





Advancing Defense Facility Technology through Collaboration between Industry, Academia, and Government.

**Fostering the Next Generation of Military Engineers.** 



一般社団法人 防衛施設学会 Japan Society of Defense Facility Engineers

# **Greetings from JSDFE President**

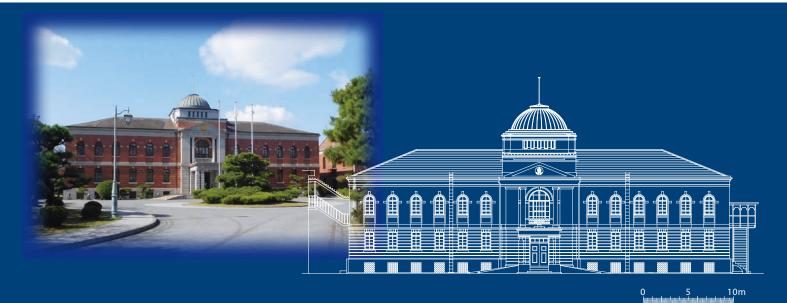
Dr. HIRANO Hirokazu President, Japan Society of Defense Facility Engineers

The origins of Japan Society of Defense Facility Engineers (JSDFE) can be found in the National Security and Facility Engineering Technology Research Group which was formed in 1962, over 60 years ago, principally for the purpose of research presentations. The group underwent a transformation to become a

new society in 2004, and later established itself as a general incorporated foundation in 2016. The Society is dedicated to the technological advancement of defense facilities, promoting the use of cutting-edge private sector technologies in maintenance, disaster prevention, and environmental innovations to strengthen both national and international defense infrastructure. It encompasses a wide range of fields such as construction, civil engineering, architecture, electronics, mechanical engineering, material durability, and environmental science. JSDFE acts as a central platform for knowledge sharing, fostering mutual comprehension, and partnering across diverse entities.

Eight years have passed since the incorporation as a foundation. Going forward, JSDFE is committed to advancing and executing a variety of initiatives under the dual mottos: "Advancing Defense Facility Technology through Collaboration between Industry, Academia, and Government" and "Fostering the Next Generation of Military Engineers."

The Society's objective is to further the development of defense facility technology, including its research and studies, and to support the growth of this sector. By achieving these aims, the Society seeks to enhance public safety by improving defense infrastructure and fostering an academic environment. The Society invites not only governmental bodies but also industry professionals and academics with expertise in relevant technologies to join in expanding and diversifying prospective engagements and initiatives.





HQ building of Kure District, JMSDF (HQ of the Former Kure Naval District of the Imperial Japanese Navy).

## The Role of Japan Society of Defense Facility Engineers

The Japan Self Defense Forces and the United States Forces operate various facilities (i.e. airfields, port facilities, maneuvering area, etc.) in Japan, which support the undertakings necessary to secure the National Security of Japan.

National Security and Facility Engineering is a comprehensive field which consists of technological applications not limited to construction, architecture, various engineering branches, natural sciences, and military engineering.

The Japan Society of Defense Facility Engineers is the only non-profit association in Japan who is dedicated to fields related to National Security and Facility Engineering Technology.

#### **Our Mission**

We aim to promote research and survey technology related to national security and facility engineering to build a sustainable foundation which will advance professional development and academia in the field.

### Our History

National Security and Facility Engineering is a comprehensive field which consists of technological applications not limited to construction, architecture, various engineering branches, natural sciences, and military engineering.

The Japan Society of Defense Facility Engineers is the only non-profit association in Japan who is dedicated to fields related to National Security and Facility Engineering Technology. Similarly in the United States of America, there is an association by the name of the Society of American Military Engineers (SAME) (est. 1920), which shares a similar mission.

Our approach towards the research and surveying of National Security and Facility Engineering Technology is dynamic, avoids constituting a specific concept from a single field, and integrates Risk Management approaches. In recent years the changes in our global society and circumstances have raised the demand and expectations toward technology related to National Security and Facility Engineering. This change has made the field a vital part in the development and advancement of technology for the future.

In 1962, under the name "National Security and Facility Engineering Technology Research Group", engineers and researchers from various government sections were assembled. They gathered with hope of establishing a society which would advance technology related to National Security and Facility Engineering. Since then, it has played an active role in disseminating the mission by establishing 7 domestic district offices, assembling members totaling now over 700, facilitating and providing research forums, symposiums, exhibitions, and publications for over 40 years.

In April 2004, to further extend the reach of it's programs, the association re-established itself as the "Japan Society of Defense Facility Engineers".

Furthermore, in March 2016, the association's non-profit organizational status was successfully changed to a "General Incorporated Foundation", so those programs could be strengthened.

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#### **Core Programs**

- Implement promotional, surveying, and research activities.
- > Launch research symposiums, lecture forums and field tours.
- > Publish newsletters, special interest articles and other publications.
- Advocate awareness and understanding toward defense facility related technology.
- Commission or aid development of defense facility technology.
- > Support activities which align with the society's aims.



JMOD Head Office of Ichigaya Area

#### Facilitate collaboration between members of the Industry, Academia, and Government

- Improvement of technology and the cultivation of engineers and researchers related to defense facility engineering.
- Advocate research related to the defense facility engineering.





#### **International Exchange Program**

#### Partnership with the Society of American Military Engineers (SAME)

- > Established in 1920, SAME shares a similar mission and common values with the JSDFE.
- Through a collaborative efforts with SAME, the JSDFE succeeded in offering interactions amongst members of the Japan and US private industry level at events such as the Annual forum, Military Engineer Techno Fair, joint field tours.



JSDFE/SAME Joint Meeting



Executive personnel of JSDFE and SAME

Main Office

Organizers

Research Division

Technology Evaluation Division

Publication Division

Event Planning Division

Public Information Division

**Research Grants** 

**Examination Division** 

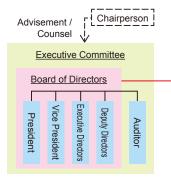
Award Selection Division



SAME Booth at METF

JSDFE Presentation on SAME's Industry Forum at New Sanno U.S. Force Center

#### **Our Organization**



Remarks)

The direction and policies of the JSDFE are decided at the General Members Meeting.
 The Auditor is a member of the Executive Committee, but not the Board of Directors.

3 Organizers assist the Board of Directors by executing and implementing their decisions.

#### **Organization Chart of JSDFE**

Periodicals Related

Research Symposium Related

Energy Technology Related Committee Local Fracturing Assessment Technology Related Committee Design Techniques of Structures to Resist the Effects of Accidental Explosions Related Committee Water Supply and Sewerage Technology for Emergencies Related Committee Record and Preservation of Former Japanese Military Facilities Related Committee Private Fund Utilization for Defense Facilities Related Committee Emergency Construction Materials for Defense Facilities Related Committee Rapid Construction Materials for Defense Facilities Related Committee Rapid Construction Method Using Local Surplus Soil Related Committee Public Evacuation Facility (Hardened Shelter) Technology Related Committee Promotion Activities for Surrounding Areas of Defense Facilities Related Committee Inspection Technology for Concrete Structure based on Al Technology Related Committee Unmanned Construction Equipment Technology Related Committee

## **Our Events**

#### Military Engineer Techno Fair (METF: Annual - Summer)

- > Exhibition of technology or their applications for defense facility engineering.
- > Sep. 6, 2023: 25 booths, approximately 1,1000 participants attended.









Technical presentations

Exhibition booths

#### Research Symposium (Annual Forum: Annual - Winter)

- > Presentation of academic research related to defense facility engineering.
- > Feb. 14, 2024: Approximately 900 participants attended.









Research symposium

## Field Tour (Twice a year)

JSDFE provides members an opportunity to tour various defense facility engineering related sites, which include but not limited to, JSDF and USFJ bases and large-scale construction sites.



JGSDF Camp Katsuta Visit



ATLA Naval Systems Research Center Visit

JMSDF Yokosuka Naval Base Visit



USAF Kadena Air Base Visit

JASDF Chitose Air Base Visit



MLIT Yanba Dam Project Site Visit

#### **Special Events**

#### Special Lecture (Timely)

- To contribute the improvement of the knowledge of Defense Technology, etc. of our members, JSDFE provide the Special Lecture Forum timely.
  - June 7, 2019: "Recent Advances in the simulation of Blast-Structures Interaction"
    - Prof. Rainald Löhner, CFD Center, George Mason University, VA, USA
  - Feb. 15, 2023: "Prepare for the unexpected situation: In case of the JSDF Medical Service Corps" > Dr. UWABE Yasuhide, Former Director General of JSDF Central Hospital
  - > Feb. 14, 2024: "Reinforcement of Japan's Defense Capabilities"
    - Mr. YAMAZAKI Koji, Senior Advisor to the Minister of Defense









Prof.Rainald Löhner

Dr. UWABE Yasuhide

Mr. YAMAZAKI Koji

#### Technical Lecture (Timely)

- > JSDFE hold a technical lecture, to explain about a contents of our published technical book.
- > July 25, 2023: "Basic Principles and Considerations in the Design of Evacuation Facilities"



#### Field Tour for Student Members (Once a year at Summer holiday)

> To increase recognition of national security issue around Japan, JSDFE hold field tour for student members.



Regional Defense Bureau Visit



JMSDF Naval Air Station Visit

U.S Military Base Visit



JASDF Air Base Visit

Former Japanese Military Facility Site Visit

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#### **Publications**

### JSDFE Annual Publication "MIRAI" MIRAI (Once a Year)

#### MIRAI : Military - Industry - Research & Development Activities partnerships and International Network

- JSDFE "MIRAI" is registered to the JST Database based on a request of the Japan Science & Technology Agency (JST).
- > MIRAI Vol. 26th, Special Feature Improving the resiliency of JSDF facilities.
- Special Reports Headquarter building of the Kure naval district of the former Imperial Japanese Navy, Barracks of the 4th Infantry regiment of the former Imperial Japanese Army, and more reports.



### MIRAI-Annex – "New Technology for Defense Facility Engineers" (Once a Year)



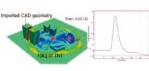
Vol. 14(Nov. 2023)

- Facility Defense
  Facility Functional
- Improvement Facility Management Introduction of new

technology from those areas noted above



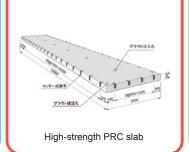
Air Ventilation system for CBRNE

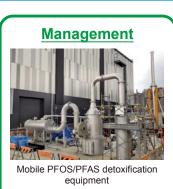


Explosive safety analysis



Small hydraulic power generation system







#### Reports of the Research Division: Special Interest Committee Reports

Design Techniques of Structures to Resist the Effects of Accidental Explosions Related Committe

Sep. 2018 "Evaluation of Protection Performance of Concrete Structures Subjected to Explosive Effects".

History of JGSDF Civil Engineering Works Related Committee

July 2021 "History of the JGSDF Civil Engineering Works"

#### Public Evacuation Facility (Hardened Shelter) Technology Related Committee

July 2023 "Basic Principles and Considerations in the Design of Evacuation Facilities"









School Building called "The Red Brick Building", JMSDF Officer Candidate School at Eta-Jima City, (Former Imperial Japanese Naval Academy ).

#### **Membership Information**

The JSDFE consists of Individual and Group (e.g. Company/Business Entity/Organization) Memberships.

We continually strive to disseminate our mission to others and support programs by holding activities to recruit new members.

Individual members range and are not limited to those in the fields of construction, architecture, and various engineering branches, environmental and military technology, specialized academia or research groups, and companies and organizations who develop technology related to these areas.



#### Japan Society of Defense Facility Engineers : JSDFE

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