

ATV

# FREMTIDENS MARITIME INGENIØRUDDANNELSE

Onsdag den 23. november kl. 12:30 til 16:00

Ny VÆKST i Det Blå Danmark, Christiansborg

## Udredningsopgave for Den Danske Maritime Fond

Ledet af ATV Akademimedlem Bo Cerup-Simonsen

Vice President hos A. P. Møller – Mærsk



## Fremtidens maritime ingeniøruddannelse

ATV har af Den Danske Maritime Fond fået til opgave at udarbejde et forslag til sammensætningen af en opdateret maritim ingeniøruddannelse i Danmark.

### Krav til besvarelsen

- Skal afspejle erhvervets behov
- Være realistisk akademisk som organisatorisk
- Give bud på erhvervets engagement i uddannelserne

## Akademiet for de Tekniske Videnskaber - ATV

ATV er et akademi, hvis styrke er dets medlemmer. Medlemmerne er valgt i deres personlige egenskab og repræsenterer tilsammen landets højeste ekspertise og erfaring særligt inden for teknik og naturvidenskab.

ATV arbejder for at fremme den teknisk-videnskabelige forskning og sikre anvendelsen af dens resultater for at øge værdiskabelsen og velfærden i det danske samfund.

## **Behovs- og engagementanalyse**

- Interview med erhvervet, SDU og DTU (13 stk)
- Interessentmøde (60 deltagere)

## **Præsentation og aflevering af resultater**

- Præsentation ved "Ny VÆKST i Det Blå Danmark"
- Rapport afleveres til Den Danske Maritime Fond

## **Fremtidens maritime ingeniøruddannelse**

- Erhverv har fået klarlagt vigtigheden af deres engagement i ingeniøruddannelserne.
- De danske universiteter har et solidt grundlag for at vurdere den maritime branches kompetencebehov hos dimittender.

# Grønne teknologier i kraftig vækst

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## Copenhagen Business School

Blue Event no. 23, februar 2011



### Nye udfordringer for den globale skibsoperation

- Regulated Carbon and Environment
- Rise of Rights and Local Governance
- Hyper-Transparency
- Demographic Shifts and Consumption Patterns

### Teknologiske løsninger med danske styrkepositioner og eksportmuligheder

- Air emission and fuel
- Recycling
- Discharges to sea
- Waste

# Nye grønne forretningsmuligheder

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## ATV Seminar 2011:

### Innovation in the Maritime Industry

- 1) Trend towards sustainability
- 2) Potential for improvement
- 3) Shipbuilding and ship technologies
- 4) Totalities in a segmented world
- 5) Cluster synergies
- 6) University Research

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### INNOVATION IN THE MARITIME INDUSTRY ENVIRONMENTAL SUSTAINABILITY AND ENERGY EFFICIENCY

#### SUM-UP AND DISCUSSION

By ATV - Organizing Committee  
- with valuable inspiration from speakers and participants

##### Trend towards sustainability

Environmental concerns will only grow in importance for both customers and regulators. This will inevitably increase the need for further technology research and development for new equipment and retrofit. A life-cycle approach must be taken at all levels.

##### Potential for improvement

With significant technological challenges ahead cross-disciplinary technology development is increasingly called for. However, ship technology alone represents only a part of the challenge.

##### Shipbuilding and ship technologies

Specifications, design, manufacturing, assembly, and recycling take place across the globe resulting in an open and global, but also fierce competition at all levels.

##### Totalities in a segmented world

The performance during the operational lifetime of a ship must be taken into consideration. Individual components must be considered as a part of a ship system; the ship is part of a transportation system and shipping is part of a product lifecycle. Who will be able to consider the totality of performances in design, operation, and verification?

##### Cluster synergies

The strength lies in the sharing of knowledge with ship owners and operators involved in development and testing of new technologies.

##### University research

It appears that traditional disciplines may become less attractive for public funding - at least in the Western hemisphere. The interaction with industry at all levels, including the operational aspects, will become increasingly important. How shall cooperation be strengthened towards mutual benefit?

Copenhagen 16 May 2011

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### 4) Totalities in a segmented world

### 5) Cluster synergies

### 6) University Research

#### Totalities in a segmented world

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## Bred mangel på maritimingeniører

Erhvervet kan potentielt ansætte flere ingeniører

Rekruttering ses af det danske maritime erhverv som en strategisk udfordring

## Den T-formede ingeniør-dimittend

### Horisontale generalist kompetencer

Skibsforståelse

Brancheforståelse

### Vertikale specialist kompetencer

Akademiske evner til at gå i dybden

Behov for specialistviden

## Den arbejdende og værdiskabende ingeniør

### Oplæring

Erhvervsspecifikke specialist kompetencer tillæres i virksomheden

### Efteruddannelse

Teknisk/akademisk opkvalificering (Prof. Bach.)  
Teknisk omskoling

## Markedstilpasning

Skærpede krav til omstillingshastighed kræver en top-tunet værdikæde mellem forskning, uddannelse og erhverv.



## Vækst

Væksten og arbejdspladserne tilfalder dem som er innovative og omstillingsparate. Vækst og værdiskabelse ligger fortrinsvist i avancerede produkter, retrofit, offshore flådeoperation samt konsulent- og serviceydelser.

## Samarbejde

- Erhvervet har brug for et tættere samarbejde med universiteterne.
- Universiteterne ønsker at producere erhvervsparate kandidater.

## Erhvervet

- Mere aktive og synlige på et langt tidligere tidspunkt.
- Praktik, gæsteforelæsninger, eksamensprojekter, data, studiejob, studieture mm.

## Universiteter

- Forskning sammentænkes med udvikling, innovation og demonstration.
- Forskning ses som støttefunktion til uddannelserne.

