



IEEE Update – EALC Kazakhstan

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About IEEE

- World's largest technical largest technical professional organization with over 400,000 members globally
- Not for profit organization “Advancing Technology For Humanity”
- Core areas of activity:
 - Membership organization
 - Conferences organizer
 - Standards developer
 - Publisher of journals, conferences, standards, eBooks, and eLearning



IEEE Action on Climate Change

IEEE is committed to helping combat the effects of climate change through pragmatic and accessible technical solutions and providing engineers and technologists with a space for discussion and action. IEEE has also developed a climate change collection of articles on IEEE *Xplore*. climate-change.ieee.org

IEEE Smart Village Activities

A volunteer network empowering off-grid communities through education and the creation of sustainable, affordable, locally owned entrepreneurial energy businesses serving 70,000 people in 280 villages in Cameroon, Haiti, Nigeria, Kenya, South Sudan, Himalayas, India and more. smartvillage.ieee.org



IEEE Today – Inspiring a Global Community of Innovation

- **Our Mission**

The core purpose of IEEE is to **foster technological innovation and excellence for the benefit of humanity.**

- **One of our Core Values...**

To be a trusted and unbiased source of technical information, and forums, for technical dialog and collaboration.

- **One of our Goals...**

Drive global innovation through broad collaboration and the sharing of knowledge



Member Attributes of the IEEE Fellow Program
7/23/19 2016 - IEEEUSA's website: IEEE.org

IEEE Xplore Digital Library: Driving Innovation

The source of more than **30% of the world's current literature** in electrical engineering, electronics, and computer science

- IEEE journals, conference proceedings and standards plus select partner content dating as far back as the late 1800s
- Over 6 million documents
- More than 1.2 million articles from over 200 top-cited IEEE journals, magazines, and transactions
- Over 4 million conference papers from as far back as 1936, with up to 200,000 added each year
- More than 4,900 approved and published IEEE standards in key technology fields, with the option to add draft standards
- eBook collections covering emerging topics in engineering, computer science, telecommunications, and more
- IEEE eLearning Library with the latest in topics such as Artificial Intelligence, Digital Transformation, 5G, Blockchain, and more!
- Proceedings from IET conferences and events
- Access to more than 12,000 papers from select VDE conferences



IEEE Xplore – eBooks & eLearning

11 Leading eBooks Collections in IEEE Xplore

The IEEE Xplore Digital Library offers instant online access to more than 6,000+ high-quality, technical eBook titles from leading publishers:

- IEEE-Wiley eBooks Library
- Wiley Telecommunications eBooks Library
- Wiley Data and Cybersecurity eBooks Library **NEW!**
- MIT Press eBooks Library-Computing & Engineering
- Princeton University Press eBooks Library
- Artech House eBooks Library
- Now Publishers Foundations & Trends Technology eBooks Library
- River Publishers
- SAE eBooks Library
- Packt eBooks Library **NEW!**
- Manning eBooks Library **NEW!**

These eBooks collections are available as an add-on to your existing IEEE Xplore subscription. Restrictions apply to certain collections, and some collections are not available in all markets.





Key Differences

- Initial Backfile of 700+ titles
- 200 title front list
- Newer publisher
- Specific applications of published materials – “How to use Python in Fintech”
- Rapid Publisher – producing 100’s of cutting-edge titles per year

- More titles in: AI, Machine Learning & Cyber Security – titles are specific, & educate on a specific need

- Initial backfile of 400+ titles
- 50 title front lists
- More established
- Staple for “How to” books on common technical topics
- Such as “Inside Deep Learning”
- Stringent Peer Review – results in less titles per year

- More titles in: Deep Learning, JAVA – topics are broader and have a more mass appeal

The Value of eBooks for Distance Learning

Several studies indicate that eBooks provide the following benefits for distance learners:

- Enhanced access to teaching and learning materials
- Helpful to supplement class instruction with reading lists
- Additional resource to help students understand a concept they are struggling with
- Greater remote access capability
- Optimize reading time for students
- Portability of materials



“The potential for e-books to support distance learning has also been investigated. Shiratuddin et al. (2003) found that the use of e-books could improve access to teaching and learning materials for distance learners. A more recent study investigating the usability and usefulness of e-books in an m-learning environment indicated the following advantages for student learning: increasing access (e.g. more readings, multimedia and portable resources), enabling remote access, and optimizing reading time (Lam, Lam, and McNaught 2010).”

<https://www.tandfonline.com/doi/full/10.1080/09687769.2010.548506>

IEEE eLearning Library

IEEE eLearning Library

On-Demand Professional Development

- Online, self-paced courses designed to keep engineers and technical professionals up-to-date on core and emerging trends, leadership skills, and more.
- Courses on latest technologies, taught by the world's leading experts
- Peer reviewed by IEEE societies and experts from renowned universities and corporations worldwide
- Learners earn CEUs/PDHs upon successful completion to maintain professional licenses through the IEEE Learning Network



Convenient Access Options

- IEEE *Xplore*
- Locally load SCORM files into your own LMS system
- IEEE Learning Network: LMS specially optimized for online learning. Centralized portal with advanced functionality such as tracking, managing and reporting on learner behavior



IEEE Learning Network (ILN)

A way to access online learning content from IEEE

- Designed to add functionality that customers have requested:
 - Instant digital certificates
 - Complete transcript for learners
 - Bookmarking within courses
 - Enhanced reporting capability
- Helps learners discover additional content from across IEEE, all in one place
- Institutional learners combine institutional course access with an IEEE personal account (free) to personalize their learning experience

The screenshot displays the IEEE Learning Network (ILN) interface. At the top, there is a navigation bar with links to IEEE.org, IEEE Xplore Digital Library, IEEE Standards, IEEE Spectrum, and More Sites. The main content area features a 'Welcome to the IEEE Learning Network' banner with a background image of hands holding a tablet. Below the banner, there is a 'My Courses' section with a table of active courses. The table has columns for Title, Start/Begin, Due/Ends, and Action. Two courses are listed: 'An Introduction to Sustainable Green Engineering Part 1' (Online, Started JUN 13, No Due Date, Resume) and 'Values by Design in the Algorithmic Era' (Online, Not Started, No Due Date, Open Item). Below this is a 'Completed Training' section with a table of past courses. The table has columns for Title, Type, Status, Score, and Action. Two courses are listed: 'Ethical Hacking: System Hacking' (Online, Completed, 85.71) and 'Networks Selfie' (Online, Completed, 71.43, View Certificate). A 'What's New' sidebar on the right includes a 'Welcome' message dated 5/8/2019 and a 'Support / Help' section with a link to report a technical issue.

Title	Start/Begin	Due/Ends	Action
An Introduction to Sustainable Green Engineering Part 1 Online	Started JUN 13	No Due Date	Resume
Values by Design in the Algorithmic Era Online	Not Started	No Due Date	Open Item

Title	Type	Status	Score	Action
Ethical Hacking: System Hacking	Online	Completed	85.71	
Networks Selfie	Online	Completed	71.43	View Certificate

Three Ways to Access Content



Courses are discovered at:	IEEE Xplore	ILN (primary) and IEEE Xplore	Your Learning Management System (LMS)
Courses are accessed at:	ieeexplore.ieee.org/courses/home	iln.ieee.org	Your internal network
Course experience:	Standard <i>(Videos and assessments)</i>	Enhanced <i>(Includes bookmarking and transcript)</i>	Depends on your LMS
Authentication methods accepted:	ALL IEEE Xplore methods	ALL IEEE Xplore methods except Just-in-Time and EZproxy	No IEEE authentication required
Analytics are:	Standard <i>(Course starts only)</i>	Enhanced <i>(Includes course completion and time spent in course)</i>	Depends on your LMS
Certificates:	Digital Certificate of Participation <i>Delivered within 1-2 weeks</i>	Instant Digital Certificates <i>Continuing Education Units (CEU) and Professional Development Hours (PDH)</i>	None

2022 eLearning Course Programs



National Electrical Safety
Code (NESC) 2023

Partner:
IEEE Standards Association



Smart City Technologies:
Transformation of Cities

Partner:
IEEE Computer Society



High Performance
Computing

Partner:
IEEE Future Directions



Digital Privacy for
Engineers

Partner:
IEEE Digital Privacy Initiative

2023 eLearning Course Programs



**IEEE 802.11ax™
(Wi-Fi 6)**
5 COURSES



IoT Security
6 COURSES



**Configuration Management:
Building Secure &
Reliable Software**
5 COURSES



**Time-Sensitive
Networking**
5 COURSES

How Universities Can Benefit from the IEEE eLearning Library



- Add active learning elements to the classroom
- Introduce emerging technologies to students
- Support university blended learning strategies
- Supplement instructional strategies
- Help students prepare for more advanced coursework
- Build awareness of converging and related technologies
- Keep faculty up-to-date on trends in related technologies

Publishing Options, Resources & Usage

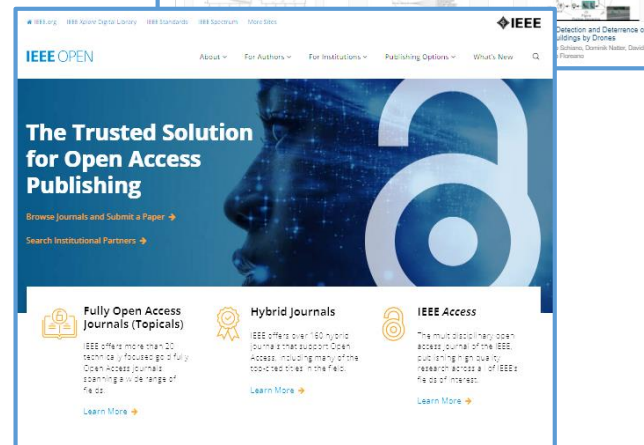
IEEE's Evolving Open Access Program

IEEE offers three Open Access publishing options for Authors

OA Publishing Options

1. **Hybrid Journals** – **160+** journals and magazines spanning an array of technology fields
2. **Fully Open Access Topical Journals** – **30+** titles and more coming soon
3. **Multidisciplinary OA journal - IEEE Access**
 - IEEE's largest open access journal, over 60,000 articles since 2013
 - Highly cited journal in a range of fields
 - Rapid yet rigorous peer review process of 4 to 6 weeks.

With the above options for authors, IEEE has published over 110,000 open access articles in IEEE *Xplore*.



IEEE publishes more than 30 fully Open Access Journals

All hosted on the IEEE Xplore® Digital Library and are fully compliant with funder mandates, including Plan S.

- ▶ IEEE Access
- ▶ IEEE Journal of the Electron Devices Society
- ▶ IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- ▶ IEEE Journal on Exploratory Solid-State Computational Devices and Circuits
- ▶ IEEE Journal of Indoor and Seamless Positioning and Navigation
- ▶ IEEE Journal of Selected Areas in Sensors **New for 2024**
- ▶ IEEE Journal of Microwaves
- ▶ IEEE Journal of Translational Engineering in Health and Medicine
- ▶ IEEE Open Journal of Antennas and Propagation
- ▶ IEEE Open Journal of Circuits and Systems
- ▶ IEEE Open Journal of the Communications Society
- ▶ IEEE Open Journal of the Computer Society
- ▶ IEEE Open Journal of Control Systems
- ▶ IEEE Open Journal on Immersive Displays **New for 2024**
- ▶ IEEE Open Journal of Engineering in Medicine and Biology
- ▶ IEEE Open Journal of the Industrial Electronics Society
- ▶ IEEE Open Journal of Industry Applications
- ▶ IEEE Open Journal of Instrumentation and Measurement
- ▶ IEEE Open Journal of Intelligent Transportation Systems
- ▶ IEEE Open Journal of Nanotechnology
- ▶ IEEE Open Access Journal of Power and Energy
- ▶ IEEE Open Journal of Power Electronics
- ▶ IEEE Open Journal of Signal Processing
- ▶ IEEE Open Journal of the Solid-State Circuits Society
- ▶ IEEE Open Journal of Systems Engineering
- ▶ IEEE Open Journal of Ultrasonics, Ferroelectrics, and Frequency Control
- ▶ IEEE Open Journal of Vehicular Technology
- ▶ IEEE Photonics Journal
- ▶ IEEE Systems, Man, and Cybernetics Letters **New for 2024**
- ▶ IEEE Transactions On Machine Learning in Communications and Networking
- ▶ IEEE Transactions on Neural Systems and Rehabilitation Engineering
- ▶ IEEE Transactions on Privacy **New for 2024**
- ▶ IEEE Transactions on Quantum Engineering

More information: open.ieee.org



New IEEE Journal Titles Coming to IEEE Xplore

IEEE subscription-based hybrid titles, all included in an IEL subscription

New in 2023

- IEEE Transactions on **AgriFood Electronics**
- IEEE **Electron Devices** Magazine
- IEEE Transactions on **Energy Markets**, Policy and Regulation
- IEEE Transactions on Industrial **Cyber-Physical Systems**
- IEEE Transactions on **Radar Systems**

Coming in 2024

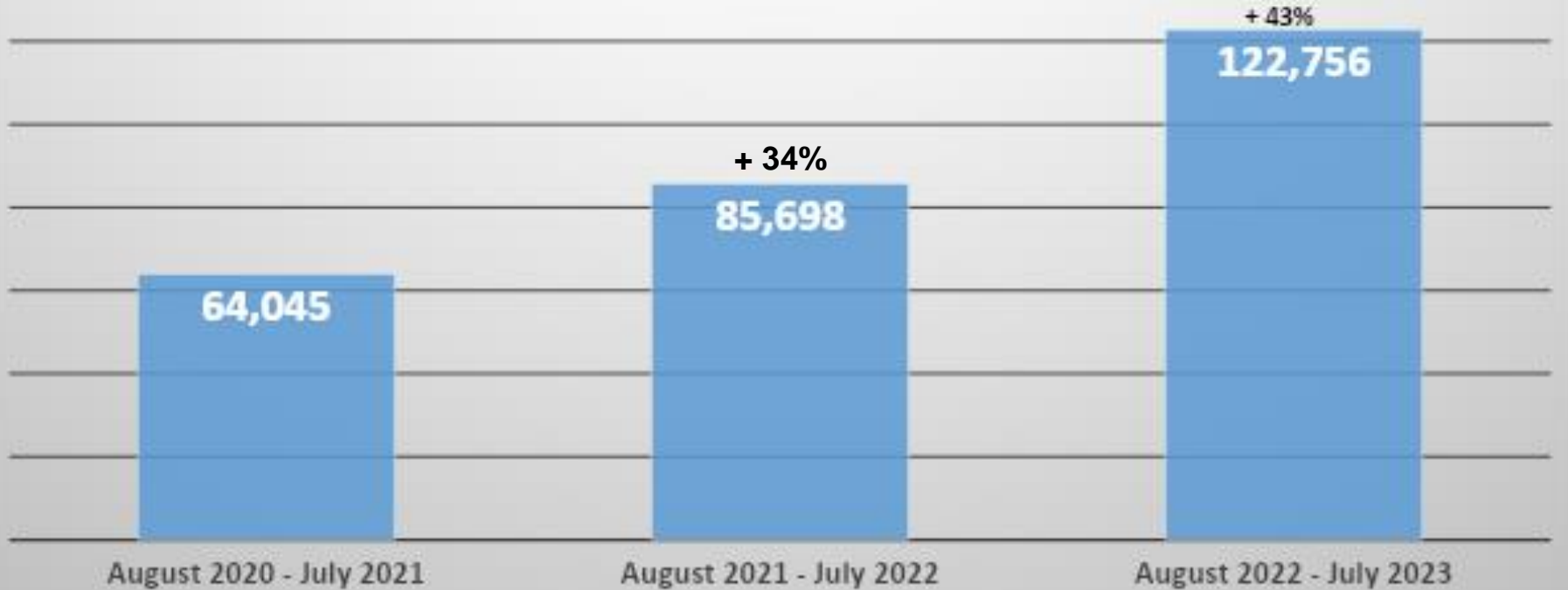
- IEEE Transactions on Materials for **Electron Devices**
- IEEE **Reliability** Magazine



**Please note this is a tentative list and is subject to change.*

12 Month IEEE Xplore Usage in Kazakhstan

Counter 5 Usage in Kazakhstan



Many authors choose IEEE Access for OA Publishing

The image shows a screenshot of the IEEE Access website. At the top, there is a navigation bar with the IEEE Access logo and a search bar. Below the navigation bar, there is a banner with the text: "Publish your important research with maximum visibility in just 4-6 weeks when you choose IEEE Access, the multidisciplinary open access journal of the IEEE." A stopwatch graphic shows "4 to 6 weeks".

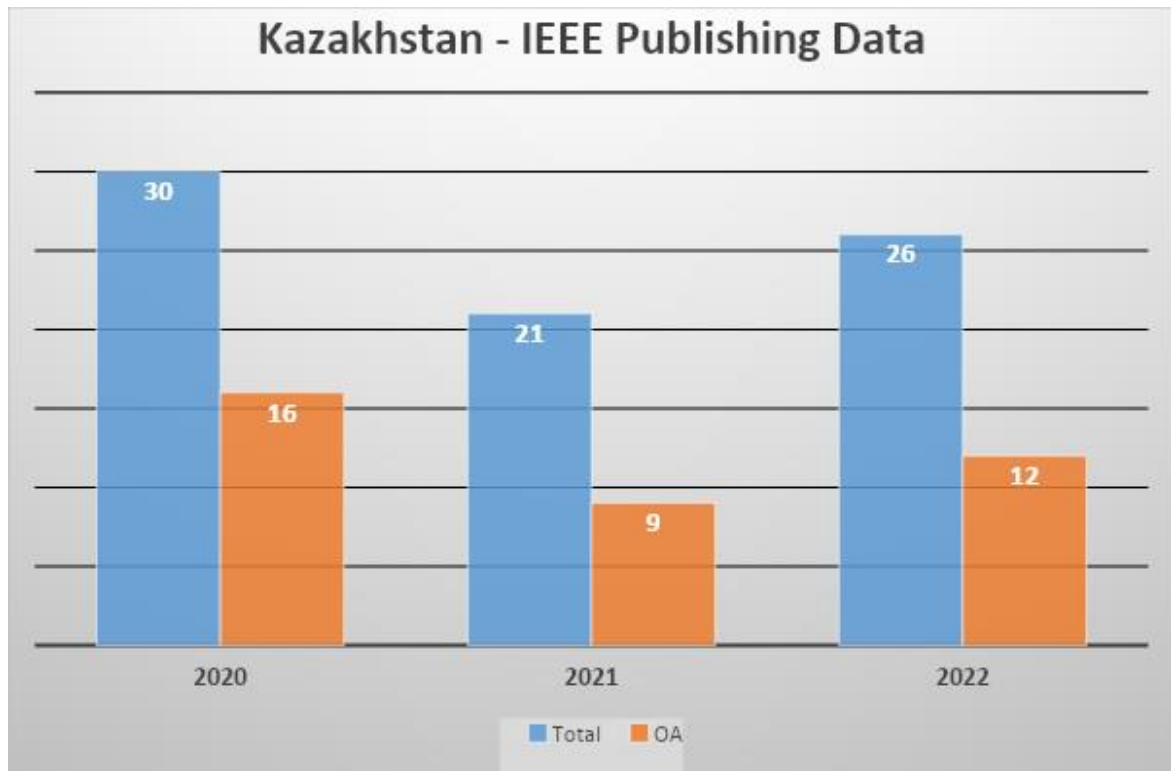
Below the banner, there is a section titled "IEEE Xplore Most Popular Journal Articles, Jan. 2023". The first article is "On the History and Future of 100% Renewable Energy Systems Research" by IEEE Access, with authors Christian Breyer, Shivash Khaiti, Dimitri Bogdanov, Manish Ham, Ayobami Solomon Oyewo, Arman Aghahosseini, Ashish Galagi, Christian Hopmann, Dominik Kolner, Gabriel Lopez, Poul Alborg Ostergaard, Henrik Lund, Brian V. Mathiesen, Mark Z. Jacobson, Maria Victoria, Sven Teske, Thomas Prettger, Vasilis Fthenakis, Marco Raatge, Hannette Hoffmann, Ugo Bardi, Auke Hekstra, Benjamin K. Sovacool. The second article is "Artificial Intelligence in Education: A Review" by IEEE Access, with authors Jialu Zhou, Mengting Chen, Zhijian Lin. The third article is "Terahertz Band: The Last Piece of RF Spectrum Puzzle for Communication Systems" by IEEE Open Journal of the Communications Society, with authors Hadeel Elayan, Osama Amin, Bassem Shihada, Raed M. Shubair, Mohamed Slim Alouni. The fourth article is "Temozolomide in Combination With NF-κB Inhibitor Significantly Disrupts the Glioblastoma Multiforme Spheroid Formation" by IEEE Open Journal of Engineering in Medicine and Biology, with authors Hua Xia, Nazee G. Avc, Yasemin Akay, Yoshua Esquerrosa, Lisa H. Schmitt, Nikin Jandani, Jay-Jiguang Zhu, Meilin Akyol. The fifth article is "A Metaverse: An Economic Perspective" by IEEE Access, with authors Young-Gab Kim. The sixth article is "Peeking Inside the Black Box of Deep Learning: A Survey" by IEEE Access.

At the bottom of the screenshot, there is a banner celebrating 10 years of IEEE Access publishing, with the text "10 YEARS CELEBRATING QUALITY OPEN ACCESS PUBLISHING".

Why?

- ▶ Outstanding editorial resources (over 1,200 expert associate editors and reviewers)
- ▶ Speedy submission-to-publication time (~6 weeks)
- ▶ Features many of the most popular articles in IEEE *Xplore*
- ▶ Geographically and topically diverse
- ▶ Excellent citations and impact factor for a multidisciplinary journal
 - Impact factor of 3.9 based on the 2022 Journal Citation Reports (Clarivate Analytics, 2023)
 - #1 title in Computer Science Information Systems by Eigenfactor
 - #1 title in Electrical Engineering by Eigenfactor
 - #1 title in Telecommunications by Eigenfactor
 - #1 title in Information Systems by Eigenfactor

Kazakhstan & IEEE – Corresponding Authors



Topics published include:

- Electrical and Electronic Eng
- Telecommunications
- Computer Science & Info Sys
- CS Theory & Methods
- Automation & Control Sys
- Artificial Intelligence
- Energy & Fuels
- Robotics
- Applied Physics

Nazarbayev University authors have published the most articles in IEEE Xplore over the past 3 years.

34 of the 37 OA papers are published in IEEE Access

IEEE Xplore: Trends in Subscription vs. Open Access Content Growth

	New Subscription Articles Per Year (All Publications)	New Subscription Articles Per Year (Journals Only)*	% Growth Subscription Articles Over PY (Journals Only)*		New OA Articles Per Year (Journals Only)*
2022	273,956	67,979	17.0%		15,659
2021	267,342	58,084	10.6%		17,791
2020	258,592	52,500	7.4%		21,496
2019	235,345	48,903	3.3%		17,637
2018	254,778	47,340	5.2%		9,807

Note: IEEE journal content is growing in both subscribed and open access formats. These are unique content sets.

IEEE Publications: Stay Current with Quality, Trusted Resources

Base your research on a quality resource you can trust.

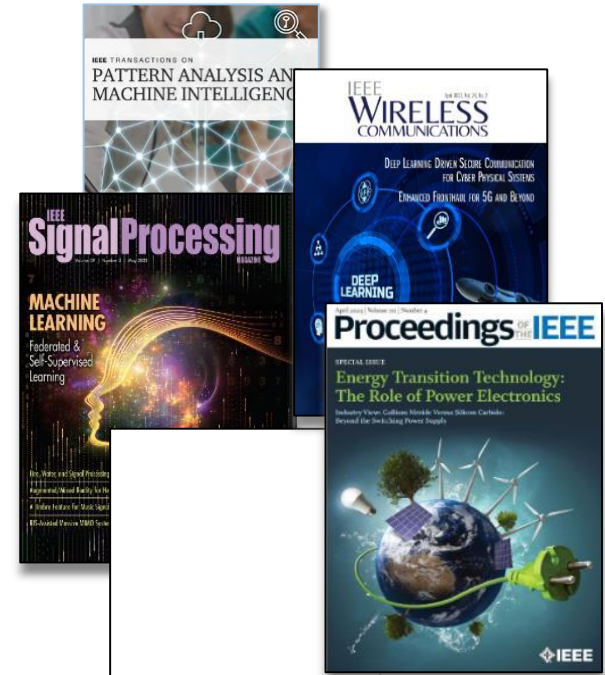
Latest studies reinforce that IEEE has the **top cited publications** and **more top quartile publications** in IEEE fields of interest than any other publisher.

Citation Ranking by Journal Impact Factor:*

- 15 of the top 20 journals in **Electrical and Electronic Engineering**
- 10 of the top 10 journals in **Telecommunications**
- 3 of the top 5 journals in **Automation and Control Systems**
- 5 of the top 10 journals in **Computer Science, Artificial Intelligence**
- 3 of the top 5 journals in **Computer Science, Hardware & Architecture**
- The top 3 journals in **Computer Science, Cybernetics**
- 3 of the top 5 journals in **Computer Science, Information Systems**
- 2 of the top 5 journals in **Computer Science, Software Engineering**
- 3 of the top 5 journals in **Imaging Science and Photographic Technology**

Citations from Technology Patents**

- IEEE publications cited in patents nearly 3x more than any other publisher
- IEEE is the #1 most cited publisher in AI, Computing, Power Systems, Telecom, & more



Going beyond the Impact Factor...

IEEE Journal Rankings by Eigenfactor

Electrical and Electronic Engineering

IEEE has 9 of the top 10 journals:

1. IEEE Access
2. Sensors
3. IEEE Transactions on Industrial Electronics
4. IEEE Transactions on Image Processing
5. IEEE Transactions on Vehicular Technology
6. IEEE Trans. on Neural Networks and Learning Systems
7. IEEE Internet of Things Journal
8. IEEE Trans. on Pattern Analysis and Machine Intelligence
9. IEEE Transactions on Power Electronics
10. IEEE Transactions on Automatic Control

Telecommunications

IEEE has the top 10 journals:

1. IEEE Access
2. IEEE Transactions on Vehicular Technology
3. IEEE Internet of Things Journal
4. IEEE Transactions on Wireless Communications
5. IEEE Transactions on Antennas and Propagation
6. IEEE Transactions on Communications
7. IEEE Journal on Selected Areas in Communications
8. IEEE Communications Surveys and Tutorials
9. IEEE Communications Magazine
10. IEEE Antennas and Wireless Propagation Letters

Going beyond the Impact Factor...

IEEE Journal Rankings by Article Influence Score (AIS)

Electrical and Electronic Engineering

IEEE has 8 of the top 10 journals:

1. Nature Electronics
2. IEEE Trans. on Pattern Analysis and Machine Intelligence
3. IEEE Signal Processing Magazine
4. Proceedings of the IEEE
5. IEEE Journal on Selected Areas in Communications
6. IEEE Wireless Communications Magazine
7. IEEE Transactions on Image Processing
8. IEEE Vehicular Technology Magazine
9. njp Flexible Electronics

Source: Journal Citation Reports (Clarivate Analytics, 2023)

10. IEEE Communications Magazine

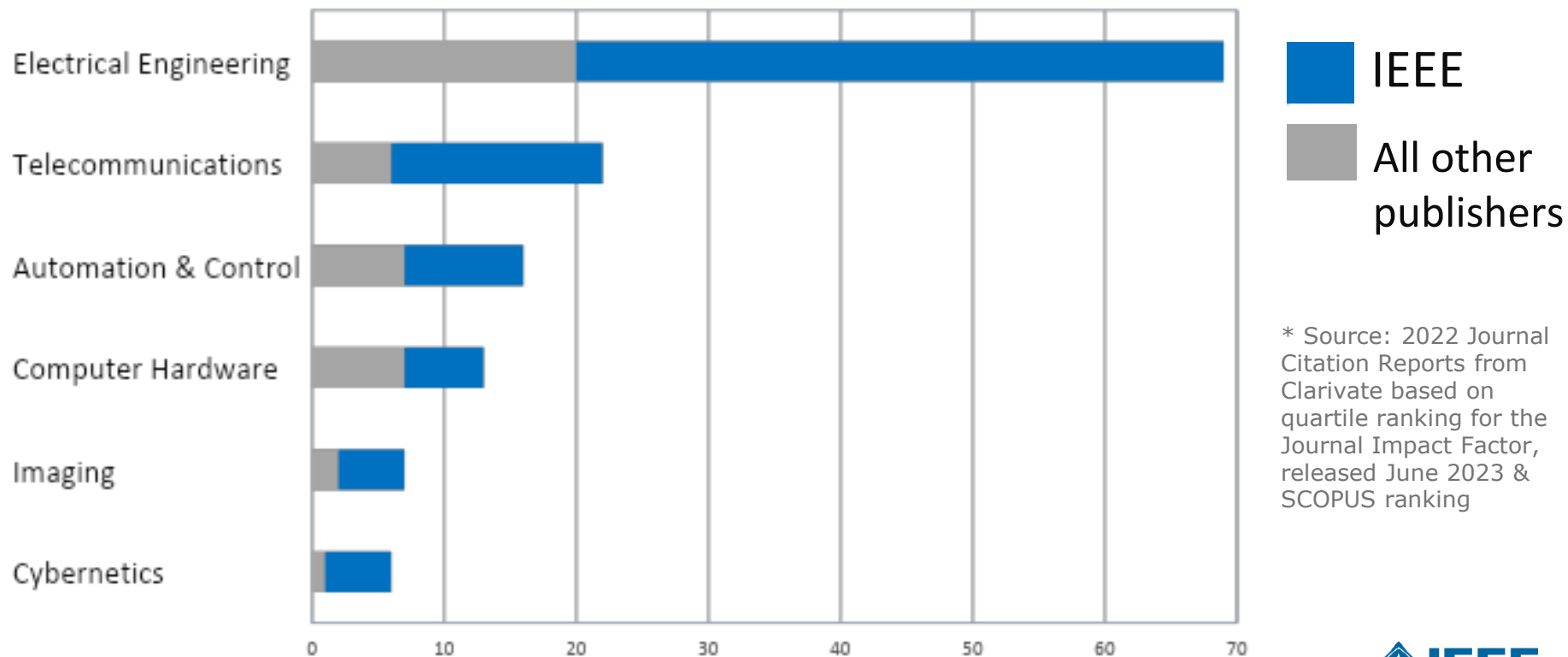
Telecommunications

IEEE has the top 10 journals:

1. IEEE Communications Surveys and Tutorials
2. IEEE Journal on Selected Areas in Communications
3. IEEE Wireless Communications Magazine
4. IEEE Vehicular Technology Magazine
5. IEEE Communications Magazine
6. IEEE Transactions on Wireless Communications
7. IEEE Network
8. IEEE Internet of Things Journal
9. IEEE Trans. on Cognitive Communications and Networking
10. IEEE Transactions on Communications

IEEE Leads in Top Quartile Ranked Publications

*IEEE has more top quartile publications in several key fields of Interest**

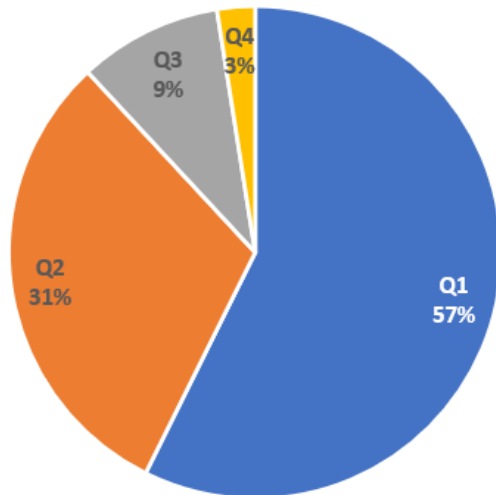


* Source: 2022 Journal Citation Reports from Clarivate based on quartile ranking for the Journal Impact Factor, released June 2023 & SCOPUS ranking

Kazakhstan & IEEE

Quartile rate of JIF value calculated publications

JIF Quartile



JIF Quartile	Number of Doc.
Q1	207
Q2	111
Q3	34
Q4	9

JIF Journals Quartile value is calculated for 361 publications. JIF Journals Quartile is the documents published in a journal found in Journal Citation Reports in a given year.

Kazakhstan & IEEE

Publications and Citations

In this report, the year range is 1980-2022.

Web of Science Documents	Times Cited	% Docs Cited
1,861	10,533	55.72%

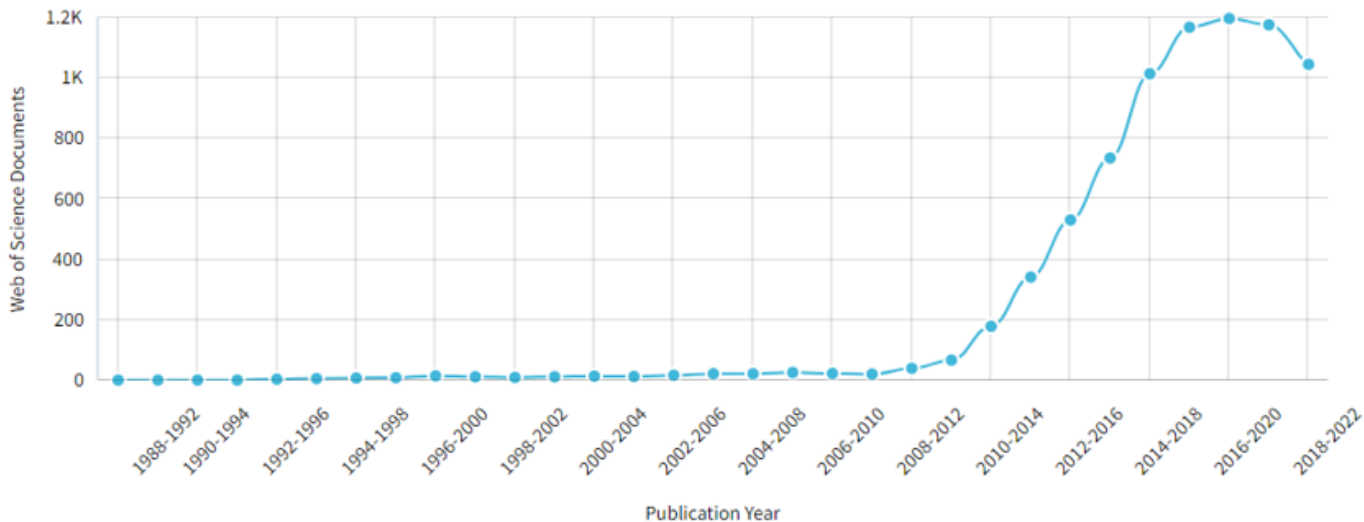


Figure 1. Web of Science Documents of Kazakhstan - 5-year trend graph

Kazakhstan & IEEE

Publications and Citations

In this report, the year range is 1980-2022.

Web of Science Documents	Times Cited	% Docs Cited
1,861	10,533	55.72%

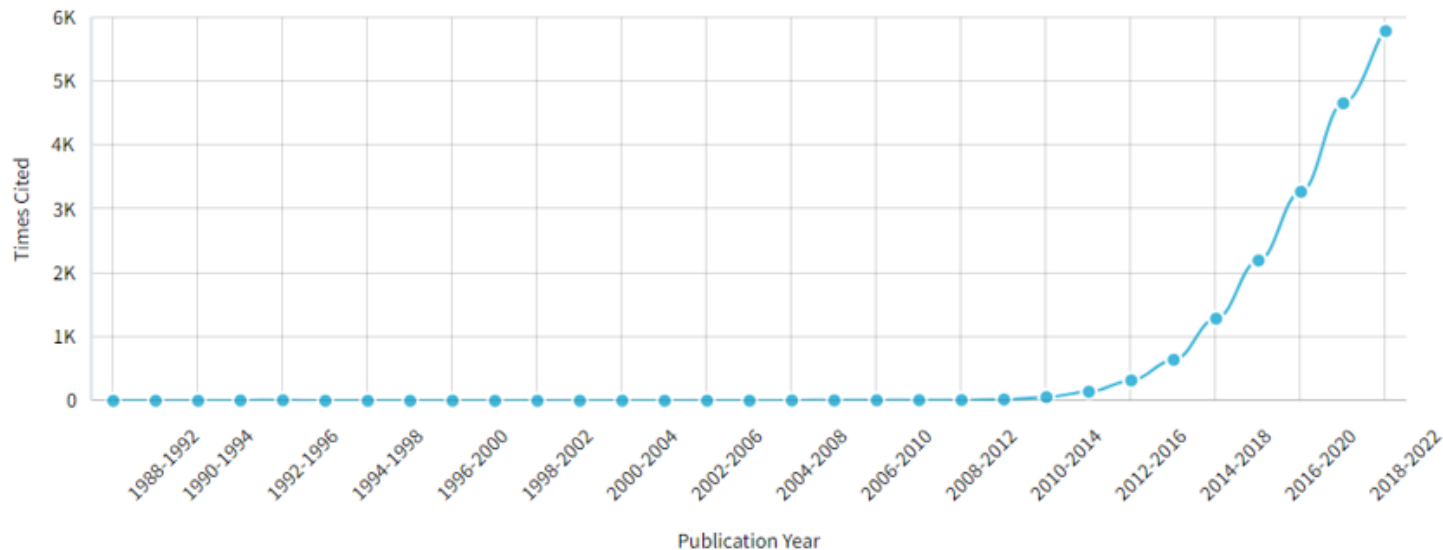
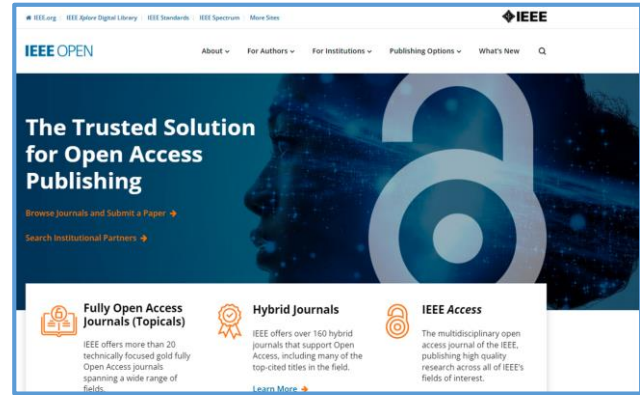


Figure 2. Number of Times cited of Kazakhstan - 5 year trend graph

For More Information on IEEE Open Access Options

IEEE Open open.ieee.org

- More information on OA options for authors and institutions, as well as a list of participating institutions (also links from ScholarOne to this list)
- Learn more about specific journals and calls for papers
- Latest news on new and forthcoming titles
- FAQs for authors



IEEE Access ieeaccess.ieee.org

- Call for papers and announcements
- Submission guidelines
- FAQs
- Featured articles



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köszi
благодаря

THANK YOU

благодаря
TAK
どうも
asante
vielen dank
MULTUMESC
Gràcies
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NA GODE

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danke
danke schön
KÖSZI
PALDIES
muchas gracias
ありがとう
TEŞEKKÜR EDERİM
MOLTE GRAZIE
GO RAIBH MAITH AGAT

WVAIA