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# Integrated metrology for precision manufacturing

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“Integrated metrology for precision manufacturing” (22-23 January 2019, AMRC)

“Integrated metrology for additive manufacturing” (17-18 July 2019, MTC)





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# Open research questions






# 1. The need for speed

- Sensor development, novel and enhanced
- Efficiency – just measure what you need to measure
- Hybrid/fusion
- Measurement v monitoring?
- Embedded sensors/IoT





## 2. Data overload

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- The background of the slide is a composite image. It features a person's head and shoulders in the center, looking upwards. The background is filled with a dense, green, digital rain effect, similar to the 'Matrix' movie, with various numbers and symbols falling from the top. The overall color scheme is dark with bright green highlights.
- Amount of data
  - Type of data
  - Quality
  - Confidence/uncertainty
  - Security
  - Cost



### 3. Control strategies

- Confidence/uncertainty
- Deterministic v AI v hybrid approaches
- Domain shift







- Traceability/calibration
- Data flow/software linkage
- De facto v ISO





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# Future meeting?





- EPSRC and HVMC for funding
- HVMC Metrology Forum
- Met Map Conference Organising Committee Members
- All speakers
- Andrew Dickins – who did all the real work

