

# What is JWA

(The Japan Workvessel Association)

As of Apr. 2018



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(TSHD= Trailing Suction Hopper Dredger)

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**THE JAPAN WORKVESSEL ASSOCIATION**

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## **●DIGEST OF THE JAPAN WORKVESSEL ASSOCIATION (JWA)**

### **1. History of the Japan Workvessel Association**

- 25 June 1958: Establishment of the Workvessel Technology Association
- 22 July 1960: Name changed to the Japan Workvessel Association
- 24 December 1964: The Association was approved by the Minister of Transport as an authorized corporation
- 20 July 2011: The Association became a general incorporated association as a part of the privatization of governmental associations
- 6 December 2017: The Plan for Public interest expenditure was completed in six years as planned, and the completion of implementation of the plan was confirmed by the Prime Minister.

### **2. Objectives of the Japan Workvessel Association**

The Japan Workvessel Association aims to contribute to economic and social development, and the development and conservation of national land through the development, improvement and disseminating of engineering and technology of workvessels, ships and related mechanical and electrical equipment.

### **3. Business of the Japan Workvessel Association**

The Japan Workvessel Association conducts the following business to attain the above stated objectives.

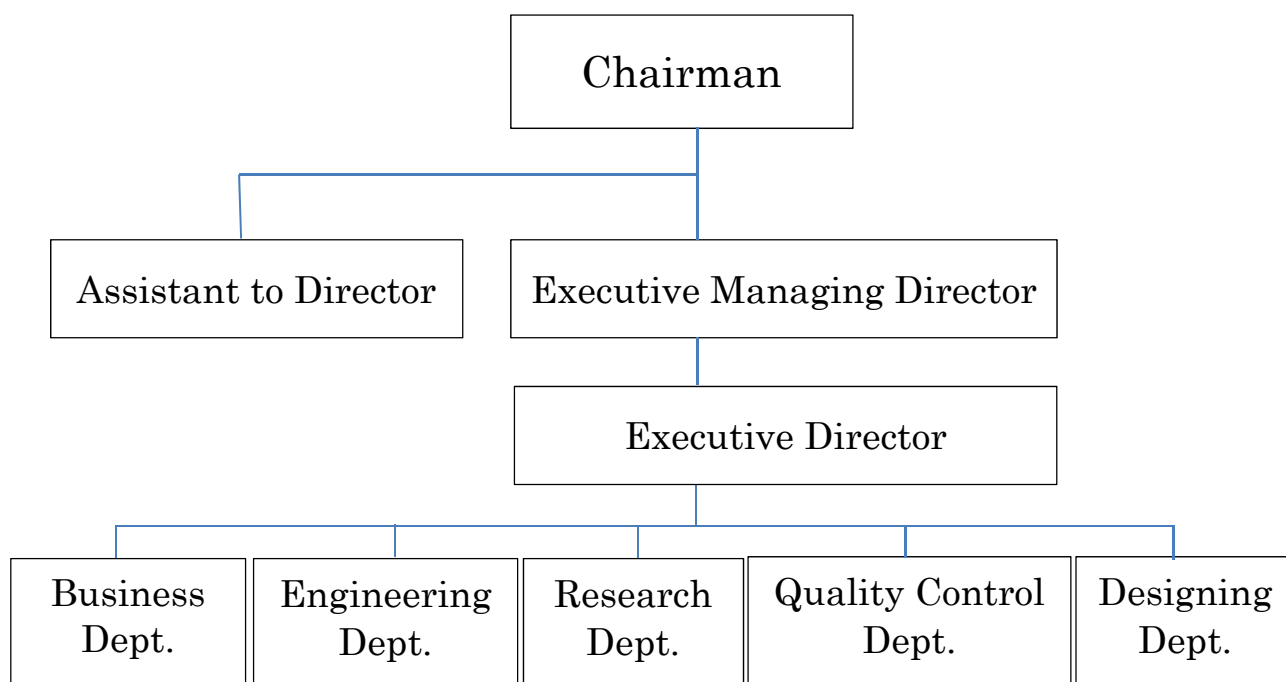
- 1) Research on workvessels, ships and related mechanical and electrical equipment.
- 2) Disseminating of engineering and technology related workvessels, ships and related mechanical and electrical equipment through publications and lecture meetings
- 3) Research and studies on the evaluation and improvement of the performance of workvessels and ships, and putting their results to practical use.
- 4) Research and studies on the evaluation and improvement of the performance of mechanical and electrical equipment related to workvessels and ships, and putting their results to practical use.
- 5) Research and studies on construction engineering using workvessels and/or ships, and putting their results to practical use.
- 6) Planning, basic design, cost estimation and construction supervision of building, modification and repair of workvessels and ships.

- 7) Planning, basic design, cost estimation and construction supervision of manufacture, modification and repair of mechanical and electrical equipment related to workvessels and ships.
- 8) Other necessary business to attain the objectives of the Association.

4. Members of the Japan Workvessel Association

Class-1 member (Shipbuilding companies)	: 8 companies
Class-2 member (Equipment manufacturing companies)	: 20 companies
Class-3 member (Marine construction companies)	: 20 companies
Class-4 member (Technical service companies)	: 7 companies
Class-5 member (Sales companies)	: 1 company

**●ORGANIZATION**



## ●SUMMARY OF BUSINESS OF JWA

### I . Business Sector

#### (1) Steering Committee

Business plans will be created and the agenda for Board of Directors will be prepared for the smooth conduct of business operations.

#### (2) Business Committee

Plans for field surveys and lectures related to the latest technology and/or utilization of workvessels, will be prepared and enacted.

#### (3) Periodical Journal Editorial Committee

The journal "Workvessels", issued four times a year, will be edited and distributed to the members, central & local governments, universities and national libraries.

#### (4) Existing Workvessel List Editorial Committee

The latest Workvessel List existing in Japan will be investigated, updated and edited for issuing biannually.

#### (5) Overseas Technologies Research Committee

Information about the workvessels and related technology used abroad will be collected and introduced in the journal "Workvessel".

In addition, technologies related to Japanese workvessels and related technologies will be presented at the World Dredging Conference (WODCON).

#### (6) Technical Steering Committee

Research contents will be evaluated and the research program for the next fiscal year will be planed.

#### (7) Organizing Lectures on Topics of Interest

#### (8) Issuing Publications

- 1) The journal "Workvessels" (Quarterly, 4 times per year)
- 2) "Existing Workvessel List" (Biannually, 2017 edition has been issued )
- 3) "Manufacturing and Repair Contract Price Index for Ship & Machinery "2017 edition, supervised by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

## II. Technical Sector

### 1. Independent studies division ( as of 2017)

- (1) Research of Aerial Photography from Balloon System
- (2) Research of mooring system for workvessels
- (3) “Dredgers monitoring and control system”; ISO(TC8/WG11)
- (4) Study on LNG fueling technologies for work vessels
- (5) Review of “General sheaves for workvessels”; JIS F 3992
- (6) Riprap-on work support and maintenance system for rubble mound

### 2. Survey division

Research, planning, design, cost integration, and construction supervising of workvessels and related facilities

### 3. Technical consultation

Technical consultation on workvessels, such as statistics data, capacity of vessels, design, construction cost integration, and accidents, etc.

## III. Lectures

Lectures on technical topics of current interest and/or by public figures every year.

Past examples of the lectures held by JWA are as follows:

#### 1) Lectures on technologies of outstanding interest

- |           |                                                                  |
|-----------|------------------------------------------------------------------|
| 2013-7-31 | Deep Sea Mining Sources-- T. Tsujimoto( Manager, JOGMEC)         |
| 2013-7-31 | Japanese Energy Issues--A. Kuroki (Managing Director, IEE Japan) |
| 2014-7-29 | Japan’s ODA –M. Yamaguchi (Manager, Crown Agents, Japan)         |
| 2014-7-29 | Deep Sea Research Technologies--Y. Isozaki (Director, JAMSTEC)   |
| 2015-7-28 | Anchors—M. Hashimoto (President, NGK LLC)                        |
| 2015-7-28 | Dragging of Anchors--T. Okada (Japan Ship Owners’ P & I Club)    |
| 2016-7-26 | Unmanned Aerial Vehicles; Drone--H. Kumagai(Manager, NEC NSI)    |
| 2016-7-26 | Ultrasonic Technologies-- Dr. S. Matsumoto ( Manager PARI)       |
| 2017-7-24 | Gas Engine--Dr. K. Takasaki (Prof. Emeritus, Kyushu Univ.)       |
| 2017-7-24 | Japan Coast Guard Academy--Dr. J. Michimoto (Prof. Emeritus)     |

#### 2) Lectures by public figures

- |           |                                                                          |
|-----------|--------------------------------------------------------------------------|
| 2013-3- 7 | Jiro Asada (Novelist)                                                    |
| 2014-3- 6 | Yoichi Funabashi (Critic, formerly the editor-in-chief of Asahi Shimbun) |
| 2015-3- 4 | Tetsuo Yamaori (Religious philosopher)                                   |
| 2016-3- 3 | Yoshiko Sakurai (President, J I N F)                                     |
| 2016-6-15 | Hiroyuki Itsuki (Novelist)                                               |
| 2017-6-15 | Main Kouda (Novelist)                                                    |



#### IV. Overseas Technologies Research Committee

The World Dredging Conference (WODCON) has been held to date since 1967(1st conference) in the USA, as a forum for exchanging information about workvessels engaged in dredging and landfill.

##### 1) Participation in WODCON:

From 1968 (the 2nd conference) to 2016 (the 21st conference), JWA had sent participants to WODCON. The next WODCON( 22nd conference) will be held in Shanghai , China in June, 2019.

##### 2) Participation in Dredging Seminar held by Eastern Dredging Association (EADA), one of the tree operating organizations of WODCON :

Three(3) persons from JWA attended an EADA Seminar held in Kolkata, India in January 2014.

##### 3) Survey of overseas advanced equipment: ①Offshore wind farm in Bremerhaven, Germany and UK, Nov. 2014, ② Pile hammer manufacturer in Kinderdijk, Netherland, Aug. 2016

##### 4) Participation in ISO Standard creation committee for dredger monitoring & control system: ①Beijing China, June 2015, ②Sankt Peterburg, Russia, Oct. 2015, ③Papendrecht, Netherland, Aug. 2016

#### ●SUMMARY OF CONSULTING SERVICES BY JWA

##### (1) Surveys, Studies, Development, and Testing

JWA has received orders for surveys, technical studies, test planning, and test implementation, etc. for workvessels and related equipment as follows:

##### Workvessels:

- Surveys and technical studies on the automation and efficiency of Trailing Suction Hopper Dredgers
- Surveys and technical studies on the sophistication of Marine Clean-up Vessels
- Surveys and technical studies on the sophistication of Research/ Survey Vessels
- Surveys and technical studies on new concept workvessels, such as Dredger with DPS (Dynamic Positioning System)
- Surveys and technical studies on transportation Shuttle Boat for seabed mineral resources
- Technical studies on automatic mooring system

- Surveys and technical studies on the Ocean-going vessels for remote island management

#### Marine Clean-up System (Sea Surface Cleaning & Oil Recovery ):

- Surveys, technical studies and testing of oil recovery equipment and systems
- Surveys, technical studies and testing of recovery, cutting & separation for garbage & sea-lettuce
- Development studies of shallow water floating garbage recovery devices

#### Observation Equipment:

- Surveys, technical studies and testing of Aerial Photography from Balloon Systems
- Surveys, technical studies and testing of sea-water suspended solids research equipment and systems
- Surveys, technical studies and testing of underwater obstacle detecting equipment and systems
- Surveys, technical studies and testing of unmanned vehicles

#### Measures for Reduction of Exhaust Gas, Noise & Vibration

- Surveys, technical studies and testing of exhaust gas reduction measures for workvessels
- Technical studies on reducing rolling/pitching/heaving for workvessels
- Technical studies on reducing noise/vibration for workvessels

#### Others

- Surveys, technical studies and testing on riprap input operation support systems
- Surveys and technical studies of crisis management systems by workvessels
- Technical studies on long-period wave upset reduction systems
- Surveys of integration index for workvessels & machines

## **(2) Design and Supervising Work for Workvessels**

JWA has received orders for technical studies, concept & basic designs, preparation of technical specification, cost estimation, drawing review for approval, and construction supervision, etc. of workvessels and related equipment as follows:

- Concept & basic design, preparation of technical specification, cost estimation, and construction supervision of Trailing Suction Hopper Dredgers
- Construction/ modification design, preparation of technical specification, cost estimation, and construction supervision of Marine Clean-up Vessels (Sea Surface Cleaning & Oil Recovery Vessels)
- Construction/ modification design, preparation of technical specification, cost estimation, and construction supervision of Research/ Survey Vessels
- Construction design, preparation of technical specification, cost estimation, and construction supervision of Waterway Preservation/ Patrol Boats
- Construction/ modification design, preparation of technical specification, cost estimation, and construction supervision of Port Service/ Patrol Boats
- Construction design, preparation of technical specification, cost estimation, and construction supervision of Marine Clean-up Vessels
- Construction design of the Ocean-going Vessels for remote island management
- Construction design of the LNG fueled Vessels
- Construction/modification design, preparation of technical specification, and drawing review of Floating Piers/Port Facilities
- Quantity calculation of GPS Wave Meters
- Design studies of Dredging Systems for deposited sands in dam lakes
- Support for design and procurement of Dredgers for dam lakes
- Studies on dosing system for Waste Repositories

## **(3) Maintenance & Management of Workvessels**

JWA has received orders for actual surveys, technical studies of construction, preparation of technical specification, cost estimation, etc. for maintenance and management of workvessels and related equipment as follows:

- Trailing Suction Hopper Dredgers
- Marine Clean-up Vessels (Sea Surface Cleaning & Oil Recovery Vessels)
- Research Vessels
- Waterway Preservation Vessels
- Port Service / Patrol Boats



#### (4) Overseas Business Projects

JWA has received orders for design, bidding support, documents review, and supervision at shipyards for workvessels and related facilities as follows:

- Basic design, bidding support, construction supervision of dredger fleet for the General Company for Ports of Iraq (Phase-I)

	<u>(Location)</u>
Basic Plan	(Tokyo and Jordan)
Bid support	(Tokyo and Jordan)
Construction supervision	(Tokyo, Netherlands & South Korea)
Trailing Suction Hopper Dredger	(Netherlands)
Self-propelled Grab Dredger	(Netherlands)
Self-propelled Crane Vessel	(South Korea)

- Basic design of workvessel fleet and Procurement support of land equipment for the General Company for Ports of Iraq (Phase-II)

Pilot Station Vessel	(Tokyo)
Buoy Tender Vessel	(Tokyo)
Water Tanker	(Tokyo)
Mooring Buoy	(Tokyo)
Land Equipment ;Forklift, Mobile crane, Back hoe, Damping Lorry, Vacuum suction truck, H.P. water jetting truck	(Tokyo)

- Design and procurement support services of dredgers for dam in Malawi

Backhoe Dredgers	(Tokyo)
Hopper Barges	(Tokyo)
Pusher Barges	(Tokyo)

- Concept design of floating port facilities for Vietnam

Imported Coal Loading Facilities	(Tokyo & Vietnam)
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## JWA MEMBER COMPANIES

JWA is composed of five (5) classes of member companies as follows:

(Total 56 companies)      As of Apr. 2018

### Class-1 Member (Shipbuilding Co.)

JMU AMTEC  
 Japan Marine United Corporation  
 IHI Corporation  
 Kanagawa Dockyard Co., Ltd.  
 Kawasaki Heavy Industries, Ltd.  
 Mitsui E&S Shipbuilding Co., Ltd.  
 Mitsubishi Shipbuilding Co., Ltd.  
 Niigata Shipbuilding & Repair, Inc.

### Class-2 Member (Equipment Manuf. Co.)

Kamome Propeller Co., Ltd.  
 Kurimoto, Ltd.  
 Koei Iron Works Co., Ltd.  
 Kobelco Construction Machinery Co., Ltd.  
 Sanwa Kikoh Co., Ltd.  
 Sanwa Kizai Co., Ltd.  
 Daihatsu Diesel Co., Ltd.  
 Nakashima Propeller Co., Ltd.  
 Niigata Power Systems Co., Ltd.  
 Nishishiba Electric Co., Ltd.  
 Hitachi Construction Machinery Co., Ltd. Furuno  
 Electric Co., Ltd.  
 Minotsu Iron Works Co., Ltd.  
 Yanmar Co., Ltd.  
 Sekigahara Seisakusho Ltd  
 Denyo Co., Ltd.  
 Marine Hydro Tech Co. Ltd.  
 Caterpillar Japan LLC  
 SKK Corporation  
 Japan Radio Co., Ltd.

### Class-3 Member (Marine Construction Co.)

Ohtaki-Kohmuten Engineering Co., Ltd.  
 Ohmoto Gumi Co., Ltd.  
 Kanmon Kowan Kensetsu Co., Ltd.  
 Penta-Ocean Dredging Co., Ltd.  
 Kojima-Gumi Co., Ltd.  
 Penta-Ocean Construction Co., Ltd.  
 Shinko Kensetsu Corporation  
 Takenaka Civil Eng. & Construction Co., Ltd.  
 Toba Corporation  
 Toyo Construction Co., Ltd.  
 Tomac Corporation  
 Nippon Kaiko Co., Ltd.  
 Fukada Salvage & Marine Works Co., Ltd.  
 Fudo Tetra Co., Ltd.  
 Mirai Construction Co., Ltd.  
 Yoshidagumi Co., Ltd.  
 Yorigami Maritime Construction Co., Ltd.  
 Nissan-Rinkai Construction Co., Ltd.  
 Wakachiku Construction Co., Ltd.

### Class-4 Member (Technical Service Co.)

IMC Co., Ltd.  
 Marine GPS Promoting Solution  
 Marine Technology Institute Corp.  
 Research Institute for Ocean Economics  
 Japan Association of Cargo-Handling Machinery  
 Systems  
 Japan Port Consultants Ltd.  
 Hikari Industrial Co., Ltd.

### Class-5 Member (Sales Co.)

Nippon Quaker Chemical, Ltd.



Dr. KAIYO (Marine Clean-up Vessel)



BAY-SEARCH (Research Vessel)



UMIWAKA-Maru (Marine Clean-up Vessel)



COSMO (Survey Vessel)



KAIKO (Marine Clean-up Vessel)





ISHIZUCHI (Marine Clean-up Vessel)



NAJIMA (Port-Service Boat)



KAIKI (Marine Clean-up Vessel)



HAYATAMA (Port-Service Boat)



SOKAKU-Maru (Marine Clean-up Vessel)