

Nanocellulose - capturing the potential

NANOCELLULOSE HAS NUMEROUS BENEFICIAL QUALITIES THAT CAN HELP TO BUILD PROFITABLE BUSINESS CASES

Did you know? Nanocellulose can out-perform numerous existing products on the market. Attractive business cases can be developed from it through deep market and technology knowhow.

IMPROVING PRODUCT QUALITIES

Nanocelluloses can be produced from cellulosic raw materials. They are extremely strong, gel-like at low solids content, highly absorbent and can act as barriers. They can be used to improve functionality and cost-effectiveness of numerous materials and products.

Nanocellulose is completely renewable which gives it an advantage over fossil fuel based raw materials. The key is to identify the applications where currently available products can be out-performed by nanocellulose.

THE CASE FOR NANOCELLULOSE

The packaging industry is driving ecological and lighter packaging material, favouring low grammage coated boards.

With nanofibrillated cellulose, the basis weight of board material can be reduced without compromising the required strength. The result is light weight products that consume less raw materials, which, in turn, increases revenue and creates smaller ecological footprint.

Already produced in industrial scale, nanofibrillated cellulose has found its way into a high volume application in the liquid packaging board industry.

CLIENT ISSUES

Typical challenges in seeking to maximise ROI include:

- Identifying the most attractive application areas

- Selecting the most suitable, low-cost and scalable process for each application area

PÖYRY'S SERVICES

Pöyry's service offering covers the whole project life cycle from market studies to the design of cost-efficient processes:

- Business and technology development strategies, market and profitability assessments
- Technology evaluation, conceptual design, basic and detailed engineering, process scale-up
- Pöyry μ Cell™ process concept for producing microfibrillated cellulose (MFC) to reinforce packaging board

BENEFITS

1. Cost-effective, industrial scale production
2. Improved revenue due to lighter weight products
3. Business case example: investing 3-5 MUSD in microfibrillated cellulose to decrease net weight of a board by only 2% will result in 14 MUSD annual increase in EBITDA



Photo: VTT Technical Research Centre of Finland Ltd