



## Case Study Biodegradable water vapour barrier layer for paper-based food packaging

The *dtd* enables the development of a sustainable paper-based food packaging concept. This has been achieved through a biodegradable, aqueous dispersion coating as a highly effective water vapour barrier layer. The food packaging can thus be recycled within the classic paper recycling cycle.

### Problem

- No biodegradable paper-based food packaging with an effective water vapour barrier exists on the market.
- The challenge was to develop a highly effective water vapour barrier coating on an aqueous dispersion basis.
- Well-known manufacturers of barrier coatings and aqueous dispersions did not have a solution.
- R&D cooperation with the university around the corner did not lead to success.
- The client was therefore urgently looking for alternative R&D partners and possible technical solutions.

### Procedure

- The *dtd* conducted an intensive workshop on site at the client's premises in order to be able to precisely understand the initial situation and the client's goal.
- As a project kick-off, a comprehensive internet, patent and literature search was conducted to identify as many experts as possible in the field of chemical technology, coating technology, packaging technology, paper technology and biomaterials worldwide.
- The newly identified companies, experts and research institutions and already existing network contacts of the *dtd* were interviewed about possible and existing approaches to solutions (a total of approx. 30,000 people worldwide).

### Result

- In a first step, approx. 250 experts / companies contacted the *dtd* with interest in the enquiry.
- The customer's objective was again explained in detail to all experts / companies and detailed information was subsequently asked from potential technology providers / development partners.
- After approx. 6 weeks, a total of 37 companies and 30 international research institutions could be provided with concrete technical solution approaches on an agile digital project platform

### Conclusion

The great challenge within the project was not only to reach out to the expert world of the paper industry, but also to search simultaneously for technical solution approaches outside the known patterns, paths and experts. This was impressively achieved through the intensive preliminary research and the huge international network of *dtd*. The client had discussions with the 4 previously unknown potential partners - 2 companies, 1 spin-off (D, IT), 1 research institution (UK) - and was subsequently able to start 2 parallel development projects with different technical approaches