

Requirements for a joint component test in the German license area in the Indian Ocean

Hamburg, 7th May 2018

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Herr Weixler ist heute leider verhindert

Parallel 2. Deep Sea Mining /// Session chair /// Steinar Ellefmo, NTNU Department of Geoscience and Petroleum

Bringing minerals to the surface?

Time	Speaker	Affiliation	Topic	Location
09.00	Steinar Ellefmo	NTNU, Dept. of Geoscience and Petroleum	Welcome	Cosmos b
09.05	Maxime Lesage	NTNU, Dept. of Geoscience and Petroleum	Deep sea mining system overview for SMS-deposits	Cosmos b
09.20	Svein Sævik	NTNU, Dept. of Marine Technology	Challenges related to the Deep Sea Ocean Mining Marine Operation	Cosmos b
09.40	Razieh Nejati Fard	NTNU, Department of Electric Power Engineering	Power distribution system design considerations	Cosmos b
09.55	Sape Miedema	TU Delft	The Delft Head Loss & Limit Deposit Velocity Framework, Inclined Pipes	Cosmos b
<i>Coffee Break (10.15 - 10.45)</i>				
10.45	Mats Jørgen Thorsen	NTNU, Dept. of Marine Technology	Numerical tools for simulating deep sea mining riser operations	Cosmos b
11.00	Niranjana Reddy Challabotla	NTNU, Dept. of Energy and Process Engineering	Dynamic pipe flow modelling for Ocean Mining Lift System	Cosmos b
11.15	Sigbjørn Sangesland	NTNU, Dept. of Geoscience and Petroleum	Vertical transportation of drill cuttings in O&G	Cosmos b
11.30	Alireza Bayat	DNV/GL	An overview of standards and codes relevant for riser systems	Cosmos b
11.45	Jort van Wijk	IHC MTI	The Need for Upscaling of Experiments to enable Deep Sea Mining: the Blue Mining vertical transport tests	Cosmos b
<i>Lunch (12 - 13)</i>				
13.00	Toni Müller	TU Freiberg	Blue Mining VTS test facility: construction and execution of tests	Cosmos b
13.15	Leonhard Weixler	Bauer	Discontinuous ore transport from the deep sea: chances and challenges	Cosmos b
13.30	Eelco Frickel	Marin	Design methods and tools for deep sea mining systems	Cosmos b
13.45	Ståle Emil Johansen	NTNU, Dept. of Geoscience and Petroleum	Geophysical proof of vertical hydrothermal and magmatic flow	Cosmos b

1. **Short overview about the planned technology and component test for SMS in the German license area in the Indian Ocean (Some DSMA industry members formed a JIP partnership)**

Joint Industry Projects (JIP) bzw. gemeinsame Industrieprojekte

JIP steht für ein gemeinsames Projekt, das gemeinsam von einer Anzahl von Unternehmen, die sich für eine Zusammenarbeit entscheiden, finanziert wird. Durch derartige Industrieprojekte können gemeinsame Vorteile für die beteiligten Unternehmen entstehen. Gemeinsam suchen die Unternehmen nach einer Lösung für ein spezifisches Problem, das gemeinsame Aktivitäten erfordert. Das Ziel eines JIP ist es, Wissen oder Know-how zu gewinnen, das auf einer gemeinsamen Anstrengung verschiedener Industrie- und/oder Forschungspartner basiert.

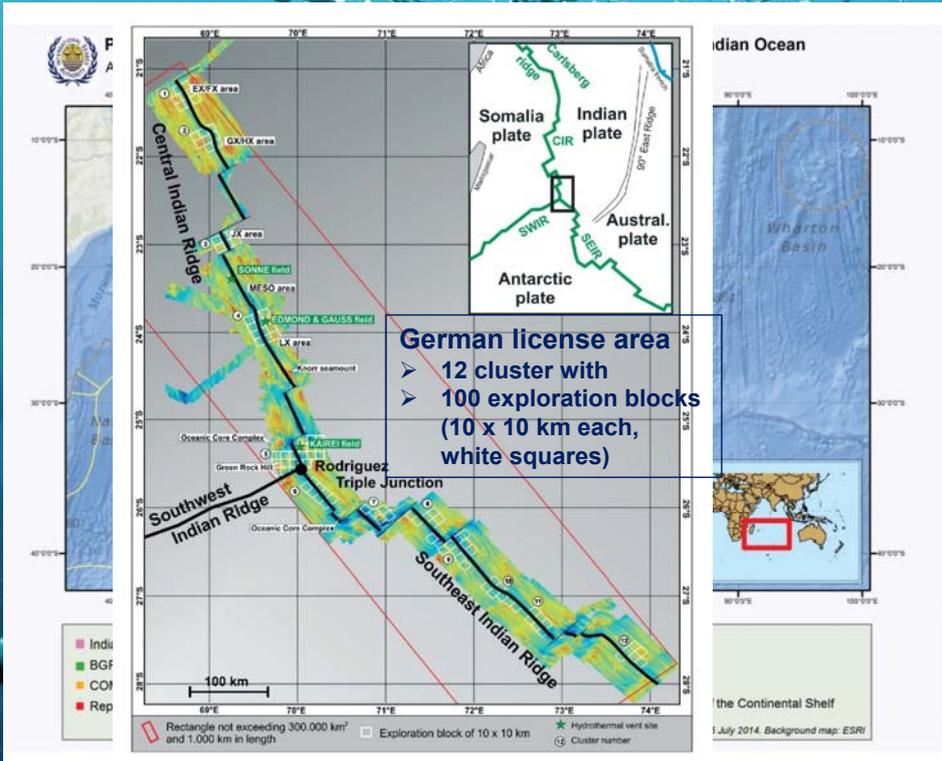
Dabei sind Projekte, die typischerweise in JIPs bearbeitet werden, entweder zu komplex oder zu kostspielig, um von einem Partner allein gelöst zu werden oder erfordern sie spezielles Wissen oder spezielle Technik, die für die einzelnen Partner nicht ohne weiteres verfügbar sind. Die beteiligten Partner vereinbaren für ein derartiges Projekt gemeinsam einen Arbeits- und Zeitplan, die Vertragsbedingungen und die Vertraulichkeit. Dabei werden die Kosten und der Nutzen eines derartigen Projekts gemeinsam geteilt.

1. Technology and Component Test for SMS



- Some DSMA industry members formed a JIP partnership
- Usage of existing equipment from the foundation industry
- Combination with state-of-the-art offshore technology
- New approach for mining SMS Deposits with
 - reduced CAPEX and OPEX
 - minimized environmental impact
- Although the big “system leader” for deep-sea mining is missing in Germany; we have quite powerful players in the market to work on successful integrated new solutions

1. Technology and Component Test for SMS



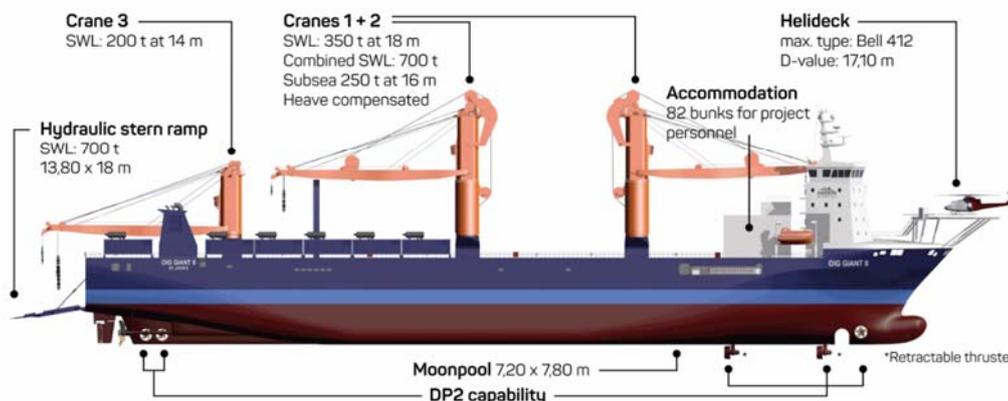
1. Technology and Component Test for SMS

- **Component test for SMS**
- **Usage of mainly existing and well-tried equipment which has been made compatible to the deep-sea requirements**
- **Execution in a small scale to cap the required investment**
- **Environmental monitoring activities planned with the support of the German license holder BGR**
- **Minimal invasive technology approach planned considering the highest environmental standards**
- **Joint Industry Project (JIP) with a close partnership between selected German industry companies and the BGR**

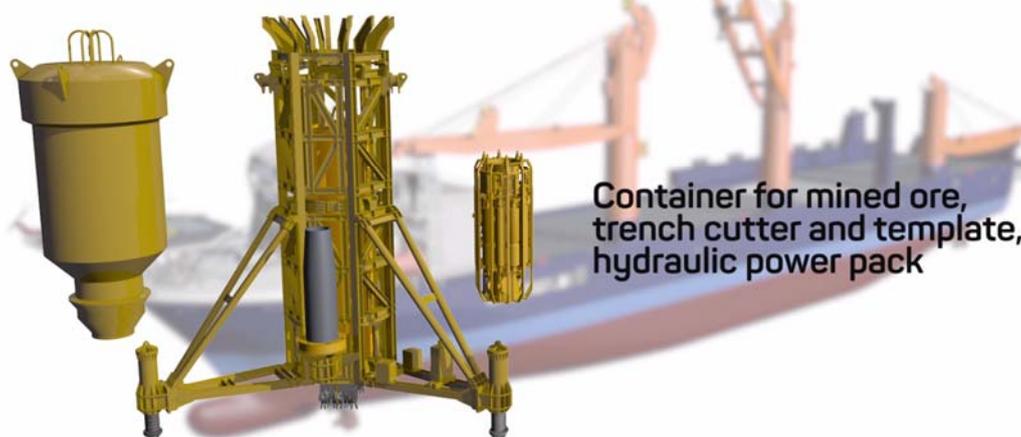
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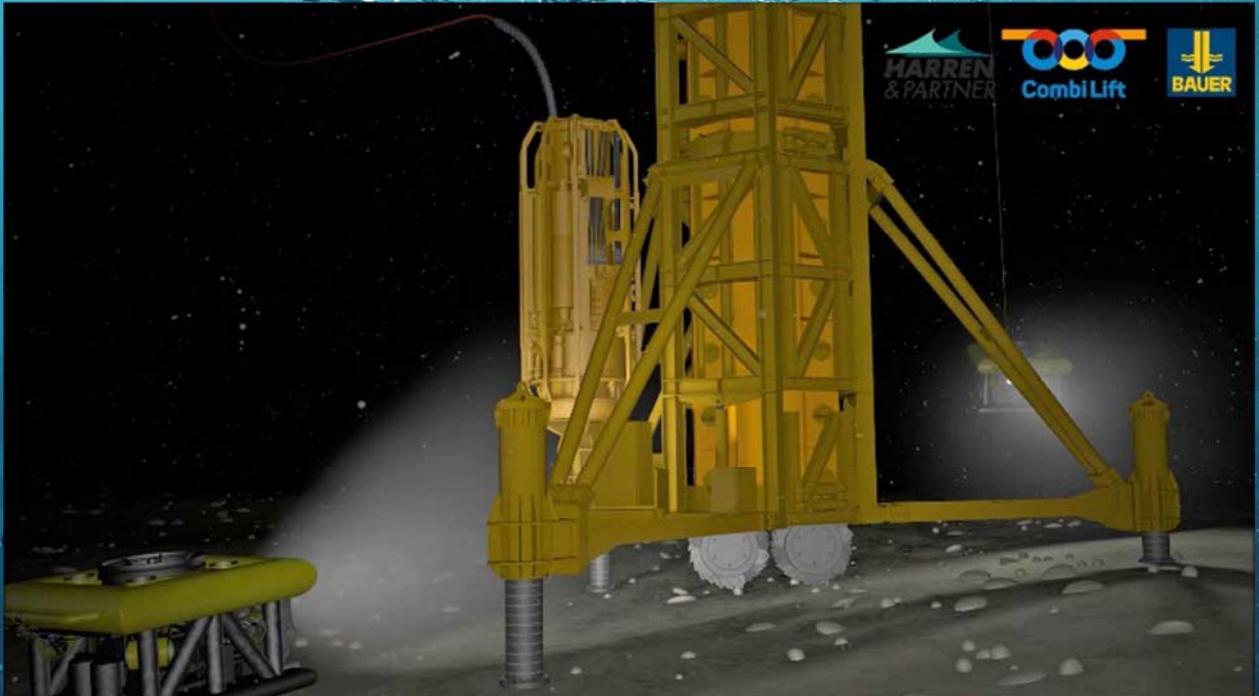
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