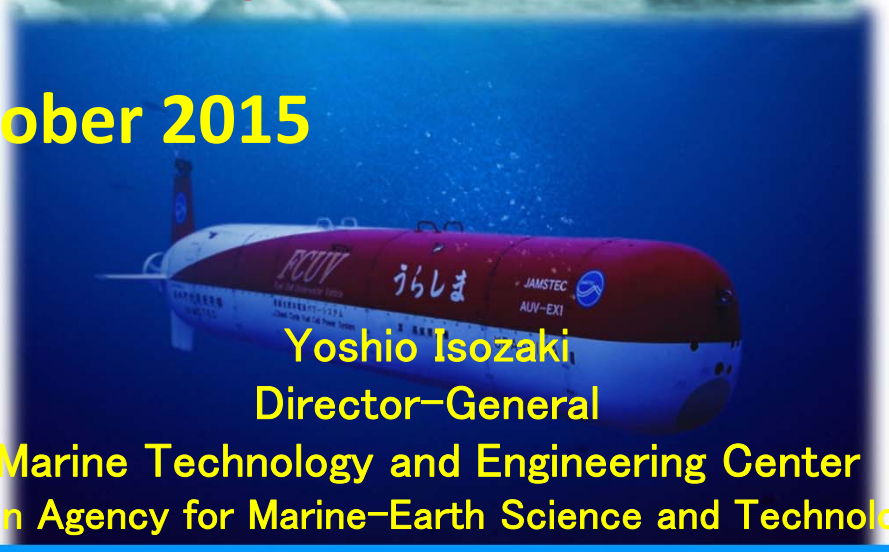
JAMSTEC Activities and International Cooperation

23rd October 2015



Yoshio Isozaki
Director-General
Marine Technology and Engineering Center
Japan Agency for Marine-Earth Science and Technology

JAMSTEC

Name

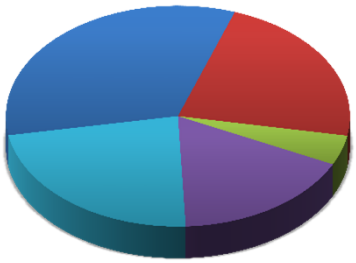
Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

Foundation

October 1971

Personnel

Total：1,062 employees



Scientists	360
Engineers	242
Crews	46
Administrative Staff	180
Support Staff	234

As of April 1st, 2015

Organization

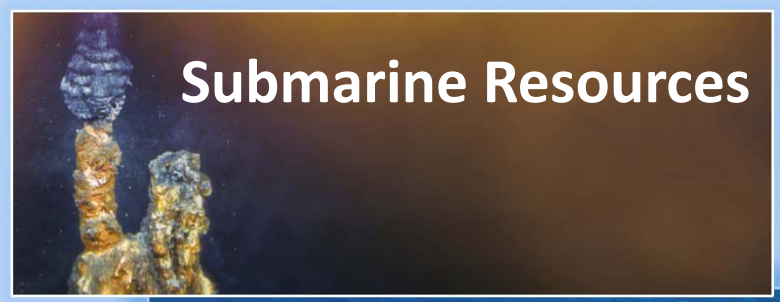
National Research and Development Agency
under the umbrella of
the Ministry of Education, Culture, Sports, Science and Technology (**MEXT**) of Japan

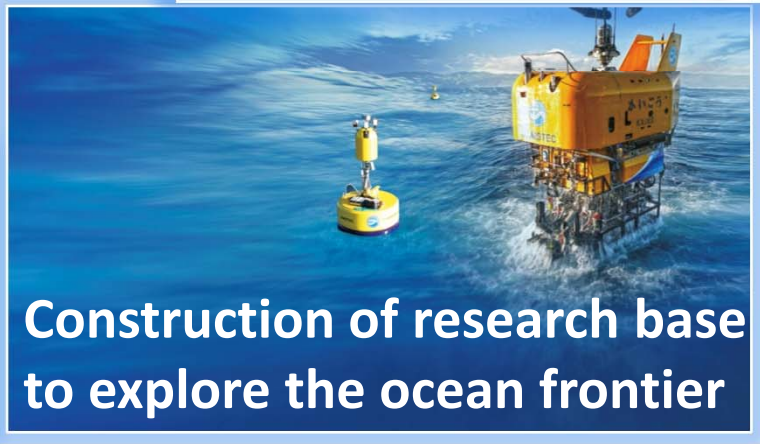
Main seven R&D targets during the third mid-term

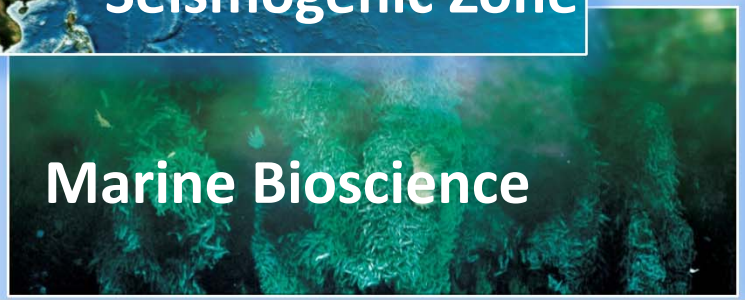
- **Submarine Resources**
- **Ocean and Global Climate Changes**
- **Seismogenic Zones**
- **Marine Bioscience**
- **International Ocean Discovery Program (IODP)**
- **Cutting-Edge Integrated Information Science**
- **Development of Technologies to explore the Ocean Frontier**

Main seven R&D targets during the third mid-term plan

During the third mid-term plan, JAMSTEC sets and addresses seven R&D issues with all its strength to promote strategic and focused R&D based on the national and societal needs.



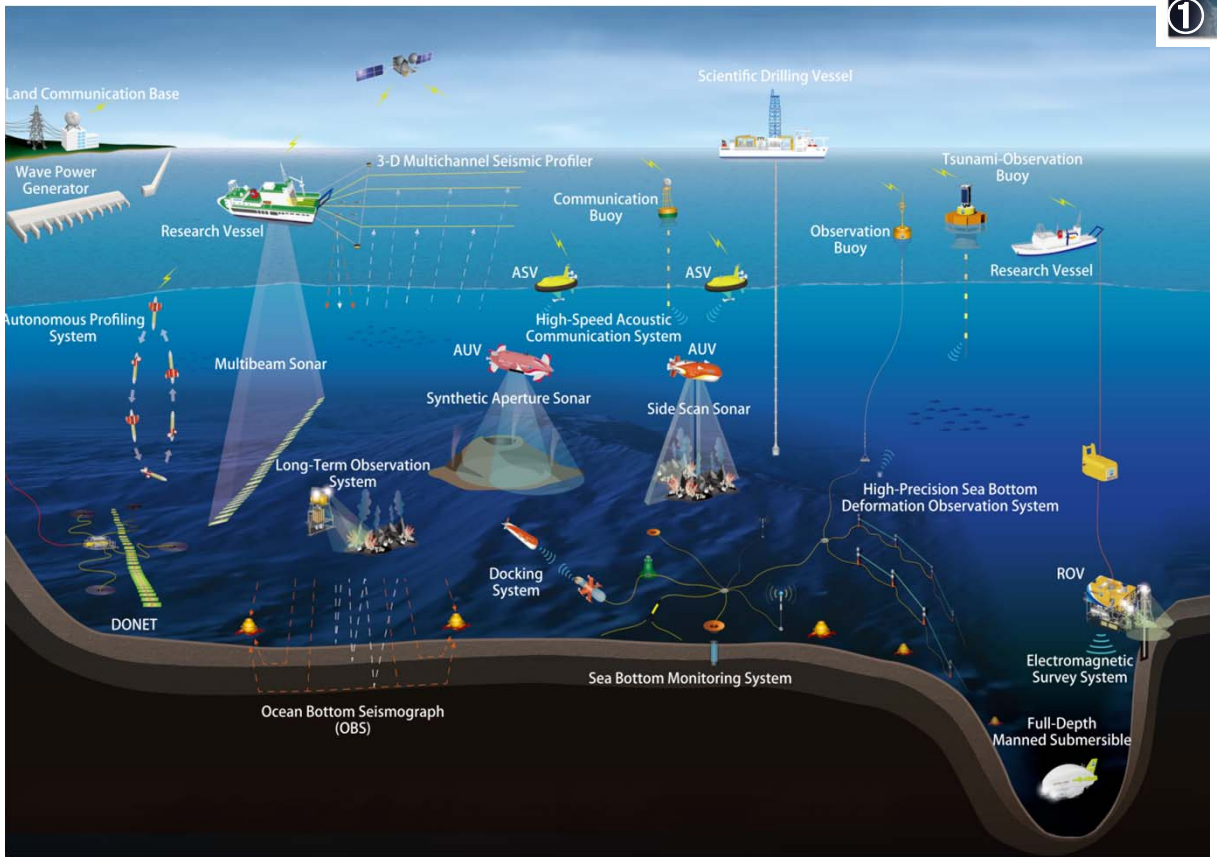


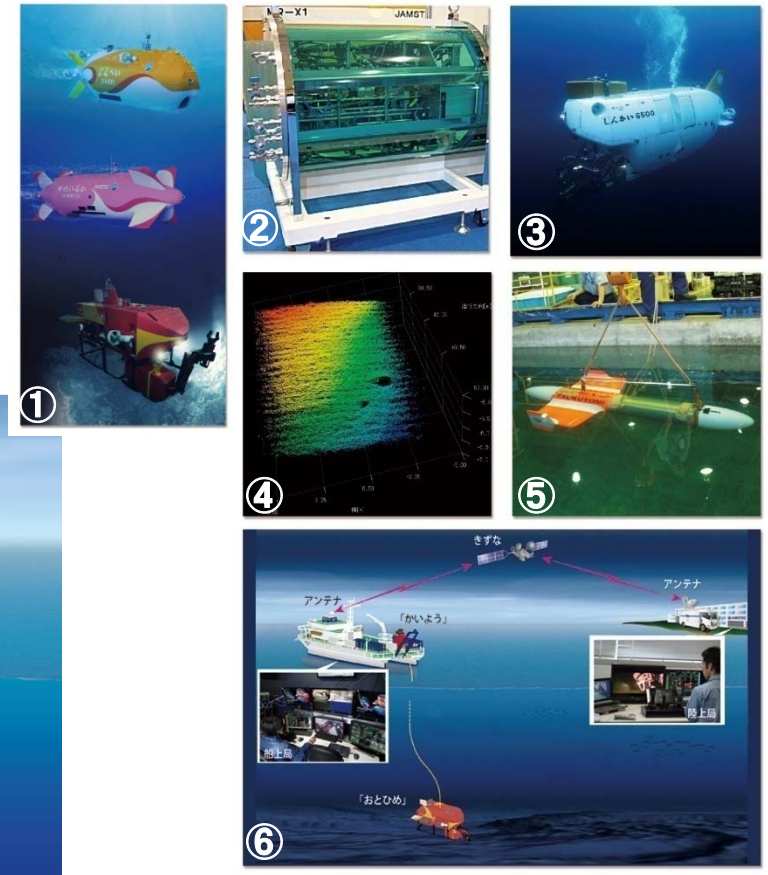


Construction of a research and development base for opening up ocean frontiers

Opening up the future by technological development

Technology for the basis of national existence, and technology required for a total understanding of the vast ocean, are being developed from the aspects of both hardware and software. In order to promote this, we are developing fundamental technology to build an innovative research infrastructure for opening up unexplored domains, and doing basic research and development which would be instrumental to build new systems.





① Developing autonomous underwater vehicles (AUVs) ② New fuel cell systems for operation in the sea ③ Application technology for manned research submersibles ④ Acquisition of submarine surface 3D data by underwater laser scanning ⑤ Development of underwater gliders ⑥ Remote control technology of ROVs from land using a super high-speed Internet satellite

Research Vessels

GT: Gross tonnage

R/V *NATSUSIMA*

GT 1,739 t

Commissioned : 1981

R/V *KAIYO*

GT 3,350 t

Commissioned : 1985

R/V *HAKUHOMARU*

GT 3,991 t

Commissioned : 1990

R/V *YOKOSUKA*

GT 4,439 t

Commissioned : 1990

R/V *MIRAI*

GT 8,687 t

Commissioned : 1997

R/V *KAIREI*

GT 4,517 t

Commissioned : 1997

D/V *CHIKYU*

GT 56,752 t

Commissioned : 2005

R/V *SHINSEIMARU*

GT 1,629 t

Commissioned : 2013

R/V *KAIMEI*

GT 5,800 t
(approx.)

Planned to be operated from 2016

Manned/Unmanned Underwater Vehicles

Deep Submergence Vehicle **Shinkai6500**

Max. Operation Depth : 6,500m

Shinkai2000（Retired）

Max. Operation Depth : 2,000m

AUV **URASHIMA**

Max. Operation Depth : 3,500m

AUV **YUMEIRUKA**

Max. Operation Depth : 3,000m

AUV **JINBEI**

Max. Operation Depth : 3,000m

AUV **OTOHIME**

Max. Operation Depth : 3,000m

ROV **HYPER-DOLPHIN**

Max. Operation Depth : 3,000m /4,500m

ROV **KAIKO 7000 II**

Max. Operation Depth : 7,000m

ROV **KAIKO Mk-IV**

Max. Operation Depth : 7,000m

Why we need International Cooperation ?

1) Cooperation on Cruise Operation

<Background>
- Decreasing Budget
- Increasing Operation Cost

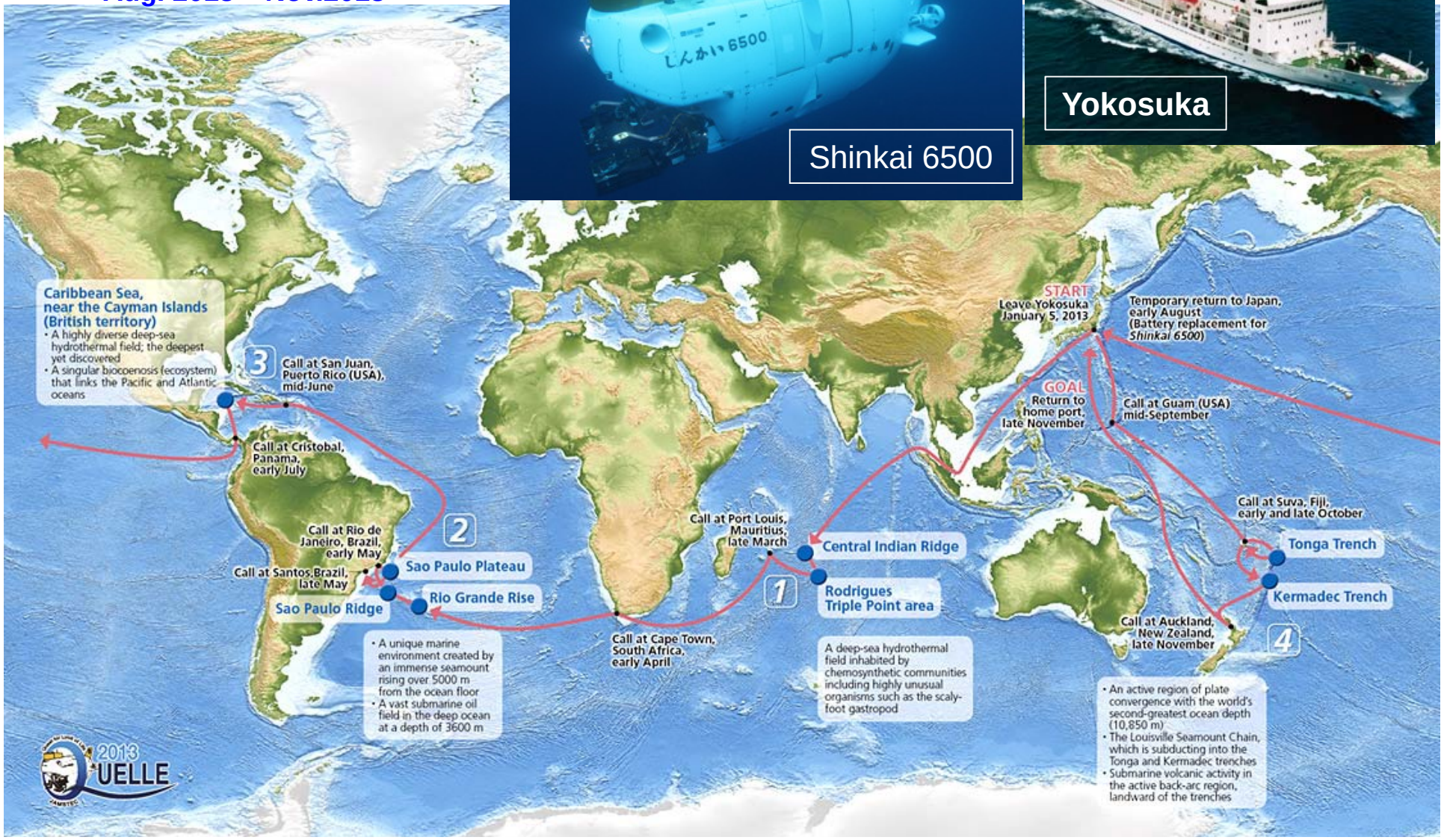
⇒ Difficulties of Long distance cruises

⇒ - Berth Exchange
- Cruise Exchange

A Round-the-World Voyage "QUELLE 2013"

Quest for the Limit of Life

Jan. 2013 – Aug. 2013
Aug. 2013 – Nov.2013



Why we need International Cooperation ?

2) Cooperation on Information Exchange System

<Background>

Increasing concern on marine environment protection

⇒ Difficulties for addressing the coastal state regulations due to poor information

⇒ Information Exchange System