

7th Joint CORNET Call for Transnational Collective Research Proposals
--- Project Idea ---

Subject:	SONOPULP - Using high-power ultrasound technology in the paper industry
Coordinator:	PTS, Germany
Other applicant(s):	The Netherlands, Spain, Austria, Belgium, Turkey
Sector/target group:	Paper and board industry, natural fibre utilising/producing industries such as textile, composites, agro.
Proposal summary:	<p>Concept:</p> <p>Using high-power ultrasound technology in the paper industry:</p> <ul style="list-style-type: none"> • for producing pulps from annual plants and agro-waste • for treatment of fibre suspensions in stock preparation (wood fibres, fibres from annual non-wood plants, recycled fibres) <p>Background:</p> <p>Recovered paper and wood have been and continue to be the most important raw materials for the European paper industry. Although there has been no lack of attempts in the past to use fibres from fast-growing annual plants – a raw material available in virtually unlimited quantities in Europe – no process has actually managed to successfully establish itself on a large scale. Numerous attempts have been made in the past to use high-power ultrasound technology to produce and prepare pulps. However, there has been no holistic analysis of the cooking or digestion process so far – in particular of annual plants – and its subsequent impact on the properties of the pulps used for papermaking.</p> <p>Therefore the objective of this research project is to develop a process principle for producing pulps for the paper industry from annual plants, including agro-waste, utilising high-power ultrasonic technology and to influence by means of ultrasound the pulps used in papermaking to develop the desired fibre properties.</p>
Advantages for trade and industry:	<p>This project is intended to create the scientific basis for developing a universal ultrasound module primarily for use in the paper industry as well as design and operating parameters for the construction of a prototype.</p> <p>Further valorisation of by-products will be investigated in a biorefinery approach.</p> <p>Environmental, logistic and socio-economic aspects will also be considered.</p>

Dissemination concepts:	Will involve publications, conferences & workshops and/or seminars, pilot plants & production, advisory service for food industry (SMEs), perhaps staff exchange.
Profile of additional partners:	Natural fibres utilising/producing industries
Contact:	<p>Dr. Ir. Gülden Yılmaz Cluster Natural Fibre Technology and Applications Wageningen UR Agrotechnology and Food Sciences Group Business Unit Biobased Products</p> <p>Tel: +31 317-480238 Fax: +31 317-483011 E-mail: gulden.yilmaz@wur.nl</p>