

Robotimize Advances Pediatric Neurorehabilitation in Singapore with Advanced FES-Cycling Technology

Robotimize advances pediatric neurorehab in Singapore, delivering specialized cycling therapy for children with neurological conditions.

SINGAPORE, September 24, 2025 /EINPresswire.com/ -- Breakthrough FES-cycling technology transforms lower limb rehabilitation for children with cerebral palsy, spinal cord injuries, and developmental disorders through precision stimulation protocols.

[Robotimize](#) Group, a global leader in intelligent neurorehabilitation technology, continues to advance pediatric rehabilitation capabilities in Singapore through strategic deployment of the RevitaVivante™ Ped LL FES system. Designed specifically for children with neurological and developmental conditions, this specialized functional electrical stimulation (FES) cycling platform represents a significant advancement in evidence-based pediatric neurorehabilitation, addressing the unique therapeutic needs of young patients recovering from conditions including cerebral palsy, spinal cord injuries, and traumatic brain injury.

The RevitaVivante™ Ped LL FES system exemplifies Robotimize's mission to advocate for more pathways to comprehensive solutions that enhance patient outcomes, particularly in the specialized field of pediatric rehabilitation where traditional adult-sized equipment often fails to meet the precise biomechanical and developmental requirements of growing bodies. Through strategic partnerships with leading pediatric rehabilitation centers, Robotimize continues to demonstrate how intelligent technology can transform therapeutic outcomes for Singapore's youngest patients.



Jackson Lau, Product and Clinical Manager at Robotimize, demonstrates the advanced features and therapeutic applications of the RevitaVivante™ Ped LL FES system during a comprehensive client consultation

Addressing Critical Gaps in Pediatric Neurorehabilitation

Pediatric neurorehabilitation presents unique challenges that require specialized solutions far beyond scaled-down adult equipment. Children with neurological conditions require rehabilitation technologies that accommodate their developing neuromuscular systems, varying attention spans, and specific therapeutic protocols designed for optimal neuroplastic development during critical growth periods.



RevitaVivante™ Ped LL FES

Pediatric FES Cycling Therapy

Contact Us To Learn More



RevitaVivante™ Ped LL FES: "A specialized pediatric cycling system combining functional electrical stimulation with adaptive cycling therapy."

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Pediatric rehabilitation technology must do more than deliver therapy—it must inspire confidence, engagement, and hope in both children and families throughout their recovery journey.”

*Zen Koh, Strategic Advisor,
Robotimize*

nervous systems. The RevitaVivante™ Ped LL FES system addresses these challenges by combining active and passive cycling movements with multi-channel functional electrical stimulation, creating engaging therapeutic experiences that promote both motor recovery and positive treatment attitudes in young patients.

"Pediatric neurorehabilitation requires technologies that understand the unique needs of developing minds and bodies. The RevitaVivante™ Ped LL FES system demonstrates how precision engineering can create therapeutic experiences that are both clinically effective and developmentally appropriate," said Kerry Guo,

Founder and CEO of Robotimize Group.

Revolutionary Pediatric FES Technology: Precision Engineering for Young Patients

The RevitaVivante™ Ped LL FES system represents a breakthrough in pediatric rehabilitation technology, specifically engineered to address the unique anatomical and therapeutic requirements of children with lower limb motor dysfunction:

- **Specialized Pediatric Design Architecture:** The system features pediatric-specific proportions with adjustable pedals and secure limb positioning systems that accommodate children's varying

sizes while ensuring optimal biomechanical alignment during therapy sessions. Unlike adult systems that are simply scaled down, the RevitaVivante™ Ped LL FES incorporates child-specific ergonomic principles that support proper developmental positioning.

- **Multi-Channel Functional Electrical Stimulation:** Advanced FES technology delivers precisely-timed muscle contractions that synchronize with the cycling motion, promoting functional movement patterns while engaging the child's neuromuscular system in coordinated, goal-directed activity. The multi-channel approach enables targeted stimulation of specific muscle groups, supporting both strength development and motor learning.

- **Active-Passive Training Integration:** The system seamlessly transitions between active patient-driven movements and passive therapist-controlled motion, allowing therapists to customize therapy intensity based on each child's capabilities and fatigue levels while maintaining consistent therapeutic engagement throughout sessions.

- **Evidence-Based Clinical Applications:** Clinical indications include stroke recovery, traumatic brain injury rehabilitation, spinal cord injury management, multiple sclerosis symptom mitigation, cerebral palsy motor function improvement, and various neurological disorders affecting limb function—covering the full spectrum of pediatric neurorehabilitation needs.

"Pediatric rehabilitation technology must do more than deliver therapy—it must inspire confidence, engagement, and hope in both children and families throughout their recovery journey." — Zen Koh, Strategic Advisor, Robotimize



VivantePlexus™ : An integrated ecosystem of intelligent rehabilitation devices to transform patient care.



Jackson Lau, Product and Clinical Manager at Robotimize, carefully calibrates the RevitaVivante™ Ped LL FES system, adjusting pediatric-specific positioning parameters and stimulation settings to ensure optimal therapeutic alignment and safety protocols.

Strategic Partnership with Singapore's Leading Pediatric Specialists

Singapore's advanced pediatric rehabilitation landscape provides an ideal environment for demonstrating the clinical capabilities of specialized neurorehabilitation technologies. The city-state's emphasis on evidence-based pediatric care and commitment to adopting innovative therapeutic solutions creates optimal conditions for validating comprehensive rehabilitation approaches.

Pediatric rehabilitation centers in Singapore have increasingly recognized the need for specialized technologies that can deliver consistent, measurable therapeutic outcomes while engaging young patients in developmentally appropriate ways. The RevitaVivante™ Ped LL FES system addresses these requirements through its combination of clinical precision and child-friendly design elements that support positive therapeutic experiences.


Clinical Excellence Through Specialized Training and Implementation

The deployment of RevitaVivante™ Ped LL FES technology requires comprehensive clinical training that goes beyond basic device operation to encompass pediatric-specific assessment protocols, treatment planning, and outcome measurement. Robotimize's approach emphasizes building clinical expertise that ensures optimal therapeutic outcomes while maintaining the highest safety standards for young patients.

Training protocols cover pediatric contraindications, age-appropriate stimulation parameters, developmental positioning principles, and family engagement strategies that support continued progress beyond clinical sessions. This comprehensive approach ensures that advanced technology translates into meaningful functional improvements for children and their families.

Future Expansion and Regional Impact

Following successful implementations in Singapore's pediatric rehabilitation sector, Robotimize will expand access to specialized pediatric technologies throughout Southeast Asia through:



ROBOTIMIZE
TECH FOR CARE

Alliance for Collaborative Excellence (ACE™)

A global network of partners bridging technology, research, and clinical care.

ACE™: A collaborative network of advanced rehabilitation technologies united through strategic partnerships, expanding therapeutic possibilities and delivering comprehensive solutions that enhance patient outcomes across diverse clinical needs.

The diagram illustrates the ACE™ network as a complex web of interconnected nodes. At the top is the Robotimize logo. Below it, a central box lists the Alliance for Collaborative Excellence (ACE™) and its mission. To the right, a grid of logos represents the network's members, including MINATO, HEXAR, STORZ MEDICAL, physio sensing, GoldenAll, BioXtreme, RoboCT, weart, dualbike, TUR, TROOM, and PERRY. The background features a stylized red and white geometric pattern.

- Enhanced training programs for pediatric FES applications across regional rehabilitation centers
- Integration with existing pediatric rehabilitation protocols in hospital and community settings
- Collaborative research initiatives addressing region-specific pediatric neurorehabilitation challenges
- Support for healthcare systems developing specialized pediatric rehabilitation capabilities

About Robotimize Group

Robotimize Group is a next-generation health technology company headquartered in Singapore, specialising in intelligent rehabilitation robotics and digital neurotechnologies. Its AI-enabled platforms support motor, cognitive, and neurological recovery across hospital, home, and telerehabilitation environments. With regional hubs in Malaysia and Europe and a fast-growing international partner network, Robotimize is redefining how recovery is delivered—making it more personal, adaptive, and accessible. For more information, visit: www.robotimize.tech

Jerry Hong
Robotimize
+60 11-1224 1674
[email us here](#)

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