

2014 Industry 14IND11	Metrology for Humidity at High Temperatures and Transient Conditions HIT	
<p>Projektets formål:  At udvikle markant bedre nøjagtighed i industrielle fugtighedsmålinger ved temperaturer op til 180°C og i flygtige miljøer. Projektet har tre hovedmål:</p> <ul style="list-style-type: none"> <li>• Udvidelse af industriel fugtighedskalibrering ved høje temperaturer og i flygtige miljøer</li> <li>• Nye målemetoder til flygtige fugtforhold og rumlige ændringer</li> <li>• Ny metode til måling af vandaktivitet in-line</li> </ul> <p>Projektet er delt op i 5 arbejdsopgaver:  WP 1 New calibration methods for industrial implementation  WP 2 Improved measurement techniques and methods  WP 3 Demonstration and validation of developments in selected industrial applications  WP 4 Creating impact  WP 5 Management and Coordination</p>		
Antal deltagere 15	Projektets budget <sup>1</sup> 1 495 629 EUR	Person-måneder 188,9
Dansk deltager Teknologisk Institut, Delta	Teknologisk Institut Budget <sup>1</sup> 101 840 EUR	Person-måneder 10,1
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<p>Teknologisk Institut bidrag:</p> <p>Teknologisk Institut deltager i WP2, WP3, WP4 og WP5.</p> <p>Teknologisk Instituts primære opgave er at medvirke i udviklingen af nye metoder til måling af vandaktivitet med måleusikkerheder mindre end 0.02, inklusive sporbare sorptionsisotherm-målingsmetoder, der muliggør sporbar kobling mellem vandaktivitet og delmængde vand i produktet.</p> <p>Konkret er Teknologisk Instituts milepæle:</p> <ul style="list-style-type: none"> <li>• Develop a method for determining critical heat and mass transfer parameters relevant to the water activity measurements in line including a set-up for traceable sorption isotherm measurement in food for typical production temperatures e.g. at the output of a drying process.</li> <li>• Experimentally validate modelling tools in at least two materials relevant for the food/feed industry chosen by their significantly different mass-to-surface ratio, e.g milk powder and large grain hazelnut.</li> <li>• Develop a new method for traceable <math>a_w</math> measurements performed at process temperatures in line in the range from 0.2 to 0.7 at an uncertainty level of 0.02 or smaller.</li> <li>• Analyse the error sources and estimate the <math>a_w</math> measurement uncertainty, advising for the improved measurement procedures.</li> <li>• Host a national workshop/seminar, held in Denmark and aimed at the food and feed industry</li> </ul>		

<sup>1</sup> Angives som EU finansiering (direct costs + 5 %)

with presentation from project partners and industry

- Introduce new services for traceably determining sorption isotherms at temperatures up to 70 °C (with known uncertainty and models for corrections of water activity back to room temperature) based on the techniques developed in WP2 Task 2.