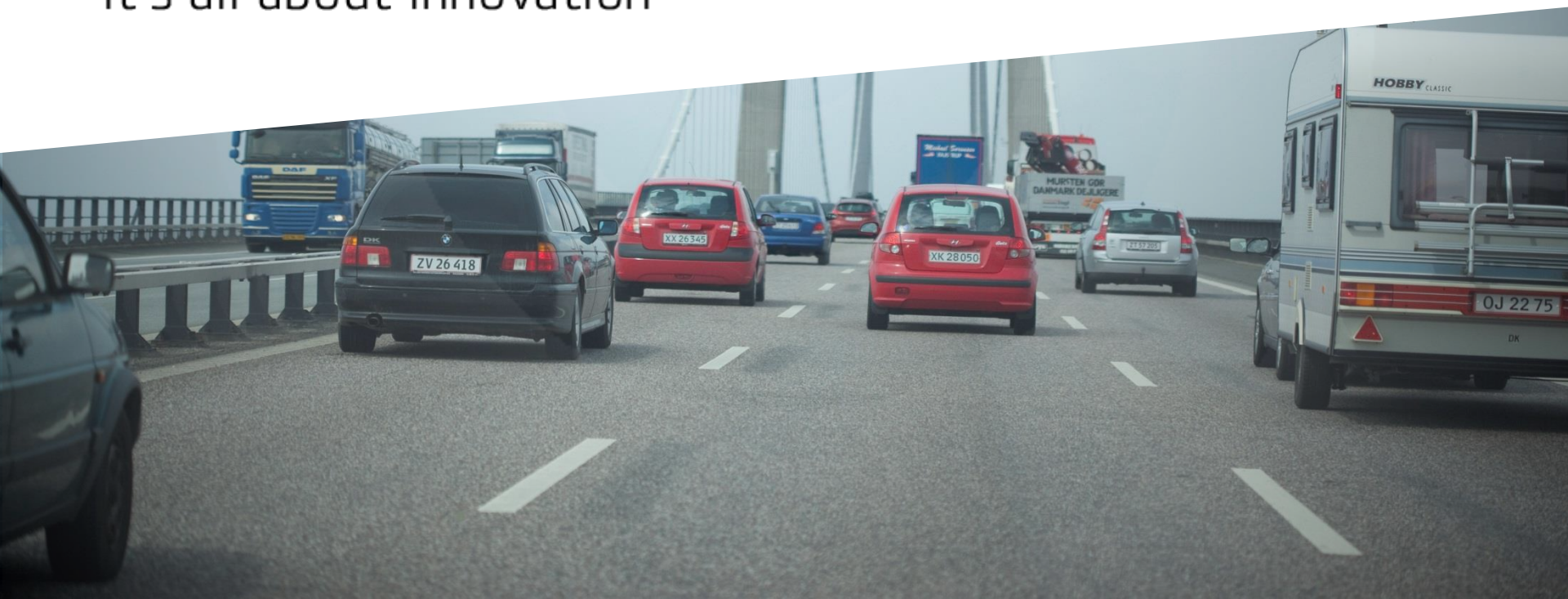




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it's all about innovation





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E1 – Resultatkontrakt

Ny teknologi til anlægskonstruktioner

Veje og belægninger – Team 176

- **Thomas Pilegaard Madsen**

- Teamleder
- Projektleder nationale & internationale projekter
- Fundingarbejde, opstart og drift af udviklingsprojekter
- Nationale & internationale netværk

- **René Brodersen**

- Konsulent
- Vejkonstruktioner og klima
- Projektarbejde

- **Charles Lykke Hansen**

- 15 års erfaring i vejsektoren
- Materialekendskab og projektledelse
- Rådgivning
- Udbud
- Tilstandsundersøgelser og vejforvaltning

Veje og belægninger – Team 176

- 1) Nye bæredygtige materialer til infrastrukturen*
- 2) "Plug & play" levetidsdesign koblet til modeller for LCA/LCC*
- 3) Nye metoder til tilstandsmonitoring, -registrering og renovering*
- 4) Erfaringsopsamling og vidensspredning*



Veje og belægninger – Team 176

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- 4) Erfaringsopsamling og videnspredning*



Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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4 overordnede aktiviteter

- 1) *Udvikling af bæredygtig asfalt- og belægningsteknologi
-holdbarhed, energiforbrug, økonomi, multifunktionelt*
- 2) *Slankere, lettere og mere bæredygtige konstruktioner
-metaller, kulfibre, glasfibre, kompositter & CRC*
- 3) *Udvikling indenfor membraner & samlinger
-tekstilmembraner, polyethylen, mikrofiberarmeringer, etc.*
- 4) *Ny teknologi til opmærksomhedsskabende tiltag
-tunneller, øget trafiksikkerhed, monsterregn, etc.*



Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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- 4) Ny teknologi til opmærksomhedsskabende tiltag
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Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Milepæle

2013

Mp1.1.1:

Etablering af samarbejdsprojekt m.
asfaltindustrien

- min. 20 deltagere
- Klimavejen

MP1.2.1:

Kortlægning af slanke konstruktioners
potentiale i infrastrukturen

- Resultat sammenfattes i rapport

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Milepæle

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Etablering af samarbejde
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- min. 20 deltagere
- Klimavejen

MP1.2.1:

Kortlægning af slanke
potentiale i infrastrukt

- Resultat sammenf

2014

Mp1.1.2:

Første prototype af
opmærksomhedsskabende sceneri

MP1.2.2:

Min. 3 kritiske samlingsdetaljer
analyseret

- Nye løsningsforslag samlet i et katalog
 - Kompositmaterialer
 - Brobelægninger
 - Asfalt-beton
 - Element borer
 - Ledningsgrave

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Milepæle

2013

MP1.1.1:

Etablering af samarbejde
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- min. 20 deltagere
- Klimavejen

MP1.2.1:

Kortlægning af slanke
potentiale i infrastrukt

- Resultat sammenf

2014

MP1.1.2:

Første prototype af
opmærksomhedsskabe

MP1.2.2:

Min. 3 kritiske samling
analyseret

- Nye løsningsforsl
katalog
 - Kompositm
 - Brobelægn
 - Asfalt-bet
 - Element b
 - Ledningsg

2015

MP1.1.3:

Ny type bæredygtig asfalt udviklet og
afprøvet i fuldskala

- Klimavejen
- Bio-based bitumen

MP1.2.3:

Teknologisk serviceydelser vedr.
materialevalg

- Specifikationer
- Projektgranskning
- Udførelse
- Dokumentation

MP1.3.3:

Koncept for tilstandsregistrering af
anlæg ifm. funktionskontrakter er
udviklet

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Spørgsmål og kommentarer?



Veje og belægningsplaner – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Tilskud – Hvad er der på den politiske dagsorden?

- FIVU

Inspirations- og prioriteringsgrundlag for nye intelligente investeringer i innovation



Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



Tilskudsprogrammer:

- Markedsmodningsfonden
 - Tilskud: 1,5 – 11,2 mio. DKK.
- Højteknologifonden
 - 5,25 – 15 mio. DKK.
- Grøn teknologi/MUDP
 - Tilskud ~130 mio. dkk. i 2013
 - Klimavejen
- Realdania
 - Tilskud i 2012 ~800 mio. dkk.



Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Tilskudsprogrammer

- Horizon 2020:
 - 2014-2020 tildeler 530 mia. DKK til forskning, udvikling og demonstration

HORIZON 2020 TRANSPORT CHALLENGE WORK PROGRAMME 2014-2015

(DRAFT 24/06/2013)

CALL 'MOBILITY FOR GROWTH'

1. AVIATION

- 1.1. Enhancing environmental performance of aviation
- 1.2. Seamless air mobility meeting capacity demand
- 1.3. A Joint Research Initiative targeting the highest levels of safety for European aviation
- 1.4. Competitiveness of European Aviation through cost efficiency and innovation
- 1.5. Breakthrough innovation for European Aviation
- 1.6. Improving skills and knowledge base in European Aviation
- 1.7. Support to European Aviation Research Policy and Innovation
- 1.8. International cooperation in aeronautics

2. RAIL

- 2.1. PT - Intelligent Infrastructure
- 2.2. Smart Rail Services
- 2.3. New generation of rail vehicles

3. ROAD

- 3.1. Power train technologies for low CO₂ and polluting emissions
- 3.2. Advanced vehicle concepts for buses for increased efficiency
- 3.3. Service innovation and global supply chain management
- 3.4. Integrated approach towards safety of Vulnerable Road Users
- 3.5. Traffic safety analysis

4. WATERBORNE

- 4.1. Towards the energy efficient and emission free vessel
- 4.2. Safe and more efficient waterborne operations through new technologies
- 4.3. System modelling and life-cycle cost optimisation for the maritime industry
- 4.4. New technologies, materials and vessel concepts for the maritime industry
- 4.5. Promoting innovation in the Inland Waterways Transport (IWT) sector

5. URBAN MOBILITY

- 5.1. Transforming the use of conventionally fuelled vehicles in cities
- 5.2. Reducing impacts and costs of freight and service trips in urban areas
- 5.3. Tackling urban road congestion and increasing financial sustainability
- 5.4. Promoting uptake of innovation and strengthening the knowledge
- 5.5. Demonstrating and testing innovative solutions for cleaner and safer

6. LOGISTICS

- 6.1. Transport advantages and implications of mutualisation of
- 6.2. De-stressing the supply chain: the potential for slow steaming
- 6.3. European Logistics Information Sharing Architecture

1/69

7. INTELLIGENT TRANSPORT SYSTEMS

- 7.1. Optimal use of transport data as a basis for smart mobility
- 7.2. Safe and connected automation in road transport
- 7.3. Cooperative ITS for safe, congestion-free and sustainable
- 7.4. Towards seamless travel - Overcoming fragmentation

8. INFRASTRUCTURES

- 8.1. Smarter design, construction and maintenance
- 8.2. Next generation transport infrastructure: resource efficiency
- 8.3. Smart governance, network resilience and streamlined delivery

SOCIO-ECONOMIC AND BEHAVIOURAL RESEARCH AND FOR POLICY MAKING

- 9.1. Understanding the role of future and emerging technologies for
- 9.2. Living lab on future transport paradigms
- 9.3. Monitoring user behaviour, mobility patterns and social acceptance
- 9.4. Transport societal drivers
- 9.5. Internalisation of the externalities from transport across modes
- 9.6. Strengthening the participation of SMEs in the innovation cycle
- 9.7. Strengthening the research and innovation strategies of the transport
- 9.8. Supporting specific activities such as student or innovation awards

10. SMALL BUSINESS INNOVATION RESEARCH

- 10.1. Small business innovation research for Transport
- 11.1. The cleanest engine

11. INDUCEMENT PRIZE

- 11.1. The cleanest engine

CALL 'CLEAN VEHICLES'

1. Next generation of competitive Li-ion batteries to meet customer expectations
2. Optimized electric vehicles energy management
3. Future natural gas powertrains and components for cars and vans
4. Hybrid light and heavy duty vehicles
5. Ultra-light electric vehicle concepts
6. Advanced power electronics including high temperature and cost-effective act
7. Third generation fully electric vehicles and innovative battery management
8. Powertrain control for heavy-duty vehicles with optimized emissions
9. Future alternative fuel powertrains and components for heavy duty vehicles
10. Radically new vehicle concepts for passengers in urban areas

CALL 'BLUE GROWTH' (TRANSPORT CHALLENGE CONTRIBUTION)

1. The offshore challenge - Preparing the future maritime economy
2. Delivering the Sub-sea technologies for new services at sea
3. Response capacities to oil spills and marine pollution
4. Building with nature - smart and sustainable dredging

CALL 'SMART CITIES AND COMMUNITIES' (TRANSPORT CONTRIBUTION)

1. Alternative fuels for Smart Cities
2. Actions to stimulate market demand for smart city solutions

2/69

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Tilskudsprogrammer

- Horizon 2020:
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HORIZON 2020 WORK

CALL 'MOBILITY FOR G

1. AVIATION

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- 6.2. De-stressing th
- 6.3. European Log

HORIZON 2020

Part III – Climate action, environment, resource efficiency and raw materials

H2020 – SC5_4 – 2014/2015: Coordinating and supporting research and innovation for climate action	27
PROTECTING THE ENVIRONMENT, SUSTAINABLY MANAGING NATURAL RESOURCES, WATER, BIODIVERSITY AND ECOSYSTEMS	29
H2020 – SC5_5 – 2014: Biodiversity and ecosystem services: drivers of change and causalities	29
H2020 – SC5_6 – 2015: More effective ecosystem restoration in the EU	30
H2020 – SC5_7 – 2014: Preparing and promoting innovation procurement for soil decontamination	31
H2020 – SC5_8 – 2014: Consolidating the European Research Area on biodiversity and ecosystem services	31
H2020 – SC5_9 – 2014/2015: Coordinating and supporting research and innovation for the management of natural resources	32
ENSURING THE SUSTAINABLE SUPPLY OF NON-ENERGY AND NON-AGRICULTURAL RAW MATERIALS	34
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ENABLING THE TRANSITION TOWARDS A GREEN ECONOMY THROUGH ECO-INNOVATION	39
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DEVELOPING COMPREHENSIVE AND SUSTAINED GLOBAL ENVIRONMENTAL OBSERVATION AND INFORMATION SYSTEMS	42
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Veje og belægnings – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Tilskudsprogrammer

- Horizon 2020:
 - 2014-2020 tildeler 87 mia. EUR til forskning, udvikling og demonstration
- CEDR
 - Ageing infrastructure management
 - Energy efficiency



Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Muligheder og behov

- Asfaltindustrien:

F&U-idéer

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Muligheder og behov

- Asfaltindustrien:

F&U-idéer

- 1) Brobelægninger
- 2) Jernbaner
- 3) Asfaltmodificering
- 4) Genbrugsprodukter
- 5) Tilstand for ældre veje
m slidlag af genbrug
- 6) Grønne veje
- 7) Støj
- 8) Dimensionering

Veje og belægnings – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Samarbejde...?

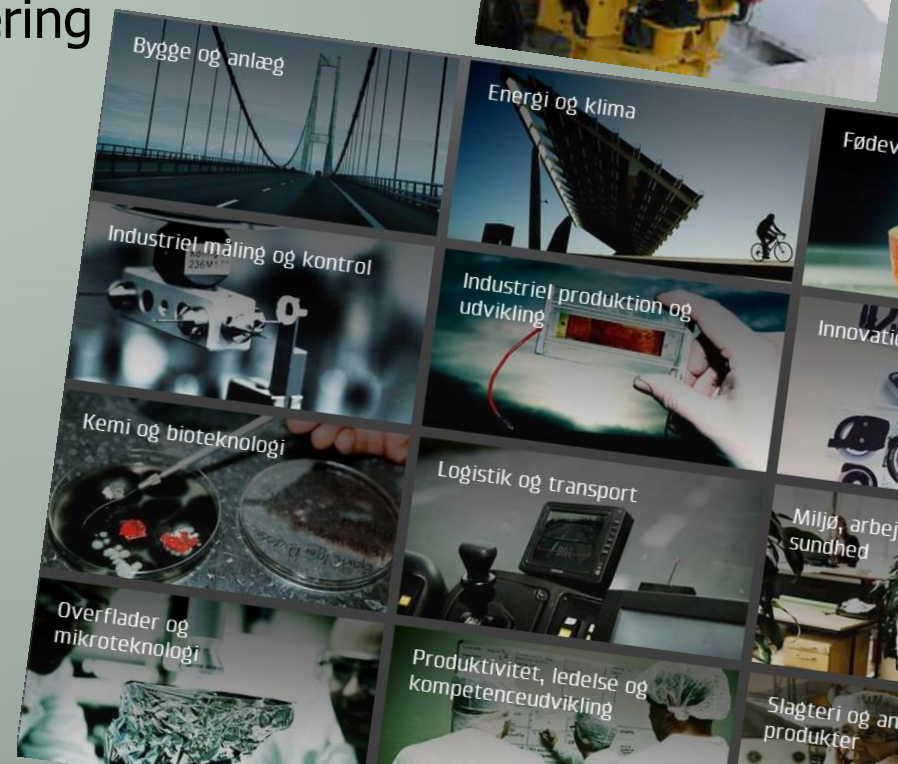
Teknologisk Institut: →

Hovedområde for V&B ←

- Materialer
- Energi
- Miljø

Kompetencer:

- Bred teknologibaseret service (ikke kun anlæg)
- Lab faciliteter og NDT
- Projektledelse
- Organisering
- Funding
- Drift



Andre divisioner:

- Energi & Klima
- Life Science
- Materialer

Inddragelse af virksomheder

Veje og belægninger – Team 176

Nye bæredygtige materialer og løsninger til konstruktioner i infrastrukturen



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Diskussion

