

# Giant kite will pull ship across Atlantic

The world's first commercial cargo ship powered partially by a kite is making its maiden voyage from Germany to Venezuela. The designers of the computer-guided kite say it could cut fuel consumption by as much as 20 percent and help reduce carbon dioxide emissions

**Parafoil:** 160-5,000m<sup>2</sup> multi-cell kite

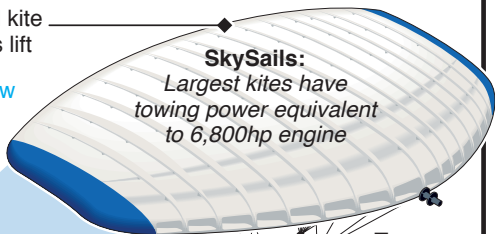
– aerodynamic shape generates lift for greater traction

Cross-section **Lift** Air flow



Cavity inflated by wind

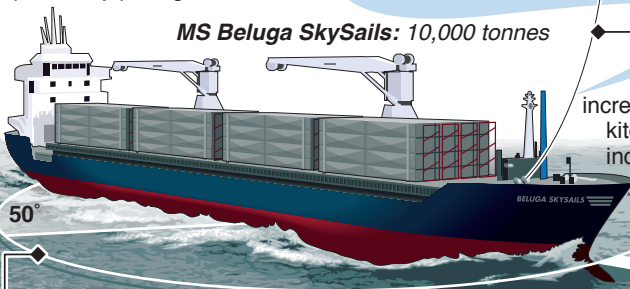
**Control pod:** Automatically aligns kite – based on wind direction, force, ship route and speed – by pulling control cords



**Tow rope**  
Low-weight, high-strength carbon fibre

Dynamic manoeuvres increase air flow over kite for exponential increase in traction

**MS Beluga SkySails:** 10,000 tonnes



**Sailing direction:** SkySail can be used to sail at up to 50° against wind

## Fuel oil consumption

SkySail saving 10-35%

**Maximum power:** Up to three times more efficient than fixed sails

Wind strength increases with altitude



Wind energy

**Stability:** Lift force minimises heeling of ship

WIND

Low lever point

