



## Taxiing without engines running

**The TaxiBot is a pilot-controlled towing tractor. The vehicle tows the aircraft close to the take off point – without running engines. The Aircraft/ tractor combination will be steered by the pilot.**

Taking care of our environment, this innovation will help to reduce CO<sub>2</sub>-Emissions and reduce the use of fuel. Being a part of this project, LEOS is the first operator worldwide to perform dispatch towing – trailing a full up aircraft from gate to the take off runway - in normal operation.

### The Process

The Safety Driver of the TaxiBot performs a normal Push Back of the aircraft in „Driver Control Mode“.

Immediately after the aircraft is pushed back, he activates the „Pilot Control Mode“. Now, the TaxiBot tows the aircraft to the take-off point – steered by the pilot.

After the disconnecting near the take-off point, the pilot starts the engines and the TaxiBot returns to its next mission.

In emergency-cases the Safety Driver is able to take over the steering and breaking action to stop the aircraft / tractor combination.

### The Functional Principle

The Pilot steers the Nose Landing Gear with the tiller in the cockpit.

The Nose Landing Gear itself is seated on a turret platform, which is equipped with sensors.

The sensors detect the steering angle of the Nose Landing Gear and steer the wheels of the TaxiBot according to the detected steering angle.

As the vehicle always pulls slightly forward, the TaxiBot always accelerates to a predefined speed, as soon as the pilot releases the Main Landing Gear brakes.

If TaxiBot should be stopped, the pilot applies the Main Landing Gear brakes and the TaxiBot reduces its speed or stops completely.

This procedure is also monitored by the sensors on the turret platform.



### Customer advantages

- Significant reduction in air and noise pollution
- Major reduction in fuel consumption
- Improved airfield safety and FOD prevention
- Minor or no modification to airplane and no extra weight
- Minor modifications to airports

### Capabilities

- Retaining the principle – Pilot in Command at all times along the taxiing process, by means of a user friendly human machine interface (“transparent to the pilot”)
- Reducing loads on NLG – Pilot braking by Main Landing Gear system – as opposed to tractor braking
- Engines off – Engines will be turned on at taxi end, only shortly before take-off to enable warm-up and checks
- Safety driver – For pushback, emergency and return phase



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