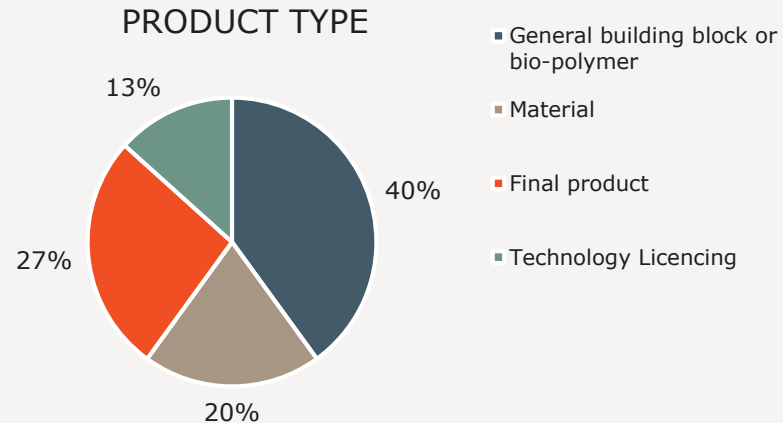
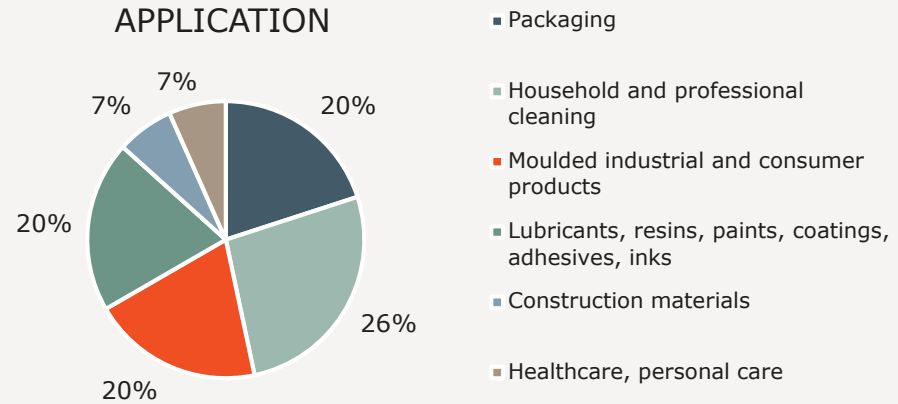
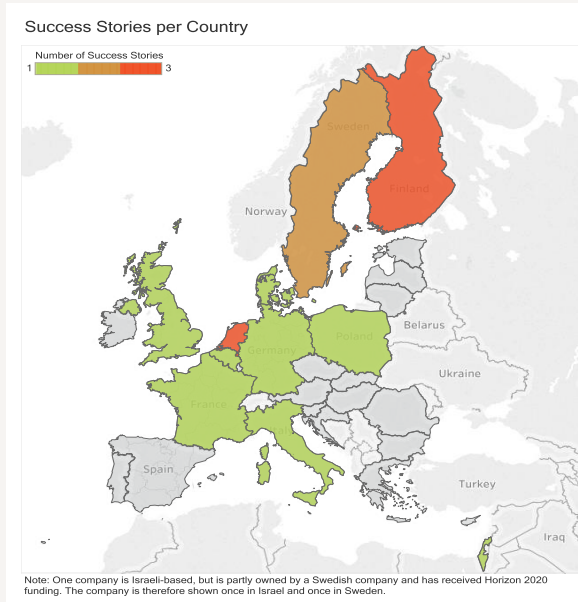


Success stories of bio-based products in Europe, with insights on key enablers, challenges and the investment potentials offered

Malene Sand Jespersen, Market Director, COWI A/S

The fifteen success stories



The bio-based businesses and what drives the industry

Development driven by:

- > Consumer preferences and trends
- > 'SDG' commitments in businesses
- > Anticipated future legislation
- > Existing support frameworks

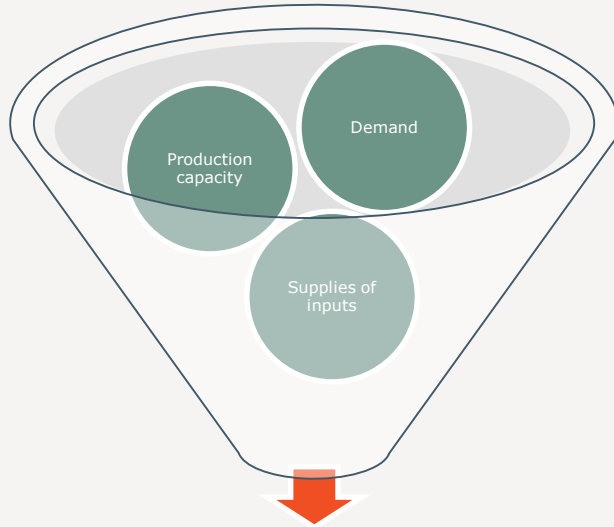
Development threatened by:

- > Price competition
- > Legislative requirements
- > Mobilisation of finance?

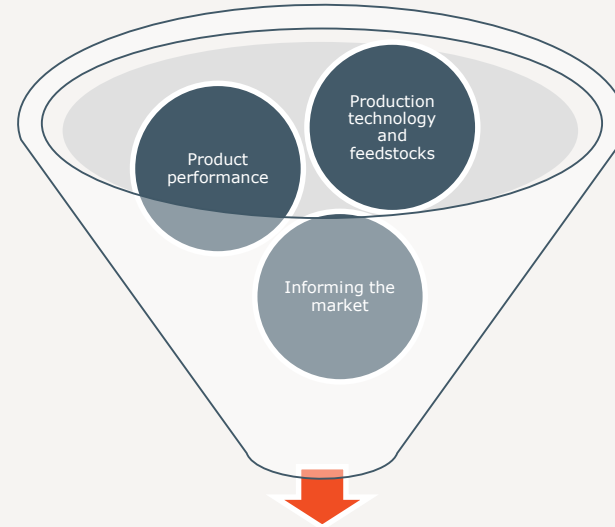
Industry 'in the making':

- > A fairly small industry where
 - > Larger companies invest for the future
 - > Smaller/new companies rely on early private investment and support schemes
- > Developing feedstock uses, products and applications 'simultaneously and constantly'

Sales and profitability



Providing for economies of scale



Improving user experienced price/quality ratio

Investors

Investors see challenges in:

- > Perceived high risk
- > Perceived complexity of the bio-based sector
- > Possibly long lead time
- >and the mere 'newness' of the industry

Investors are:

- > EU funding and other public funding
- > 'Internal' funding
- > Venture Capital
- > Other stakeholders, e.g. partnerships may reduce financial risks and investment needs

Key observed success factors – the offering of the bio-based industry

Investing/hedging for the future:

- > Regulatory frameworks will promote bio-based products compared to fossil-based alternatives
- > Consumer preferences are going green and businesses increasingly focus on the SDGs
- > 'First-mover' producers and brand-owners are involved already
- > Much entrepreneurship is observed



In conclusion – success is possible

Challenges:

- > Bio-based products are more expensive
- > Bio-based products may need to penetrate a traditional/conservative market
- > Bio-based products may have an expensive development path
- > Often there is a need to develop feedstock/technologies, supply chain, product and markets simultaneously
- > The bio-based industry is small and scattered

Success can be achieved:

- > Willingness and commitment to invest for the future (company/owner/founder)
- > Possession of, and access to the critical knowledge and strong networks
- > Strategic direction and flexibility to adjust
- > Developments in 'partnerships' along supply chain and with the market
- > Continued focus on products, applications, technology, feedstocks
- > Market and regulatory trends



THANK YOU!