

## THE CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW

Technical standards like USB, Wi-Fi, and Bluetooth are ubiquitous in the modern networked economy. They allow products made and sold by different vendors to interoperate with little to no consumer effort and enable new market entrants to innovate on top of established technology platforms. This groundbreaking volume, edited by Jorge L. Contreras, assesses and analyzes legal aspects of technical standards and standardization beyond those covered in its companion volume (patents, competition, and antitrust). Bringing together leading international experts, it focuses on key areas of technical standardization law including administrative, trade, copyright, trademark, and certification law. This comprehensive, detailed examination sheds new light on the standards that shape the global technology marketplace and will serve as an indispensable tool for scholars, practitioners, judges, and policymakers everywhere.

JORGE L. CONTRERAS is a Professor of Law at the University of Utah S.J. Quinney College of Law and an internationally recognized authority on the law of technical standard-setting. His work has been cited by scholars, courts, and regulatory agencies throughout the United States, Europe, and Asia, and he has published more than 100 scholarly articles and chapters. He has twice received first prize in the Standards Engineering Society's scholarly paper competition, and in 2018 was awarded the Standards Education Award by the Institute of Electrical and Electronics Engineers (IEEE) Standards Association.



# The Cambridge Handbook of Technical Standardization Law

*Further Intersections of Public and Private Law*

Edited by

**JORGE L. CONTRERAS**

University of Utah

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## Contents

<i>List of Figures</i>	<i>page</i> vii
<i>List of Tables</i>	viii
<i>List of Contributors</i>	ix
<i>Preface</i>	xv
Benedict Kingsbury	
<i>Acknowledgements</i>	xix
<b>Introduction</b>	1
Jorge L. Contreras	
<b>PART I STANDARDIZATION AND THE STATE</b>	5
<b>1 International Trade Law and Technical Standardization</b>	7
Panagiotis Delimatsis	
<b>2 Government Use of Standards in the United States and Abroad</b>	28
Emily S. Bremer	
<b>PART II STANDARDIZATION, HEALTH, SAFETY AND LIABILITY</b>	43
<b>3 Technical Standards in Health and Safety Regulation: Risk Regimes,     the New Administrative Law, and Food Safety Governance</b>	45
Timothy D. Lytton	
<b>4 Tort Liability for Standards Development in the United States     and European Union</b>	60
Paul Verbruggen	
<b>PART III COPYRIGHT AND STANDARDS</b>	89
<b>5 Questioning Copyright in Standards</b>	91
Pamela Samuelson and Kathryn Hashimoto	

6	<b>Integrating Technical Standards into Federal Regulations: Incorporation by Reference</b> Daniel J. Sheffner	108
7	<b>Public Law, European Constitutionalism and Copyright in Standards</b> Björn Lundqvist	124
8	<b>Termination of Copyright Transfers and Technical Standards</b> Jorge L. Contreras and Andrew T. Hernacki	143
	<b>PART IV STANDARDS AND SOFTWARE</b>	157
9	<b>Open Standards</b> Jay P. Kesau	159
10	<b>Standardization, Open Source and Innovation: Sketching the Effect of IPR Policies</b> Martin Husovec	177
11	<b>OSS and SDO: Symbiotic Functions in the Innovation Equation</b> David J. Kappos	198
	<b>PART V TRADEMARKS, CERTIFICATION AND STANDARDS</b>	203
12	<b>Trademarks, Certification Marks and Technical Standards</b> Jorge L. Contreras	205
13	<b>The Unregulated Certification Mark(et)</b> Jeanne C. Fromer	231
14	<b>The Certification Paradox</b> Jonathan M. Barnett	252
	<i>References</i>	269
	<i>Index</i>	299

## Figures

8.1 Scenario 1: Work-made-for-hire for grantee (no termination)	<i>page</i> 152
8.2 Scenario 2: Work-made-for-hire for grantee (no termination)	152
12.1 Standards and trademarks	218
12.2 Arbitrary standard-names and designs	222
12.3 The Wi-Fi Certified logo	228

## Tables

12.1	Distinctiveness of standard-names	<i>page</i> 221
12.2	Standard-mark types of registration	223
14.1	Selected certification “failures”	256
14.2	Selected certification markets	258
14.3	Organizational choices of certification entities in financial services markets	266



## Contributors

**Jonathan M. Barnett**, J.D. (Yale), B.A., M.A. (University of Pennsylvania), M.Phil. (Cambridge University), is a professor at the University of Southern California, Gould School of Law. Barnett specializes in antitrust, intellectual property, contracts, and corporate law. Barnett has published in the *Harvard Law Review*, *Journal of Legal Studies*, *Jurimetrics*, *Review of Law & Economics*, *Yale Law Journal*, and other scholarly journals. Prior to academia, Barnett practiced corporate law as a senior associate at Cleary Gottlieb Steen & Hamilton LLP in New York, specializing in private equity and mergers and acquisitions transactions.

**Emily S. Bremer**, J.D. (New York University), is an Associate Professor of Law at the University of Notre Dame. Before moving to academia, Professor Bremer served as the Research Chief of the Administrative Conference of the United States (ACUS), a U.S. federal administrative agency that studies administrative process and makes recommendations for improvements to the Congress, President, other agencies, and the Judicial Conference. She joined ACUS as an Attorney Advisor after working as an Associate in the Telecommunications and Appellate Litigation practice of Wiley Rein LLP. Professor Bremer also served as a law clerk to Hon. Andrew J. Kleinfeld of the United States Court of Appeals for the Ninth Circuit. She was ACUS's in-house researcher for Recommendation 2011–5, *Incorporation by Reference*, which addresses a variety of issues that U.S. federal agencies must address when using standards in regulation. Recommendation 2011–5 was subsequently adopted by the U.S. Office of Management and Budget, the U.S. Office of the Federal Register, and various U.S. federal agencies. Professor Bremer has continued to write extensively about government use of standards in the United States and abroad.

**Jorge L. Contreras**, J.D. (Harvard), B.S.E.E., B.A. (Rice University), is a Professor of Law at the University of Utah S.J. Quinney College of Law. He has written and spoken extensively on the institutional structures and policy of intellectual property, technical standardization, and scientific research. Professor Contreras serves as Co-Chair of the ABA Section of Science & Technology Law's Interdisciplinary Division, and a member of the American National Standards Institute (ANSI) IPR Policy Committee. He previously served as a member of the U.S. National Academy of Science's (NAS) Committee on IP Management in Standard-Setting Processes, which produced the 2013 report *Intellectual Property Challenges for Standard-Setting in the Global Economy*. In addition to the companion volume of this series, Professor Contreras has edited, *inter alia*, the *Technical Standards Patent Policy Manual* (2007), *Patent Pledges: Global*

*Perspectives On Patent Law's Private Ordering Frontier* (with Meredith Jacob, 2017), and *Patent Remedies and Complex Products: Toward a Global Consensus* (with C. Bradford Biddle, Brian J. Love and Norman Siebrasse, 2019). He has also published more than one hundred scholarly articles, reports, white papers, and book chapters in a range of publications including *Science, Nature, Standards Engineering, Georgetown Law Journal, University of Illinois Law Review, Washington Law Review, North Carolina Law Review, Antitrust Law Journal, Harvard Journal of Law and Technology*, and *Berkeley Technology Law Journal*. He is the founding editor of SSRN's *Law, Policy and Economics of Technical Standards* e-journal, and was the winner of the Standards Engineering Society's (SES) 2011 and 2015 scholarly paper competitions. In 2018, Professor Contreras was awarded the IEEE's Standards Education Award "for outstanding contributions to understanding the interaction of standardization systems with intellectual property rights, and educating students, policy makers and the public regarding these issues." Before entering academia, Professor Contreras was a partner at the international law firm Wilmer Cutler Pickering Hale and Dorr LLP, where he practiced international corporate and intellectual property transactional law in Boston, London, and Washington, DC.

**Panagiotis Delimatsis**, Ph.D. (University of Neuchâtel), LL.M. (Institute of European Studies, University of Saarland), LL.B. (Democritus University of Thrace Law School), is Professor of European and International Trade Law at Tilburg University. Since 2011, he has served as Director of the Tilburg Law and Economics Center (TILEC), an interdisciplinary Center of Excellence of some 40 researchers, the biggest of its kind in Europe, studying the governance of economic activity. He leads the "Institutions and Governance" research cluster within the TILEC Research Programme 2018–2023 and TILEC's work on standardization, competition, and innovation. In the academic year 2015–2016, Professor Delimatsis was a visiting Scholar at Harvard Law School and a Fellow with the Program on International Financial Systems, on research leave from Tilburg University. In 2016, Professor Delimatsis was awarded an ERC Consolidator Grant (2 million Euros), the most prestigious mid-level personal grant at the EU level, for his research project on the resilience of non-State regulatory bodies and the role of the law. His research focuses on the comparative regulation of services industries, issues of transnational governance, and the regulation of international trade. Currently, he is interested in the institutional and substantive aspects of standardization, financial regulation and energy, using interdisciplinary methods. His work has appeared in top refereed international and European journals. He is the author of *International Trade in Services and Domestic Regulations – Necessity, Transparency, and Regulatory Diversity* (International Economic Law Series). He also co-edited two collective volumes, the first on *The Prospects of International Trade Regulation* (2011) and the second on *Financial Services at the Crossroads – Implications for Supervision, Institutional Design and Trade*. More recently, he edited a comprehensive book on *The Law, Economics and Politics of International Standardization*, published in 2015 and a *Research Handbook on Climate Change and Trade*, published in 2016.

**Jeanne C. Fromer**, J.D. (Harvard), S.M. (Massachusetts Institute of Technology), is a Professor of Law at New York University School of Law and Faculty Co-Director of the Engelberg Center on Innovation Law & Policy. Professor Fromer is currently an Adviser for the American Law Institute's Restatement of the Law, Copyright. In 2011, Professor Fromer was awarded the American Law Institute's inaugural Young Scholars Medal for her scholarship in intellectual property. Before coming to NYU, Professor Fromer served as a law clerk to Justice David H. Souter of the U.S. Supreme Court and to Judge Robert D. Sack of the U.S. Court of Appeals

for the Second Circuit. She also worked at Hale and Dorr LLP (now WilmerHale) in the area of intellectual property law. Professor Fromer was a visiting professor at Harvard Law School, and she also previously taught at Fordham Law School. Recent publications on trademark law have appeared in the *Harvard Law Review* and *Stanford Law Review*.

**Kathryn Hashimoto**, J.D. (University of San Francisco), is a Copyright Research Fellow at the Berkeley Center for Law & Technology, University of California, Berkeley, School of Law.

**Andrew T. Hernacki**, J.D. (American University), is an associate in the Commercial Litigation Group of Venable LLP in Washington, DC. He focuses on complex civil litigation and has experience across a broad spectrum of issues, ranging from antitrust, commercial, and contract litigation to trademark disputes, business tort cases, partnership disputes, and general business issues. He also represents clients in a variety of government investigation and law enforcement actions, including those initiated by the Federal Trade Commission (FTC) and Consumer Financial Protection Bureau (CFPB).

**Martin Husovec**, Ph.D. (Max Planck Institute for Innovation and Competition and Ludwig Maximilian University), is an Assistant Professor at Tilburg University, the Netherlands, appointed jointly by Tilburg Institute for Law, Technology and Society (TILT) and Tilburg Law and Economics Center (TILEC), and an Affiliated Scholar at Center for Internet and Society (CIS) of Stanford Law School. His scholarship focuses on innovation and digital liberties, in particular, regulation of intellectual property and freedom of expression. Dr. Husovec's doctoral work related to injunctions against intermediaries (published with Cambridge University Press, 2017). He was a visiting researcher at Stanford Law School (2014), Japanese Institute for Intellectual Property (2015), and the European University Institute (2018). He is also a visiting professor at the Central European University (CEU). Tilburg Law and Economics Center (TILEC) benefits from financial support by Qualcomm, Inc. Professor Husovec is also a volunteer member of the legal team of the Free Software Foundation Europe (FSFE).

**David J. Kappos**, J.D. (University of California, Berkeley), is a partner at Cravath, Swaine & Moore LLP. Prior to joining Cravath, Mr. Kappos served as Under Secretary of Commerce and Director of the United States Patent and Trademark Office from August 2009 to January 2013 and served as IBM's Vice President and Assistant General Counsel for Intellectual Property from 2003 to 2009. Mr. Kappos is widely recognized as one of the world's foremost leaders in the field of intellectual property, including intellectual property management and strategy, the development of global intellectual property norms, laws, and practices as well as commercialization and enforcement of innovation-based assets. Mr. Kappos has received numerous accolades for his contributions to the field of intellectual property, including the 2014 Global Agenda Council Vision Award for the Intellectual Property Council's pro bono initiative from the World Economic Forum, the 2014 Jefferson Medal from the New Jersey Intellectual Property Law Association (NJIPLA), the 2013 Board of Director's Excellence Award from the American Intellectual Property Law Association (AIPLA), the 2013 Champion of Intellectual Property Award from the District of Columbia Bar Association and the 2013 North America Government Leadership Award from Semiconductor Equipment and Materials International (SEMI). He was named one of the "Top 25 Icons of IP" by *Law360*, one of the "50 Most Influential People in Intellectual Property" by *Managing IP*, one of the "Top 50 Intellectual Property Trailblazers & Pioneers" and one of the "100 Most Influential Lawyers in America" by *The National Law*

*Journal*, “Intellectual Property Professional of the Year” by the Intellectual Property Owners Association and inducted into the Intellectual Property Hall of Fame by *Intellectual Asset Management Magazine* in 2012, among others. He is also a frequent speaker and has authored many published articles on various intellectual property, innovation, and leadership topics.

**Jay P. Kesan**, J.D. (Georgetown), Ph.D. (University of Texas), is a Professor and H. Ross & Helen Workman Research Scholar at the University of Illinois at Urbana-Champaign. At Illinois, he is appointed in the College of Law, the Department of Electrical & Computer Engineering, the Information Trust Institute, the Coordinated Science Laboratory, and the College of Business. He served as one of the inaugural Thomas A. Edison Distinguished Scholars at the U.S. Patent and Trademark Office (USPTO). He has been actively involved in virtually every aspect of patent litigation as counsel, technical expert, legal expert, Special Master, and appellate counsel. Professor Kesan received his J.D. *summa cum laude* from Georgetown University. After graduation, he clerked for Judge Patrick E. Higginbotham of the United States Court of Appeals for the Fifth Circuit. Prior to attending law school, Professor Kesan worked as a research scientist at the IBM T.J. Watson Research Center in New York. He is a registered patent attorney and practiced at the former firm of Pennie & Edmonds LLP in the areas of patent litigation and patent prosecution. He has published numerous scientific papers, and he has obtained several patents in the United States and abroad.

**Benedict Kingsbury**, LL.B. (University of Canterbury, New Zealand), M.Phil. (Oxford), D.Phil. (Oxford), is Vice Dean and Murry and Ida Becker Professor of Law at New York University School of Law. He has served as Director of the Institute for International Law and Justice since its founding in 2002, and in 2018 was appointed as the faculty director of the Law School’s newly-inaugurated Guarini Institute for Global Legal Studies. Projects he has co-directed at the IILJ include the Program in the History and Theory of International Law (with Professor Rob Howse and Global Professor Martti Koskeniemi); the Global Administrative Law Project (with Professor Richard B. Stewart); and the research project on Indicators and Global Governance by Information (with Professors Kevin Davis and Sally Engle Merry). His major current projects focus on large-scale global ordering such as TPP and the Belt & Road Initiative (Megareg); physical, digital, and informational infrastructure (Infraleg, with Sally Merry); and global data/tech law. From 2013 to 2018 he was joint Editor in Chief (with Jose Alvarez) of the *American Journal of International Law*, a premier journal in the field, and helped create the online *AJIL Unbound*. He is one of the editors (with Andrew Hurrell and Dick Stewart) of the Oxford University Press Law and Global Governance book series. His research projects on global governance issues have been supported by the National Science Foundation, Carnegie Corporation of New York, the Bill & Melinda Gates Foundation, and the Rockefeller Foundation.

**Björn Lundqvist**, Ph.D., M.Res. (European University Institute), LL.M. (University of Michigan), LL.M., LL.B. (Uppsala University), is Associate Professor of Law at the Law Department, Stockholm University. He is the Director of the European Economic LL.M. programme and Head of the EU Law Research Group. Professor Lundqvist’s research focuses on Innovation, Competition, Property, and Law. He has published two monographs, *R&D collaborations under the Competition Rules of the European Union* and *The Antitrust Laws of the United States and Standardization under EU Competition Rules & US Antitrust Laws: The Rise and Limits of Self-Regulation*. Professor Lundqvist publishes in highly rated academic journals; some recent publications include: “Standardization for the Digital

Economy: The Issue of Interoperability and Access Under Competition Law” (*The Antitrust Bulletin*, 2017), and “European Harmonized Standards as ‘Part of EU Law’: The Implications of the *James Elliott* Case for Copyright Protection and, Possibly, for EU Competition Law” (*Legal Issues of Economic Integration*, 2017). Professor Lundqvist is also active on SSRN and his recent paper “Big Data, Open Data, Privacy Regulations, Intellectual Property and Competition Law in an Internet of Things World” was the fourth most downloaded Antitrust paper on SSRN in 2017. He has worked as an attorney-at-law for leading business law firms in Europe for several years, most recently as Head of EU Competition Law in Stockholm for the Law Firm Roschier.

**Timothy D. Lytton**, J.D. (Yale), is Distinguished University Professor and Professor of Law at Georgia State University. He currently serves as Associate Dean for Research and Faculty Development of the College of Law and is a faculty member in the Center for Law, Health & Society. His research examines health and safety regulation, with a particular focus on the interaction of public law, private standards, and civil litigation. He has published numerous books and articles examining gun violence, clergy sexual abuse, climate change, and food safety. His most recent book, *Outbreak: Foodborne Illness and the Evolving Food Safety System* (2019), analyzes the interplay of government regulation, industry supply chain management, and tort liability in risk regulation. His previous book, *Kosher: Private Regulation in the Age of Industrial Food* (2013), traces the development of kosher certification as a model of successful private governance in the food industry. He teaches administrative law, legislation, torts, and products liability.

**Pamela Samuelson**, J.D. (Yale), is the Richard M. Sherman Distinguished Professor of Law and Information at the University of California, Berkeley, and co-director of the Berkeley Center for Law and Technology. Professor Samuelson is recognized as a pioneer in digital copyright law, intellectual property, cyberlaw, and information policy. She serves on the board of directors of the Electronic Frontier Foundation (since 2000) and on advisory boards for the Electronic Privacy Information Center, Public Knowledge, and the Berkeley Center for New Media. She is a co-founder and executive officer of Authors Alliance, a not-for-profit organization for authors in the digital age. Professor Samuelson is a fellow of the Association for Computing Machinery (ACM), a contributing editor of *Communications of the ACM*, a past fellow of the John D. and Catherine T. MacArthur Foundation, an honorary professor at the University of Amsterdam, and received the Woman of Vision Award for Social Impact in 2005 from the Anita Borg Institute. In 2013 she was elected to the American Academy of Arts & Sciences.

**Daniel J. Sheffner**, J.D. (Saint Louis University), is a legislative attorney in the American Law Division of the Congressional Research Service, a component of the Library of Congress. He was previously an attorney advisor with the Administrative Conference of the United States.

**Paul Verbruggen**, Ph.D. (EUI, Florence), is Associate Professor of Private Law at Tilburg University. He writes on the design and operation of regulatory regimes (both public and private), focusing on questions of legitimacy, accountability and enforcement. His research interests concern comparative private law, EU law, regulatory policy and risk regulation. Dr. Verbruggen has held visiting positions in Oxford and London (LSE) and is a NWO-Veni grant laureate (2017–2020). His work on standardization concerns the broad field of product safety and has appeared

in the *Annals of the American Academy of Political and Social Science*, *European Law Review*, and *Regulation & Governance*. He is the author of the monograph *Enforcing Transnational Private Regulation: A Comparative Analysis of Advertising and Food Safety* (2014) and (co-) editor of the collections *Hybridization of Food Governance: Trends, Types and Results* (2017) and *Regulating Private Regulation: Understanding the Role of Private Law* (2019).

## Preface

Technical standardization policy has been animated for more than a century by pursuit of efficiencies from interoperability, and also in recent decades by active facilitation of economic and innovation gains achievable through competitive markets benefiting from network effects. Science and technology studies (STS) or Foucauldian power-knowledge frameworks diversify this perspective, animating inquiry into ways in which standards enact power allocations, distinguish as well as unify, exclude as well as normalize. National security priorities and geopolitical considerations add additional layers, as do state industrial or protectionist policies. Whether and how to take account of wider societal interests and state interests affected by standards and standardization processes, and what allocative mechanisms or compensatory remedies should accompany the distributional effects and externalities (positive and negative) of standards, are public policy questions that manifest themselves also in public law, but in the fragmentary and uneven ways traced in this lucid and thoughtfully constructed book.

Whereas the companion volume examines intersections of political economy and law in the relations of technical standards to patents and the relations of standards and patents to anti-trust or competition law, the present volume traverses other topics of technical standardization law with private–public implications that, if for the most part less litigated, are nonetheless fundamental. By “law” the contributors tend to mean formal law (state/national law, or inter-governmental law), in contrast to social norms or other forms of normative ordering with law-like features. The term “regulation” may be deployed to encompass this wider range of normative orderings. While the organizing frame of the book is technical standardization and formal law, the specificity of this frame in fact enables the book to shed much light on relations between standardization and regulation more broadly.

The contrast routinely drawn between formal (state) law and technical standardization owes much to U.S. styles of capitalism and regulation, including the federal government policy which since 1980 has explicitly been to favor private standard-setting and to prioritize use of private standards in government regulation and procurement. Characteristic of U.S. technical standardization practiced by private standards development organizations (SDOs) are the general principles that such standardization should be voluntary, open, balanced, transparent, and consensus-based. Such principles may be incorporated into the constitutive or membership rules of the SDO, or the social norms shared by its participants *inter se*. Much of their *de facto* superintendence and enforcement, however, comes from state action, ranging from legislative delegation or ratification, to administrative actions and import controls, to government procurement rules and consumer protection, to decisions of courts in collateral litigation or on

tort liability of SDOs. The deployability of this suite of state measures in relation to foreign or transnational SDOs and their standards depends on the technology and on the state's position in the global market. Small and less technology-capable states often have little or no impact on private SDOs, and many prefer standard-setting by or under the auspices of bodies with governmental participation such as the International Telecommunications Union (ITU) or the Codex Alimentarius. In transnational contexts, some meta-regulation of SDOs-as-regulators is supplied by bodies such as ISEAL, the International Organization for Standardization (ISO), and the World Trade Organization (WTO). These meta-regulators are themselves in turn regulated, including through global administrative law and some state controls. This entire zone of regulation and meta-regulation generates numerous research questions on inter-institutional relations, the legal management of hierarchies and their intersections with networks, the resolution of conflicts among different entities and interpretive competence for different standards, the place of conflicts of laws (private international law) doctrines and techniques in this regulatory zone, and legal puzzles concerning the maintenance or desuetude of older standards which retain their formal status but may have been partially eclipsed by newer instruments or practices.

These issues with regard to regulation and meta-regulation are instantiations of a broader topic: to what extent is work on legal aspects of technical standardization informative for other areas of standardization? Technical standardization and the administrative law of regulated economic sectors share the general characteristic that they blend sector-specific practices and norms on the one hand, with cross-cutting principles and institutions distinctive to the whole field on the other; and in each case the blend is in some measure embedded in wider structures of constitutional law, international law, and global political economy. Much of the modern legal material animating the companion volume relates to telecommunications, information technology, and digital economy industries. For the issues addressed in this volume, the cross-cutting features are to the fore, the sectors currently or prospectively implicated are more diverse, and the range of articulated interests is wider.

Health and safety regulation, and the specifics of food safety governance, each examined in this volume, have distinctive standardization and supervisory practices in which public interests have a formalized salience but mixed success in continuous struggles with large economic interests. These practices grapple with pervasive problems of regulatory capture and asymmetric information, but also with immense global capabilities gradients and preference divergences, and with newer regulatory problems such as combinations of individually benign standards-compliant products inadvertently co-producing dangerous risks.

At a more distant remove from the locus of technical standardization are the practices of environmental, social, and governance (ESG) standardization. The multi-stakeholder institutional forms for standards production and certification as exemplified by the private Forest Stewardship Council (FSC) or the hybrid private-public Extractive Industries Transparency Initiative (EITI), contrast in various dimensions with major information technology technical standardization bodies such as the Internet Engineering Task Force (IETF) or the IEEE. But even these wide chasms are bridged by some cross-cutting issues on which this book provides much informative material. The following are four examples.

The business models of different SDOs depend on finding means to raise revenue. Some claim copyright in their standards or trademarks in their distinctive names, and seek income from licensing fees; others privilege members of the SDO in access to or use of these standards or trademarks, in part as recompense to (or inducement of) members for their support of standards development. Chapters in this book highlight numerous challenges to these strategies,



including longstanding rule-of-law objections to commercial controls on free access to those standards which have status in formal law.

Open standards and open-source culture in software development provide an important counter-point to single-company or platform standard-setting and to SDO standardization amidst thickets of patents and contract-chains. The open standards ecosystems necessarily employ some regulatory forms with regulatory effects, which in turn are touched by formal law. The standpoints brought to the study of these in this volume provide useful insights for open-standards as complements to or substitutes for traditional standardization in areas beyond software.

Certification of compliance with standards can be undertaken by SDOs, by standards users directly (self-certification), or by third-party organizations that may or may not be specifically accredited for this function. As the relevant chapters in this volume show, the law of certification, certification marks and labeling, certification intermediaries, and accreditation is piecemeal and likely in need of some elaboration and reform, particularly in transnational contexts.

Standardization, and the formalization of standardization process, can be undertaken with an eye to averting the prospect of formal legal regulation, or to influencing the approach taken by regulators or by courts in litigation.

In concluding, an observation on the shifting extent and configuration of the space of technical standardization may be made. The present volume, with its more eclectic range of topics, concentrates geographically on the United States and Europe. The companion volume, however, in its study of FRAND licensing and other issues concerning standards-essential patents, includes chapters on China, the EU, India, Japan, and the United States, as well as South Korea. While the shaping of practice on technical standardization in the contemporary global economy has been much influenced by North Atlantic industries and regulatory ideologies, together with Japanese participation, the rising scope of other Asian advanced-tech economies and the re-equilibration of global politico-military and soft power are prompting changes in participation in existing SDOs as well as the growing influence of a more diverse set of standardizers and approaches to standardization. Struggles over standard-setting for, and deployment of, 5G wireless communications technology were an early marker of the judders involved in this global re-balancing. Searches for new pathways in this more contentious environment include cross-operable devices capable of running on different platforms, such as politically facilitated agreement on commercial mobile communications devices enabling the user to move between any of the four main governmental Global Navigation Satellite Systems (GPS, Glonass, Galileo, Beidou). The coexistence of deep globalization with intensified nationalism and perturbations in existing orders poses heightened challenges to hitherto dominant models and institutions of technical standardization. As the chapters in this book demonstrate, law in this field is always engaged with maintenance and innovation. Both can be expected to take on a new valence under unsettled conditions of global re-ordering.

*Benedict Kingsbury*



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Much of the relevance and timeliness of this book can be attributed to the deep engagement of its authors in the issues and controversies surrounding technical standardization and the law. As such, many of us have been directly involved in counseling, litigation, and transactions affecting the cases, agencies, and organizations discussed in this book, including as attorneys, experts, arbitrators, and employees. Personally, I served for two decades as legal counsel to the Internet Engineering Task Force, a major international standards-development organization, I have represented numerous firms in their dealings with other standards bodies, I have formed and represented several standards-development consortia, I have appeared as an expert witness in standards-related litigation on behalf of both patent holders and product manufacturers, I have served as an arbitrator in a large FRAND-related dispute, and my academic research has been supported by grants from both public and private sources. The details of these relationships, as well as similar relationships enjoyed by many of the chapter authors in this volume, are disclosed in greater detail in the relevant papers, articles, and chapters, the biographical sketches contained in this volume, and our personal and institutional websites. Nevertheless, the reader is assured that all views expressed herein are of the individual authors, writing as respected experts in their fields, and do not reflect the views or opinions of any employer, client, or funder.

*The Editor*

