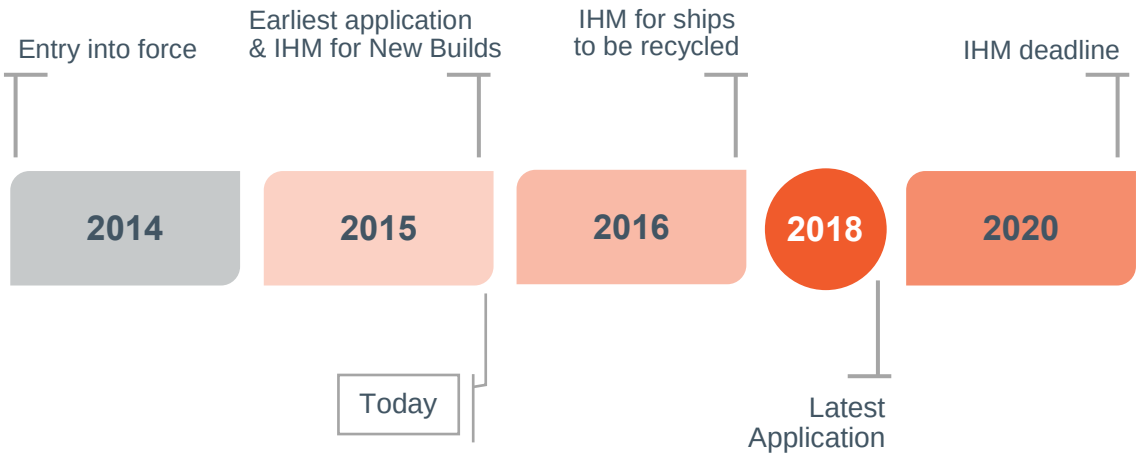
Maritime Industry and Ship Recycling



Change of rules

Per 2014-01-01, the legislative landscape for the ship building industries and ship owners has dramatically changed. What seemed a very remote thread (Hong Kong Convention) has very suddenly become a strong challenge for about two third of the world's merchant fleet and a significant part of the touristic liners – all driven by EC's commission and parliament. By 2016 – latest 2020 – no ship will be allowed European harbors anymore, if it does not carry along a certified IHM.

European manufacturers and owners are addressed even more sharply: ships build resp. flagged in Europe are always to carry along such IHM. Moreover, those ships will only be allowed to registered and certified recycling facilities. The EC has factually implemented without any ratification by their member states. Europe simply created a regulation in order "to support the world wide entry into force of the Hong Kong Convention".

Lack of experts

The owners‘ calculation seems relatively simple for the running fleet: about 35.000 ships have to be equipped with an IHM until latest 2020. The only way to achieve this is by employing material experts doing on-board examination. That sums up to 7.000 ships p.A., 20 per day. On the other hand, the effort required per ship is 2-3 days adding lab and travel time, equating to ideally 60 experts working 24X7 without travelling. Realistically, this requires 100+ experts assuming a constant recycling quota.

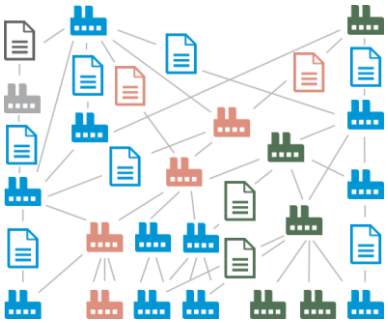
But there are neither a sufficient number of experts, nor is the recycling quota even close to constant. Being bound to technological parameters, available recycling slots, raw material prices and world trade volumina, this quota is highly volatile. Moreover, all these figures do not take into account the requirement for overhaul and repair: the same mechanisms apply to replacement products during a ship’s LC that would apply to a new build.

Responsibility of the ship building sector

What is the implication for New Builds and overhaul / repair? First of all: the amount of class relevant documents will significantly increase. At once the supply chain will become part of a chain of responsibility. If a ship is not certified, compulory measures will be applied. In case of doubtful quality, harbor times are to be expected. The shipyard is out of risk having the clear and not negotiable mandate to request the IHM relevant material declarations from their tier 1 suppliers; the certification process of the classes shall warrant the necessary transparent processes. But what about the poor tier 1? As a general rule he delivers systems / products whose material composition is known to him only fractionally. Creating MDs on own account, he will adopt legal responsibility for the information, as the SDoC legally binds the MD. In doubt, the tier 1 will be made liable. A sound risk management should lead to the conclusion that the information should be sourced from the supply chain. Unfortunately, the regulation is binding for the upstream supply chain. But the process has to be designed in such way that responsibility / liability are shared or transferred.

Tools and services are required

It would be naive to assume that this requirement could be fulfilled in short time and along the way. No matter how: the cooperation of the supply chain, expert knowhow and tool support are required.



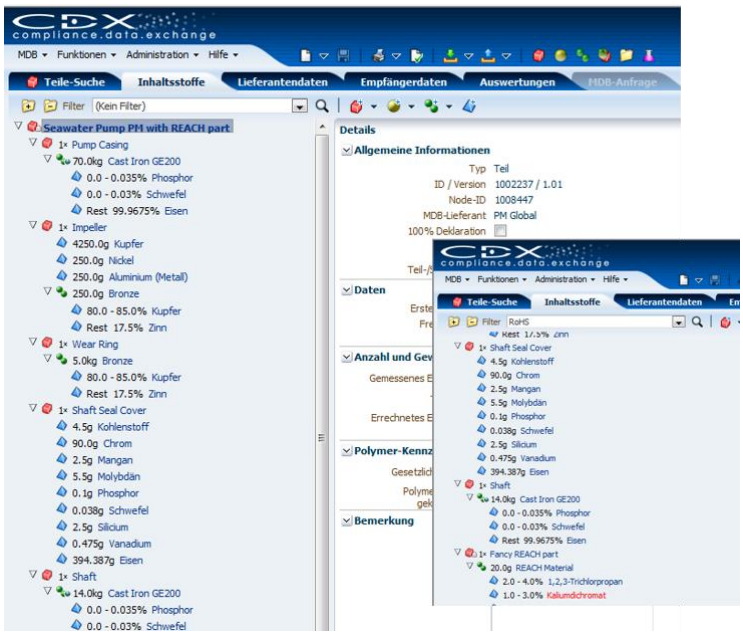
Ideally these tools

- **facilitate communication:**
  topic related requests, quality attributes, due dates, reduction to the relevant information, transparency and interpretability of communication
- **help reducing effort:**
  unambigious data structures and standardized formats, automatized calculation and rollup, reusability of data, analysis and search
- **create certainty:**
  a significant set of basis data, tended rules, clear accountability, traceable but not disclosed sourcing paths to keep IP while establishing a chain of responsibility, reliable versioning and change processes
- **help reducing cost:**
  no local operations, user support, backup and fail over mechanisms, ongoing development triggered by the industries‘ needs, avoidance of operative and functional redundancies

DXC' CDX compliance.data.exchange answers these challenges

Besides **shifting** the **operative risk** of data maintenance and aggregation to DXC as service provider, CDX offers a number of advantages for singular participants up to complete supply chains within one or multiple industries

CDX implements **relevant compliance schemes** without requiring redundant data entry as caused by using different systems or formats for each scheme – one of the major challenges suppliers are facing in today’s compliance environment. By employing a neutral product structure, CDX offers the option to **collect data for different scenarios** within in one collection effort.



CDX helps **avoiding unneccessary repeated data entries**. Multiply used parts are created once and referenced on need, or send to customers at different times. This includes used supplier parts: the customer always receives an aggregate of material data.

CDX is based on a **unique set of substances** and **materials** composed thereof. Close to 20.000 material compositions form a standardized and quality assured base, allowing participants to create high value reports.

CDX supports **reuse** and simple **versioning** of data and therefore **simplifies change processes**. Only relevant changes have to be entered, the major part of data remains untouched and reusable.

CDX **supports communication** between suppliers and customers. Built-In **workflows** and means of communication – including the possibility of sending Emails and subscribing for event notification – steer request, creation and receipt of material information.

Last but not least, CDX is a **simple to use** and **competitive** option to establish a **standardized process** in-house or within any given supply chain: more than internet access and a modern browser are not required to start. No provisioning of costly systems and their operation are required, no worry about the whereabouts and security of your data.
If more is required: simple to use **interfaces** and a network of professional and experienced partners allow for **integration**, outsourcing of tasks as well as tailored **consulting** and **trainings** for you and your supply chain …

Associations related to the Maritime Industry

BIMCO	The Baltic and International Maritime Council
CESA	Community of European Shipyards' Associations
IACS	International Association of Classification Societies
IMO	International Maritime Organization
ISRA	International Ship Recycling Association
RINA	Royal Institute of Naval Architects
SNAME	The Society of Naval Architects & Marine Engineers
UNEP	United Nations Environment Programme
VDMA / Ship-building	Verband Deutscher Maschinen- und Anlagenbau e.V.
VSM	Verband für Schiffbau und Meerestechnik e.V.

Relevant Norms / Regulations for Ship Building

The European Regulation on Ship Recycling (Regulation (EU) No 1257/2013) is a regulation by the EC regulating Safe and Environmentally Sound recycling of ships. In most parts it is congruent with the Hong Kong Convention. The regulation has entered into force on 2014-01-01 and latest application is 2018. It is already building a high pressure on the industry.

Hong Kong Convention
Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, and it's adoptions from the diplomatic conference held in Hong Kong, China, in 2009

ISO 30000:2009
Ships and Marine Technology -- Ship recycling management systems -- Specifications for management systems for safe and environmentally sound ship recycling facilities

ISO 30003:2009
Ships and Marine Technology -- Ship recycling management systems -- Requirements for bodies providing audit and certification of ship recycling management

ISO 30005
Ship Recycling Management Systems -- Information control for hazardous materials in the manufacturing chain of ship-building and ship operations

ISO/DIS & PRF/PAS 30006:2010
Ship Recycling Management Systems -- Diagrams to show the location of hazardous materials onboard ships

ISO/PAS 28005-2:2011
Security Management Systems for the Supply Chain -- Electronic port clearance (EPC)