



Den korta strategiska projektbeskrivningen ska kunna spridas och publiceras fritt och får således inte innehålla konfidentiella eller på annat sätt känsliga uppgifter. Den ska skickas in både via VINNOVAs portal och till programkontoret för Lättvikt: info@lighterarena.se. Den strategiska betydelsen av ansökan i relation till lättviktsagendan bedöms utgående från projektbeskrivningen.

Kort strategisk projektbeskrivning

(max 1 sida exklusive nedanstående tabell, **publik**)

Projekttitel på svenska (max 80 tecken) Modulär lättviktsdesign av fackverk i kompositer	
Projekttitel på engelska (max 80 tecken) Modular light weight design of composite trusses	
Akronym (max 10 tecken) modtruss	
Projektet bygger vidare på resultat från ett tidigare projekt <input checked="" type="checkbox"/> ja, med stöd från VINNOVA (Projekts diarienummer: 2015-01673) <input type="checkbox"/> ja, med stöd från finansjär (avser offentlig finansiering) <input type="checkbox"/> nej	
Projektet är <input type="checkbox"/> i sin helhet samma projekt som har insänts till annan finansjär, nämligen: finansjär <input type="checkbox"/> i delar samma projekt som har insänts till annan finansjär, nämligen: finansjär	
Finns uppgifter om affärs- och driftförhållanden som skulle kunna leda till skada om de offentliggörs <input checked="" type="checkbox"/> ja <input type="checkbox"/> nej	
Sammanfattning (max 1500 tecken) - Extern bedömare ska kunna förstå syftet och innehållet i projektet. Rotorblad för stora vindturbiner är mycket tunga och dyra att tillverka och transportera. I detta förprojekt kommer vi att undersöka möjligheterna att designa rotorblad som är både modulära och lätta, vilket skulle innebära lägre kostnader för både produktion och transport. Designen kommer att utgå från en ny design av rotorblad för vindturbiner som kallas Triblade.	
Sammanfattning på engelska (max 1500 tecken) Large scale wind turbine blades are very heavy and expensive to manufacture and transport. In this preparatory project we will study the potential of designing rotor blades that are both modular and lightweight, thereby allowing for lower cost of production and transportation. The design will be based on a novel design for wind turbine blades, called Triblade.	
Startdatum 1 juni 2016	Slutdatum 30 september 2016
Totalt sökt stöd (SEK) 500 000 kr	Total medfinansiering (SEK) 557 800 kr

1. Projektets idé

Nearly all large modern wind turbines are so called Horizontal Axis Wind turbines. They come in different sizes and the largest can produce more than 5 MW. In order to increase the efficiency further and to extract more energy from wind turbines the trend is to make the turbines larger. However, for large rotor blades the cost and weight increase faster than the possible power output from the turbine. Furthermore, as blades get longer they are becoming increasingly more and more difficult to manufacture and transport. Thus, the technical and commercial performance of this technology is today limited by the rotor blade technology.

The preparatory project will investigate the potential of implementing a novel design for wind turbine rotor blades, called Triblade, that is both modular and very lightweight. The design is based on creating a truss structure from a combination of metal and polymer composites. The result is lower mass, lower production cost and lower transportation cost. The work will include design optimization, mixing of materials, simulations, and research on state-of-the-art.

Rotor blades can today be made in modules such that they have an inner and an outer section. The use of a modular truss structure is however new. We expect it will be possible to design Triblade to be both modular and lightweight. The target users of the technology are the large global wind turbine manufacturers. The preparatory project will result in a project plan for a development project, where we will implement the modular design of Triblade. To this end we will include also Lund University in the consortium. The development project is planned to start later in 2016. A market uptake will require more funding, which will be raised from public funding and from private investors. The plan is to launch Triblade to the market in 2020.

2. Projektets bidrag till utlysningens effektmål

The preparatory project will be the base for development project. It will help Winfoor realize its ambition to become a large Swedish employer and a producer of Triblade rotor blades. In connection to "Resultat – och effektmål" of the call, the long term effect goals are

- Generic knowledge from the project is disseminated to both to industry and academia.
- Swedish lightweight products reach end customers through implementation of lightweight technology.
- Swedish lightweight solutions create growth within the business community.
- Increase Swedish lightweight exports.

3. Projektets aktörskonstellation

The consortium partners are Composite Design Sweden AB (org no 556892-3402) and Winfoor AB (org no 556724-9999, project leader). Composite Design is a well-respected designer and producer of products made from polymer composites. The company is active in bridge constructions in composites and in the automotive industry, making composite parts to for Koenigsegg sports cars. Winfoor is a spin off from Lund University. The company is active in the wind turbine blade industry and is the company behind the Triblade technology. The company has been active in wind power R&D since 2007. The two companies have complementary competences from different branches of industry and together have the competence needed to carry out the preparatory project. In a subsequent development we will invite more partners from both university and industry, to further boost the consortium competence.