

VANGUARD™



POWERING FLEET READINESS

MOTIC HAINZL
MOTION & DRIVES

**Vanguard technology partnership
takes MOTIC Cargobeast from
prototype to production**

Briggs & Stratton and technology partner Hainzl Motion & Drives collaborated with MOTIC GmbH through the Vanguard Technology Partner Network to bring the Cargobeast last-mile vehicle from prototype to production. Combining Briggs & Stratton's commercial-grade Vanguard lithium-ion battery

packs with specialist engineering support, the partnership enabled MOTIC to optimise the vehicle for commercial production.

With 2.5 m³ of cargo volume, a 500 kg load capacity and a compact one-metre width, MOTIC's Cargobeast delivers significant carrying capacity while maintaining access to urban areas that can be challenging for traditional vans, including narrow streets, bike lanes and delivery zones. Consuming up to 75% less energy than a comparable light commercial vehicle, it helps operators improve efficiency while adapting to tightening emissions regulations and the expansion of low-emission zones across Europe.



¹ See vanguardpower.com for warranty details.

The Challenge

Bringing the Cargobeast from prototype development into full production presented several engineering challenges. The first was integrating a commercial-grade battery system that could deliver reliable performance throughout long working days and frequent stop-start urban routes. The system also needed to fit within the vehicle's compact design without compromising cargo space, stability or handling.

Secondly, as a growing OEM preparing for commercial production, MOTIC required specialist engineering support to ensure the electric drivetrain and vehicle design were fully optimised for commercial use.

The Solution

To overcome these challenges, Hainzl Motion & Drives, a member of Briggs & Stratton's Vanguard Technology Partner Network, worked with MOTIC to integrate Vanguard's 48 V fixed lithium-ion battery packs into the Cargobeast. The vehicle can be equipped with either a 3.5 kWh* battery pack, providing up to 50 km of range, or a 7 kWh* pack offering up to 100 km for operators with greater daily range requirements. As a Briggs & Stratton brand, Vanguard provides commercial-grade battery solutions for OEM applications, while Hainzl brings specialist system integration capabilities to support the development of electrified vehicles.

For MOTIC, the battery system needed to deliver more than power alone. The Cargobeast was designed for professional fleet operations, requiring reliable performance, durability, safety and long service life within a compact vehicle architecture. With these requirements in mind, HAINZL identified Vanguard's battery platform as the right power solution for the challenge. Engineered for demanding commercial equipment, Vanguard battery packs feature robust aluminum die-cast housings, an integrated Battery Management System (BMS), CANbus communication and maintenance-free operation. Together, these features provide dependable power while simplifying integration across a wide range of OEM applications.

Positioned beneath the driver's seat, the Vanguard fixed battery pack makes efficient use of available space while lowering the vehicle's centre of gravity, improving stability and handling without



* Total energy measured using a 0,2C discharge per IEC 61960-3:2017



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**COMMERCIAL
ELECTRIFICATION ISN'T
JUST ABOUT BATTERY
PERFORMANCE, IT'S
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A COMPLETE
SOLUTION.**”

Jamie Bailey, New Business Manager
Electrification EMEA, Briggs & Stratton

compromising cargo capacity. This integration forms part of the Cargobeast's wider engineering approach, combining purpose-built components, modular body solutions and an efficient electric drivetrain to maximise performance within a compact format. The patented suspension further enhances stability under heavy loads, while enabling the transport of a standard 80 cm-wide Euro pallet and an exceptionally large cargo volume within the vehicle's compact dimensions.

Engineering through partnership

The collaboration between MOTIC, Hainzl Motion & Drives and Briggs & Stratton extended well beyond battery selection. Throughout development, the three companies worked closely to integrate the battery system, electric drivetrain and onboard electronics into a fully optimised vehicle platform, ready to perform reliably in real-world working environments.

The success of the collaboration has also laid the foundations for future development, with MOTIC viewing Vanguard's commercial battery technology and Hainzl Motion & Drives' system integration expertise as key enablers for the next generation of its electric transport solutions.

Jamie Bailey, New Business Manager for Electrification EMEA at Briggs & Stratton, explains: “Commercial electrification isn't just about battery performance, it's about delivering a complete solution. Combining Vanguard battery technology with the expertise of our Technology Partner Network gives OEMs the confidence to develop reliable, production-ready vehicles that are built for demanding commercial applications.”

The Results

The collaboration has delivered significant improvements across the Cargobeast platform. Compared with earlier prototypes, load capacity has doubled from approximately 250 kg to up to 500 kg, effectively doubling the vehicle's carrying capability. Depending on the Vanguard battery selected and driving conditions, operating range on a single charge has improved by around 30%, reaching up to 50 km. The optimised battery integration and drivetrain architecture also support greater stability, operational reliability and long-term serviceability, helping fleet operators minimise potential downtime.

Fabio Wiesinger, CEO of MOTIC GmbH, says: "We focused on creating a future-oriented vehicle concept tailored to modern urban logistics from day one. Hainzl Motion & Drives brought the precise application expertise we needed, and Briggs & Stratton's Vanguard platform delivered the power we can trust to turn our plans into reality."

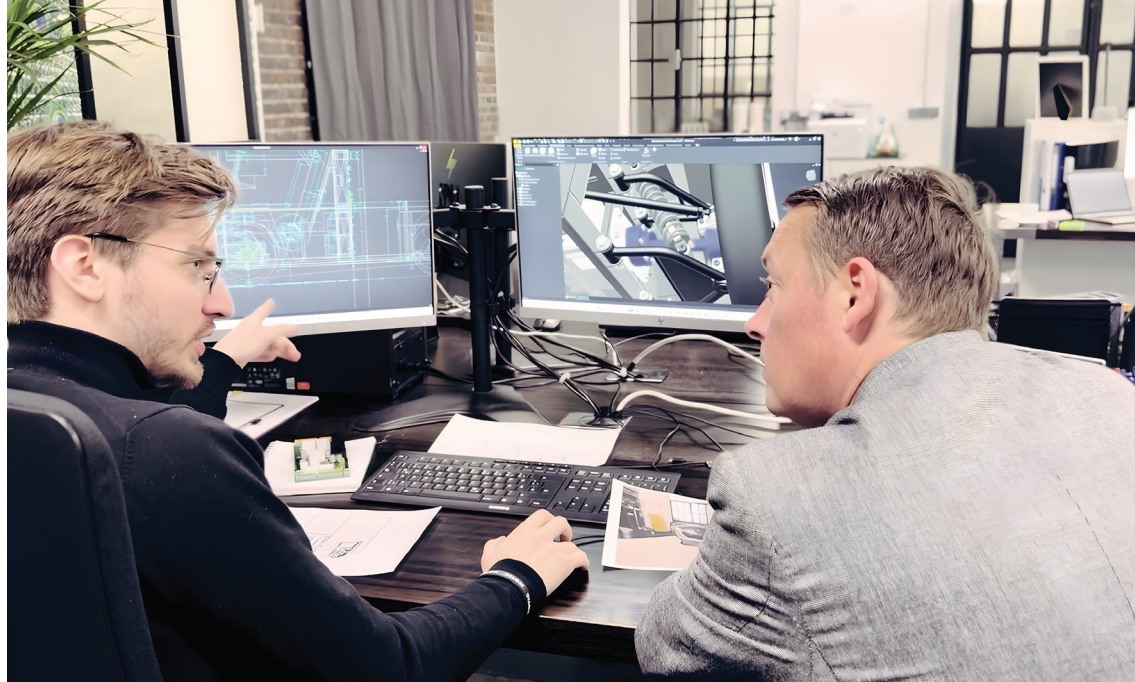
Harald Schreibmüller, Head of Sales at Hainzl Motion & Drives, adds: "MOTIC is a prime example of why Hainzl Motion & Drives joined the Vanguard Technology Partner Network. They are a compact company with immense potential in the electrification sector. By combining our engineering expertise with the Vanguard battery system, we have significantly advanced their product, and we are thoroughly impressed by the outstanding results achieved through this joint development."

For MOTIC, the collaboration with Hainzl Motion & Drives and Briggs & Stratton demonstrates how combining commercial-grade battery technology with specialist application engineering can accelerate innovation. The Cargobeast demonstrates the value of the Vanguard Technology Partner Network, showing how proven battery technology, engineering support and OEM collaboration can help manufacturers bring the next generation of commercial electric vehicles to market.

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VANGUARD BATTERY SYSTEM,
WE HAVE SIGNIFICANTLY
ADVANCED THEIR PRODUCT.** ”

Harald Schreibmüller,
Head of Sales, Hainzl Motion & Drives



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HAINZL MOTION & DRIVES BROUGHT THE PRECISE APPLICATION EXPERTISE WE NEEDED, AND BRIGGS & STRATTON'S VANGUARD PLATFORM DELIVERED THE POWER WE CAN TRUST TO TURN OUR PLANS INTO REALITY.

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Fabio Wiesinger,
CEO of MOTIC GmbH



**48V
COMMERCIAL
BATTERIES**
FIXED BATTERY PACKS
– Fi3.5 & Fi7.0

Powerful, efficient and safe: This fixed battery pack is designed to blend seamlessly into any equipment setup.

- **Expandable:** Up to 10 packs can be combined in parallel for additional capacity.
- **Durable:** Multiple protective features tested to withstand harsh conditions, including extreme temperatures, impact, vibration, moisture and dirt.
- **Increased Uptime:** Up to 2000-cycle life to 80 % initial capacity.

	Fi3.5	Fi7.0
NOMINAL VOLTAGE:	51,6 V	51,6 V
NOMINAL CAPACITY²:	67,5 Ah 3,5 kWh	135,9 Ah 7,0 kWh
NOMINAL DISCHARGE CURRENT:	100 A	134 A
CHARGE TIME WITH 1050W / 3000W CHARGER³:	4 / 2 h	8 / 3 h
PACK WEIGHT:	26,3 kg	46,3 kg



Hainzl Motion & Drives is part of the Vanguard Technology Partner Network, a specialised global network designed to support original equipment manufacturers (OEMs) with machine electrification. It enables small to medium-sized OEMs to implement Briggs & Stratton's Vanguard's Lithium-Ion battery systems, whether repowering existing internal combustion machinery or engineering new electric platform designs.

² Per IEC61960

³ Standalone battery charge time. On-equipment charge times vary by OEM settings.

See the OEM operator's manual for details. Based on nominal temperatures, charge will vary at the extremes.

LEARN MORE

about how our passion for power and our Technology Partner Network can benefit your equipment.



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ABOUT BRIGGS & STRATTON | VANGUARD

Briggs & Stratton, headquartered in Milwaukee, Wisconsin, provides innovative products and diverse power solutions to help people get work done. Briggs & Stratton is the world's largest producer of engines for lawn and garden, turf care and job site power equipment and is a leading designer, manufacturer and marketer of lithium-ion batteries, standby generators and energy storage systems through its Briggs & Stratton®, Vanguard®, Ferris®, Simplicity®, Snapper®, Billy Goat®, and Branco® brands. Briggs & Stratton products are designed, manufactured, marketed and serviced in over 100 countries on six continents.

Vanguard® helps professionals to get their work done by applying power to their unique commercial applications. For more than 35 years, Vanguard has partnered with customers to conquer challenges and develop innovative products. As Vanguard® doesn't simply provide components, it supports customers in applying commercial lithium-ion and petrol power throughout the entire integration process, from development to serial production to after sales and training support. www.vanguardpower.com

ABOUT MOTIC

MOTIC GmbH is an Austrian engineering and vehicle manufacturing company focused on compact, high-performance electric transport solutions for urban logistics. Its flagship product, Cargobeast, is a fully electric cargo bike designed for professional fleet applications, offering up to 500 kg payload, 2.5 m³ cargo volume and a compact 1-meter vehicle width. By combining drive-by-wire technology (pedal generator), a patented suspension concept and modular body solutions, MOTIC develops energy-efficient vehicles for last-mile delivery, intralogistics and commercial urban transport. www.motic-ls.com

ABOUT HAINZL

HAINZL Motion & Drives is a leading provider of customised drive solutions for mobile machinery and off-highway vehicles. With extensive expertise in hydraulics, electromechanics and control technology, HAINZL offers both individual components and fully integrated complete systems. The company supports its customers from the initial concept through to technical design, commissioning and long-term maintenance. www.hainzl.at/en

VANGUARD™

BRIGGS & STRATTON

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