



26th International Conference & Exhibition – 8th-12th June 2026, Krakow, Poland

Workshop 1: ADAM – A Joint Research Project within the European Partnership on Metrology
EURAMET

Application of Digital-Metrological Twins

for Emerging Measurement Technology in Advanced Manufacturing

June 8th, 2026, 14:00-17:00 – University of Krakow, Krakow, Poland

Program:

Part 1 (14:00 – 15:20)

Welcome and program introduction (Walter Knulst, VSL & Guido Tosello, DTU – workshop organizers)

1. Application of Digital-Metrological Twins for emerging measurement technology in advanced manufacturing – ADAM Project Overview

Speaker: Daniel Heielmann (Physikalisch-Technische Bundesanstalt PTB, Germany) – ADAM Coordinator

2. Review of freeform metrology from artefacts to digital-metrology twins (M-DT)

Speaker: Jan Soukal (Czech Metrology Institute, CMI, Czech Republic)

3. Design of freeform artefact for digital twin metrology

Speaker: Nabil Anwer (Paris-Saclay University, France)

4. Lessons learnt from an intercomparison involving a freeform artefact and a VCMM

Speaker: Walter Knulst (Metrology Institute of the Netherlands, VSL, The Netherlands)

----- **Coffee break** -----

Part 2 (15:40 – 17:00)

5. Analysis of measurement uncertainty contributions of optical sensors for the development of digital-metrological twins in coordinate metrology

Speaker: Daniel Heielmann (Physikalisch-Technische Bundesanstalt PTB, Germany) – ADAM Coordinator

6. Surface roughness influence on chromatic confocal dimensional measurements

Speaker: Lorenzo Didon (University of Padova, Italy)

7. Influence of surface curvature and slope on the dimensional and surface characterisation accuracy in focus variation measurements

Speaker: Amrozia Shaheen (The LEGO Group/Technical University of Denmark, DTU, Denmark)

8. Metrological characterisation of optical sensors for on-machine measurement of freeform geometries

Speaker: Harkaitz Urreta (IDEKO Research Center, Spain)

Summary and Closure (Walter Knulst, VSL & Guido Tosello, DTU)

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