

JWES



JWES

The Japan Welding Engineering Society

Leads Welding World



in the Sky

On the Sea

On the Ground

In Daily Life

In The Sky





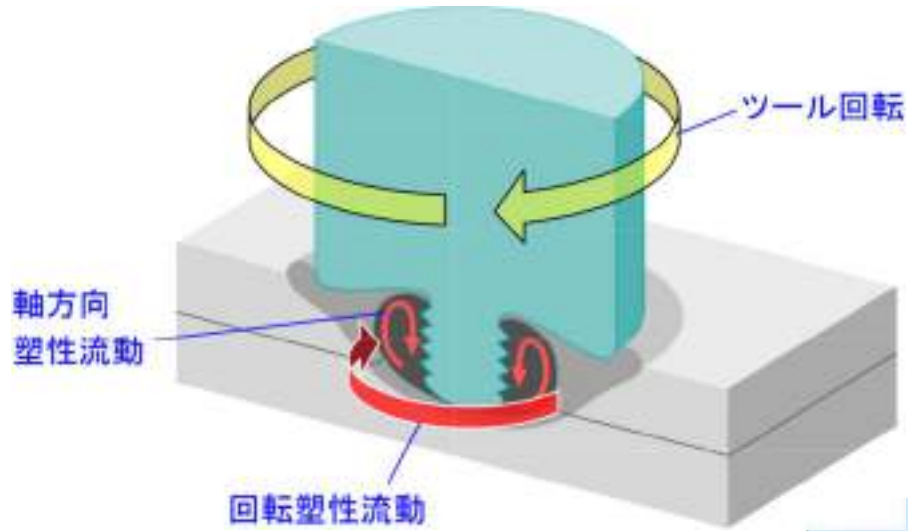
Additive manufacturing technology is used to reduce the weight of products like space vehicle



3D printer technology is originated by this welding technology

Even in the space welding is necessary and special welding technology is being developed





Friction Stir Welding FSW is relatively new technology and its application is expanding from aluminum to the other material including steel as well

One of the advantage of FSW is its flat surface after welded and is applied to the airplane for the purpose of reduction of air resistance





Engines for space vehicle are used under the severe condition from lowest to highest temperature because of the use of liquid oxygen and hydrogen as fuel

Huge number of fuel tubes should be welded together by the welder with highest skill



On The Sea





'Shinkai 6500' is the advanced submarine which could dive into the depth of 6500m

In the 6500m deep see the submarine get the high water pressure and special titanium capsule is required to protect the operator

To realize the titanium sphere with high accuracy and high quality the new titanium welding technology was researched and developed



Under the sea the welding technology is still important and its skill require the special certification



Now a days thanks for the advanced steel technology the container ship is build with 100mm thick high tension steel



Cost reduction of the welding thick steel is the subject to be solved
Various kind of welding technology is being developed





The new D runway of Haneda international airport was constructed with steel structure and it is exposed to the salt water

Those pipes used for the structure needs the special welding technology materialize high corrosion resistance





Windmill energy generation plant is the trend as the resolution for the global earth warming

Huge diameter steel pipe is made by bending and welding
High efficient welding technology is required



On the ground





'Shinkansen' super rapid train is world highest train in operation

The streamlined head car is produced by bending and precise manual welding





Earth moving machines are exposed to tough condition and less fuel consumption by reducing the weight by high tension steel is key issues

In order to reduce the production cost robot welding by harmonized moving control technology is used and skilled human welding as well



Automobile industry is one of the biggest fields of welding



Robotic spot welding is the major production procedure
Thanks for the fiber laser technology laser welding is also applied to the production line and laser brazing as well





To produce lighter train various kind of welding technology is applied for the steel and aluminum body

Long steel rail is not endless bar and is jointed by welding on site



In Daily Life





After the huge earthquake in Japan the requirement against the vibration forth for the building construction have become higher



Buildings designed by steel structure is becoming more popular in Japan
Therefor keeping the welding quality high is the important issue

You might use the glasses without any idea about welding
Very light and endurable glasses are very comfortable, which is
materialized by using titanium and precise laser welding technology





Night scene of chemical plant is beautiful for its brilliant illumination

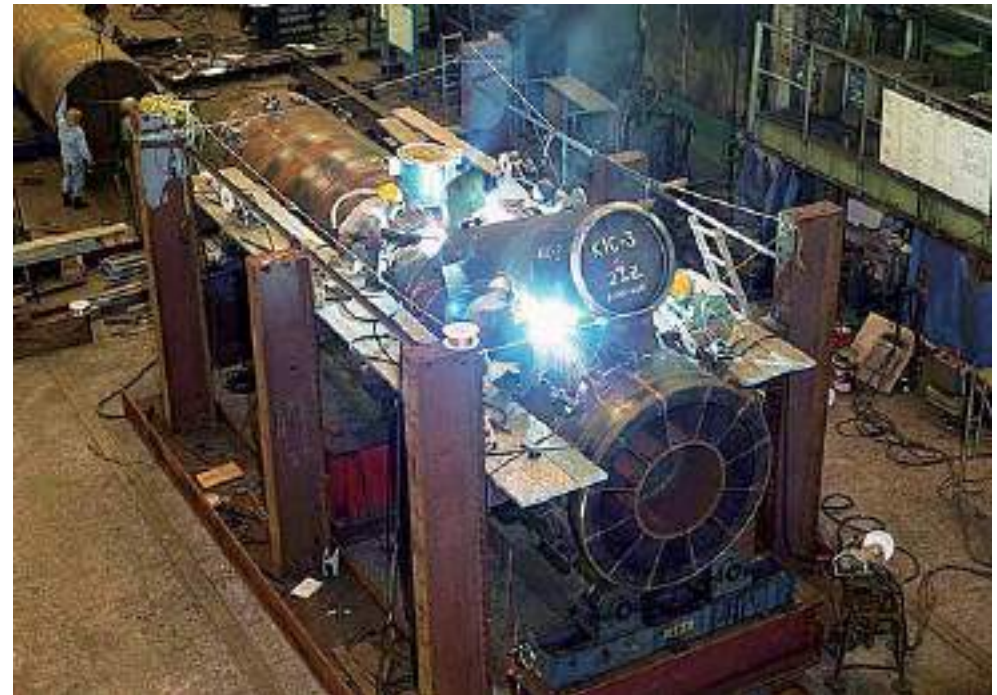
The welding to connect the pipeline is a very big market for welding world and controlled by specific certification





'Sky tree' the new land mark of Tokyo is 634m high and much higher than previous land mark 'Tokyo Tower' 'Sky tree', such a high tower is realized by applying the steel pipe structure

The pipe welding technology in the factory was one of the key factor and especially in situ welding required highly skilled welder to weld on the highest place





Light steel structured house is one of the solution for the high endurance in the field with frequent earthquake

Most of the steel structure is welded in the factory with high quality control system by monitor using IT considering traceability



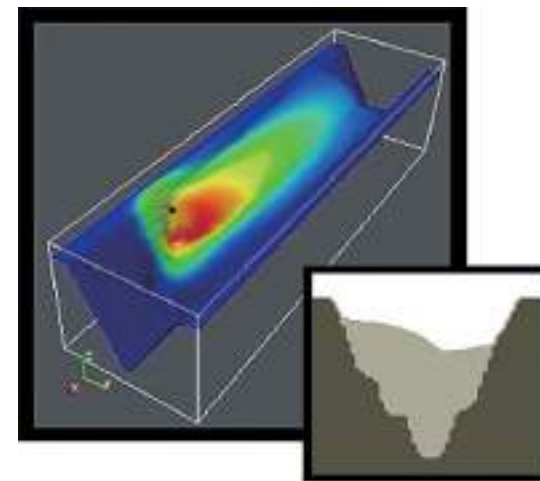
JWES Activity on the Research and the Committee



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JWES has 19 committees to develop new welding technology which is used for the specific common industry field and strive to widely implement the technology to the field in order to contribute to the society



JWES Activity for the Standardization of Developed technology

One of the biggest task for JWES is to standardize the developed technology
JWES is ISO member and ISO is one of the target of standardization
'JIS' Japan Industry Standard is widely used standard not only in Japan but also in the Asian countries
'WES' Welding Engineer Standard is JWES own standard



JWES Activity to introduce the new technology and the Training

In order to introduce the new technology JWES publishes the standards and the training texts



Training curriculum or seminar is important to widely introduce the new technology



JWES contribute to keep the quality of welder's skill and welding Engineer's knowledge by the certification



'CIW' Company
Certification for
Inspection on Welding
Total number of the certified
NDT companies are about 130

Designing



Welding Engineer Certification

About 7,000 welder certified every year in accordance with JIS Z3410 and WES 8103



Inspection



Welding

Welding Technician Certification

About 110,000 welder certified every year in accordance with JIS Z3801 and JIS Z3841 etc.

Other certifications run by JWES

- Certification of the Robot operator

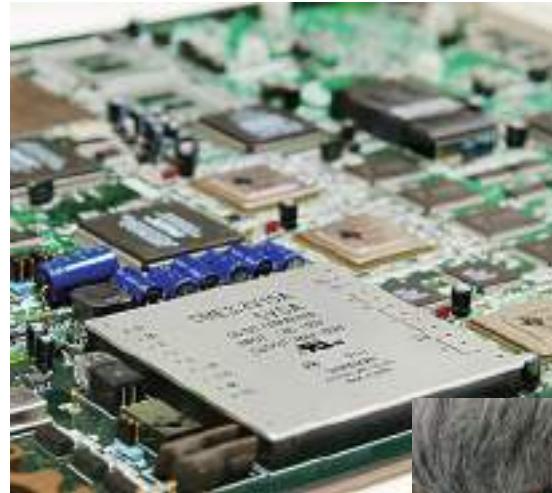


- Certification for the welding procedure specification and welders' skill for the power plant

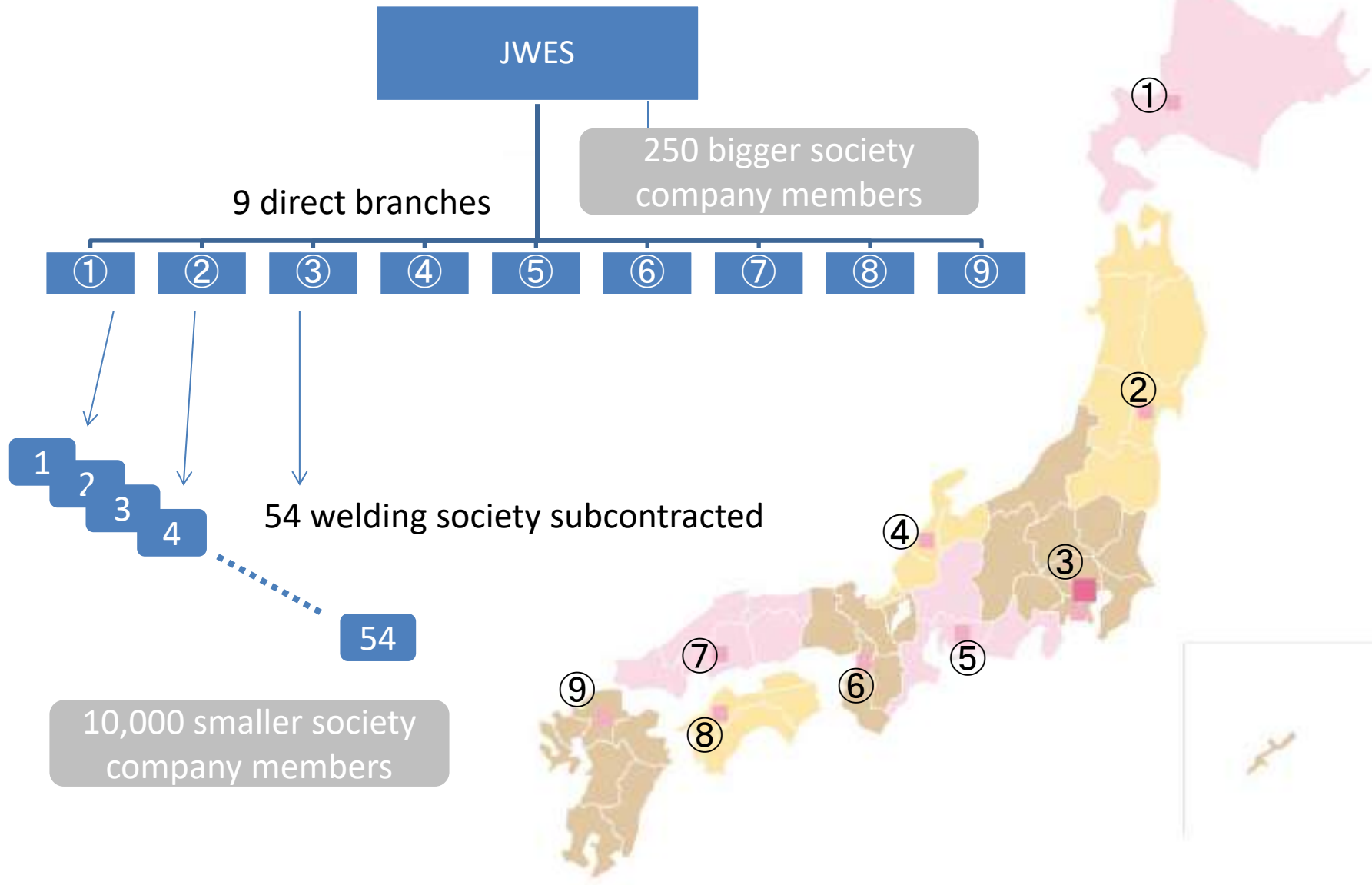


Other certifications run by JWES

- Personal Certifications for the Micro Soldering



Organization of JWES



Annual National Welding Competition keeps the regional welder's skill high



JWES hosts the annual national welding competition with the 112 regional representative welders in 2 category
This history is more than 60 years



Heat up in the High School Welding Competition with women participation

Welding skill competition in high school gives the high motivation to the welders participate and the supporting people because many women welders make good results in the competition
JWES supports those young people and expect to play a big roll



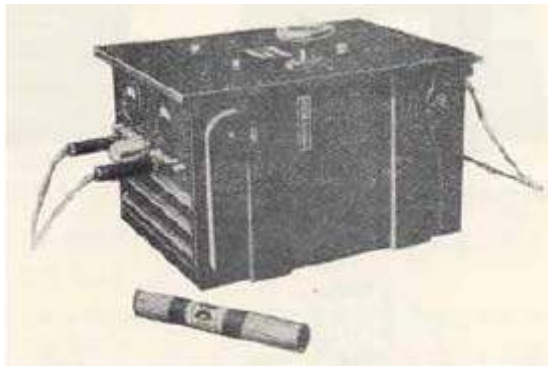
JWES new approach to make the younger people understand the welding better and bring up the welding image higher by the visual method through Web.

'Manga' is easiest method to make the beginners understand well
JWES is striving to get the better brand image by IT platform



History of JWES in Japan

- 1949 : JWES Established
 - At this time Major target was to enable the ship to be built by welding instead of mechanical joint like rivets
- 1949: JWES started the certification of welding technician
- 1951: 1st national welding competition



History of JWES in the world



- 1962 : JWES joined IIW
- 1969: IIW annual assembly in Kyoto Japan
- 1969: 1st international welding show in Osaka Japan
- 1986: IIW annual assembly in Tokyo Japan
- 1998: JWES accredited ISO 17024 by JAB
- 2004: IIW annual assembly in Osaka Japan
- 2004: AWF was established

