MBE for Quality Measurement: Opportunities and Challenges

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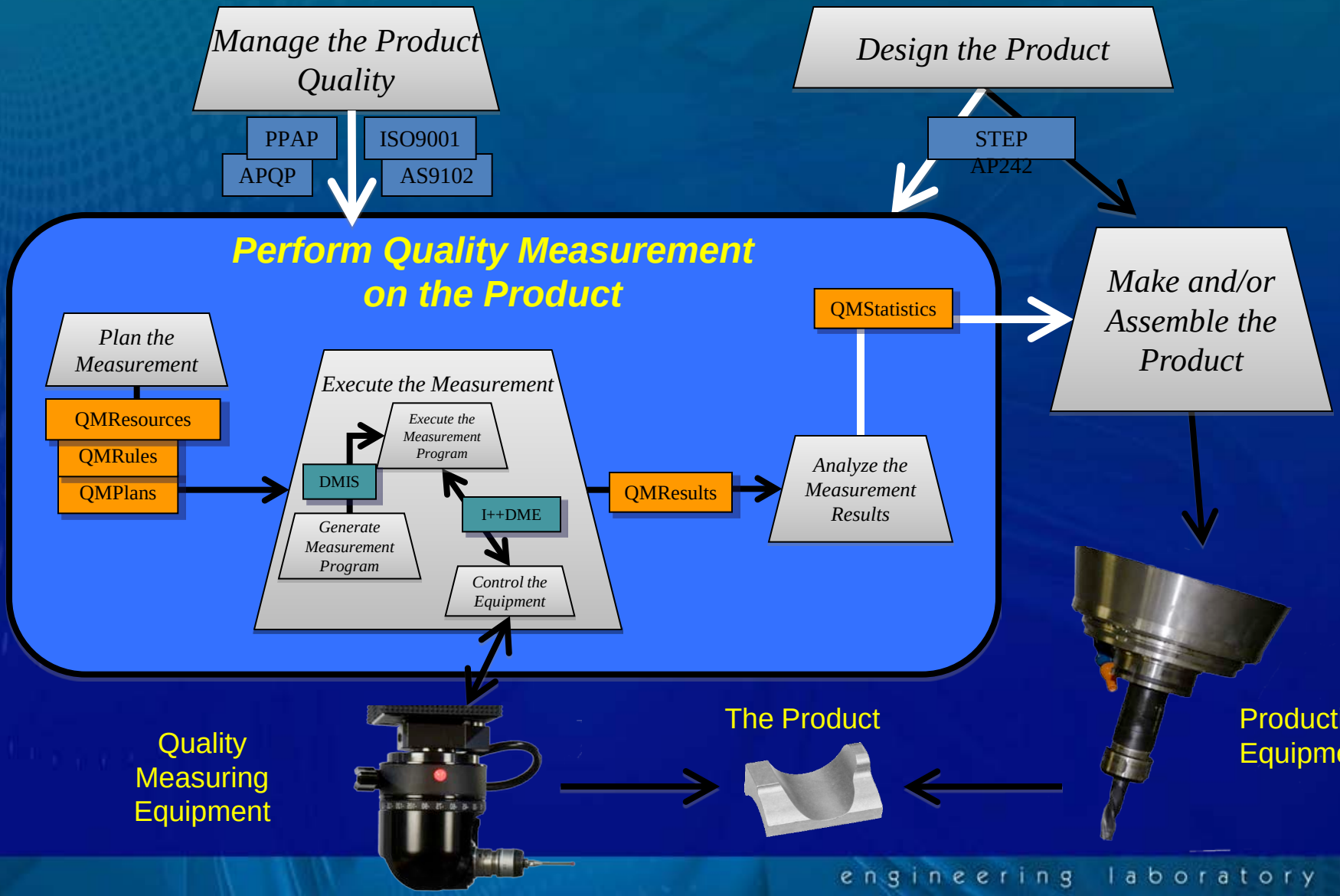
Design, Manufacturing, and Quality: Islands of Automation?



Challenges with MBE for Quality

- Natural cultural resistance
  - Relatively small community
  - Small-sized vendors
- Excessive costs
  - "Native CAD interfaces"
  - Engineering rework:
    - Sometimes reverting to blueprints
    - Redefining/defining datums/features
    - Manually ballooning of drawings per AS9102
  - Loss of IO due to mergers and acquisitions

Challenges with MBE for Quality

- Link with QMS is paper-based or spreadsheet-based, not digital
- Document revision control
- CAD vendors reluctant to provide digital and fully semantic association between PMI and Geometry
- Slowly moving standards-based CAD + PMI
- Crowded and unreadable drawings

Opportunities with MBE for Quality

- Centralized data model for CAD/PMI/QMS/Inspection
- Increased automation
- Increased product quality
- Easier to manage engineering changes
- Easier to visualize deviations of actuals from nominals
- "Notes" and "balloons" are unambiguously associated with models/features/tolerance_frames

Introductions

- Curtis Brown, Honeywell FM&T
- Ray Admire, LMCO
- Bill Tandler, MultiMetrics
- Nick Orchard & Ron Snyder, Rolls Royce