

Background and experiences of GSR Services (Green Ship Recycling Services)

i. GSR Services GmbH

GSR Services GmbH (GSR) is a private owned company (established in January 2011) for offering comprehensive expertise based services for effective implementation of new requirements for enhancing the safety and environmental performance of global ship recycling industry. GSRs' goal is improving the safety and environmental protection of ship recycling activities and closing the circle from cradle to cradle in the maritime industry.

Services for clients are provided along the whole life-cycle of ships, from manufacturers and suppliers of materials & components via shipyards, shipowners, brokers to ship recyclers including waste management in their hinterland as well as classification societies and flag states. GSR provides customer oriented solutions based on its vast technical and legal experience and knowledge. GSR is well connected internationally to various stakeholder networks, also the CEO Henning Gramann has established the „International HazMat Association e.V.“ in 2013 for providing efficient IHM services to ship owners globally.

ii. Examples of expertise and experience

GSR / Henning Gramann has various related experiences, as reflected i.e. in the list of his publications (Annex 1). Also he has significantly contributed to legal developments (HKC) and related guidelines at IMO under consideration of ILO, Basel Convention and other relevant international requirements. These activities were directly linked to his research and development projects at GL where he has built up the ship recycling department from 2006 till end of 2010.

Soon after establishment of GSR in January 2011 an Expert Report on “Comparison of equivalency of control mechanisms of Basel Convention with the upcoming Hong Kong Convention” on behalf of Japan Ship Center (JETRO) in London has been prepared. Additionally GSR has worked on manifold projects throughout maritime supply chains, shipbuilding, fleet in service and end of life ships, just to name a few of the projects.

iii. Examples of work experience in developing inventories of hazardous wastes

GSR Services has prepared approx. 40 IHMs acc. to Res. MEPC. 179(59), Res. MEPC 197(62), and Res. MEPC 269(68) since 2011. Some projects are listed below:

- German Shipyard 1: 9 cruise vessels, 1 research vessel, 2 LNG Tankers
- Canadian Shipowner: 1 container vessel
- German Ship manager: 1 research vessel
- French Shipowner : 2 FSUs
- German Shipowner 1: 1 container vessel, 2 sailing cruise vessels
- German Recycling company: 1 domestic vessel

- German Shipowner 2: 3 geared container vessels
- German Shipowner 3: 2 double-end ferries
- German Shipowner 4: 1 container vessel
- Chinese Shipyard : 1 container vessel
- German Shipyard 2: 1 self-elevating offshore unit (incl. Dutch asbestos survey)
- German Shipyard 3: 1 self-elevating offshore unit (incl. Dutch asbestos survey)
- German Shipowner 5: 1 RO-PAX ferry
- German Shipowner 6: LNG Power Barge

iv. **Examples of work experience in relation to the environmental aspects of ship recycling**

- i. Since 2013 GSR Services has worked with 4 ship recycling facilities (SRFs) in Alang / India. Since February 2014 identical projects with 10 SRFs in Gadani / Pakistan and another 4 from Alang are in progress.

Aim of the projects are to upgrade the ship recycling facilities from their current status to full compliance with Hong Kong Convention of IMO (HKC). The projects are based on sharing experience, technical & legal knowledge for developing concepts jointly with the SRFs. These projects are conducted in three phases:

Phase 1: Identification

Provision and explanation of the consulting process including site inspection for checking existence and conditions of the minimum required facilities in the ship recycling facilities as well as in their hinterland. Preparing gap analyses of existing documentation and procedures in comparison with HKC and related 2012 Guidelines for Safe and Environmentally Sound Recycling of Ships (Res. MEPC.210(63)).

Phase 2: Closing gaps and improvements

The results of the site visits during Phase 1 were completed by more detailed site inspections. During various on-site visits the internal and external infrastructure was investigated and required improvements including technical as well as practical aspects for the SRFs identified. The new setup and depending work as well as management practices are reflected in the SRFP accordingly.

Exchange of ideas and experience was a key factor for successfully and effectively preparing the SRFs and implementing the SRFPs for full compliance. Closing of some identified gaps is relying on alternative solutions like export of hazardous wastes from India to Europe until external companies or governmental bodies have to adopt to the new requirements. Soon they (e.g. SRIA, GEPIL, GPCB, GMB) will be approached and supported with full scale proposals.

Phase 3: Certification

ClassNK as certifier has performed audits in August 2015 in India for issuing Statements of Compliance with HKC (SOCs). These certificates have been issued in September and December 2015 as all SRFs were found to be in full compliance with HKC.

This project has significantly improved the safety and environmental performance of the participating SRFs and many more SRFs are currently applying to get identical services from GSR Services.

- ii. GSR Services has prepared IHMs for two tankers and provided the owner with advice on green & safe ship recycling. This included development on criteria to be fulfilled by potential SRFs for handling of hazardous materials found on board and commercial as well as legal and contractual guidance. GSR Services was later ordered to inspect the ongoing recycling project for verification whether or not the set criteria were met by the chosen SRF.

v. Examples of working with relevant stakeholders

GSR has experiences in all fields related to ship recycling, from cradle to grave. Detailed insight has been gained by early involvement in the development of legal requirements at IMO including very active participation in developing all related guidelines since 2006. Additionally GSR was involved in the preparation of the ISO 30000 series from the very beginning including project leadership for ISO 30003 and ISO 30005. These are important activities allowing GSR to consider all ship recycling related aspects.

GSR and its staff has conducted specific research projects in the fields of IHM preparations and certifications, documentation of hazardous materials and exchange / compilation thereof, utilization of IHM information for planning of ship recycling processes and identification of suitable ship recycling facilities. These efforts have also led to the establishment of an international network of IHM-Experts (IHMA, www.ihm-association.org) which includes laboratory standards, statistics for hazardous material surveys, sharing of experiences for creating a high standard network, and much more.

All developments and services have been and are carried out with focus on legal compliance, health and safety, environmental protection, Corporate Social Responsibility, practicality, efficiency, and economics.

GSR offers the following services to its clients:

- Advise on and overtaking of MDs & SDoCs preparation for suppliers
- Advise on and overtaking of IHM preparation for shipyards
- Advise for classification societies
- IHM-Preparation for new & existing ships (“approved HazMat Expert” by GL and ClassNK)
- IHM-maintenance for shipowners
- MD/SDoC management for manufacturers
- Decontamination planning and preparation of Safe Operating Procedures (SOPs) in case not all risks associated with present hazardous materials can be terminated otherwise
- Preparation of ships for recycling, recycling planning, identification of suitable ship recycling facilities based on ship specifications and commercial evaluations, supervision of recycling activities

- Improvement and compliance projects for ship recycling facilities
- Design and operation of ship recycling facilities in relation with hinterland infrastructure
- Trainings:
 - Asbestos awareness for workers / for managers and supervisors
 - IHM Preparation for “IHM Experts” and shipyards
 - MD & SDoC preparation and maintenance for maritime suppliers
 - Planning of green ship recycling facilities including consideration of organisation, budget, technical requirements, and hinterland infrastructure for new and existing facilities, etc.

In addition GSR has worked on the EU-funded project “ShipDIGEST” (Ship Dismantling Insight by Generating Environmental and Safety Training) funded by the European Commission / Leonardo da Vinci program. The main aim and objective was to assist the ship recycling industry by improving, through knowledge transfer, the various identified social and HSE issues by utilising innovative products, tools and vocational education and training (VET) from previous EU projects and from similar industries within the EU.

GSR Services was involved in the IMO – NORAD Project on Ship Recycling - SENSREC WP 4 Part 1: “A review and upgrade of existing training courses on occupational health, safety and environmental issues and piloting of the new training materials - Training Needs Assessment and Curriculum Development” for ship recycling industry of Bangladesh. Currently we’re working on the follow-up project for the development and delivery of required training contents.

GSR has carried out its services in various regions like Asia (e.g. China, India, Japan, Pakistan, Philippines, Singapore), Europe (e.g. Germany, Gibraltar, Netherlands), and Africa (e.g. Cameroun, Gabon, Namibia). Besides numerous IHM preparations for new and existing ships GSR has developed the audit scheme and check routines for internal audits of ship recycling facilities by ISRA. For GL and ClassNK trainings for IHM Experts, persons who are preparing IHMs for ships, have been conducted around the globe as well as support provided for utilization of IHM in conjunction with ship recycling facility specific planning of safe and environmentally sound recycling of ships (Ship Recycling Plan preparation).

GSR Services hold contacts to various stakeholders in the ship recycling industry and Asian governmental bodies. This includes:

- India: Ship Recycling Industry Association, Ministry of Shipping, Gujarat Pollution Control Board, Gujarat Maritime Board
- Pakistan: Ship Recycling Association of Pakistan, Global Environmental Management Solutions
- Bangladesh: Sustainable Finance Advisory, Norwegian Ship Owners Association (NORAD)

vi. Composition and qualifications

Henning holds a degree in Environmental Engineering (Diplomingenieur, Dipl.-Ing.) specialized in waste management and is engaged in various fields of maritime environmental protection since the year 2000.

He started his career with GAUSS gem.mbH in Bremen, a research institute for environmental protection and safety in shipping, as a specialist in maritime waste management. Later he was a seafarer (environmental officer) on board a German cruise vessel implementing a comprehensive environmental compliance plan.

In 2005 he joined Germanischer Lloyd, as “Global Head of Practice - Ship Recycling” and was responsible for the development and establishment of all ship recycling related services of Germanischer Lloyd (GL) in line with the Hong Kong Convention (HKC) to which development he has contributed in parallel. He has created a comprehensive ship recycling service portfolio for GL which can't be found elsewhere.

Henning has established Green Ship Recycling Services (GSR Services) in January 2011 for supporting independently all stakeholders for cost effective preparations and practical fulfilment of HKC and other applicable requirements, from cradle to grave.

He is frequently chairing and speaking at various international conferences and is an internationally recognized expert for ship recycling. A list of his publications is provided in Annex 1.

After stepping back as founding & board member of International Ship Recyclers Association (ISRA) in March 2012 he has established the “International Hazardous Material Expert Association” (IHMA e.V.) in March 2013 in Dubai, which compiles knowledge and technical expertise of leading “IHM Experts”, creates a global network for offering highly qualified IHM services to the shipping industry, closes gaps in existing technical guidelines of IMO, and establishes highest standards and provides guidance to all stakeholders like flag and recycling states, classification societies, P&I clubs, insurance companies and others.

Henning Gramann holds the following positions:

- CEO GSR Services GmbH
- Chairman & Treasurer of IHMA
- Guest professor at WMU
- Member of German delegation to IMO-MEPC / Ship Recycling
- Technical advisor for the German Federal Ministry of Transport, Building and Town Development, representing Germany at the MEPC of IMO and participating at COP Meeting of Basel Convention.
- Project leader for ISO - Ship recycling management system standards (ISO 30003 and ISO 30005)

- **Memberships / other professional positions**

- 2014 – to date: Guest professor at World Maritime University, Malmö/Sweden
- 2013 – to date: International HazMat Association - IHMA e.V.: Founder, chairman, and treasurer
- 2011 – to date: Appointed technical consultant for International Maritime Organisation (IMO)
- 2007 – to date: Consultant for the German Federal Ministry of Transport, Building and Town Development, representing Germany at the Maritime Environmental Protection Committee of the International Maritime Organisation (IMO)
- 2007 – to date: National Expert and ISO Project Leader of ISO / DIN e.V. for ISO 30.003 and 30.005 on Ship Recycling, Team Member for Development of international standards for shipboard management of wastes
- 2007 – 2012: International Ship Recycling Association – ISRA: Board and founding member

Awards:

- GSR Services has been awarded with the “Lünale Impuls – Gründerpreis” for the most innovative business start-up in the region in 2012



Annex 1: List of publications of Henning Gramann / GSR:

- 2016 and 2016: Manifold presentations at international conferences, workshops and meetings
- 2014 „From cradle to grave“, Ship&Offshore magazine, ClassNK promotional supplement for SMM Hamburg, 09/14, p. 15ff
„Tod am Strand von Chittagong“, impuls magazine 10/14, page 34ff
„Schadstoffe im Blick - Umsetzung neuer EU- Schiffsrecyclingvorschriften im Neubau“, Kiek Ut, Meyer Werft staff magazine
“Nachhaltigkeit: Stoffkreisläufe im Fokus“, Im Dialog, Meyer Werft supplier magazine
“Hazardous Times in Europe?”, Hansa Shipping 08/14, page 70ff
“Welcome 2014! Developing scrapping to ship recycling” The Shipping Tribune, online magazine
Manifold presentations at international conferences
- 2013 “Professionals unite for high quality HazMat surveys”, CleanerSeas, autumn/winter ‘13, page 14
„Joint NK-IRS IHM Expert Training held“, SNM Events Magazine, page 38
Manifold presentations at international conferences
- 2012 „Personalien“, Deutsche Seeschiffahrt, 12/2012, page 8
„Marshallplan als Initialzündung“, Lüneburger Landeszeitung, No. 288, 8.).12.2012, page 41
„Die Umweltdetektive aus Lüneburg“, Hamburger Abendblatt, 19.11.2012, page 26
„Schiffahrt: Abwracker sind die Krisengewinner“, www.zeit.de/wirtschaft/2012-07/abwracker, 07/2012“
“Gutes Recycling inklusive Entsorgung kostet mehr“, Deutsche Seeschiffahrt, 06/2012, page 80-81
“Dank der Schiffahrtskrise floriert die Abwrackindustrie“, Deutsche Seeschiffahrt, 06/2012, page 74-79
“Scots snub green recycling push as focus shifts to continent“, Tradewinds, 9 March 2012, page 21
“Asbestos failure by class societies“, Tradewinds, 10 Feb. 2012, page 1 & 3
Manifold presentations at international conferences
- 2011 “Grünes Schiffsrecycling“, Deutsche Seeschiffahrt, 12/2011, page 28-31
“Why life cycle considerations have to go beyond known boundaries“, Hansa International Maritime Journal, Vol. 148, No. 10, October 2011, page 40-46,
Manifold presentations at international conferences
- 2010 Manifold presentations at international conferences
- 2009 “Disposal and Recycling of HSC Materials“, Journal of Ship Technology, Vol. 5, No. 2, July 2009, page 1-12
- 2008 MEPC Submission No. 58/3/10: “Utilization of applicable threshold levels relevant for the preparation of Inventory of Hazardous Materials“(Submission by Germany)
MEPC Submission No. 58/3/2: revised “Draft Guideline for the Development of the Inventory for Hazardous Materials“ (joint Submission of Germany and Japan)
“Shipowners must face new recycling rules“, Oils&Fats International, March 2008, Vol. 24 No. 3, page 37f
„Breaking up is hard to do“, The Swedish Club Letter, March 2008, page 10f
- 2007 “More than old iron“, Shipbuilding Gazette, Issue 18, page 20, Sweden
“Disposal and Recycling of HSC Materials“, Henning Gramann, Karsten Fach, et al, GL Hamburg/Germany
“Give me a break“, Shipping World & Shipbuilder, July/ August 2007, page 35ff

- “Ship-Building Development and Research Strategies for Useful Fulfilment of Ship-Dismantling Processes”, Joint Project of Turkish Undersecretariat for Maritime Affairs and Germanischer Lloyd for the period 2006/2007
- „Tankers on the Beach“, GL-Tankermail, Issue 01/07, p. 6f
- “Mehr als altes Eisen“, THB, 20.04.2007, page. 14f
- MEPC Submission No. 56/3/2: “Draft Guideline for the Development of the Inventory for Hazardous Materials“ (joint Submission of Germany and Japan)
- “Die Marschrichtung ist klar“, GL-customer magazine Non-Stop, 02/07
- “Müll über Bord?“ / „Waste overboard“ / „Gemilerden Denizlere Atılan Cöpler ve Atıklar“, GL-customer magazine Non-Stop, 01/07
- 2006 various presentations at international conferences e.g.: China, Portugal (EMSA), USA, United Kingdom (incl. IMO), Belgium, Germany, Bangladesh, India, etc.
- 2005 „Maritime Waste Management“, Seminar of GL-Academy, Germanischer Lloyd
- 2001 “Maritime Waste Management for Designated Persons“, GAUSS gem.mbH
- 2000 Diploma Thesis "Optimization of Solid Waste Management in German Merchant Ports“, GAUSS gem.mbH
- 1999 Chapter on TBT-contamination of marine mammals in “TBT Hot Spot Report“, Greenpeace Australia