

# Swedish lightweight solutions carry weight

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LIGHTer



Watch our film on YouTube

Swedish or English version

Strategiskt innovationsprogram Lättvik



LIGHTer is a strategic investment in Sweden's future



### A national and globally unique venture

... 3 focus areas

To develop radically new lightweight **technology** to strengthen Swedish industry's competitiveness in the international arena



To develop **people** with multi disciplinary lightweight profiles to enable the necessary change of technology



To create business- and technology related **meetings** between companies, universities and institutes





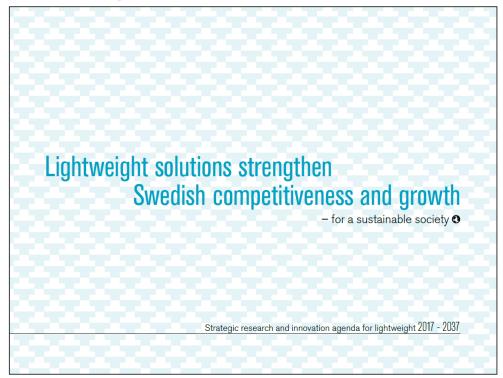
### 300 organisations – 75 members

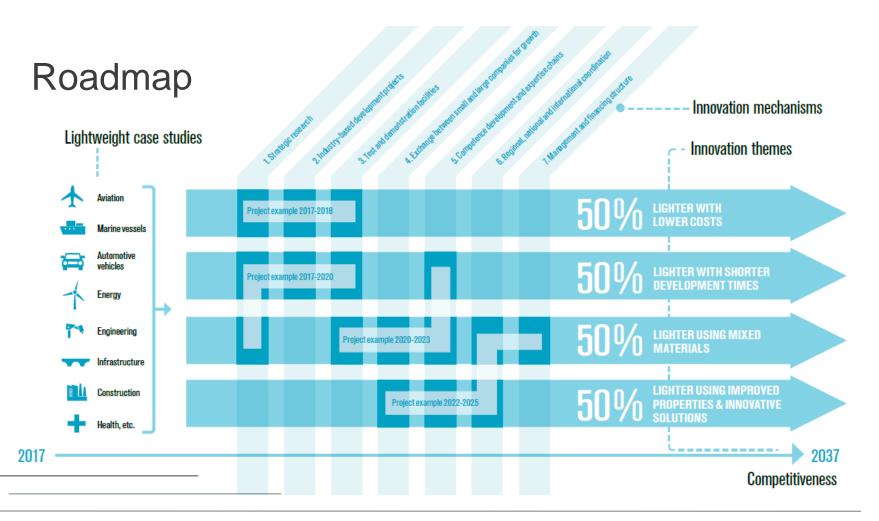
A collaboration between industry, universities, research institutes and public authorities





### Strategic research and innovation agenda







### Seven mechanisms for growth ▶ TRL9 Verified product use 4. Exchange between small & large 7. Management companies Sweden needs strong, long-term management and Sweden needs to get stronger across the en-Product development-→ TRL7 coordination of the entire tire value chain and to boost innovation potential lightweight industry within in both small and which LIGHTer is responsable large businesses for portfolio management, 3. Test and demonstration facilities with the help of lightweight projects, growth frontier crossers, the Sweden must take a holistic promotion, investments, etc. certification of new approach towards the conditions industries and new Technical verification for test and demo facilities models for project and demonstration and create relevant test environments for collaboration, etc. companies across the whole value chain. 2. Industry-based development projects ▶ TRL4 6. Cooperation Sweden needs to carry out many cross-industrial projects, but also find Sweden needs to continue to the right ways to approach high risk projects that bridge the gap between develop collaboration in different strategic development and business projects. ▶ TRL3 forms, for example via regional lightweight nodes, collaboration between strategic innovation 5. Competence & expertise chains programmes and international 1. Strategic research networks and projects. Sweden needs to educate people at all Sweden needs to invest in cutting-edge research within carefully levels within lightweight, both in industry selected areas, with the help of projects that involve several technical and at universities, and enable the addition disciplines, a larger proportion of senior researchers and collaboration of at least 100 new PhD graduates within with the world's elite. ten years.



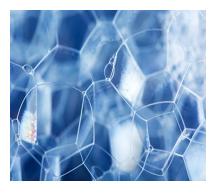
### Our values



Innovation



Cooperation



Sustainability



Openness



### Examples – What are we doing?

Implement the lightweight agenda – Roadmap towards 2037

Coordinate the actions within the lightweight area (technology and competences)

Create meetings focused on business as well as technology

Create and promote calls and financing tools within lightweight

Support and coach SME (contributions, financing, SME tools etc)

Workshops and matchmaking

Financing

Prioritize projects – Give recommendations to authorities

Run projects and educations within lightweight

Run strategical research ventures within lightweight

... and much more ...



### A lot of action!

75 members • over 300 unique organizations • 2/3 SME
47 R&D-projects • 10 industrial educations with about 400 participants
52 PhD students in LIGHTer PhD network
6 senior researchers working part time • 4 workshops each year
International Conference every other year
Regional nodes • > 200 MSEK in research funding

## Triple Use

A new concept for cooperation which brings Swedish innovations to strengthen several industrial sectors at the same time



### Four technical demonstrators



Flying lightweight



Composite bridges of the future



New stamping tool



Effective automation of composite production



### Results

- Identify and characterize a new hot forming core composite material with more than 40 % lower manufacturing costs
- Two reports describing Conceptual Design and Technical Requirements in FRP bridges
- Stamping tool of advances SMC (Sheet Moulding Compound) for automotive composite components producing 100 000 units/year at TRL
- Automatic flexible production call for a structural aerospace component with a yearly production of 500 units/year



### Effect goals

- Lowering manufacturing costs for structural composites with 25 50 % relative a commercial level 2010 (depending on industrial sector)
- Increased competence at Swedish suppliers and networks within the composite area
- Increased knowledge about rational manufacturing methods for composites
- More industrial sectors using new lightweight solutions
- Better understanding of how to use composites for construction of infrastructure





### **Projektparter**

- Swerea/Compraser Labs
- KTH
- GKN Aerospace/ACAB
- Saab Aerostructures
- Volvo Cars Corporation
- AP&T
- Chalmers
- WSP Sverige
- Trafikverket

















### **CHALMERS**









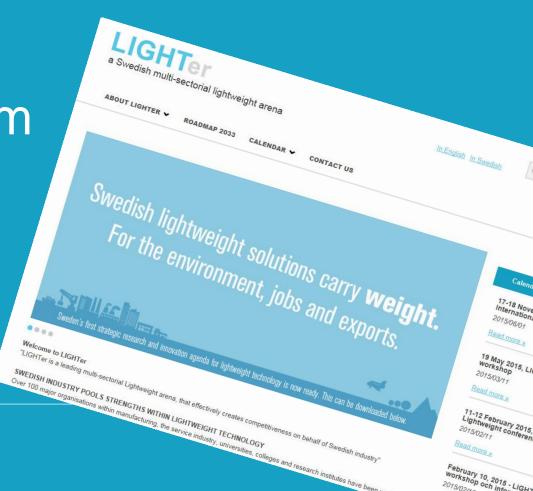
### Making co-operation work

- Meetings
  - Thank you for inviting me!
  - Welcome to LIGHTer workshops 2018
- Good communication
  - LIGHTer international networking members
  - LIGHTer News in English
  - LIGHTer International Conference 2019
- People with the right competences connecting
  - Welcome to join our projects





Lighterarena.com



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