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CURRENT DEVELOPMENT STATUS OF THE LADDERMILL KITE POWER SYSTEM

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Since AWEC 2010 the laddermill kite power system of TU Delft received some major improvements and changes. This presentation aims to show what has improved and how this affected the performance of the system.

The ground station has gone through extensive testing to determine the losses of both mechanical and electrical components. This has resulted in the replacement of certain components.

The kite control units have been replaced with more reliable and advanced units. The hardware and software architecture makes the implementation of autopilot control possible. Different autopilot systems are currently under development.

In September 2010 the second generation purpose developed kite for the Laddermill was delivered. Special attention in this model was paid to reinforcement of critical areas. Further development of the bridle lines of this kite was done by TU Delft researchers. This led to a significant increase of the load bearing capability and depower capability of the kite.

These performance improving changes resulted in a big performance improvement of the Laddermill system between September 2010 and May 2011.