

Development of the SCF Industry Standards

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Contents of presentation

1. Review of Ship Construction File
2. The way of development of the SCF Industry Standards
3. Outline of the SCF Industry Standards
 - Contents of the SCF Information
 - Typical Events related to the SCF Information
 - Annexes of the SCF Industry Standards
4. Short- and long-term milestones

Review of Ship Construction File (SCF)

- SCF shall be required in SOLAS II-1/3-10 (GBS)
 - SCF shall include specific information on how the functional requirement of the GBS (Tier II items) applied in the ship design and construction.
 - SCF shall be kept on board the ship and/or ashore.
 - SCF shall be dully complied with Intellectual Property (IP) rights
 - Highly IP sensitive information shall be stored at ashore archive center.
 - ❑ Yard Plan
 - ❑ Lines Plan
 - ❑ Bulky Output of strength calculation
- ⇒ **Cross industry team has been developing the SCF industry standard toward practical operation.**

The way of development of the SCF Industry Standards

- Since 2009 the SCF has become a **Tripartite “lighthouse project”**.
- Owners, shipbuilders and class have developed an industry model to implement the SCF requirements.
 - ➔ **Cross Industry team** was started up
- **IMO has approved the process** at MSC 87 and published MSC.1/Circ. 1343 in June 2010.
- The Cross Industry team discussed the way ahead and potential security measures at MSC 87 and 89.
- Since then the **shipbuilding industry** has worked globally to **prepare the draft SCF Industry Standards (SCF IS) Ver. 1.0**.

The way of development of the SCF Industry Standards (Our activities after last ASEF)

Oct. 2011 : Shipbuilder's Meeting at Busan

KOSHIPA, SAJ

- The following three items have been discussed between KOSHIPA and SAJ.
 - ❑ Detail definitions of SCF contents showing sample documents/drawings
 - ❑ IP sensitivity levels
 - ❑ Linkage between SCF and Tier II functional requirements



The way of development of the SCF Industry Standards

May 2012 : Shipbuilder's Meeting at Shanghai

CANSI, CESA, KOSHIPA, SAJ, SCA (China, Europe, Korea, US, Japan)

- Draft SCF Industry Standards were proposed by SAJ.
- Draft SCF Industry Standards were fully discussed comprehensively
- Shipbuilders' drafting team agreed to exchange several rounds of comments to the draft SCF IS by the end of Aug. 2012
- ➔ As a result, draft SCF IS to be proposed to Cross Industry team were completed among Shipbuilders.



The way of development of the SCF Industry Standards

Oct. 2012 : Cross Industry Meeting in Bagsvæd, Denmark

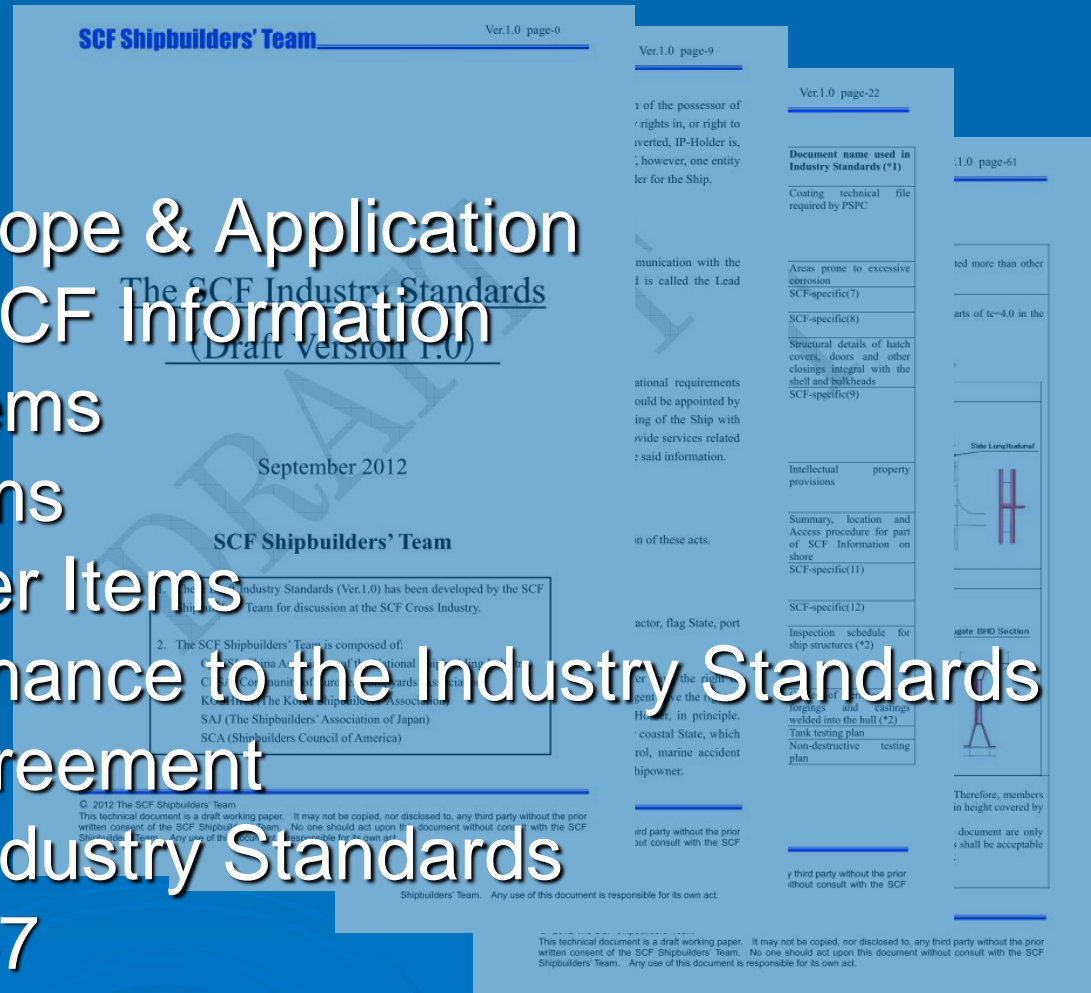
Shipping industry	: ICS, BIMCO, INTERTANKO
IACS	: LR
Shipbuilding industry	: CESA, SAJ

- Shipbuilders' drafting team gave a presentation about outline of SCF Industry Standards to Cross Industry members.
- Cross Industry members agreed targeted deadline to complete the first draft SCF Industry Standard base documents, and short- and long-term milestones.



Outline of the SCF Industry Standards

1. Preamble
 2. Definitions
 3. Principles, Scope & Application
 4. Contents of SCF Information
 5. Shipowner Items
 6. IP-Holder Items
 7. Archive Center Items
 8. Strict Conformance to the Industry Standards by Way of Agreement
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- Annex-1 - Annex-7



Ch.4 Contents of SCF Information

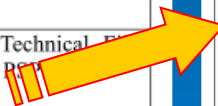
Chapter 4 “Contents of SCF Information” consists of :

- Composition of SCF Information and Scope of Application
- Definition of SCF Information
- IP Class and IP Security Level
- Storage Format for SCF Information

Definition of SCF Information

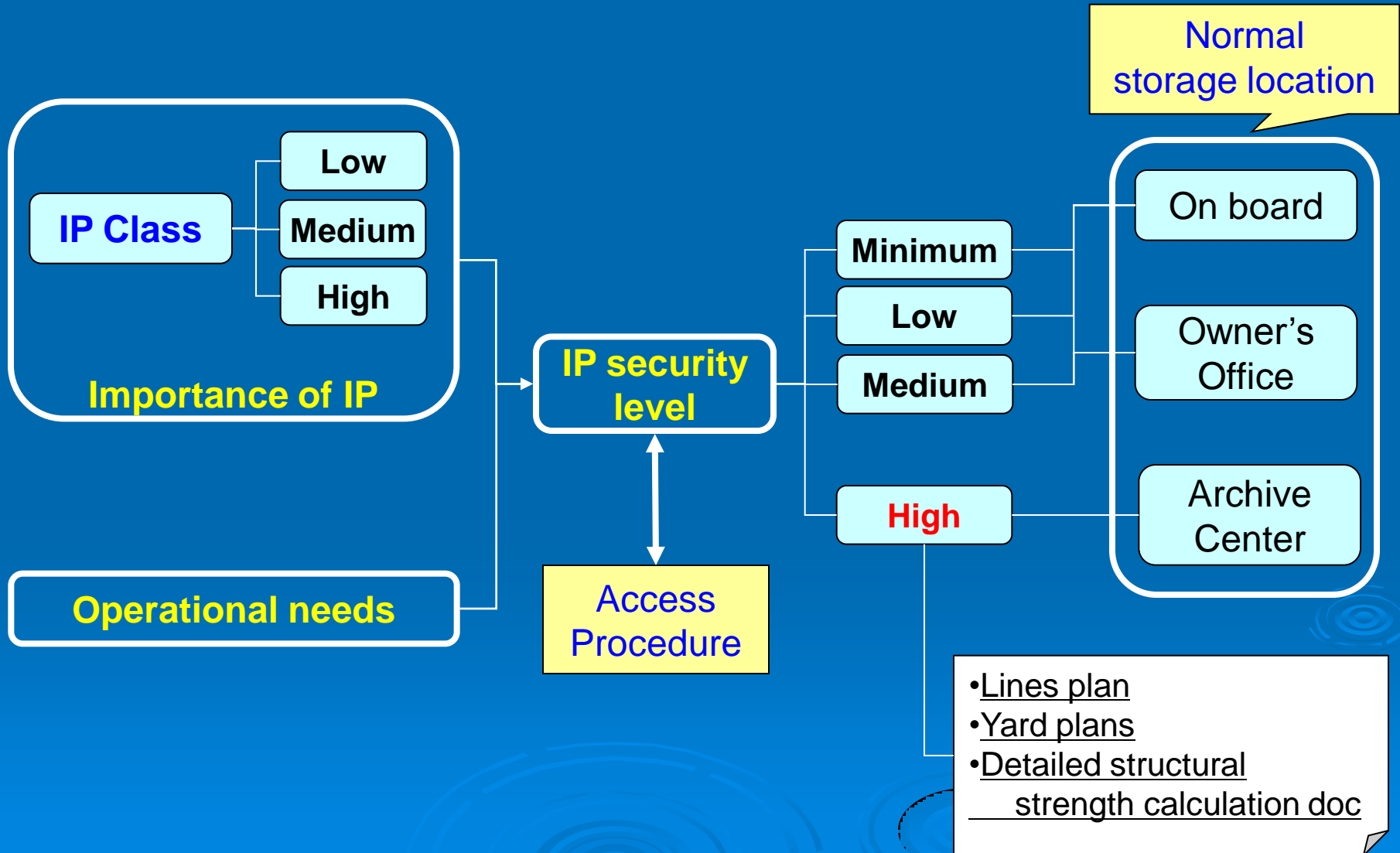
- Standard Names of SCF Information are defined in SCF IS.
- In order to share common understanding, **unified interpretations of SCF documents** are prepared in SCF Industry Standards.

Information to be included	Further explanation of the content	Example documents
Corrosion		
Coated areas and target remaining life and other measures for corrosion protection in holds, cargo ballast tanks, other structure-integrated deep tanks and void spaces		<ul style="list-style-type: none"> • SCF-specific
Specification for coating other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces		<ul style="list-style-type: none"> • Coating Technical Requirements required by P&I
Gross scantlings of structural constituent members		
Net scantlings of structural constituent members		
	<ul style="list-style-type: none"> • plans showing areas prone to excessive corrosion (See Item 6-1) 	<ul style="list-style-type: none"> • areas prone to excessive corrosion • key construction plans



Item 6-1: Plan showing areas prone to excessive corrosion	
Definition	<p>This figure shows the parts where relatively severe corrosion is expected more than other parts.</p> <p>Members with bigger corrosion additions according to CSR, such as parts of $t_c=4.0$ in the following figure, namely</p> <ul style="list-style-type: none"> - Steel members until 3 meters from the upper deck - Inner skin - Inner bottom
Models & Examples	<p>OIL TANKER</p> <p>Trans. Ring Section</p> <p>Vertical Stiffener Section</p> <p>Horizontal Stringer</p> <p>Side Longitudinal</p> <p>BULK CARRIER</p> <p>Trans. Ring Section</p> <p>T.BHD Section</p> <p>Corrugate BHD Section</p> <p>Labels in diagrams include: Deck trans web plate, Flare plate, Long. bulkhead plate, Long. bulkhead stiff, Lower deck plate, Lower skin plate, Internal in upper portion of W.B.T., Lower bottom plate, Upper deck plate, Top side skirt plate, Side skirt (stringer hat), Frame in hold, Hopper top plate, Lower bottom plate, Bulkhead plate, Stiff, Lower stool plate, Bulkhead plate, Stiff.</p>
	<p>- "Corrosion" of GBS is a general term including mechanical wear. Therefore, members</p>

IP Class and IP Security Level



IP Class and IP Security Level

IP Class, IP Security Level and Normal storage locations are defined in SCF Industry Standards

Table 3: Standard IP Security Levels and Normal Storage Locations

IP security level	IP Class(*3)	Document name used in Industry Standards	Normal storage location
Minimum	B	Capacity plan (*2)	on board ship
	B	Loading manual (*1)	on board ship
	B	Trim & stability booklet (*1)	on board ship
	C	Loading instrument instruction manual (*1)	on board ship
	C	Operation and maintenance manual (*1)	on board ship
	B	General arrangement (*2)	on board ship
	C	Docking plan	on board ship
Low	C	Calculation of hull girder section modulus	on board ship
	C	Dangerous area plan	on board ship
	C	Coating technical file	on board ship
	C	Structural details of hatch covers, doors and other closings integral with the shell and bulkhead	on board ship
	C	Intellectual property provisions of SCF	on board ship
	C	Summary, location and information on shore	on board ship
	C	Inspection schedule for ship structures	on board ship
	C	Copies of certificates of forgings and castings welded into the hull	on board ship
	C	Tank testing plan	on board ship

IP Class

Normal storage location

IP security level

SCF document name

IP Class and IP Security Level

IP security level	IP Class(*3)	Document name used in Industry Standards	Normal storage location
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	B	General arrangement (*2)	on board ship
Low	C	Docking plan	on board ship
	C	Calculation of hull girder section modulus	on board ship
	C	Dangerous area plan	on board ship
	C	Coating technical file	on board ship
	C	Structural details of hatch covers, doors and other closings integral with the shell and bulkheads	on board ship
	C	Intellectual property provisions	on board ship
	C	Summary, location and Access procedure for part of SCF Information on shore	on board ship
	C	Inspection schedule for ship structures	on board ship
	C	Copies of certificates of forgings and castings welded into the hull	on board ship
	C	Tank testing plan	on board ship
	C	Non destructive testing plan	on board ship
	C	Areas prone to yielding and/or buckling	on board ship
	C	Areas prone to fatigue	on board ship
	C	Areas prone to excessive corrosion	on board ship
	C	Detail of bottom plug	on board ship
	C	Details for in-water survey	on board ship
	C	Means of access to other structure-integrated deep tanks and large void spaces	on board ship
	B	Ship structure access manual	on board ship
	C	SCF-specific (1) to (15)	on board ship
Medium	B	Midship section	on board ship
	B	Main O.T. and W.T. transverse bulkheads	on board ship
	B	Construction profiles/plans	on board ship
	B	Shell expansions	on board ship
	B	Forward and aft sections in cargo tank (or hold) region	on board ship
	B	Engine-room construction	on board ship
	B	Forward construction	on board ship
	B	Stern construction	on board ship
	B	Rudder and rudder stock	on board ship
	B	Stern frame	on board ship
High	B	Structural details	on board ship
	B	Equivalent to Lines plan	on board ship
	A	Strength calculation	on shore archive
	A	Fatigue life calculation	on shore archive
	A	Yard plans	on shore archive
	A	Lines plan	on shore archive

- Capacity plan
- Loading manual
- General arrangement
- Operation manual
- etc.

- Hatch covers, doors, etc
- Detail of bottom plug
- Ship structure access manual
- etc.

- Structural drawings

- Bulky-output of strength calc.
- Yard plans
- Lines plan

Storage Format for SCF Information

➤ **SCF Information** should be stored in a **digital format in principle**

- ❑ with copy protection
- ❑ with expiration period of one year
- ❑ required hardware key or activation of PC
- ❑ required dedicated browser etc.



➤ Some **printed SCF documents** may substitute for digital SCF documents

- ❑ with the consent of Shipbuilder
- ❑ with proper reason for Safe operation purpose



➤ The Shipowner should follow strictly Safekeeping & Access procedures for printed SCF documents according to SCF Industry Standards.

➔ **To be discussed with Cross Industry team what kind of SCF document may be provided as printed material.**

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→ These chapters describe rights and obligations of the Parties

Typical Events related to SCF Information

Rights and obligations of the parties in typical events.

- Upon Newbuilding of Ship
- Upon Update of SCF Information
- Upon Periodical Renewal of SCF Access Security Measures
- Upon dismantling of Ship

1. Upon Newbuilding of Ship

The **Shipbuilder** should provide SCF Onboard and SCF Supplement Ashore to the **Archive Center**

The **Archive Center** should provide

1. SCF Onboard **to the Ship**
2. a full or partial copy of SCF Onboard **to the Shipowner's Office Ashore**



2. Upon Update of SCF Information

- The **Shipowner** should obtain altered SCF Information from the Repair shipyard.
- The **Shipowner** should provide altered SCF Information to the Archive Center.
- The **Archive Center** should update relevant SCF information kept at various location in a timely manner.



3. Upon Periodical Renewal of SCF Access Security Measures

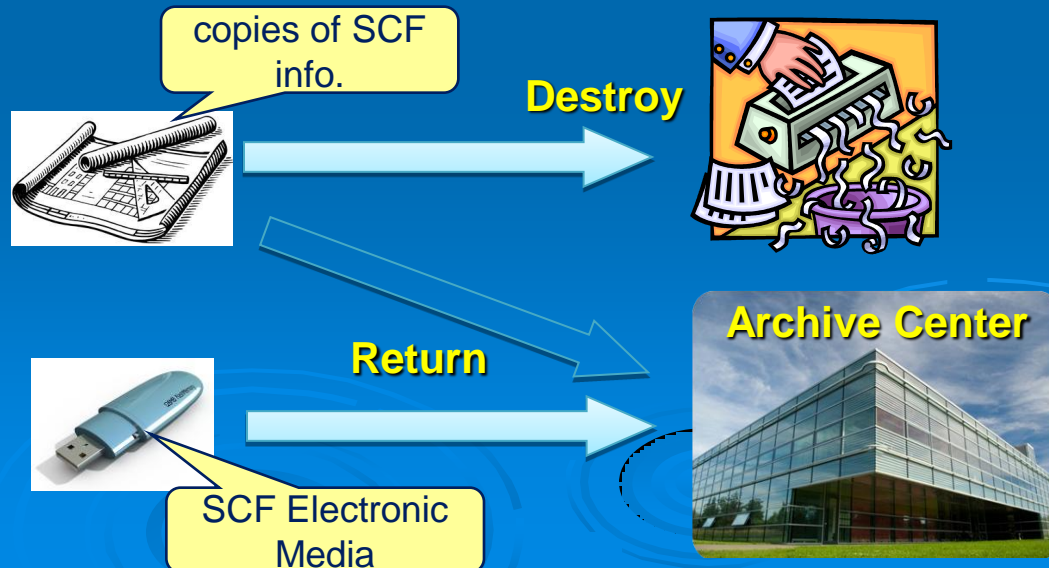
- SCF Media Onboard has **expiration period of one year** for security reason.
- The **Archive Center** should make arrangements to **exchange** old SCF Media Onboard for new Media.
- **Periodical Renewal** should be conducted **once a year**.



4. Upon dismantling of Ship

When the Ship is dismantled,

- The **Shipowner** should promptly notify the **Archive center** of that event.
- The **Shipowner** should promptly **destroy** all SCF Information or all copies or return them to the **Archive Center**.
- The **Shipowner** should **return** Electronic Media Onboard to the **Archive Center** in a timely manner.



Annexes of SCF Industry Standards

Detailed description are written up in Annexes

- Annex-1 Practical Guidelines for SCF Information Definition
- **Annex-2 Safekeeping and Access Guidelines – Basic Principles**
- Annex-3 Preparation of SCF and Provision for Shipowner
- Annex-4 Operational Requirements for Archive Center
- **Annex-5 Safekeeping and Access Guidelines – Details**
- Annex-6 SCF Information Disclosure and Management Standard Terms and Conditions
- ➔ To be prepared after finalized other part of draft SCF IS
- Annex-7 Quick Reference Table for Principal Rights and Duties of Principal Parties

Access to SCF Onboard (Min./Low/Medium IP Security Level)

➤ Access to SCF Info is defined according to each IP Security Level

➤ **Minimum** IP Security Level

- ❑ Accessing Individual : Shipowner, Seafarer or Operator
- ❑ Print : OK !
- ❑ Authentication : Required Password

➤ **Low** IP Security Level

- ❑ Accessing Individual : Shipowner, Seafarer or Operator
- ❑ Print : OK ! (**One page per job**)
- ❑ Authentication : Required Password

➤ **Medium** IP Security Level

- ❑ Accessing Individual : **Representative** of Shipowner, Seafarer or Operator (each 2 person)
- ❑ Print : **NG !**
- ❑ Authentication : **Biometric device** or equivalent

Shipbuilders' team proposed Biometric authentication as simple & easy access measures.

➔ To be discussed with Cross Industry team.

Access to SCF Supplement Ashore (High IP Security Level)

1. **Representative** of Shipowner or Operator submit a request to the Archive center with
 - the reason of request
 - the scope of information needed
2. Archive Center notify the request to the Shipbuilder for permission.
3. **Shipbuilder reply** whether to **permit or not** to disclose.
4. Archive Center send the scope of information necessary and sufficient for the purpose to Shipowner **as printed material**.



Access by other Access Right Holders

- The **Shipowner** may permit other Access Right Holders to access SCF Information **through** the Shipowner for Safe Operation Purposes in accordance with SCF IS
- “other” Access Right Holders :
 - Sub-contractor (Repair shipyards etc.)
 - Flag State
 - Port State
 - The Registered Class
 - Coastal State



Short Term Milestone

- **Nov. 2012 – Feb. 2013**: two rounds of comments to the draft SCF IS
- **Mar. 2013** : targeted deadline for the cross industry expert team to complete the first draft SCF IS base documents and next Cross Industry meeting
- **Mar. 2013** : SCF drafting team circulate Annex-6 (standard terms and conditions for SCF information disclosure and management) for comments
- **April 2013**: prepare for the joint info. paper to IMO MSC 92

Long Term Milestone

- **End 2013** : cross industry issues the SCF IS Ver. 1.0 accompanying the submission of CSR-H for verification of conformity to GBS
- **By 1 July 2016** : cross industry issues the final package including detailed IS for GBS application (detailed examples of IT systems, etc.)
- **By end 2017** : SCF Archive centers may start operation for GBS application

Thank you for your attention