

About JSCA

Japan Structural Consultants Association (JSCA) is the Japanese association of structural engineers for buildings.

Association of structural engineers

The Japan Structural Consultants Association (JSCA) was established in 1989, and JSCA members are structural engineers for buildings with high-level design techniques.

JSCA members provide buildings with their required performances, safety, harmonious environment and sustainability.

There are about 4,000 members, and almost all of them have the 1st-class Kenchikushi* and Structural Design 1st-class Kenchikushi* qualifications. (*: National professional license)

JSCA exchanges professional information with other international associations and engineers.

Ethics and actions of JSCA

JSCA has established “the JSCA code of ethics” and “JSCA code of practice” to serve as a guideline for its members’ responsible behavior. JSCA members act and practice according to these codes.



JSCA serves the society.

JSCA Structural Engineer

The license of JSCA Structural Engineer (JSCA-SE) is issued by JSCA to reliable structural engineers as a private license. The JSCA license exam consists of a four hour technical test and a two hour interview. There are about 2,200 registered JSCA-SE. JSCA-SE’s practice includes structural conceptual design and detailed design, preparation of structural drawings, as well as construction supervision.

JSCA-SE can make adequate decisions on structural matters, and is a selected specialist in building structural design among the Structural Design 1st-class Kenchikushi.

We structural engineers practice our profession in harmony with aesthetics/economics and mind/technology. We cooperate with clients, architects and contractors to protect people’s life and culture from natural disasters.



Sample of JSCA-SE license

Activities after seismic disasters

JSCA members worked to investigate and assess structural damage after the 1995 Hyogo-ken Nanbu (Kobe) earthquake, the 2004 Niigata-ken Chuetsu earthquake, as well as the 2011 East Japan earthquake and tsunami. We also cooperated in many ways after the earthquake disaster and contributed to the reconstruction.



Damage assessment at Niigata-ken Chuetsu earthquake

Safety assessment by structural review

JSCA performs structural reviews in which the structural safety of a building is assessed.

During the Japanese seismic calculation falsification problem, we did many structural reviews and verified the structural safety of buildings according to building-owner's requests.

President's Message

The Japan Structural Consultants Association, JSCA, is an organization of engineering specialists in building structures with approximately 4500 registered members.

The purpose of our activities is to design, and provide safe and secure buildings and cities, as well as to enhance our skills as structural engineers of proven professional ability and improved reliability.

Currently, we are still only halfway to full recovery from the Great East Japan Earthquake.

At the same time, official announcements of hazard prediction in regions prone to high seismic activity, such as the Nankai Trough Earthquake, the Tokyo Metropolitan Direct Earthquake, and the Uemachi fault etc. have led to increased public interest and social awareness of disaster protection.

In order to protect people's lives from disaster, building safety is of utmost importance, and JSCA will continue to focus on activities to improve our skills as structural engineers

The last fiscal year marked the organization's 25th anniversary, and we have held various events at our headquarters and at local branches around the country, and we have announced information on our various activities to the public. The year 2015 will also be the beginning of a new chapter for JSCA, and we are especially seeking active registration of new membership among younger structural engineers who will become the backbone of the next generation. Full members are mostly a Structural Design 1-st class Kenchikushi* and a 1-st class Kenchikushi*, but we also welcome general members who strive to improve their skills of structural engineering or who are simply interested in structural engineering. (*:National professional license for architects/building engineers)

Our main activities are as follows:

- To further develop our professional ability as structural engineers and its transfer to the next generation
- To ensure the earthquake resistant properties of non-structural elements
- To enhance the safety and security of existing buildings

Besides the above activities, we are also involved in various activities at our headquarters as well as at local branches. We will continue to pursue activities and provide information as a professional organization of structural engineers, while cooperating with other professional organizations and parties involved. Those involved in structural engineering are encouraged to become a member of our organization so that they could have the opportunities to communicate with many other structural engineers through participation in our professional development programs, various committees and study groups and to further enhance their engineering skills.



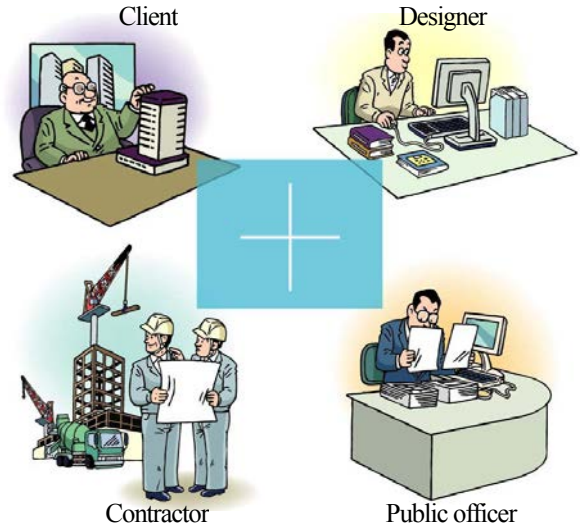
President
Hideo MORITAKA

Structural Engineers' Role

Structural engineers are necessary for building design.

Architectural professions

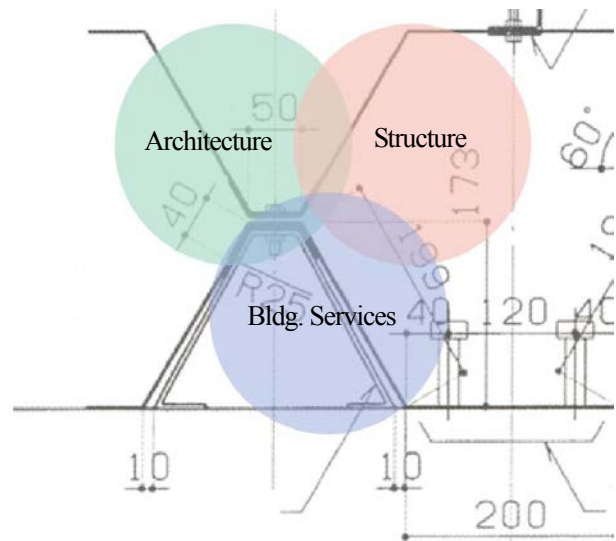
In any building project, many parties such as clients, designers, public officers and contractors are involved.



Three kinds of professionals for building design

Three kinds of specialists cooperate in building design. They are architects, structural engineers and mechanical, electrical and plumbing (MEP) engineers.

Structural engineers' role is to secure the building safety under earthquakes or strong winds or other actions. The skeletal frames and foundations of buildings are designed by structural engineers.



Structural planning is essential for structural design.

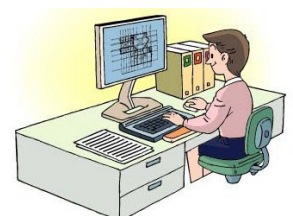
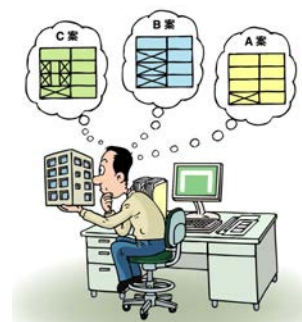
Structural planning

Structural engineers aim to achieve the most suitable frame design considering all possibilities.

In that case, they must develop structural planning considering various elements through their experience and knowledge.

Based upon this structural planning, structural calculations and structural drawings are made, and finally supervision is carried out at the construction site.

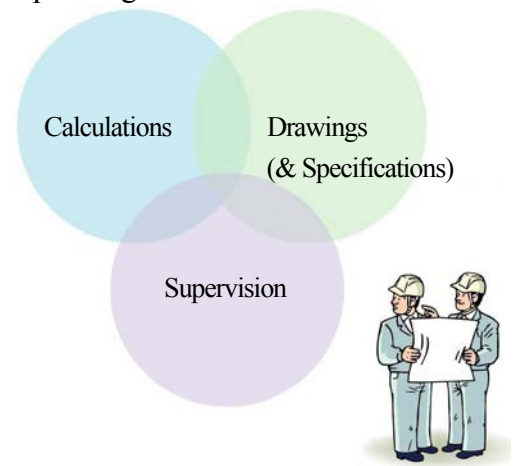
Structural planning should be developed during the detailed design level by



repeated verifications.

Nowadays, the calculation time has been shortened by the use of computers. However, appropriate results require appropriate structural calculation models, and structural engineers must have a deep knowledge of structural analysis and possess the ability for proper judgment.

The results of structural planning and structural calculations are incorporated in the structural drawings. From the structural drawings, architects, MEP engineers and contractors can recognize the structural design details. Structural drawings should not be guided by structural calculation only, but also by structural planning. Structural supervision is carried out in order to realize appropriate construction based upon the design documents and specifications.



The first aim is to secure building safety.

The aim of structural design

The first aim of structural design is to realize a safe and comfortable building space within a reasonable cost. Structural engineers must work to secure the required safety satisfying the comfort and functional requirements.

To secure the safety

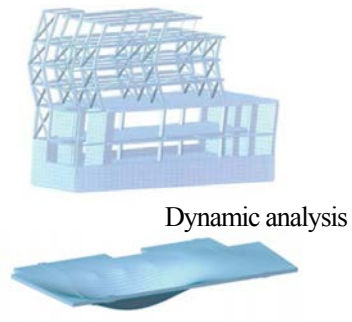
Structural engineers design structures by performing necessary investigations and studies such as soil investigation or wind tunnel tests. In the case of special structures, considering building dimensions, plans, and framing systems, a higher safety should be secured by more detailed structural analysis.



Soil investigation



Wind tunnel test

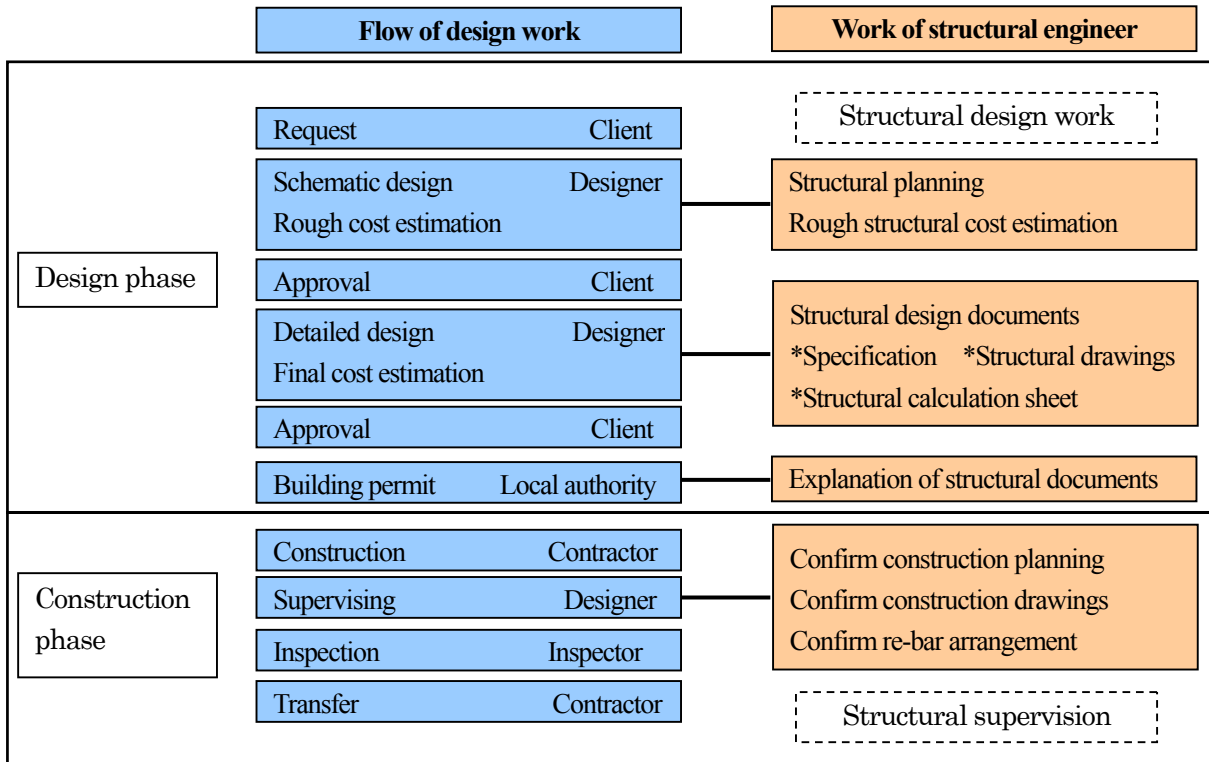


Dynamic analysis

Slab vibration analysis

Structural engineers work in various jobs.

The structural engineering professions include structural planning (which serves as the basis of architecture), making the structural drawings for construction, obtaining building permission, responding to technical reviews and so on. In structural construction supervision, structural engineers confirm the construction drawings and the reinforcing-bar arrangements etc. in order to properly realize the quality expressed in the design documents. In addition, they confirm the report-documents issued from the contractor and the site construction situation.



Members

JSCA Members (as of May 31, 2014)

JSCA members consist of individuals and organizations that are involved in structural design and supervision, and support or sponsor the works of the Association.

Regular Members : 3,909

In principle, individuals meeting one of the following (1) or (2) conditions, where approved by the Board of Directors, can be accepted as Regular Members,

- (1) Structural Design 1st-class Registered Kenchikushi qualification
- (2) Individuals meeting the following three conditions
 1. Minimum of 4 years' experience in professional structural design and supervision
 2. 1st-class Kenchikushi (Registered Architects) or individuals approved by the Board of Directors
 3. Recommended by another Regular Member

Associate Members: 137

Engineers involved in structural design and supervision who aim to become Regular Members.

Supporting Members: 227

Organizations or individuals who support or sponsor the works of the Association.

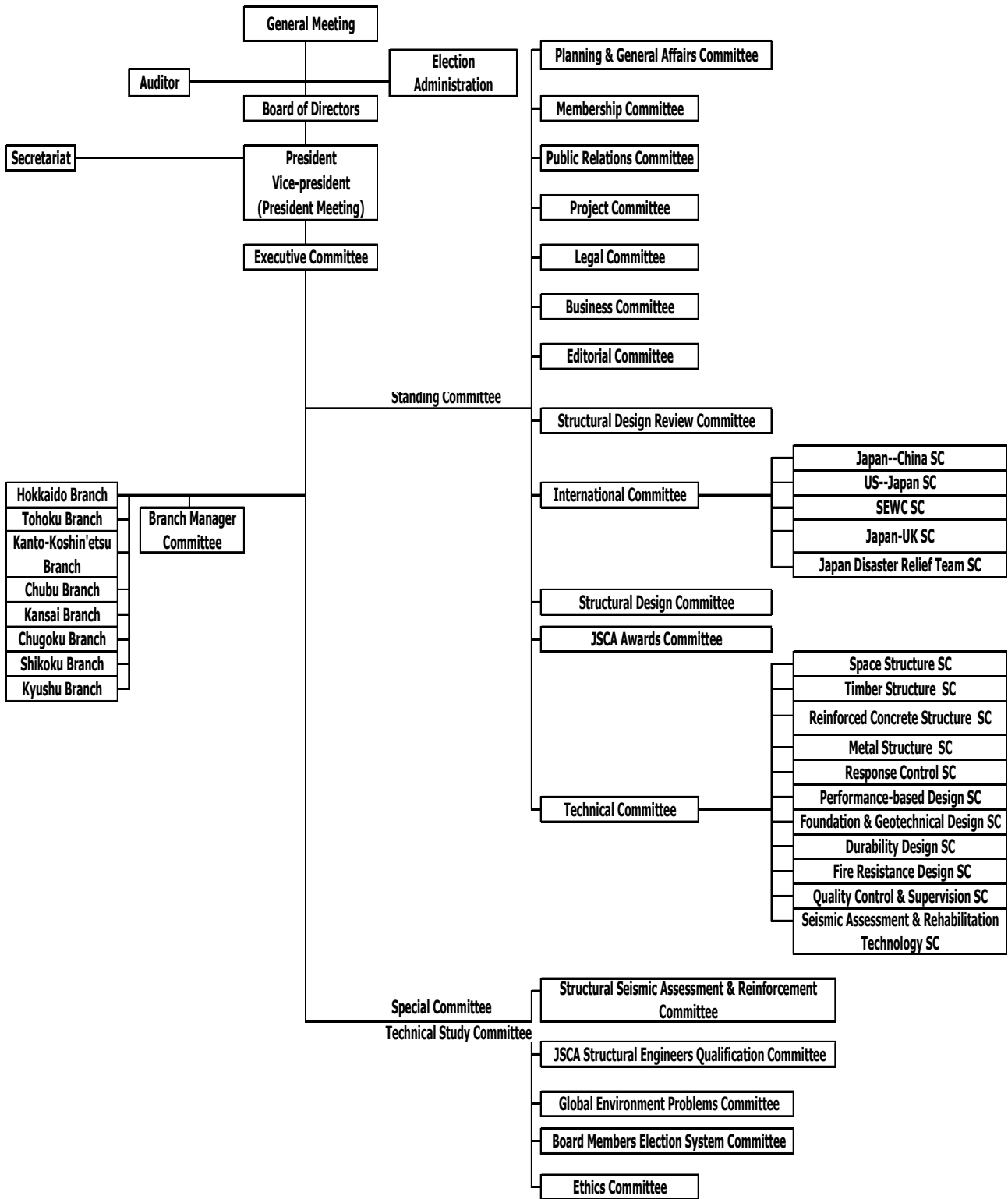
Honorary Members: 26

Individuals and academics who have offered meritorious service to the Association and who are recommended at a General Meeting of the Association.

Academic Members: 155

Academics who support the aims of the Association and who are recommended by the Board of Directors.

Organization



Activities

JSCA Awards

JSCA commends JSCA members who achieved structural design with originality or who developed good techniques. JSCA recommends new technologies, attractive and joyful structures in order to present good buildings to the society.



20th JSCA Awards work building / Masahiro Inayama
Yayoi Hall of Tokyo University



20th JSCA Awards work building / Katsuhiko Yamawaki
Mode Gakuen Spiral towers / Photo by Kenichi Suzuki

JSCA's magazine "STRUCTURE"

JSCA publishes the quarterly magazine "STRUCTURE" in which new technologies or study results are presented. This magazine is accepted favorably by JSCA members, public officers and academic circles.

Symposium and technical lectures

JSCA sponsors many symposiums and technical workshops to present the study-results or activity-contents and to exchange members' opinions. These symposiums are announced in the JSCA Homepage, and non-members and students can participate.

Structural reviews

JSCA-SE with rich experiences can advise and propose structural designs, seismic assessments or strengthening works at the "JSCA review committee". Through this committee, JSCA can help its members to develop and advance better structural design or new engineering techniques.

Seismic assessments and seismic retrofits

It is important to assess buildings designed by old building codes and to retrofit these buildings if necessary. The importance of such seismic assessments is revealed by the 1995 Hyogo-ken Nanbu (Kobe) earthquake. Japan has very high seismic risks, and JSCA can serve as a valuable source of technical information accessible through their Homepage in order to reduce seismic damages.

International Exchange

JSCA intends to have a strong international relationship with structural engineers worldwide. JSCA supports the following international activities including technical exchange and joint research among structural engineers and structural engineering organizations worldwide.

US-Japan Workshop

JSCA has held biannual international workshops with the United States since 1984.

Japan - China Joint Seminar

JSCA has held biannual international workshops with China since 1993.

Structural Engineers World Congress (SEWC)

In 1998, JSCA joined the Structural Engineers World Congress (SEWC) as the sponsoring society. Since then, JSCA has continuously joined the SEWC congress held worldwide as one of the main members.

Other

JSCA has entered into cooperation agreements with the Institution of Structural Engineers of the UK.

Contact us

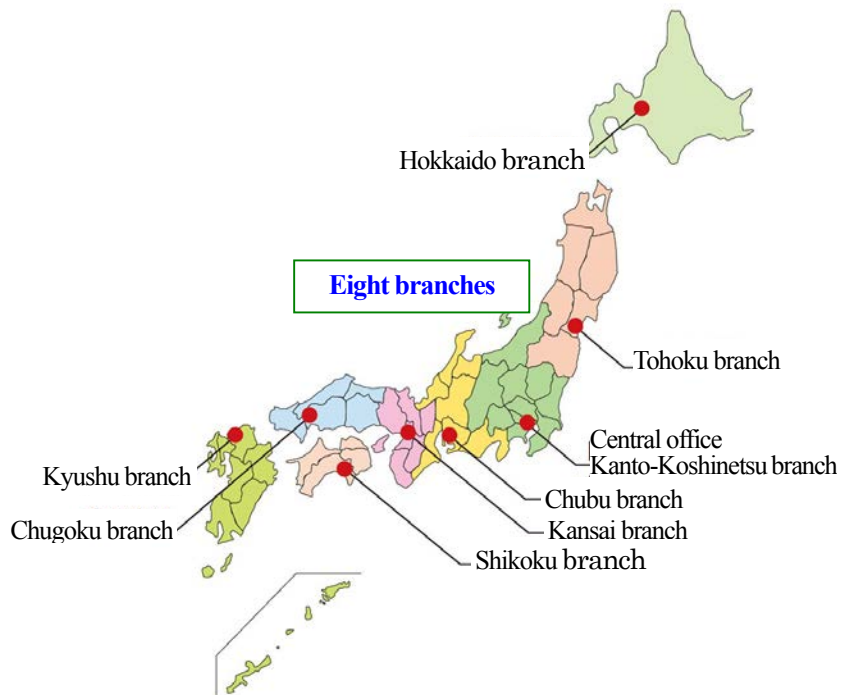
Home Page of JSCA

JSCA Homepage

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