- → Electrically powered
- → Radio remotely controlled
- → Extremely compact
- → Only 1 person required for operation
- → Fully hydraulic and sensor-controlled nosegear platform
- → Loads and unloads the nosegear automatically
- → Park your aircraft using the last corner of your hangar and save space
- → Flexible use for all aircraft up to 80 tonnes

SPACER 8600 MA

FULLY ELECTRIC DRIVE

REMOTELY CONTROLLED

HANDS FREE LOADING WITH A TAP ON THE RC

HANGAR OPTIMIZATION

The safest and most effective way of moving aircraft towbarless.

Electrify your Ground Handling.

mototok
easy moving

6534 / 10-2022

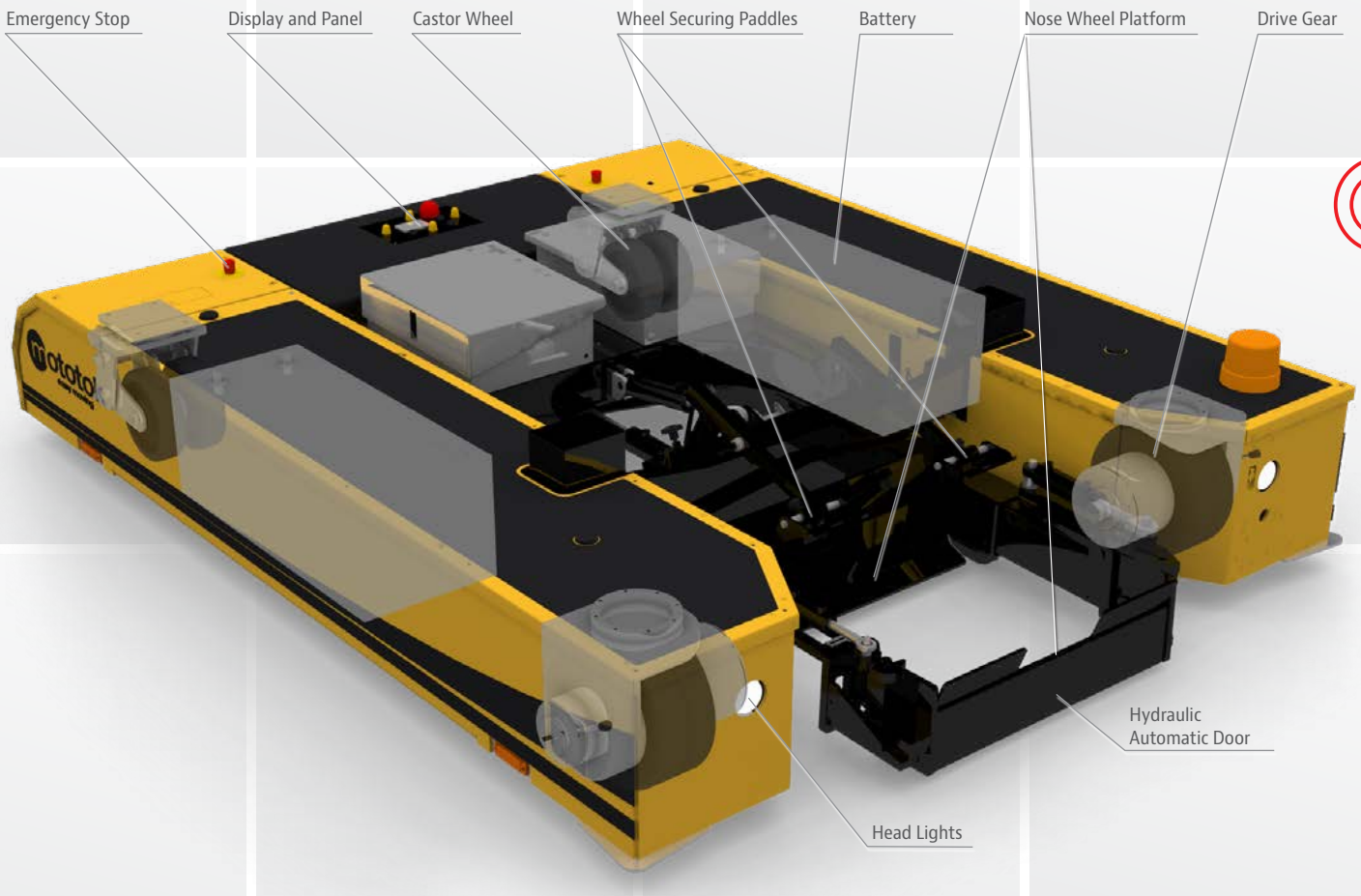
"Our Mototok is the second best piece of equipment in the hangar (the airplane is first)!"

"The ease of operation and the ability for one person to safely manoeuvre our plane in and out of our hangar because of the industrial remote control wing walker feature is unbeatable. This is a quality machine and very reliable."

Steve Nelson, Aviation Manager & Chief Pilot,
TLS Aviation LLC

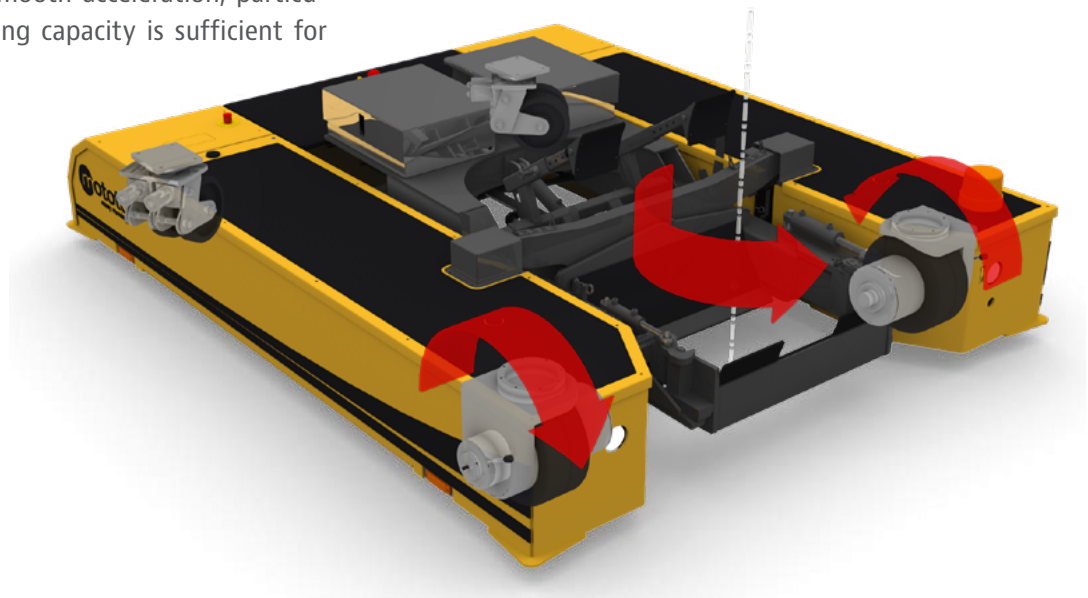
There are many different features of the Mototok compared to any other tug in the industry.

A big idea in a small format. Name: Mototok. Distinguishing features: Fully electric drive. Revolutionary in its simplicity. Extremely compact. Uniquely flexible. And very high performance. With the remote control feature of the Mototok, the operator is able to move anywhere around the aircraft to see every vantage point. The operators eyes never leave the aircraft while it is in movement.



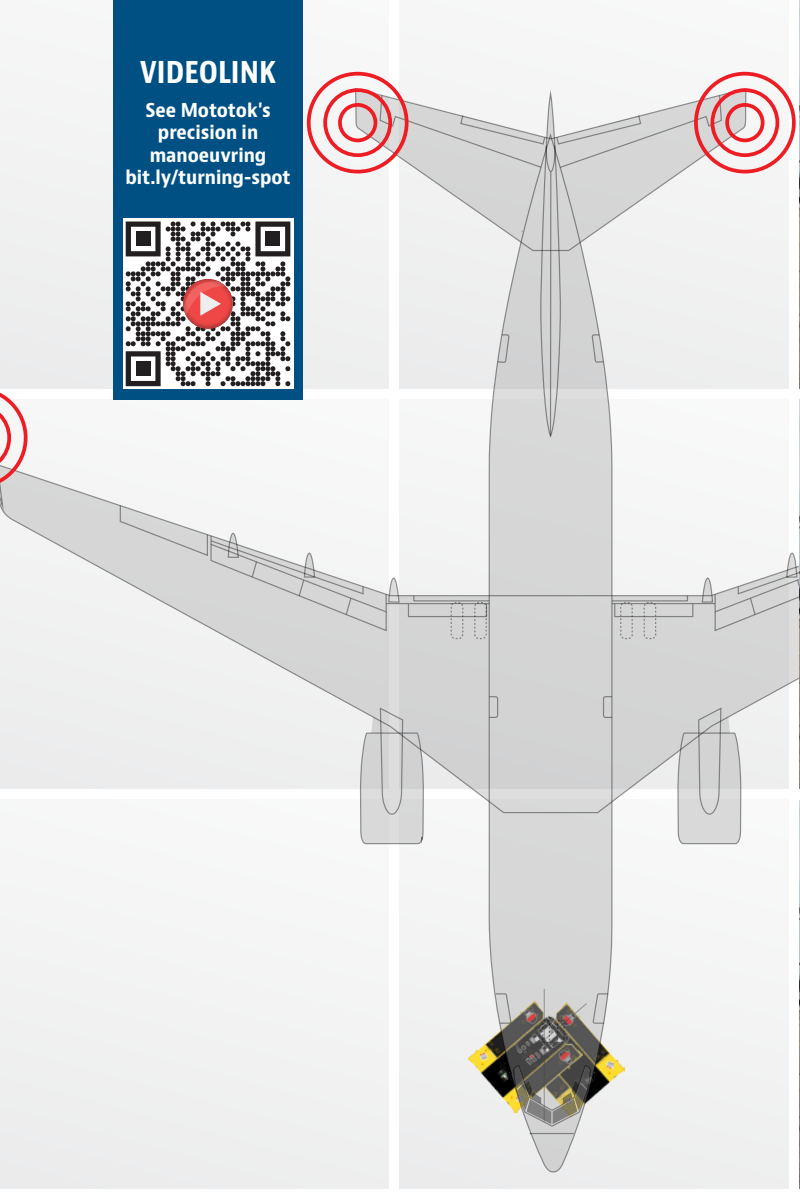
Take a look inside

Extremely powerful electric motors driven by high-performance, maintenance-free batteries with high cycling capability provide enormous driving forces. Extremely high initial torque ensures smooth acceleration, particularly at the start. The charging capacity is sufficient for lots of operations.



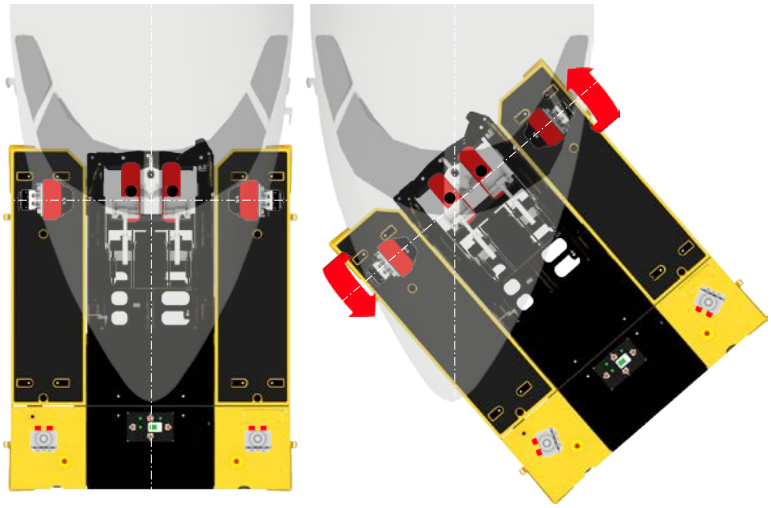
VIDEOLINK

See Mototok's precision in manoeuvring bit.ly/turning-spot

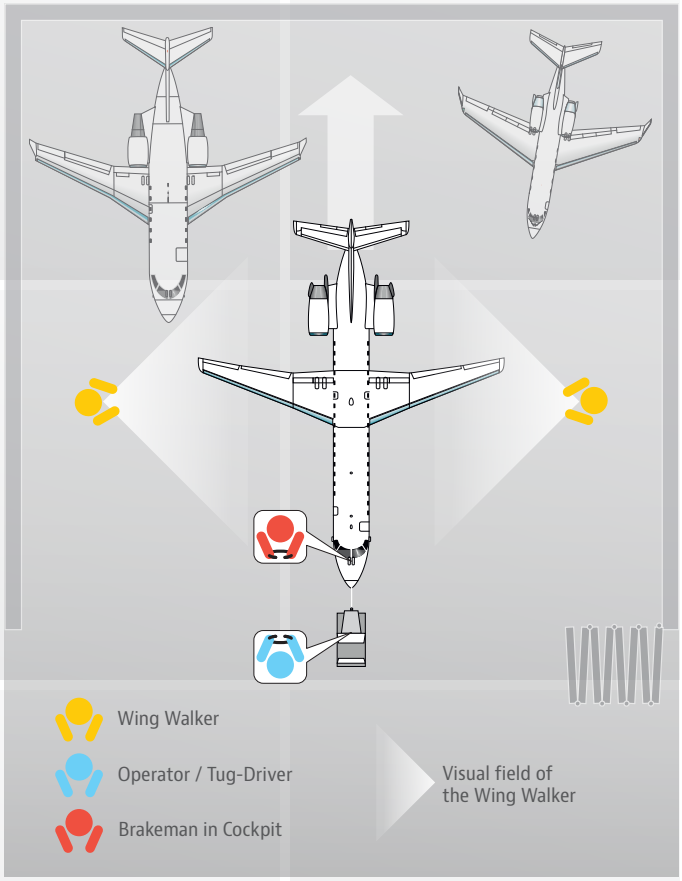


Turning on the spot with no wingtip movement: The Mototok Principle

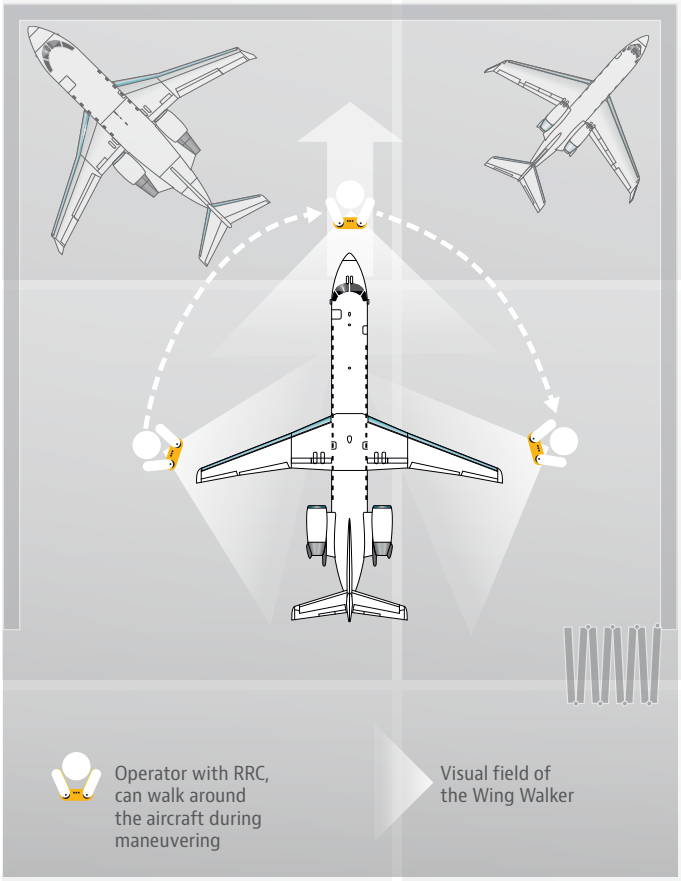
Mototok is intelligent. The steering of a Mototok is performed through different rotating speed of both processor-controlled wheel-hub motors. A perfect turn on the spot is naturally no problem: one motor rotates forwards, the other backwards and carry out a precise turning manoevre. The aircraft remains almost motionless at its location during the turn. Accidents due to collisions are practically eliminated. In addition, no transverse forces are exerted on the nosegear, so that no damage is caused to the bearings and other gear-related components. According to the relative rotation speed of both driving wheels any curve can be performed.



The top advantages of using a Mototok tug



Towing with a conventional Tractor:
At least 4 Persons needed



Circumferential view – only one person with a radio remote control (RRC) needed for moving the aircraft

- Industrial radio remote control. The operator is able to walk around the aircraft during maneuvering – he is essentially his own "wing-walker"
- "Hands free" connection to the nosegear. Engaging and disengaging is done automatically in seconds by a tap on the remote.
- No exit or entry path to consider for engaging and disengaging of the nosegear. Park your aircraft where you want – closely against a wall or in the hangar's corner
- Low maintenance costs. No bulky diesel engine – clean electric drive.
- Uniquely designed and microprocessor controlled.

Cost effective.

→ Low personnel costs by means of wireless remote control – the operator is essentially a „wing walker" himself

→ Increases the number of aircraft in your Hangar

→ No driving licence required

→ Extremely low maintenance costs, no maintenance plan necessary

Easy-to-use.

Docking takes a matter of seconds from the rear or front of the nose wheel. Simply drive the Mototok up to the nose wheel. The wheel is then hydraulically fixed firmly in position and raised – ready for take off!

→ Automatic connection to the aircraft's nose wheel with one tap on the remote.

→ No straps, no winch, no tools required.

Flexible.

→ Manoeuvre a wide range of aircraft with the same Mototok-model

→ Hydraulic nose wheel adjustment – for different nose wheel diameters

The engaging procedure can be started automatically by pressing just one button on the remote control:

1. Drive the Mototok with the hydraulic door open and the platform lowered to the nose wheel of the aircraft until the nose wheel touches the sliding table. Then press the start button on the remote control.

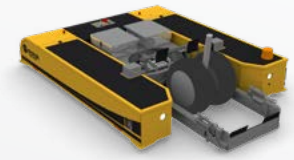
Safe.

→ Hydraulic fixation of the nose wheel

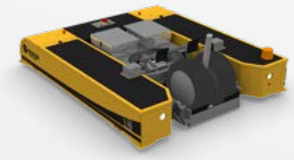
→ Fully programmable speeds, braking curves, initial torques and over steering protection *

→ Gentle treatment of the landing gear with a built in hydro-pneumatic clamping system

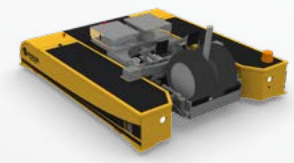
→ 100 % circumferential visual control around the aircraft. No knocks. No collisions. Optimum use of limited space!



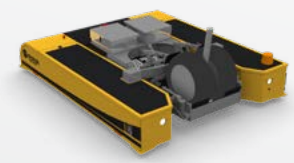
2. The hydraulical door closes ...



3. ... and clamps the nose wheel with a specified pressure.



4. The platform lifts up and raises the nose wheel

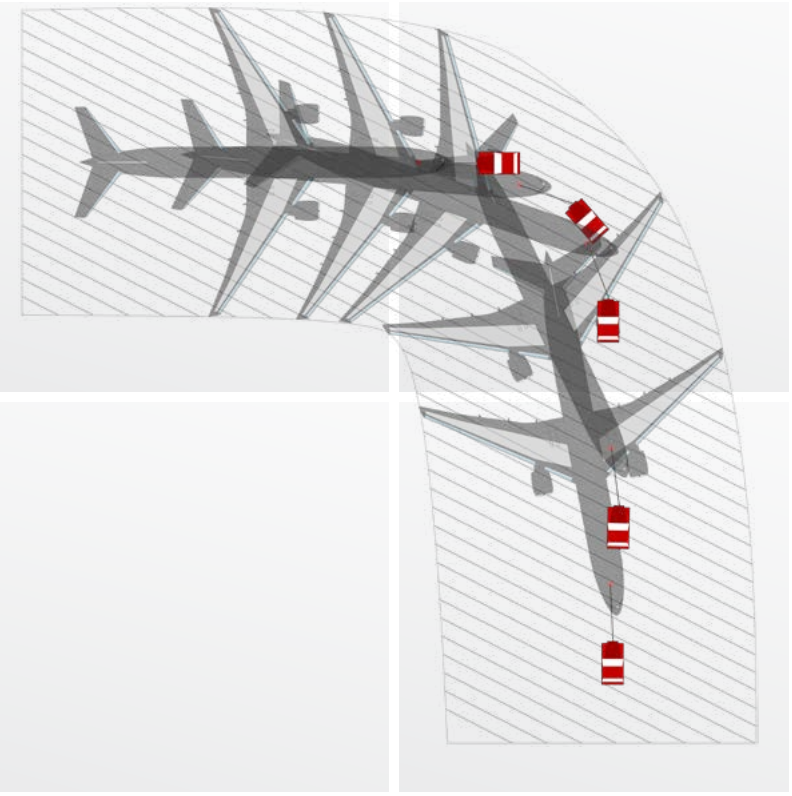


5. The securing paddles lower down automaticly and clamp the nose gear gently and safely – ready for moving the aircraft.

The whole procedure takes only 10-15 seconds.

Why is Mototok the best tug system in the market? A comparison between towing principles

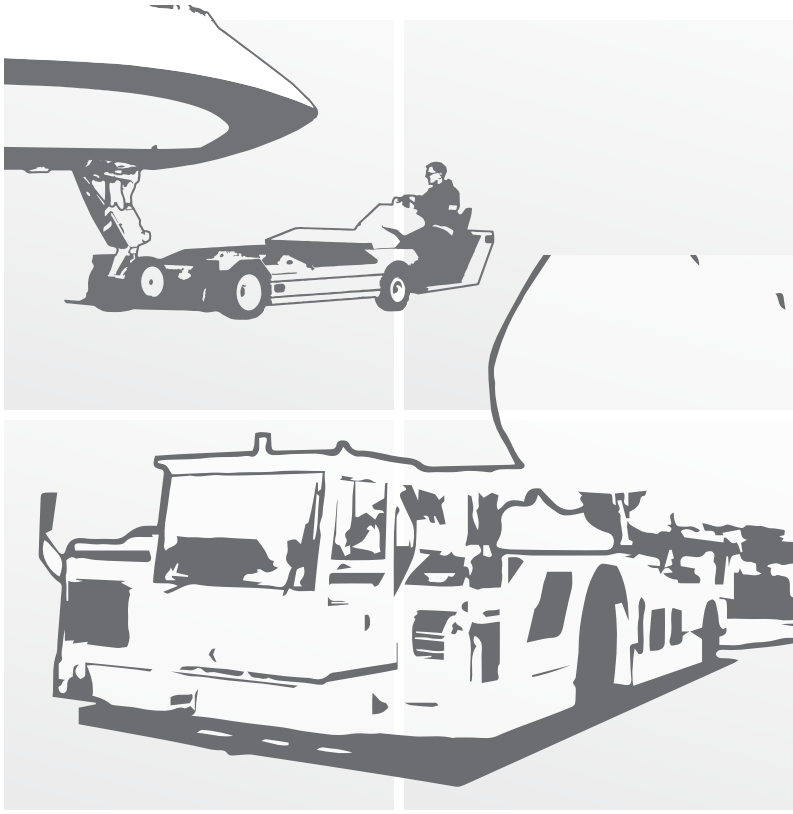
Conventional tow tractor with a tow bar



Maneuvering with a towbar means “steering by moving”. Turning the nosegear and moving the aircraft are two inseparable motions when using a tow bar. Turning the nose wheel is only possible when the aircraft is moved backwards or forwards. The aircraft has to be moved several meters for the nosegear to turn and move the aircraft into another direction. This in turn increases the space required for manoeuvres.

- **Many different tow bars** have to be stored for different types of aircraft.
- **High risk of accidents** and **damage** of the aircraft.
- At least **one second person necessary as a wing-walker** due to the minimized view of the operator.
- **High maintenance level** due to combustion engine.

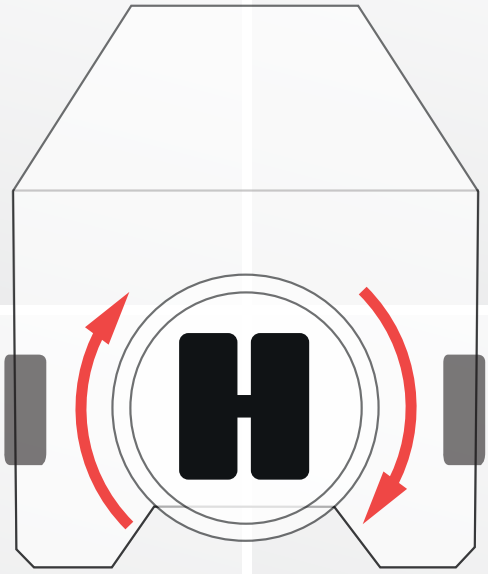
Other towbarless tugs



This principle means also “steering by moving”. The space requirement is approximately the same as with using a tow bar.

- **Winches and straps** for fixation often needed.
- At least **one second person necessary as a wing-walker** due to the minimized view of the operator.
- The vehicles have **large dimensions** and **require a lot of parking space**.

Tugs with a rotary table

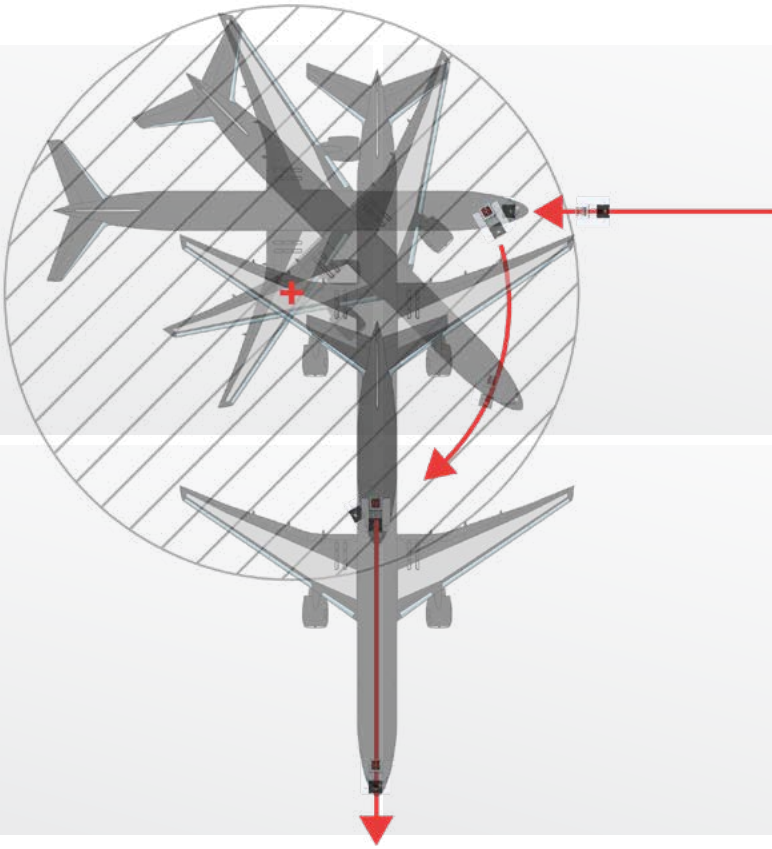


The nose landing gear is clamped on a rotating turntable to prevent damage to the nose wheel if the maximum turning angle of the nose wheel is reached. The aircraft tractor can continue to turn, but the turntable remains stationary.

- Can load the aircraft **only from the side** of the aircraft.
- The **Oversteering Protection** that is supposed to take place through the use of the turntable only **works reliably** when **pulling** the aircraft. When pushing, the turntable behaves similarly to the caster of a shopping trolley due to the tracking of the nose wheels: the wheel will turn around its vertical axis. This can only be corrected by manually or electrically countersteering the table.
- **No automatic fixation of the nosegear:** there is no technically simple way to bring **hydraulic** or **electric lines** into the **rotating platform** without risking a premature defect.
- **Safety issue:** Due to the large and unfavourably placed drive wheels, there is a **danger of crushing** the operators feet during manoeuvring.

Best Choice!

Moving an aircraft the innovative way – with Mototok!



Manouevering with Mototok is the easiest and safest by far. With Mototok, both turning the nosegear and moving the aircraft are two completely different movements. The fuselage and wingtips remain in position whilst turning the nosegear. The result is a minimum requirement of space. This example shows that turning an aircraft by 90° reduces manoevering space to a circle.

- **Can approach the aircraft from all sides.**
- **Fully hydraulic and sensor monitored nose gear platform.**
- **No winches, no straps:** Convenient and quick automatic nosegear loading.
- **Low maintenance** thanks to full electric drive.
- **Lowest space requirement** when pushing or pulling the aircraft.
- **Best overall sight** thanks to remote controlled maneuverings.
- **Safe** thanks to **oversteering protection** on many models.

VIDEOLINK

See Mototok in daily Hangar-Operation: bit.ly/fbo-mro

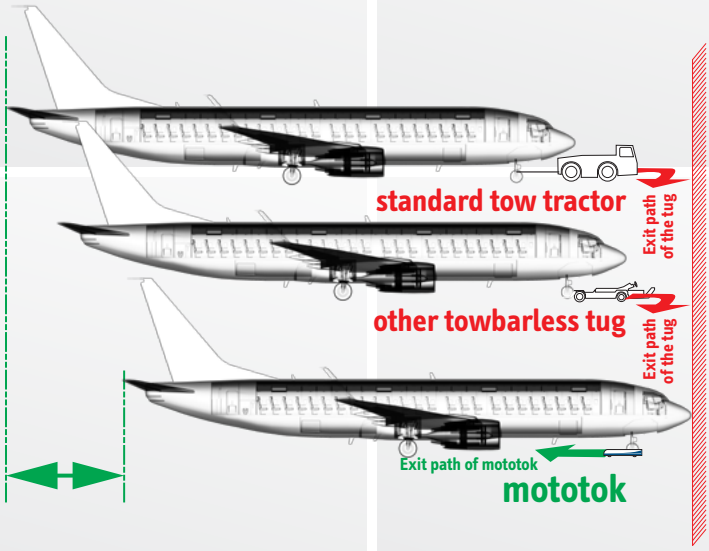
HANGAR OPTIMIZATION

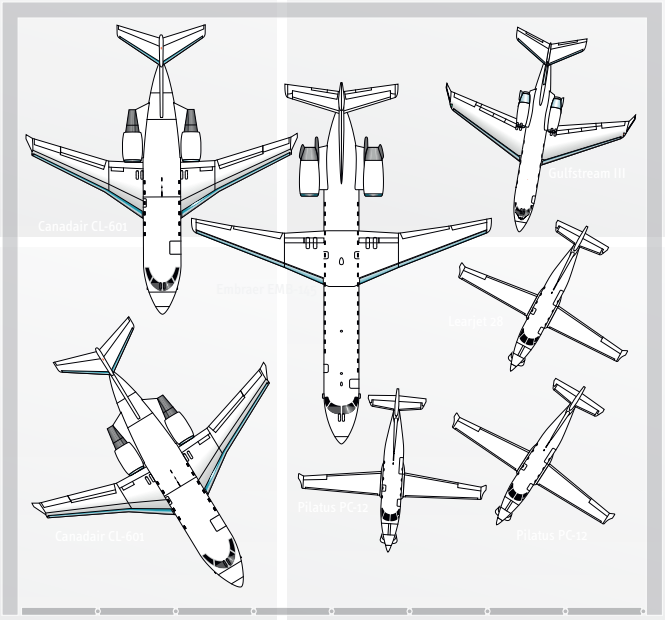
Mototok for Hangar Operations: Only Mototok generates up to 60% more space in your hangar

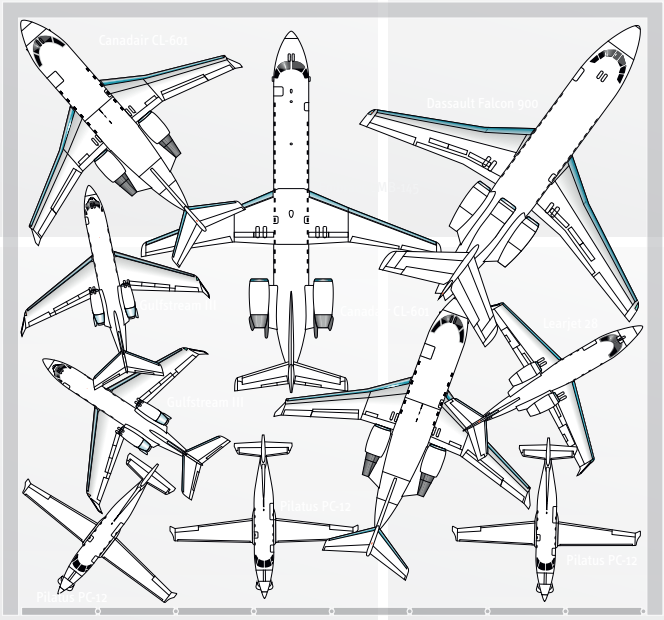
Mototok excels in tight situations: Park your aircraft safely, easily and effectively where you want: In the hangars corner, directly towards the hangars wall or near by other aircraft in the hangar. Save space in the process – depending on your hangar situation up to 60%.

Operating with normal tugs with or without a towbar is intricate. Turning the nose wheel whilst maneuvering without moving the aircraft is impossible. Additionally the operator has to consider the exit path of the tug. Thus, parking the aircraft with old technology is unprofitable. You are not able to use your hangars full capacity.

The low height, the compact design and the radio remote control of mototok tugs gives you the fully control of the hangars space. It saves costs through optimized use of limited space.







Typically situation in a hangar – managed with a conventional tow tractor. The biggest disadvantages are:

- All aircraft faces to the hangars gate because you have to consider the exit path of the tow tractor. Parking directly in a hangars corner is impossible.
- The distance between the aircraft has to be acceptably big.

You are not able to use your hangars full capacity!

Same hangar with electric wireless remote controlled Mototok aircraft tug:

- Park your aircraft directly towards a wall or in the hangars corner. You don't have to consider the exit path of mototok.
- „Stack" aircraft – park your aircraft with extreme minimal distance. Maneuvering in extreme narrow situations is no problem.

Increase the capacity of your hangar up to 60% by optimizing parking space!

WIFI & CELL-CONNECTION

DIGITAL ACCESS

Ground Handling goes digital

Mototok comes with a central processing unit (CPU) for features and adjustments relating to

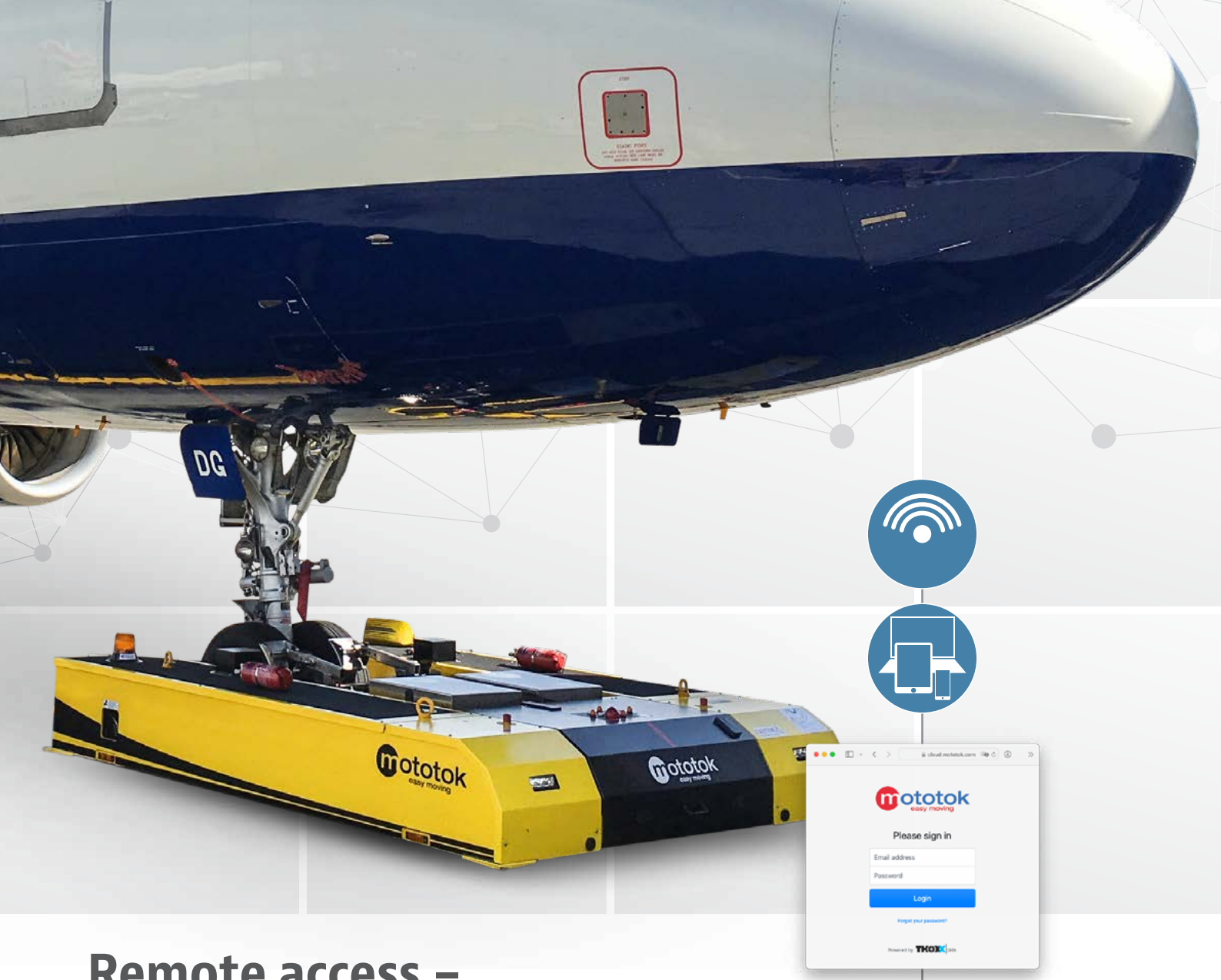
→ Towing and braking forces
→ Oversteering protection
→ Unit diagnostics
→ Log files
→ User access

The CPU can be linked with any mobile device (smartphone, tablet or laptop) via Bluetooth, WLAN or USB and a standard internet browser (like Microsoft Edge, Apple Safari, Google Chrome or Mozilla Firefox). Once you are linked to the system, you are able to manage many kinds of adjustments of the Mototok.

Log in to operate

The quickest log in can be done via a RFCI-card and an appropriate card reader on the machine. According to the authorization level, the user is able to move the Mototok, check or adjust the settings or read out the log files.

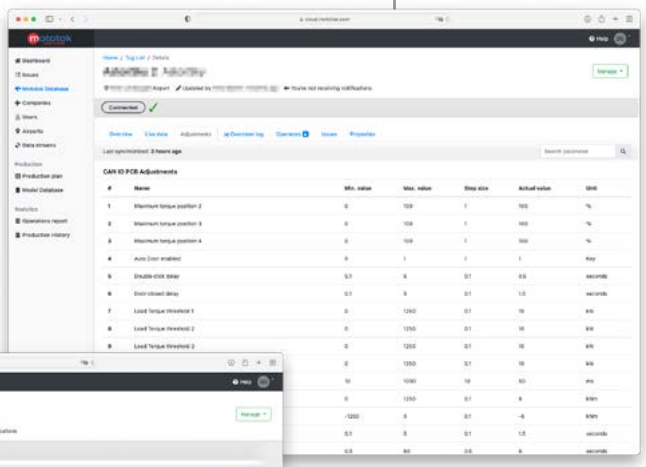
→ Identification of users by RFID-chip, fingerprint or any other proprietary user identification system like airport key card.
→ Logs start and end operation
→ All technical data of usage is stored
→ Torque values for oversteering analysis can be stored under the responsible operators in combination with the optional i-OPS

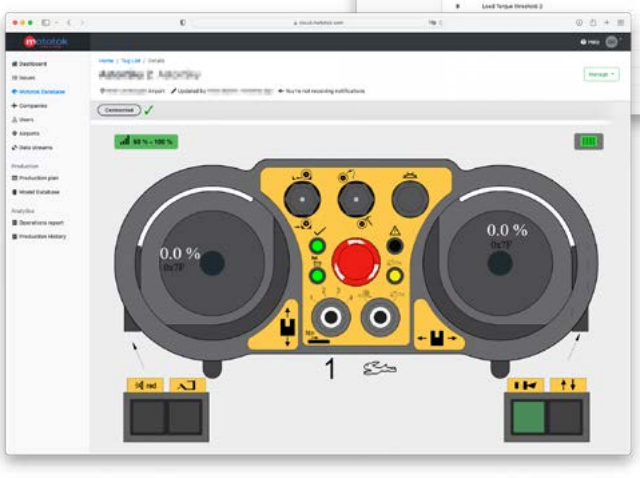


Remote access – Technical Support out of the Cloud

Everything in sight – from everywhere.

Always receive information about the condition and the battery status, the location and activities of each Mototok in your fleet. Connect virtually with our Mototok technicians to quickly get help with any technical problems you may have. With the help of the Mototok cloud, our technicians can query all relevant and important statuses – from states of the sensors, settings of all parameters to the position of the joystick levers of the remote control. In this way, any error can be quickly detected and often corrected "over the air".

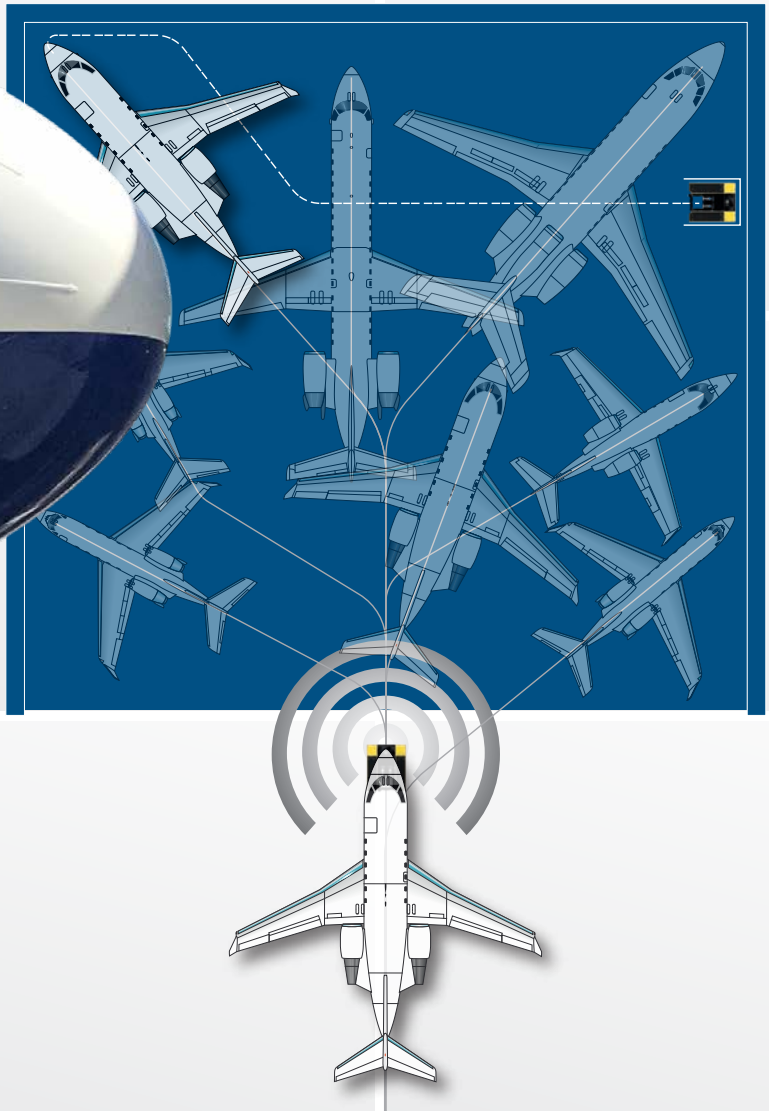


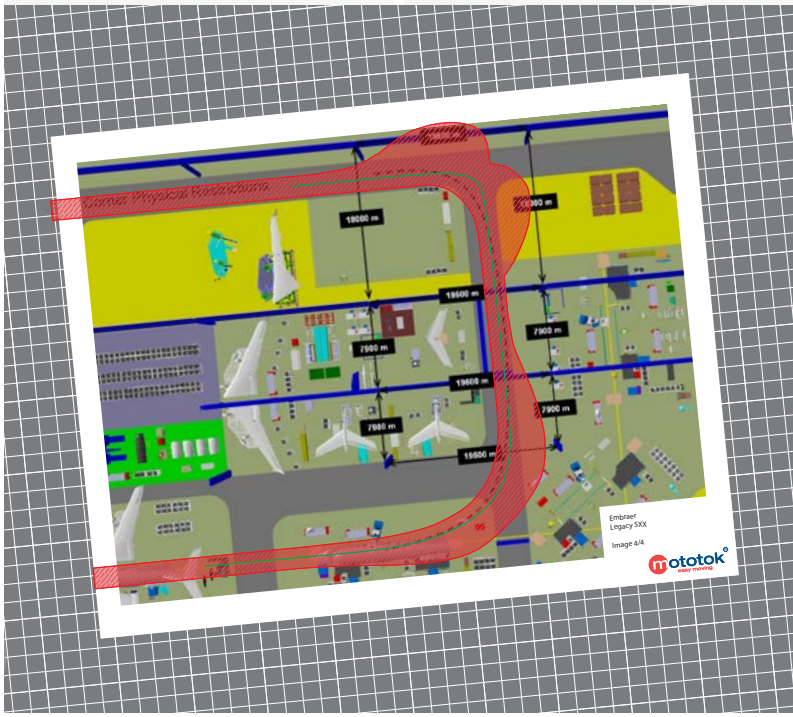


Autonomous Driving.

Moving an aircraft between four walls and other obstacles – with a Mototok an easy and safe way. But you can increase the safety once more by using our solutions for autonomous driving.

AGV





Mototok can be controlled in different ways
→ Optically by a line with barcodes for automatically brake down or speed up, stop or change the course in case of junctions
→ Inductive using induction loops
→ GPS

The advantages of using autonomous driving:
→ No accidents
→ No stress
→ No wrong drives
→ High reliability
→ More precise driving
→ Gentle transport for vehicle and load
→ Exact route planning
→ Optimized routing
→ Lower personnel costs.

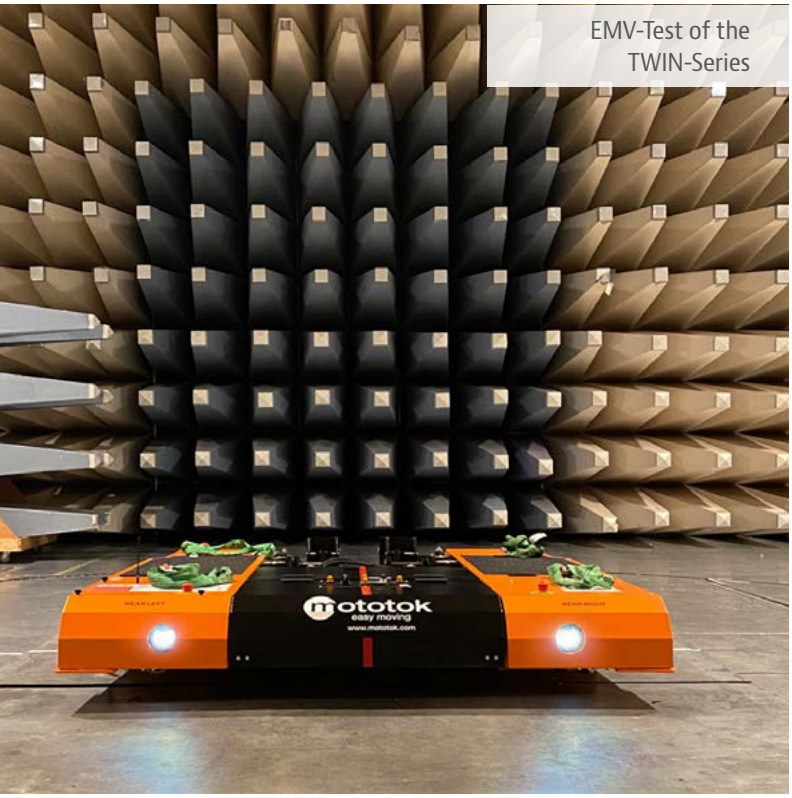
On production lines during aircraft manufacture, Mototok is a versatile tool that can be used with great flexibility. During assembly, Mototok automatically moves the aircraft fuselage to the individual assembly points. In very space-restricted production environments, two synchronized Mototoks may also be used.

Of course, we are at your disposal for advice and assistance in planning the optimal use in your hangar or production facility.

These and other well-known aviation companies use our automatic tracking technology in their production facilities:

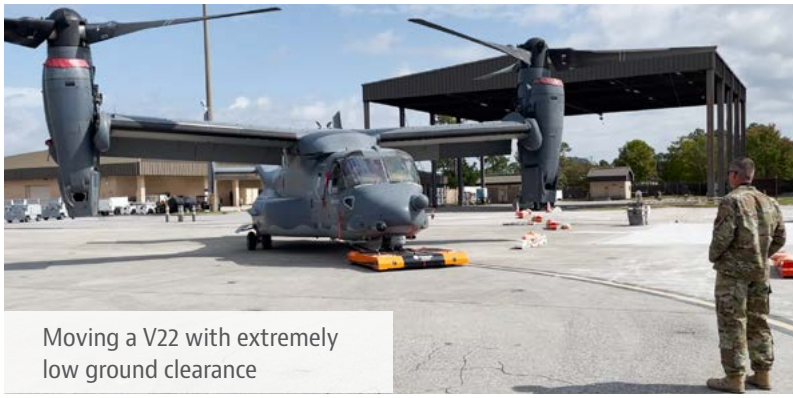
AIRBUS BOEING EMBRAER

Pushback in
London Heathrow T5A



EMV-Test of the
TWIN-Series

MRO / FBO – a Mototok
tows a widebody aircraft



Moving a V22 with extremely
low ground clearance

Our Experience and Expertise.

Our many years of expertise are based, among other things, on our experience with push-backs. In order to push aircraft with passengers into position at airports, very complex processes and quality controls are necessary. They culminate in the so-called NTO – a certificate of conformity from the respective aircraft manufacturer.

Mototok currently holds the following NTO declarations of conformity:

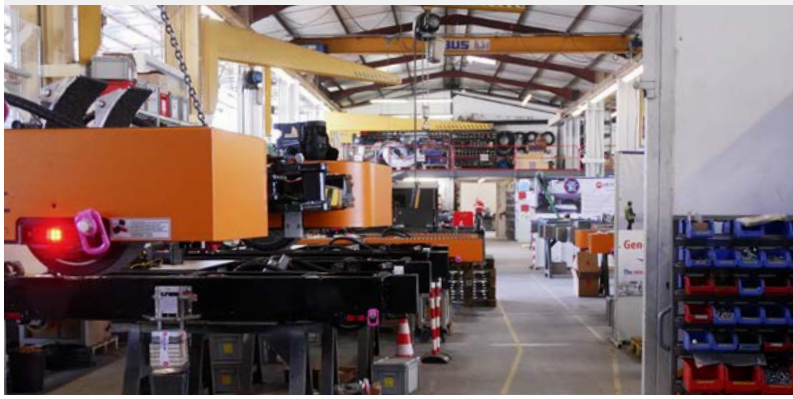
- → B 737 incl. MAX
- → A 220
- → A 320 family incl. NEO
- → MHI / Bombardier CRJ

NTO for Embraer Regional Jets is in progress.

Our innovative built to last aircraft tractors are best equipped for daily heavy use as they consist of high-grade material, hand-picked components according to the finest engineering designs. Our products are capable of withstanding the toughest conditions when exposed to wind and salt water. Thanks to a selection of the finest materials, only limited maintenance is necessary.

Our production process corresponds and applies to all necessary demands and conditions required in the engineering industry.

2006/42/EC	Machinery Directive (MD)
2014/35/EU	Low Voltage Directive (LVD)
2014/30/EU	Electromagnetic Compatibility Directive (EMC)
2014/53/EU	Radio Equipment Directive (RED)
EN 1915-1	Aircraft ground support equipment – General requirements – Part 1: Basic safety requirements
EN 1915-2	Aircraft ground support equipment – General requirements – Part 2: Stability and strength requirements, calculation and test methods
EN 12312-7	Aircraft ground support equipment – Part 7: Aircraft movement equipment
EN ISO 12100	Safety of machinery – General principles for design – Riskassessment and risk reduction
EN 1175-1	Safety of industrial trucks – Electrical requirements – Part 1: General requirements for battery powered trucks
EN ISO 4413	Hydraulic fluid power – General rules and safety requirements for systems and their components
EN ISO 13849-1	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
EN 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements



The German Art of Engineering.

Engineered and Made in Germany with Passion.

Satisfaction guaranteed – our customers

(extract)

Airports

Bern	Switzerland	Airport	Several Aircraft
Birmingham	USA	Shuttlesworth Intern. Airport	Several Aircraft
Burbank	USA	Bob Hope Airport	Several Aircraft
Cannes	France	Mandelieu Airport	Several Aircraft and Helicopter
Chicago	USA	Chicago Executive Airport	Several Aircraft
Dallas	USA	Dallas Love Field	Several Aircraft
Denison	USA	North Texas Regional Airport	Several Aircraft
Dresden	Germany	Airport	General Aviation
Dublin	Ireland	International Airport	Several Aircraft
Glasgow	UK	International Airport	Several Aircraft
Indianapolis	USA	International Airport	Several Aircraft
Kuala Lumpur	Malaysia	Sultan Abdul Aziz Shah International Airport	Several Aircraft
London	UK	Luton Airport	Several Aircraft
Lugano	Switzerland	Airport	Several Aircraft Helicopter Agusta and others
Lyon	France	Saint Exupery Airport	Several Aircraft and Helicopter
Malaga	Spain	Airport Costa del Sol	Several Aircraft and Helicopter
McKinney	USA	National Airport	Several Aircraft
Minneapolis	USA	Saint Paul International Airport	Several Aircraft
Moskow	Russia	Domodedovo Airport	Several Aircraft and Helicopter
Orlando	USA	Sanford International Airport	Several Aircraft
Panama	Panama	Albrook „Marcos A. Gelabert" International Airport	Several Aircraft
Philadelpia	USA	International Airport	Several Aircraft
Provo	USA	Municipal Airport	Several Aircraft
Santiago de Chile	Chile	Arturo Merino Benítez International Airport	Several Aircraft
Seattle	USA	Tacoma International Airport	Several Aircraft
Seattle	USA	King County International Airport	Several Aircraft
Sion	Switzerland	International Airport	Several Aircraft
Truckee	USA	Tahoe Airport	Several Aircraft
Tulsa	USA	International Airport	Several Aircraft
Waukegan	USA	Regional Airport	Several Aircraft
Zürich	Switzerland	International Airport	Several Aircraft and Helicopter

FBO / MRO

ACC Columbia, Hannover & Cologne	Germany	Global & others
ACI Jet Center	USA	Several Aircraft
AERO Dienst, Nuremberg	Germany	FBO
Air Service Basel	Switzerland	G5, Global Express, Boeing 737
AirMec	Angola	MRO / Military Aircraft
Alpark SA	Switzerland	Several Aircraft
Atlantic Aviation	USA	
Business Jet Center	USA	
Alaska Airlines	USA	
Cannes	France	Several Aircraft and Helicopter
Centeravia		Several Aircraft
Chantilly Air	USA	
Constant Aviation	USA	
Duncan Aviation	USA	Several Aircraft
Dupage Aerospace	USA	
Firehawk Helicopters	USA	
First Wing Jet Center	USA	
Flying Group, Antwerpen	Belgium	Several Aircraft
Grand Air	USA	
Great Falls Jet Center	USA	
Hawker Pacific Asia Pte Ltd	Singapore	Several Aircraft
Jet Alliance Vienna	Austria	Several Aircraft
JetAviation, Dallas	USA	
JetAviation, Geneva	Switzerland	Several Aircraft
Legacy Jet Center, Tulsa	USA	Several Aircraft
MillionAir	USA	
Panaviatic Ltd	Estonia	Several Aircraft
Perth	Australia	FBO
Sapura Aero	Malaysia	Several Aircraft
Silk Way Airlines, Baku	Azerbaijan	Several Aircraft
Standard Aero	USA	
Starport Aviation	USA	Several Aircraft
Sundance Airport	USA	
Synergy Flight Center	USA	Several Aircraft
TACAir	USA	
Tarkim Air	Turkey	General Aviation
XJEt	UK	Several Aircraft
FAI Nürnberg	Germany	Several Aircraft
Executiv Jet Service	Switzerland	Several Aircraft
Alpin Sky Jets	Switzerland	Several Aircraft
Aeroground Berlind GmbH	Germany	Several Aircraft
DC Aviation GmbH	Germany	Several Aircraft
Dedeman	Rumänien	Several Aircraft
Execujet New Zealand	Neuseeland	Several Aircraft
Falcon Aviation Services	UAE	Several Aircraft
JetEx	UAE	Several Aircraft
Flying Service	Belgien	Several Aircraft
GCH Aviation	New Zealand	Several Aircraft
Hawker Pacific Asia Pte Ltd	Australia	Several Aircraft
Jet Flight Air Services	New Zealand	Several Aircraft
Japat AG	Switzerland	Several Aircraft
Luxembourg Air Rescue	Luxembourg	Several Aircraft
Volkswagen AG	Germany	Several Aircraft
ADAC Luftrettung	Germany	Skidded Helicopter

Aircraft Manufacturers

Airbus S.A.S., Hamburg	Germany	Spacer
Boeing	USA	Ridley Park (PA), Earth City (MO)
Bombardier, Montreal	Canada	Global Express Delivery Center
Dassault Aviation	France	Twin
EMBRAER S.A.S. José dos Campos	Brazil	Embraer 195, 190, 175, 170, KC 390
Gulfstream Aerospace	USA	Appleton (WI), Savannah (GA), West Palm Beach (FL), Dallas (TX), Mesa (AZ)
Korea Aerospace Industries Inc (KAI)	South Korea	
Lockheed	USA	Dallas (TX), Stratford (CT)
Nasa	USA	X-59 Supersonic
Pilatus Aircraft Ltd	Switzerland	PC 12 Maintenance & Delivery
Rosvertol PLC	Russia	Helicopter Production MI-series
Sikorsky	USA	
Suchoi	Russia	
Turkish Aerospace Industries, Inc. (TAI)	Turkey	F 16 Fighter Maintenance Facility, Tiger Maintenance Facility

Xi'an Aircraft Company	China	Y 20

Corporate Flight Dept

Abbvie	USA	
ABP Food Group	Ireland	
Access Aviation	UK	
ACM	Chile	
ACSI Corporation	USA	
Aflac	USA	
Alpine Sky Jets	Switzerland	
American Colors International	USA	
Anglo American	South Africa	Agusta AW139, G5
C & P Aviation	USA	
Cargill	USA	
Caribbean Investor Group	USA	
CNH Industrial	The Netherlands	
Coca Cola	USA	
Columbia Pacific Management	USA	
Comcast	USA	Several Aircraft
Cook Canyon Ranch	USA	
Disney	USA	
Exelon Corp	USA	
Exxon Mobil	USA	
First National Bank	USA	
Gazprom Avia, Moscow	Russia	Falcon Jets
Harbert Aviation	USA	
Home Depot	USA	Several Aircraft
Indianapolis Colts	USA	
L-3	USA	Several Aircraft
McDonalds	USA	
Michelin	France	
Novartis AG (JAPAT AG), Basel	Switzerland	Global Express, EC 135
Occidental Petroleum	USA	
QuikTrip	USA	
Regions Financial Group	USA	
Statefarm	USA	Several Aircraft
Taxxas	USA	
The Boler Company	USA	
The CocaCola Company	USA	Several Aircraft
The Duchossois Group	USA	
TLS Aviation	USA	

Special Forces

Federal Police	Germany	Helicopter Super Puma, EC 155
Guardia di Finanza Rome	Italy	ATR

Government

Army Corp of Engineers	USA	Vicksburg (LA)
CalFire	USA	Sacramento (CA)
Dept of Energy	USA	Pasco (WA)
L3-Areomet	USA	Tulsa (OK)
Sultanat of Oman	Oman	Eurocopter Super Puma Fleet

Military

Brazil Navy	Brazil	Onboard Helicopter
California National Guard	USA	
CASSIDIAN Manching (EADS)	Germany	Tornado & Eurofighter
China Military	China	All kind of Aircraft, Helicopters
Columbian Air Force	Columbia	
Danish Army	Denmark	Challenger, Agusta EH 101, F 16
French Navy / Air Force	France	Rafale, Mirage 2000, Casa 235, NH 90,
German Navy	Germany	NH90
Israel Airforce	Israel	Alenia Aermacchi M-346 Master, F16
Korea Navy	South Korea	Onboard Helicopter
Pakistan Military	Pakistan	HELIMO for Helicopters with skids
Peru Navy	Peru	Helicopter on the BAP Pisco
South Korea Costguard	South Korea	Onboard Helicopter
Thailand Army	Thailand	
US Airfroce (in England)	UK	F 15
US Army National Guard	USA	
Wisconsin National Guard	USA	
Venezuela Military	Venezuela	Helicopters with skids & with wheels

Airlines

Aegean Airlines	Greece	
Aiana Airlines	South Korea	
Air Nostrum, Líneas Aéreas del Mediterráneo S.A	Spain	
Alaska Airways, Seattle	USA	BOEING 737 Family
British Airways	UK	AIRBUS 320 Series
HOP!	France	
Iberia, Líneas Aéreas de España S.A.	Spain	Spacer for BOEING and Airbus
Thomson/TUI, Luton	UK	BOEING 737 Family

Pushback

Allegiant Air	USA	
ANA – All Nippon Airways	Japan	
British Airways	UK	28 Machines at Heathrow T5
Changsha Huanga Airport	China	
DNATA	USA	JFK Airport, NY
Figari-Sud Corse Airport	France	
FRAport	Germany	Demo
Iberia	Spain	15 Machines at Madrid Barajas 15 Machines at Barcelona El Prat
JetBlue	USA	Demo
Rovaniemi Airport	Finnland	Demo
TCR	UK	
WTS	USA	McCarren Airport, NV

Technical Data

		SPACER 8600 MA
Use for		**double nosewheel**
Field of application		MRO / FBO
Maximum towing capacity [1]		80 t 176400 lbs
Maximum nosewheel weight capacity		8 t 17600 lbs
Dimensions (without antenna, grips on the surface)	width	2610 mm 102.76 inch
	lenght	3305 mm 130.12 inch
	height	553 mm 21.77 inch
Ground clearance		81 mm 3.19 inch
Max width of the nosewheel		851 mm 33.50 inch
Nosewheel diameter	min.	450 mm 17.72 inch
	max.	850 mm 33.46 inch
Unladen weight		5400 kg 11905 lbs
Time to load/fix aircraft (approx.)		15 sec
Speed (approx.)		5.4 km/h 1.5 m/s 3.36 mph
Batteries (maintenance-free, deep cycle gel)		Armour Plate 300 Ah with electrolyte recirculation
Voltage		80 V
AC Microprocessor controlled electric motors		✓
Range (depending on the workload)		3-4 days
Possible terrain		Concrete, stone
Drive wheel width		170 mm 6.69 inch
Drive wheel diameter		406 mm 15.98 inch
Tyres		Puncture-proof tyres Quarz sand particles
Standard radio remote control		–
Advanced radio remote control (with safety features, waterproof, certification of conformity), worldwide safety approval including airports, TÜV certified		✓

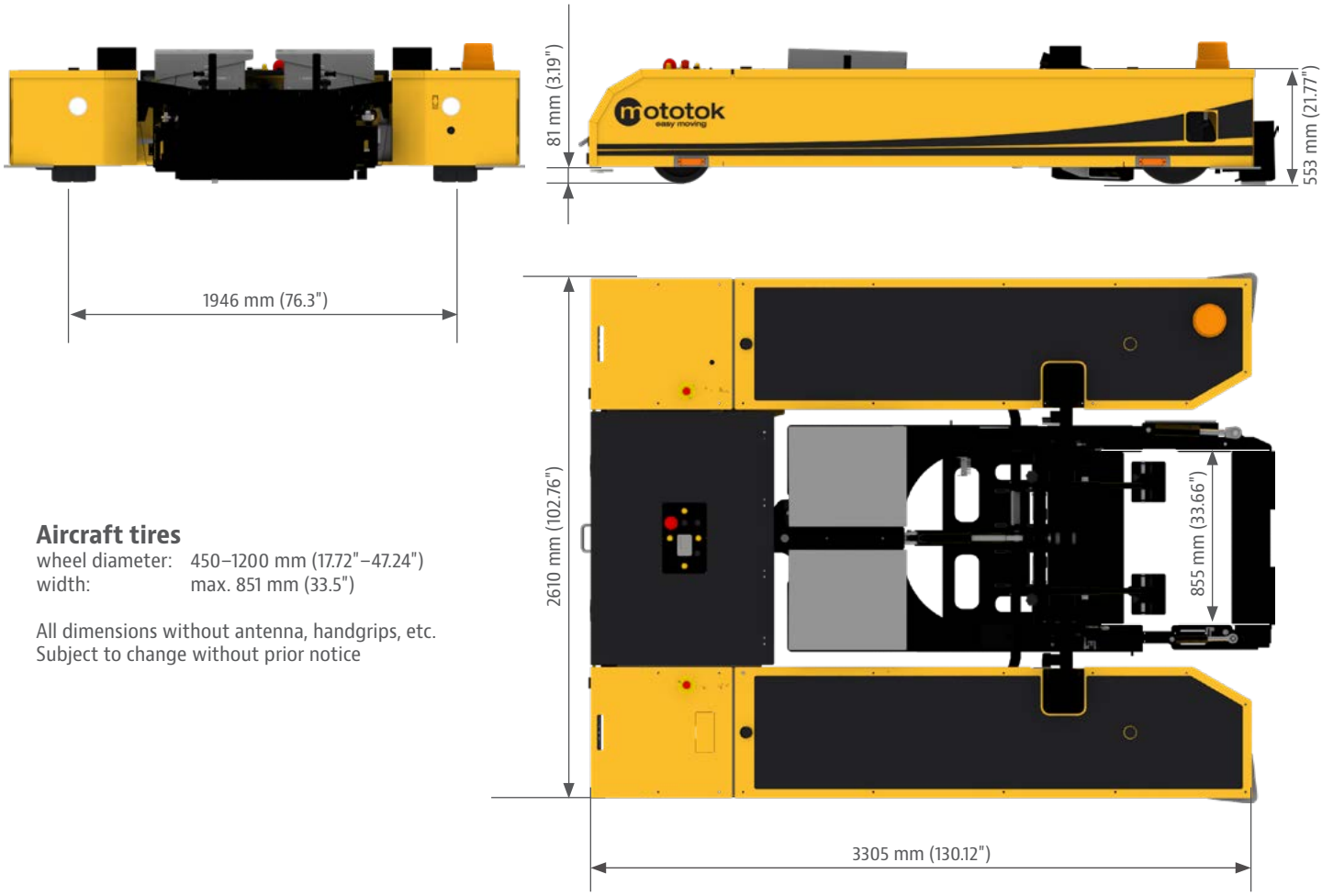
Optional Equipment

Hydraulic nosewheel securing [2]	✓
Hydraulic full hands free wheel opening doors	✓
Ground power cable for gound power connection 13,4V / 25,6 V (short time up to 1300 A) [3]	–
Driving light (LED, 10,000 hour operating life, very high beam range)	✓
Yellow flashlight	✓
Safety beeper	✓
Oversteering protection	Electronic torque control with counter steering, available
Technical support out of the cloud	available
Trailer coupling adaptor for multi-functional extensions	–
Military spiral cable connection (15 m) between aggregate and control unit	available
True Ackermann active 4-wheel-steering	available
Automatic controls by ground markings (AGV)	available
Adaptations for special demands (i.e. military version / production range)	available

Mistakes and technical alterations reserved / Date 08.2022

1) The stated towing capacity is valid for towing on normal ground conditions with no incline.
2) This prevents the nosewheel from rising and slipping out of position. The securing device is hydraulically lowered onto the nosewheel and securely locked at the push of a button.
3) In most aircraft, the generator voltage is 28.4 V. The 25.6 V on-board batteries are charged with this voltage. With the Mototok ground power supply, the on-board voltage can be maintained and used to start the turbines. Functionality depends on the electronic of the aircraft.

Dimensions



Aircraft tires
wheel diameter: 450–1200 mm (17.72"–47.24")
width: max. 851 mm (33.5")

All dimensions without antenna, handgrips, etc.
Subject to change without prior notice

Mototok was founded in 2003 by Kersten Eckert, avid aviator and creator of the Mototok, and his friend and paartner Thilo Wiers-Keiser.

FUELLED BY PASSION

The invention of our aircraft tugs is a deeply personal story that began with Kersten Eckert's first solo flight at 18. His growing aggravation about a process efficient-minded Eckert considered far from ideal: Maneuvering the aircraft while on the ground. You know the rigmarole: Waiting for the machine being laboriously transported out of the hangar, depending on having two or even three people available to watch his wings and fuselage, needing a pilot to sit inside the aircraft ready to brake if needed ...Eckert became determined on finding not only a better, but the perfect way in terms of space, speed, and effort.

CREATING THE PERFECT PRODUCT

Mototok has achieved market leadership in the segment of compact, towbarless, remote-controlled and battery-powered tugs through excellent quality, ease of use and high safety standards.

In the meantime, more than 1,000 units of all sizes are in use worldwide. Since 2017, Mototoks have already completed over 350,000 pushbacks wit 28 Units at Heathrow Airport, Terminal 5A alone – a huge advantage for the local operator British Airways, which says it has been able to significantly reduce delays by up to 70%.

Due to this high level of experience, more and more aircraft manufacturers are turning to Mototok tugs.

Hydraulic control and monitoring via a multitude of sensors, combined with connectivity to the Mototok Cloud and associated remote maintenance, make Mototok Tugs truly unique in the market.

Learn more about Mototok at www.mototok.com.

AIRBUS
Hamburg / Toulouse

DASSAULT AVIATION
Merignac, France /
Little Rock, Arkansas, US

Gulfstream
at 5 sites in the US

BOMBARDIER
the evolution of mobility
Montreal, Singapore, Berlin

LOCKHEED MARTIN
for F35, CH-53K, Blackhawk UH-60
and Seahawk SH-60

PILATUS
Switzerland

Mototok International GmbH
Hohenzollernstr. 47 · D-47799 Krefeld / Germany
Phone: +49 2151 65083 82 · Fax: +49 2151 61660 99

Mototok America LLC
100 Constant Ct · Sanford, FL 32773
Phone: 916-580-4977 · Fax: 916-641-8969

info@mototok.com · www.mototok.com · fb.com/MototokTugs

6534 / 10-2022