

GEMESYS Secures €8.6M Pre-Seed Funding to Transform AI on Edge Devices

- Amadeus APEX Technology Fund and Atlantic Labs led the round, which included contributions from NRW.BANK, Sony Innovation Fund, and Silicon Valley-based Plug and Play Tech Center.
- Although neural networks mimic the human brain, they lack the efficiency of their biological counterparts. Training and operating these networks requires significant energy, a major challenge to creating genuine artificial intelligence (AI) for mobile devices.
- GEMESYS is at the forefront of developing next-generation AI chips. Its novel technology enables entirely analog neural network processing, unlocking new possibilities for high-performance AI training and inference on edge devices.

Bochum, Germany — November 19, 2024 — AI hardware startup [GEMESYS](#) has successfully raised €8.6 million in a pre-seed funding round led by the Amadeus APEX Technology Fund together with Atlantic Labs. Participation from NRW.BANK, Sony Innovation Fund, and Silicon Valley-based Plug and Play Tech Center, as well as grant funding from the German government, complemented the round.

With this new funding, GEMESYS will accelerate research and development and expand its team to further advance its novel chip architecture. The company is now actively hiring for roles, including Senior C++ Developer and Senior Simulation Engineer, to build on its promising technological foundation.

Europe's Solution to Tech Independence

As AI hardware innovations are predominantly led by Asia and the US, GEMESYS emerges as Europe's answer to the demand for technological independence and innovation. With a mission to establish a European counterweight in the global AI landscape, GEMESYS presents an innovative solution proudly developed in Germany. Backed by the German government and through the EXIST "[Transfer of Research](#)" funding program, GEMESYS is pioneering new AI innovation that has the potential to revolutionize the industry.

This advancement signals a rising star in AI hardware and highlights Europe's capability to lead in tech. It offers an alternative rooted in data privacy, efficiency, and sustainable development. GEMESYS's commitment to on-device AI training represents a giant leap forward for technological sovereignty, putting Germany and Europe firmly on the map as formidable forces in AI.

Dr. Dennis Michaelis, CEO of GEMESYS, commented, "At GEMESYS, our mission is to bring learning capabilities to every device through technology developed in Europe. Building on this

foundation, we're pioneering new applications that empower edge devices like never before—positioning Europe as a leader in distributed intelligence and setting a new standard for industry innovation.”

GEMESYS has already built a working hardware demonstrator and anticipates upcoming silicon testing, which will showcase the full potential of its revolutionary AI chip. Ion Hauer of APEX Ventures expressed his support, saying, “We're excited to see GEMESYS redefine what's possible in Edge AI. Its technology can transform countless industries and push the boundaries of on-device inference and training.”

Redefining AI Technology

GEMESYS is advancing the field of AI by making on-device training possible and efficient. This groundbreaking chip is designed to operate with unparalleled data and energy efficiency, allowing it to train neural networks with a fraction of the data required by conventional architectures. This breakthrough opens up a new range of mobile device and sensor applications, enabling them to process and learn directly from data at its source.

“GEMESYS is reinventing AI hardware with a truly innovative approach to edge intelligence. Its technology isn't just an incremental improvement—it's a game-changer,” says Quentin Calleja from Atlantic Labs.

“GEMESYS's innovative architecture addresses the long-standing 'von Neumann bottleneck' while maintaining solid roots in CMOS technology essential for the supply chain. We're thrilled to support the GEMESYS team as they pioneer a new era of energy-efficient computing,” said Antonio Avitabile, Managing Director – EMEA at Sony Ventures.

By supporting self-learning and distributed capabilities such as outlier detection, data drift management, and model personalization, GEMESYS is demonstrating its transformative impact across diverse industries. This approach brings substantial advantages, including enhanced data privacy, offline processing, and reduced bandwidth usage—critical factors for IoT providers.

Furthermore, GEMESYS introduces an innovative training methodology that compresses neural networks, boosting efficiency for inferencing tasks. With its advanced capabilities, GEMESYS is setting a new standard for AI training on edge devices, positioning itself as a must-have for IoT solutions globally.

Founded by Dr. Dennis Michaelis, Dr. Enver Solan, Moritz Schmidt, and Daniel Krüger, GEMESYS is based in Bochum, Germany. Its growing team of 19 includes five female members and five employees from diverse international backgrounds. GEMESYS is committed to building a diverse and inclusive culture as it pursues its mission to revolutionize AI on edge devices.

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Note to editors:

Press kit - [Available Here](#)

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About GEMESYS

Founded as a spin-off from Ruhr-University Bochum in Germany, GEMESYS is pioneering next-generation AI chips with cutting-edge technology built on memristors—novel electronic components that enable highly efficient neural network processing. Designed for on-device training and inference, GEMESYS' technology unlocks a range of new use cases for Edge AI. If you're excited to join this ambitious journey, [GEMESYS is actively hiring](#).

About APEX Ventures and the Amadeus APEX Technology Fund

APEX Ventures is a European venture capital firm focusing on early-stage deep tech companies. The team acts as hands-on investors with a mission to support the most talented startup teams in building global market leaders. In early 2023, APEX Ventures launched the Amadeus APEX Technology Fund together with Amadeus Capital Partners to invest in sectors that include next-gen computing, artificial intelligence, autonomous systems, space, medical technologies, energy, and other emerging deep tech areas. The fund invests in Seed and Series A ventures with innovative technology and engineering based on significant scientific advances.

www.apex.ventures

About Atlantic Labs

Atlantic Labs is a European first-round investor headquartered in Berlin. The team believes that entrepreneurs shape the future and work hard to support ambitious founders throughout their entrepreneurial journey. Since 2013, they have led over 150 first-round investments, backing category creators such as Soundcloud, GetYourGuide, Clue, Vimcar, Zenjob, Choco, Wandelbots, and Again. Their investment strategy focuses on emerging technologies as much as startups tackling social challenges. Recent investments have concentrated on decarbonization, artificial intelligence, and industrial automation. www.atlanticlabs.de

About NRW.Venture

NRW.Venture is NRW.BANK's response to the scarce supply of financing for young, innovative and often technology-oriented companies that frequently do not have adequate access to loans. Their key asset is a new market idea – this is why their chances of success often hard to assess.

Together with private-sector investors, NRW.Venture invest up to 15 million euros of equity in such start-ups over several financing rounds, with NRW.BANK acquiring minority investments with terms of three to seven years. But the Bank not only provides capital – an experienced team is the key to joint success. NRW.Venture’s investment professionals have many years of venture capital experience and often also technology and start-up experience and use their expertise and network to ensure that start-ups have the best chances of success. www.nrw-venture.de

About Plug and Play Tech Center

[Plug and Play Tech Center](http://www.plugandplaytechcenter.com) is a leading innovation platform and one of the most active early-stage VC firms globally with multiple success stories and 30+ unicorns in the portfolio, including PayPal, Honey, N26, and Einride. Headquartered in Silicon Valley, Plug and Play invests across more than 20 industries. Their German offices are located in Stuttgart, Munich, Hamburg, and Frankfurt, each focusing on collaboration between industry partners and startups in their respective fields — Mobility in Stuttgart, InsurTech, HealthTech, and Retail in Munich, Supply Chain and Logistics in Hamburg, and FinTech in Frankfurt. www.plugandplaytechcenter.com/venture-capital

About Sony Ventures Corporation

Sony Ventures Corporation manages the Sony Innovation Fund (SIF), which invests in all stages of emerging technology companies, as well as in startups solving global environmental challenges. SIF engages with pioneering startups to help fuel the development of disruptive technologies, launch new businesses, and contribute to the environment while seeking return on investment. Sony Ventures Corporation is headquartered in Japan. Learn more at www.sonyinnovationfund.com.