EE Times

Silicon 100

Startups
Worth Watching
in 2025

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Startups Worth Watching in 2025

Foreword

By Anne-Françoise Pelé

Technology and politics are now inextricably linked—for better or worse.

The race for semiconductor dominance reflects a profound reconfiguration of geopolitical dynamics. The U.S.–China technology rivalry has intensified, with escalating rounds of export controls, tariffs, and investment restrictions. In response, China has invested in semiconductor self-sufficiency under its Made in China 2025 initiative. In parallel, as market intelligence firm IDTechEx has indicated, the U.S. has committed more than $480 billion in semiconductor-related investments since 2024, driven by the CHIPS Act and anchored by players such as Texas Instruments, Micron Technology, GlobalFoundries, TSMC, and Samsung.

Europe, too, is reasserting its technological sovereignty. The EU Chips Act is catalyzing national projects and multinational alliances aimed at building continental capacity across chip design, manufacturing, and advanced packaging. For example, a joint venture among TSMC, NXP Semiconductors, Infineon Technologies, and Robert Bosch is pursuing construction of a €10 billion (~$11.7 billion) 300-mm wafer fab in Dresden, Germany, and Singapore's Silicon Box plans to build a €3.2 billion (~$3.8 billion) chiplet fab in Novara, Italy. Japan and South Korea are following similar trajectories.

The once-globalized supply chain, built on geographic efficiency, is shifting toward a model that prioritizes national security and political alliances. However, this territorial realignment comes at a cost: It fragments the market, inhibits economies of scale, and strains skilled labor pools.

Peter Clarke, a technology and business journalist who has compiled and curated the EE Times Silicon 100 since its inception in 2004, has crossed borders and spanned continents to identify high-impact, high-growth startups with the potential to become tomorrow's world champions.

The Silicon 100 is not a beauty contest that judges and ranks surface-level attributes. Its rating model evaluates both quantitative and qualitative factors, such as the startups' technology-readiness level, intellectual property, strategic alliances, scalability, addressable markets, and fundraising activity, as well as the caliber of their founding and management teams.

Startup profiling is a serious matter, and this 25th edition of the Silicon 100 has gone through seven iterations before seeing the light of day.

Founding a company is a funambulist act. Entrepreneurs walk a thin line tensioned between two points—not from church steeple to belfry balcony but from inception to

success. They cannot afford a misstep as they inch across the void; all along the way, they must exhibit agility, mental focus, and resilience to perform daring feats under intense pressure.

Some startups fall on. Some others fall off.

Spare a thought, for example, for Cambridge, England–based RISC-V processor provider VyperCore, which entered the list last year and is now leaving it prematurely. Several startups, unable to achieve profitability or raise further capital, have been adjudged insolvent or bankrupt. The merits of their technology may have little influence on their life expectancy, and the hope remains that the technologies will be resurrected in some form.

Mergers and acquisitions can help startups grow faster; enter new markets; access technology, talent, and revenue; and thereby strengthen their competitive advantage. We wish Oxford Ionics and Untether AI, acquired in June by IonQ and AMD, respectively, every success.

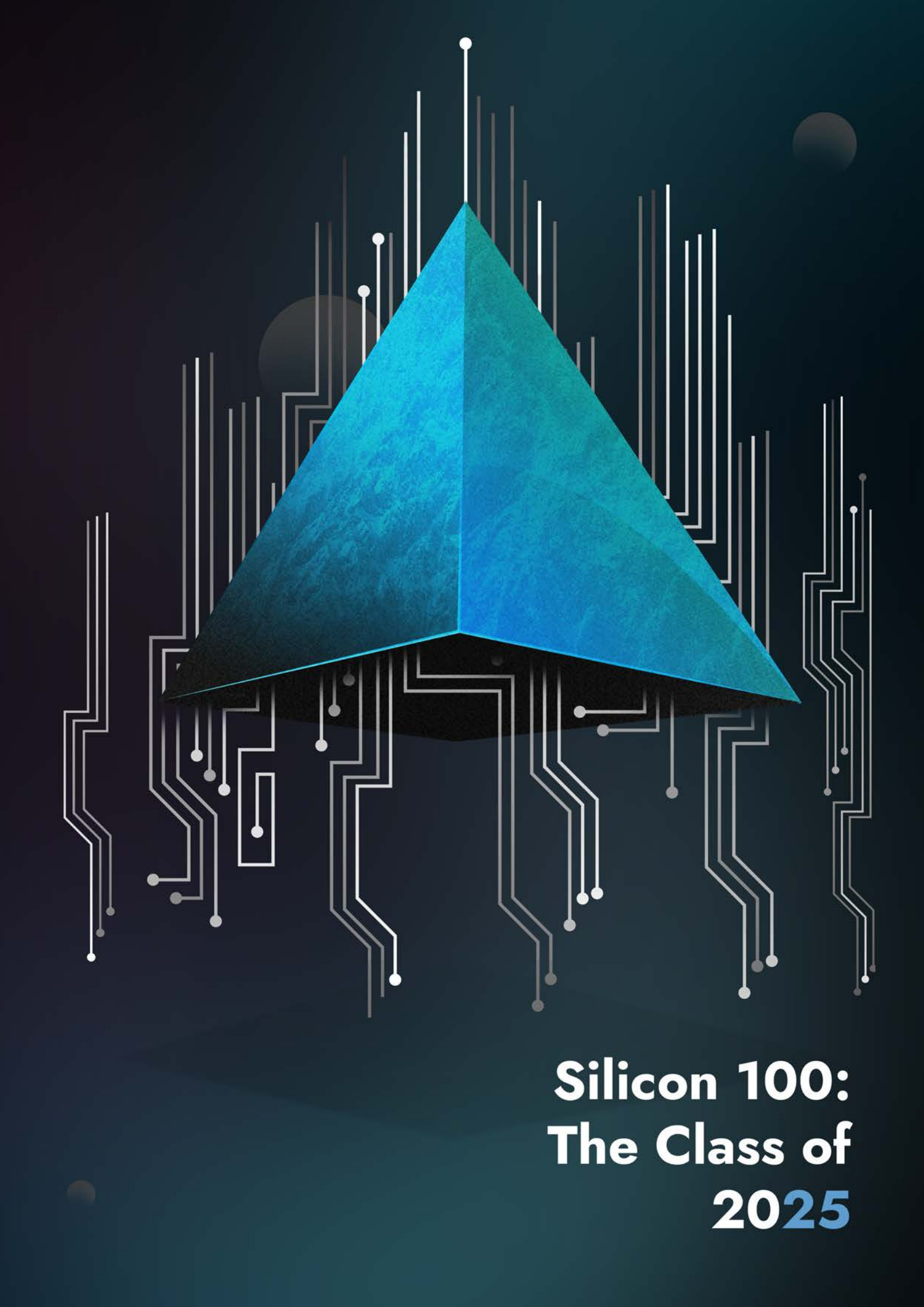
The startup ecosystem is vibrant and bustling with innovation, yet it is also complex and fraught with challenges. It reflects, and sometimes exacerbates, broader technology trends and economic shifts. In the course of his analysis, Clarke addresses key questions such as:

. Have we reached peak AI yet?
. The AI sustainability paradox: What promise does unconventional computing hold?
. Is 2025 the year when quantum computing begins to solve real-world problems?
. Where is photonics in its lab-to-fab journey?
. Deglobalization: When distance grows, who glows?
. Will Donald Trump's polarizing presidency make Europe great again?
. Can China's pursuit of semiconductor self-sufficiency destabilize the global economy?

This year's edition of the Silicon 100 continues to organize startups across 24 technology categories, offering a structured lens on an increasingly multidimensional industry. The categorization progresses from fundamental, physics-, and materials-based technologies up through design, building-block components, and subsystems, including RF and optoelectronics, and on to higher levels of abstraction, including software-programmable processors, quantum computing, and security. Many startups resist easy classification, operating at the intersection of domains or concurrently advancing multiple fronts. The 24 categories are not rigid compartments but markers on a continuum, reflecting how innovation in semiconductors increasingly requires bridging disciplines rather than remaining confined to one of them.

Over the past 12 months, geopolitical fragmentation, trade disputes, and rising protectionism have reshaped global supply chains and heightened the strategic stakes for semiconductor technologies. The next 12 months promise to be equally fascinating.

Anne-Françoise Pelé
is editor-in-chief of
EE Times Europe.



Silicon 100: The Class of 2025

AI, Quantum Claim the Future as China's Presence Shrinks Under Isolation

By Peter Clarke

Before we look at how the latest iteration of the Silicon 100 breaks down and plumb the technology and geographical data for discernible trends, permit us to observe an anniversary: The Silicon 60/Silicon 100, now 21 years old, has reached its 25th iteration. Although the year-on-year shifts in trends are small, they all add up, and the aggregate change over the past 21 years has been immense.

When the list was started in 2004, 60 seemed to be about the right number of companies to highlight, given the known universe of startups at the time. There was a chance for at least some of those initially excluded to make it onto a subsequent iteration of the list.

The technology sector has since experienced exponential growth, and the number of startups has increased tenfold, if not more.

That is one of the reasons we expanded the list from 60 companies to 100—and why we have kept the definition of technology tight. We highlight startups that are on a business-to-business mission and that will be relevant to electronics and semiconductor engineers and executives. With some exceptions, we are less interested in companies—however amazing their technology—that are primarily software or service plays and that serve the consumer directly.

Most startups do not go on to set the world alight. Some fail completely; most get bought out at some point, perhaps for the value of the patents they have generated. A few achieve maturity and repay their investors handsomely, whether in the form of a trade sale of the company or through an initial public offering of shares. But in aggregate, startups' successes and failures are an indicator of the future of a technology—even if that future may eventually be made by the likes of Nvidia, Google, Amazon, or Apple. And the Silicon 100 is a place to look for some of the shakers and movers to come.

Follow the money

Following the dot-com boom and bust of 2000–2001, venture capital firms found

semiconductor startups less attractive because of the companies' increasingly high capital requirements. Those requirements were primarily a function of the exponential cost of pursuing Moore's Law to ever-smaller geometries, along with a lengthening time to exit and lower returns compared with software and internet startups.

By the mid-2000s, a new generation of VCs, often with backgrounds in software and the internet, channeled funds into those sectors, where the barriers to entry for startups were lower. But those markets were also crowded with many more rivals, making the competition steeper. Among the VCs that kept the faith with hardware during this time were Intel Capital and Lip-Bu Tan, the founder and chairman of Walden International and founder and partner in other VCs, such as Celesta Capital.

Silicon Valley continues to be the core of the Silicon 100 and provides 23 companies to this year's list.

Venture capital made a significant return to semiconductors starting in the middle of the last decade, with a dramatic surge in 2018 that peaked in 2021–2022 in response to shifting technology demands and a global supply chain focus. VC investment in semiconductors slowed in 2024, mainly owing to geopolitical uncertainties. Nonetheless, investment levels remain historically high, especially in areas such as artificial intelligence chips, and the semiconductor sector continues to attract significant capital, particularly in China.

However, as the technology-venture business model has spread beyond Silicon Valley, there are notable differences in approach around the world.

There has been relatively little direct U.S. government equity funding of startups. Non-dilutive equity-free funding has come by way of Small Business Innovation Research grants. Europe and China, in contrast, provide a higher degree of national funding in support of what are seen as strategic opportunities that could help those countries catch up with the U.S.

Meanwhile, geopolitical headwinds are slowing the development of certain markets that are dependent on the emergence of ecosystems and standards. The geopolitical uncertainty also put a damper on IPOs in 2024 and 2025, as many VCs and startups appear to be "hanging on" and waiting for the chance to make a return on investments that in some cases have involved many years of effort and spending.

Uncertainty and instability are harmful to business. The largest, most established companies have the resources to pull back and regroup as they wait to see how things play out. For startups, those same hazards can be business killers. A startup crash could be in the offing.

But for now, the big VC bets keep coming, and they have shifted toward AI and quantum computing. This is reflected in the companies listed in this year's Silicon 100.

Trending

We see five trends that characterize the electronics and semiconductor startup landscape in v25 of the Silicon 100. Bear in mind that these trends reflect work that

has been going on for at least three years, often more.

The trends are:

- A jump in quantum computing representation
- A further collapse of the representation of China
- A slight decrease in overall AI representation and a move toward edge AI
- Some chiplet and edge AI startups "hanging in there" as they wait for a market that has yet to emerge
- Diminished representation of more fundamental component startups covering analog, mixed-signal, power, sensors, and displays

This year's cohort

The churn rate of companies joining and leaving the Silicon 100 has risen to 41 in this 25th iteration of the emerging startup list. This is up from 39 in 2024 and 40 in 2023.

The long-term trend is that approximately one-third of the list changes each year. The number of new admissions in 2021 and 2022 was 29 and 31, respectively. The arrival of the latest cohort brings the total number of companies admitted to the list since the publication of v1.0 in April 2004 to 686.

One factor that could be sending the churn rate higher is an increase in relevant startup formation. Other sources speak of a fairly constant rate of semiconductor startup generation. However, based on our experience, the pace at which we are adding newly discovered companies to the Silicon 100 "radar list" is increasing. The creation of incubator organizations, such as Silicon Catalyst, meets a need to increase the efficiency of startups' access to investors and investors' access to pre-vetted and coached startups in a crowded market.

The average age of the startups in the Silicon 100 remains at about five years, with 59 founded in 2019 or earlier and 41 founded in 2020 or later.

Analysis by technology category

For the past few editions of the Silicon 100, we have organized the list by technology category. This approach is necessarily arbitrary, as many companies operate across more than one of our 24 categories, but we have chosen to classify them in the category that we believe is most appropriate. While shifts of one or two companies in and out of the smaller categories are not statistically significant, changes within the more populous categories—or groups of related categories—often highlight interesting developments and merit consideration.

The categorization progresses from fundamental, physics-, and materials-based technologies up through design, building-block components, and subsystems, including RF and optoelectronics, and on to higher levels of abstraction, including software-programmable processors, quantum computing, and security.

In v23 and v24 of the Silicon 100, there was action at both ends of the spectrum—in the fundamentals and in AI processors. There was a resultant squeezing of the middle ground occupied by analog, mixed-signal, power, memory, sensors, and displays.

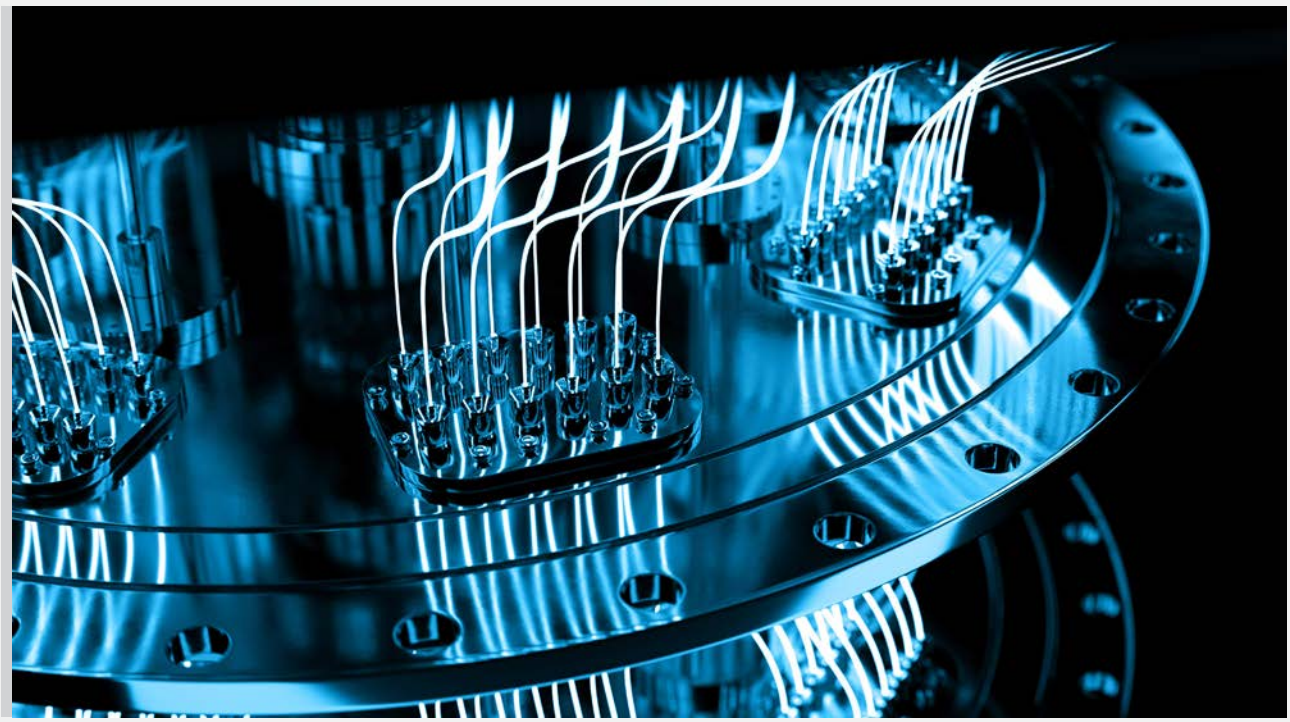


IMAGE: ADOBE STOCK

This year, the highest levels of investment have been at the top end of the range, around AI and quantum computing. This has left four categories without any startups represented: printed electronics, photovoltaics, energy harvesting, and power semiconductors. The trend is clearly a move up in abstraction toward the El Dorado of AI and quantum computing.

There is still activity in the memory and MEMS categories, with a clutch of startups admitted to the list, but the most notable action is in quantum computing, where eight startups have joined, bringing the number of companies in this category from nine to 14. There were two retirees due to maturity, PsiQuantum Corp. and Xanadu Quantum Technologies Inc., and Oxford Ionics Ltd. was acquired by IonQ Inc.

Solace of quantum

PsiQuantum and Xanadu's departure from the Silicon 100 implies no criticism of the two companies; rather, as two of the first startups in the field, they are simply two of the first to age out of eligibility for the list. For example, PsiQuantum was founded in 2015. A decade on, it is the epitome of a successful unicorn—that is, for as long as investors are happy with increasing equity value rather than demanding a chance to cash out.

In March 2025, PsiQuantum announced a goal to raise an additional $750 million, at a valuation of $6 billion. The company participates in major research programs with U.S. and U.K. government agencies and the State of Queensland in Australia. It is pursuing a silicon photonics approach to quantum computing and is taking the unusual step of trying to leap straight to a million-qubit computer, though that may not arrive until 2029.

In previous years, we'd said quantum computing looked like a long-term play with no obvious sign of a near-term market. The pulse of quantum activity in the current list—which corresponds to the emergence of companies aged from three to 10 years—suggests that might be changing.

The number of quantum computing startups in the Silicon 100 also reflects the multiple approaches being taken to tame the technology. They include superconducting Josephson junctions, trapped ions manipulated with lasers, photonic quantum computing, electron spin in quantum dots as qubits, and neutral atoms trapped in optical lattices.

There is, as yet, no clear pathway that bridges AI supercomputing and quantum computing. However, AI market leader Nvidia has established collaborations with leading companies, startups, and academic groups in the quantum computing field. Those partnerships focus on integrating quantum hardware with Nvidia's AI supercomputing infrastructure, developing hybrid quantum-classical computing solutions, and advancing quantum software platforms such as CUDA-Q.

Nvidia has partnered with startups Quantinuum, Quantum Machines, QuEra Computing, Pasqal, Equal1, and Orca Computing, most of which are present in v25 of the Silicon 100.

Peak AI

There are now 25 companies in the Silicon 100 that specialize in AI, with 11 associated with the data center and 14 with a focus at the edge. This compares with 26 in 2024, when 15 were focused on the data center and 11 at the edge.

The following chart shows that the industry has probably reached "peak AI," with the number of startups primarily engaged in AI dropping slightly from v24. The chart also shows the movement away from the data center, an area dominated by Nvidia, and toward the edge.

It should also be noted that machine learning is increasingly being used at the ultra-edge, close to and within image and other sensors, and as part of dedicated audio and video processors.

	v23	v24	v25
Data center AI	14	15	11
Edge AI	8	11	14
Total AI	22	26	25
Photonic acceleration	5	6	5
Quantum computing	6	9	14
Security processing	3	1	3
Total	36	42	47

Silicon 100 startups pursuing photonic acceleration, AI, quantum, and security processing by iteration (Source: EE Times)

As we have commented before, edge AI is a fragmented sector and therefore difficult to kick-start, without clearly defined routes to market. Entrepreneurs and venture capitalists remain optimistic, but the patience of some mature startups and their backers may be wearing thin.

That said, AI software on PCs is rapidly changing the ways in which users access the internet. As edge AI comes creeping toward the market, it is easy to imagine some type of breakthrough edge product—such as smart glasses with a highly intuitive interface, all driven by AI and sensors—that could kick-start an edge AI revolution within a matter of a few quarters or a couple of years.

Or perhaps it will be enabled by OpenAI's $6.5 billion acquisition of a company informally known as io, founded by original iPhone designer Jony Ive. Ive's startup has

developed a prototype AI companion the size of a button or a clip-on microphone, apparently intended to be a constant helpmate to the wearer. The device is not intended to replace smartphones, tablets, or computers. Instead, it will be the screenless home to agentic AI that will use the other equipment to support its owner. It is all blue-sky thinking for now, but the concept appears to have caught the imagination of OpenAI founder and CEO Sam Altman.

Ive has most likely opted for a microphonic interface only, rather than smart glasses, because of power consumption considerations. For now, power consumption, both within the data center and at the edge, remains the top AI concern. Despite the best efforts of nearly half the startups within the Silicon 100—those focusing on AI, quantum, and related sectors—nothing radical has been done so far to change this unsustainable direction of travel.

DeepSeek rocks the boat

In the past year, the most significant development on this front came from what is essentially a software company, Hangzhou DeepSeek Artificial Intelligence Basic Technology Research Co. Ltd., a developer of large language models (LLMs).

DeepSeek's LLMs are being developed for efficiency, partly because of U.S. export control restrictions that limit access to U.S. high-performance chips from the likes of Nvidia. DeepSeek made headlines in 2025 when it was revealed that its LLMs matched or exceeded the leading U.S. models in performance, with lower energy and hardware requirements and a lower cost of development.

For example, training DeepSeek's v3 model reportedly cost only $5.6 million and used roughly 2,000 chips, compared with more than $100 million and 16,000 chips for OpenAI's GPT-4. This efficiency means DeepSeek can deliver comparable AI capabilities with a smaller carbon footprint and less strain on global electricity resources, addressing a major concern, as AI data centers are already estimated to account for up to 2% of global electricity consumption.

And LLMs are only one stopping-off point on a growing constellation of AI models. Model types are emerging to extend AI's capabilities, particularly in the directions of multimodal understanding, reasoning, and agentic behavior. This is likely to stimulate another batch of startups developing a generation of software-defined hardware.

With the volumes of data being generated, transferred, and processed, it is no wonder that security is a topic attracting VC investment and increased representation on the Silicon 100.

For many security processor startups, the goal is to be able to perform fully homomorphic encryption (FHE), a cryptographic technique that allows computations to be performed directly on encrypted data without needing to decrypt it first. The output of such computations remains encrypted and can be decrypted only by authorized parties with the secret key, yielding the same result as if the operations had been done on the original plain-text data.

The adoption of FHE could be transformative in business, banking, and health fields by allowing sensitive data to be processed securely in untrusted environments, such as in public clouds or

third-party services, without exposing the underlying information.

Unconventional computing

A final technology trend to note can be found in the Silicon 100 category of general processors: the emergence of unconventional computing. Sometimes called alternative or nonstandard computation or sometimes just "new computing," it has been turning up increasingly in academic conferences.

Unconventional computing differs from electronic, transistor-based computers with central processors and memory. Quantum computing and analog neuromorphic computing were once tapped as unconventional, but the label has largely been dropped for them as they have jumped from academic theory to commercial reality. Unconventional computing is now used to refer to computing substrates or architectures inspired by physical, chemical, biological, or quantum systems.

Examples include reversible computing, which recycles energy and reduces heat dissipation by making computational steps reversible; molecular computing based on the manipulation of DNA; and thermodynamic computation, which leverages the fundamental principles of thermodynamics—such as energy minimization, entropy, and stochastic fluctuations—to perform computation.

Vaire Computing Ltd. (London) is a 2021 startup and Silicon 100 entrant founded by Rodolfo Rosini, a serial entrepreneur, and Hannah Earley, a researcher into reversible computing from the University of Cambridge.

Unlike conventional chips, which irreversibly process data and dissipate almost all their energy as heat, Vaire's chips would recycle a significant portion of the energy used in each computation. In reversible computing, operations can be run both forward and backward, allowing information (and thus energy) to be preserved and reused rather than lost as heat.

Vaire uses resonator circuits and adiabatic logic, which slow voltage changes to minimize heat generation. By operating more slowly but in parallel—using many more processing cores—the chips can maintain or even improve throughput for AI tasks, which are naturally suited to parallel processing. The company's first test chips have been produced, and test kits are being sent to potential customers and academic labs.

It remains to be seen how far and efficiently the technology can be pushed and how it will scale. It is also important for Vaire to move quickly, or risk being overtaken or outflanked, but for now, it is certainly a startup to watch.

Meanwhile, Normal Computing Corp. (New York) joined the Silicon 100 at v24. Founded by engineers and scientists from organizations such as Google Brain, Alphabet X, Palantir, Meta Probability, and Hugging Face, the company's core innovation is the development of a form of thermodynamic computing that uses the physics of thermodynamics and noise to develop AI hardware and services.

Thermodynamic computing harnesses natural fluctuations and noise to perform computations more efficiently than conventional deterministic digital logic. It is estimated that it could reduce energy

consumption by orders of magnitude and has been referred to as a third way of computing that is set to come after classical deterministic logic and quantum computing. The probabilistic nature of thermodynamic computing makes it suitable for application to AI and machine learning and for simulating biological and chemical processes that are inherently driven by the laws of thermodynamics.

Analysis by geography

The long-term trend toward the internationalization of technology startup activity continues in the latest edition of the Silicon 100. This manifests a movement away from Silicon Valley and the rest of the U.S. toward Europe and the rest of the world, but there is one clear exception to that long-term trend this year: China's representation dropped to just eight companies in v25, from 13 in v24.

While Silicon 100 veterans Yangtze Memory Technologies Co. Ltd. and ChangXin Memory Technologies are still worth following, as they have become significant players in the memory field, they were included on the list from v18 and v20, respectively, up to v24—a remarkable seven- and five-year run.

China has also been under a series of repeatedly stiffened export control regulations since the late 2010s. The U.S. began by targeting Chinese communications technology firms Huawei and ZTE and banning the use of Huawei and ZTE equipment by U.S. federal agencies, citing national security concerns.

Export controls were expanded in the 2020s to restrict China's access to advanced computing and semiconductor manufacturing items. Those measures aimed to curb China's ability to develop cutting-edge technologies that could be used for military modernization and AI.

The overall effect has been to isolate China, without necessarily stopping the country's ability to innovate. Startup formation continues in China, although not at the pace previously visible in the West. It also means that many Chinese startups have stopped looking outward and seek only to satisfy internal markets and national political goals. When companies stop being international, with up-to-date public communications, there is little point in drawing EE Times readers' attention to them via the Silicon 100.

What is perhaps more surprising is how the Chinese shortfall has been made up for by European entrants rather

	v20	v21	v22	v23	v24	v25
California	40	35	33	28	28	26
United States	48	46	44	38	38	36.5*
Canada	5	5	5	4	6	4
North America	53	51	49	42	44	40.5*
China	14	19	20	21	13	8
Europe	22	20	18	23	29	33.5*
Israel	7	7	10	7	8	10
Rest of World	4	3	3	7	6	8
**Reflects the dual-headquarters status of Quantinuum Inc.*						

Silicon 100 startups by headquarters location, from v20 to v25 (Source: EE Times)

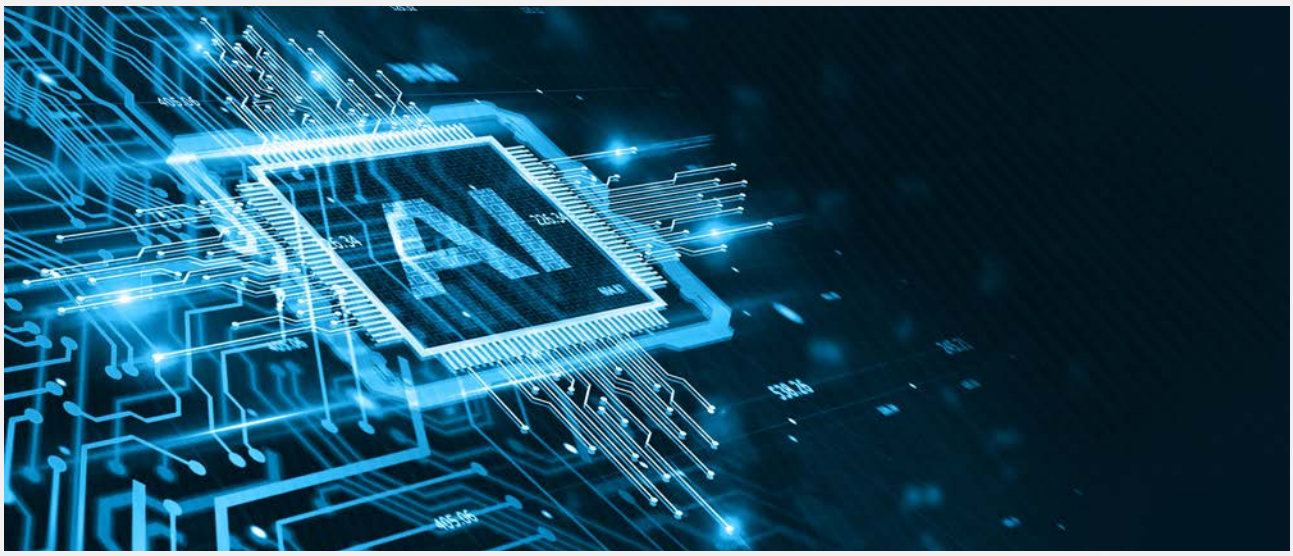


IMAGE: ADOBE STOCK

than startups from the U.S. or the rest of the world. Europe has progressed from 23 startups to 33.5 in just two years (the half-startup reflects the dual-headquarters status of Quantinuum Inc. in Broomfield, Colorado, and Cambridge, England).

As recently as 2021, European companies accounted for one-fifth of the Silicon 100, whereas North America represented 51%.

It is notable that Germany, the Netherlands, France, and Spain are all increasing their representation. The U.K. and Israel, which have long been strong bases for startup formation, continue to punch above their weight, each accounting for about one-tenth of the Silicon 100.

National initiatives and support are increasing the rate of startup formation. The Netherlands has four companies representing a pulse of activity around quantum computing. And even though Belgium's representation declined from four companies to three, the Leuven nexus around the imec research institute remains strong.

Slowly, the rest of the world is stepping forward, with startups from Singapore, Japan, Taiwan, India, Australia, and South Korea represented in this iteration.

It should also be noted that Silicon Valley continues to be the core of the Silicon 100 and provides 23 companies to this year's list. The city of Santa Clara alone provides 10 companies and San Jose five. Silicon Valley remains an efficient place to look for the future of electronics and semiconductors.

However, one political question remains outstanding: Are U.S. government policies on export controls and tariffs further isolating China from the rest of the world? Or can a new understanding be reached, removing uncertainty, providing consistency, and allowing international trade to resume, even if on a different basis?

The answer will affect where startups can develop, how they access venture capital and markets, and whether they can realize their aspirations for society's mutual benefit.

Peter Clarke,
former European news director for EE Times, is a technology journalist based in the U.K.

EE Times

silicon grapevine

A video series of insightful interviews with the industry's top executives, hosted by Nitin Dahad

See What Is Currently On The Vine.

Company List by Category

MATERIALS, PROCESSES, INTERCONNECTS (CHIPLETS), PACKAGING
AlixLabs A.B.
Black Semiconductor GmbH
Eliyan Corp.
Frore Systems Inc.

PRINTED ELECTRONICS

CHIP MANUFACTURING EQUIPMENT
Atlant 3D Nanosystems ApS
Shenzhen SiCarrier Technologies Co. Ltd.

PHOTOVOLTAICS

ENERGY HARVESTING

GaN, SiC, POWER, ELECTRICITY

CHIP, CHIPLET, PACKAGING FOUNDRIES
Chipletz Inc.
Rapidus Corp.
Silicon Box Pte. Ltd.

EDA, CORES, CHIPLET IP, DESIGN SERVICES
Agile Analog Ltd.
Blue Cheetah Analog Design Inc.
Expedera Inc.
OpenLight Photonics Inc.

ANALOG, MIXED-SIGNAL, PMICs
InnoStar Semiconductor Co. Ltd.
Nanopower Semiconductor A.S.
PI Semiconductor (Shenzhen) Co. Ltd.

MEMORY, STORAGE
BioMemory S.A.S.
Raaam Memory Technologies Ltd.

BIOELECTRONICS, MEDICAL
InBrain Neuroelectronics S.L.

MEMS, SENSORS, ACTUATORS, HAPTICS
Innatera Nanosystems B.V.
Omnitron Sensors Inc.
Stathera Inc.
TriEye Ltd.
xMEMS Labs Inc.

OPTOELECTRONICS, IMAGE SENSORS
Celestial AI Inc.
DustPhotonics Inc.
Oculi Inc.
Phlux Technology Ltd.

DISPLAY DEVICES, DISPLAYS, DRIVER CHIPS
Micledi Microdisplays B.V.
Poro Technologies Ltd.
Raysolve Ltd.
Swave Photonics N.V.

RF, IoT
HaiLa Technologies Inc.
Ixana Inc.

5G, 6G, RF
EdgeQ Inc.
Falcomm Inc.
Forefront RF Ltd.

RADAR, LiDAR, ADAS
Blickfeld GmbH
BOS Semiconductors Co. Ltd.
Ethernovia Inc.
SemiDrive Technology Ltd.

AUDIO, VISUAL PROCESSING

SiMa Technologies Inc.
Syntiant Corp.

GENERAL-PURPOSE PROCESSORS, MCUs, NETWORKING, FPGAs

AheadComputing Inc.
Alif Semiconductor Inc.
MindGrove Technologies. Pvt. Ltd.
NeoLogic Ltd.
Normal Computing Inc.
Nuclei System Technology Co. Ltd.
Red Semiconductor International Ltd.
Rivos Inc.
StarFive Technology Co. Ltd.
Vaire Computing Ltd.

PHOTONIC ACCELERATION, COMPUTATION

iPronics S.A.
Lightmatter Inc.
Neurophos Inc.
Q.ant GmbH
Salience Labs Ltd.

DATA CENTERS, AI PROCESSORS, NETWORKING

Baya Systems Inc.
d-Matrix Inc.
DreamBig Semiconductor Inc.
EnCharge AI Inc.
Enfabrica Inc.
Fractile Ltd.
Moore Threads Technology Co. Ltd.
Neuchips Inc.
NeuReality Ltd.
NextSilicon Ltd.
Rebellions Inc.

EDGE AI PROCESSORS

Axelera AI N.V.
Blumind Inc.
DeepX Co. Ltd.
Hailo Technologies Ltd.
Lemurian Labs Inc.
Literal Labs
(previously Mignon Technologies Ltd.)
Polyn Technology Ltd.
Quadric.io Inc.
Recogni Inc.
Sagence AI Inc.
(previously Analog Inference Inc.)
Semron GmbH
Synthara AG
TetraMem Inc.
Vertical Compute SRL

QUANTUM COMPUTING

Diraq Pty. Ltd.
Equal1 Ltd.
IQM Finland Oy
Pasqal S.A.
Photonic Inc.
Quantinuum Inc.
Quantum Machines Ltd.
Quantum Motion Technologies Ltd.
QuantWare B.V.
QuEra Computing Inc.
QuiX Quantum B.V.
Quobly S.A.
SeeqC Inc.
Terra Quantum AG

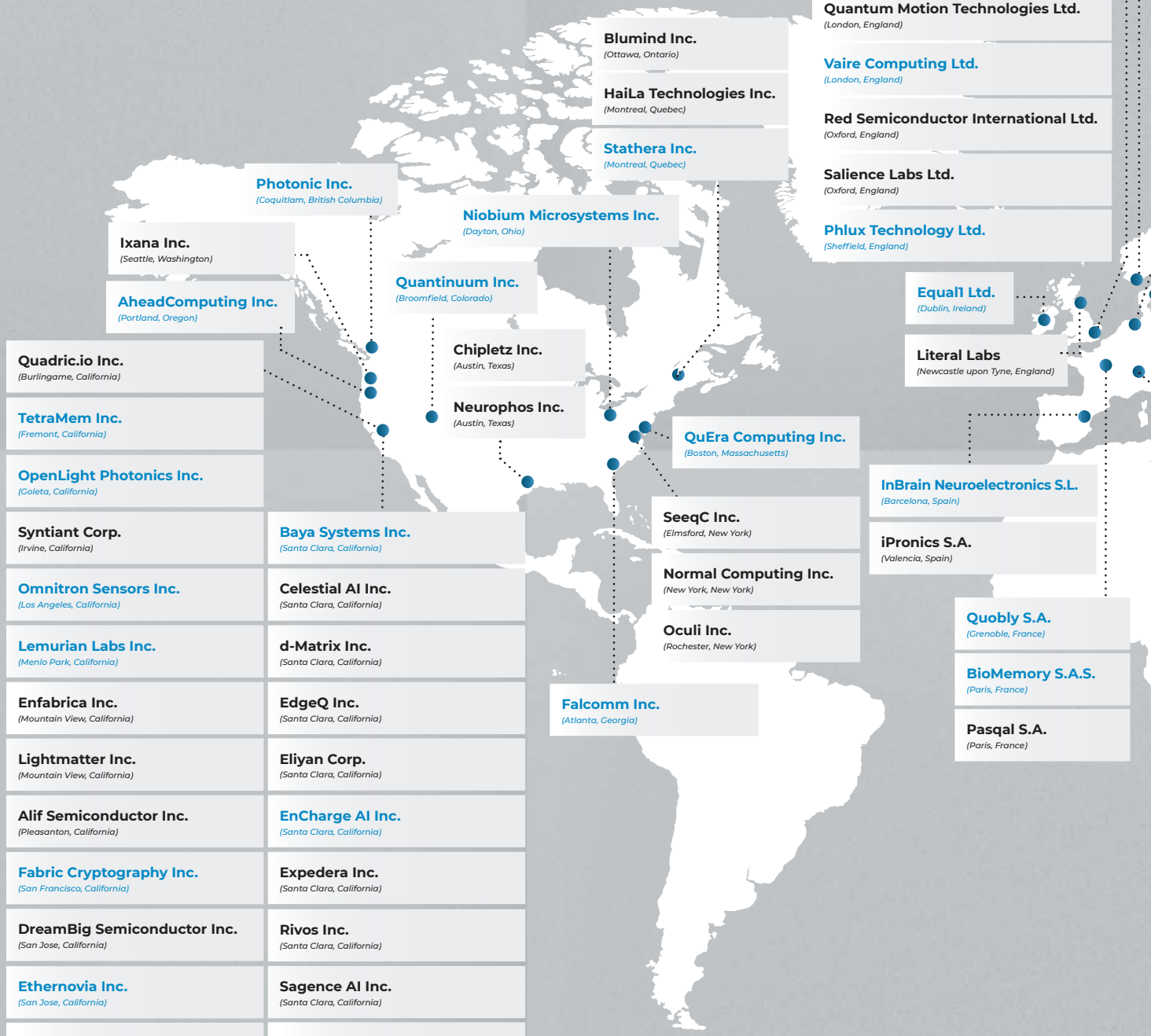
SECURITY

Chain Reaction Ltd.
Fabric Cryptography Inc.
Niobium Microsystems Inc.

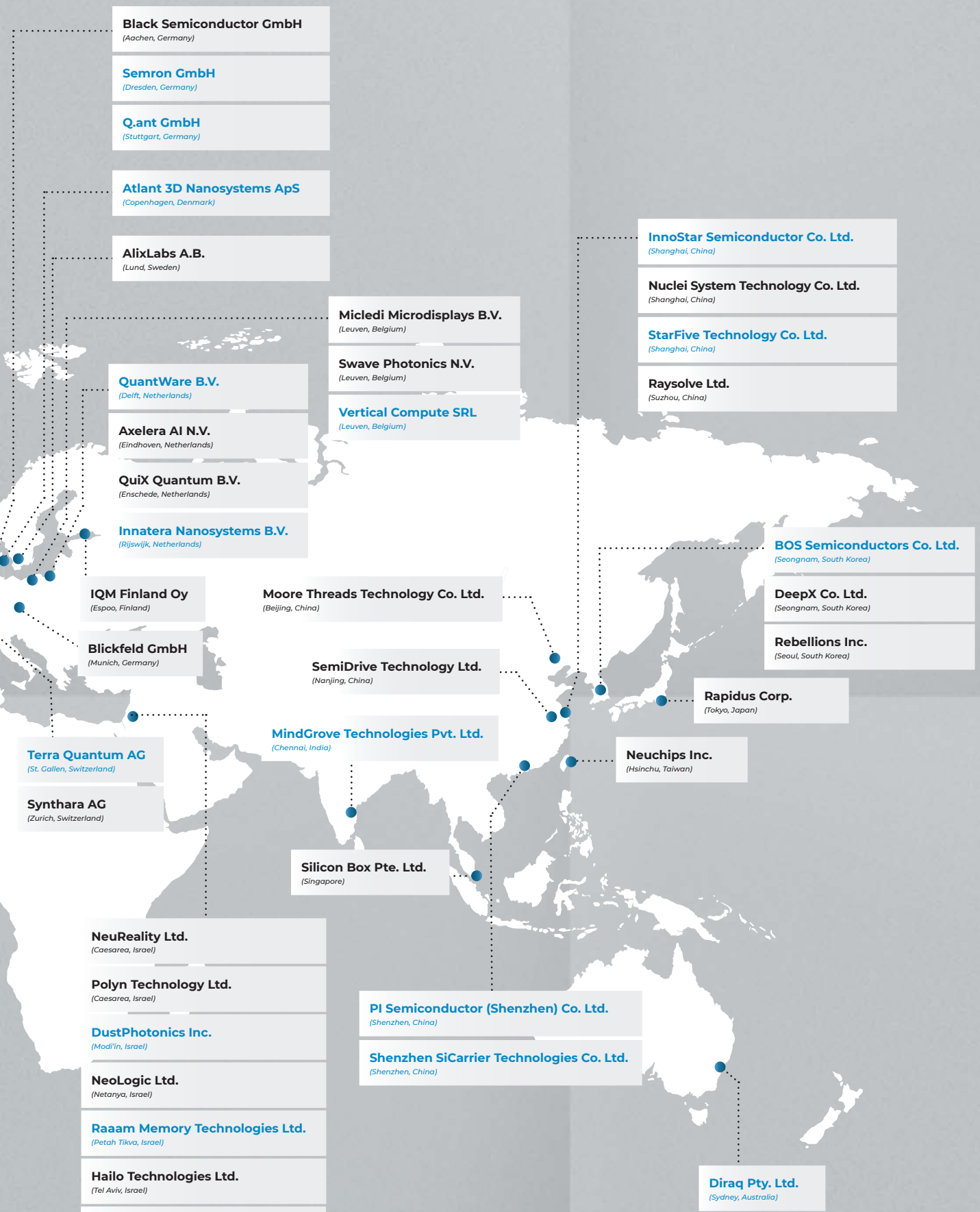
(Note: Categories are listed in approximate order from least abstract and most fundamental to the most complex and highest level of abstraction. Although some categories have no entries, we maintain the nomenclature to present a comprehensive view of the startup universe. Silicon 60 or Silicon 100 companies have occupied these categories in the past and may well do so in the future.)

Companies listed in blue are new additions to this year's Silicon 100 list.

Geographic Mapping



- Nanopower Semiconductor A.S. (Kristiansand, Norway)
- Agile Analog Ltd. (Cambridge, England)
- Forefront RF Ltd. (Cambridge, England)
- Poro Technologies Ltd. (Cambridge, England)
- Quantinuum Inc. (Cambridge, England)
- Fractile Ltd. (London, England)
- Quantum Motion Technologies Ltd. (London, England)
- Vaire Computing Ltd. (London, England)
- Red Semiconductor International Ltd. (Oxford, England)
- Salience Labs Ltd. (Oxford, England)
- Phlux Technology Ltd. (Sheffield, England)
- Equal1 Ltd. (Dublin, Ireland)
- Literal Labs (Newcastle upon Tyne, England)
- InBrain Neuroelectronics S.L. (Barcelona, Spain)
- iPronics S.A. (Valencia, Spain)
- Quobly S.A. (Grenoble, France)
- BioMemory S.A.S. (Paris, France)
- Pasqal S.A. (Paris, France)
- Blumind Inc. (Ottawa, Ontario)
- HaiLa Technologies Inc. (Montreal, Quebec)
- Stathera Inc. (Montreal, Quebec)
- Photonic Inc. (Coquitlam, British Columbia)
- Niobium Microsystems Inc. (Dayton, Ohio)
- Ixana Inc. (Seattle, Washington)
- AheadComputing Inc. (Portland, Oregon)
- Quantinuum Inc. (Broomfield, Colorado)
- Chipletz Inc. (Austin, Texas)
- Neurophos Inc. (Austin, Texas)
- QuEra Computing Inc. (Boston, Massachusetts)
- SeeqC Inc. (Elmsford, New York)
- Normal Computing Inc. (New York, New York)
- Oculi Inc. (Rochester, New York)
- Falcomm Inc. (Atlanta, Georgia)
- Quadric.io Inc. (Burlingame, California)
- TetraMem Inc. (Fremont, California)
- OpenLight Photonics Inc. (Goleta, California)
- Syntiant Corp. (Irvine, California)
- Omnitron Sensors Inc. (Los Angeles, California)
- Lemurian Labs Inc. (Menlo Park, California)
- Enfabrica Inc. (Mountain View, California)
- Lightmatter Inc. (Mountain View, California)
- Alif Semiconductor Inc. (Pleasanton, California)
- Fabric Cryptography Inc. (San Francisco, California)
- DreamBig Semiconductor Inc. (San Jose, California)
- Ethernovia Inc. (San Jose, California)
- Frore Systems Inc. (San Jose, California)
- Recogni Inc. (San Jose, California)
- SiMa Technologies Inc. (San Jose, California)
- Baya Systems Inc. (Santa Clara, California)
- Celestial AI Inc. (Santa Clara, California)
- d-Matrix Inc. (Santa Clara, California)
- EdgeQ Inc. (Santa Clara, California)
- Eliyan Corp. (Santa Clara, California)
- EnCharge AI Inc. (Santa Clara, California)
- Expedera Inc. (Santa Clara, California)
- Rivos Inc. (Santa Clara, California)
- Sagence AI Inc. (Santa Clara, California)
- xMEMS Labs Inc. (Santa Clara, California)
- Blue Cheetah Analog Design Inc. (Sunnyvale, California)


Black Semiconductor GmbH
(Aachen, Germany)
Semron GmbH
(Dresden, Germany)
Q.ant GmbH
(Stuttgart, Germany)
Atlant 3D Nanosystems ApS
(Copenhagen, Denmark)
AlixLabs A.B.
(Lund, Sweden)
Micledi Microdisplays B.V.
(Leuven, Belgium)
Swave Photonics N.V.
(Leuven, Belgium)
Vertical Compute SRL
(Leuven, Belgium)
QuantWare B.V.
(Delft, Netherlands)
Axelera AI N.V.
(Eindhoven, Netherlands)
QuiX Quantum B.V.
(Enschede, Netherlands)
Innatera Nanosystems B.V.
(Rijswijk, Netherlands)
IQM Finland Oy
(Espoo, Finland)
Blickfeld GmbH
(Munich, Germany)
Terra Quantum AG
(St. Gallen, Switzerland)
Synthara AG
(Zurich, Switzerland)
InnoStar Semiconductor Co. Ltd.
(Shanghai, China)
Nuclei System Technology Co. Ltd.
(Shanghai, China)
StarFive Technology Co. Ltd.
(Shanghai, China)
Raysolve Ltd.
(Suzhou, China)
Moore Threads Technology Co. Ltd.
(Beijing, China)
SemiDrive Technology Ltd.
(Nanjing, China)
MindGrove Technologies Pvt. Ltd.
(Chennai, India)
Silicon Box Pte. Ltd.
(Singapore)
BOS Semiconductors Co. Ltd.
(Seongnam, South Korea)
DeepX Co. Ltd.
(Seongnam, South Korea)
Rebellions Inc.
(Seoul, South Korea)
Rapidus Corp.
(Tokyo, Japan)
Neuchips Inc.
(Hsinchu, Taiwan)
NeuReality Ltd.
(Caesarea, Israel)
Polyn Technology Ltd.
(Caesarea, Israel)
DustPhotonics Inc.
(Modi'in, Israel)
NeoLogic Ltd.
(Netanya, Israel)
Raaam Memory Technologies Ltd.
(Petah Tikva, Israel)
Hailo Technologies Ltd.
(Tel Aviv, Israel)
NextSilicon Ltd.
(Tel Aviv, Israel)
Quantum Machines Ltd.
(Tel Aviv, Israel)
TriEye Ltd.
(Tel Aviv, Israel)
Chain Reaction Ltd.
(Yokneam Ilit, Israel)
PI Semiconductor (Shenzhen) Co. Ltd.
(Shenzhen, China)
Shenzhen SiCarrier Technologies Co. Ltd.
(Shenzhen, China)
Diraq Pty. Ltd.
(Sydney, Australia)

EE Times Lists 100 Emerging Companies to Watch in 2025

By Peter Clarke

EE Times has been publishing its list of emerging startups since April 2004, reflecting corporate, commercial, technology, and market conditions. In this latest edition—the 25th update—59 companies are retained from v24, and 41 startups have joined the list of 100 companies that we believe are worth tracking.

The Silicon 100 companies, and the Silicon 60 before them, have had a strong affiliation with the hardware side of technology, as is appropriate for a publication with "EE" in its name. That said, technology evolves, and much of it is now merged hardware/software, often developed software-first or software-defined.

The newcomers to the list, highlighted in blue, reflect a venture capital shift that began about five years ago, with funds moving away from some of the more fundamental hardware- and component-based startups and toward development at or above the software-programmable processor. The domains of data center AI, edge AI, and quantum computing are well-represented in v25.

Nonetheless, the full Silicon 100 field covers many areas of interest, including semiconductor manufacturing, EDA and design services, analog and mixed-signal circuits, AI, processors and intellectual property, quantum computing, security, memory, processing-in-memory, optical communications, optical processing, MEMS, sensors, displays, LiDAR, radar, RF, IoT, power semiconductors, and power management.

Companies are chosen for the Silicon 100 based on a mix of criteria, including technology, intended market, financial position and investment profile, maturity, and executive leadership. Selection for the list does not equate to a tip about a company's financial prospects. It simply means the company is of interest—and that may be for a variety of reasons.

Readers are welcome to nominate their own emerging companies for inclusion in a future iteration of the Silicon 100 list. Nominations should be supported by a short citation providing details about the company and explaining why the company is suitable for inclusion.

Please note: Any industry changes—whether mergers, acquisitions, or other events—that occurred after the June 30 closing date for the list could not be taken into account.

Krishna Anne, CEO

Agile Analog Ltd.

Cambridge, England

Agile Analog specializes in analog intellectual property (IP) solutions for chip design. Founded in 2017, the company offers configurable, multi-process analog IP that works with multiple foundries, manufacturing processes, and nodes. The product portfolio includes analog-to-digital converters, digital-to-analog converters, low-dropout regulators, power management units, sensors, and security monitoring IP designed to optimize performance, reduce development costs, and simplify integration in system-on-chip (SoC) designs. Agile Analog appointed experienced chip executive and entrepreneur Krishna Anne as CEO in May 2025.

www.agileanalog.com

✸ AheadComputing Inc.

Portland, Oregon

AheadComputing was founded in 2024 by former Intel CPU architects Debbie Marr, Jonathan Pearce, Mark Dechene, and Srikanth Srinivasan to develop advanced 64-bit RISC-V CPUs. Its approach targets bottlenecks in current general-purpose processors, such as bandwidth shortages, data processing limitations, and thermal density constraints. Jim Keller, a renowned CPU architect and current CEO of Tenstorrent, joined the AheadComputing board in February 2025. Also in February, the startup secured $21.5 million in seed funding to develop and commercialize its microprocessor architecture, designed to meet the new computing demands across AI, cloud, and edge devices.

Debbie Marr, co-founder and CEO

www.aheadcomputing.com

Syed Ali, co-founder and CEO

Alif Semiconductor Inc.

Pleasanton, California

Alif Semiconductor, founded in 2019, specializes in low-power microcontroller units designed for AI/ML applications. The company aims to pioneer generative AI in edge and endpoint devices, emphasizing its software ecosystem for AI innovation. In January, Alif Semiconductor introduced the second generation of its Ensemble family of MCUs and fusion processors featuring Arm's Ethos-U85 neural processing unit. CEO and co-founder Syed Ali has a notable background as co-founder and former CEO of Cavium Networks, where he led the company to a successful acquisition by Marvell Technology.

www.alifsemi.com

✸ = New

Jonas Sundqvist,
co-founder and CEO

AlixLabs A.B.

Lund, Sweden

AlixLabs is a 2019 startup spun off from Sweden's Lund University. The atomic layer etch (ALE) equipment company specializes in a technique called ALE pitch splitting (APS), which enables atomic-scale precision in semiconductor manufacturing at dimensions below 20 nm. AlixLabs demonstrated 3-nm-class FinFET structures made with APS on test silicon provided by Intel at the SPIE Advanced Lithography + Patterning trade show in February 2025 in San Jose, California.

www.alixlabs.com

✸ Atlant 3D Nanosystems ApS

Copenhagen, Denmark

Founded in 2018, Atlant 3D Nanosystems enables the direct, on-demand fabrication of complex structures with printing at the atomic level. The company has developed tools to support additive manufacturing for microelectronics, semiconductors, optics, photonics, microelectromechanical systems and sensors, microfluidics, RF and printed electronics, and aerospace applications. It raised $15 million in a Series A+ round in March 2025.

www.atlant3d.com

Maksym Plakhotnyuk,
founder and CEO

Fabrizio Del Maffeo,
co-founder and CEO

Axelera AI N.V.

Eindhoven, Netherlands

Axelera AI offers hardware and software platforms for low-power AI inference in applications such as security, automotive, industrial automation, IoT, smart cities, retail, and healthcare. In March 2025, the company unveiled Titania, a high-performance, energy-efficient, and scalable AI inference chiplet and received up to €61.6 million (approximately $70.4 million) as part of the EuroHPC DARE Project. The new funding supplements the $68 million brought in by a Series B financing round in June 2024. The company was founded in July 2021 and has grown its workforce to more than 200 people.

www.axelera.ai

Sailesh Kumar, co-founder and CEO

Baya Systems Inc.

Santa Clara, California

Baya Systems delivers chiplet-ready, software-defined unified fabric technologies for efficient data movement and scalable AI systems. The company emerged from stealth mode in June 2024 with Tenstorrent as its first customer. It is chaired by Tenstorrent CEO Jim Keller. The company announced it had raised $36.5 million for its chiplet technology in January 2025, bringing the total raised to about $50 million.

www.bayasystems.com

BioMemory S.A.S.

Paris, France

BioMemory's technology is based on the synthesis and use of DNA as a data storage medium. It has proprietary methods to produce bio-sourced, biocompatible, and bio-secure DNA fragments that can be stored for thousands of years without energy input. Founded as a spinoff of Sorbonne University and CNRS in 2021, the company secured $5.7 million in seed funding in 2022 and $18 million in a Series A round of funding in December 2024.

www.biomemory.com

Erfane Arwani, co-founder and CEO

Daniel Schall, CEO, and **Sebastian Schall**, CFO

Black Semiconductor GmbH

Aachen, Germany

Formally founded in 2019, Black Semiconductor is developing manufacturing methods for back-end-of-line use of graphene to create optical chip-to-chip connections. In June 2024, the company announced it had secured €254.4 million (approximately $290 million) toward the construction of a manufacturing facility, FabONE, at its new headquarters in Aachen. The pilot line is expected to be operational in 2026, with pilot production scheduled to start in 2027 and full-volume production by 2029.

www.blacksemi.com

Mathias Müller, co-founder and CEO

Blickfeld GmbH

Munich, Germany

Blickfeld was founded in 2017 to build high-performance LiDAR sensors that combine hardware and software for applications such as autonomous vehicles, IoT, smart cities, and security.

www.blickfeld.com

Blue Cheetah Analog Design Inc.

Sunnyvale, California

Blue Cheetah, founded in May 2018, is a semiconductor IP company specializing in die-to-die interconnect IP for chiplets. It can produce customized design IP supporting chiplet integration for applications including high-performance computing, AI/ML, and networking, providing compatibility with such standards as UCIe and OCP BoW. In January 2025, Blue Cheetah announced tape-out of its BlueLynx die-to-die adaptive interconnect subsystem IP on Samsung Foundry's SF4X 4-nm manufacturing process. In July 2025, Tenstorrent announced its acquisition of the company.

www.bcanalog.com

Elad Alon, co-founder and CEO

Niraj Mathur, co-founder and CEO

Blumind Inc.

Ottawa, Ontario

Blumind, founded in 2020, develops ultra-low-power, all-analog AI chips for far-edge computing applications such as smart sensors and devices operating in demanding environments. Blumind announced the closing of a CA$20 million (about $14.5 million) Series A funding round in April 2025.

www.blumind.ai

Jaehong Park, founder and CEO

BOS Semiconductors Co. Ltd.

Seongnam, South Korea

Founded in 2022, BOS develops CPUs, graphics processors, and high-speed signal interfaces, with an emphasis on AI. The company's chiplet-based SoC architectures include the Eagle-N, an automotive AI accelerator offering performance of up to 250 TOPS, and the Eagle-A, a standalone SoC for advanced driver-assistance systems. BOS has announced partnership deals with Tenstorrent and Intel.

www.bos-semi.com

C

Celestial AI Inc.

Santa Clara, California

Celestial AI, founded in 2020, develops AI computing platforms using its proprietary Photonic Fabric technology, which integrates photonics directly onto silicon chips. The technology enables data to be transferred by light at any point on the silicon die, not just at the edges, overcoming the limitations of traditional electronic interconnects and co-packaged optics. In March 2025, Celestial announced it had raised $250 million in a Series C1 round, bringing total funding for the startup to $515 million.

www.celestial.ai

Dave Lazovsky, co-founder and CEO

Alon Webman, co-founder and CEO

Chain Reaction Ltd.

Yokneam Ilit, Israel

Chain Reaction develops custom ASICs and systems designed to optimize energy-efficient, high-performance computing. Its 3PU (Privacy Preserving Processing Unit) accelerates real-time privacy-enhancing operations on encrypted data. Chain Reaction was founded in 2019 and works in partnership with cloud computing providers and data centers.

www.chain-reaction.io

Bryan Black, co-founder and CEO

Chipletz Inc.

Austin, Texas

Chipletz is a fabless substrate startup created to enable chiplet-based packaging. The company started out in 2016 as an activity within AMD and was spun off in 2021. Chipletz's Smart Substrate enables the heterogeneous integration of multiple ICs within a single package. It eliminates the need for a silicon interposer by providing die-to-die interconnects, high-speed I/O, and support for different voltage domains from a single supply, outperforming traditional multichip modules and system-in-package solutions, the company claims.

www.chipletz.com

DeepX Co. Ltd.

Seongnam, South Korea

DeepX is a developer of neural processing units for edge applications such as robotics, smart cities, and surveillance. The company has a family of four AI processors covering a range of processing, from sensors to robotics and autonomous vehicles. It claims to have achieved more than 300 customer validations, including Hyundai-Kia Motors Robotics Lab and POSCO DX. In April 2025, DeepX announced it was designing an edge AI chip with a power consumption of 5 W to be built on the 2-nm process at Samsung Foundries. It has raised $531 million in funding since its inception in 2018.

Lokwon Kim, founder and CEO

www.deepx.ai

Andrew Dzurak, founder and CEO

✸ Diraq Pty. Ltd.

Sydney, Australia

Founded in 2022, Diraq is a quantum computing startup specializing in silicon-based quantum processors using quantum dot technology. The company leverages proprietary technology developed over two decades of research, primarily at the University of New South Wales, to build scalable and energy-efficient quantum computers using the electron spin in silicon quantum dots as qubits. It is also leading a consortium of companies from Australia, the U.K., and the U.S. to accelerate innovation in qubit fabrication and control systems and determine whether it is possible to build an industrially useful quantum computer much faster than conventional predictions.

www.diraq.com

Sid Sheth, co-founder and CEO

d-Matrix Inc.

Santa Clara, California

D-Matrix is developing low-latency, energy-efficient AI inference solutions using in-memory computing technology. The company has developed the chiplet-based Corsair platform, which is designed to make generative AI inference fast and more energy-efficient at data center scale. The company was founded in 2019 and began sampling to early-access customers late in 2024.

www.d-matrix.ai

DreamBig Semiconductor Inc.

San Jose, California

DreamBig Semiconductor, founded in 2019, develops chiplet platforms and high-performance accelerator solutions for AI, data centers, 5G, and automotive markets. The core technology centers on the MARS chiplet platform, which includes a chiplet hub with high-bandwidth-memory DRAM. DreamBig Semiconductor is using Samsung Foundry SF4X 4-nm process technology. The company closed a $75 million Series B round co-led by the Samsung Catalyst Fund and the Sutardja family in July 2024.

www.dreambigsemi.com

Sohail Syed, co-founder and CEO

Ronnen Lovinger, CEO

✸ DustPhotonics Inc.

Modi'in, Israel

DustPhotonics began in 2017 as a VCSEL transceiver manufacturer and shifted its focus from manufacturing optical transceivers to developing and supplying silicon photonics components and photonic integrated circuits to transceiver companies. It now produces a range of silicon photonics for optical communication applications in hyperscale data centers, AI workloads, cloud, high-performance computing, and enterprise networks. In 2024, DustPhotonics raised $24 million to further develop 800G and 1.6T modules.

www.dustphotonics.com

Vinay Ravuri, founder and CEO

EdgeQ Inc.

Santa Clara, California

Founded in 2018, EdgeQ integrates 4G/5G physical layers, AI, and a RISC-V architecture into a scalable silicon platform suitable for small cells to macro cells, supporting Open Radio Access Network compliance and multimode 4G/5G convergence. Former Qualcomm CEO Paul Jacobs and former Qualcomm CTO Matt Grob are advisers at EdgeQ, with Vinay Ravuri at the helm as CEO.

www.edgeq.io

Eliyan Corp.

Santa Clara, California

Eliyan's core technology is the NuLink PHY, a physical layer interconnect that enables high-bandwidth, low-latency, and power-efficient communication between chiplets on both silicon and organic substrates. The company completed the tapeout of its NuLink PHY in a ×64 UCIe package module on Samsung Foundry's SF4X 4-nm manufacturing process in November 2024. Co-founded in 2021 by serial entrepreneur Ramin Farjadrad, formerly CTO of Aquantia, Eliyan has raised $100 million to date.

www.eliyan.com

Ramin Farjadrad, co-founder and CEO

Naveen Verma, co-founder and CEO

✸ EnCharge AI Inc.

Santa Clara, California

EnCharge AI is developing hardware accelerators that use analog in-memory computing being deployed on chiplets, ASICs, and PCIe cards. The company was founded in 2022, and its leadership includes industry veterans from IBM, Qualcomm, Nvidia, AMD, and Intel. EnCharge AI raised $100 million in a Series B round in February 2025, bringing its total funding to $144 million.

www.enchargeai.com

Rochan Sankar, CEO

Enfabrica Inc.

Mountain View, California

Founded in 2019, Enfabrica develops chips and software stacks that enable scalability and operational efficiency for AI infrastructure. The company's flagship product is the Accelerated Compute Fabric SuperNIC, a high-performance GPU network interface controller chip that delivers 3.2 Tbits/s of bandwidth. The company received an investment from Nvidia in a $125 million Series B round in September 2023 and a further $115 million in a Series C round in November 2024.

www.enfabrica.net

✸ Equal1 Ltd.

Dublin, Ireland

Equal1 integrates quantum and classical computing elements onto a single silicon chip, enabling compact, rack-mounted quantum computers. The flagship product is the Bell-1 6-qubit rack-mounted quantum computer, which operates alongside CPU and GPU workloads. It contains a closed-cycle cryo-cooler that allows the machine to operate at 0.3 K. Equal1 was founded in 2018 by Dirk Leipold, Mike Asker, and R. Bogdan Staszewski as a spinout from the University College Dublin School of Electrical and Electronic Engineering. Jason Lynch was appointed CEO in 2022.

www.equal1.com

Jason Lynch, CEO

Ramin Shirani, co-founder and CEO

✸ Ethernovia Inc.

San Jose, California

Ethernovia develops hardware and software to unify in-vehicle networks, providing greater data bandwidth, reduced complexity, enhanced power efficiency, and improved safety and security for modern vehicles. The company was founded in 2018 by Ramin Shirani, who co-founded Enable Semiconductor and Aquantia, leading the latter to an IPO in 2017. Early in his career, he designed Ethernet transceivers at several companies.

www.ethernovia.com

Siyad Ma, CEO

Expedera Inc.

Santa Clara, California

Expedera provides neural engine semiconductor intellectual property for AI inference applications. Founded in 2018, the company claims deployments in 10 million consumer devices across such markets as smartphones, automotive electronics, and data centers. In September, Siyad Ma, co-founder and formerly VP of engineering, succeeded co-founder Da Chuang as CEO, with Chuang becoming executive chairman.

www.expedera.com

F

✸ Fabric Cryptography Inc.

San Francisco, California

Fabric Cryptography's main innovation is the verifiable processing unit, a programmable chip designed specifically for cryptography workloads, including zero-knowledge proofs, fully homomorphic encryption, and multiparty computation. Founded in 2022 by MIT and Stanford dropouts Michael Gao and Tina Ju, the company raised $33 million in a Series A round in August 2024, bringing the total raised to $39 million.

Michael Gao, co-founder and CEO

www.fabriccryptography.com

Edgar Garay, founder and CEO

✸ Falcomm Inc.

Atlanta, Georgia

Founded in 2021 out of Georgia Tech, Falcomm raised $4 million in seed funding in 2023 to develop its dual-drive, silicon-based power amplifier, for which it claims record energy efficiency and enhanced linearity at high frequencies. The power amplifier, now in production, is potentially relevant to satellite, 5G, and 6G communications as well as wearables.

www.myfalcomm.com

Ronald Wilting, CEO

Forefront RF Ltd.

Cambridge, England

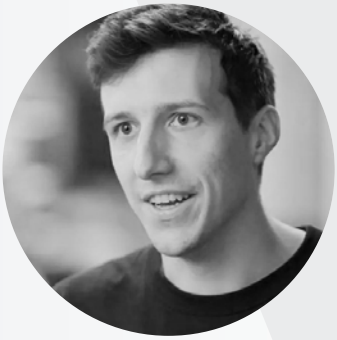
Forefront RF specializes in simplifying mobile RF front-end designs for smartphones, wearables, and IoT devices. Its patented Foretune technology uses a dynamically tunable duplexer to replace multiple fixed-frequency duplex filters, reducing PCB space requirements and component count while supporting more frequency bands. Founded in 2020, Forefront RF closed a £16 million ($21.8 million) Series A funding round in November 2024 to transition from an early-stage startup to a mature player in RF technology. The company is preparing to launch its first-generation product, the FFM51010, in 2026, targeting the market for cellular-enabled smartwatches.

www.forefrontrf.com

✸ Fractile Ltd.

London, England

Founded in 2024, Fractile is developing a software-programmable vector processor with an in-memory compute architecture that it believes can compete with established hardware at AI inference. The company has formed partnerships, notably with Andes Technology Corp., to leverage expertise in RISC-V vector processors. Fractile announced a $15 million seed funding round in July 2024. Pat Gelsinger, former CEO of Intel, announced in January 2025 that he had invested in Fractile.



Walter Goodwin, founder and CEO

www.fractile.ai

Seshu Madhavapeddy, CEO

Frore Systems Inc.

San Jose, California

Founded in 2018 by two former Qualcomm executives, Frore Systems has developed a technology for the active cooling of processor and other heat-generating semiconductors through the provision of MEMS-based active cooling chips such as the AirJet Mini and AirJet Pro. The chips silently extract heat, allowing processors to operate longer in turbo mode. The company has raised $116 million in total from such sources as Mayfield, Addition, Clear Ventures, and Qualcomm Ventures.

www.froresystems.com

Derek Kuhn, president and CEO

HaiLa Technologies Inc.

Montreal, Quebec

Founded in 2019 as Wavelite, HaiLa Technologies aims to scale IoT sensor deployments by reducing the power consumption of wireless radios using backscattering technology. This, in turn, could lead to sensors based on ambient energy sources, or a single battery usable over a product's full operating life. The technology uses existing wireless infrastructure such as Wi-Fi signals. The company has a family of three RF communications chips on the market.

www.haila.io

Hailo Technologies Ltd.

Tel Aviv, Israel

Hailo Technologies was founded in 2017 and provides AI processors and accelerators enabling real-time AI inference for edge devices such as autonomous vehicles, security cameras, and autonomous robots. The company provides a range of AI vision processors with computer vision engines and processors for performing generative AI at the edge. In April 2024, Hailo raised an additional $120 million in an extension of its Series C funding, bringing the total raised to more than $340 million.

Orr Danon, co-founder and CEO

www.hailo.ai

Carolina Aguilar, co-founder and CEO

✸ InBrain Neuroelectronics S.L.

Barcelona, Spain

InBrain Neuroelectronics develops ultra-thin, flexible graphene electrode arrays that can both record and stimulate brain activity with extremely high resolution. The implants use machine learning and AI to decode neural signals and deliver adaptive, personalized therapies to a variety of medical conditions. Applications include epilepsy, Parkinson's disease, and aiding surgeons during brain tumor resections. Founded in 2019, InBrain is a spinoff of the Catalan Institute of Nanoscience and Nanotechnology and Catalan Institution for Research and Advanced Studies. The company closed a $50 million Series B financing round in October 2024, bringing the total amount raised to $68 million.

www.inbrain-neuroelectronics.com

Sumeet Kumar,
co-founder and CEO

Innatera Nanosystems B.V.

Rijswijk, Netherlands

Founded in 2018 as a spinoff from Delft University of Technology, Innatera Nanosystems develops spiking neuromorphic processors for edge AI that use a continuous-time analog/mixed-signal architecture. The processors are claimed to process sensor data up to 100× faster than digital processors, making them suitable for always-on applications. The technology supports pattern recognition for audio, radar, cameras, and biomedical signals directly at the sensor. In June 2025, Innatera launched the first commercially available microcontroller with both analog and digital spiking neural network accelerator fabrics, designed for sensor data processing in endpoint devices.

www.innatera.com

InnoStar Semiconductor Co. Ltd.

Shanghai, China

InnoStar Semiconductor, known formally as Xinyuan Semiconductor (Shanghai) Co. Ltd., said it has raised hundreds of millions of dollars to build a 28-nm/22-nm resistive RAM pilot wafer fab. It also offers licensable IP for embedded deployment in SoCs and for use as storage memory and for AI acceleration in data centers. Founded in 2019, the company employs staff from Intel, Semiconductor Manufacturing International Corp., and Spreadtrum Communications. Its investors include ByteDance, owner of TikTok.

www.innostar-semi.com

Zhang Xiang, co-founder
and CEO

Christian Dupont, CEO

iPronics S.A.

Valencia, Spain

Founded in 2019 as a spinoff of Polytechnic University of Valencia, iPronics has explored the field of programmable photonics and developed a general-purpose photonic processor capable of programming high-speed light signals on-chip with unprecedented flexibility. In January 2025, the company raised €20 million to accelerate commercialization and deployment of its optical networking engine in data centers. The solid-state optical switching approach, based on 2D photonic waveguides that incorporate programmable Mach-Zehnder interferometers, enables fast, flexible, and energy-efficient communication. It allows on-the-fly topology adaptation with reduced latency and power consumption compared with electronic switches. CEO Christian Dupont joined iPronics in September 2024, after ex-CEO Mark Halfman stepped down in September 2023.

www.ipronics.com

Jan Goetz, CEO

IQM Finland Oy

Espoo, Finland

IQM Finland, which trades as IQM Quantum Computers, builds superconducting quantum computers and processors and has its own manufacturing facility in Espoo. IQM prioritizes qubit fidelity and error correction over scale, but it has delivered multiple customer quantum computers based on 54-qubit chips. IQM is expected to deliver two IQM Radiance quantum computers to Finland's VTT Technical Research Center: a 150-qubit computer in 2026 and a 300-qubit computer in 2027. Founded as a spinoff from Finland's VTT in 2018, IQM has more than 300 employees and has raised more than €200 million ($217 million) in venture capital to date.

www.meetiqm.com

Ixana Inc.

Seattle, Washington

Wearable hardware company Ixana is developing a distributed network of high-speed human-computer interfaces based on a non-radiative body-area network wireless technology called Wi-R. The company claims Wi-R is 100× more energy-efficient than traditional wireless technologies such as Wi-Fi, Bluetooth, and UWB. Ixana, spun off from research at Purdue University in 2020, offers the 4-Mbit/s-capable Y22 Wi-R chip, the Wi-R module, and a wireless headset demonstrator.

www.ixana.ai

Angik Sarkar, CEO

Jay Dawani, co-founder and CEO

✸ Lemurian Labs Inc.

Menlo Park, California

Lemurian Labs approaches AI using a dynamic compiler, a novel datatype, the parallel adaptive logarithm, and accelerators with a near-memory, distributed dataflow architecture. Founded in 2018, the startup's core team brings experience from Qualcomm, Nvidia, and Intel. It has raised at least $9 million in venture capital funding.

www.lemurianlabs.com

Nick Harris, CEO

Lightmatter Inc.

Mountain View, California

Lightmatter, an MIT spinoff founded in 2017, develops silicon-photonics-based chips that use multiple light frequencies to perform parallel calculations simultaneously. Key products include the Envise optical computing chip and the Passage programmable optical interconnect chip. The technology uses programmable Mach-Zehnder interferometers to perform operations, offering up to 10× faster performance than conventional GPUs such as Nvidia's A100, while using less power. Lightmatter relocated its headquarters from Boston to Mountain View and raised a $400 million Series D at a post-money valuation of $4.4 billion in October 2024.

www.lightmatter.co

Literal Labs

Newcastle upon Tyne, England

Literal Labs, the trading name of Mignon Technologies Ltd., was spun out of Newcastle University in 2023 by logic-based AI specialists Alex Yakovlev and Rishad Shafik. Noel Hurley, a former Arm VP, was appointed CEO in 2023. Literal Labs develops fast, energy-efficient, and explainable AI technology optimized for edge computing. The technology combines propositional logic, data binarization, and Tsetlin machines to enable AI models that run up to 250× faster and use significantly less energy than traditional neural networks, while being naturally explainable. In June 2025, Literal Labs raised £4.6 million ($6.2 million) in pre-seed funding to commercialize its energy-efficient, logic-based AI model technology.

Noel Hurley, CEO

www.literal-labs.ai

Sean Lord, CEO

Micledi Microdisplays B.V.

Leuven, Belgium

Micledi was founded in 2019 as a spinoff from imec. It specializes in microLED microdisplays, primarily for augmented reality (AR) applications. Its technology combines III/V materials processing and 3D integration with a 300-mm silicon CMOS manufacturing platform. The ability to integrate both the controller ASIC and emitter module on a single 300-mm wafer allows low-cost manufacturing tailored to specific AR use cases.

www.micledi.com

T.R. Shashwath, co-founder and CEO

MindGrove Technologies Pvt. Ltd.

Chennai, India

Founded in 2021, MindGrove Technologies develops SoCs, particularly for applications in IoT, consumer electronics, automotive, defense, and industrial automation. The company launched a RISC-V-based microcontroller in 2024 before announcing it had raised $8 million in a Series A round of funding in December 2024.

www.mindgrovetech.in

Moore Threads Technology Co. Ltd.

Beijing, China

Moore Threads Technology designs GPUs for AI applications. The company was founded in October 2020 by Zhang Jianzhong, a former global VP and general manager of Nvidia China. Its GPUs are based on its proprietary Moore Threads Unified System Architecture (MUSA) technology with chips featuring up to 4,096 GPU cores and supporting APIs such as DirectX, Vulkan, and OpenGL.

www.mthreads.com

Zhang Jianzhong (also known as James Zhang), CEO

Tore Irgens Kuhnle, CEO

Nanopower Semiconductor A.S.

Kristiansand, Norway

Founded in 2017, Nanopower trades as Nanopower Semiconductor. The company has developed a subthreshold voltage IC technology called nPZero that reduces power consumption by up to 90% in various operating modes. The IC allows circuits to operate in the nanowatt range while maintaining functionality and responsiveness without an active microcontroller, suiting it for use with sensors and in IoT applications. The first nPZero samples are set to ship to customers in 2025. Nanopower's board is chaired by Svein-Egil Nielsen, former CTO of Nordic Semiconductor, who was appointed in early 2025 to support Nanopower's growth.

www.nanopowersemi.com

Avi Messica, co-founder and CEO

NeoLogic Ltd.

Netanya, Israel

Founded in 2021, NeoLogic is developing processors using its proprietary Quasi-CMOS technology, also called CMOS+. The technology integrates standard CMOS with novel circuit topologies to reduce transistor count by up to a factor of three at any technology node, resulting in up to 50% power reduction and 40% area savings. NeoLogic was founded by CEO Avi Messica and CTO Ziv Leshem and has raised $8 million in a seed round of funding.

www.neologicvlsi.com

Neuchips Inc.

Hsinchu, Taiwan

Founded in 2019, Neuchips specializes in AI ASIC design, focusing on AI accelerators for deep learning inference, particularly recommendation models and large language models (LLMs) for generative AI. Products include the RecAccel N3000 and the Raptor Gen AI accelerator chips. CEO Ken Lau was previously general manager of Intel Taiwan. Neuchips raised $20 million in Series B2 funding.

www.neuchips.ai

Ken Lau, CEO

Moshe Tanach, co-founder and CEO

NeuReality Ltd.

Caesarea, Israel

NeuReality has developed the NR1 AI network-addressable processing unit, which integrates hardware and software to reduce bottlenecks and improve scalability in the data center. The approach is applicable to natural language processing, computer vision, and recommendation engines. In 2023, NeuReality launched its NR1 AI inference chip, delivered to market in the form of the NR1-M AI inference module for legacy data centers and the NR1-S AI inference appliance for pure AI-centric data centers handling compute-intensive AI applications. The company was founded in 2019 and secured $20 million in a funding round in March 2024, bringing its total equity funding to $70 million.

www.neureality.ai

Patrick Bowen, co-founder and CEO

Neurophos Inc.

Austin, Texas

Neurophos has developed an optical processing unit with a compute-in-memory architecture using metamaterials to deliver more than 1 million TOPS, enabling what the company claims is a 100× increase in AI compute speed and efficiency compared with GPU-based systems. Neurophos was founded in 2020 as a spinout from Duke University and metamaterials incubator Metacept. It raised $7.2 million in a seed funding round led by Gates Frontier.

www.neurophos.com

✸ NextSilicon Ltd.

Tel Aviv, Israel

NextSilicon is working with supercomputing centers to accelerate high-complexity problems such as molecular dynamics and DNA sequencing. Its flagship product is the Maverick-2 intelligent compute accelerator, implemented in 5-nm silicon. The company was founded in 2017 by Elad Raz, former software director at Mellanox Technologies. It is a Series C startup with $303 million in funding to date.

Elad Raz, founder and CEO

www.nextsilicon.com

Kevin Yoder, CEO

✸ Niobium Microsystems Inc.

Dayton, Ohio

Niobium Microsystems has developed a chip for fully homomorphic encryption, enabling secure data collection, processing, and distribution for both defense and commercial applications. The company has a partnership with CryptoLab in South Korea to bring guaranteed privacy to LLM and generative AI applications. Niobium Microsystems spun out of cryptography and privacy R&D consultancy Galois in 2021 to handle its development contract with the Defense Advanced Research Projects Agency as part of Darpa's Data Protection in Virtual Environments (DPRIVE) project.

www.niobiummicrosystems.com

Faris Sbahi, co-founder and CEO

Normal Computing Inc.

New York, New York

Normal Computing specializes in probabilistic AI based on thermodynamic processes that natively reason about the real world for applications in which risk and precision are fundamental. Semiconductor design is one such application. Founded in 2022 by engineers and scientists formerly from Google Brain, Alphabet X, and Palantir, the company has raised more than $35 million in seed funding. Normal Computing is building an AI system that can design and verify hardware logic from specifications alone.

www.normalcomputing.ai

Nuclei System Technology Co. Ltd.

Shanghai, China

Nuclei System Technology, founded in 2018, has developed a broad portfolio of RISC-V CPU IP cores, covering the range from low power to high performance. It was founded by Bob Hu, the creator of China's first open-source RISC-V core, the Hummingbird E203. The company is now extending its IP to applications such as security, automotive electronics and functional safety, and high-performance computing and AI.

www.nucleisys.com

Hu Zhenbo (also known as Bob Hu), founder and CEO

Charbel Rizk, founder and CEO

Oculi Inc.

Rochester, New York

Oculi produces the sensing and processing unit (SPU), an image sensor with integrated processing. The SPU operates at the pixel level, allowing the same chip to adapt dynamically to different applications such as gesture control, rain measurement, and traffic monitoring. Oculi is partnering with companies to deliver products to market. Founded in 2019 by a research team from Johns Hopkins University, the company moved its headquarters from Baltimore, Maryland, to Rochester, New York, in July 2024.

www.oculi.ai

Eric Aguilar, co-founder and CEO

Omnitron Sensors Inc.

Los Angeles, California

Omnitron Sensors is developing microelectromechanical systems for high-volume sensor markets. The company uses silicon-on-insulator wafers and surface machining to fashion polysilicon in three dimensions to achieve higher capacitance per unit area. This can produce advantages in device size and cost and makes for more flexible system alignment, important for optical applications. The company is pursuing applications in autonomous navigation, including LiDAR for ADAS and robotics, extended-reality headsets and eyewear, optical cross-connect in AI data centers, and image stabilization in smartphones. Founded in 2019, Omnitron Sensors secured $13 million in Series A funding in January 2025.

www.omnitronsensors.com

OpenLight Photonics Inc.

Goleta, California

OpenLight Photonics was spun out of Juniper Networks in 2022 with EDA tool vendor Synopsys as a joint-venture partner. It supports the design of silicon photonics by providing process design kits for foundry manufacturing and by offering design services.

www.openlightphotonics.com

Adam Carter, CEO

Loïc Henriet, co-founder and CEO

Pasqal S.A.

Paris, France

Building on Nobel Prize–winning research by co-founder Alain Aspect, Pasqal specializes in quantum computing using neutral atoms in Rydberg states. The company acquired Qu&Co and My Cryo Firm in 2022. In June 2025, Pasqal announced the acquisition of photonic IC specialist Aeponyx (Montreal), aiming to advance its roadmap toward scalable, fault-tolerant quantum computing. Pasqal aims to reach 1,000 physical qubits by the end of the year and 10,000 qubits by 2028. Spun out of Institut d'Optique in 2019, the company has raised more than €140 million (~$160 million) in funding.

www.pasqal.com

Ben White, co-founder and CEO

Phlux Technology Ltd.

Sheffield, England

Founded in 2020 as a spinoff from the University of Sheffield, Phlux Technology develops 1,550-nm–wavelength infrared sensors to bridge the performance gap between InGaAs single-photon avalanche diodes and conventional InGaAs avalanche photodiodes (APDs). The company's "noiseless" InGaAs APDs are said to enable improved performance in applications such as rangefinders, LiDAR systems for autonomous vehicles, optical fiber test equipment, and imaging systems. Phlux Technology closed a £9 million (~$12 million) Series A funding round in March 2025 to accelerate its expansion into optical communications and sensing industries.

www.phluxtechnology.com

Photonic Inc.

Coquitlam, British Columbia

Founded in 2016, Photonic is developing fault-tolerant quantum computing with silicon spin qubits supported by photonic links. Silicon "color centers" serve as long-lived, optically addressable qubits, potentially allowing millions of qubits to be integrated on a single chip, with direct compatibility with telecom networks. The company has raised $140 million in venture capital funding to date and recently invested more than £25 million (~$34 million) in a quantum R&D facility in the U.K.

www.photonic.com

Paul Terry, CEO

Matt Cui, CEO

PI Semiconductor (Shenzhen) Co. Ltd.

Shenzhen, China

PI Semiconductor was founded in 2021 by a team of industry veterans, many with experience at Maxim Integrated. The startup is building a portfolio of IP circuits that enable high-resolution ADCs, precision DACs, voltage references, and high-voltage drivers. The company is pursuing applications in high-speed optical communications, RF bias for 5G infrastructure, medical devices and systems, battery management systems, industrial control, and automotive ADAS.

www.pisemi.com

Aleksandr Timofeev, founder and CEO

Polyn Technology Ltd.

Caesarea, Israel

Polyn Technology, founded in 2019, offers analog neuromorphic chips based on its proprietary Neuromorphic Analog Signal Processing (NASP) technology. NASP can be used to convert trained digital neural networks into analog AI chips to achieve low power consumption, low latency, and small size. In May 2025, the company announced it had completed tapeout of its first NASP chip. Products include NeuroVoice for intelligent voice extraction in noisy environments and VibroSense for vibration monitoring in predictive maintenance.

www.polyn.ai

Poro Technologies Ltd.

Cambridge, England

Porotech Technologies was founded in 2018 as a spinoff from the University of Cambridge. The company claims its porous GaN technology enables semiconductor materials with enhanced optical, mechanical, thermal, and electrical properties. This reportedly allows microLED displays to be produced using a single InGaN material system, simplifying manufacturing and reducing costs compared with traditional multi-material approaches. The company raised $20 million in 2022. It partnered with Foxconn, PSMC, and GIS in 2024 to establish this year what it said would be the industry's first 8-inch microLED volume production facility.

www.porotech.co.uk

Tongtong Zhu, co-founder and CEO

Michael Förtsch, CEO

Q.ant GmbH

Stuttgart, Germany

Emerging from Trumpf's R&D labs, Q.ant was founded as an independent startup in 2018. It has since launched a photonic processor based on lithium niobate electro-optic material in rack-mount and PCIe board-level formats. The company invested €14 million (~$14.5 million) in machinery and equipment as part of the refurbishment of a 90-nm pilot line at the Institute of Microelectronics (IMS Chips) in Stuttgart and started production of its own thin-film lithium niobate chips in February 2025. The line is capable of producing up to 1,000 wafers per year.

www.qant.com

Q

Veerbhan Kheterpal, co-founder and CEO

Quadric.io Inc.

Burlingame, California

Founded in 2016, Quadric.io is a semiconductor IP company specializing in optimized machine-learning processors for on-device AI inference. The Chimera general-purpose neural processing unit integrates neural network processing with classical DSP and control algorithms in a unified hardware/software architecture. In a multicore configuration, Chimera scales to hundreds of TOPS. The company has raised a total of approximately $50 million in equity funding.

www.quadric.io

✸ Quantinuum Inc.

Broomfield, Colorado; Cambridge, England

Quantinuum was formed in 2021 through the merger of Honeywell Quantum Solutions and Cambridge Quantum, and it continues to operate two headquarters sites. In 2024, Honeywell announced the closing of a $300 million equity fundraise for Quantinuum, at a pre-money valuation of $5 billion. The company's quantum hardware uses trapped-ion qubits, and software is being developed for applications in cybersecurity, computational chemistry, machine learning, and optimization. Quantinuum aims to offer universal, fault-tolerant quantum computing by 2029.

www.quantinuum.com

Rajeeb Hazra, CEO

Itamar Sivan, co-founder and CEO

Quantum Machines Ltd.

Tel Aviv, Israel

Founded in 2018, Quantum Machines develops quantum control and cryogenic electronic systems. These support a wide range of qubit types and integrate quantum and classical computing to orchestrate complex algorithms in real time; they can be considered infrastructure for quantum computing labs. Quantum Machines had raised a total of $280 million in funding as of February 2025, including a recent $170 million Series C round. The company also has a longstanding partnership with Nvidia.

www.quantum-machines.co

James Palles-Dimmock, CEO

Quantum Motion Technologies Ltd.

London, England

Founded in 2017, Quantum Motion Technologies is developing a scalable array of silicon qubits fabricated using a CMOS-compatible process. The company is currently building a silicon spin qubit quantum processor testbed for the U.K.'s National Quantum Computing Centre. Quantum Motion Technologies has raised more than £42 million (about $55 million) in equity funding. Alberto Sangiovanni-Vincentelli, professor of EECS at University of California, Berkeley, and co-founder of Cadence Design Systems and Synopsys, is chairman.

www.quantummotion.tech

✸ QuantWare B.V.

Delft, Netherlands

QuantWare's core technology, VIO, enables vertical interconnects for quantum processors, addressing the scaling bottleneck that limits the number of qubits in traditional architectures. The technology allows for the creation of monolithic quantum processors with the potential to exceed 1 million qubits. QuantWare offers VIO via its own QPUs and its own fabrication capabilities; third-party customers can also access the technology via foundry and packaging services. Founded in 2020, QuantWare closed a $23 million Series A round in March 2025 and raised $4.5 million more in June 2025.

Matthijs Rijlaarsdam, co-founder and CEO

www.quantware.com

Andy Ory, CEO

✸ QuEra Computing Inc.

Boston, Massachusetts

QuEra makes quantum computers based on neutral-atom technology. Founded in 2018, the company is commercializing research conducted at Harvard University and the Massachusetts Institute of Technology. Its signature 256-qubit machine, Aquila, is available now for general use over the Amazon Braket cloud. QuEra completed a financing round of more than $230 million in February 2025. It announced in March 2025 that it was a founding collaborator of the Nvidia Accelerated Quantum Research Center (Boston).

www.quera.com

Stefan Hengesbach, CEO

QuiX Quantum B.V.

Enschede, Netherlands

QuiX Quantum specializes in quantum computing that uses photons to encode and process quantum information, supports room-temperature operation, and aids scalability. The company is a 2019 spinoff from the University of Twente (Enschede) and uses silicon nitride waveguides on silicon or glass substrates.

www.quixquantum.com

✸ Quobly S.A.

Grenoble, France

Quobly was founded in 2022 as a spinout from CEA-Leti and CNRS. The company develops quantum processors based on silicon spin qubits, using proven semiconductor manufacturing processes such as fully depleted silicon-on-insulator technology. Quobly aims to break the 1-million-qubit barrier by 2031 and has formed an exclusive partnership with STMicroelectronics to develop a dedicated manufacturing process that supports large-scale quantum computing solutions. Partners envision the first generation of commercial products to be available by 2027.

www.quobly.io

Maud Vinet, co-founder and CEO

Robert Giterman, co-founder and CEO

✸ Raaam Memory Technologies Ltd.

Petah Tikva, Israel

Raaam was founded in May 2021 by four VLSI design specialists from Israel's Bar-Ilan University and the Swiss Federal Technology Institute of Lausanne. Raaam's Gain-Cell Random Access Memory (GCRAM) technology requires three transistors to store 1 bit of data and makes efficient use of standard CMOS processes. This could allow the patented GCRAM technology to be used as a space-saving alternative to SRAM or as a form of embedded DRAM.

www.raaam-tech.com

Atsuyoshi Koike, founder and CEO

Rapidus Corp.

Tokyo, Japan

Rapidus was established in August 2022 to mass-produce advanced logic semiconductors, focusing initially on a 2-nm process technology slated to enter production in 2027. Rapidus licensed its baseline 2-nm technology from IBM. Part of the Rapidus pitch is to offer foundry manufacturing services that integrate rapid fab throughput with back-end chip packaging to achieve fast product cycling. The company was founded by a consortium of eight Japanese companies and benefits from Japanese government investment worth billions of dollars.

www.rapidus.inc

Raysolve Ltd.

Suzhou, China

Founded in 2019, Raysolve is developing microLED microdisplay technology, focusing on single-chip, full-color microLED displays. Its technology includes proprietary large GaN-on-silicon wafer-level integration and quantum dot photolithography. The company has demonstrated 0.11- and 0.22-inch single-chip, full-color microLED microdisplays for use in augmented- and mixed-reality applications. The core team came from Hong Kong University of Science and Technology.

Wing Cheung Chong, founder and CEO

www.raysolve.com

Sunghyun Park, CEO

Rebellions Inc.

Seoul, South Korea

Founded in 2020, Rebellions is backed by KT Corp., South Korea's leading data center business, and supported by Samsung as a foundry chipmaker. The company became South Korea's first AI chip unicorn following a merger with Sapeon Korea, SK Telecom's AI chip subsidiary. Products include the Atom NPU chips for inference and Rebel chiplets in development. The company supplies AI hardware cards, servers, and rack-scale solutions, along with proprietary software optimized for its chips.

www.rebellions.ai

Marc Bolitho, CEO

Recogni Inc.

San Jose, California

Recogni was founded in 2017 to develop AI-based visual perception processing solutions for autonomous vehicles. To do so, it created Pareto, a logarithmic math number system for AI. It is now extending Pareto to more generative AI applications. Juniper Networks participated in a Series C round of financing worth $102 million.

www.recogni.com

Red Semiconductor International Ltd.

Oxford, England

James Lewis, CEO

Red Semiconductor was founded in 2021 to develop microprocessor core IP called Versatile Intrinsic Structured Computing (VISC). VISC is designed to enable complex algorithmic routines to be executed in fewer clock cycles, with smaller binaries and lower power consumption than traditional RISC architectures. VISC processors are aimed at edge AI, autonomy, and cryptography. Early in 2025, Red Semiconductor and Munich-based Codasip signed a memorandum of understanding to develop advanced AI acceleration technologies.

www.redsemiconductor.com

Puneet Kumar, co-founder and CEO

Rivos Inc.

Santa Clara, California

Rivos designs optimized chips that combine RISC-V CPUs with data-parallel accelerators to deliver workload-defined hardware for enterprise server solutions. The company was founded in 2021 by CEO Puneet Kumar and chief scientific officer Mark Hayter, whose processor startups were sold to Apple and Google. Rivos raised more than $250 million in an oversubscribed Series A-3 funding round in 2024.

www.rivosinc.com

Vishal Sarin, co-founder and CEO

Sagence AI Inc.

Santa Clara, California

Sagence AI, which changed its name from Analog Inference in November 2024, is pursuing analog in-memory compute methods to meet the power and cost requirements of pervasive AI computing. The company aims to simplify AI inference by eliminating complex dynamic scheduling required by traditional processors. Founded in 2018, Sagence AI has secured $58 million in funding from strategic and venture investors.

www.sagence-ai.com

Salience Labs Ltd.

Oxford, England

Salience Labs focuses on developing high-speed, low-latency networking fabrics and multichip processors that integrate photonic chips with standard electronics. Its photonic tensor processing technology is based on research collaboration between Oxford University and the University of Münster, Germany. Founded in 2021, Salience Labs raised $30 million in Series A financing in February 2025.

www.saliencelabs.ai

Vaysh Kewada, co-founder and CEO

John Levy, co-founder and CEO

SeeqC Inc.

Elmsford, New York

SeeqC applies classical and quantum technology through digital readout and control and through a chip-scale architecture. The company is a 2018 spinout of Hypres, a developer of superconductor electronics, and announced it had raised $30 million in equity funding in January 2025. SeeqC has sealed a partnership with Nvidia to build a digital interface that connects quantum chips to GPUs and, more recently, has partnered with IBM as part of Darpa's Quantum Benchmarking Initiative.

www.seeqc.com

Cheng Taiyi, CEO

SemiDrive Technology Ltd.

Nanjing, China

SemiDrive Technology is a fabless chip company that specializes in high-performance and highly reliable automotive-grade chip products and solutions. Its core focus is on central computing and zonal control architectures for vehicles, including intelligent cockpits, smart vehicle control, ADAS, and domain controller processing chips. The company was co-founded in 2018 by Maggie Qiu, who previously was general manager at the Freescale Qiangxin IC design organization as well as R&D director for the i.MX product line at Freescale.

www.semidrive.com

✸ Semron GmbH

Dresden, Germany

Founded in 2020, Semron is developing AI chips using a proprietary device the company calls a memcapacitor, or CapRAM. The technology was developed by founders Aron Kirschen, CEO, and Kai Uwe Demasius, CTO, at the Technical University of Dresden and the Max Planck Institute for Technology. CapRAM is made of conventional semiconductor materials laid down on silicon-on-insulator wafers, which work by exploiting charge shielding. Semron plans to stack several hundred computing layers in a manner similar to 3D NAND flash memories.

Aron Kirschen, co-founder and CEO

www.semron.ai

✸ Shenzhen SiCarrier Technologies Co. Ltd.

Shenzhen, China

Du Lijun, president

Founded in 2021 and owned by the Shenzhen municipal government, SiCarrier is a semiconductor equipment company that develops and sells semiconductor and electronics manufacturing equipment. The company is part of a network formed around Huawei, which seeks to create a self-sufficient semiconductor ecosystem. It is involved in critical semiconductor processes through subsidiaries focused on photoresist, photolithography, and chip equipment.

www.sicarrier.com

Byung Joon (B.J.) Han, co-founder and CEO

Silicon Box Pte. Ltd.

Singapore

Silicon Box was created in 2021 by the founders of Marvell Technology and an experienced chip packaging executive. It is a semiconductor packaging company specializing in the production of multi-die components based on chiplet architecture. Silicon Box operates a factory and R&D facility in Singapore and announced a €3.2 billion (~$3.5 billion) investment in 2024 to build a semiconductor assembly and testing facility in Piedmont, Italy.

www.silicon-box.com

SiMa Technologies Inc.

San Jose, California

SiMa Technologies has developed a "software first" machine-learning SoC (MLSoC) platform designed to deliver energy-efficient AI solutions for edge applications. In September 2024, SiMa unveiled the second generation of its hardware, the MLSoC Modalix, capable of delivering 25 to 200 TOPS, typically at less than 10-W power consumption. The hardware is manufactured on TSMC's N6 process. SiMa has raised $270 million since its inception in 2018.

Krishna Rangasayee, founder and CEO

www.sima.ai

Thomas Xu Tao, founder and CEO

✸ StarFive Technology Co. Ltd.

Shanghai, China

StarFive Technology, founded in 2018, provides RISC-V CPU processor core IP, semiconductor SoC platform solutions, and related products. Its technology is used in smart home appliances, industrial robots, network communication devices, edge computing, data centers, and AIoT scenarios. The company secured a strategic investment from Hong Kong Investment Corp. in March 2025.

www.starfivetech.com

George Xereas, co-founder and CEO

Stathera Inc.

Montreal, Quebec

Stathera is a 2020 startup that provides MEMS timing solutions based on its proprietary dual-mode frequency technology. The dual-output MEMS oscillator can replace two quartz oscillators in a system. The company counts MediaTek and Seiko Epson among its investors and uses MEMS made for it by fabless MEMS company Nxtsens Microsystems.

www.stathera.com

Swave Photonics N.V.

Leuven, Belgium

Swave Photonics is a fabless semiconductor company specializing in holographic display technology, particularly for augmented reality, virtual reality, and spatial computing applications. The HXR chip leverages nonvolatile phase-change materials on a standard CMOS semiconductor process to create high-resolution 3D images. The company was spun off from research institute imec in 2022 and raised €27 million (~$28.3 million) in Series A funding at the beginning of 2025.

Mike Noonen, CEO

www.swave.io

Manu V. Nair, co-founder and CEO

Synthara AG

Zurich, Switzerland

Synthara's flagship innovation is ComputeRAM, an in-memory computing platform that enables AI and advanced data processing directly within memory to increase efficiency and speed for edge devices. The startup has developed a method of inserting in-memory computation into pre-existing hardware-software platforms to support legacy applications. Synthara was spun off in 2019 from the UZH-ETH Institute of Neuroinformatics in Zurich.

www.synthara.ai

Kurt Busch, founder and CEO

Syntiant Corp.

Irvine, California

Syntiant provides deep-learning and AI solutions for always-on, low-power edge applications across a range of consumer and industrial use cases, from earbuds to automobiles. Syntiant has raised more than $100 million in funding since its formation in 2017 and completed the $150 million acquisition of Knowles's consumer MEMS microphone business in January 2025.

www.syntiant.com

T

Terra Quantum AG

St. Gallen, Switzerland

Terra Quantum is a full-stack quantum technology provider, offering quantum-as-a-service, quantum algorithm libraries, high-performance quantum computing environments, and quantum-secure communications. Founded in 2019, Terra Quantum has raised $75 million in Series A funding. In 2025, the company announced a strategic partnership with Siemens for quantum applications in automotive and drone systems.

www.terraquantum.swiss

Markus Pflitsch, founder and CEO

Glenn Ge, co-founder and CEO

TetraMem Inc.

Fremont, California

TetraMem, founded in 2018, offers the MX100 AI accelerator chip for edge inference based on multilevel ReRAM analog, in-memory computation. The MX100 features multiple neural processing units with 64k 8-bit weights per NPU core and a RISC-V processor, capable of world-class multiply-accumulate efficiency for small convolutional neural networks. The company also offers software development services.

www.tetramem.com

Avi Bakal, founder and CEO

TriEye Ltd.

Tel Aviv, Israel

TriEye is developing CMOS-based short-wave infrared (SWIR) sensing solutions, which promise significant cost reductions compared with traditional, InGaAs-based SWIR sensors. TriEye's solutions are used in sectors such as automotive ADAS and autonomous driving, industrial, biometrics, and consumer mobile devices. Since its creation in 2017, TriEye has raised a total of $96 million.

www.trieye.tech

V

Vaire Computing Ltd.

London, England

Vaire focuses on adiabatic reversible computing, which recycles energy within the chip rather than dissipating it as heat. The novel approach enables chips to use almost all input energy for computation, minimizing waste and cooling requirements. In May 2025, the company shared the results of its first chip tapeout and claimed its resonator component achieved 50% energy recovery on average. Vaire Computing was founded in 2021 by serial entrepreneur Rodolfo Rosini (CEO) and Cambridge University researcher Hannah Earley (CTO), who specializes in the performance and programming of reversible molecular computers.

www.vaire.co

Rodolfo Rosini, co-founder and CEO

Sylvain Dubois, CEO

Vertical Compute SRL

Leuven, Belgium

Founded in October 2024, Vertical Compute is a spinout from the imec research institute. The company plans to adopt modular chip design and high-aspect–ratio vertical structures to surpass DRAM in density, cost, and energy efficiency. It is expected that the memory technology will be based on spin-orbit MRAM technology developed at imec. Vertical Compute aims to enable the use of LLMs on the edge. The company announced it had raised $20.5 million in seed funding early in 2025.

www.verticalcompute.com

Joseph Jiang, co-founder and CEO

xMEMS Labs Inc.

Santa Clara, California

Founded by a team of MEMS veterans and audio industry engineers in 2018, xMEMS Labs is focused on solid-state speakers and cooling solutions. In speaker applications, the company implements both actuation and diaphragm functions in silicon. It also uses MEMS to create localized cooling for high-performance components, such as smartphone processors and optical transceivers in data centers. The company holds nearly 200 technology patents worldwide.

www.xmems.com

EE Times Silicon 100

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TAIWAN/ASIA

Anthea Chuang
Illumi Huang
Susan Hong
Stephen Las Marias
Clover Lee
Elaine Lin
Luffy Liu
Lefeng Shao
Amy Wu
Demi Xia
Ricardo Xie
Jimmy Zhang
Franklin Zhao
Momo Zhong

• PRODUCTION TEAM

Adeline Cannone
Design Director

Lori O'Toole
Chief Copy Editor

Diana Scheben
Senior Copy Editor

• GRAPHIC DESIGN DIRECTOR

Alan Ducarre

Silicon 100

CAMBRIDGE, MA
1-408-330-7575
silicon100@aspencore.com