

## Sustainable biocomposite in the electric pod Zbee

Clean Motion, the manufacturer of the electric pod Zbee, is presenting a biocomposite enhanced pod where the roof-rear body part has been made out of Jute in a research project. Juteborg AB, a jute Design System & Solution provider was the initiator, with the aim to replace glass fiber with the natural fiber of jute. Co-partners in the project are SwereaSICOMP and Ljungby Komposit and the project is partly financed by Vinnova/Lighter. The research result will be shown and presented on Thursday the 31st of January at Lindholmen Science Park in Gothenburg.

Clean Motion and Juteborg is presenting a Zbee with jute fibers in one of the body parts. The roof rear part of one Zbee has been produced with jute fibers instead of glass fibers. It is the result of a research project co-founded by VINNOVA under the Lighter umbrella. A demonstration vehicle has been built to enable the evaluation of the body structure in real life conditions.

With the result of this project Zbee could have the potential to increase its sustainability throughout the lifecycle if the use of biocomposite is implemented. Clean Motion will look into further development on jute, however factors as scaling and raw material refinement will have to be done in order to fully evaluate the material.

Jesper Martaeng, CTO at Clean Motion explains, *“The key to truly reaching sustainability in a vehicle is to look at both the energy efficiency by reducing the weight of the vehicle and used material in the production. Our innovative composite body in Zbee keeps it significantly lighter and more energy efficient than other vehicles similar in size, and with jute we might have a sustainable material that could enhance our over all footprint.”*

Juteborg AB, a ‘Jute Design System & Solution Provider’, took the initiative to the lightweight project called JuteTop, with the aim to showcase the potential of jute in automotive applications. Juteborg AB considered jute as the most sustainable material in the world and with their system thinking and sustainability approach, they directly or indirectly supporting all 17 UN:s Sustainability Development Goals. For most people around Europe, jute is quite unknown, and if known, just for low-tech products like rope, sacks, and bags.

*“Jute is such versatile material, why is rarely used within the automotive industry?”* says Else-Marie Malmek at Juteborg, Project Manager for the project.

She further explains; *“Natural fibers within the automotive industry is in fact nothing new, e.g. Henry Ford produced a plastic hemp car already in 1941, but as that time as of today, new technology doesn’t succeed just because it is feasible, there must also be other driving forces in place like regulations, economic viability and customer demand. Today several driving forces are in place to transform the transport sector into making vehicles much more sustainable, by partnering with Zbee we could really show the world just that.”*

One part of the project is to evaluate the result in the demonstration vehicle, where Clean Motion and Juteborg will invite professionals and media into discussions and test drives at the ‘eCon’, on the top of Nordstan in Gothenburg.

Jesper Martaeng, adds, *“We could easily test a lot of materials with the fraction of the cost that would be required for conventional vehicles. This is yet another example on the agility within our product development and production processes”.*

On the 31st of January Clean Motion and Juteborg will present the JuteTop project at the Lighter Seminar “Lättvikt inom framtidens vägtransporter”, Lindholmen Science Park. During the seminar it will be possible to have a look at it and test it out.

Magnus Rosén, former Bass player in Hammerfall and ‘The Jute Ambassador for Juteborg AB’, will be playing during the seminar.

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**About Clean Motion AB**

*Clean Motion AB is a Swedish company that manufactures and sells electric vehicles. The company vision is to develop truly sustainable products that are affordable for the world's population. To achieve this Clean Motion have developed the next generation sustainable and efficient pod to meet the demand for future transport needs. The vehicle, Zbee, is a lightweight electric pod with high efficiency, which results in a good total cost of ownership. Clean Motion provides the transportation market with a safe and efficient vehicle for sustainable urban transportation.*

*Clean Motion AB is listed on First North vid Nasdaq Stockholm. Certified Adviser is G&W Fondkommission, e-mail: [ca@gwkapital.se](mailto:ca@gwkapital.se), phone: 08-503 000 50.*

*For further information, please visit: [www.cleanmotion.se](http://www.cleanmotion.se)*

**About Juteborg AB and the jute fiber**

*Juteborg AB is an innovative, entrepreneurial and development partner of Jute fiber high tech based products and innovative design services. The company was founded in 2013 by Else-Marie Malmek and Christina Östergren. - With the aim of transforming their respective branches; automotive and construction to a more sustainable future. Juteborg AB has a great network and partnership both in Sweden as well as in Bangladesh.*

*"Jute plants grows 3-4 m high in food crop rotation during monsoon (most realistic crop to grow) in 120 days mostly in Bangladesh without compromising food production. There are three major elements in jute – fiber (2nd highest natural fiber in volume after cotton), sticks (waste material) and leaves all have economic value. Jute is 100% natural, biodegradable and recyclable. The ecological and economical effect when growing jute in crop rotation is that farmers don't need fertilizers or pesticides for the land which reduces 30% cost in their next crop. The production of 1MT of dry jute fiber (roughly equivalent to 1 MT of dry jute yarn) can fixate 2.556 MT CO<sub>2</sub>eq during the lifetime of jute cultivation that makes it CO<sub>2</sub> negative. Jute's tensile strength is stronger than steel, it is light weight, has low density, (jute 1.3 g/cc compared to glass fibre 2.55 g/cc), insulating properties etc. Jute strongly relates to the social sustainability. 1/3 of the 163 million population in Bangladesh depends on the Jute industry; in growing, harvesting and producing low-value jute products (Ref. Jute Ministry Bangladesh)."- Juteborg AB.*

**Further information about the jute fiber on - [www.juteborg.se](http://www.juteborg.se)**