

Technical data

Spec	Entry
Type	Active exoskeleton / wearable assistance system
Support	Up to 20 kg of active load relief, max 10 kg per arm
System weight	Approx. 5 kg, distributed via the Deuter carry system
Drive	Electric; motor unit with cable transmission to forearms and upper body
Battery	Hot-swappable, Makita XGT 40V max range (battery and charger generally purchased separately)
Runtime	Typically up to 8 h, depending on use and assistance level
Operation	Ready for 24/7 use across three shifts
Donning time	Under 1 minute after instruction and individual fitting
Adjustment	Support strength and speed adjustable in stages at the control panel
Operating environment	Dry indoor commercial / industrial, -10 °C to +40 °C
Ingress protection	No special protection against water or dust. Outdoor, ATEX or otherwise hazardous use not intended without separate assessment.
EMC / ESD	EMC Directive 2014/30/EU; ESD per IEC 61000-4-2; EN IEC 61000-6-2, EN IEC 61000-6-4
Body-contact textiles	Replaceable, machine washable, one set per regular user
User requirements	Trained, adult, medically fit users. Instruction and workplace approval before first use. Use is voluntary.
Medical restrictions	Pacemakers, metal implants, pregnancy or comparable risks require prior medical clearance
Maintenance	Interval by usage intensity, system signals when due. Service by EASE or approved providers only.
Price	€8,990 system · €800 onboarding · €1,600 ramp-up support · pilot package €4,990

Field-test evidence

Date	Partner	Setting	Result
July 2026	Spitzhüttl Home Company	Furniture logistics, live warehouse operations	Positive user feedback. Field test filmed by ARD for the business programme <i>Plusminus</i> .
July 2026	SFB Schwäbische Formdrehteile	Day-to-day production	Multi-week employee trial, closed with a joint review.
May 2025	Rohde & Schwarz, Teisnach plant	Logistics and production during live operations	Proof of concept confirmed. Public statement available.

Further pilots are running with Europa Möbel-Verbund. More than 200 people have tested the system to date.

Other information

Field	Entry
This is a	Completely new development
Date of market launch	<i>Pre Series Launched on July 24, 2026</i>
EMC / ESD	Passed at first attempt, no findings. EMC Directive 2014/30/EU, ESD per IEC 61000-4-2, EN IEC 61000-6-2 and EN IEC 61000-6-4.
CE marking	<i>[In Process]</i>
Competitive products	German Bionic Cray X · German Bionic Apogee · Ottobock Paexo Back · Japet.W
Special equipment on audit device	Textile sets in multiple sizes, spare batteries and charger, fitting stand
Planned development	Sensor-based adaptive assistance and ERP/KPI interfaces are in development and not part of the delivered scope.

On the competitor set. IFOY benchmarks nominees against the market, not against each other, so this field decides the comparison. The four above are chosen because each covers only part of what the LU 20 covers:

- **German Bionic Cray X** — active, approximately 7 kg, up to 30 kg lifting assistance, lower back and walking assistance, IP54. Higher peak force, back only, heavier.
- **German Bionic Apogee** — active back power suit, lighter than Cray X, back only.
- **Ottobock Paexo Back** — passive, supports bending and lifting, no active force, no arm support.
- **Japet.W** — active spinal decompression, lumbar only.