

**DR. ALBRECHT LÄUFER**

# **COMMERCIALIZATION OF BIO-BASED POLYMERS**

**CLOSING PANEL: FINDING BIO-BASED ALTERNATIVES TO POLYURETHANE FOAMS AND ADHESIVES IN HEALTHCARE**

# BIOECONOMY IS OUR PASSION



CORVAY IS A SYSTEM PROVIDER IN THE VALUE-CHAIN OF CIRCULAR BIOECONOMY.



SUCCESS IN PHARMA,  
CHEMISTRY AND  
BIOECONOMY

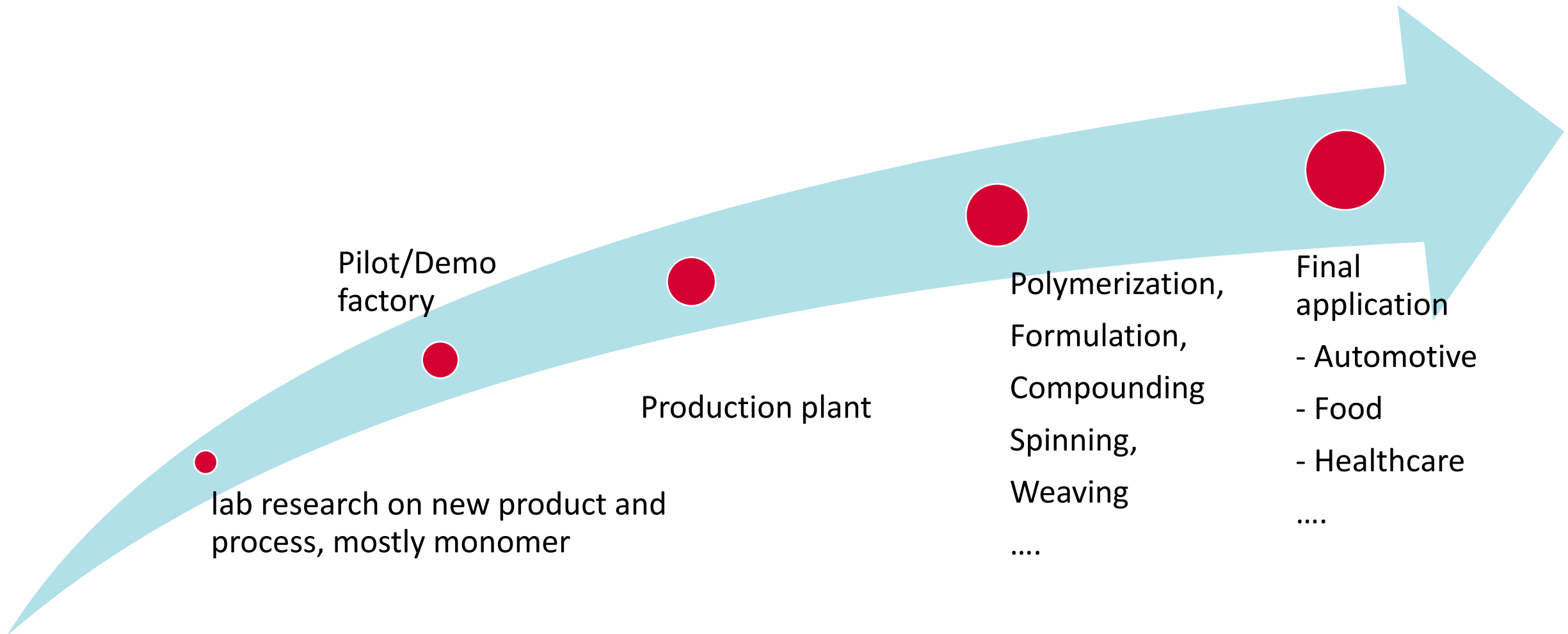


SALES OF HIGH-QUALITY  
SPECIALTY CHEMICALS



PROCESS DEVELOPMENT  
FOR THE BIOECONOMY

# VALUE CHAIN FROM MONOMER DEVELOPMENT TO POLYMER MARKET



# VALUE DRIVERS

At each level of the value chain there is a different set of

- Science & technology mindset
- Regulatory environment
- Certification environment
- Industry associations
- Competitive environment

a biochemist, developing a new biobased molecule to replace a fossil based chemical does not necessarily understand the regulatory environment governing the final market of her/his product.

A consumer may well wish a „green“, biobased endproduct, but the endproducer may not get the necessary intermediates....

# HUGE EXISTING MARKETS

## PU market today\*

- 70 – 80 bn USD, worldwide, expected to grow to >100bn USD,
- 25.78 million metric tons in 2022, expected to grow to 31.27 million tons in the year 2030

## PU market in healthcare today\*

- 4 – 6 bn USD

A huge market seems attractive to approach, but it takes huge resources to create new logistics, productions, regulations

Such market is also highly resilient.

\* Figures vary between market research companies

# POSSIBLE MARKET ENTRY POINTS

Government incentives

- CO<sub>2</sub>-tax
- Mandates or clearcut bans

Start with high-end market (eg luxury labels)

Start in a less regulated market segment

Choose a novel wording (eg „it´s not plastic, just nature“)

In any case, transformation of an existing value chain will require huge efforts in communication between all disciplines of the value chain, and in the end huge investments, mostly upstream from the final application.

# UPCOMING SUCCESS STORIES

Sumitra's and Tomasz's approach: do not try to copy the chemistry, but find biobased compounds providing the same or similar features as the fossil based products do.

For new solutions, concentrate on circularity by build-in recyclability and biodegradability

Find natural sources (Kristians' approach to polyols) or a biotech process (PLA from lactic acid, a fermentation product)

Partially biobased isocyanates are offer by Covestro.

Natural rubber from Dandelion (Löwenzahn ☺), Continental's Taxagum project

Biodegradable coffee capsules (from paper), tea bags (from PLA, or paper)

In Italy, Austria: biodegradable plastic bags (PLA/starch/PBAT)





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2024 12 03

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