



Hypershell Redefines Human Mobility with Halo, Flagship Full-Leg Exoskeleton Built for All-Terrain Mobility

Descrizione

COMUNICATO STAMPA - CONTENUTO PROMOZIONALE

BERLIN, Sept. 3, 2026 /PRNewswire/ - Hypershell, the world's leading consumer exoskeleton brand, today unveiled Hypershell Halo, its flagship full-leg exoskeleton built for all-terrain mobility, at IFA 2026. Powered by the industry-first Hypershell Unified Architecture, HyperIntuition 2.0 AI motion control, and the all-new HyperDrive Pro four-motor system, Halo is the industry's first exoskeleton to coordinate four powered hip and knee joints as one system to deliver powerful, natural, and unrestricted assistance and protection wherever and however people move, giving them greater freedom to move beyond physical limits.

"Halo represents a ground-up rebuilding of the consumer exoskeleton," said Kelvin Sun, CEO of Hypershell. "We didn't simply add powered knees to an existing hip exoskeleton. We redesigned the architecture, power system, and intelligence around the entire lower body, so four powered joints can move as one with the user. The result is a new platform built to expand not just how far people can go, but the range of terrains and movements they can take on."

Hypershell Unified Architecture and HyperIntuition 2.0 Unlock All-Terrain, All-Movement Mobility

Halo introduces the revolutionary industry-first Hypershell Unified Architecture. A continuous carbon-fiber load-bearing structure runs across the hip, thigh, knee, and lower leg, creating a direct force-transfer path. This enables all four powered joints to operate as one coordinated full-leg system, providing propulsion, weight-bearing support, descent control, and landing cushioning.

Halo's structure is designed for bodily freedom. The innovative Fish-Spine Adaptive Joint connects the hip motor to the leg lever, allowing the structure to follow the hip's natural movement instead of locking to a fixed mechanical axis. Offering up to 198° of lateral range and 167° of front-to-back movement, it enables fluid, multidirectional motion across changing postures.

The Unified Architecture features the AeroFlex V Thigh Strap designed around the body's changing contours. By replacing conventional rigid rear-thigh panels, it allows pressure and load to redistribute naturally as the wearer stands, sits, squats, or moves across uneven terrain, improving comfort without compromising stability.

Making that mechanical freedom intelligent is HyperIntuition 2.0, Hypershell's all-new motion-control algorithm. Built around an industry-first Mixture-of-Experts (MoE) architecture for exoskeletons, HyperIntuition 2.0 moves beyond conventional rule-based control. Multiple specialised neural networks reasoning together in real time interpret changing movement, terrain, and load, allowing seamless decision-making assistance to be distributed across all four powered joints.

Over 30 high-precision sensors in HyperSense Pro continuously capture lower-body movement, while the HyperCore Pro AI chip processes in real time. Trained on over 10,000 hours of high-quality motion data, HyperIntuition 2.0 can anticipate movement intent approximately 200 milliseconds in advance and adjust assistance up to 2,500 times per second. Halo can therefore follow the wearer's motion with effectively zero-latency, transitioning naturally between movements without requiring users to switch modes.

Through Human-in-the-Loop reinforcement learning, HyperIntuition 2.0 goes one step further, with assistance evolving around each wearer's gait, asymmetry, strength and preferences over time. Instead of asking users to adapt to the exoskeleton, Halo increasingly adapts to the individual, delivering support that is more precisely timed, measured, and personalised.

HyperDrive Pro: Four-Motor Power Made Wearable

Halo's all-new HyperDrive Pro four-motor system brings up to 1,490 W of peak output to the full leg.

HyperDrive Pro delivers power at an exceptionally low weight. Hypershell redesigned the motor's electromagnetic system and reduction architecture to bring each knee power unit down to merely 170 g, while the lightweight magnesium-alloy housing further reduces mass across the system.

This power output, together with its unified architecture, enables Halo to deliver active knee protection. Powered hip and knee joints work together to share extension, load-bearing, and braking torque across high-demand movements, reducing knee-muscle fatigue by up to 40% during squats, while helping lift the body during climbs, and cushion repeated impact as terrain changes.

The new Hypershell PocketVolt Battery weighs just 370 g and delivers up to 20 km of range in a compact, detachable design. It can be quickly swapped and carried at the waist or separately in a backpack, supporting all-day hikes while keeping weight and bulk off the exoskeleton frame.

True Mobility Goes Wherever You Go

At just 2.6 kg, Halo brings full-leg assistance into a form designed for all-day wear. Its aerospace-grade carbon fiber and titanium construction combines the durability required for impacts, high-speed movement and demanding terrain with the low weight needed to keep the system light, unobtrusive and natural over extended use.

Built for the outdoors from the ground up, Halo is engineered to stay portable, yet dependable. Halo folds to a volume of less than 8 L and can fit inside a backpack. It is compatible with packs up to 85 L, including high-capacity mountaineering packs, so users can wear Halo without giving up the carrying systems required for longer or more demanding journeys. In changing weather and outdoor conditions, Halo is IP54-rated for protection against dust and splashing water.

A novel five-buckle system simplifies fitting compared to conventional full-leg wearable systems. Stepless adjustment and QuickFit levers allow the fit to be configured precisely the first time; once adjusted, Halo can be put on again in approximately 20 seconds and removed in as little as 5 seconds.

Halo also comes with Shelly, the industry's first AI sidekick developed specifically for consumer exoskeletons. Through talking or texting to Shelly, users can set up the device, personalise assistance and plan journeys, while Shelly gradually learns their movement habits and preferences to make support more intuitive over time.

Hypershell has reached more than 70 countries and regions, supported by nearly 200 offline experience touchpoints worldwide. Halo marks the company's latest step toward its vision of a world where people can move freely, explore boldly, work efficiently, and go beyond what once seemed possible.

Hypershell Halo's Origin Edition, Pricing and Availability

The first 200 units of Halo will be released as the Origin Edition, each featuring an exclusive wordmark, a unique production number, and additional exclusive benefits. The Origin Edition is now available for pre-order beginning at 2,299 USD/2,299 EUR/2,199 GBP. Initial availability covers the United States, Canada, Europe, the United Kingdom, and China.

Official sales and phased deliveries will begin in November, with further launch details for each market to be announced closer to availability. Further details on the product can be found [here](#).

About Hypershell

Founded in 2021, Hypershell is a world-leading exoskeleton company focused on empowering human exploration. Its intelligent exoskeletons adapt in real time to terrain, activity, and intention, making movement lighter and more natural. With SGS-certified & TÜV Rheinland-verified performance and tens of thousands of units sold across 70+ countries, Hypershell enhances, not replaces, human ability – shaping a future where wearable robotics become as essential as backpacks for exploration, work, and play.

Note: Unless otherwise stated, product performance figures are based on testing conducted under specified controlled conditions. Actual results may vary depending on the user, environment, and manner of use. Please refer to our website for detailed test conditions and methods.

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