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# Open Innovation in action at DSM & Chemelot

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VP Open Innovation  
September 27th, 2013

HEALTH · NUTRITION · MATERIALS



- Introduction
  - Royal DSM
  - Open Innovation
- Examples
  - Biobased Products & Services
  - Biomedical Materials
- Chemelot
  - History
  - Current situation
  - Future
- Learnings



# DSM's mission

Our purpose is to create brighter lives for people today and generations to come.

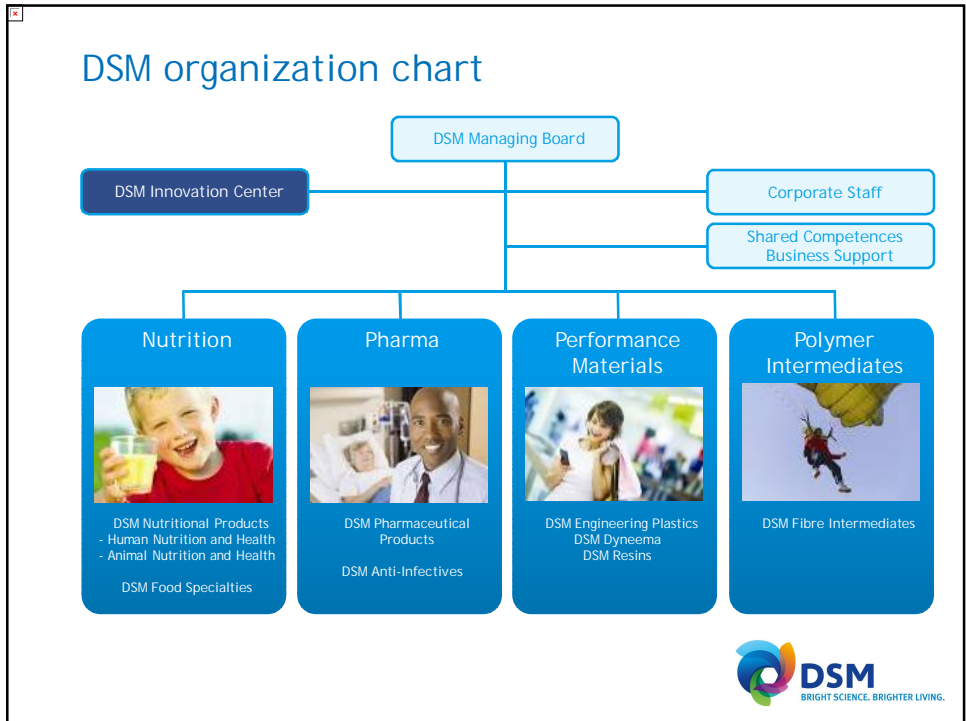
We connect our unique competences in life sciences and materials sciences to create solutions that nourish, protect and improve performance.



## DSM: 110 years of successful transformation

Coal Mining → (Petro)chemicals → Life Sciences & Materials Sciences




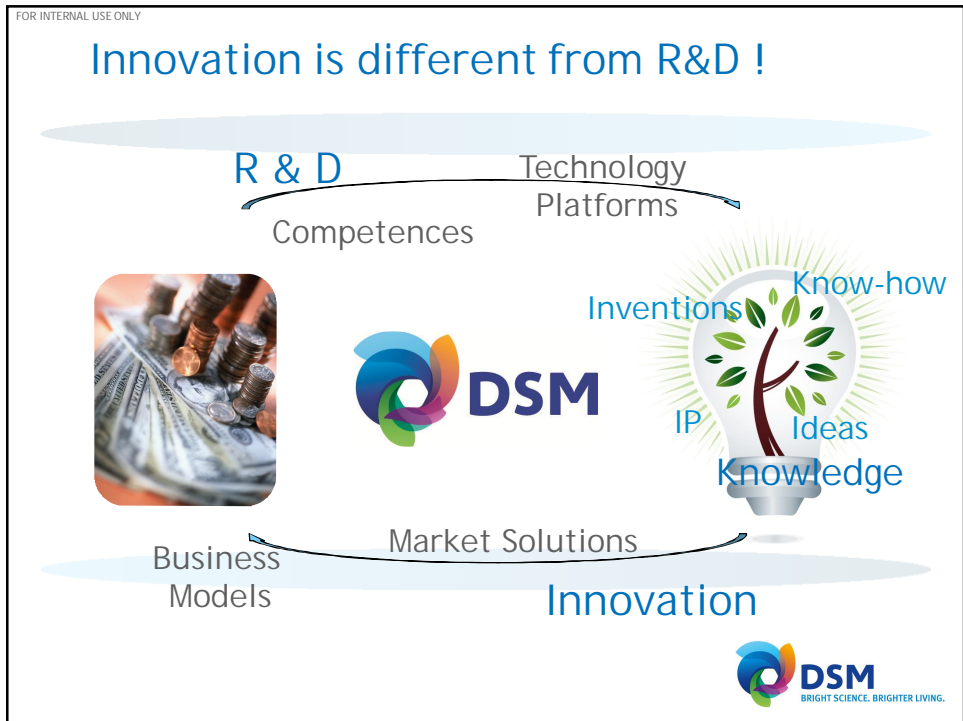
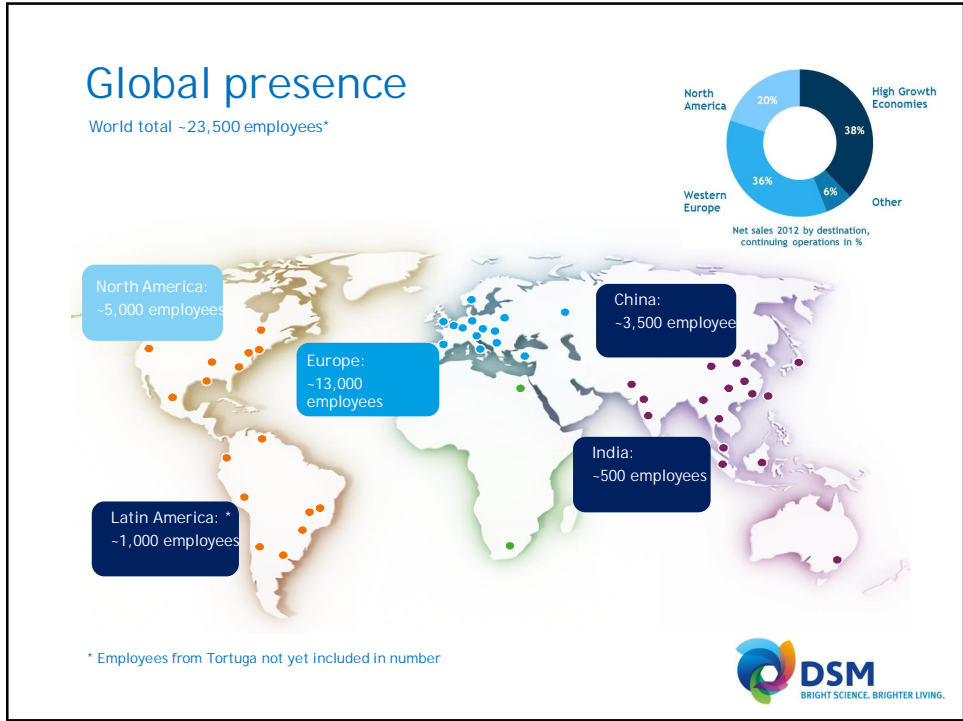


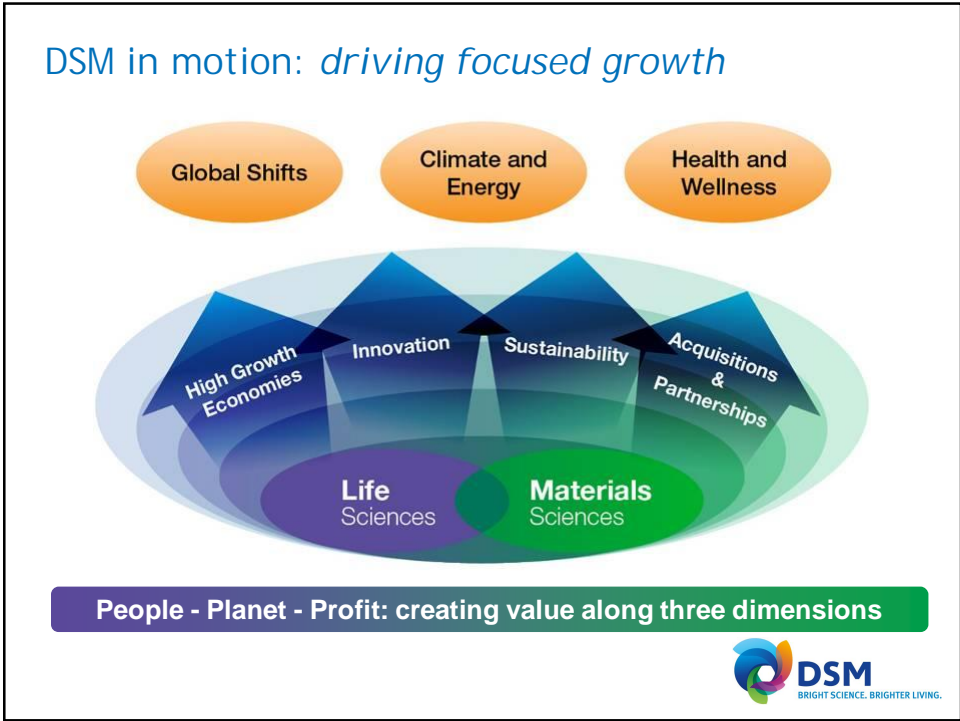
### DSM today

*Leading in Life Sciences & Materials Sciences*

Revenues:	~ € 9 bn
Employees:	~ 23.500 at 200 locations worldwide
R&D:	~ 10% of people
Credit Rating:	Single A









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## Prof. Henry Chesbrough: 2003 ~2012

The image displays four book covers by Henry Chesbrough. From left to right: 1. 'OPEN INNOVATION: The New Imperative for Creating and Profiting from Technology' (Harvard Business School Press), featuring the title in large red letters. 2. 'OPEN INNOVATION: Researching a New Paradigm' (Oxford), with a blue cover and a network diagram. 3. 'OPEN Business Models: How to Thrive in the New Innovation Landscape' (Harvard Business School Press), with a red cover and a white circle containing the title. 4. 'OPEN Services INNOVATION: RETHINKING YOUR BUSINESS TO GROW AND COMPETE IN A NEW ERA' (Harvard Business School Press), with a white cover and a red circular pattern.

The DSM logo is located in the bottom right corner of the slide, consisting of a colorful circular icon and the text 'DSM BRIGHT SCIENCE. BRIGHTER LIVING.'

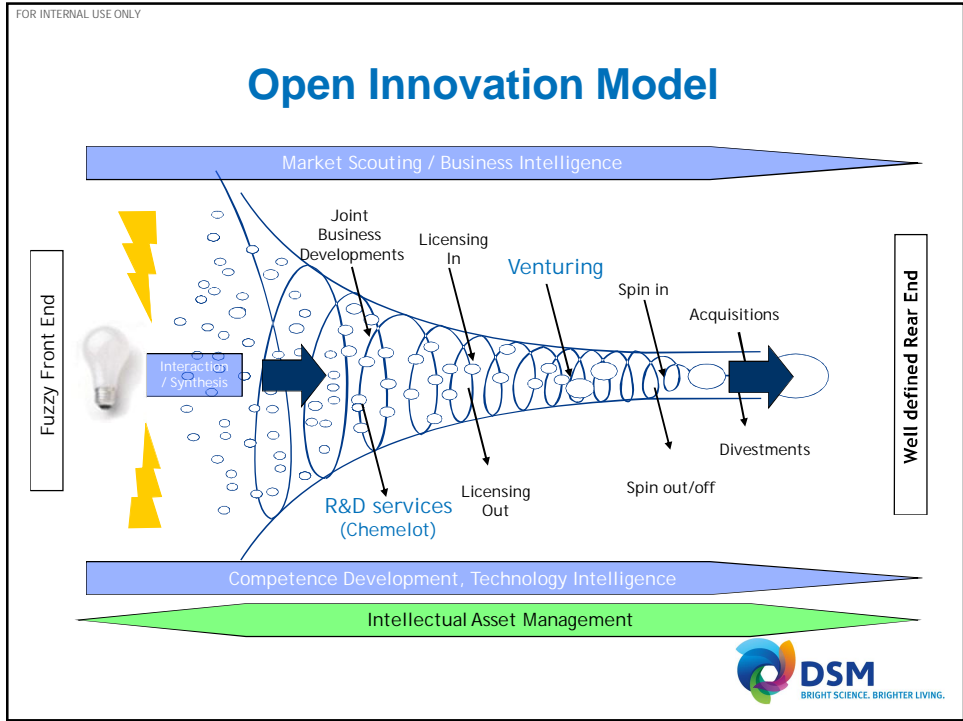
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## Why do we need Open Innovation?

A large, dense crowd of people is shown from an elevated perspective. A small blue and white DSM logo is placed in the lower-left area of the crowd.

99.999996%  
of world  
population  
outside  
DSM!

Networks  
needed!



## Venturing : How to mitigate risks?



DSM Venturing - Corporate VC of DSM
























## Summary Investment scope


- Companies in early stage to expansion stage, active in DSM strategic scope
- Typical initial investment: € 0.5 - 5 mln
- Minority participations typically a 10 - 25% stake
- Recognized potential for strategic cooperation with DSM Businesses
- Representation in board of start-up
- Global (focus on USA, EU, China and India)





## Portfolio Direct Investments


Life Sciences	Material Sciences
  	  
  	  
  	  
 	  



DSM Venturing - Corporate VC of DSM

## DSM Venturing's Track Record

- 40 direct investments since 2001; 23 still active in our current portfolio
- 17 divested:
  - 2 acquired by DSM businesses (LTP and TCG)
  - 2 sold to third party acquirers (Morphotek and OPM)
  - 2 sold back to the founders (Creagri and Terreco)
  - 1 successful IPO (Speedel)
  - 10 failed and were dissolved, liquidated, wound down
- Net financial result is positive - i.e. 'free' option generation!
- Partnerships realized with 30 portfolio companies in various forms and degrees (feasibility studies, joint development, licensing, distribution/marketing relations, supply relations)
- In addition, DSM Venturing facilitated similar partnerships with > 50 other start-ups which it scouted but did not invest in
- We scouted and screened more than 4000 companies which provided useful insights and complementary window-on-the-world for our businesses





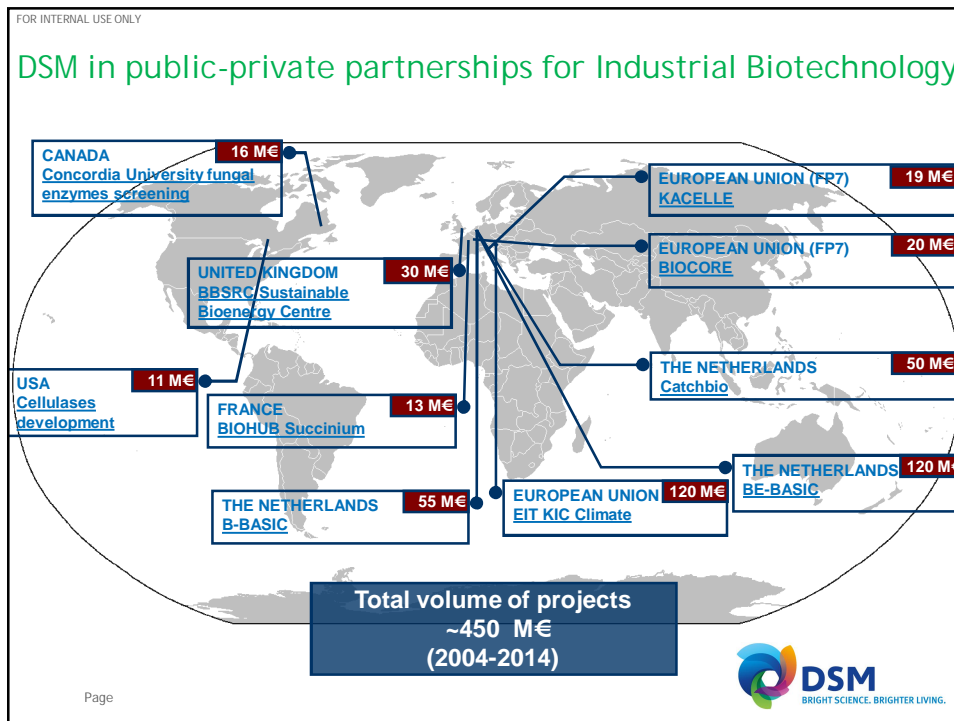
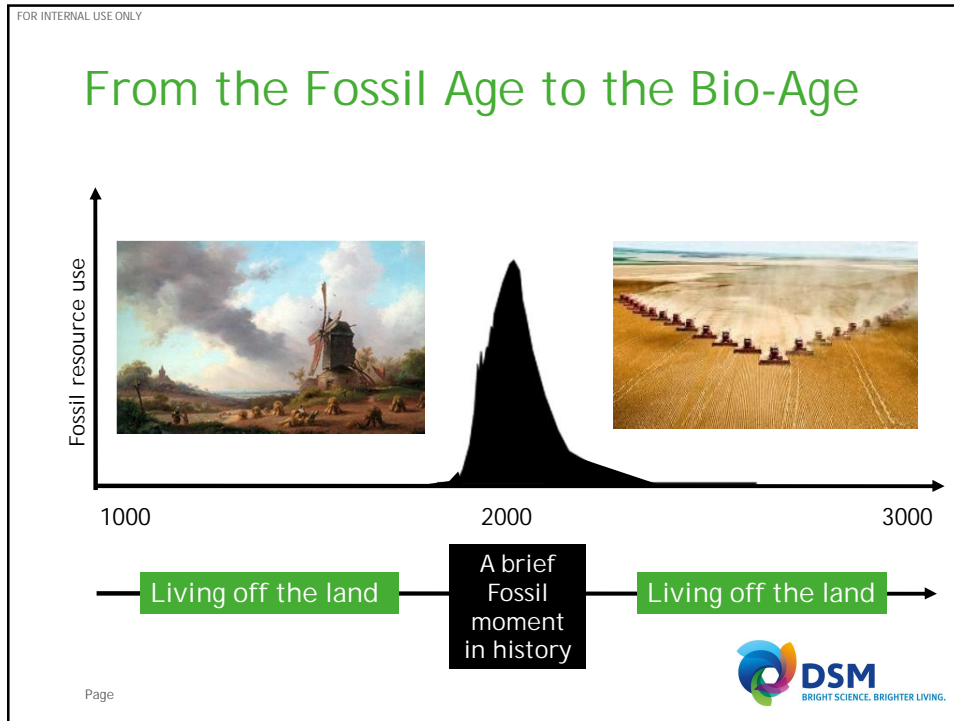
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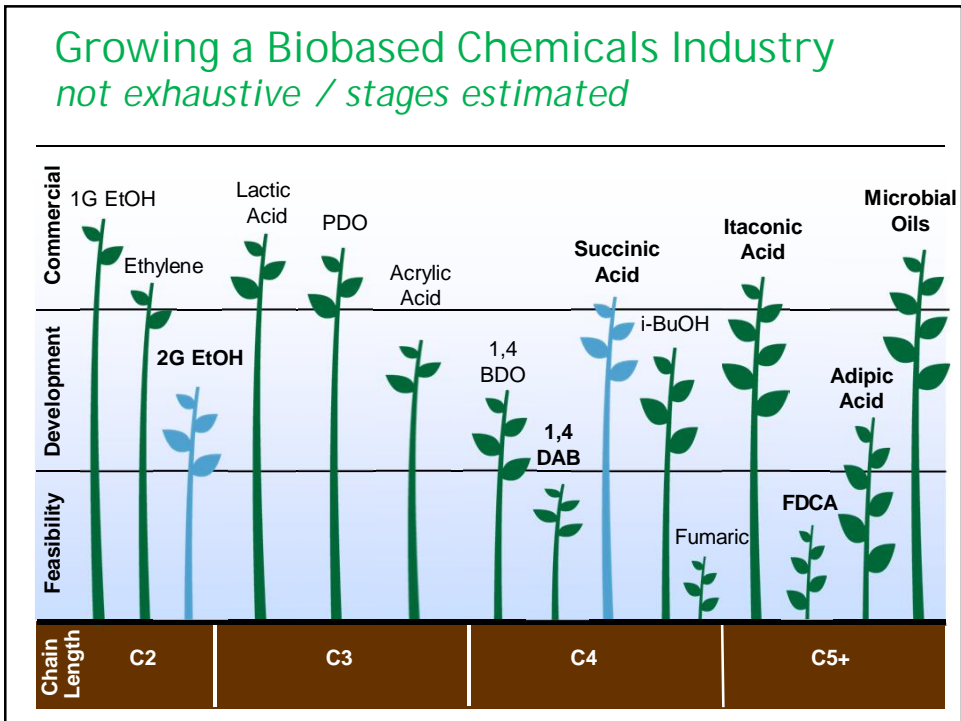
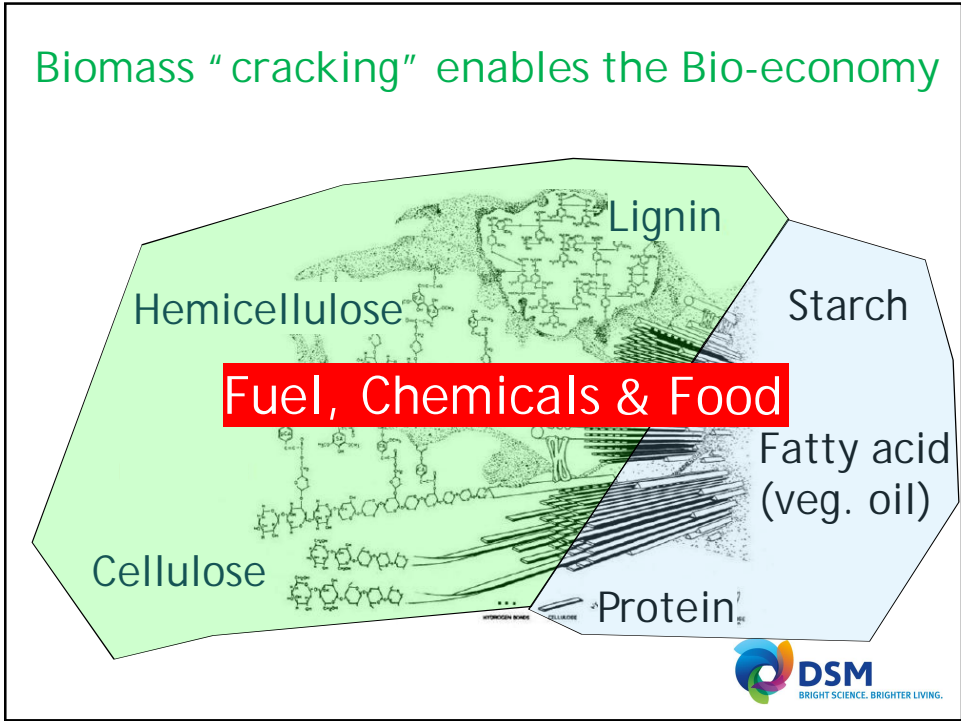
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## Biobased Chemicals and Materials



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## Renewability is Not Enough as a Value Proposition

I DON'T KNOW WHAT IT IS... BUT IT SMELLS GOOD!

PUT A GREEN LABEL ON IT, CALL IT HIGH PERFORMANCE AND DOUBLE THE PRICE!

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## DSM Biomedical

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## Innovation in Biomedical Materials

- > A new application for Dyneema® Purity: Fixation of transplanted ligaments in the knee
- > A continuous loop made from Dyneema® Purity is used to secure the soft tissue transplant, providing strength and stiffness
- > The application of these very strong yet soft fibers reduce trauma to the transplant
- > Product is ingredient-branded with the Dyneema® Purity ingredient logo

WITH  
**Dyneema® Purity**

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## Our Strategic Pathway

repair > replace > restore > regenerate

**BIO-PASSIVE**  
Medical coatings  
and polymers

→

**BIO-ACTIVE**  
Resorbable polymers  
and Drug Delivery

→

**BIO-INTERACTIVE**  
Therapeutic materials,  
Regenerative medicine

Examples:

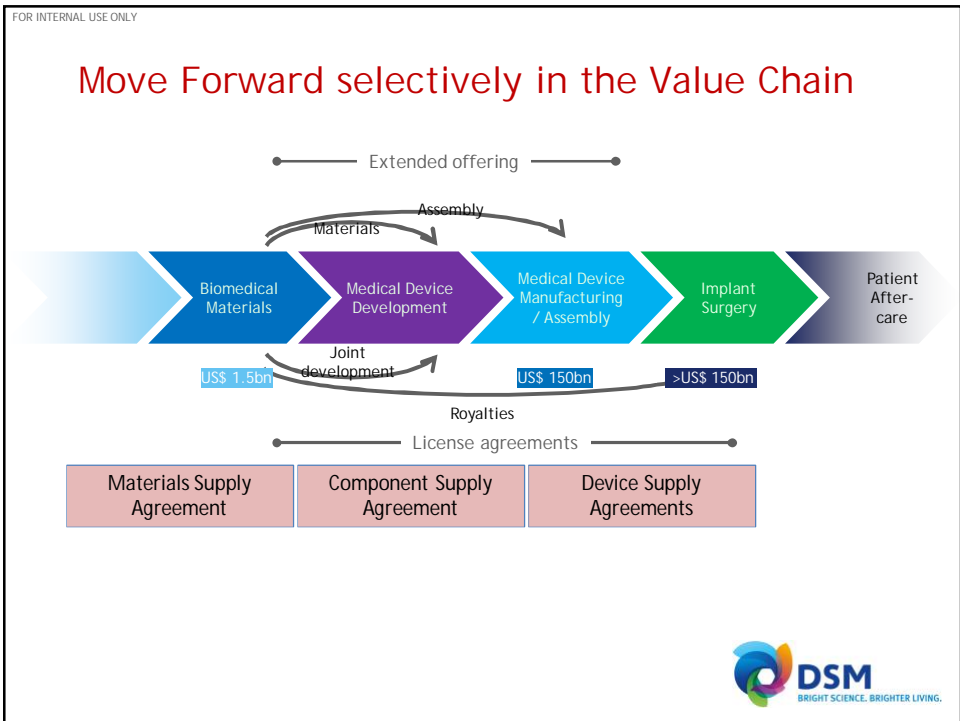
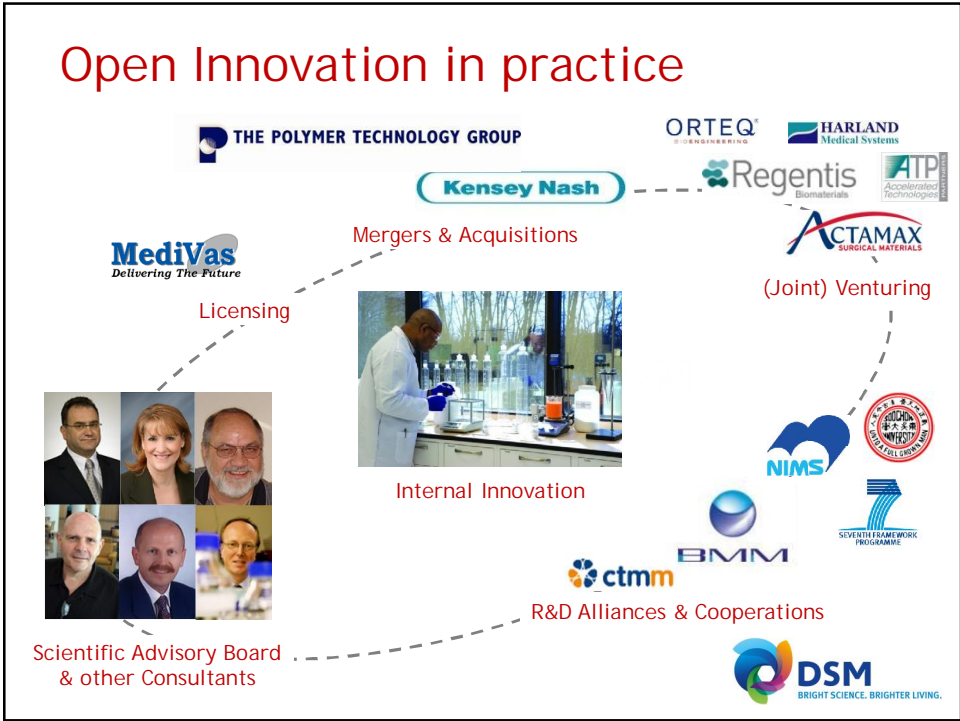
- Pacemaker leads
- Hip replacements

Examples:

- Back-of-the-eye delivery
- Drug Eluting Stent coating

Example:

- Delivery of biologics for cartilage repair



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Once upon a time these plants were all from DSM

Eindhoven

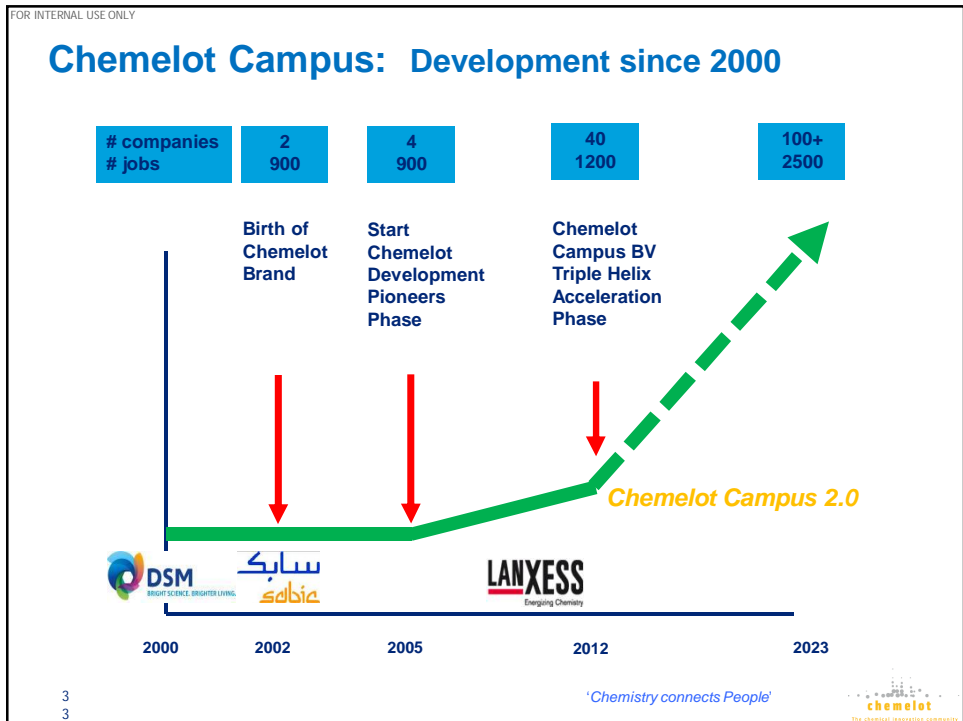
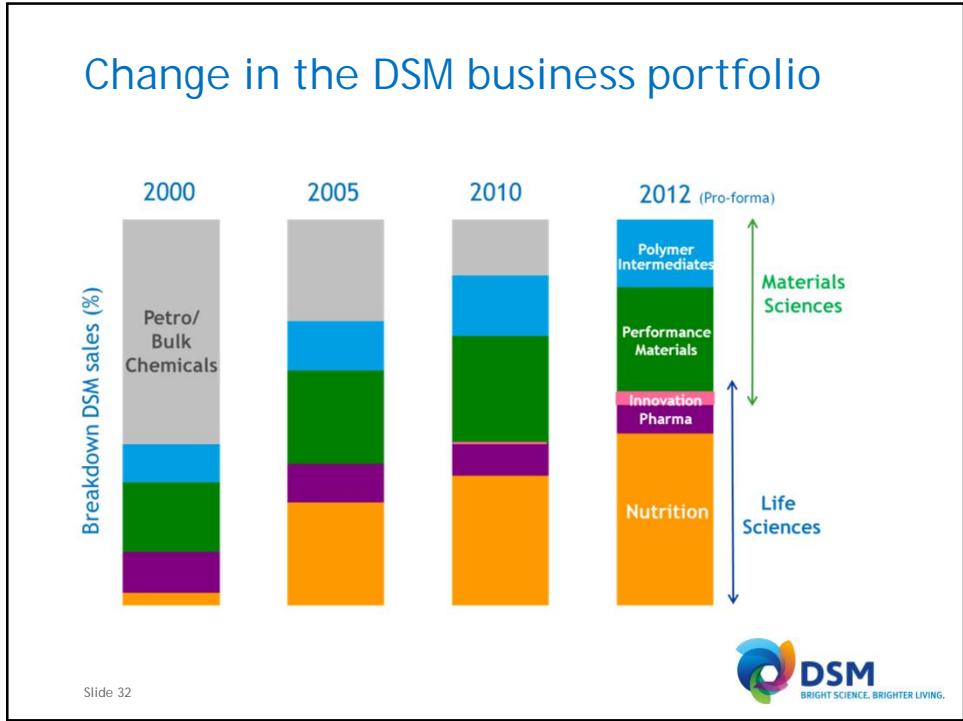
Aachen

Brussels

Maastricht

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## What is Chemelot?

- **One of the largest chematerial communities in Europe (> 800 ha.)**
  - Chemelot Industrial Park; and
  - Chemelot Campus (ca. 20 ha.)
- **Number of companies on industrial park > 110**
  - 90 new companies since 2005
- **Chemelot Campus: 40 companies**
- **Many of them global leader in their product market combination**
- **6.000 jobs on Chemelot**
  - 4.800 on Industrial Park
  - 1.200 on Chemelot Campus


**Chemelot Industrial Park**  
Sharing infrastructure and costs



**Chemelot Campus**  
Sharing knowledge & global networks



'Chemistry connects People'



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## Inter-Regional Initiatives (Geleen, NL)

































































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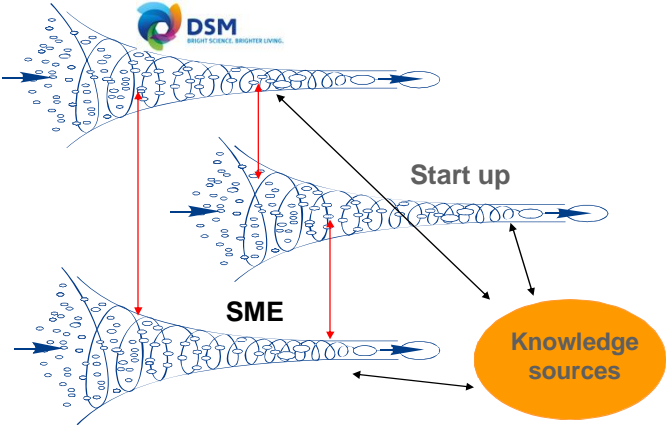
## Innovation is our Sport !



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## Open Innovation at Chemelot



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SME

Start up

Knowledge sources

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**New LANXESS Elastomers headquarters  
Delivered January 2013, 125 people**




**New DSM Materials Science Center  
Ready July 2014, 420 people**






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## A True Triple Helix Approach




University Business Government



provincie limburg




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**Maastricht UMC+**  
azM | Maastricht University


### Chemelot Campus

*initiator, developer, broker*


40Confidential'Chemistry connects People'

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## Public Private Partnerships at Chemelot




**Chemelot InSciTe**  
Biomedical materials



**Chemelot InSciTe**  
Biobased materials



**AMI Biobased Materials**  
Institute of RWTH Aachen and Maastricht University



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## Chemelot Campus - The Results in 2023

Chemelot Campus has a significant **contribution to Economic Growth, Employment, Regional Cohesion and Sustainability:**

- The technological **hot spot in Europe** for chemistry and performance materials
- Acceleration of innovation and business growth via **Open Innovation ecosystem** fully embedded in Brainport region
- Creation of **13.500 new jobs**
  - direct growth on campus from 1000 – 2500 (and beyond)
  - indirect labor: factor 8 – 10\* (at least 12.000 jobs)
- **Attraction of new talent** via unique education set up (CHILL)
  - 1000 students
- **Close cooperation with academia in region & cross border**
  - RWTHAachen, TU/e, Maastricht University
- **Creation of new scientific institutes**
  - Chemelot InSciTe
  - Material Science Centre

42 \* Study Brainport 2020  
Confidential 'Chemistry connects People'

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## Summarizing....

- *Corporate Venturing* gives you a window on the world
- Corporate Venturing for *portfolio rejuvenation!*
- *Open Innovation*: sharing is the new owning
- *PPP's and Start-ups* mitigate the Innovation risks
- Nominate & empower "*Intrapreneurs*"
- *DSM & Chemelot create an Ecosystem for Innovation*
- *Chemelot Campus* combines 4 E's:
  - *Expertise* (competences/experience)
    - *Experimenting* (Labs, Pilot plants)
    - *Entrepreneurship* (VC Funding)
    - *Education* (TUE, UMC+, PPP's)



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