

# Introduction to the FiRa Consortium

June 3, 2021



UWB TECHNOLOGY

Our vision is to provide seamless user experiences using secured fine ranging and positioning capabilities of interoperable UWB technologies.

Our  
Vision

# UWB Transforms Connectivity Experiences

With superior sensing and positioning capabilities



SMART CITIES AND MOBILITY		SMART BUILDING AND INDUSTRIAL		SMART RETAIL		SMART HOME AND CONSUMER	
Parking garage access control	Driverless valet parking and pick-up	Physical access control	Patient tracking	Foot traffic and shopping behavior analytics	Targeted marketing	Logical access to personal devices	Find someone/something nearby
Vehicle digital key	V2X* and autonomous driving	Employee indoor navigation	Teleconference system	Exhibition attendee management	Drone-controlled delivery	AR gaming	Presence-based device activation
Rider identification (Private transport services)	Reserved seat validation	Employee mustering in emergencies	Proximity-based patient data sharing	In-vehicle payment	In-vehicle payment	Gesture-based control	
Bike sharing (Find a bike nearby)	Transportation fare payment	Find equipment	Logical access control			VR gaming and group play	
Ride sharing (Precise positioning)	eID validation in crowded environments						

\*Connected Vehicle-to-Everything Communication

# UWB Differentiators

## Secure

Integrity of distance result due to PHY layer encryption

## Real Time

Refresh rate of 200~1000 times/second

## Co-Existent

Support bands different from Bluetooth/Wi-Fi



## Reliable

Immune to narrowband fading or jamming

## Accurate

Centimeter resolution in dense multipath environments

## Low Energy

Ultra short air time

# Interoperability and Ecosystem Matter

“Developing an open ecosystem is essential to providing enhanced user experiences”.

“Market adoption of UWB technology will propagate only through standards-based interoperability”.

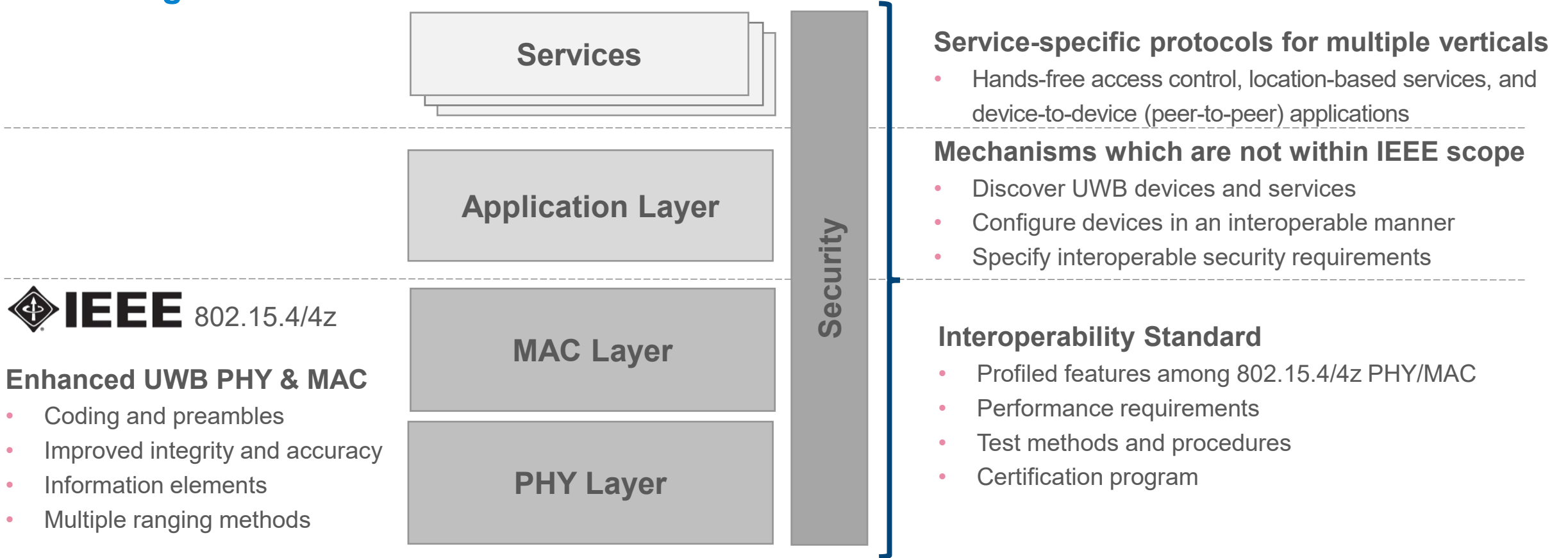
APPLICATIONS



# Drive For Interoperability At All Levels

## Existing Standards

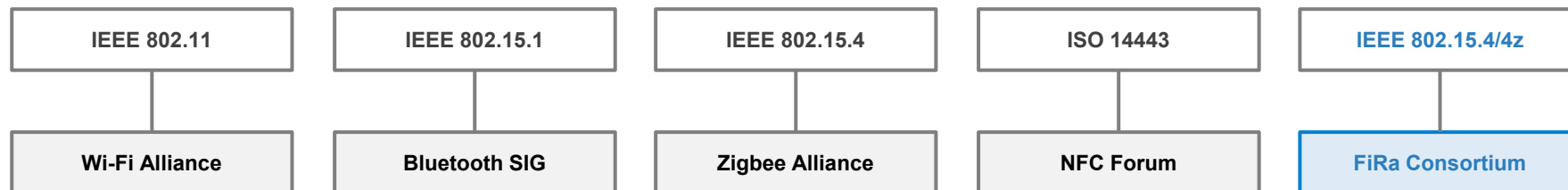
## FiRa Consortium



# Mission: Develop Use Cases and Guarantee Interoperability

Provide the missing blocks for a broad UWB ecosystem deployment

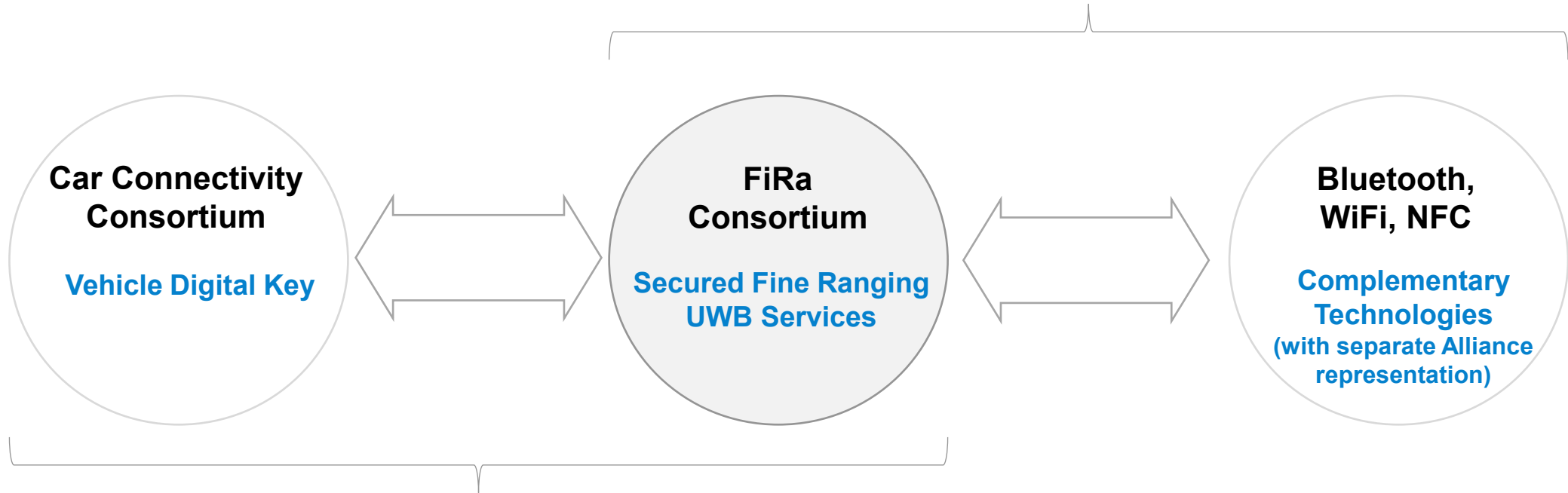
- Develop use cases based on IEEE 802.15.4 enhanced ranging technologies;
- Develop specifications and a certification program to ensure interoperability among chipsets, devices and solutions;
- Promote UWB ecosystems and enable new business opportunities delivering better user experiences; and
- Establish the FiRa Consortium as the reliable and trusted UWB technology brand that is adopted by the market.



# Ready to Collaborate With Other Consortia

## Providing Full Framework for UWB-Based Services

(Other connectivity complements IEEE 802.15.4)



## Providing Full Coverage of Vertical Services

(FiRa Consortium complements Car Connectivity Consortium)



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# Why Join the FiRa Consortium?

Participation in the Consortium provides Member Companies the opportunities to directly engage in creating a broad UWB ecosystem that will benefit all members.

As a FiRa Consortium member, your company will have an opportunity to:

- Influence industry trends around the use of UWB technology for a variety of applications
- Be actively involved in defining UWB technology standards
- Enable products / solutions with UWB technology via early access to technical details
- Certify products as interoperable, providing customers with confidence in their choice of products and/or solutions
- Exhibit thought leadership in the expansion of the UWB ecosystem
- Participate in a variety of marketing related activities, helping to promote your company
- Develop new sources of revenue from the sale of FiRa Consortium certified UWB technology enabled products

# Join the Initiative and Create An Open Ecosystem

## Current Sponsor Members

**ALLEGION™**  
PIONEERING SAFETY™



 **BOSCH**  
Invented for life

  
**CISCO™**

**HID**

**NXP**

**QORVO™**

Qualcomm

**SAMSUNG**

**THALES**

See full list of members at [www.firaconsortium.org/about/members](http://www.firaconsortium.org/about/members)

## Key Stakeholders

Chip Manufacturers  
Device Manufacturers  
System Integrators  
Service Providers

Technology Providers  
Test Tool Developers  
Test Labs

# Contact Us

[www.firaconsortium.org](http://www.firaconsortium.org)

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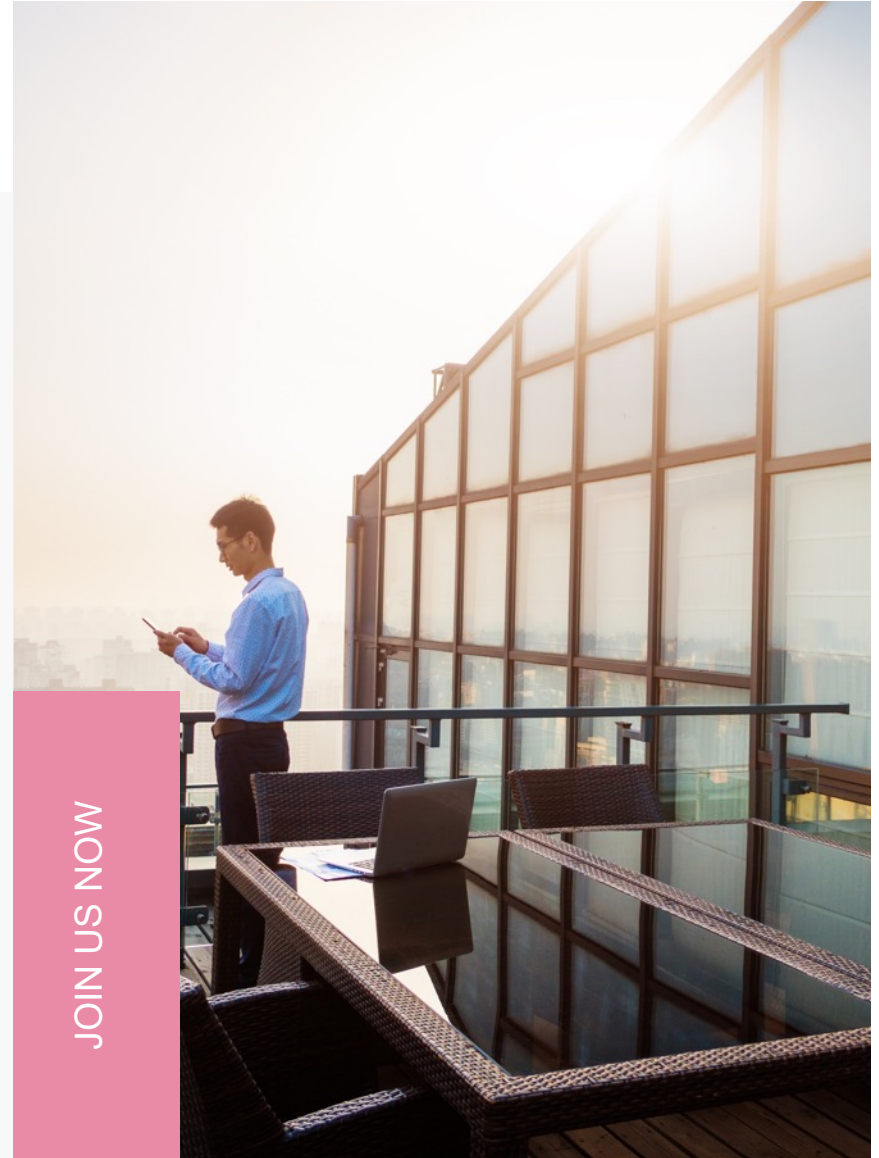
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Director and Treasurer



JOIN US NOW

# Appendix



01.

## VISION, MISSION AND GOALS

Understand the vision, mission and goals of the FiRa Consortium

02.

## LEGAL INFORMATION

Review high level overview of FiRa Consortium Bylaws and IPR Policy

03.

## MEMBERSHIP

Learn about membership in the FiRa Consortium

04.

## ORGANIZATION STRUCTURE

See how the FiRa Consortium is organized

# 01. Vision, Mission and Goals

## Vision

- Provide seamless user experiences using secured fine ranging and positioning capabilities of interoperable UWB technologies

## Mission

- Develop use cases based on IEEE 802.15.4 UWB ranging technologies
- Develop specifications and certification program to ensure interoperability among chipsets, devices and solutions
- Promote UWB ecosystems and enable new business opportunities delivering elevated user experiences
- Establish FiRa Consortium as the reliable and trusted UWB brand that is adopted by the ecosystems

## Goals

- Develop UWB use case scenarios across various vertical business domains
- Develop Test Specifications for UWB PHY/MAC based on IEEE 802.15.4 standards
- Develop Technical and Test Specifications for UWB Services (apart from and complementary to digital key for car access)
- Liaise and collaborate with related consortia working on complementary technologies to enable UWB use cases
- Organize interoperability test events
- Develop and operate Certification programs for UWB PHY/MAC and Services
- Develop and promote a Brand and Logo for Certified products and solutions
- Collaborate with Government and Regulatory bodies to encourage UWB deployments
- Promote UWB technology to industry players
- Promote UWB use cases to end users

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## 02. Overview of IPR Policy

- Applicable to all Members and Member Representatives, and others bound by separate written agreement
- Governs the ownership, licensing, and treatment of intellectual property that is contributed to, generated by, or necessary for the implementation of standards developed as part of the FiRa Consortium activities
- Subject to the specific terms of the IPR Policy, in general:
  - Members (and their Related Parties) participating in FiRa Consortium Working Groups commit to license Necessary Claims on RAND (Reasonable and Non-Discriminatory) or RAND-Z (RAND with Zero royalty) terms, and may withhold Necessary Claims, by submitting a timely written declaration form
  - Members that did not participate in the applicable development group may (but are not obligated to) make RAND or RAND-Z commitments, or withhold licenses to Necessary Claims by submitting a written declaration form
  - New incoming members are not obligated to make license commitments with respect to Standards approved prior to the start of membership
- Patent calls before technical meetings
- No obligation to conduct patent searches for Necessary Claims

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## 02. Overview of Bylaws

- The Bylaws establish the rules governing the operations of the organization, including the rights of members, rules for meetings and corporate actions, voting and quorum requirements, and other matters
- Delaware non-profit corporation with 6 classes of membership
  - Sponsor, Contributor, Associate, Adopter, Test Lab and Academic & Educational
- Directors: Sponsor members each designate 1 Director and up to 2 alternates
- Officers: 2 year term, elected by Board of Directors, compensation possible
- Board of Directors establishes Member Committees, Working Groups, Task Groups, sub-committees, special interest groups, etc.
- Indemnification and insurance possible for Directors, Officers, employees and agents

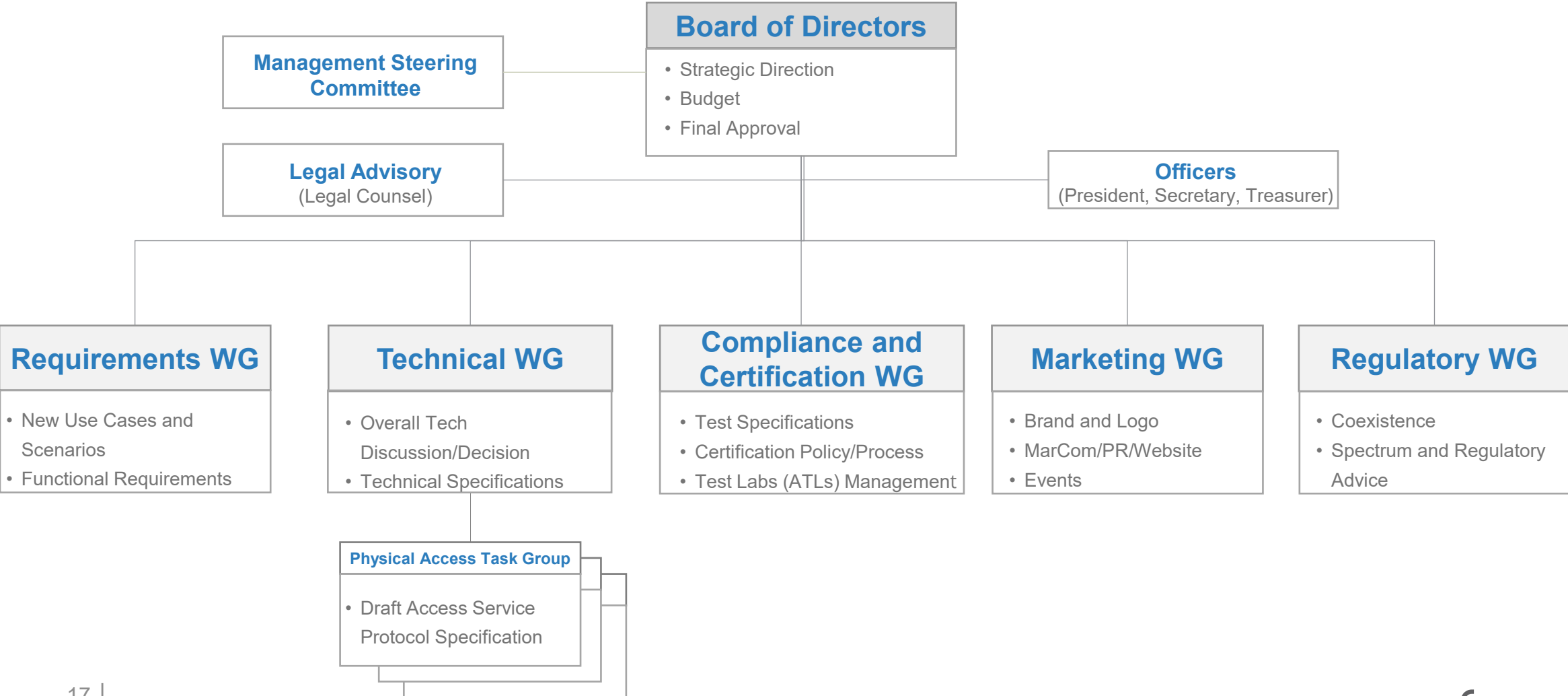
# 03. Membership

	Sponsor <sup>1</sup>	Contributor	Associate	Adopter	Test Lab	Academic and Educational
Board of Directors	√					
Working Group Leadership	√	√				
Working Group Voting Rights	√	√				
Working Group Participation	√	√	√		Compliance & Certification WG only	√
Access to Final Specifications	√	√	√	√	√	√
Certify Products	√	√	√	√		
Apply for Authorized Test Lab					√	
Annual Membership Fee (USD)	\$80K	\$50K	\$30k	\$15K (if revenue ≥ \$50M) or \$5K (if revenue < \$50M)	\$5K	\$2.5K (one time only)

<sup>1</sup>Sponsor member applications are not being accepted at this time.



# 04. Organization Structure





THANKS