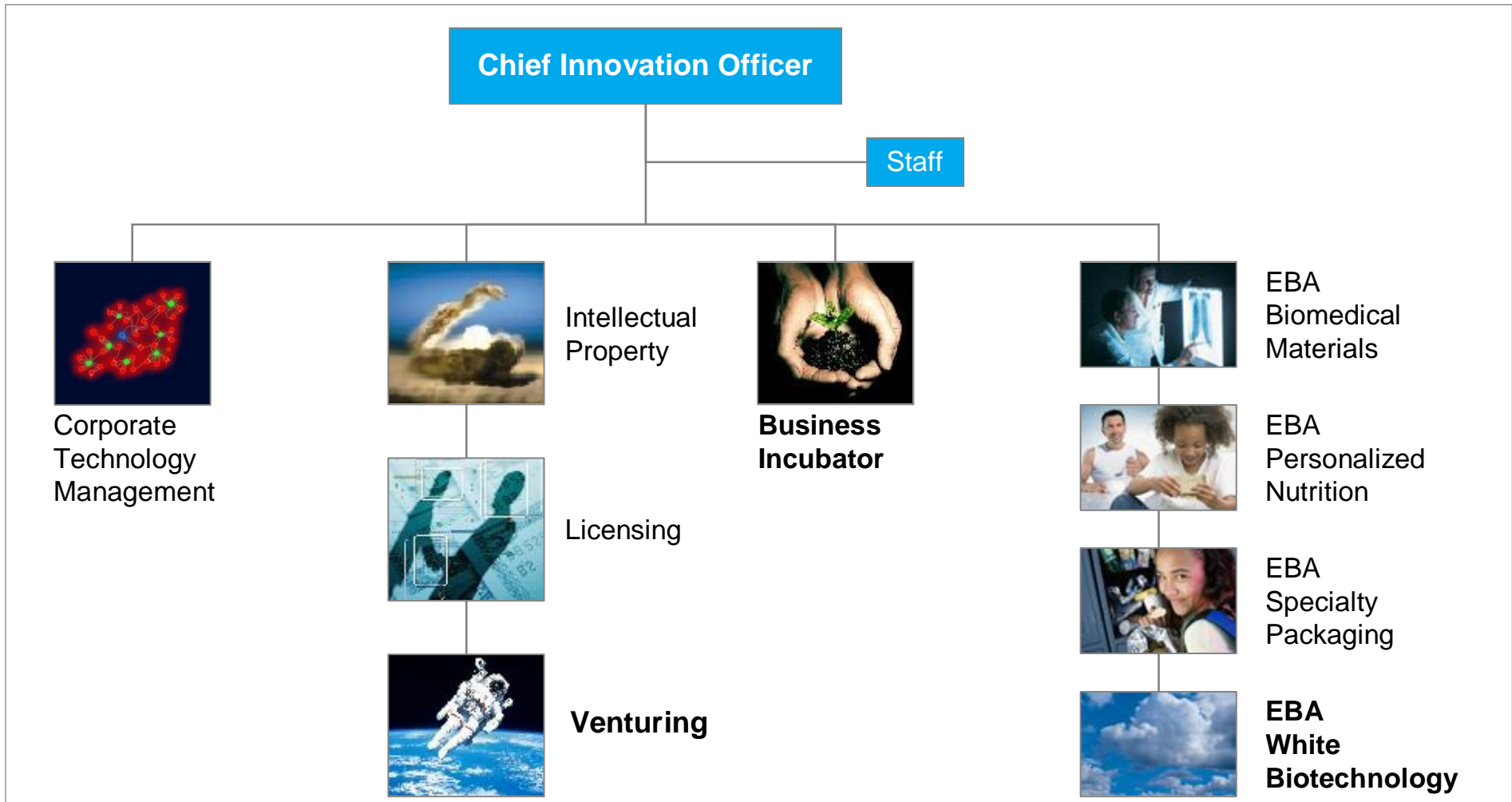
Open innovation is no longer a competitive advantage
It has become a competitive necessity!



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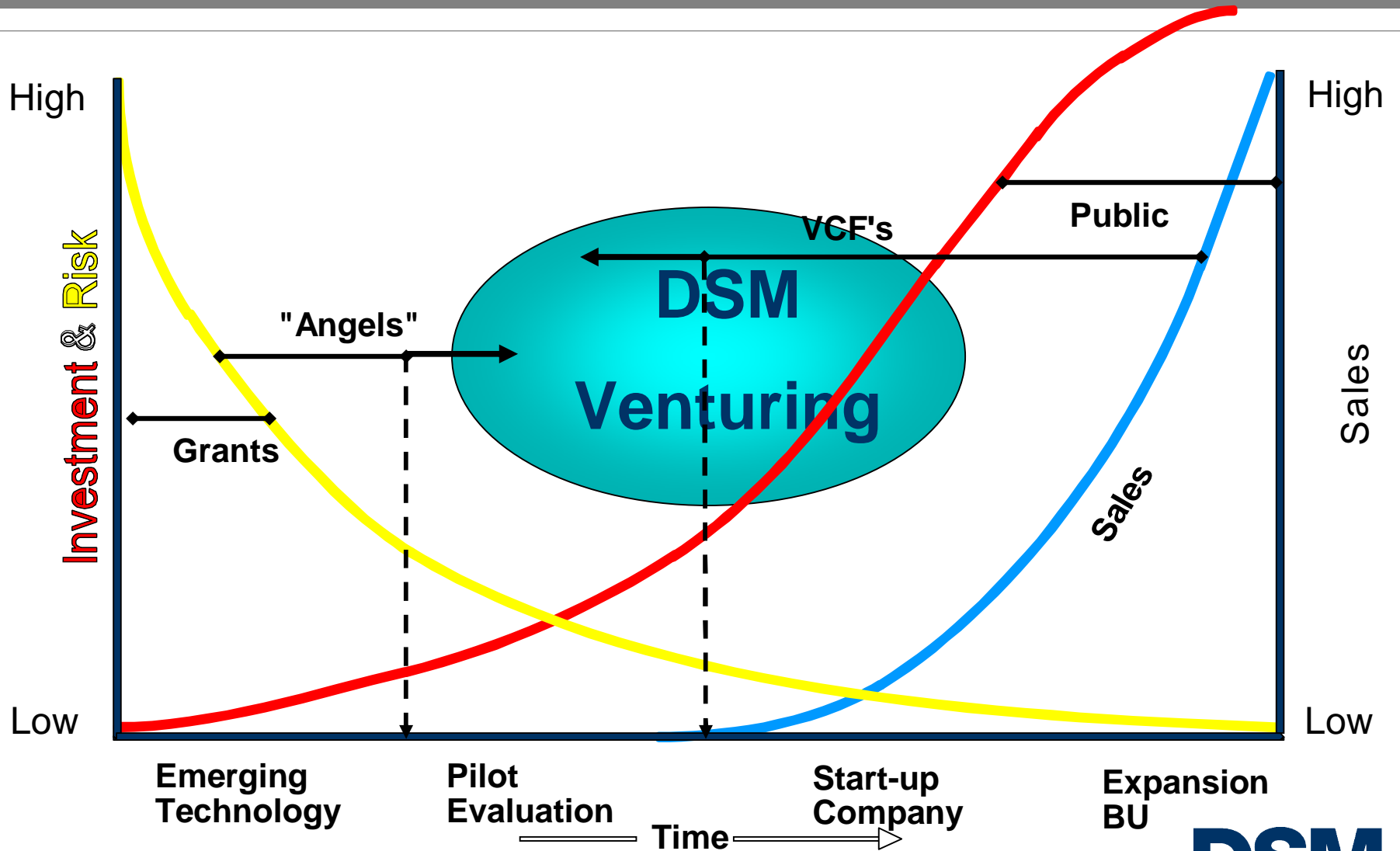
Unlimited. **DSM**



To become DSM's competence centre for external (VC) participations boosting innovation

- Explore new emerging markets, technologies and products in order to enhance DSM's product portfolio, technology toolbox and business model(s) **(eye on the world)**
- Add value internally and externally through facilitating strategic co-operations with start-ups **(strategic value)**
- Create value by spinning-in and spinning-out of companies **(make some money)**

The Financing Sequence



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Boston, USA
Focus: IT, PM, LS
Funds: Amp '95, Amp '99



San Francisco, USA
Focus: LS
Funds: Nutraceuticals
Life Sciences



Santa Barbara, USA
Focus: PM
Funds: NGen I, NGEN II



Life Science Partners

Amsterdam, Netherlands
Focus: LS
Funds: LSP II, LSP III

Deal flow
Co-investment opportunities
Networks



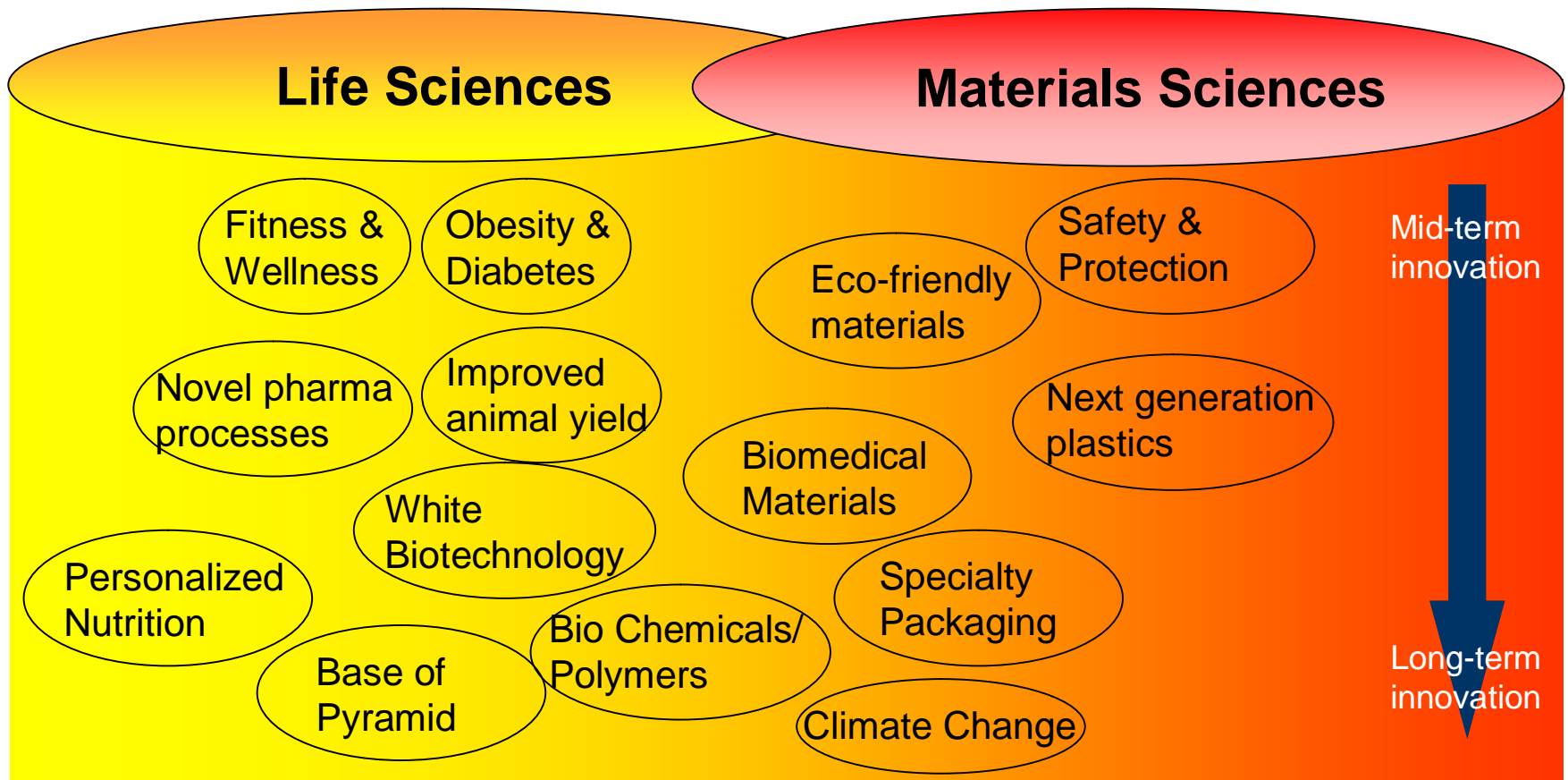
Tel Aviv, Israel
Focus: PM
Funds: MMT II



Boston, USA
Focus: Health & Wellness

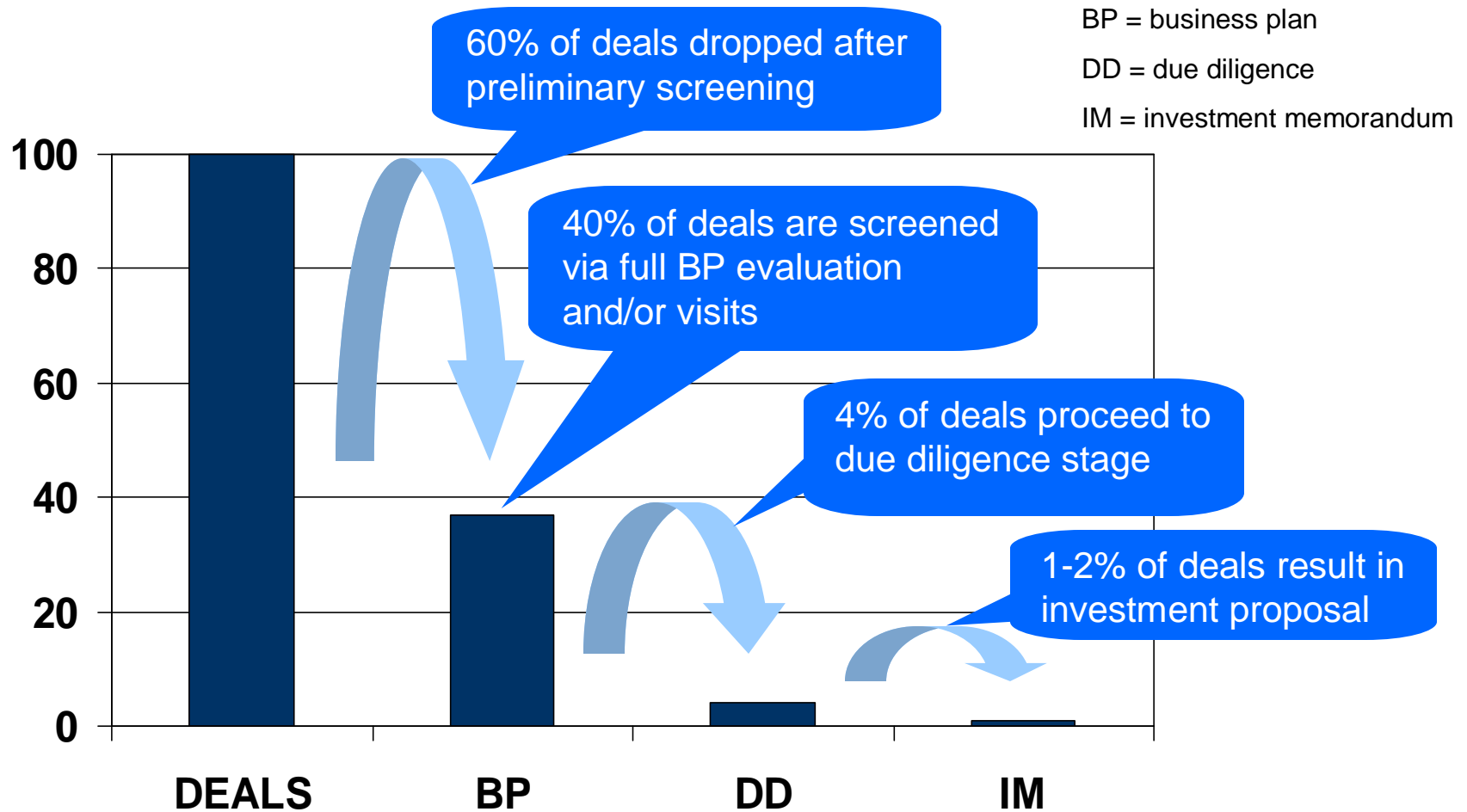


Zurich, Switzerland
Focus: Cleantech



Combination of competences leads to new innovation fields


Screening steps and statistics





Selection of Emerging Business Areas

- Field driven by global mega and technology trends
- Building upon DSM capabilities: market and technology
- Perfect fit with the corporate portfolio priorities
- Generate multiple business opportunities
- Positive impact on DSM profile



1) Biomedical materials, 2) Specialty Packaging,
3) Personalized Nutrition, 4) **White Biotech**

White Biotech enables drastic process improvements

➤ External drivers and rationale:

- Increasing cost spread in hydrocarbons versus carbohydrates
- Advances in science and technology

➤ Target areas:

- Build upon DSM strength and focus on:
 - Biotech-based production routes
 - New bio-based products
 - Enzymes beyond food and feed



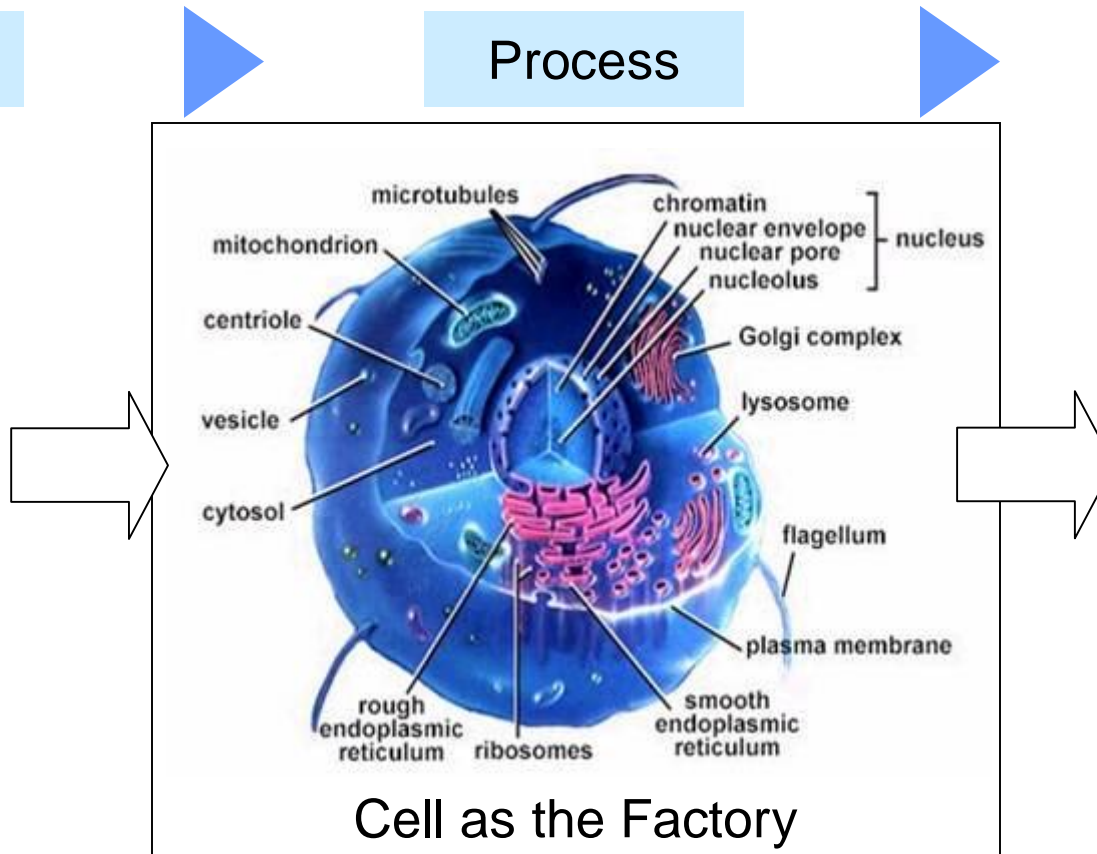
Biotechnology: The use of nature's toolbox for industrial processes

Feedstock

Process

Bioproducts

Sugars



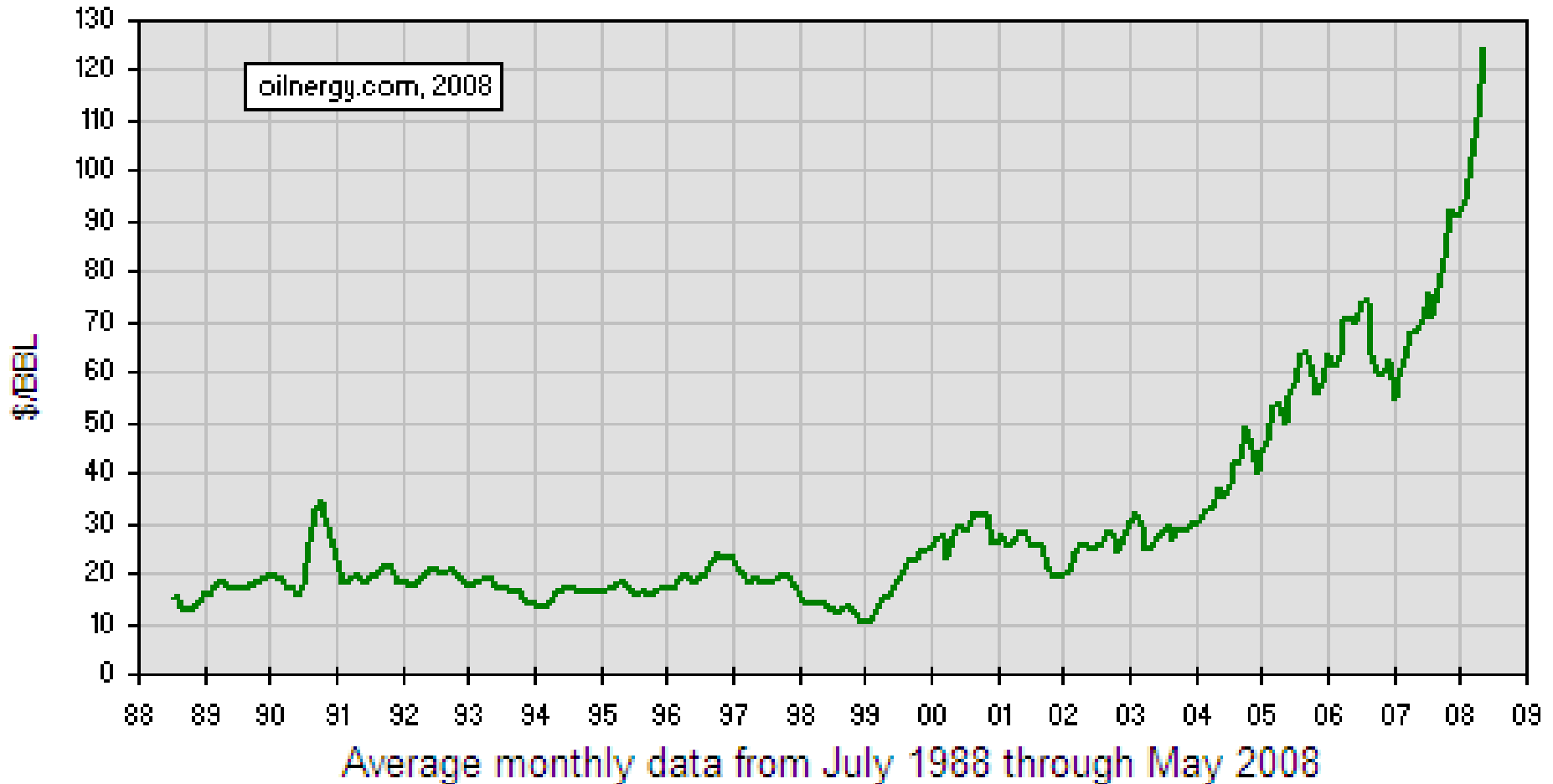
Cell as the Factory

Specialties
Materials
Base chemicals
Fuels

Fossil Fuels are getting scarce

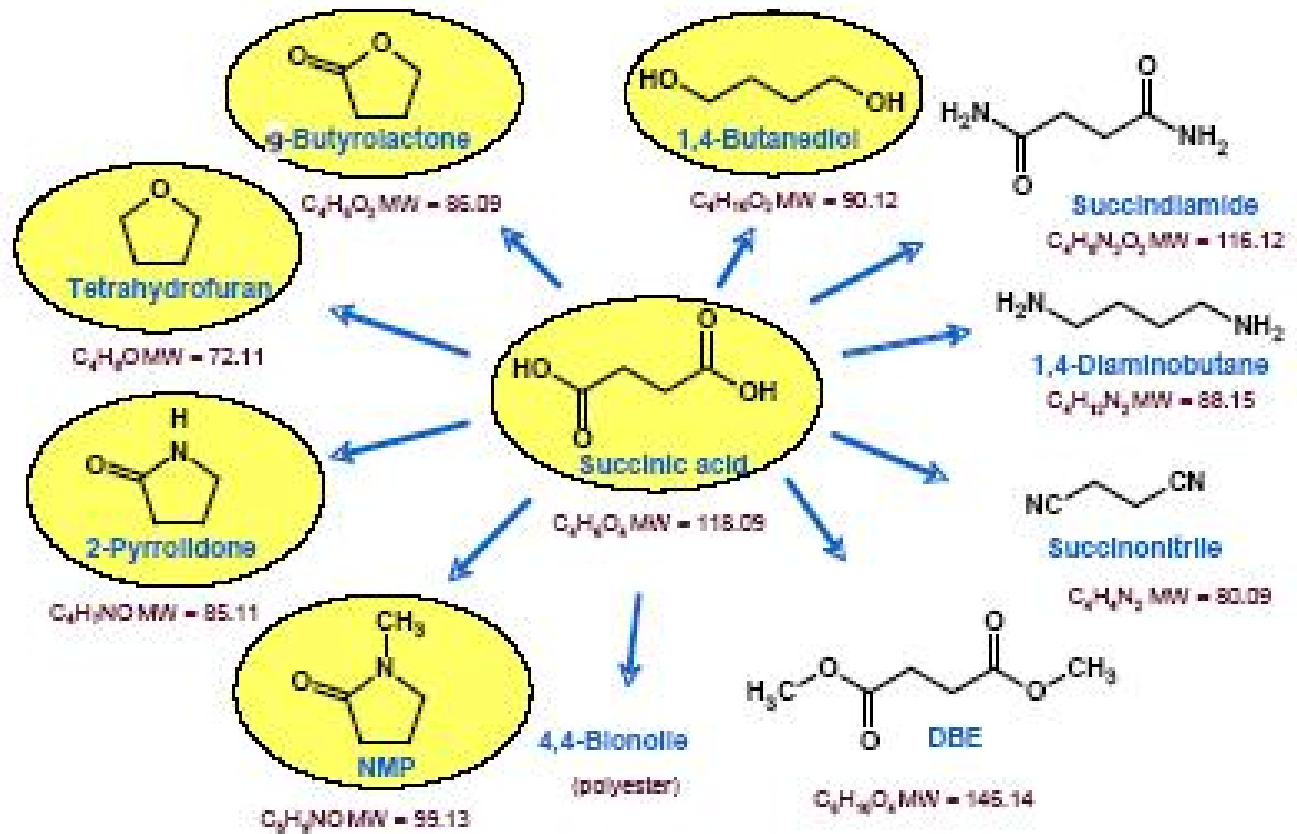
23

ICE Brent Crude Oil Closing Price (begin July 1988)



“Synthon” for other building blocks

24



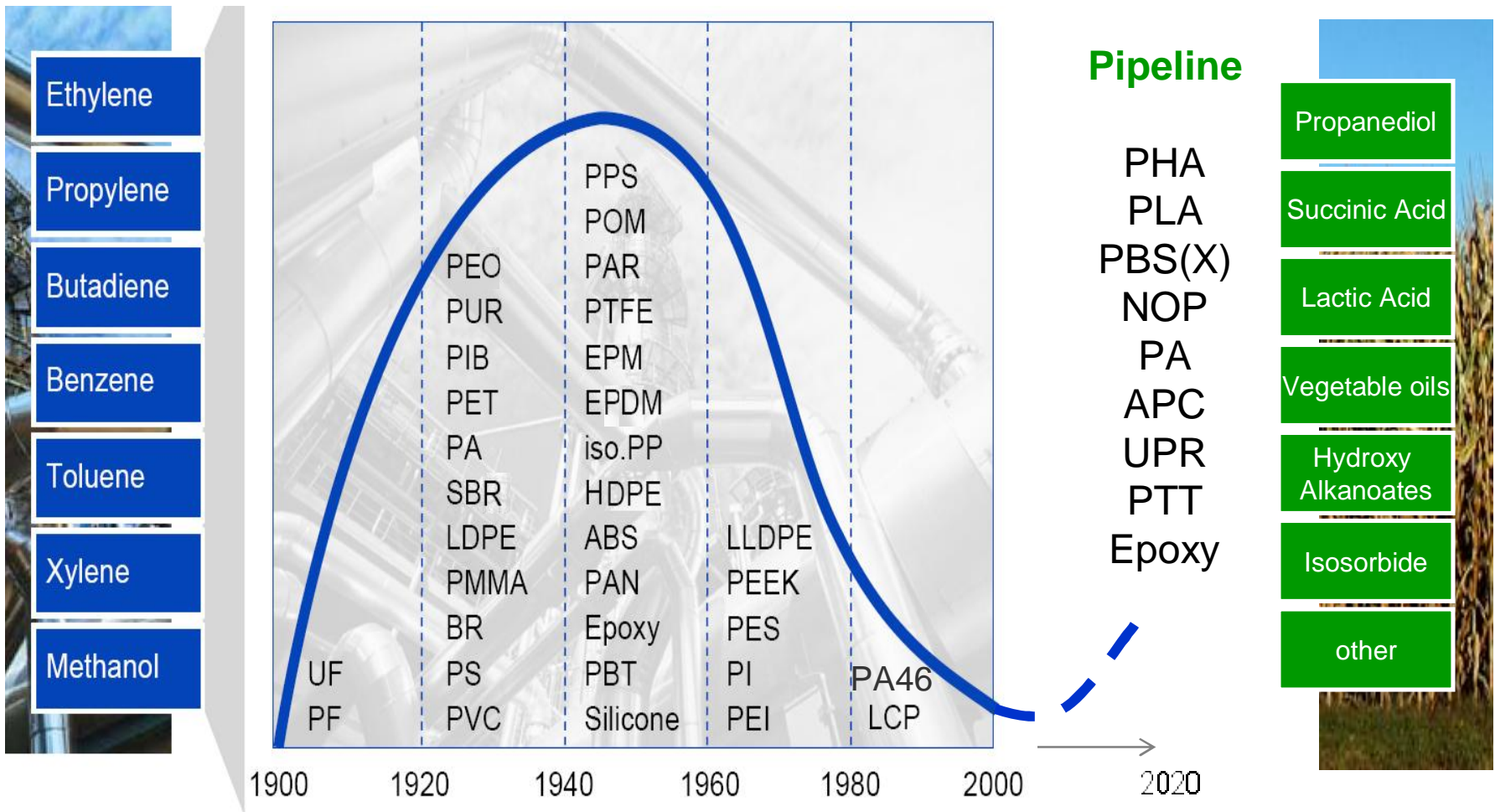
One of the 12 Top Value Added Chemicals from biomass

PNNL, NREL study (2004)

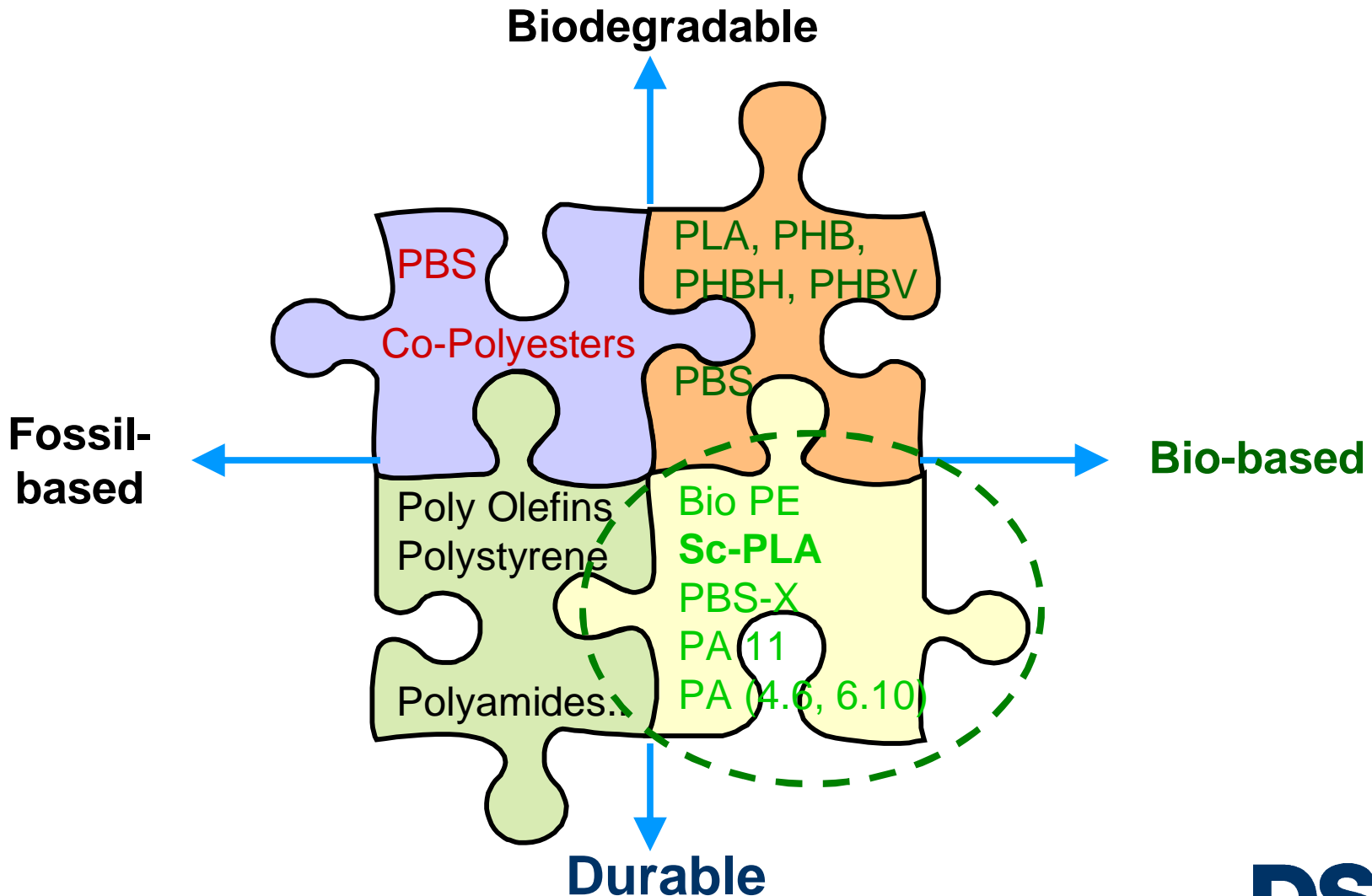
Succinic Acid Chemistry to Derivatives

Innovation Potential of Bio-Based Materials

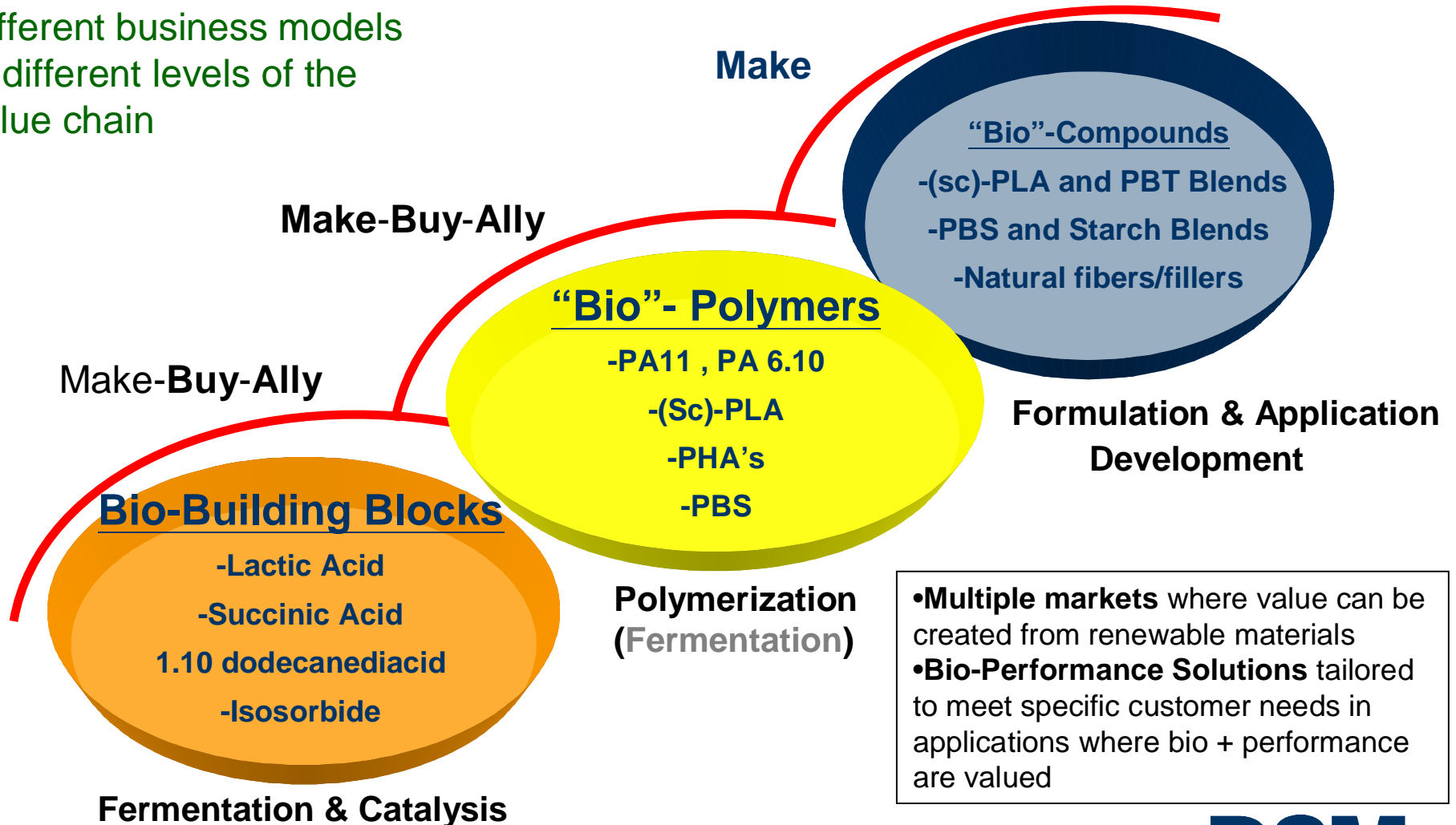
Offering a step change for growth



The Bio Performance Thermoplastics “puzzle”



Different business models at different levels of the value chain



- Focus on new business models and new markets
- Cross over Life Sciences / Materials Sciences
- Multiple project platforms:



DSM Neev
(Base of Pyramid)

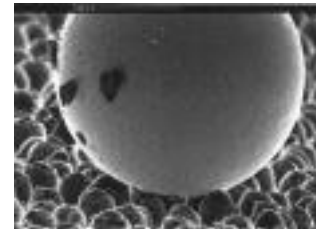
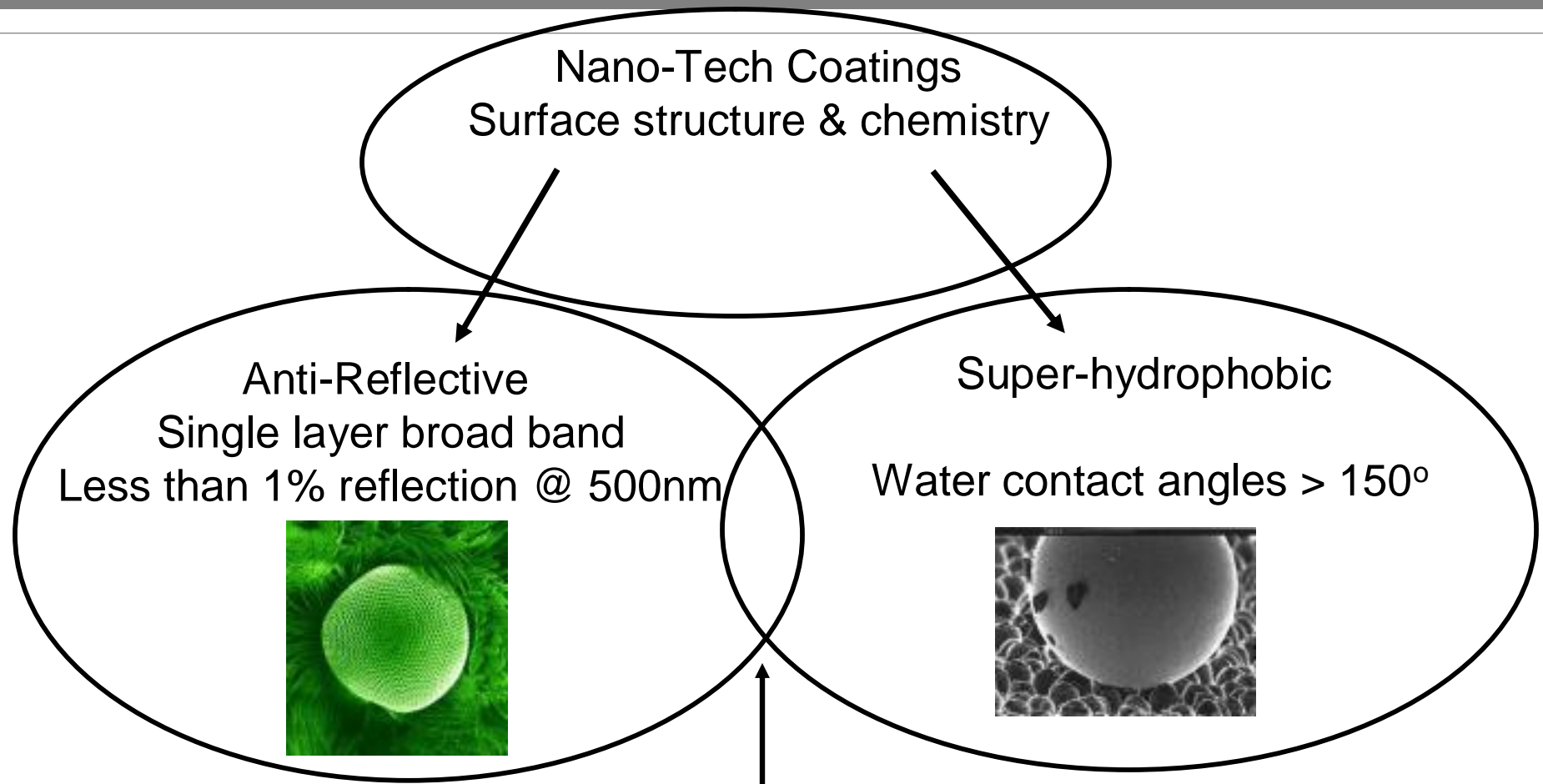


Climate Change



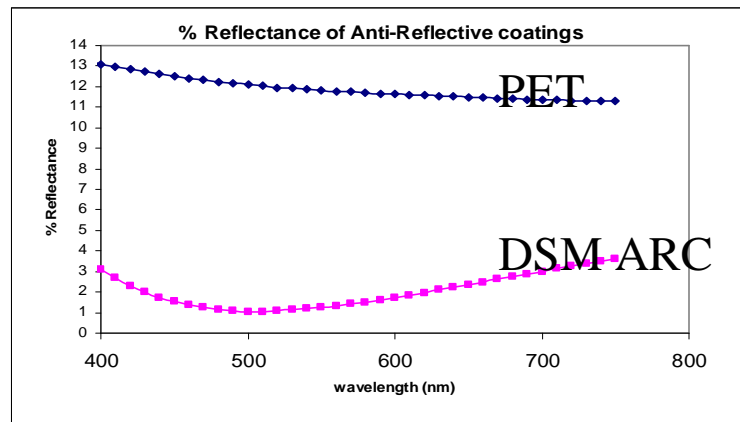
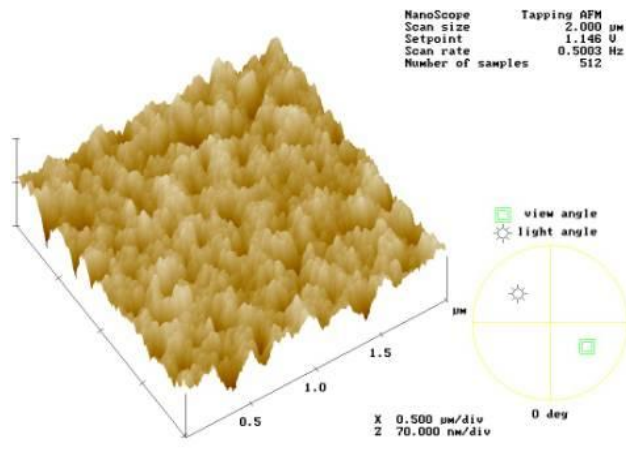
Functional Coatings

Breeding ground for longer term innovation programs

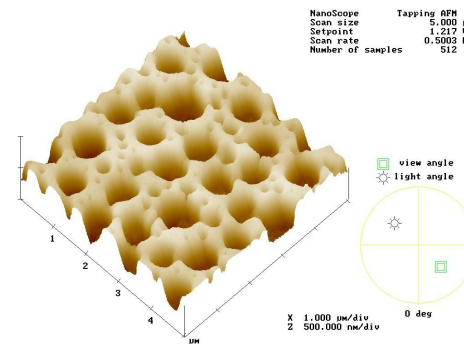


Using combined technology to develop easy-to-clean single-layer anti-reflective coatings

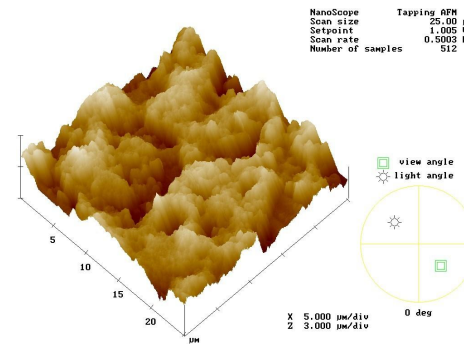
Anti-reflective Coating



(Super-)hydrophobic Coatings



Static contact angle ca 130°



Static contact angle ca 155°

In Sept 2007 DSM Functional Coatings purchased a nanotechnology patent application owned by the University of Sheffield



The University Of Sheffield.

- **DSM gains access to Novel Technology**
that provides a much broader technology/IP platform
- **Long-Term Research Collaboration**
DSM plan to collaborate with the University of Sheffield in 2008 to develop this technology further for specific applications and markets
- **Improved Technical and Market knowledge**
DSM have acquired a potential technological solution to a problem that may enable them to meet future customer needs



The original scientific study that led to this patent application was funded by EPSRC

Anti Reflective coating (indoor and outdoor)

32



Claryl®

AR coated glass
for picture framing



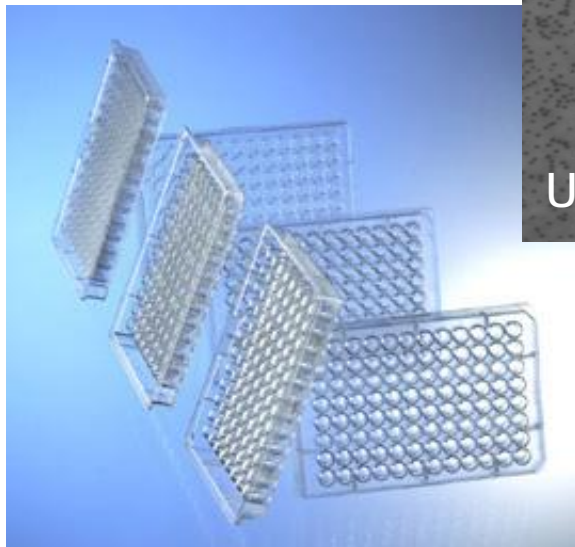
Solar cell cover glass



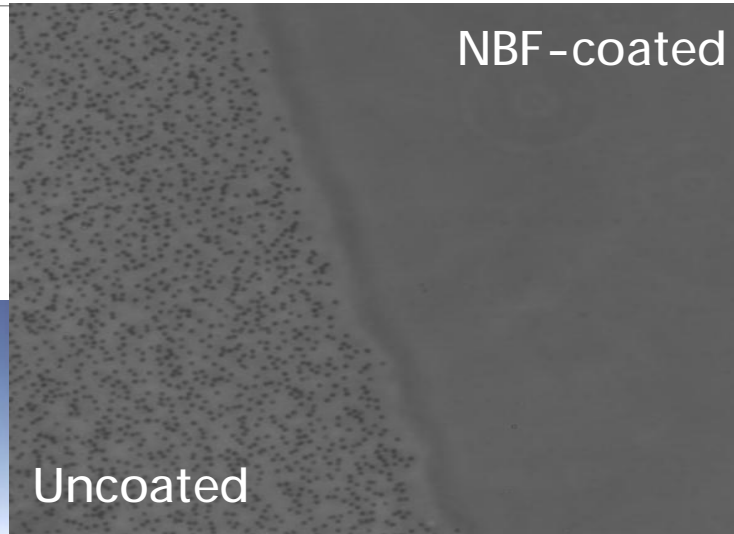
Outdoor applications
of AR glass

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(NBF) Micro titer plates



(NBF) Blood collection tubes

Fabules : Venturing -> Licensing -> Acquisition 34



Lipid Technologies
Provider AB



Optimel Control is an enormous success!

35

- Three weeks after **our customer Campina** started advertising, they have to apologize in the Dutch national press for an out of stock situation in the supermarkets.

Optimel Control is a big success. So big, that most supermarkets are sold out. We are doing our utmost best to replenish the Optimel Control stocks in the supermarkets as soon as possible.

Apologies for the inconvenience.

Advertentie *Volkscrant* 22-01-2007

'Out of Control'

Optimel Control is een groot succes. Zo groot dat het in bijna alle supermarkten uitverkocht is. We werken er hard aan om de voorraad Optimel Control weer snel op peil te krijgen.



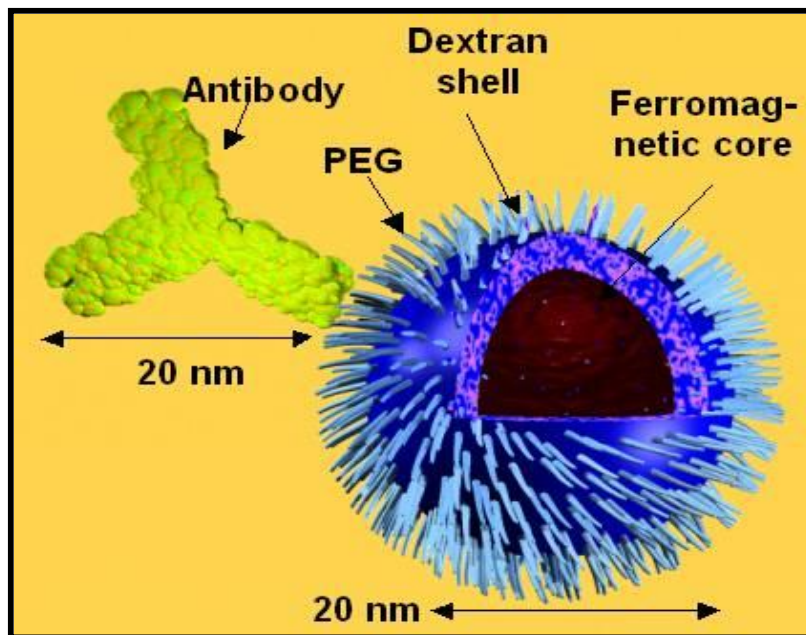
Excuses voor het ongemak.

 Consumentenservice: 0800-2352267

A “Bioteiral” from Triton BioSystems

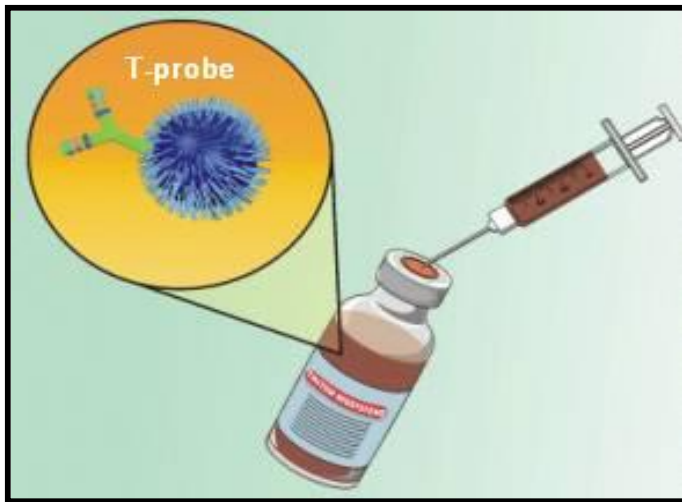
36

- Cancer treatment by unique “T-probes”
- RF heating of Ferromagnetic core
- Selective uptake in tumor: biologic targeting molecule –antibody
- Biocompatible polymer – PEG-COOH coating



Fighting Cancer (Aduro Biotech recently merged with TBS) 37

- Selective uptake in tumors
- Therapeutic heating ;no side effects
- Apply focused magnetic field:
 - Maximizes therapeutic nanoparticle heating
 - Enhances “T-probe” treatment selectivity



T-probes are activated by applying magnetic field energy in tumor area

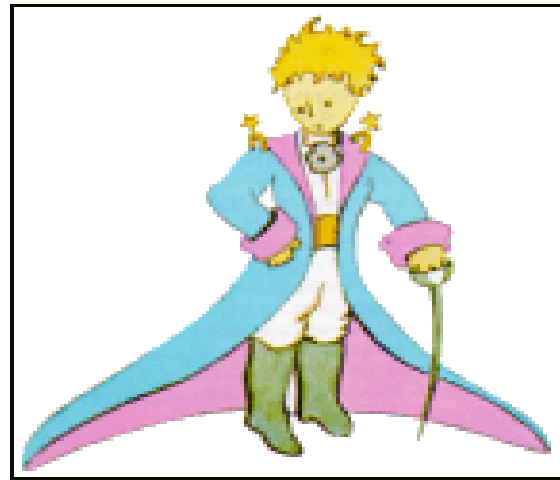
Innovation is...

Kissing 100 frogs



To get to...

The “one and only” Prince



Go to the right ponds

- Strategy first
- Hunting areas defined
- Venturing as scouting tool

Good kissing is an art

- Interdisciplinary teams
- Pressure cooker atmosphere
- Modern tools & techniques (Software systems)

Eliminate the true frogs !

- Manage projects with milestones
- Be tough ; dare to say no !
- Always have an exit plan

- **Divested** : Melapur , Soluflex , Solufill , Optoclear
- **Spun out** : SupraPolix (20%), Terreco (20%), Qlyte (0%)
- **Spun in** : Bio Intermediar , Lipid Technology Providers

- **Internal portfolio** : Micabs , Hybrane , Claryl
- **External portfolio** : ~20 Participations (5 ~25 %)

- **VCF portfolio** : “Global Spread” over ~10 Funds

- **Increase the number of ideas**
 - *Put incentives for new ideas in place*
 - *Use internal & external sources for new ideas*
- **Kill more ideas in an early phase**
- **Decrease the time to market by entering into partnerships**
- **Dare to share future profits**
- **Practice Open Innovation (H.Chesbrough) !**

- DSM's competences discriminate us from VCF's
- "Spinning in" by BG's will boost the top line growth of DSM
- "Spinning out"/License out contributes to bottom line of DSM
- Corporate Venturing is a tool for business rejuvenation at controlled risk

Innovation leads to value creation !

PHILIPS

sense and simplicity

Managing alliances successfully Experiences from Philips

Make, Buy or Ally book presentation Kirkman Company

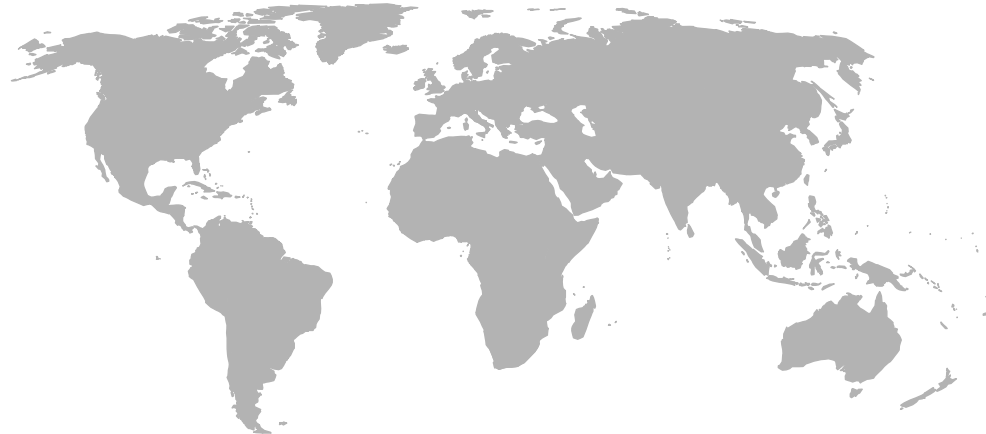
John Bell

October 30 2008

Philips Introduction

Royal Philips Electronics

- Founded in 1891
- Headquarter: Amsterdam, The Netherlands
- Sales in 2007 of EUR 26,793 million
- Multinational workforce of 123,800 employees (January 2008)
- Manufacturing sites in 28 countries, sales outlets in 150 countries
- R&D expenditures EUR 1,6 billion (2007)



Philips Introduction

Overall Focus on Health and Wellbeing

Philips Healthcare



- Imaging Systems
- Customer Services
- Healthcare Informatics
- Ultrasound & Monitoring Solutions
- Home Healthcare Solutions

Philips Lighting



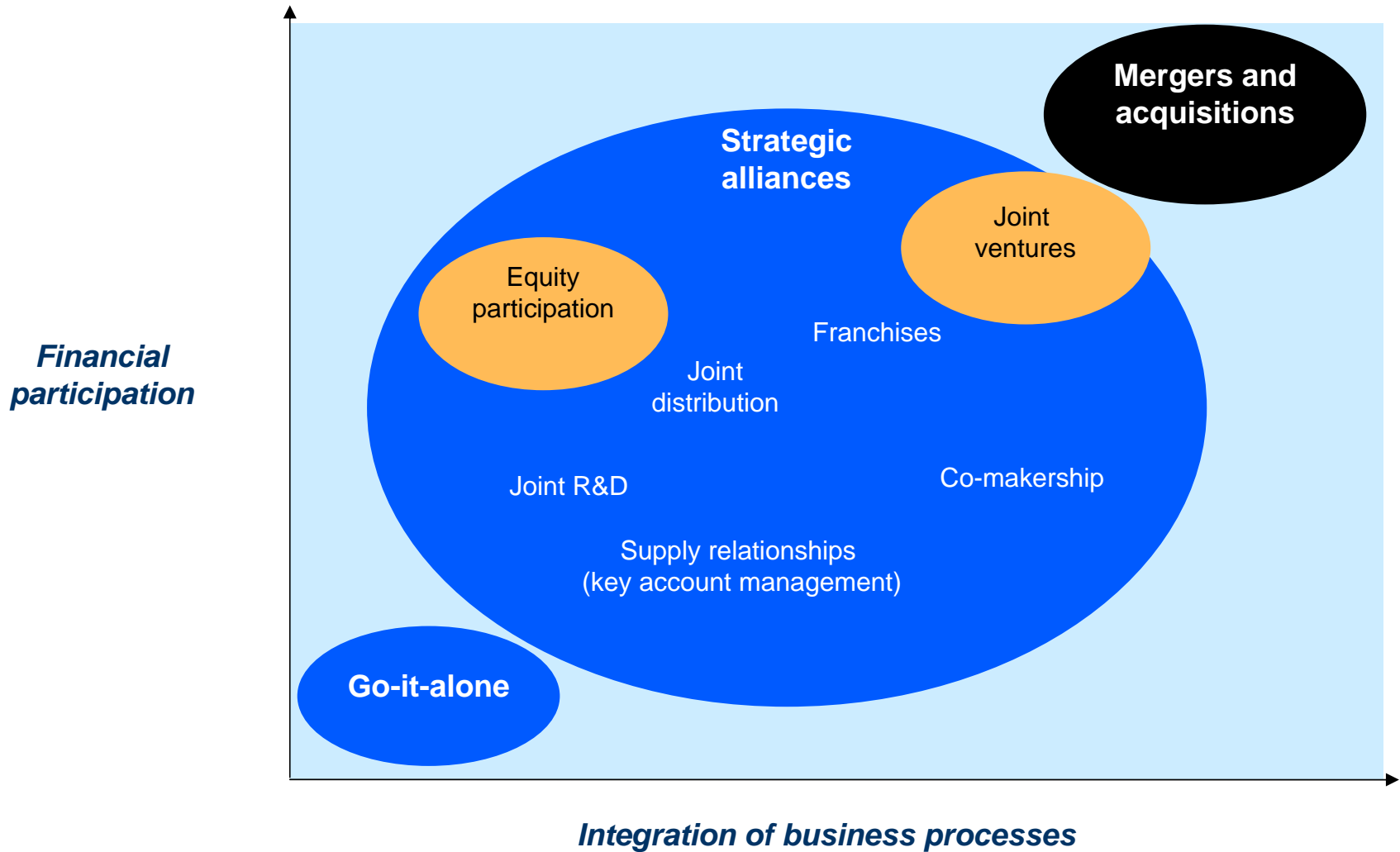
- Lamps
- Professional Luminaires & Systems
- Home Luminaires & Systems
- Lighting Electronics
- Automotive
- Solid State Modules
- Special Lighting Applications

Philips Consumer Lifestyle



- Domestic Appliances
- Health and Wellness
- Shaving and Beauty
- Connected Displays
- Peripherals and Accessories
- Video and Multimedia
- Audio and Multimedia
- Professional and Business Solutions

Alliance Spectrum



Alliances have advantages over Mergers and Go-it-Alone

Advantages

Disadvantages

	Advantages	Disadvantages
Go-it-alone	<ul style="list-style-type: none"> • management control • identity and independence • no integration issues 	<ul style="list-style-type: none"> • takes more time • dedication of resources • higher risks / investment
Strategic alliances	<ul style="list-style-type: none"> • rapid reaction • sharing costs and risks • flexibility • focused, not all activities 	<ul style="list-style-type: none"> • complex control • share profits • partner may cheat
Mergers and/or acquisitions	<ul style="list-style-type: none"> • control (full ownership) • critical mass built up rapidly 	<ul style="list-style-type: none"> • integration issues • high investment • failure risk

Alliances are key to drive growth and innovation

Knowledge transfer

- access to new technologies
- joint R&D
- transfer of competencies
- Set Technology Standards
- Exploit unused developed technologies

Market development

- Hw / Sw combinations
- distribution channels
- market entry
- joint marketing
- business development

Cost efficiency

- rationalisation (excess capacity)
- joint investment in new capacity
- joint support activities

Innovation

Innovative products and business models through powerful alliances

DOUWE EGBERTS



SaraLee





!nBev



NIVEA
FOR
MEN




SWAROVSKI



An alliance resembles a marriage in many ways

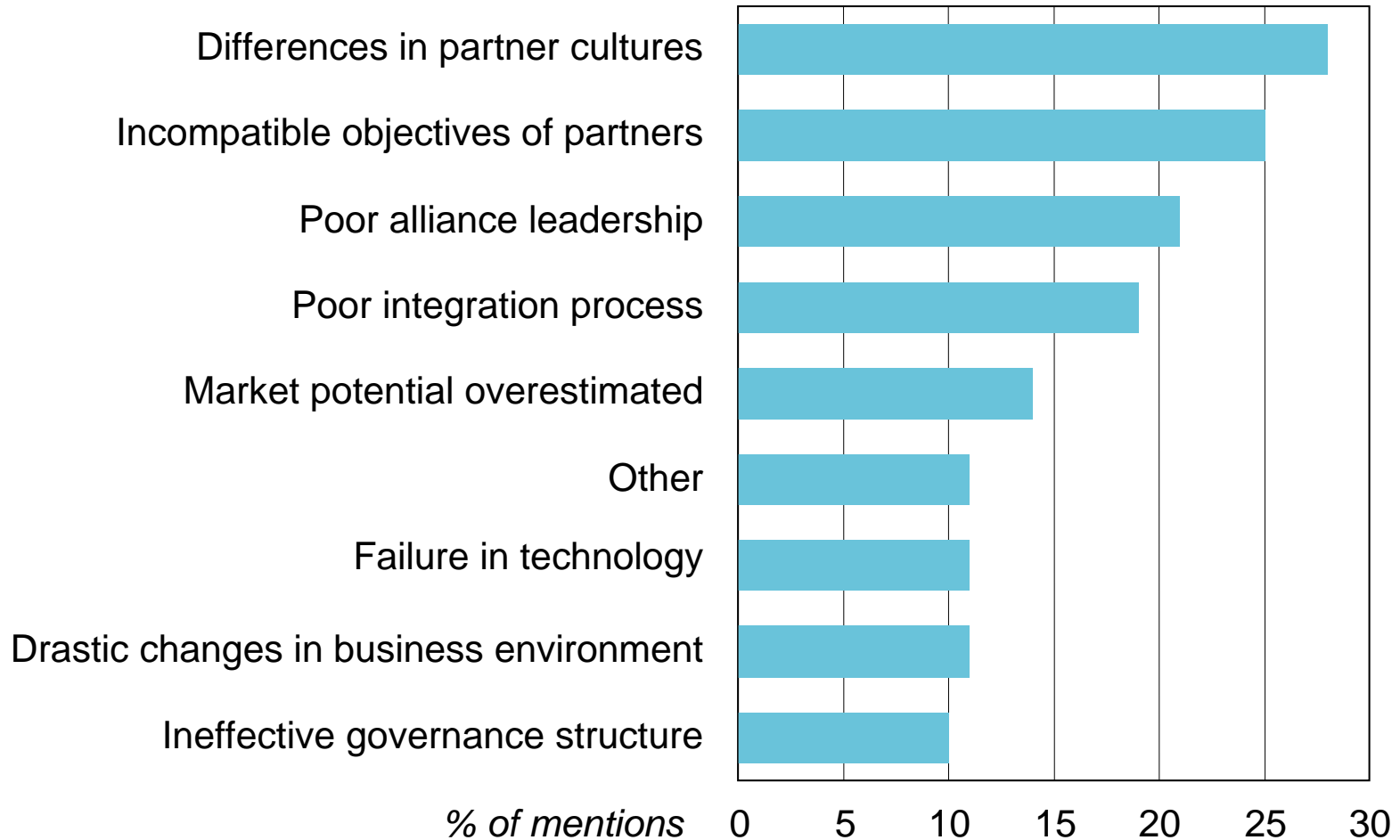
- Looking for the right partner
- Human fit
- Complementary interest
- Equality & respect
- Trust

and.....

- Parents come to visit

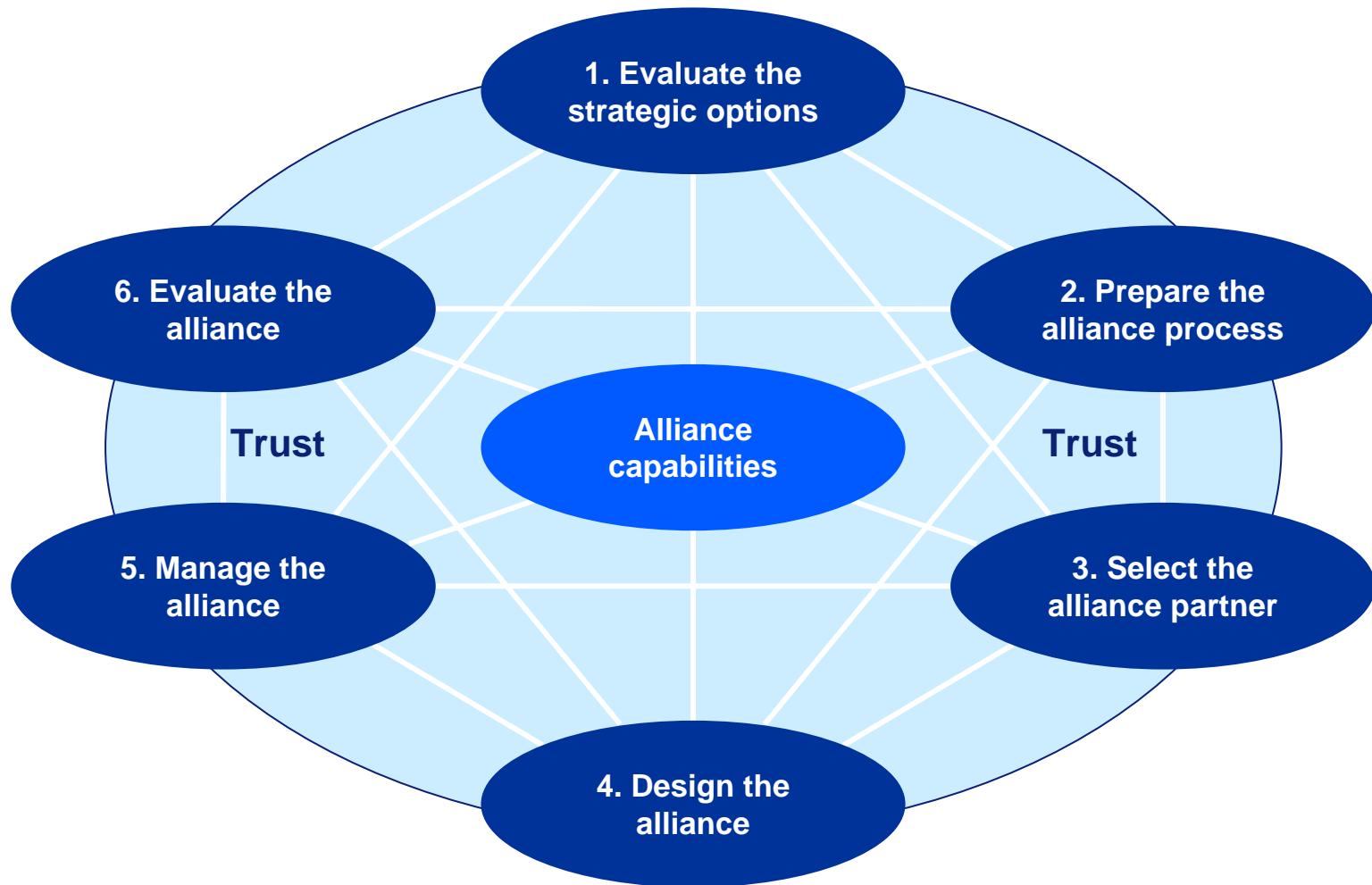


Alliances capability aims to reduce high failure rates of between 40% and 60%



Source: PwC Preferred Partner Survey, 1999 (n=111)

Capturing value potential from alliances requires a structured approach and support tools



Executive support is essential for alliance success

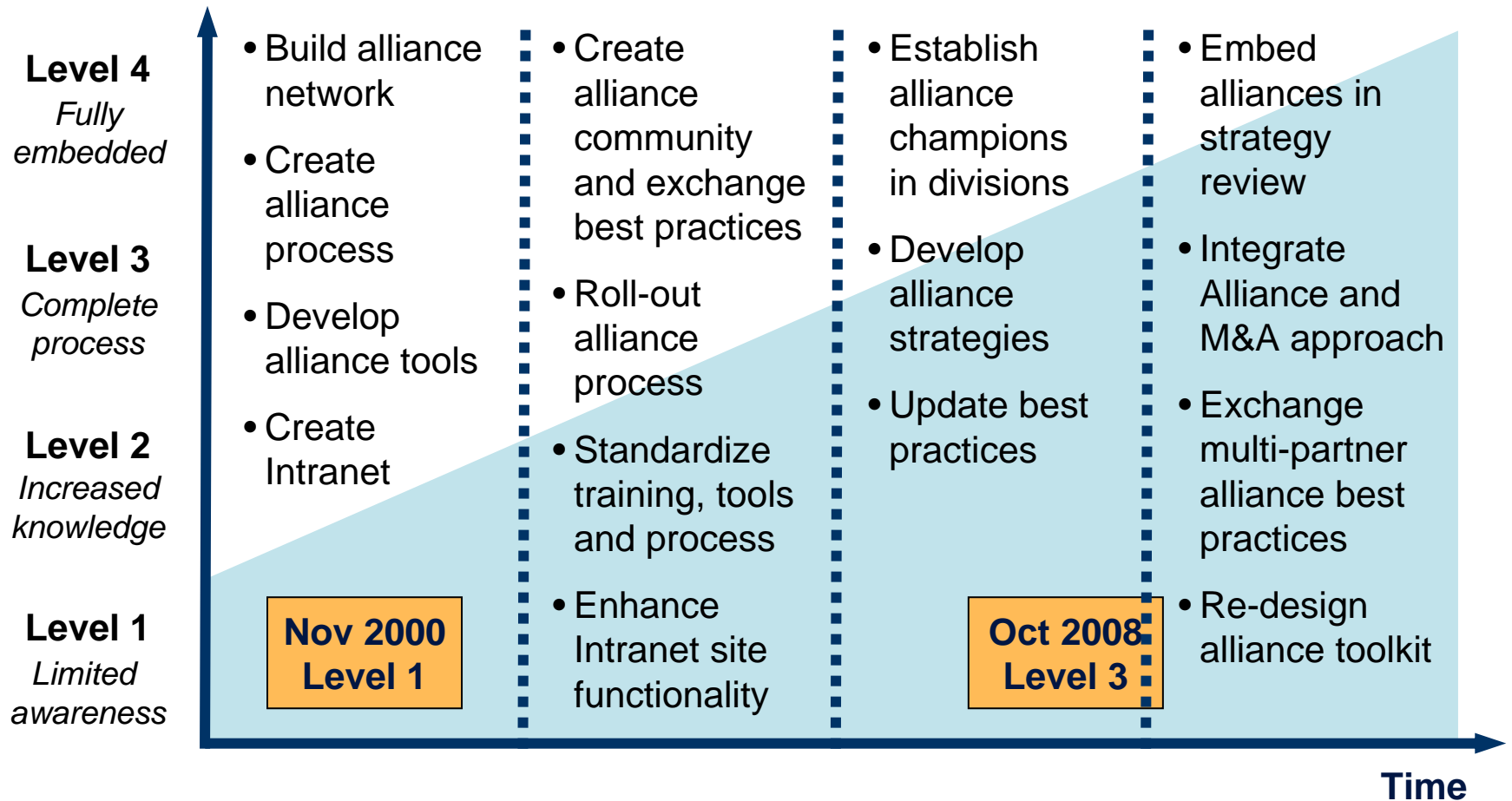
- Board of Philips supports alliances and dedicated Alliance Office
- Board Members act as Executive Sponsor for specific alliances
- Alliances proposals need approval from:
 - CMO Board: focus on fit with and reinforcement of brand positioning
 - Division Management: focus on strategic fit and business case
- Quarterly review of alliance scorecards



CEO Gerard Kleisterlee

“Alliances are key to Philips to drive growth in a number of important markets and technologies and must have structures, resources and management attention to be successful”

The evolving role of the alliance capability



Conclusions

- Alliances are a powerful, modern and growing value driver
- Alliances need structures, dedicated resources, attention and executive endorsement to become and remain successful
- Philips continues on the road of improving alliance capabilities
- Recognition of our efforts by ASAP Alliance Program Excellence Award 2007

