

Proposal for an innovative landing gear system allowing a large aircraft to proceed in reverse motion after disconnecting from a finger.

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## **THE PROBLEM**

Large aircrafts need tugs to be towed a few tens of meters backwards to the taxing lane after disconnecting from the finger. Towing involves:

- Waste of time
- Cost increase
- More vehicles moving on the lanes, hence more risks
- More staff required

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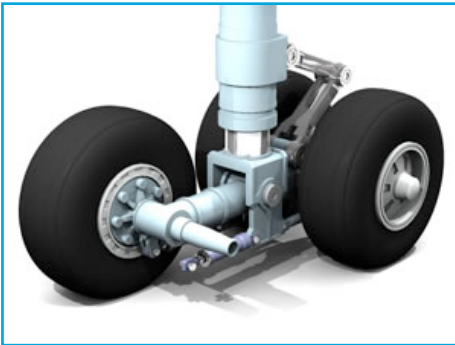
## **PROPOSED SOLUTION**

The aircraft provided with an autonomus reverse motion system, the LivelyBrake System.

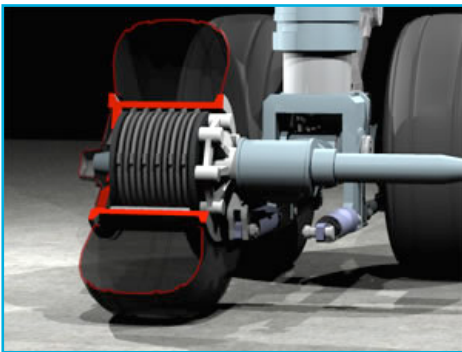
Features of the system:

- Lightness
- Safety
- Small aerodynamic impact

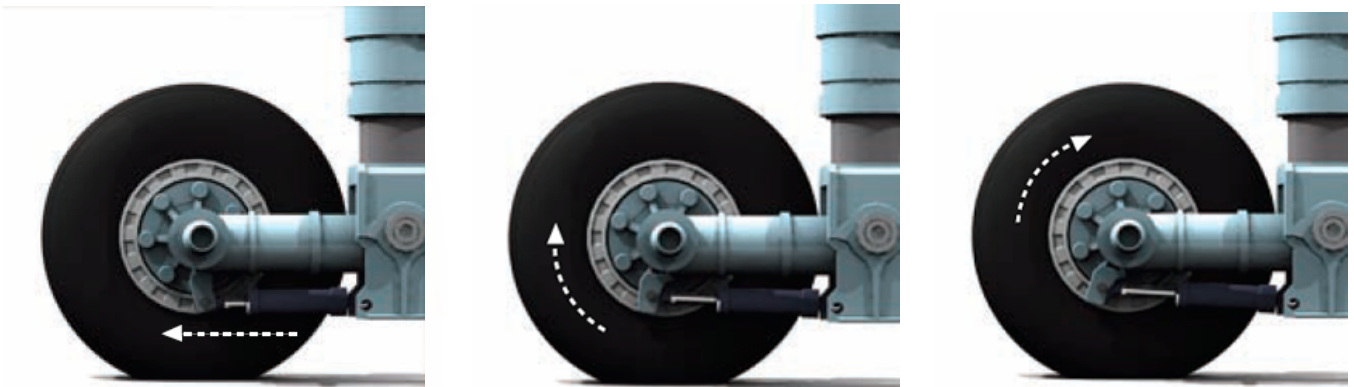
## HOW IT WORKS



The connection rod of a traditional landing gear is substituted by an hydraulic cylinder allowing to turn the brake stationary part by a quarter turn.



The brake, synchronized, entrains the wheel and releases it after a quarter turn, letting the aircraft proceed under the push of the other wheels equipped with LivelyBrake.



A succession of quarter turns is implemented to obtain slow continuous motion. Forward and reverse operation are both possible.

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## **FEATURES**

- Very small additional weight
- Very small additional aerodynamic cross section
- No consequences in case of mechanical failure of the hydraulic cylinder
- The system is based on simple and rugged mechanics
- The sophisticated aspects are related to the wheel synchronization, active during ground operation only and easily made redundant

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## **ADDITIONAL FEATURES**

- The system allows the pilot to rotate the wheels before touch down for testing
- In emergencies, the aircraft can be displaced to abandon a finger in case of danger (eg fire) or to free an area

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## **PATENTS**

- Patent Application for Italy filed on September 10th, 2009
- International Patent Application to be filed within 12 months from the date of filing in Italy

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## **CONTACTS**

Interested in our LivelyBrake System? Send us an email:  
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