New Gravimetric National Standard for Water Flow Measurements in Finland

**M. Huovinen1, T. Nissilä1,**

**P. Koponen1**

*1VTT Technical Research Centre of Finland Ltd, Centre for Metrology MIKES, Tehdaskatu 15, Puristamo 9P19, 87100 Kajaani, Finland*

*E-mail (corresponding author): mika.huovinen@vtt.fi*

Centre for Metrology MIKES has accomplished a state-of-the-art gravimetric device for water flow calibrations in Finland. This new calibration rig will serve also as a national standard for water flow. Flow rate in the rig is possible up to 720 m³/h and the largest accommodated pipe size is up to DN200. Lowest measurement uncertainty achieved is 0.03% (*k* = 2). This presentation will show in detail the construction and the performance of the national standard. Comparison measurements are agreed between PTB and will be conducted in near future. These comparison results will give a solid base for the CMC-submission. Part of the CMC process is also the detailed academic presentation of the measurement capabilities.