Quantum Technology and Law

Call for Papers

The Leiden Law School (departments of Private Law and IT law) of Leiden University, the Netherlands, invites you to contribute a chapter in a book on Quantum Technology and Law. The book will consist of contributions based on work presented during the 2026 Quantum & Law conference in Leiden[1] and your contribution as a leading expert in this area.

Quantum technology sounds cryptic to many, but it is regarded as one of the fastest emerging technologies, with immense potential, in particular if paired with Artificial Intelligence (AI) that requires very large computing power. Theories of quantum science have been developed by theoretical physicists and mathematicians for decades. Their work focuses on the smallest particles in the natural world and their ability, in theory, to be in several states at once. Only for an observer do they crystallize into one state. For a non-scientist, the example of Schrödinger's cat – which can still be dead or alive inside a box until the observer opens the box – is perhaps the best-known metaphor for this phenomenon. Another special feature of quantum particles is that a connection between particles can exist – called 'entanglement' – by which each particle 'knows' the state of the other, regardless of distance. Einstein referred to this as "spooky action at a distance".

Translating quantum science into quantum technology has practically focused on the development of quantum sensing, quantum computing, and quantum communication applications. Quantum particles' special features enable ultraprecise sensitivity in quantum sensors, for instance, used for image improvement in MRI scans in hospitals. Furthermore, quantum computers promise unprecedented computing power, enabling exponentially faster computation than is currently possible on standard computers. The greatest obstacle to a wide span use of quantum computers are practical impediments to fault-free functioning (e.g., the need for extremely cold environments in order to minimize 'noise' between particles), but those are expected to be overcome by scientists in the coming years. After that, quantum computers can become powerful engines in particular by providing computational power to other technologies, such as AI. Finally, quantum particles' entanglement enables communication without the use of hardware. While this may sound like science-fiction, actual applications are being developed in particular in the form of encryption and decryption tools.

In 2025, the European Union published a Quantum Europe Strategy, positioning Europe as a global leader in quantum research and technologies by 2030.[2] The EU is not alone in its investment in the development of quantum technologies. China and the US are equally set on taking up a leading position in this area. Furthermore, with quantum applications in finance being at the forefront of technological development, banks have set their sights on 2030 as the year to be "quantum ready".[3] With these investments it is likely that quantum technology will become a reality and move beyond the 'hype' status that it has had in the past years. Initial applications are already being rolled out on the market. Quantum technologies have advanced to the point where researchers can begin testing proof-of-concepts and realistic applications. In recent years, software tools, programming languages, and development frameworks for quantum computing have grown rapidly.[4]

This book on Quantum Technology & Law aims to be the first volume to comprehensively explore the legal context within which quantum technology applications are introduced in society. Its main objective is to explore how law and policy can be used to unlock the benefits of quantum technologies for society, whilst managing the risks that are involved.

---

[1] On April 23rd 2026, Leiden University hosted the Quantum & Law Conference 2026. See more at https://www.universiteitleiden.nl/en/events/2026/04/quantum--law-conference-2026

[2] COM(2025) 3636.

[3] See BIS Papers No. 158, 'Quantum-readiness for the financial system: a roadmap', July 2025.

[4] See SURF Tech Trends 2026, https://www.surf.nl/files/2025-10/sf_ttr26_en_quantum_v3.pdf).

We invite contributions focusing on technological, legal, ethical, or social issues of the development and use of quantum technology. Topics are not limited to those mentioned below. We particularly welcome contributions on best practices in different countries and contributions that offer multidisciplinary perspectives. This may concern ethical, legal and societal issues of use cases of quantum technologies, best practices in regulating quantum technology, any assessment frameworks for developments in quantum technology, or other relevant perspectives. All chapters will be peer-reviewed by our program committee and other independent reviewers (where necessary) and will be published in an edited book with an ISBN. We have contracted Edgar Elgar for publishing the book. Previously published peer-reviewed papers will also be considered, provided the author or authors are granted a license from the publisher, and the publication information is noted in the contribution. Each contributor will receive an author copy (digital or hardcopy).

Topics

Depending on the submissions, the envisioned set-up of the book consists of three parts, preceded by an introduction and overview by the editors.

Part I embeds the legal debate in a societal context through connections with science communication, ethics, and philosophy scholarship. Its aim is to demystify how quantum technology works and how it is used, or could be used, in societal applications. Quantum technology in many respects challenges law and policy makers. It is abstract, its potential uses are uncertain, and at the same time it has the potential of being a powerful engine for industry and warfare with huge geopolitical stakes. What law and policy makers are grappling with, therefore, is how to combine several goals – facilitating industry, mitigating risks – in a field that very few truly understand. The chapters in Part I open up new avenues to help overcome this problem by connecting the legal debate to science communication; a field specifically aimed at explaining complex scientific problems to a general public. In addition, chapters on ethics ("quantum for the good") and the philosophical foundations of risk assessments provide guidance for law and policy makers in determining the foundations and parameters for regulation of quantum technology.

Topics:
- Scope and definitions of quantum technologies
- Technological developments in quantum technologies
- Risks and benefits of quantum technologies
- Responsible use of quantum technologies
- Risk assessment methods for quantum technologies

Part II contains legal perspectives on emerging quantum applications. These chapters open up or broaden new perspectives for innovation by focusing on specific areas in which quantum technology may play a role, now or in the near future. For instance, quantum technologies may significantly change domains like finance, health care, and transport. Furthermore, quantum technologies may put other technologies into new perspectives, for instance, when providing a boost to AI technologies or when reducing effectiveness of some encryption technologies. Quantum technologies may also put existing legal frameworks like data protection law and intellectual property law in a new perspective. The chapters in Part II of the book address the intersections of these (sometimes highly) regulated areas in society, regulated technologies and more general technology regulation.

Topics:
- Quantum finance
- Quantum health care
- Quantum navigation, Quantum logistics
- Quantum for consumers and businesses
- Quantum encryption
- Quantum in (cyber)security
- Quantum and data protection
- Quantum and Intellectual Property
- Quantum and AI
- Quantum dual use applications

Part III of the book focuses on modalities for (further) regulation of quantum technologies. This part opens up new avenues for interdisciplinary research, going beyond existing approaches. Here the trigger for innovation is the uncertainty surrounding quantum applications, its benefits and risks in a highly volatile geopolitical context. Chapters on standardisation and regulatory sandboxes open up new avenues for exploring law and policy making as well as risk

management beyond existing scholarship. Also, some lessons can be taken from previous experiences when regulating new technologies, such as the EU's AI Act. The chapters in Part III of the book address different aspects of quantum technologies that could be regulated, show how this could be done, and discuss to what extent these solutions may be helpful in facilitating the benefits and opportunities of quantum technologies while, at the same time, addressing the risks of quantum technologies and offering legal protection for different actors and stakeholders where needed.

Topics:

- Standardisation
- Regulatory sandboxes
- Liability
- Governance
- Sustainability
- Geopolitics

These topics are indicative. Submissions that focus other, related topics are also possible. If in doubt, please contact the editors.

Audience

The book Quantum Technology & Law is intended for a broad audience of experts and professionals in academia, practice, and policy making. Being the first comprehensive volume on this topic, the book is relevant for anyone who wishes to become acquainted with quantum technology and the legal questions relating to it.

With an in-depth approach, the book aims to fill a knowledge gap by adding detail to areas that remain largely uncharted. First, it explores which specific legal challenges arise from the introduction of quantum technologies and how these challenges can be addressed for specific applications, e.g., in finance, health care, navigation modelling, and encryption. It also explores more general legal aspects such as data protection and intellectual property, as well as legal issues arising when quantum technology is combined with AI or when it is developed for dual use purposes. Second, it adds normative analyses on the ethics of quantum technologies and the philosophical foundations for risk assessments, combined with explorations of various regulatory modalities (standards, sandboxes, liability) that can be employed for a safe introduction of quantum technology applications in society.

For legal scholars, practitioners, and policy makers the book provides an accessible academic work in which detailed questions concerning the legal aspects of quantum technology are discussed for those applications that are likely to reach the market in the coming years. The book aims to provide answers where possible and to highlight ways forward where issues remain. Its academic approach ensures that this book provides a foundation for future debates on law and policy making, also when the technology develops further. This book is also relevant for experts and professionals with a technological background who are interested in the legal aspects of the quantum technologies they are developing or deploying.

Deadlines

1 May 2026: publication of call for papers, inviting selected authors

1 September 2026: deadline for expression of interest: title, author, abstract, key words
↳ October 2026: invitations for draft chapters

1 February 2027: deadline for draft chapters.
↳ March 2027: feedback of editors.

1 May 2027: deadline for camera-ready chapters.

Editors and Publisher

Editors:

- Prof. dr. Bart Custers, Leiden University
- Prof. dr. Vanessa Mak, Leiden University

Publisher:

- For this book, Edgar Elgar has been contracted
- This book will be published as a hardcopy

Submission

For each contribution, authors must provide an abstract of 150-250 words and five keywords. Each contribution should contain about 8,000-10,000 words, including references. Longer papers may be allowed upon request. All submissions (both abstracts and full papers) must be in Word (*.doc or *.docx format). All photos, tables, and figures must be in .jpg format. Papers must be submitted in the correct template, according to the author guidelines. Only contributions in (UK) English are accepted.

Send submissions to: prof. dr. Bart Custers (b.h.m.custers@law.leidenuniv.nl) and prof. dr. Vanessa Mak (v.mak@law.leidenuniv.nl). Any further questions can be sent to these email addresses.

Review and acceptance

All authors, i.e., all those invited and those responding to the call for chapters, must submit an abstract. The editors of this volume will select the abstracts based on quality and scope, while ensuring there is no overlap in the chapters. Authors of the selected abstracts will be invited to submit a full chapter, which will then undergo a peer review. Each chapter will be reviewed twice, once by (at least) one of the editors (non-blinded) and once by an external reviewer (double-blind). Based on the two reviews, chapters are accepted (pending revision) or rejected. Authors of accepted chapters (pending revision) are asked to revise and finalise their chapters based on the review results. Based on the how the review results are processed, the editors make a final decision on the acceptance of the chapters.

Author Guidelines

Author guidelines will be distributed after acceptance of your abstract.