“Sea Our Future”

Schleswig-Holstein’s Maritime Approach

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Schleswig-Holstein

- Total Area: 15.799 km²
- Capital: Kiel (240,000)
- Population: 2,83 Mio
- Economically active population: 1,28 Mio
- Rate of unemployment: 7% (national average 7,2%)
- Business: 99% are SMEs (less than 250 employees)
- Focus: Medical technology, maritime, food, information and communication technology, machinery, renewable energy, health, life science
- Life Science: medicine, medtech, biotech, pharmacy
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Schleswig-Holstein Initiative “Sea Our Future“


- “to promote a structured, integrated, and innovative maritime policy and
- to project Schleswig-Holstein’s maritime expertise beyond the region”
- pooling and coordination of maritime activities in Schleswig-Holstein
- concentration of maritime competences
- creation of networks and clusters
- support innovation and ideas
- strengthen maritime economy
- maritime model region
- Maritime Action Plan
Maritime Action Plan

- Bilingual Maritime Action Plan of the government of Land Schleswig-Holstein
- Part of “Sea Our Future“
- First developed in 2008, follow-up in 2013
- Sets out key guidelines for innovative and integrative maritime policy
- Shows resulting projects, both for the future and those that have been successfully completed

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Maritime Action Plan
Examples

1. Maritime Cluster Northern Germany

- started in Schleswig-Holstein in 2005
- extended by the Länder Lower Saxony and Hamburg in 2011
- link governments, companies and science
- pool experiences of the actors
- coordinate and initiate joint projects
- focus on technology-driven innovations
- foster competitiveness of the maritime industry
- create new jobs

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2. Marine Aquaculture

- National Competence Centre for Mariculture in Büsum:
  - marine fish aquaculture (circulation system)
  - research facility in Büsum established in 2009
  - newest scientific and technical specifications
  - own research and commissioned research for companies
  - education and training
  - coordinate mariculture in Schleswig-Holstein
Maritime Action Plan
Examples

2. Marine Aquaculture

- Fraunhofer Research Institution for Marine Biotechnology in Lübeck:
  - develops new technologies, processes and instruments in the fields of
    - biological water quality monitoring,
    - aquaculture technology,
    - cellular technologies…
  - Focus in aquaculture: integrated multi-trophic aquaculture (IMTA)
Maritime Action Plan
Examples

3. Marine Biotechnology

- Fraunhofer Research Institution for Marine Biotechnology in Lübeck
- Kiel Centre for Marine Natural Products – KiWiZ – at GEOMAR:
  - competence centre supported by Land Schleswig-Holstein
  - Algae, sponges, bacteria
  - Search for new active substances
  - Pharmaceuticals and cosmetics
- Master plan Marine Biotechnology for Schleswig-Holstein
Masterplan Marine Biotechnology
Schleswig-Holstein

Research institutions in total: 22

- **GEOMAR Helmholtz Centre for Ocean Research Kiel**
  
  [www.geomar.de](http://www.geomar.de)
  
  Kieler Wirkstoff-Zentrum: Biological active substances from marine microorganisms for application in the field of human and animal health, plant protection, cosmetics and neutraceuticals

- **Fraunhofer Research Institution for Marine Biotechnology**
  
  [www.emb.fraunhofer.de/en](http://www.emb.fraunhofer.de/en)
  
  Aquatic cell culture and aquaculture

Business in total: 26

- **Sea & Sun Technology GmbH**
  
  [www.sea-sun-tech.com](http://www.sea-sun-tech.com)
  
  Cultivation of microalgae for different applications

- **Coastal Research & Management / oceanBASIS**
  
  [www.crm-online.de / www.oceanbasis.de](http://www.crm-online.de / www.oceanbasis.de)
  
  Research in the field of biological active substances from marine macro-organisms. Production of marine cosmetics.

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Strengths
- strong academic expertise (GEOMAR, EMB, cluster of excellence “Future Ocean”)
- existing technological equipment
- location between two seas
- living networks

Weaknesses
- short-term funding
- only little cooperation between research and industry
- scarcity of financial resources and stakeholders

Opportunities
- Increased use of renewable resources and alternative technologies
- Participation in ERA-NET Marine Biotech

Threats
- strategic changes in research institutions
- low risk-taking of investors
- no or only little focus on “strong” topics
Masterplan Marine Biotechnology Schleswig-Holstein Focus Areas

**Research**
- combination of technologically and ecologically approaches
- marine biomaterials in tissue engineering
- marine cell cultures as environmental test systems
- new marine nanoparticles
- micro- and macroalgae

**Industrialization**
- marine biotechnicum
- high-throughput enzyme screenings
- development of new aquaculture systems
- better up-scaling in marine aquaculture
- combinations with other technologies

**Dialogue & Structure**
- strengthening interaction
- establish coordinator
- joint internet platform
- awareness raising campaign in industry

**Qualification**
- qualify non-academic staff
- study course “marine biotech”
- Qualify techtrans personnel

**Economy**
- food from marine resources
- better sustainability in marine aquaculture

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Five Central Focus Areas
Schleswig-Holstein's government (cabinet) agreed to the master plan, 2/2013

Regional innovation strategy

Working group consisting of members of “Sea Our Future” and experts in the field

Public presentation and discussion in Kiel, May 24, 2013

Implementation concept:
(scheduled for October 2013)

- Networking
- Financial resources
- Coordinator
- Attract private capital
- …
Thank you!!!

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