



FOUNDED 1848

## AUSTRIAN SOCIETY OF ENGINEERS AND ARCHITECTS

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### AN INTRODUCTION TO THE ÖIAV

The ÖIAV was founded in 1848 and, therefore, is worldwide one of the three oldest institutions of its kind, along with its English and Swiss counterparts. Until the year 1918, the Crown Countries of the K. and K. Monarchy (K. and K. stands for kaiserlich + königlich, meaning imperial and royal) were also represented in the central House of Engineers, which to this day has been Palais Eschenbach in the 1<sup>st</sup> District of Vienna. Practically all well-known Austrian engineers have been members of the ÖIAV, among them Siegfried Marcus, Ferdinand Porsche, Viktor Kaplan; the civil engineers Dr. Carl Ritter von Ghega (designer of the Semmering Railway), Prof. Karl Terzaghi (the “father” of soil mechanics), Prof. Dr. Leopold Müller (the “father” of rock mechanics), the mining engineer Peter Ritter von Rittinger (inventor of the heat pump) to mention just a few. Members from other countries include, for instance, Nikola Tesla, USA (physicist and electrical engineer, inventor of the Tesla transformer) and the architect Zaha Hadid, London.

The ÖIAV is a nonprofit organization without compulsory membership (unlike the professional chambers for engineers and architects). It is home not only to the classical engineering branches such as architecture, civil engineering and mechanical engineering but also to specialised disciplines such as energy engineering, automotive engineering, process engineering, environmental protection, and the Austrian Member Societies of the ISSMGE (International Society for Soil Mechanics and Geotechnical Engineering) and IGS (International Geosynthetics Society).. The electrical engineers’ office is also located there. The Austrian Electrotechnical Association (ÖVE) is in fact a separate organisation but cooperates closely with the ÖIAV (frequently having the same president or secretary general).

Special committees focus on the education and training of engineers as well as on general technical education/training (incl. aspects of lifelong learning), on the “European Engineers”, on public relations work, and especially on “young engineers”, a current issue of great importance for the future health of the profession. As early as 1897 the ÖIAV was commissioned by the Imperial-Royal Ministry for Culture and Education to review the regulations governing examinations and certificates of the Technical Universities. Even then, the aim of the ministry was – among other

things – to shorten the time required for the completion of studies. Since 1891 the ÖIAV had strongly supported the Technical Universities' efforts to gain the right to award the academic title of "Doctor of Technical Sciences". This was finally granted by the Imperial Ministry for the entire Monarchy on 13 April 1901.

The ÖIAV cultivates close contacts not only to universities in Austria and abroad, to research centres and Academies of Sciences, but also to similar institutions and "sister societies" in many countries, among them the VDI in Germany, the ASCE and the SAE in the USA; the ICE in the UK, and engineering associations in all Eastern European countries. Close contacts to the Middle East and North Africa exist as well via the Austro-Arab Chamber of Commerce.

The activities of the ÖIAV comprise, among other things (not weighted):

- Supporting and promoting science and research, interdisciplinary activities and innovations.
- Measures to deepen and expand both, specialized knowledge and a general technical education as well as the relationship between man and technology through the exchange of experiences and the organization of events.
- Promoting the cooperation among engineers in all fields and related societies/associations. Cooperation and a sense of community benefit all engineers and enhance their public standing. In addition, synergies are being sought in professional and financial matters and in relations with the media.
- Enhancement of international contacts/relations, which has been especially important at the recent/present stage of EU enlargement. Due to its favourable geopolitical situation, the ÖIAV increasingly assumes the function of a communication hub between the East and the West.
- Organization of postgraduate courses in various fields of engineering.
- Lectures, seminars, discussion evenings (with lecturers from all over the world).

The Festival Hall of the ÖIAV is rich in tradition, as engineering history has been written there since the 19<sup>th</sup> century. It was there, for example, that Professor Karl Terzaghi presented his revolutionary theory on the settlement of clays for the first time. Initially, the distinguished audience was equally divided into supporters and opponents of the new theory. There were also heated debates in the ÖIAV about the construction of the Suez Canal. The project had been originally designed by the Austrian A. Negrelli (1799-1858), Inspector General of the Imperial-Royal Railways of the Monarchy, but executed after his death by Ferdinand de Lesseps. The project of the first mountain railway line worldwide (19<sup>th</sup> century) presented by Karl Ghenga was also discussed there. Today, this "Semmering Line" (in Lower Austria, south of Vienna) is

recognised as a World Cultural Heritage. At present, debates focus on the planning and construction of cross-national infrastructure projects, on the construction and operational safety of power stations, flood control projects, controversial transport and traffic routes, the improvement of traffic safety, interaction of vehicles and pavements/railtracks, environmental impact assessments, waste management and alternative energies.

The ÖIAV makes public statements on issues of current interest but refrains from getting involved in the day to day politics.

- Organization of national and international conferences, congresses, seminars and exhibitions. The prestigious ÖIAV building accommodates up to 300 attendees; for larger events, external congress centres are used.

Examples of major international conferences of the ÖIAV in the field of civil engineering (usually held in the Imperial Palace of Vienna), partly in cooperation with related societies (\*):

- World Road Congress of the PIARC (World Road Association)
- World Congress of the IABSE (International Association for Bridge and Structural Engineering)\*
- World Tunnel Congress of the ITA (International Tunnelling Association)\*
- World Conference of the IGS (International Society for Geosynthetics)
- European Conference of the ISSMGE (International Society for Soil Mechanics and Geotechnical Engineering)

In the year 1964, the “Danube-European Conferences on Soil Mechanics, Geotechnical and Road Engineering” were founded by the ÖIAV. The aim of these conferences was to bring together colleagues from east and west, from either side of the Iron Curtain. The Danube region from Germany to the Black Sea (including neighbouring countries such as Poland, etc.) has always fostered close cultural, economic and personal relations. Therefore, our vision at that time was a reunion of this vast region. Meanwhile, for nearly 50 years the Danube-European Conferences have proved to be a long-term success, and the ÖIAV has remained a driving force behind them. The venue has changed from one country to another. The Jubilee Conference (50 years Danube-European Conferences) was held in Vienna, 2014, being already the 15<sup>th</sup>.

Examples of major events in other fields of the engineering sciences:

- World Congress of FISITA (Fédération Internationale des Sociétés d'Ingénieurs des Techniques de l'Automobile)
- Middle-Eastern-European Countries' Infrastructures/Railways Conferences (at two years intervals)
- DAAAM-Conferences (Danube Adria Association for Automation & Manufacturing),

annually and always in another country.

- Common events with the SAE (Society of Automotive Engineers / International), alternatingly in Austria and in the USA.
- Development and publication of guidelines and technical recommendations; cooperation of ÖIAV-members with related committees (e.g. for codes and standards). For instance, in 2003 a guide on “Negotiating procedures for the awarding of intellectual-creative engineering work” was published together with the Austrian Standards Institute.
- Submission of technical suggestions and expert opinions to authorities, public corporations and other interested parties based on ÖIAV initiatives or in response to requests.
- Assessment of relevant bills, amendments, regulations, guidelines, etc. Expert opinions (mostly interdisciplinary) for federal and local authorities, for ministries, provinces and cities.
- Advice and supervision of competitions, mediation in the case of disputes about technical and/or architectural matters, appointment of arbitrators.
- Publication of the Journal of the ÖIAV, i.e. the “ÖIAZ”: previously published monthly, since 2005 quarterly.

From the very beginning in 1849, this publication has served as the official organ of the ÖIAV as well as a scientific journal. The scientific papers or case histories are peer-reviewed by an internal committee, which benefits both quality and evaluation. Papers from other countries, which are also accepted in English, underline the international character of this journal, which is printed in 3500 – 4000 copies (depending on the contents) and regularly distributed to more than 50 countries worldwide. Among its long-standing subscribers are the Peking University Library, the Academy of Sciences in Moscow, the Korean Society of Automotive Engineers, and the Asian Development Bank.

As the ÖIAV has always been an umbrella institution for engineers and architects, the ÖIAZ Journal contains papers from a wide variety of professional fields. Theoretical papers, research reports, case histories, practice-related publications, and even contributions on historical, cultural, ethical and philosophical subjects address a very broad but also specialised readership. Especially for the new generation of academics the ÖIAZ provides an ideal publishing platform, and if a quick publication of their findings is needed, the editorial board has always been very flexible.

- Publication of books for engineering professionals (ÖIAV as editor).
- Awards – especially research awards.

For instance, the “Austrian Geotechnical Award” for outstanding doctor (PhD) and master (Dipl.-Ing.) theses in the field of geotechnical engineering. Another important award is the “Siegfried Marcus Award” in the field of automotive engineering and automobile technology respectively. All awards, prizes and honours have an international background and are therefore open to Austrians and foreigners alike.

- Professional excursions in Austria and other countries.
- Social events held both as collegial gatherings and for professional representation.
- Improvement of the image of engineers to the public:

Modern society could not exist without engineers. However, the public is hardly aware of this fact and takes most of the engineers’ achievements for granted (e.g. drinking water supply, municipal waste and waste water management, infrastructure, means of transport, energy supply, natural disaster mitigation and prevention). Therefore, the ÖIAV feels entitled to inform the society about the outstanding achievements of the engineering community.