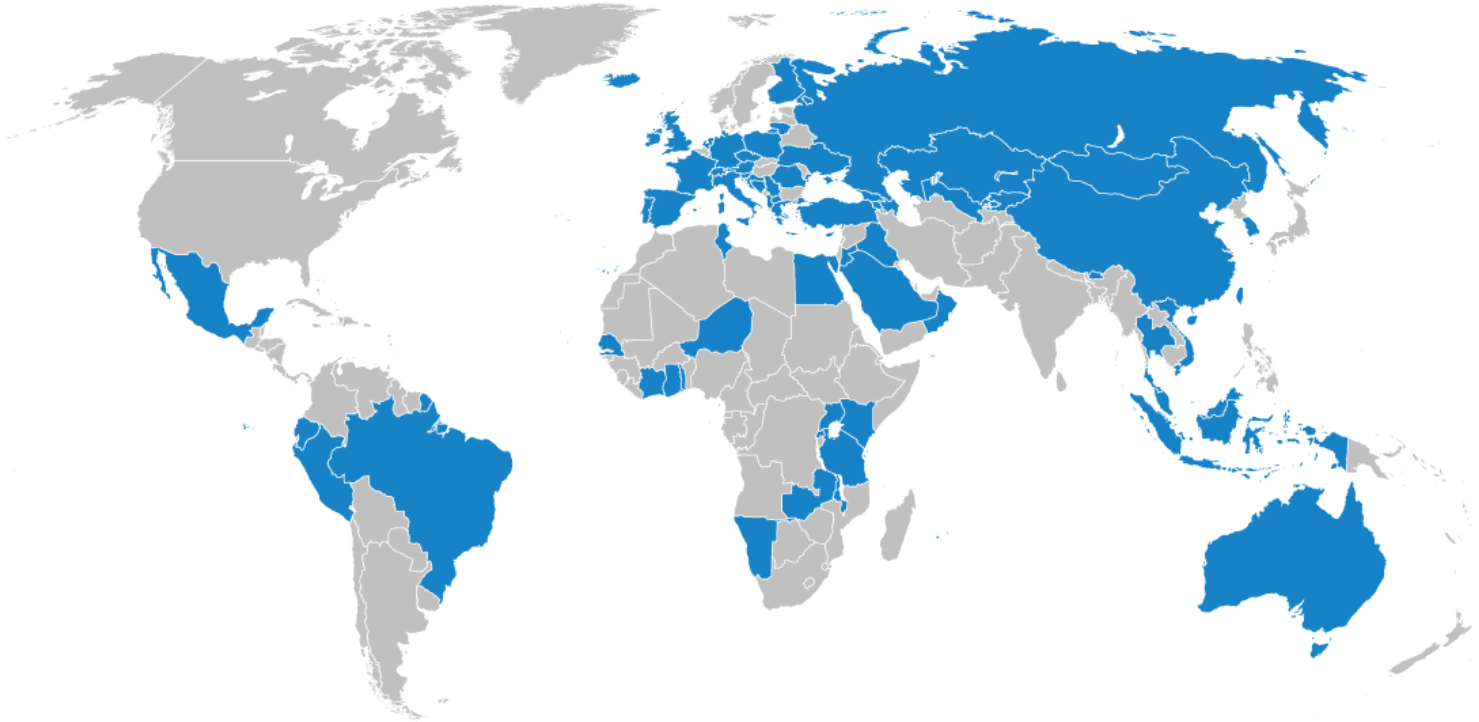
Accreditation of Engineering/STEM Programs – Evidence of Effectiveness

Astana, 16. January 2026

Dr. Iring Wasser,
Managing Director

ASIIN – caring about the effectiveness of engineering eduction for over 25 years on a global level

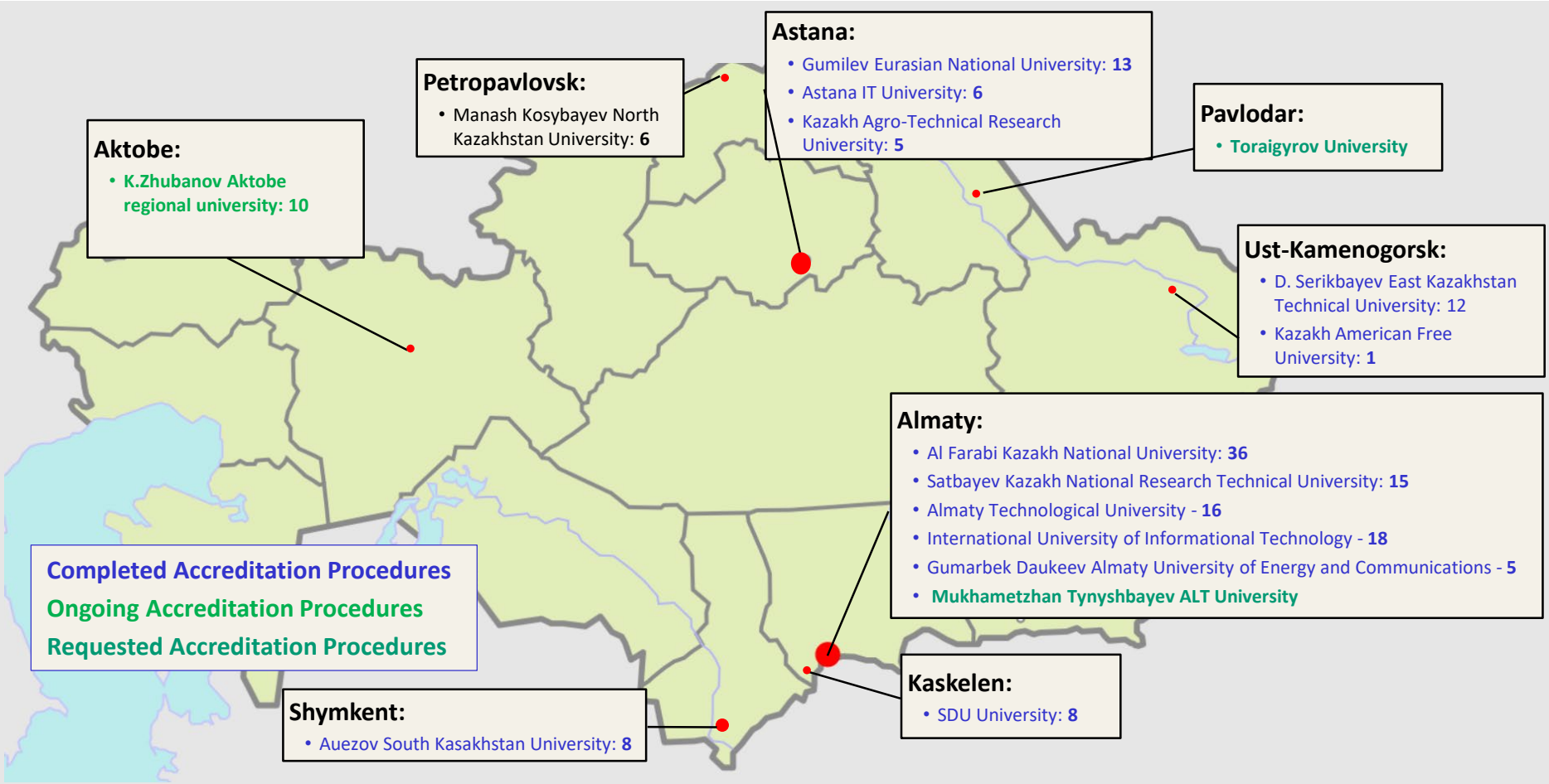


7073
Study programmes

406
Institutions

70
Countries

ASIIN Accreditation in Kazakhstan has contributed to advancing the quality of engineering programs since 2005



European and Global Databases of Accreditation Decisions in the Making

"Database of External Quality Assurance Results" (DEQAR) is an important **tool for multiple purposes** (e.g. recognition of (Vietnamese) degrees, European Digital Credentials, the mobility of students and the portability of grants/loans of HEIs). Today DEQAR contains more than 100,000 QA reports and almost 8,000 HEIs are part of the register, ASIIN has included around 10.000 decisions.

Central information tool for the following stakeholders:

- Ministries and national recognition information centers (ENIC-NARICs)
- Recognition and admission officers in Universities
- Students and Parents
- Quality Assurance Agencies

ASIIN: Registration of its foreign accreditations under https://www.deqar.eu/

In 2027 there will be a global database of accredited programs under UNESCO/INQAAHE rule, all Kazakh accreditations will be included in this continental and global "white list"

Who cares about the effectiveness of engineering programs: ASIIN´s Grand Strategic Stakeholder Alliance

ASIIN´s Coordination Group of Universities/Deans Conferences

ASIIN´s Coordination Group of Universities of Applied Sciences/Faculty Associations

Our grand alliance anchoring in the scientific community and in the economy (universities, professional organizations, scientific societies)

chambers, employer organizations

ASIIN´s Economic Council

ASIIN´s Groups of Technical and Scientific Associations, Professional Organizations, Chambers

ASIIN´s Group of German Employer's Federations, Industry Associations, Companies

ASIIN: A global Champion in the development of field specific internationally accepted Learning Outcomes/Competence Profiles

Technical Committee 01 Mechanical Engineering/ Process Engineering	**Technical Committee 02** Electrical Engineering/ Information Technology	**Technical Committee 03** Civil Engineering, Geodesy and Architecture	**Technical Committee 04** Informatics/ Computer Science	**Technical Committee 05** Physical Technologies, Materials and Processes
Technical Committee 06 Engineering and Management, **Economics**	**Technical Committee 07** Business Informatics/ Information Systems	**Technical Committee 08** Agriculture, Nutritional Sciences and Landscape Architecture	**Technical Committee 09** Chemistry and **Pharmacy**	**Technical Committee 10** Life Sciences
Technical Committee 11 Geosciences	**Technical Committee 12** Mathematics	**Technical Committee 13** Physics	**Technical Committee 14** **Medicine, Nursing, Dental Education**	

- **<u>Achieved Learning Outcomes</u> constitute an agreement of what a graduate of a program is supposed to know/be able to do; this is the basis for academic/professional mobility**
- **They constitute a benchmark for designing and modernizing curricula (IQA)**

→ **ASIIN is the only disciplinary agency globally offering program accreditation in all of these disciplines based on internationally agreed Learning Outcomes, ASIIN aspires to be the „gold standard“ in EQA.**

ASIIN: offering its German as well as International Accreditation Seals for Study Programs/Modules

An ASIIN-procedure on the institutional/program / course / module level may lead to different seals:

Engineering, Natural Sciences, Informatics, Economics, Medicine)

Informatics

Engineering

Medicine

Chemistry

Food

ASIIN´s European and Global Alliance of Professional and Subject Specific Accreditation (EASPA)

→ **ASIIN/ASPA are uniting European/International bodies which are engaged in professional quality assurance based on agreed cross-national Learning Outcomes/disciplinary Competence Profiles**

The European Network for Accreditation of Engineering Education

Dr. Iring Wasser

Astana, 16. Janaury 2026

ENAEE Authorized agencies (2026)

1. France - CTI
2. Germany – ASIIN
3. Ireland - Engineers Ireland
4. Italy - QUACING
5. Portugal – OE
6. Russia - AEER
7. Romania – ARACIS
8. Turkiye - MUDEK
9. United Kingdom - EC UK
10. Poland – KAUT
11. Switzerland – OAQ
12. Finland – FINEEC
13. Slovakia – ZSVTS
14. Kazakhstan – KazSEE
15. Taiwan, China – IEET
16. Turkiye - ZIDEK

European Accreditation of Engineering Programmes EUR-ACE®

ENAEE

European Accreditation of Engineering Programmes EUR-ACE®

ENAEE

ASIIN

ENAEE Framework Standards and Guidelines»

General Criteria

Assessment of the processes and procedures:

- Programme aims and learning outcomes
- Teaching and learning procedures resources
- Students (from admission to graduation)
- Internal quality assurance

Compliant with the

- ESG -European standards and guidelines for Quality Assurance in the EHEA-
- « Best practice in engineering programme accreditation » (IEA/ENAEE)

Program Learning outcomes

What an engineering degree must enable a graduate to demonstrate

8 domains for the knowledge, understanding, skills and abilities

- Knowledge and Understanding;
- Engineering Analysis;
- Engineering Design;
- Research;
- Engineering Practice;
- Making Judgement Skills;
- Communication and Team-working Skills;
- Learning Skills

European Accreditation of Engineering Programmes EUR-ACE®

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The General Criteria

1. **The Degree Programme: Concept, Content & Implementation**
2. **Exams: System, Concept & Organisation**
3. **Resources**
4. **Transparency & Documentation**
5. **Quality management: quality assessment and development**

Overarching, guiding principle evident in all criteria and sub-criteria!

Regularly Review:

Learning objectives and qualification outcomes - Curriculum and modules – Teaching and Student Support - Competencies of teaching staff - Learning environment, equipment, resources -

Quality Assessment and Development: you should know when you fail by yourself

indications:

- × No clear program learning outcomes have been formulated
- × Graduates' further careers are not in line with the qualification provided
- × Exams do not conform with the contents and level of intended learning outcomes/external examiners come to different gradings
- × High drop-out or exam failure rates
- × Students do not manage to graduate within the regular program duration
- × More general: No systematic evaluation of i.e. student feedback) on the course/module or programme level
- × No or insufficient follow up processes on problems, the PDCA Cycle is not implemented
- × No predefined KPIs……

Checklist of Evidences/KPIs (1/2)

1. Student handbook
2. Quality management handbook
3. Cooperation agreement
4. University Development Plan
5. Objectives and learning outcomes
6. Documents that state the official program name
7. Objective-Module Matrix (TEMPLATE) and Elaboration
8. Study plan or curricular overview
9. Module descriptions / Course descriptions
10. Statistics on student mobility (TEMPLATE)
11. Official admission regulations
12. Admission rate statistics (TEMPLATE)
13. Documents containing provisions for the recognition of externally acquired academic qualifications
14. Documents on workload verification
15. Conversion from credit points to ECTS credits
16. Statistics on Academic Success (TEMPLATE)
17. Examination Regulation

Checklist of Evidences (2/2)

18. Statistics on grade distribution (TEMPLATE)
19. Staff handbook
20. HR Plan
21. Graduation certificates
22. Student surveys and results
23. Representative sample of student work

<u>Additional Evidences for PhD-Programs</u>

1. Official documents where rules for doctoral programs are anchored
2. Official documents that entail principles for safeguarding good scientific practice
3. Statistics for Phd programs
4. Documents that indicate career support
5. Documents that detail the available resources
6. Cooperation agreements and regulations
7. Samples of ongoing PhD research projects
8. Samples of published disertation and papers in scientific journals

Outlook: what is on the horizon for ASIIN?

1. **Quality development: new focus on research evaluations**, agency reviews, renewed focus on the development of higher education systems in many parts of the world

2. Build up of a **new Certification Commission for QA of vocational oriented programs in collaboration with the Chambers of Commerce and Industry**

3. **Certification: Expansion of the institutional certification of educational academies in companies and affiliated institutes of universities**

4. **ASIIN Academy:** Platform for good teaching and successful learning, placement of workshops, training courses, continuing education offers, summer schools, **conferences of ASIIN and third-party provider**

5. **Build up of the ASIIN Global University Network of Excellence**

ASIIN – AQAN – AGUNE – ONESQA Thailand Conference 2026

Educational Synergies:
Enhancing University Standards in Thailand and Germany

Date & Location: 31 March – 1 April 2026 | Bangkok, Thailand

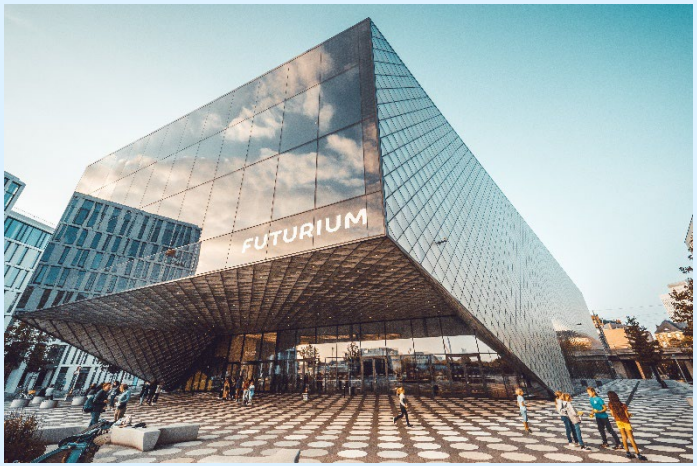
Key Objectives & Topics:

- **Joint Accreditation:** Advancing quality standards and international recognition.
- **Academic Exchange:** Fostering mobility and double degree programs.
- **Industry Collaboration:** Linking universities with the economic sector.
- **Future Trends:** Discussing AI innovation and global university rankings.

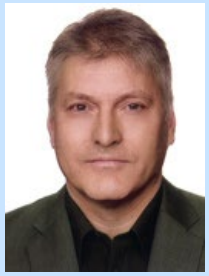
ASIIN´s Conferences: STEM International 2026

October 2026 at the Futurium in Berlin

- Basis: How can foreign students and graduates be integrated into Germany as a location for science and business?
- Meeting of stakeholders from universities, politics and business
- The event is aimed at:
  - University management, academic departments, international offices, faculty and subject preparation days
  - Professional and business associations
  - International companies, SMEs
  - Representatives of scientific organizations and politics



Contact



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