

# Services Domestic Regulation: Envisioning Next Generation Technical Standards Principles

AT A GLANCE



## Services Technical Standards are Increasingly Important in a Rapidly Changing Digital World

APEC has been a leader in enhancing services domestic regulation, committing under the APEC Services Competitiveness Roadmap to ensure an open and predictable environment for access to services markets by progressively reducing restrictions. Services domestic regulation encompasses licensing requirements and procedures, technical standards, and qualification requirements and procedures. While qualification requirements and licensing have been subject to extensive policy analysis and discussions, technical standards have been largely overlooked in international services trade policy analysis.

The digital transition of services is blurring the boundaries between sectors and occupations. Against this backdrop, standards can be more responsive to changes in technology and market structure than more formal regulatory instruments. Thus, non-prescriptive standards may play an important role in balancing the incentives for innovation with the imperative of a safe, inclusive, and just transition. Yet, with rapid technological development, climate change, and a recent pandemic, this disruptive time in which we live provides a uniquely challenging backdrop for the development of next generation technical standards. There is ample evidence that differences in regulations and standards raise trade costs at least as much as the regulations themselves. Drawing from the associated study, the below sections focus on next generation services standards and the interaction between government and private standard-setting bodies.

### The World of Technical Standards

The International Organization for Standardization (ISO) describes standards as a formula for the “best way” of doing something. Standards are an important part of the institutional framework within which services markets operate. First, they can ensure the reliability and safety of products, processes, methods, and services. Second, they can enable interoperability among heterogeneous devices and systems. Standards can be classified along different dimensions, as demonstrated by the figure below.



#### Types of Standards: Dimensional View

##### Voluntary Vs. Mandatory:

**Voluntary:** Developed by private standard-setting bodies or by a market-leading firm setting a de facto industry standard. Voluntary standards spread due to bandwagon and network effects and are self-enforcing.

**Mandatory:** Regulative standards imposed by governments. These standards are often based on well-established, effective voluntary standards. Where justified, mandatory standards should be performance-based, address the market failure that triggered the need for a standard, and align with international standards.

**\*\* Voluntary and mandatory standards can be mutually reinforcing.** Governments set high-level objectives and goals while private standard-setting bodies compete for solutions by developing and selling standards to companies as well as certifying companies that satisfy those standards.

##### Process/Organization Vs. Product:

**Process/Organization:** Uniform ways of performing specific tasks, functions, or projects. In the services sectors, process standards dominate. These standards imply that services providers follow e.g., a checklist.

**Product:** Standards that specify the quality or function of a product. For digital services, this may include privacy rights, data management, or security.

### How Standards are Made

There is an optimal sweet spot for standardization. Adopting a standard too early, particularly when the standard is prescriptive, may stifle innovation. Absence of standards, in contrast, may forego gains from lower transaction costs and economies of scale.

Standards can be demand-driven (bottom-up) or regulation-driven (top-down). With the bottom-up approach, services and processes may trigger private sector demand for imposing order and agreeing on a way of producing, labeling, or marketing a service in a standard-setting body. After demand is established, any stakeholder may propose a standard to an independent standard-setting body for review. If the body's technical committee accepts the proposal, a draft standard will be open for comments and voted upon. If accepted, the final standard will be published for adoption. Over time, the standard is reviewed for confirmation, modification, revision, or withdrawal.

The origin of private standards can also be government high-level regulation (top-down). Governments can set standards in the form of high-level goals and guidelines for protection, while leaving it open to firms to determine how to meet these objectives. Firms are obliged to comply with such regulation both in their home economy and abroad or face potential penalties. To mitigate these risks, private standards are developed to help translate the high-level objectives into practical procedures and benchmarks.

### **Industry Views on the Use and Development of Technical Standards for Services**

- The most prominent areas of next generation standards affecting services industries are cybersecurity, privacy, and AI, but prescriptive standards in these areas can stifle innovation.
- Interoperability across different sets of standards is essential.
- Representatives interviewed for this study **unanimously** emphasized the complementarity between mandatory standards or regulation and private standards.
- Regulatory sandboxes can help identify an area in need of standards. However, sandboxes may not suit a system where companies are already free to experiment with standards and they are liable for the outcome regardless.

## **Case Studies**

### **BUILDING INFORMATION MODELING IN ARCHITECTURE, ENGINEERING, AND CONSTRUCTION (CHILE)**

#### **Key Takeaways**

- ✓ The architecture, engineering, and construction (AEC) industry plays a key role in the green transition. Yet, the sector is complex, suffers from delays and cost overruns, and is subject to a range of standards that are often not interoperable.
- ✓ The sector could significantly benefit from developments in ICT and AI for project coordination and information sharing.
- ✓ There are network effects in the adoption of standards in the AEC industry – which makes coordination failure an obstacle to their adoption. As a major customer of the industry through public procurement and as a regulator, governments can play a key role in fostering the adoption of BIM standards. Consistent support from the authorities is essential for keeping up the momentum for implementation.
- ✓ The realization of the potential gains requires interoperable standards across sectors and along the AEC supply chain. Breaking down silos between regulated professions could help address coordination failure.
- ✓ International collaboration and learning from economies that are more advanced in the implementation of BIM is essential for a latecomer. Nevertheless, standards and processes in other economies need to be adjusted to local conditions.
- ✓ Human capital and capacity building in parallel with the gradual introduction of mandatory standards is essential for success.

### **SOUND RECORDING**

#### **Key Takeaways**

- ✓ The music industry has developed a set of private international standards that underpin a seamless global streaming service.
- ✓ Based on high-level regulation and principles, the music industry has developed private standards that by and large ensure that copyright is enforced, and royalties paid across platforms and borders.
- ✓ A next-generation high-level regulation and principles on copyright and copyright enforcement are needed to guide the music industry's adoption of AI at all links in the supply chain.
- ✓ The music industry is at the frontier of AI adoption in digital content-producing services sectors. There are lessons from the experience of the music industry for other sectors, including the broader audiovisual services sector, design, architecture, software, and engineering.

## ARTIFICIAL INTELLIGENCE (AUSTRALIA)

### Key Takeaways

- ✓ AI is not new, but the speed at which it has been applied in services consumed on a daily basis has raised concerns and demand for regulation. At this stage, best practice AI regulation and standards are yet to be developed.
- ✓ The development of AI requires huge amounts of data, and the leading developers are the large technology firms. AI governance therefore requires international cooperation.
- ✓ High-level principles and guidelines developed through international collaboration among governments as well as voluntary standard-setting bodies, combined with local AI plans and experience gathering is the best way forward.
- ✓ The Australia case study demonstrates how an inclusive local AI strategy can be combined with engagement in shaping the international standard-setting process, as well as aligning local guidelines and principles with international ones.

### SUMMARIZING THE CASE STUDIES

The case studies illustrate the bottom-up and the policy-driven top-down process of standards development. In the music industry, technical standards have followed both a process of consensus-building around private standards and a process of incorporating international agreements into local legislation. For AI regulation, Australia demonstrates an adoption and streamlining of international standards into the local regulatory framework. Standards come in the form of principles and guidelines that enable experimentation with designing ecosystems of interoperable applications. The BIM case study suggests that the integration of standards in the education of professionals, training, and capacity building are essential for the standards to reach their potential for cost-effectiveness and sustainability. International standards for interoperability are being developed and will facilitate further adoption of BIM as well as lowering the barriers to trade in the AEC sectors.

### Policy Discussion and Conclusions

Standards are increasingly important for international services markets to reach their full potential. Indeed, lack of standards keeps services markets fragmented even when digital transformation has made electronic networks the main channel for delivery, and such networks until recently did not know any borders. Mandatory standards in new areas such as privacy in the provision of digital and AI-enabled services reveal a trade-off between leaving space for innovation on the one hand and regulatory certainty and predictability on the other. For instance, if the fines for non-compliance are substantial while there are grey areas where compliance cannot be ascertained ex ante, firms may find it better to over-comply to be on the safe side, while SMEs may find compliance too risky and costly and hesitate to enter or stay in the market altogether.

### Recommended Priority Areas for the APEC Group on Services (GOS)

- The APEC Services Index, which measures the deviation of local standards from international standards for various services, should be updated in collaboration with the OECD to include next-generation services standards. This could further improve the Index's usefulness in monitoring implementation of services domestic regulation disciplines and facilitate analytical work on next generation services standards.
- The IEEE Government Engagement Program on Standards (IEEE GEPS) project is an interesting example of public-private collaboration on next generation services standards. An APEC GOS-SCSC study of the IEEE GEPS project should be considered to provide valuable insights for future policy design in this space.
- The AEC industry is an understudied example of the potential and obstacles to productivity growth and cost savings through better coordination of projects. A comparative study on the interaction between standards and regulation in the sector could deliver insights to design policy for a cost-effective green transition within and across economies.
- Policy recommendations for APEC members:
  - Consider including TBT provisions in the services trade rule book at all levels.
  - Mandatory standards should, if possible, take the form of high-level principles and goals. If regulatory uncertainty ensues, checklists and guidance should be considered as a complement to the standard.

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