



CASE STUDY: NATIONAL PHYSICAL LABORATORY

IfM Education and Consultancy Services facilitated a one-day roadmapping workshop for the National Physical Laboratory, with 89 participants from 44 organisations participating.

Sector

Research

Project scope

Engage UK industrial users of data to identify data measurement challenges and explore research project ideas.

About the organisation

The National Physical Laboratory (NPL) is the UK's National Measurement Institute (NMI). It develops, maintains and applies the nation's measurement standards and solutions. These standards and solutions provide the measurement capability that underpins the UK's prosperity and quality of life.

The challenge

Data is a growing part of everyday life, and a key driver for the

prosperity and security of the UK. The exponential growth in data presents many challenges including finding the right balance between increasing the value of information through interconnecting systems and processes, and a need to protect privacy and intellectual property.

In response, NPL is expanding its core mission from physical, chemical and biological metrology, and establishing a data research initiative to create the measurement framework required for

traceability in data systems. Quality assurance enables confidence in the intelligent and effective use of data, increasing the value of information and ensuring the legal standing of decisions made on data analytics. In 2016, NPL hosted a workshop facilitated by IfM Education and Consultancy Services, engaging UK industrial users of data to identify data measurement challenges and explore research project ideas.





“Coordinating a workshop on this scale, involving nearly 100 participants is no small feat. In one day IfM ECS helped us to gather extensive perspectives from across industry and academia and produce an insightful output that will inform NPL’s data science research strategy.”

Dr Jenny Wooldridge,
Programmes Directorate,
National Physical Laboratory

Scoping and design

IfM ECS worked with the NPL steering group to tailor the workshop’s scope and objectives. S-Plan roadmapping was identified as the right approach and it was customised to support NPL objectives, aligning research activities with industry needs and challenges. Templates were customised to be used during the workshop as well as for pre-work activities (e.g. data gathering).

There was a significant amount of data collection prior to the workshop. Participants perspectives were gathered and consolidated to provide a focused list of issues to review at the workshop.

Workshop delivery and results

There were 89 participants from 44 organisations across industry and academia that attended the workshop.

On the day, all participants were involved in the prioritisation of needs, challenges and project ideas.

15 projects were judged to be most important given the significant industry opportunity they can potentially open up, and also that they were reasonably achievable. The priorities included:

- Develop standards (and optimisation models) for data quality (including accuracy, confidence and fidelity)
- Develop data (and metadata) provenance standards and requirements
- Develop risk prediction and analysis models using multiple data sources/ types

Participants then broke off into smaller groups to outline a high-level roadmap for each priority area. The roadmaps covered resources required for research and technology development, enablers and risks that may support or hinder progress and immediate next steps to jumpstart project delivery.

All of these outputs can be found in the NPL report “UK Workshop on Data Metrology and Standards”.



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IfM Education and Consultancy Services works with companies of all sizes to help create and capture value, and with national and regional governments to support and grow their industrial sectors. It does this by transferring the new ideas and approaches developed by researchers at the Institute for Manufacturing (IfM) through a programme of education and consultancy services.

IfM ECS is owned by the University of Cambridge. Its profits are gifted to the University to fund future research.

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