Digital Technical Standards Toolkit Expert Working Group

6 February 2026 (online) 2:00 PM - 4:00 PM

Note of Meeting

(see attendance list at Annex A)

Topic

1. Welcome and Introductions: Professor Georgina Harris
2. EPC Toolkit Background: Johnny Rich
3. Technical Scope and Standards Landscape: Dr. Hermann Brand
4. Gap Analysis and Resource Categorization: Dan (Dhanushka)
5. ETSI Resources and Commitment: Howard Benn
6. IEEE Standards Education: James Irvine
7. IET Frameworks and Resources: Antony Swift
8. Engineering Council Position: Ben Jones and Katy Turff
9. Royal Academy Contribution: Natasha McCarthy
10. Systems Engineering Perspective: Guilhem Kuczynski
11. University Perspectives: Jez Turner and Robert Zakrzewski
12. Licensing, Permissions, and Technical Requirements Discussion
13. Timeline and Action Items
14. Engagement Models and Closing

1. Welcome and Introductions

Purpose of the Session

This meeting launched the Digital Technical Standards Toolkit Expert Working Group, a initiative funded by DSIT to bridge the gap between academic engineering curricula and digital technical standards requirements. The project is a partnership between the Engineering Professors' Council (EPC) and the University of Lancashire.

The toolkit will cover eight International Standards Development Organizations (ISDOs): ETSI, 3GPP, IETF, IEEE, W3C, ITU-R, ITU-T, and ISO/IEC JTC, with a non-negotiable launch deadline of 30 March 2026.:

Key Points discussed

- Primary objective: provide a curated toolkit of materials to support engineering educators
- Focus on student literacy in how standards are created, not just applied
- Methodology prioritizes curation of existing high-quality international resources over creating new content
- Alignment with AHEP4 Learning Outcome 5 (Technical Standards)
- Eight-week development window presents significant time constraints
- While current funding is restricted to "digital" standards, the project aims to demonstrate viability for future expansion to broader technical standards

:Georgina Harris

2. EPC Toolkit Background

Overview of the EPC Model

Johnny Rich explained that the EPC toolkit model was selected as the delivery vehicle because of its proven effectiveness in supporting academic professional practice. Toolkits serve as "suites of resources" addressing areas where educators either weren't taught the subject during their own education or where fields have evolved significantly since their training.

He defined the content "sweet spot" as fast-moving technical specifications that outpace textbooks, higher education professional practice, and the practicalities of being an academic in a digitally standardized industry. EPC has successfully delivered toolkits on Ethics, Sustainability, Inclusive Employability, and Complex Systems, collectively receiving over 100,000 visits in the past three years.

The curation strategy prioritizes "signposting" existing esoteric content through tagging and organization, making discoverable materials that are often lost in standard search engine results. The platform will host text, PDF, video, sound, and PowerPoint files, with simple quizzes supported for initial launch.

Johnny emphasized that EPC institutional subscriptions fund operations but not toolkit development, requiring external funding. He acknowledged the "sweating" required to meet the March 30th launch deadline.

3. Technical Scope and Standards Landscape

Defining the Educational Framework

Hermann Brand presented the technical scope limitation, narrowing focus to two pillars to ensure delivery within the tight timeline: Connectivity - protocols and interfaces, and Data - syntax and semantic interoperability.

He emphasized a critical strategic distinction that must be conveyed to academics: Direct Participation SDOs (IEEE, IETF, W3C), where individuals or organizations participate directly, versus National Delegation SDOs (ISO, IEC, ITU), where participation is channeled through national bodies like BSI. ETSI and 3GPP are also central to the digital ecosystem.

Hermann stressed that rather than teaching technical content of specific standards, the toolkit should emphasize basic principles of standards development processes, comparison of different SDO models, the relationship between innovation and standardization (the "equilibrium" between setting standards and allowing for development), standardization's intersection with law and regulation, and compliance with antitrust and anti-competitive behavior practices.

He noted the importance of showing students that multiple valid standardization models exist and connecting this toolkit with existing EPC resources, particularly the Ethics Toolkit, given the ethical considerations in standards development around technology governance, accessibility, sustainability, and data privacy.

4. Gap Analysis and Resource Categorization

Research Findings

Dan presented findings from a comprehensive analysis of educational resources across all eight ISDOs plus BSI. He revealed a striking discovery: ETSI stands out dramatically from other ISDOs with comprehensive educational materials, including a published textbook used by European universities, online courses, and structured educational programs specifically designed for university teaching.

Other ISDOs show significant gaps, with materials focused on professional training rather than undergraduate education, limited pedagogical support, licensing restrictions, and primarily US-focused examples. This finding elevates the ETSI partnership to critical priority status.

Dan outlined an eight-category resource framework: (1) Direct Linking - freely available resources requiring no special permissions; (2) Embedding with Permission - core materials requiring formal permissions, prioritizing ETSI materials; (3) Adapting with UK Context - international resources contextualized for UK audiences, mapping to AHEP4 outcomes; (4) Creating Original Content - new materials for identified gaps, noting budget constraints; (5) Pedagogical Support Materials; (6) UK Industry Case Studies using BT, ARM, Qualcomm examples; (7) UK Professional Bodies Resources; and (8) Academic Research Literature.

5. ETSI Resources and Commitment

Content Offerings

Howard Benn detailed ETSI's extensive educational materials available for the toolkit, including an hour-and-a-half lecture series, the upcoming ETSI Learning Management System (LMS) with short-form video content, complete slide sets for introduction to technical standards, educational modules suitable for university teaching, online courses, standards development process documentation, and telecommunications sector case studies.

He emphasized ETSI's commitment to standards education across Europe and expressed strong enthusiasm for supporting UK-focused educational initiatives. All content is available for adaptation to the UK context, and ETSI is willing to provide formal permissions for embedding materials in the toolkit.

Howard's presentation reinforced the group consensus that securing a formal ETSI partnership is the single highest priority action for project success, given the volume and quality of existing materials and ETSI's proven track record in standards education.

6. IEEE Standards Education

Educational Resources

James Irvine, former chair of the IEEE Standards Education Committee, confirmed IEEE's willingness to facilitate access to IEEE Standards University materials, which include comprehensive training focused on the IEEE standards development process with significant commonality to other SDO processes.

He offered a specific contribution: the "Mars Game," a role-playing exercise for developing standards from a "blank sheet of paper" to teach fundamental principles. This pedagogical tool helps students understand standards as living documents shaped by technical, economic, and political forces.

James emphasized the importance of teaching how research leads to standards, the politics and economics of standards decisions, case studies of successful standardization, and when and why standards fail. He stressed that showing students what interesting things, politics, economics, and technological decisions were helps them understand standards in a real-world context rather than as static documents.

7. IET Frameworks and Resources

Professional Body Perspective

Antony Swift offered a pre-vetted list of IET frameworks and digital resources related to professional competency in applying standards, risk management in safety-critical systems, industry case studies from the IET community, and career development and CPD pathways.

He emphasized the importance of showing students how standards relate to professional practice and engineering careers, helping them understand the relevance of standards education to their future roles.

8. Engineering Council Position

Policy Context

Ben Jones explained the Engineering Council's cautious approach to content contributions, noting ongoing policy development around standards education and potential changes to UK-SPEC and AHEP frameworks. The Council desires to avoid committing content that may require revision as policy evolves.

He emphasized the Council's interest in the toolkit as complementary to their own policy work on integrating standards into professional competency frameworks. Rather than embedding content, the Council is supportive of signposting to EngC guidance and willing to provide links and references.

Ben offered facilitation of Professional Engineering Institution (PEI) forums, specifically mentioning the "Heads of Membership" meeting scheduled for March 10th as a potential venue for promoting the toolkit.

The Engineering Council representatives noted that AHEP Requirement #5 already mandates student engagement with industry standards, but implementation varies significantly across institutions, and academics report difficulty in delivering this content effectively.

9. Royal Academy Contribution

Industry Connections

Natasha McCarthy from the Royal Academy of Engineering's National Engineering Policy Centre noted the Academy's potential to contribute through industry connections and case study development, professional development frameworks, and policy perspectives on standards in engineering practice. She emphasized the value of connecting the toolkit to the Academy's extensive network of industry partners and researchers.

10. Systems Engineering Perspective

Case Study Offer

Guilhem Kuczynski offered a potential contribution on autonomous vehicles and systems engineering, noting the intersection of standards, safety, ethics, and technology. He highlighted that this could provide a compelling UK-based example with relevance to multiple toolkit themes, drawing on current research and industry engagement. He expressed particular interest in how the toolkit could support systems design education and interdisciplinary approaches to standards.

11. University Perspectives

Academic Implementation

Jez Turner from the University of Nottingham and Robert Zakrzewski from the University of Bristol contributed perspectives on curriculum integration challenges and opportunities. They emphasized the importance of making materials modular and flexible enough to integrate into existing engineering programs without requiring major curriculum restructuring.

Discussion included pedagogical recommendations for equipping lecturers to modernize content by dropping obsolete theory in favor of modern digital standards, with consensus recommending project-based learning and "live" project briefs to ensure standards have currency for students.

12. Licensing, Permissions, and Technical Requirements

Copyright and Submission Protocols

The group engaged in a detailed discussion of intellectual property challenges, establishing that all content must be accompanied by clear Creative Commons or rights-holder statements. If content is copyrighted, formal permission statements for EPC to signpost or host must be included.

A template permission request document will be created specifying intended use (educational toolkit for UK engineering students), attribution approach, proposed licensing model, duration of permission, and modification rights for UK context adaptation.

To ensure efficient processing, all contributors must adhere to standardized protocols: submissions in plain text or Microsoft Word (PDFs noted as a "nightmare" for extraction unless final intended format), clear licensing statements, and submission via direct email to Dan, dedicated project Dropbox, or the forthcoming "Contribute" page on the EPC site.

Standards access models were compared: IETF offers free downloads with full-text search; IEEE uses a subscription/purchase model; ETSI requires registration but is freely accessible; and ISO/IEC requires purchase. This means the toolkit cannot host full standards text in most cases,

but can provide guidance on institutional access, use excerpts under fair dealing for educational purposes, and link to freely available specifications.

13. Timeline and Action Items

Delivery Schedule

The group ratified an aggressive delivery roadmap to meet the March 30th deadline:

Immediate Actions (by 20 February):

- Circulating Dropbox link (Dan - immediate)
- Draft and submit formal ETSI partnership request (Dan - 13 & 20 Feb)
- Send permission requests to all ISDOs (Dan - 20 Feb)

Short-term Actions (Late February):

- Content submission deadline for all members (28 February)
- Finalize toolkit structure and navigation (Dan & Johnny - 22 Feb)
- Begin website implementation (Johnny & Wendy - 23 Feb)

Pre-launch Activities (Early-Mid March):

- Final Expert Group Meeting for content review (6 March)
- User testing with engineering educators (Mid-March)
- Final DSIT review (Mid-March)
- Prepare launch communications (Johnny & Wendy - 8 Mar)

Launch Week:

- Launch webinar provisional (Johnny/Howard - 25 March, 1:00 PM)
- Official platform launch (30 March)
- Promotion to academics across 90+ UK engineering departments

Other Events:

The UK Digital Standards Summit in Glasgow on 17 March offers an opportunity to showcase progress to DSIT and the wider standards community. Dan to attempt in-person attendance if schedule permits; Johnny and Georgina to attend virtually.

14. Engagement Models and Closing

Participation Framework

The group agreed on three engagement tiers: Tier 1 (Active Content Providers) - providing resources, granting permissions, creating case studies, participating in review; Tier 2 (Advisory and Review) - reviewing structure, suggesting resources, promoting within networks; Tier 3 (Light Touch Support) - remaining informed, sharing toolkit, providing occasional input.

Meeting cadence will be as needed rather than a fixed schedule, with the next full meeting on 6 March for final content review, smaller subgroups for specific topics, and email updates on routine progress.

Additional discussion points included the technology refresh challenge: this toolkit will require more frequent updates than typical EPC toolkits due to its close coupling with rapidly evolving technology. International collaboration opportunities were noted, with Hermann Brand highlighting European initiatives including the European Standardization Strategy (2022), EU-funded programmes (Edu4Standards, StandICT, EURAS), and summer schools at Luxembourg and Utrecht.

Professor Georgina Harris formally closed the meeting, thanking participants for constructive discussion, generous resource offers, commitment to partnership, and flexibility. She recorded a high degree of enthusiasm and noted that the volume of initial contributions puts the project on a strong trajectory.

Annex A – Attendance List

Name	Representing
Georgina Harris	University of Lancashire (Dean of Engineering & Computing) / Engineering Professors' Council (President) - Co-Chair
Johnny Rich	Engineering Professors' Council (Chief Executive) - Co-Chair
Dan (Dhanushka)	University of Lancashire (Associate Lecturer & Project Coordinator)
Hermann Brand	IEEE (European Standards Lead / European Standards Affairs Director)
Howard Benn	DSIT / ETSI (Honorary Professor, University of Bristol and Queen's University Belfast)
James Irvine	University of Strathclyde (Former Chair, IEEE Standards Education Committee)
Guilhem Kuczynski	Independent Expert (Systems Design)
Antony Swift	Institution of Engineering and Technology (IET) - Product Manager for Standards and Frameworks
Ben Jones	Engineering Council (Policy and Standards Department)
Katy Turff	Engineering Council (Head of Policy and Standards)
Jez Turner	University of Nottingham (Associate Professor)
Natasha McCarthy	Royal Academy of Engineering (Associate Director, National Engineering Policy Centre)
Robert Zakrzewski	University of Bristol (Senior Research Associate)