ClassNK
NIPPON KAIJI KYOKAI

110th Anniversary

Standardization of the Inventory of Hazardous Materials, Material Declaration, and Suppliers' Declaration of Conformity

Nippon Kaiji Kyokai

3 December 2009

Standardization of IHM, MD, and SDoC

Contents

1. Inventory of Hazardous Materials (IHM) for Newly Built Ships
2. IHM for Existing Ships
3. Japan's Activities towards Implementation of Development and Survey of IHM, MD and SDoC

Before going to main slides,
I would like to introduce outline of the Convention briefly.

Development of IHM for Newly Built Ships

Why?

We need Standardization in development of IHM for New Ships.

IHM, MD, and SDoC for New Ships

- Shipbuilder is requested to develop the Inventory-Part 1* for New Ships at the time of delivery.

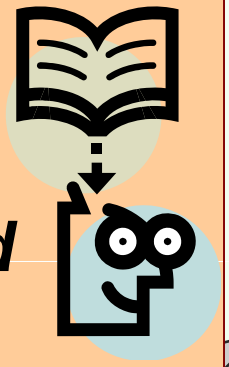
  *** Quantity and Location of Hazardous Materials of Ship Structure and Equipment.**

We practiced Trial Developments of IHM for Newly Built Ships and Trial Surveys, and issues as below were found.

- **Cooperation through Maritime Supply Chain is essential,**
- **Interpretation of Guidelines for developing IHM, MD, and SDoC is also needed,**

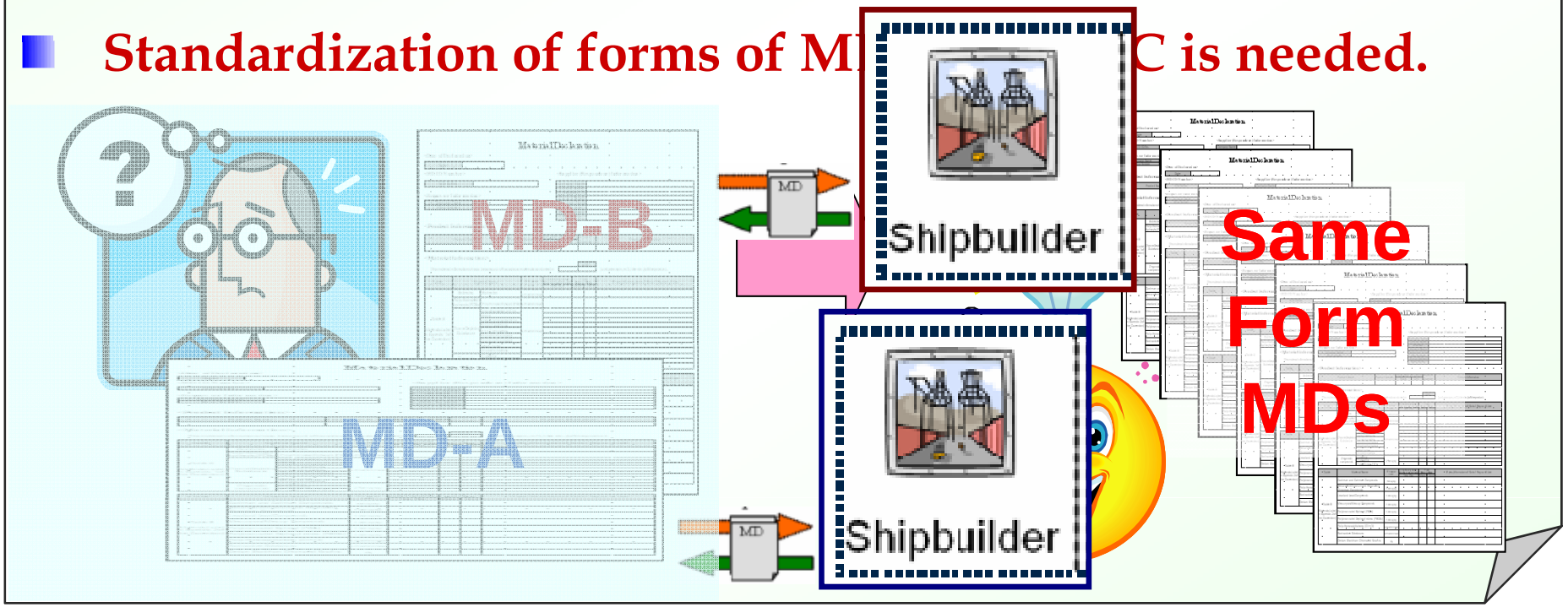
As a result of Trial Development,

A manual including some interpretation of Guidelines helps development of IHM, MD and SDoC for Newly Built Ships.



IHM, MD and SDoC for New Ships

- When Shipbuilders request different forms of MD and SDoC, Suppliers have difficulties in filling them in.
- When Suppliers submit different forms of MD and SDoC, Shipbuilders have difficulties in collecting them and developing IHM from them.
- **Standardization of forms of MD and SDoC is needed.**

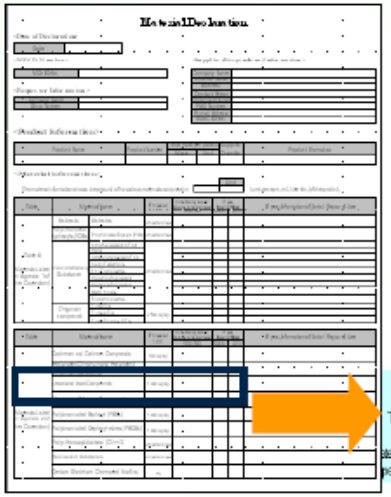


MD-Form & SDoC-Form

Submission of "What the product contains?"

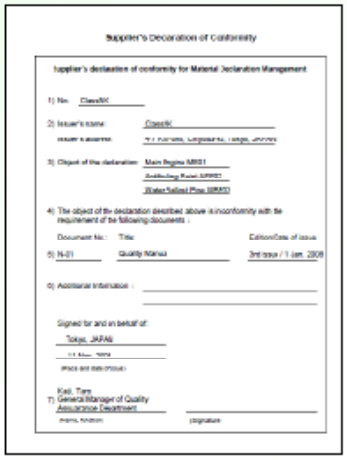
Supplier shall identify and declare whether Table A & B Materials are intentionally added above the threshold level using special form:

Material Declaration (MD)



Submission of "How the product is made?"

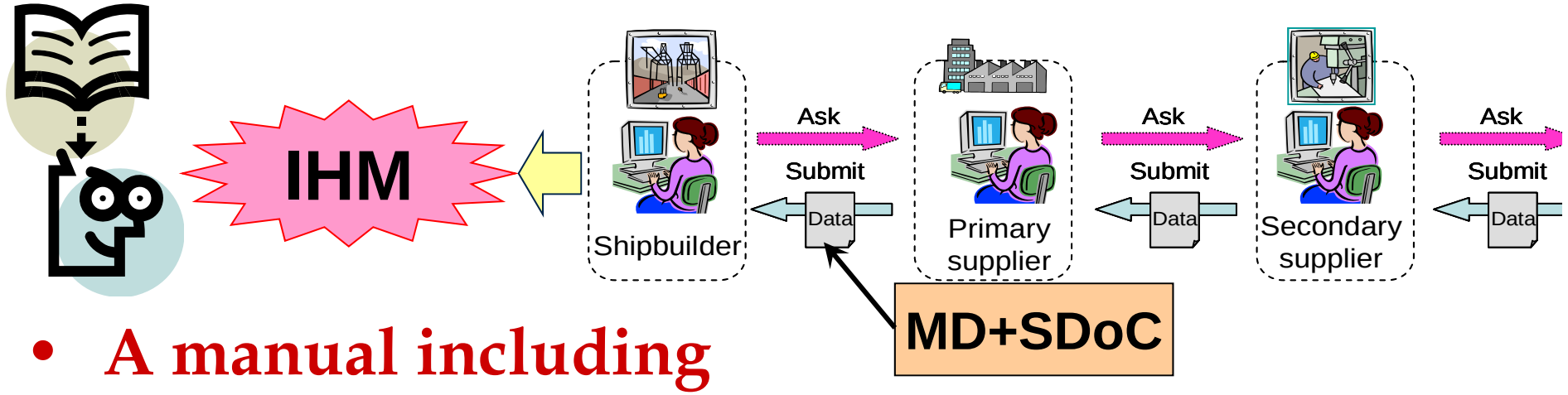
✓ **Supplier's Declaration of Conformity (SDoC)**
shall be submitted with Material Declaration (MD).



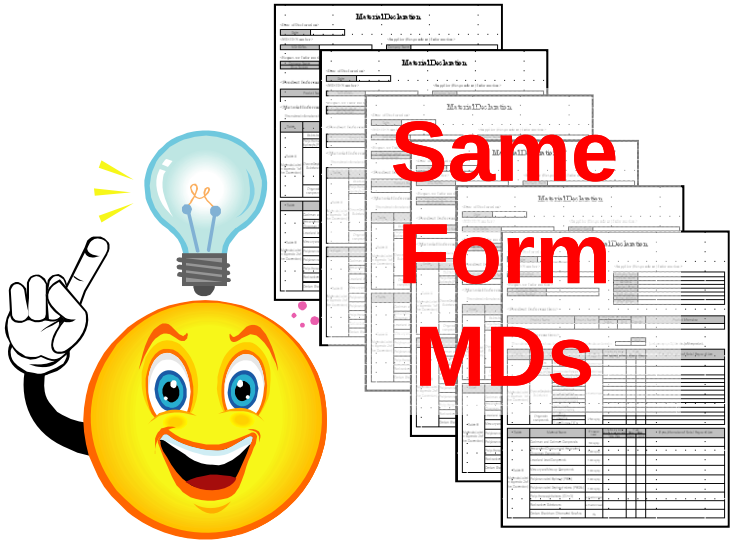
Contents to be declared in SDoC
1. Company policy
2. Applicable laws
3. Management responsibility
4. Acquisition of chemical content info.
5. Revision notification of chemical content info.
6. Documentation management
7. Conduction of Internal audit
8. Management review

✓ **Supplier's Declaration of Conformity (SDoC) gives assurance of conformity on the related MD.**

Conclusion of Development of IHM, MD, and SDoC for New Ships



- A manual including interpretation of Guidelines for developing IHM, MD, and SDoC is needed.
- Standardization of forms of MD and SDoC is needed.



e-Format is also an idea.

NO NEED *when e-system is made.*

- ✓ to collect MD & SDoC one by one by FAX or Post
- ✓ to screen MD with Hazardous Materials (HM) by hand
- ✓ to calculate the mass of HM at each location by hand
- ✓ to prepare IHM by hand
- ✓ to submit and keep MD/SDoC in paper format

Greatly reduces the Industry's work for developing the Inventory

Development of IHM for Existing Ships

Another Standardization of Development of IHM - It's for Existing Ships.

Development of IHM for Existing Ship

- Level of investigation

  "Shall comply as far as Practicable",
  at least Table A Materials should be identified.

- Deadline for development of the Inventory

  Within 5 years after the Convention enters into force

- Method of the development

  Same steps as New Ships (trace supply chain)

  OR

  Alternative procedures by Experts according to the necessary steps prescribed in "the Guideline for the Convention"

Steps of IHM for Existing Ships

We practiced Trial Developments of IHM for Existing Ships and Surveys for Implementation and Confirming Steps.

<Step1> Collection of necessary information
As-fitted drawings, Manuals, Data on sister ships etc.

<Step2> Analysis and Definition of scope of investigations
Table A Materials are compulsory, Table B recommended.

<Step3> Preparation of Visual/Sampling Check Plan
Classify the area for (1) Visual check, (2) Sampling check, (3) Potential.

<Step4> Onboard Visual Check and Sampling Check
The area where Check cannot be done are classified as Potential area.

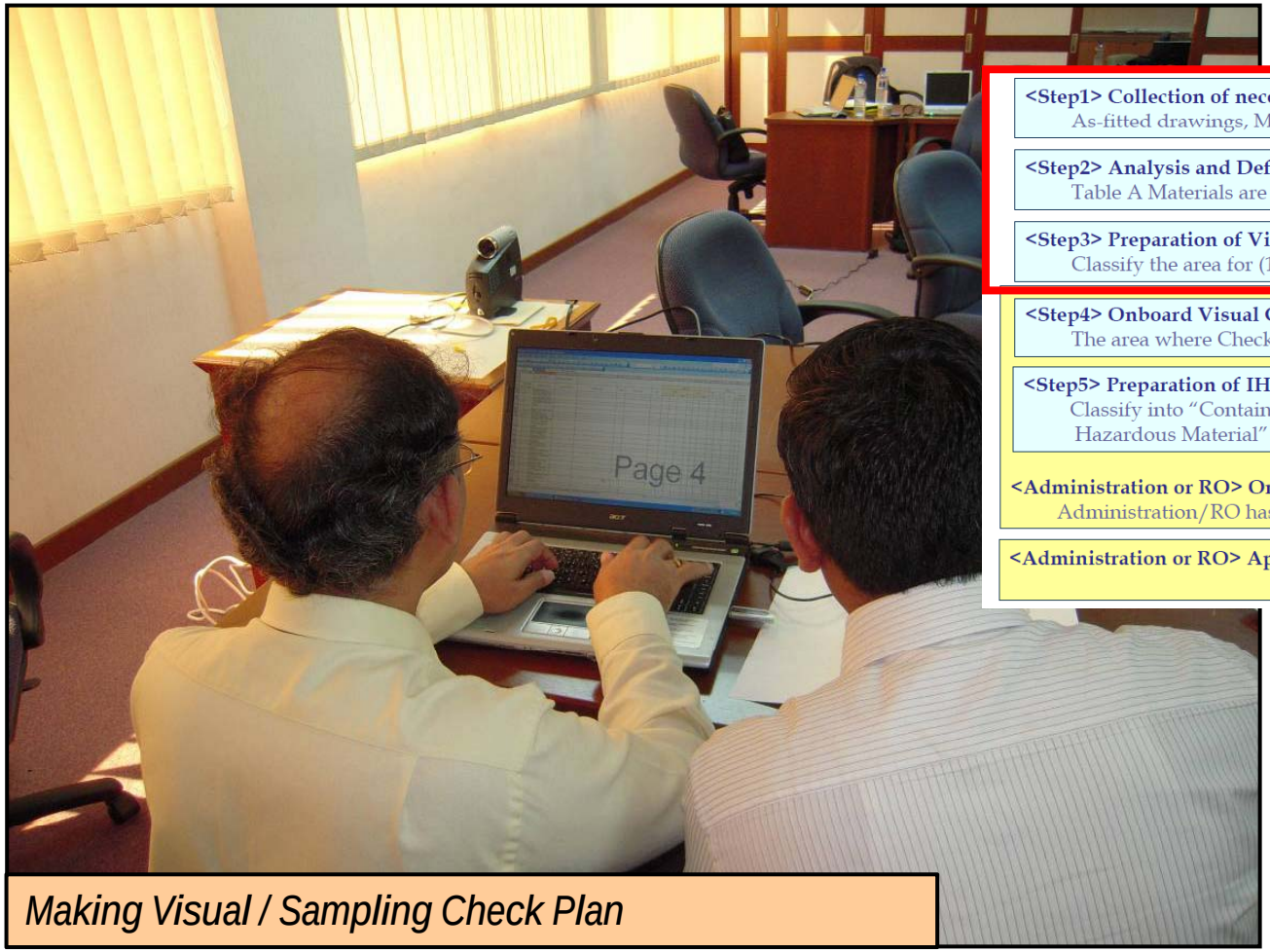
<Step5> Preparation of IHM - Part I
Classify into "Containing Hazardous Material" or "Potentially containing Hazardous Material" with quantity and location.

<Administration or RO> On Board Survey
Administration/RO has on-board survey through IHM and/or VSC plan

<Administration or RO> Approval of IHM

Steps of IHM for Existing Ships

1. Investigation of Plans



Making Visual / Sampling Check Plan

<Step1> Collection of necessary information
As-fitted drawings, Manuals, Data on sister ships etc.

<Step2> Analysis and Definition of scope of investigations
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<Administration or RO> Approval of IHM

Steps of IHM for Existing Ships

2. Onboard Check (at Store Survey)

Surveying Store for investigating used packing.

<Step1> Collection of necessary information
As-fitted drawings, Manuals, Data on sister ships etc.

<Step2> Analysis and Definition of scope of investigations
Table A Materials are compulsory, Table B recommended.

<Step3> Preparation of Visual/Sampling Check Plan
Classify the area for (1) Visual check, (2) Sampling check, (3) Potential.

<Step4> Onboard Visual Check and Sampling Check
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Administration/RO has on-board survey through IHM and/or VSC plan

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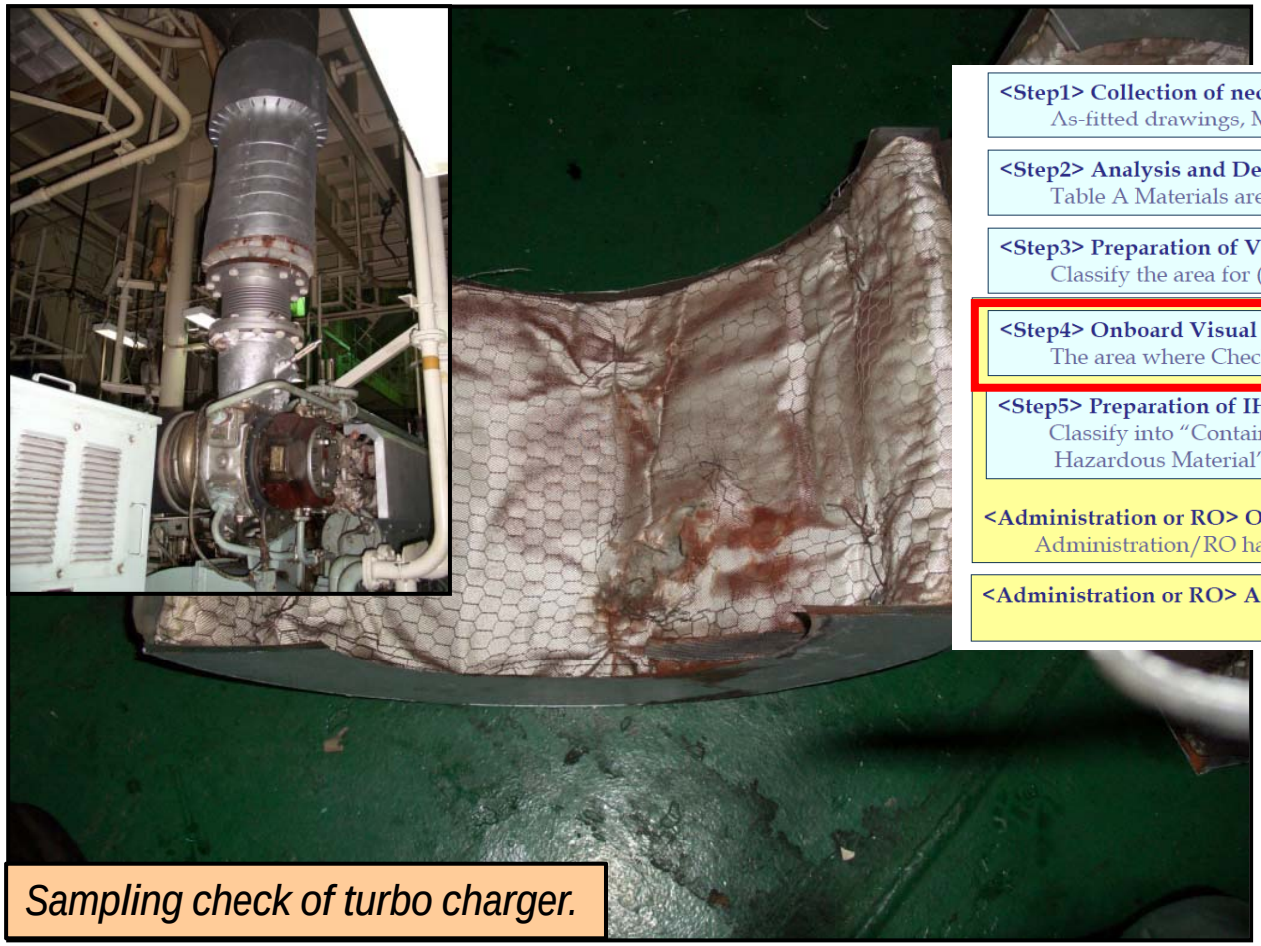
Steps of IHM for Existing Ships

3. Onboard Check (Sampling Check)



Sampling check of turbo charger.

<Step1> Collection of necessary information
As-fitted drawings, Manuals, Data on sister ships etc.

<Step2> Analysis and Definition of scope of investigations
Table A Materials are compulsory, Table B recommended.

<Step3> Preparation of Visual/Sampling Check Plan
Classify the area for (1) Visual check, (2) Sampling check, (3) Potential.

<Step4> Onboard Visual Check and Sampling Check
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<Step5> Preparation of IHM - Part I
Classify into "Containing Hazardous Material" or "Potentially containing Hazardous Material" with quantity and location.

<Administration or RO> On Board Survey
Administration/RO has on-board survey through IHM and/or VSC plan

<Administration or RO> Approval of IHM

Steps of IHM for Existing Ships

4. Making IHM

<Step1> Collection of necessary information
As-fitted drawings, Manuals, Data on sister ships etc.

<Step2> Analysis and Definition of scope of investigations
Table A Materials are compulsory, Table B recommended.

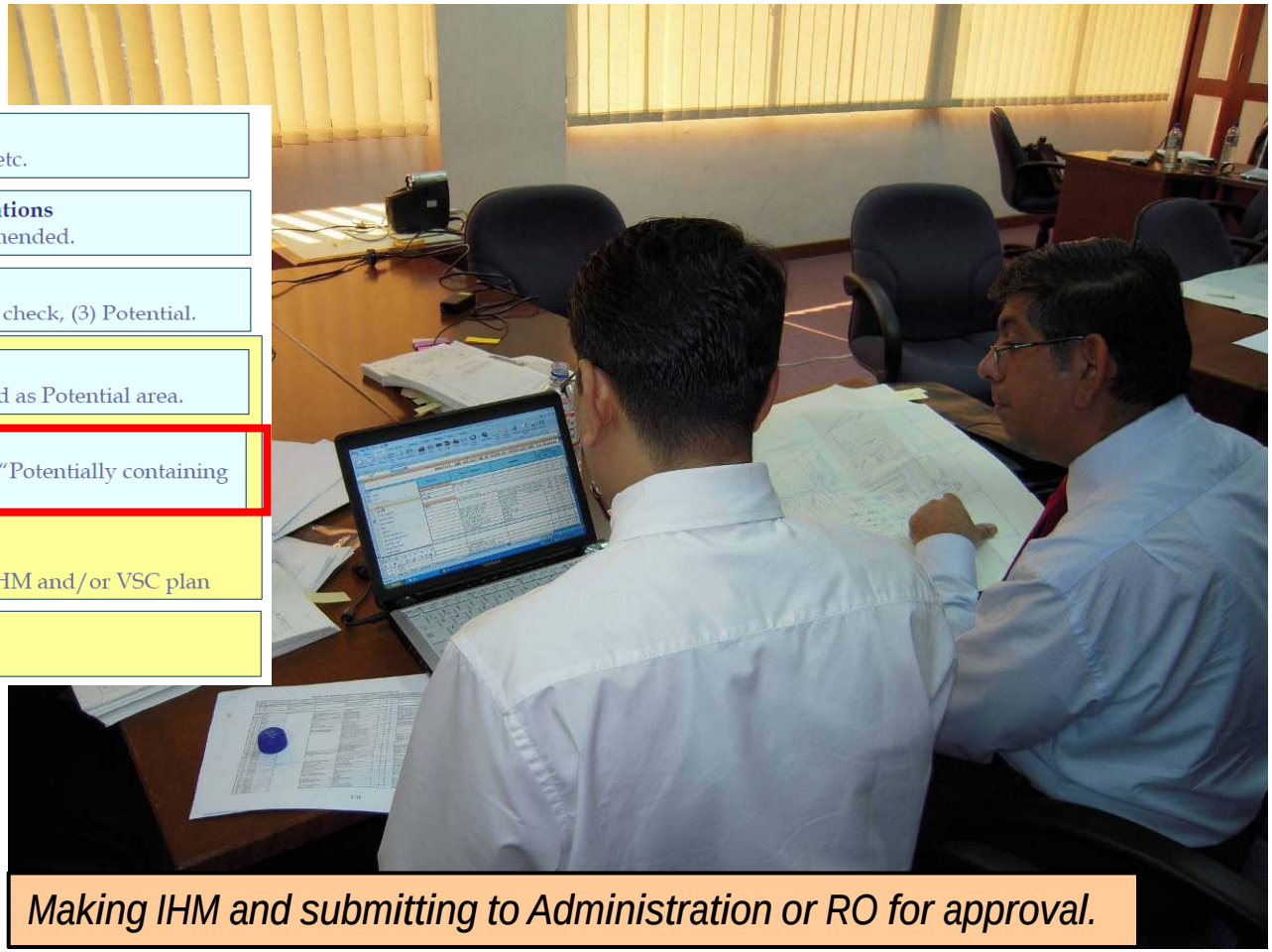
<Step3> Preparation of Visual/Sampling Check Plan
Classify the area for (1) Visual check, (2) Sampling check, (3) Potential.

<Step4> Onboard Visual Check and Sampling Check
The area where Check cannot be done are classified as Potential area.

<Step5> Preparation of IHM - Part I
Classify into "Containing Hazardous Material" or "Potentially containing Hazardous Material" with quantity and location.

<Administration or RO> On Board Survey
Administration/RO has on-board survey through IHM and/or VSC plan

<Administration or RO> Approval of IHM



Making IHM and submitting to Administration or RO for approval.

Sample of Inventory for Existing Ship

Inventry of Hazardous Materials : [redacted]

Part1 HAZARDOUS MATERIALS CONTAINED IN THE SHIP'S STRUCTUER AND EQUIPMENT

1.1 Paints and Coating Systems containing materials listed in Table A and Table B of Appendix 1 of the Guidelines

No	Application of Paint	Name of Paint	Location	Materials (Classification in	Appx Quantity		Remarks
1	Antifouling	・Tin type AF paint of KP ACE SP A/F 100 Brown & Red Oxide until April, 1994. ・Then, sealer coat applied on January, 2004.	Boot top	TBT	To be written after the result of sampling analyses has been gotton.	kg	
2			Vertical bottom	TBT	To be written after the result of sampling analyses has been gotton.	kg	
3		・Tin type AF paint of KP ACE SP A/F 100 Brown & Red Oxide until August, 1991. ・Then, sealer coat applied on January, 2004.	Flat bottom	TBT	To be written after the result of sampling analyses has been gotton.	kg	

1.2 Equipment and Machinery containing materials listed in Table A and Table B of Appendix 1 of the Guidelines

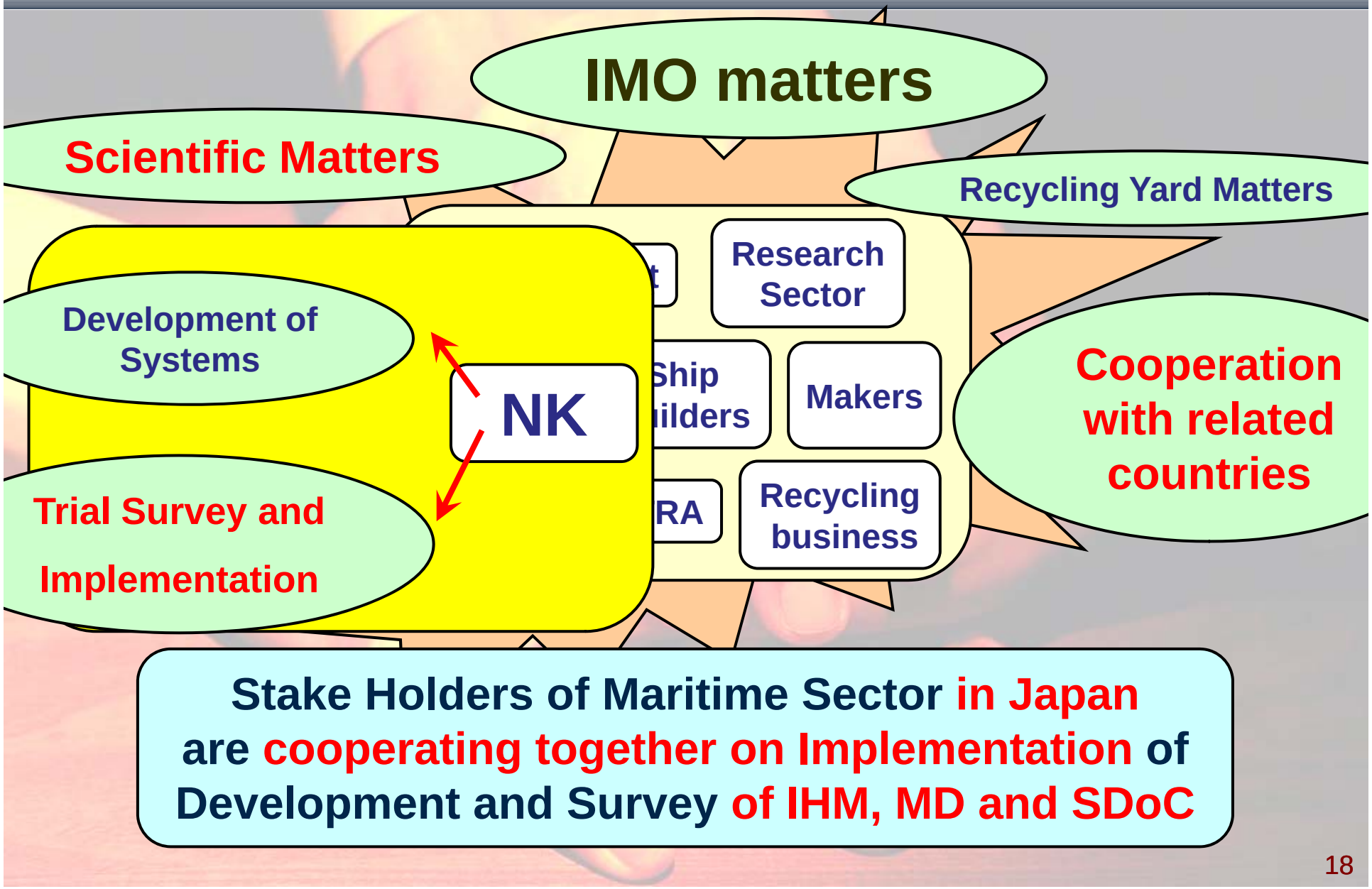
No	Name of Equipment and Machinery	Location	Materials (Classification in Appendix I)	Patrs of Use	Appx Quantity	Remarks
1	Main engine		Asbestos	Packing for air cooler	0.24 kg	
2			Asbestos	Gasket for governor	0.06 kg	
3			Asbestos	Brake lining for turning gear	0.03 kg	
4	Propeller		Asbestos	Sheet Packing	0.32 kg	
5	Stern tube seal	Lower floor	Asbestos	Sheet packing(No.11)	0.20 kg	
6			Asbestos	Sheet packing(No.10)	0.16 kg	
7			Asbestos	Sheet packing(No.12)	0.40 kg	
8	Main L.O. pump		Asbestos	Gland packing	0.36 kg	
9	Sludge pump		Asbestos	Gland packing	0.36 kg	
10	Bilge circ. Pump		Asbestos	Gland packing	0.36 kg	
11	Boiler water circ. pump		Asbestos	Gasket	0.03 kg	

Japanese Government and ClassNK have already established standard way of development of IHM for Existing Ships.

Japan's Activities toward Implementation of Development and Survey of IHM, MD and SDoC

Activities for Implementation of Scheme of the Convention

Cooperation of Maritime Sector in Japan



Cooperation of Maritime Sector in Japan

Activities in Japan for Implementation of Developing IHM

- ✓ Trial of Existing Ships（40 Ships）
- ✓ Trial of Newly Built Ships（20 Ships）
- ✓ Making a software for Development of IHM
- ✓ Arrangement of Seminars on the Convention and Meetings with Owners, Shipyards etc.

ClassNK and the Convention

ClassNK

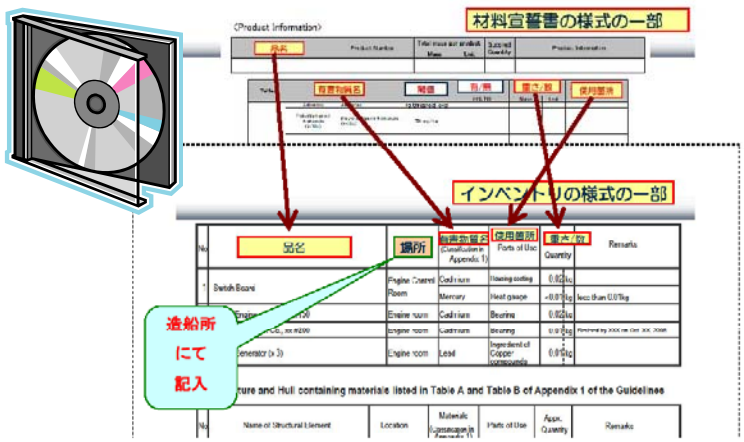
is cooperating with all the concerned parties (ship owners, shipbuilders, etc.) for necessary preparation to ensure smooth implementation of the Convention.

For this, the following actions are being undertaken

- **Development of the software "PrimeShip-INVENTORY"** for the preparation of Inventory for **Newly Built Ships**
- **Trial Survey** of the Inventory development of **Existing Ships**
- **Preparation** of the **Guidelines** for smooth implementation, judgment, approval, etc.

PrimeShip-INVENTORY

“PrimeShip-INVENTORY” has been developed for the preparation and approval of Inventory of Newly Built Ships efficiently

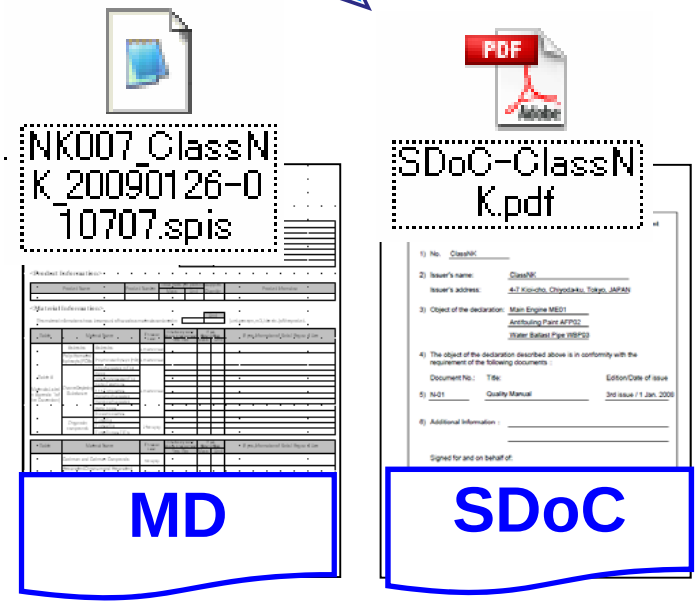


- Development in cooperation with Japanese shipbuilders
- Trial use is on-going for IHM of ships under construction
- Distribution in early 2010

Concept of PrimeShip-INVENTORY

Supplier

- Create Material Declaration (MD) Data file by "MD Tool" [Excel-based]
- Create Supplier's Declaration of Conformity(SDoC) file [pdf]



Send MD & SDoC by Email

Shipbuilder

PrimeShip-INVENTORY

- Import MD & SDoC files
- Set Locations for the MD data containing Hazardous Materials
- Inventory is prepared Automatically

Inventory

Export the data for NK Approval/Owner

Concept of PrimeShip-INVENTORY

PrimeShip-INVENTORY is fitted to the concept of e-Format.

e-Format is also an idea.

NO NEED *when e-system is made.*

- ✓ to collect MD & SDoC one by one by FAX or Post
- ✓ to screen MD with Hazardous Materials (HM) by hand
- ✓ to calculate the mass of HM at each location by hand
- ✓ to prepare IHM by hand
- ✓ to submit and keep MD/SDoC in paper format

Greatly reduces the Industry's work for developing the Inventory

8

Trial Survey of Existing Ship

Aim is to develop Inventory of Existing Ships in a smooth and efficient way

- In cooperation with Japanese shipowners
- 30 Existing Ships were surveyed by ClassNK.

Outcome of ClassNK's Trial

- ✓ **Issue of "Statement of Fact" of the Inventory for smooth rewriting into Conventional Certificate**

1.1 Paints and Coating Systems containing materials listed in Table A and Table B of Appendix 1of the Guidelines

No.	Application of Paint	Name of Paint	Location	Materials (Classification in Appendix 1)	Appx. Quantity		Remarks
1	Anti-drumming compound	Primer, x xCo., xxprimer #300	Hull part	Lead	35.00	kg	
2	Antifouling	xx Co., xx coat #100	Underwater parts	TBT	120.00	kg	

1.2 Equipment and Machinery containing materials listed in Table A and Table B of Appendix 1 of the Guidelines

No.	Name of Equipment and Machinery	Location	Materials (Classification in Appendix 1)	Parts of Use	Appx. Quantity		Remarks
1	Switch Board	Engine Control Room	Cadmium	Housing coating	0.02	kg	
			Mercury	Heat gauge	<0.01	kg	less than 0.01kg
2	Diesel Engine, xx Co., xx #150	Engine room	Cadmium	Bearing	0.02	kg	
3	Diesel Engine, xx Co., xx #200	Engine-room	Cadmium	Bearing	0.01	kg	Revised by XXX on Oct. XX, 2008
4	Diesel Generator (x 3)	Engine-room	Lead	Ingredient of Copper compounds	0.01	kg	

Statement of Fact

No. KC 09N2-XXXX

Date:

THIS IS TO CERTIFY that the undersigned Surveyor did, at the request of ---, examine the report of "Inventory of Hazardous Materials" of the following vessel:

MV "---"

Flag :
Port of Registry :
Signal Letters :
IMO Number :
Type of Vessel :
Gross Tonnage :
Shipbuilder :

Name of Owners :

in accordance with "MEPC 58/3/2, Draft Guidelines for the Development of the Inventory of Hazardous Materials", and found satisfactory, excluding the materials listed in the remaining list of "Material declaration" and "Supplier's declaration of conformity" attached hereto.

( )
Nippon Kaiji Kyokai,
Marine & Industrial Service Department

- ✓ **Both for New Ships (by PrimeShip-INVENTORY) and Existing Ships (by Experts)**

Preparation of Guidelines

- ✓ **Preparation of guidelines for smooth implementation, judgment, and approval**
- ✓ **Creation of circumstances for smooth and efficient development of Inventory by conducting seminars, meetings, etc.**

Lecture on ship recycling

Role of Classification Societies

Survey and certification of Ships are required

(Article 5 of the Convention)

	New Ship	Existing Ship
Initial Survey	At delivery	At the development of Inventory - Part I
Renewal Survey	At intervals not exceeding 5 years	
Additional Survey	After a major repair, etc.	
Final Survey	Prior to the start of Recycling	

ClassNK has prepared to become a Recognized Organization (RO) of flag administrations for conducting survey and certification for Ship Recycling Convention.

ClassNK
NIPPON KAIJI KYOKAI

110th Anniversary

Thank you !

ClassNK
NIPPON KAIJI KYOKAI

Aim of the Convention

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

Achieve "Safe and Environmentally Sound Recycling of Ships"

Measures to achieve

✓ **Ship** ⇒ **Develop & maintain a list indicating details of Hazardous Materials on board the ship**

(Inventory of Hazardous Materials)

✓ **Recycling Facility** ⇒ **Ensure environmental protection, provide enough facilities, and ensure labor safety and health**

✓ **Preparation of Recycling** ⇒ **Ensure delivering Inventory, thorough 'gas-freeing', development of recycling plan, etc.**

Implementation of the Convention

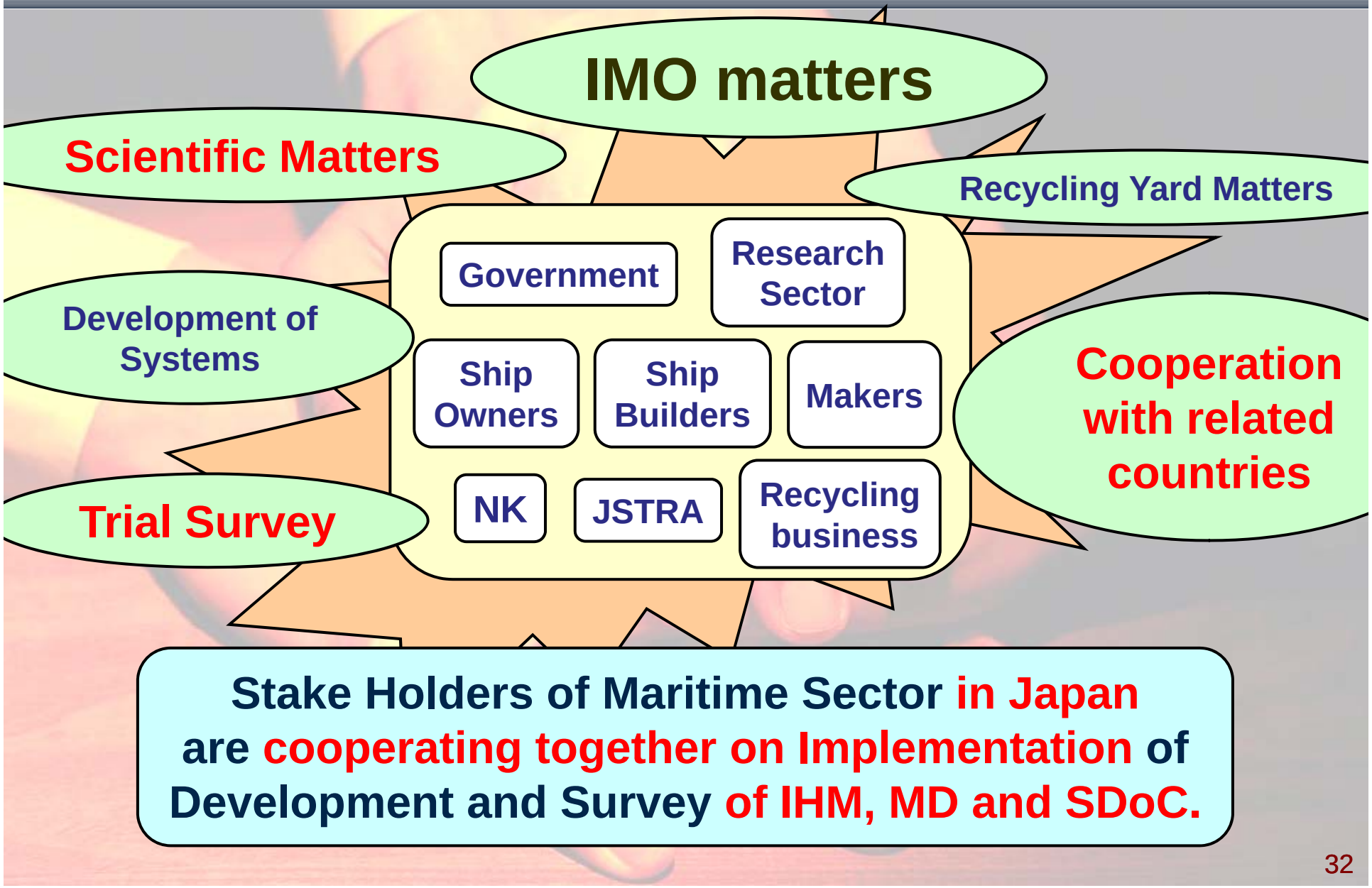
1. Applicable to ships of above 500GT

(Ships engaged only in domestic voyage throughout her life is exempted)

2. Schedule

ClassNK: Around 7,000 Existing Ships

Cooperation of Maritime Sector in Japan



Stake Holders of Maritime Sector in Japan are cooperating together on Implementation of Development and Survey of IHM, MD and SDoC.

Cooperation of Maritime Sector in Japan

Activities in Japan for Implementation of Developing IHM

- ✓ Trial of Existing Ships（40 Ships）
- ✓ Trial of Newly Built Ships（20 Ships）
- ✓ Making a software for Development of IHM
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