

### SLOVENSKI STANDARD SIST EN ISO 11073-20601:2017

01-februar-2017

Nadomešča:

SIST EN ISO 11073-20601:2011

Zdravstvena informatika - Komunikacija osebnih medicinskih naprav - 20601. del: Profil aplikacije - Optimalni protokol izmenjave podatkov (ISO/IEEE 11073-20601:2016)

Health informatics - Personal health device communication - Part 20601: Application profile - Optimized exchange protocol (ISO/IEEE 11073-20601:2016)

### iTeh STANDARD PREVIEW

Medizinische Informatik - Kommunikation von Geräten für die persönliche Gesundheit -Teil 20601: Anwendungsprofil - Optimiertes Datenübertragungsprotokoll (ISO/IEEE 11073-20601:2016)

SIST EN ISO 11073-20601:2017

https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-

Informatique de santé - Communication entre dispositifs de santé personnels - Partie 20601: Profil d'application - Protocole d'échange optimisé (ISO/IEEE 11073-20601:2016)

Ta slovenski standard je istoveten z: EN ISO 11073-20601:2016

### ICS:

11.040.99 Druga medicinska oprema Other medical equipment 35.240.80 Uporabniške rešitve IT v IT applications in health care zdravstveni tehniki technology

SIST EN ISO 11073-20601:2017

en,fr,de

SIST EN ISO 11073-20601:2017

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11073-20601:2017 https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017

### EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 11073-20601

August 2016

ICS 35.240.80

Supersedes EN ISO 11073-20601:2011

### **English Version**

Health informatics - Personal health device communication - Part 20601: Application profile - Optimized exchange protocol (ISO/IEEE 11073-20601:2016, including Cor 1:2016)

Informatique de santé - Communication entre dispositifs de santé personnels - Partie 20601: Profil d'application - Protocole d'échange optimisé (ISO/IEEE 11073-20601:2016, y compris Cor 1:2016)

Medizinische Informatik - Kommunikation von Geräten für die persönliche Gesundheit - Teil 20601:
Anwendungsprofil - Optimiertes
Datenübertragungsprotokoll (ISO/IEEE 11073-20601:2016, einschließlich Cor 1:2016)

This European Standard was approved by CEN on 21 February 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN/member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions /sist-en-iso-11073-20601-2017

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

### EN ISO 11073-20601:2016 (E)

Contents	Page
Euronean foreword	

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11073-20601:2017 https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017

EN ISO 11073-20601:2016 (E)

### **European foreword**

This document (EN ISO 11073-20601:2016 including Cor 1:2016) has been prepared by Technical Committee ISO/TC 215 "Health informatics" in collaboration with Technical Committee CEN/TC 251 "Health informatics" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11073-20601:2011.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom, TANDARD PREVIEW

(standards iteh ai)

The text of ISO/IEEE 11073-20601:2016 including Cor 1:2016 has been approved by CEN as EN ISO 11073-20601:2016 without any modification 1073-20601-2017

SIST EN ISO 11073-20601:2017

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 11073-20601:2017 https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017 SIST EN ISO 11073-20601:2017

# INTERNATIONAL ISO/IEEE STANDARD 11073-20601

Second edition 2016-06-15

### Health informatics — Personal health device communication —

Part 20601: **Application profile — Optimized exchange protocol** 

Teh ST Informatique de santé — Communication entre dispositifs de santé personnels —

St Partie 2060 1: Profil d'application — Protocole d'échange optimisé

<u>SIST EN ISO 11073-20601:2017</u> https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017



# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN ISO 11073-20601:2017</u> https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017



### COPYRIGHT PROTECTED DOCUMENT

© ISO 2016 © IEEE 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO or IEEE at the respective address below.

ISO copyright office
Case postale 401 • CH-1214 Vernier, Geneva
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org
Published in Switzerland

Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York • NY 10016-5997, USA E-mail stds.ipr@ieee.org
Web www.ieee.org

### **Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. ISO/IEEE is not responsible for identifying essential patents or patent claims for which a license may be required, for conducting inquiries into the legal validity or scope of patents or patent claims of determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance or a Patent Statement and Licensing Declaration Form, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from ISO or the IEEE Standards Association.

ISO/IEEE 11073-20601 was prepared by the IEEE 11073 Standards Comittee of the IEEE Engineering in Medicine and Biology Society (as IEEE Std 11073-20601-2014). It was adopted by Technical Committee ISO/TC 215, *Health informatics*, in parallel with its approval by the ISO member bodies, under the "fast-track procedure" defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE. IEEE is responsible for the maintenance of this document with participation and input from ISO member bodies.

**Abstract:** Within the context of the ISO/IEEE 11073 family of standards for device communication, this standard defines a common framework for making an abstract model of personal health data available in transport-independent transfer syntax required to establish logical connections between systems and to provide presentation capabilities and services needed to perform communication tasks. The protocol is optimized to personal health usage requirements and leverages commonly used methods and tools wherever possible.

**Keywords:** IEEE 11073-20601<sup>™</sup>, medical device communication, personal health devices

### iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN ISO 11073-20601:2017</u> https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-51fd2f9dd971/sist-en-iso-11073-20601-2017

The Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2014 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Published 10 October 2014. Printed in the United States of America.

IEEE and IEEE 802 are registered trademarks in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN **978-0-7381-9314-4 STD98793** Print: ISBN **978-0-7381-9315-1 STDPD98793** 

IEEE prohibits discrimination, harassment, and bullying.

For more information, visit <a href="http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html">http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html</a>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

### Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page, appear in all standards and may be found under the heading "Important Notice" or "Important Notices and Disclaimers Concerning IEEE Standards Documents."

### Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents

IEEE Standards documents (standards, recommended practices, and guides), both full-use and trial-use, are developed within IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association ("IEEE-SA") Standards Board. IEEE ("the Institute") develops its standards through a consensus development process, approved by the American National Standards Institute ("ANSI"), which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims all warranties (express, implied and statutory) not included in this or any other document relating to the standard, including, but not limited to, the warranties of: merchantability; fitness for a particular purpose, non-infringement; and quality, accuracy, effectiveness, currency, or completeness of material. In addition, IEEE disclaims any and all conditions relating to: results; and workmanlike effort. IEEE standards documents are supplied "AS IS" and "WITH ALL FAULTS."

Use of an IEEE standard is wholly voluntary. The existence of an IEEE standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

### **Translations**

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

### Official statements

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, or be relied on as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

### **Comments on standards**

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board PREVIEW
445 Hoes Lane
Piscataway, NJ 08854 USAdards.iteh.ai)

#### Laws and regulations

SIST EN ISO 11073-20601:2017

https://standards.iteh.ai/catalog/standards/sist/1700a2be-e694-4d28-b457-

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

#### Copyrights

IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

#### **Photocopies**

Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

#### **Updating of IEEE Standards documents**

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE-SA Website at <a href="http://ieeexplore.ieee.org/xpl/standards.jsp">http://ieeexplore.ieee.org/xpl/standards.jsp</a> or contact IEEE at the address listed previously. For more information about the IEEE-SA or IEEE's standards development process, visit the IEEE-SA Website at <a href="http://standards.ieee.org">http://standards.ieee.org</a>.

#### Errata

Errata, if any, for all IEEE standards can be accessed on the IEEE-SA Website at the following URL: <a href="http://standards.ieee.org/findstds/errata/index.html">http://standards.ieee.org/findstds/errata/index.html</a>. Users are encouraged to check this URL for errata periodically.

### Patents iTeh STANDARD PREVIEW

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA Website at <a href="http://standards.ieee.org/about/sasb/patcom/patents.html">http://standards.ieee.org/about/sasb/patcom/patents.html</a>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

### **Participants**

At the time this standard was submitted to the IEEE-SA Standards Board for approval, the Personal Health Devices Working Group had the following membership:

Daidi Zhong, *Co-Chair* Michael J. Kirwan, *Co-Chair* Douglas P. Bogia, *Co-Chair* 

Charles R. Abbruscato Jinhan Chung Malcolm Clarke Nabil Abujbara Maher Abuzaid John A. Cogan Manfred Aigner John T. Collins Cory Condek Jorge Alberola Karsten Alders Todd H. Cooper Murtaza Ali David Cornejo **Douglas Coup** Rolf Ambuehl Nigel Cox David Aparisi Lawrence Arne Hans Crommenacker Diego B. Arquillo Tomio Crosley Serafin Arroyo David Culp Muhammad Asim Allen Curtis Merat Bagha Ndifor Cyril Fru Doug Baird Jesús Daniel Trigo David Baker Eyal Dassau

iTeh S' David Davenport Anindya Bakshi Ananth Balasubramanian Russell Davis SEabaydaru Sunlee Bang Sushil K. Deka M. Jonathan Barkley Gilberto Barrón Pedro de-las-Heras-Quiros David Bean Jim DelloStritto https://standards.iteh.mathew/d\*Entremonts/1700a2be-e694 John Bell 51fd2ff2ane7Desborough-11073-20601-2017 Rudy Belliardi

Kent Dicks Kathryn M. Bennett Hyoungho Do Daniel Bernstein George A. Bertos Xiaolian Duan Chris Biernacki Brian Dubreuil Jakob Ehrensvard Ola Björsne Thomas Blackadar Fredrik Einberg Marc Blanchet Roger M. Ellingson Thomas Bluethner Michihiro Enokida Xavier Boniface Javier Escavola Calvo Shannon Boucousis Leonardo Estevez Julius Broma Roger Feeley Lyle G. Bullock Bosco T. Fernandes Bernard Burg Christoph Fischer Chris Burns Morten Flintrup Joseph W. Forler Anthony Butt Jeremy Byford-Rew Russell Foster Eric Freudenthal Satya Calloji

Jordan Hartmann Kai Hassing Marc Daniel Haunschild Wolfgang Heck Charles Henderson Jun-Ho Her Takashi Hibino Timothy L. Hirou Allen Hobbs Alex Holland Arto Holopainen Robert Hoy Frank Hsu Anne Huang Sen-Der Huang **Zhiqiang Huang** Ron Huby Robert D. Hughes David Hughes Jiyoung Huh Hugh Hunter Hitoshi Ikeda Yutaka Ikeda Philip O. Isaacson Atsushi Ito Michael Jaffe Praduman Jain Danny Jochelson Chris Johnson Phaneeth Junga Akiyoshi Kabe Steve Kahle Tomio Kamioka Kei Kariya Andy Kaschl Junzo Kashihara Kohichi Kashiwagi

Raul Gonzalez Gomez

Chris Gough

Amit Gupta

Jerry Hahn

Robert Hall

Sten Hanke

Channa Gowda

Jeff Guttmacher

Michael Hagerty

Rasmus Haahr

Charles M. Gropper

Christian Habermann

Nathaniel Hamming

Rickey L. Hampton

vi

Matthias Frohner

Ken Fuchs

Marcus Garbe

John Garguilo

Rick Geimer

Igor Gejdos

Nicolae Goga

Julian Goldman

Ferenc Gerbovics

Jing Gao

Carole C. Carey Santiago Carot-Nemesio

Randy W. Carroll

Simon Carter Seungchul Chae

Rahul Chauhan

Chia-Chin Chong

Saeed A. Choudhary

James Cheng

Peggy Chien

Ralph Kent Jim Niswander Laurie M. Kermes Hiroaki Niwamoto Ikuo Keshi Thomas Norgall Junhyung Kim Anand Noubade Min-Joon Kim Yoshiteru Nozoe Minho Kim Abraham Ofek **Brett Olive** Taekon Kim Tetsuya Kimura Begonya Otal Alfred Kloos Charles Palmer Bud Panjwani Jeongmee Koh Jean-Marc Koller Carl Pantiskas John Koon Harry P. Pappas Mikey Paradis Patty Krantz Alexander Kraus Hanna Park Ramesh Krishna Jong-Tae Park Geoffrey Kruse Myungeun Park Soojun Park Falko Kuester Phillip E. Pash Rafael Lajara Pierre Landau TongBi Pei Soren Petersen Jaechul Lee JongMuk Lee James Petisce Peter Piction Kyong Ho Lee Michael Pliskin Rami Lee Sungkee Lee Jeff Price Woojae Lee Harald Prinzhorn Yonghee Lee John Quinlan Joe Lenart Arif Rahman Kathryn A. Lesh

Sternly K. Simon Marjorie Skubic Robert Smith Ivan Soh Motoki Sone **Emily Sopensky** Rajagopalan Srinivasan Andreas Staubert Nicholas Steblay Beth Stephen Lars Steubesand John (Ivo) Stivoric Raymond A. Strickland Hermanni Suominen Lee Surprenant Ravi Swami Ray Sweidan Jin Tan Haruyuyki Tatsumi

Haruyuyki Tatsumi
John W. Thomas
Brad Tipler
Jonas Tirén
James Tomcik
Janet Traub
Gary Tschautscher
Masato Tsuchid
Ken Tubman

### iTeh STanzilur Rahmar RD PREVI Steve Ray

(SPhillip Raymond s.iteh.ai)
Tim Reilly

Barry Reinhold

SBrian Reinhold 1073-20601:2017

https://standards.iteh.Melvin.lg/Reynolds/sist/1700a2be-e694-4Cifo dé 1a-Vega 51fd2fJqhp G/Rhoadsiso-11073-20601-2017 Dalimar Velez

Jiajia Liu

Wei-Jung Lo

Charles Lowe

Don Ludolph

Christian Luszick

Bob MacWilliams

Srikkanth Madhurbootheswaran

51fd2 John Cl. Rh

Moskowitz

Timothy Ro

David Rosa

Bill Saltzsto

Benedikt Sa

Romain Marmot Sandra Martinez Miguel Martínez de Espronceda

Cámara
Peter Mayhew
Jim McCain
László Meleg
Alexander Mense
Ethan Metsger
Yu Miao
Jinsei Miyazaki
Erik Moll
Darr Moore

Qiong Li

Patrick Lichter

Jisoon Lim

John Lin

Joon-Ho Lim

Ying Li

Soundharya Nagasubramanian

Jae-Wook Nah Alex Neefus

Piotr Murawski

Trong-Nghia Nguyen-Dobinsky Michael E. Nidd

Michael E. Nidd Tetsu Nishimura Jeffrey S. Robbins
Moskowitz Robert
Timothy Robertson
David Rosales
Bill Saltzstein
Benedikt Salzbrunn
Giovanna Sannino
Jose A. Santos-Cadenas
Stefan Sauermann
John Sawyer
Guillaume Schatz
Alois Schloegl
Paul S. Schluter
Lars Schmitt
Mark G. Schnell

Kwang Seok Seo Riccardo Serafin Sid Shaw Frank Shen Liqun Shen Bozhi Shi Min Shih Mazen Shihabi Redmond Shouldice

Richard A. Schrenker

Antonio Scorpiniti

Yoshihiro Uchida Sunil Unadkat Fabio Urbani Philipp Urbauer Laura Vanzago Alpo Värri Ciro de la Vega Dalimar Velez

Naveen Verma

Rudi Voon Isobel Walker David Wang Jerry P. Wang Yao Wang Yi Wang Steve Warren Fujio Watanabe Toru Watsuji Mike Weng Kathleen Wible Paul Williamson Jan Wittenber Jia-Rong Wu Will Wykeham Ariton Xhafa Junjie Yang Ricky Yang Melanie Yeung Done-Sik Yoo Jason Zhang Zhiqiang Zhang Thomas Zhao Miha Zoubek

Szymon Zysko