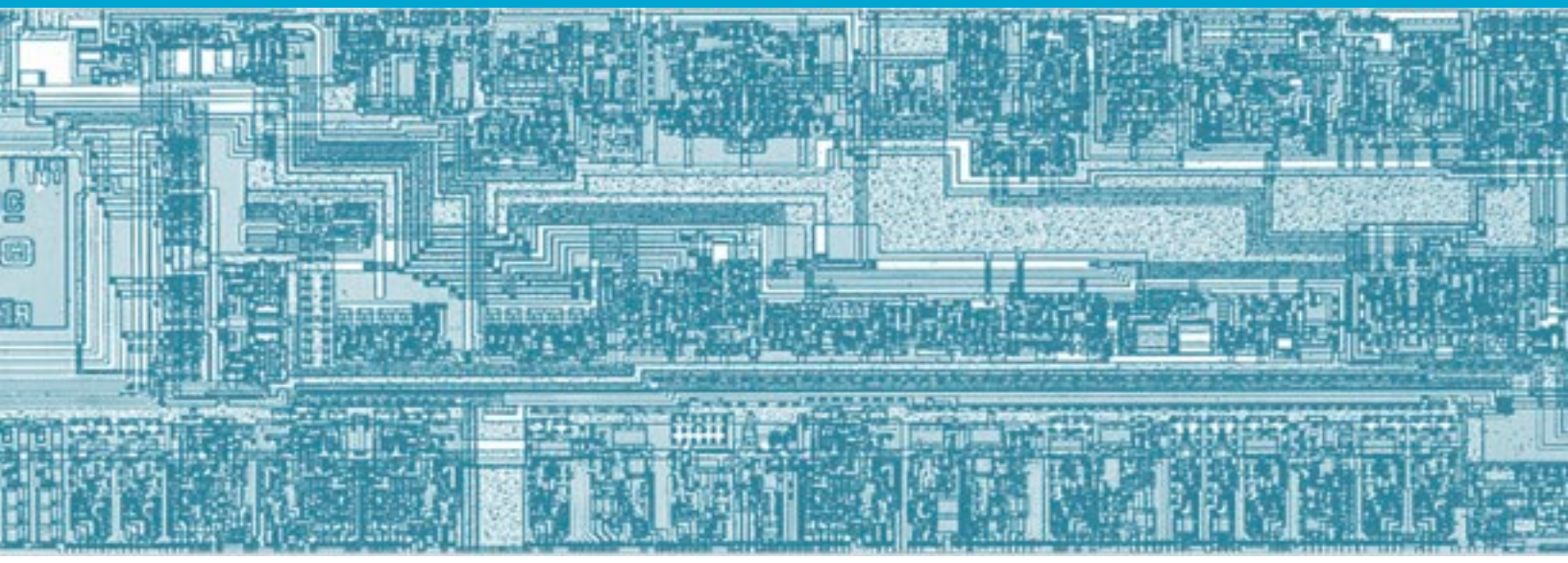
VOLUME 9 - OCTOBER 2019

SILICON STARTUP SOLUTIONS

it's about what's next.®

A SILICON CATALYST NEWSLETTER

A VALUABLE RESOURCE FOR THE SEMICONDUCTOR STARTUP COMMUNITY



Portfolio Companies

OWL AI
FOR AUTONOMOUS IMAGING
The smartest choice for the road ahead

Eridan Communications

quadric

PROBIUS

SPARK Microsystems

ESPRE TECHNOLOGIES

One Silicon Chip Photonics
OSCP

Zeno SEMICONDUCTOR

Xceler Systems

CHAOS PRIME

Seamless Microsystems
Digitizing Your World Seamlessly

MENTIUM TECHNOLOGIES

EcoCircuits

Power Down Semiconductor

ALUMNI

Ayar Labs

AEPONYX™

GmK
With a soulful touch

REXComputing

Active Layer Parametrics

CLOPTech
Connecting the Lives of People

VOLUME 9

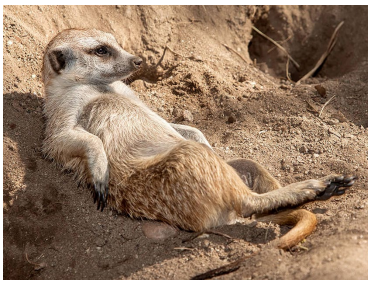
IN THIS ISSUE

Lance Bell - Partner

When an interview question starts out, 'tell us what it was like to work for Steve Jobs, Andy Bechtolscheim and T.J. Rogers' you know we're not talking small ball. That is indeed the opening question posed to Silicon Catalyst Advisor Mark Ross in this edition of Silicon Startup Solutions. Mark is one of over 150 Advisors in Silicon Catalyst's talent-rich pool of seasoned semiconductor veterans that proffer their advice and guidance to our startup companies. We think you'll find the interview a worthwhile read.

In April of this year, Silicon Catalyst celebrated its four year anniversary. The company that UBM/Canon named its 2015 Startup Company of the Year, has become a vital part of the semiconductor startup ecosystem having screened nearly 300 startup companies and admitted 21 Portfolio Companies.

Since our last issue, much has happened. Silicon Catalyst expanded its global reach into Israel with the appointment of Israel-based semiconductor executives Danny Biran and Moshe Zalcberg. The company joined the Global Semiconductor Alliance (GSA) with Executive Director Shrikant Lohokare stating, "Silicon Catalyst is fueling a wave of startup innovation in the semiconductor segment that has reinvigorated the investment community's interest and appetite for hardware." We admitted three new Portfolio Companies - Ecosystems, Mentium, and Quadric, established a Strategic Collaboration with Silicon Valley Bank and in May held our Portfolio Company update along with our Spring Forum Event hosted at SVB. We hope you enjoy this issue and we thank you for your support.



WELCOME

CHAIRMAN'S CORNER
RICK LAZANSKY

Co-Founder - Silicon Catalyst
serial entrepreneur
and incubator fanatic

September, 2019

Thoughts about funding

If you're building a company, raising money is likely nowhere near the top of your "this is fun" list. It certainly wasn't mine, though it's great to look back upon the trials and tribulations, once the money is in the bank. And if you're building a company, by all means you should have a list of fun things you want to achieve.

I want to address the myths, or what I believe are myths. Some of this is my interpretation of random meetings with VC, reading the occasional Harvard Business Review, and just talking with my fellow angels and lots of startups.

Myth 1: All you need is a really great deck. A really good deck is very helpful, particularly the first three or so slides that get the emotional interest going, and the rest of the deck that fill in the rest of the story. "Backup" slides can demonstrate that you have the answers to investors' questions. Andy Freeman, one of our advisors, is spot on in his observation that you've got investors hooked in the first few slides, and all you can do in the rest of the deck is lose them, so don't. Timing, team and market are also important. Presentation of the deck doesn't lead directly to an investment – that happens when investors are convinced, and that doesn't happen in 15 minutes. The purpose is to begin the conversation and the due diligence that leads to one. I'm a big fan of behavioral economics, and in particular of Daniel Khaneman. Kevin Dick at Right Side Capital made the connection between Khaneman's work and pitch decks. I urge you to stop reading this, and go read this - http://rightsidecapital.com/your-pitch-deck-is-wrong/ . Feel free to come back, though.

Back? Let me send you off to another rather connected view of good decks. Jean-Louis Gassée suggests three slides are all you need. You can read about them here - https://mondaynote.com/three-slides-then-shut-up-the-art-of-the-pitch-85221afe993a I particularly like the reference to monkey brains and distraction.

As a case in point, Richard Curtin remembers his visceral reaction to a startup's impactful type 1 leading description – "Early breast cancer detection through saliva testing". We've all had those "ah, they got me right here."

Myth 2: You need a product and revenue. Ok, it really does help a lot, but investors are looking for traction as much as revenue. And traction is in the eyes of the beholder. For very early stage it may be in the huge number of potential customers you've met. For slightly later it may be a demonstrator that you've engaged those potential customers with. It may be numbers of users, growth in those users, all without significant revenue. Just expect that investors will want better deal terms the further you are from proving a revenue stream.

Myth 3: Angels are 'easier' investors to target than VC. For early stage companies, this is sometimes true. There are more of them, and they invest in more startups. And angels love to learn new things, and are often ready to have coffee and discuss whether you're ready for funding. But they do the same due diligence, and since they're investing their own money, they are (or should be) more cautious.

Myth 4: Venture capital is the primary source of startup funding. Less than 1% of US companies are venture funded – at any stage. Angels annually invest in 15x more companies. Any thorough investment strategy should consider friends-and-family VC, angels and angel groups, family offices, grants which are non-dilutive. Even private equity firms are getting into early stage investing.

Myth 5: VCs take a big risk when they invest in your company. Most assuredly, this isn't true, at least with respect to their own money. Roughly 99% of the funds from which they invest come from limited partners; around 1% comes from the venture capitalists themselves. Also typically, they receive 20% of the profits, if there are any, returning 80% to the limited partners. More importantly, they also take around 2% per year of the fund size as management fees. Compared to other investment professionals they take more risks with less oversight, and perhaps less accountability (Mutual funds are valued daily. Venture investments are realized after many years and relatively hard to assess before then).

Myth 6: VCs offer great mentoring and networking. Some do, many don't. Talk to the CEOs in whose companies they've invested – this is your turn to run due diligence on the VC! There are perhaps better potential mentors and advisors, and some of those same folk are often approached by VCs in their pursuit of due diligence.

Myth 7: The bigger the VC, the better they'll be for you. Definitely not! What matters is that they're at the right stage in their fund, and they make the size of investment that makes sense for your company. Typically you'd have a lead and two or more other investors. VCs make 1-3 investments per partner per year, in the first 2-4 years of a 10 year fund for 'first investments' and hold onto the rest of the capital for follow on investments in the later years. A very large fund needs to invest in a very large opportunity.

Myth 8: With VC, you only get one shot. Many venture capitalists are happy to meet and talk with you about your plans, even before you're ready. Just ask them to meet you for coffee and discuss your idea.

Try it and let me know how it works. I always feel I'm getting closer when they'll let me buy the second cup.

rick@sicatalyst.com

SILICON CATALYST ANGELS
A NEW SILICON CATALYST VENTURE

Funding and Fostering the Innovations, Technologies, and Companies that will Improve our Lives

Silicon Catalyst Angels was spawned from Silicon Catalyst, the world's only incubator focused exclusively on accelerating solutions in silicon.

What makes Silicon Catalyst Angels unique is not only our visibility into an exclusive deal flow pipeline, but our membership is comprised of seasoned semiconductor veterans who bring with them a wealth of knowledge along with their ability to invest.

Driven by passion and a desire to 'give back', our members understand the hardware space thanks to a lifetime of engagement in the industry. When you couple our members enthusiasm, knowledge, and broad network of connections with companies that have been vetted and admitted to Silicon Catalyst, you have a formula that is to date, non existent within the investment community.

Silicon Catalyst Angels provides a veritable boot camp where startups learn from our investors how to think, how to act, and how to communicate their value propositions, and how to build a company poised for business growth. Silicon Catalyst Angels is actively growing its membership and welcomes your potential involvement.

Board members, Raul Camposano, Amos Ben-Meir & Michael Joehren

For more information, visit www.siliconcatalystangels.com

MATHWORKS
ECOSYSTEM PARTNER PROFILE

MathWorks®

Leading developer of mathematical computing software

Andrew Willard, Global Leader, Startup Accelerators and Incubators

When you use MATLAB® and Simulink® together, you combine textual and graphical programming to design your system in a simulation environment.

Q. PLEASE DESCRIBE YOUR COMPANY AND GOALS.

A. MathWorks is the leading developer of mathematical computing software. Our primary foundation products are MATLAB® and Simulink®. Engineers and scientists worldwide rely on these product families for development in signal processing, communications, automotive, aerospace, electronics, renewable energy, biotech, and other industries.

Our goal is to change the world by accelerating the pace of discovery, innovation, development, in engineering and science. We work to provide the ultimate computing environment for technical computation, visualization, design, simulation, and implementation. We use this environment to provide innovative solutions in a wide range of application areas.

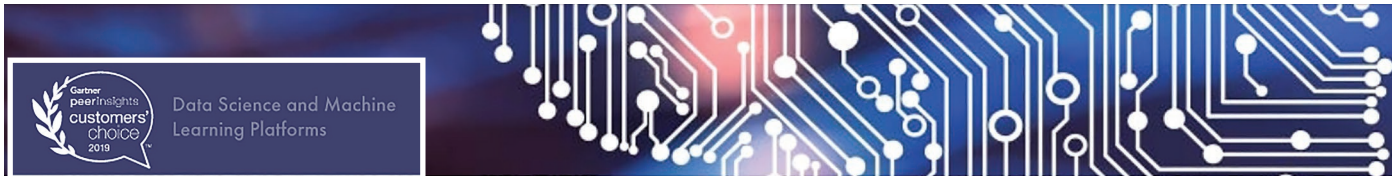
MATLAB®, the language of engineers and scientists, is a programming environment for algorithm development, data analysis, visualization, and numeric computation. Simulink® is a block diagram environment for simulation and Model-Based Design of multidomain and embedded engineering systems.

From both platforms we provide a robust API allowing users to integrate existing work from C, C++, Python as well as several engineering platforms including CAD, FEA, CFD, and others. MATLAB® and Simulink® provide tools that autogenerate C, C++, CUDA, Verilog and Structured Text which provides engineers a development platform that is not end target specific.

Q. PLEASE DESCRIBE SPECIFIC ROLE/TITLE AND BACKGROUND.

A. I am the manager of MathWorks Accelerator & Incubator program. My position is part of our Startup Business unit, a collaborative team built of Commercial & Educational Sales, Application Engineering and our Marketing Department. Our charter is to grow our engagement within the startup community. My responsibility is to expand our work within the accelerators, provide needed engineering and business support to both the programs and the startups within. I am working with commercial and industry supported organizations such as CESMII, Silicon Catalyst, Cyclotron Road, Greentown Labs, and ventureLab, but also university supported programs such as UC Berkeley's SkyDeck, Stanford's StartX, and Imperial College of London's White City Incubator. MathWorks is currently partnered with 205 programs and we have supported over 4,000 startups in the past 5 years.

Prior to this role I was a Senior Account Manager in our sales organization for fourteen years. I managed a variety of industries



Customers' Choice

MathWorks Named a May 2019 Gartner Peer Insights Customers' Choice for Data Science and Machine Learning Platforms

and markets including ten years as the global leader in our Oil & Gas Industry.

Q. WHY ARE YOU PARTNERING WITH SILICON CATALYST?

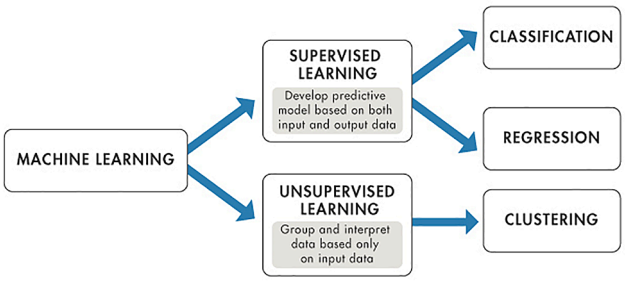
A. We find the goals of Silicon Catalyst tightly aligned with ours in supporting startups, helping them to limit capital expenses and provide them with engineering support needed so they can succeed. Silicon Catalyst is supporting one of engineering's most difficult market spaces, hardware and silicon-based solutions.

The startups at Silicon Catalyst are solving problems our tools are adept at. The signal, mixed-signal, and communication areas are important markets for MathWorks; we have a large development team focused on solving challenges in this space. Our recent efforts include building 3GPP, LTE, 5G and WLAN standards as well the development of tools for Signal Integrity.

Q. WHY SHOULD COMPANIES PARTNER WITH MATHWORKS AND SILICON CATALYST?

A. For MathWorks, we bring a global collection of engineers and support teams to startups, we have resources in all major technology centers around the world. We consider startups full commercial customers and provide them an equal level of technical support we offer our largest customers. For startups, we find many have teams based in multiple locations, so we can meet with them and address questions locally, it provides a better level of service.

Additionally, our startup support is not linked to capitalization or fund raising.



Machine learning uses two types of techniques: supervised learning, which trains a model on known input and output data so that it can predict future outputs, and unsupervised learning, which finds hidden patterns or intrinsic structures in input data.

Silicon Catalyst firms need millions of dollars in capitalization to get to market, we do not change our support because a firm was successful with a pre-seed or even a seed round.

Q. WHAT HAVE YOU LEARNED IN WORKING WITH SILICON CATALYST AND OUR PORTFOLIO COMPANIES?

A. We find portfolio firms are pushing our technology to the limits and calling us for assistance at the outer edge of the design envelope. We need that perspective of the leading edge to push us in the right direction. We may not be able to solve every issue; but we do want to be able to make our tools flexible enough that leading and bleeding edge solutions can be linked to us.

Q. WHAT DO YOU THINK THE ROLE IS OF STARTUPS AND INCUBATORS LIKE SILICON CATALYST?

A. Large companies tend to drift to risk aversion as they grow, the focus is on stable quarterly results. Risk aversion limits the investment into longer term innovation investment. Startups, and the incubators that support them, now serve as the primary innovation labs. Supporting accelerators, incubators and startups is supporting the creation of the next generation of technology leaders.

Q. WHAT ARE YOUR GOALS FOR 2019/2020 WITH SILICON CATALYST?

A. We are looking to have deeper engagement with the portfolio firms. We want the firms to be comfortable contacting us with technical questions. We find the startup community working at the leading edge of many technologies, they provide us excellent guidance to what direction we need to focus our development. A recent engagement with a portfolio firm has provided our HDL Coder developers two areas for enhancement, we like that real world feedback and direction.

www.mathworks.com

U.S.-CHINA TRADE WAR PORTENDS PAINFUL TIMES FOR U.S. SEMI. INDUSTRY

Semiconductor Industry Forum

IEEE Spectrum 06/05/19
By Tekla S. Perry

Semiconductor industry mavens in the United States anticipate damage from U.S.-China trade policy and call for a national strategy for semiconductor manufacturing

"There is going to be a lot of pain for the semiconductor industry before it normalizes," says Dan Hutcheson.

"It's a mess, and it's going to get a lot worse before it gets better," says David French.

"If we aren't going to sell them chips, it is not going to take them long [to catch up to us]; it is going to hurt us," says Mar Hershenson.

French, Hutcheson, and Hershenson, along with Ann Kim and Pete Rodriguez, were discussing the U.S.-China trade war that escalated last month when the United States placed communications behemoth Huawei on a trade blacklist. All five are semiconductor industry veterans and investors: French is currently chairman of Silicon Power Technology; Hutcheson is CEO of VLSI Research; Hershenson is managing partner of Pear Ventures, Kim is managing director of Silicon Valley Bank's Frontier Technology Group, and Rodriguez is CEO of startup incubator Silicon Catalyst. The five took the stage at Silicon Catalyst's second industry forum, held in Santa Clara, Calif., last week to discuss several aspects of the trade war:

- Effects on China
- IP theft
- Immigration policy
- A call for a national strategy
- Missing investment dollars
- Effects on China

Moderator Pete Rodriguez, with panelists Ann Kim, David French, Mar Hershenson, Dan Hutcheson (l to r)

Tight trade policies, these semiconductor industry veterans expect, will hurt the U.S. industry more than China. "The consumption of semiconductors in China is 40 to 50 percent" of the world supply, said French. "And that number is going to go up whether we sell to them or not." Can China's tech industry really do just fine without U.S. chips? The panelists debated the question.

"I think China is going to struggle with memory," Hutcheson said. "In memory, the costs are in the equipment and the efficiencies of running the fab; only 5 percent of the cost is labor. That is going to be difficult for them, to have to get materials and equipment from around world."

French disagreed. "If we take a policy of not selling the best stuff to China," he said, "if they are forced to use their own [technology], they will, even if it's a little bit worse."

"Maybe they can be competitive in China where they are protected," Hutcheson countered, "but they won't be able to sell outside China."

That won't matter, Kim indicated. "If you are the dominant player in China, you are already doing good."

On IP theft

But what about all that theft of intellectual property, Rodriguez asked

the group. Shouldn't China be punished?

"IP theft is a big emotional issue, and there is legitimacy to the issue," French said. "But I don't think China has cornered the market on IP theft. I don't think they are the best at it or the most prolific."

"If there were people from 19th century Britain," he mused, "they would say the same thing about Americans."

In any case, it's a short-term problem. When China's home-grown intellectual property "gets to a significant level—and it will—China will become more about the protection of IP than acquisition," French said, reminding the audience that Japanese tech companies followed a similar path.

Hutcheson pointed further back in history. "Europeans today are competitive even though we stole all their tech in the 19th century," he said. "We all love German cars, we buy European products."

On immigration policy

Restrictive immigration policies are also hurting the semiconductor industry, the panelists indicated, particularly in an era in which U.S. students are tending to ignore electrical engineering and other hardware-oriented fields in favor of computer science programs.

"The immigration problem is real," said Hershenson. "When I did my graduate research, 70 percent of the students in my group were from Iran; for the last couple of years, Iranians can't even come to the country."

Hutcheson agreed: "That's the American strength, bringing those people in. The diversity of our industry makes us strong, brings new ideas, [and] radical thinking."

A member of the audience of about 150 asked for a show of hands from those attendees who weren't born in the United States. The vast majority of people raised a hand.

A call for a national strategy

So what should the United States do, besides back down on restrictions on trade with China and be more open to skilled immigrants?

"I believe we should have a national strategy on semiconductors," said French. "And I believe we should invest as a country, through the government, in advanced technology for manufacturing semiconductors."

"If we focus as a country on being number one in semiconductor manufacturing," he continued, "we could do that for a small percentage of our military defense budget. I truly believe that we need to continue to be a leader in semiconductors if we want to be the leading economy in the world."

Rodriguez pointed out that a set of government policy recommendations released in April by the Semiconductor Industry Association talked about 5G, AI, and quantum computing, but not about a national strategy to support semiconductor manufacturing. That, he indicated, was a significant oversight.

Some audience members countered that various arms of the U.S. government do invest in semiconductor companies, but others pointed out that these initiatives, for the most part, come out of defense-related entities. Said one, "That's all well and good, but the defense department has a different economic model than commercial industry."

The missing investment dollars

Building semiconductor foundries is not cheap, several attendees pointed out. "Companies can't do it because payback analysis fails," French said. "And you can't do it with venture capital."

"Hardware companies have started avoiding using the word hardware. They are just saying it's a form factor that collects data."
—Ann Kim, Silicon Valley Bank

While the venture capital model doesn't make sense for semiconductor foundries, Hershenson pointed out that a lot of semiconductor innovation on other fronts has been funded by startups and venture capital.

"But," she said, "there's been a drought of it in the last 15 years. It used to be, you went to any Sand Hill [venture] firm and they had someone who knew something about semiconductors; now, most megafirms don't. So, how do we support innovation?"

"I can start a software company at Starbucks," she said. "I can't do a custom microprocessor without money."

Maybe, the panelists suggested, the industry needs to do better at marketing itself, making itself as cool as it was back in the days of the space race. Just how to do that, however, is not clear—nor will it be easy.

There's such a bias against hardware these days, Kim pointed out, that "hardware companies have started avoiding using the word hardware. They are just saying it's a form factor that collects data."

https://spectrum.ieee.org/view-from-the-valley/semiconductors/processors/china-trade-war-portends-period-of-pain-for-semiconductor-industry

CERTUS SEMICONDUCTOR
IN-KIND PARTNER PROFILE

Custom IO and ESD Solutions

Certus Semiconductor provides a unique niche to the semiconductor industry by providing custom IO solutions. Certus Semiconductor transforms the traditional concept of IO and ESD Libraries and IP by providing specifically targeted IO solutions to align with the needs of the customer and their product goals and target markets.

PERFORMANCE

Performance is addressed by our multi-protocol GPIO that can support a variety of standards with extended specs across multiple voltages, features, and interfaces, including our specialized high-speed die-to-die interface solutions.

AREA

Area is optimized by stripping away unnecessary features and by our proprietary ESD architectures, delivering better ESD performance in a smaller footprint. Additionally, our solutions can support multiple protocols on a single efficient design, reducing pin count requirements.

POWER

Power is optimized by offering IOs that can operate at different voltages selectable by the system; by creating dedicated IOs tailored for low-power operation; by offering sleep modes, latching data during sleep; by ensuring power sequence independence with built-in power-on-reset control; and by enabling fail-safe modes for when power-downs occur.

ROBUST ESD PERFORMANCE

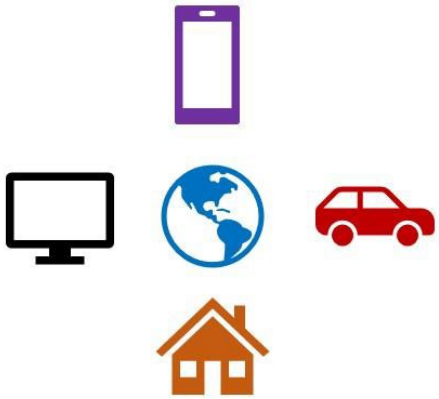
Robust ESD performance is challenging for many companies making new designs. Certus was founded by ESD and our results speak for themselves. Not only do we address standard ESD requirements such as HBM and CDM, but we also provide on-chip solutions for standards such as system-level IEC 6100-24-2 and Cable Discharge Events (CDE). Many of our standard IO designs exceed 2KV IEC. Certus also supports solutions for EOS.

CLOSE CLIENT RELATIONSHIPS

Certus works closely with our clients to provide custom solutions affordably and with fast turnaround. By leveraging our large IP database spanning geometries from 180nm to 12nm and applications from low-voltage CMOS to HV, we likely have a starting point from which we can affordably create the variations you need. Our building-block design style easily enables us to create configurations to fit a variety of cell sizes, aspect-ratios, pad arrangements, and packages

SPECIALTY IO SOLUTIONS

Specialty IO solutions are our strength. We hold 3.3V-5V digital & analog solutions in native 1.8V processes. We offer >20V switches in standard low-voltage CMOS technology, allowing for their direct integration with high-voltage analog, sensors, RF and MEMS solutions. Our full-custom RF and analog libraries target robustness, noise, distortion, low-capacitance, increased ESD, and more. We even have TSV (through-silicon-via) IOs. Whatever your application requires, we can probably make it!



THE INTERNET OF THINGS

The Internet of Things (IoT) is transforming the silicon industry from a traditional scaling path to a diverse ecosystem with applications spanning a range of technologies, performance, power and area. By using generic IO solutions you are likely leaving something on the table.

CERTUS SEMICONDUCTOR
IN-KIND PARTNER PROFILE

CONNECTING

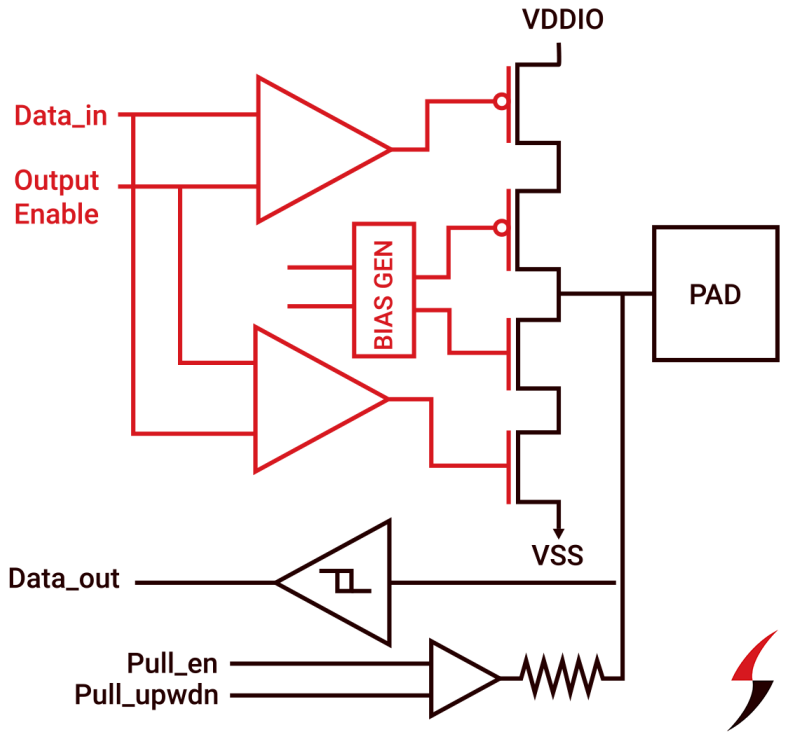
Connecting handheld devices, homes, cars, appliances, and items yet to be imagined requires a diverse range of IP, optimized across different points of the power-performance-area spectrum, as well as IP that can span into specialty technologies such as HV and MEMS. Custom IO & ESD solutions are inherently optimized for your desired application.

ABOUT CERTUS

The founder and Chief Technology Officer of Certus Semiconductor, Stephen Fairbanks, has worked in the semiconductor industry for 21 years. At Intel Corporation, he led the development of ESD and I/O libraries for what was then Intel's wireless, cellular, and mobile computing groups. Stephen also lead the development of I/O and ESD used on the initial and many subsequent generations of the wireless components (MAC basebands and RF Front Ends) for the Intel Centrino chipsets. In 2006, he founded SRF Technologies as an ESD and IO Consultant; since then, he has worked with over 93 companies in the semiconductor industry (including 6 of the top 10 semiconductor companies) and on 350+ products. Stephen helped develop ESD process design rules, ESD libraries, and or I/O libraries in all major nodes including 0.5um, 0.25um, 0.18um, 0.13um, 90nm, 65/55nm, 45/40nm, 32nm, 28nm, 22nm, 16nm, 12nm and 7nm processes. Stephen is also familiar with several specialty processes including: HV BiCMOS, Flash memory, FD-SOI, SiGe, SOI, SOS, and InP. Since 2009, Stephen has personally led the Certus Semiconductor design teams on 20 fully custom Certus IO Libraries.

https://certus-semi.com

28NM IO LIBRARY DATASHEET
GPIO BLOCK DIAGRAM



GPIO Features:

- Multi-voltage 1.8V / 3.3V switchable operation
- 25MHz, 75MHz, & 150MHz GPIO speed options
- Full-speed output enable
- Independent power sequencing
- Shorted output protection
- Schmitt Trigger receiver
- 60KΩ selectable pull-up or pull-down resistor
- ESD: 2KV HBM, 500V CDM3, 2KV IEC 61000-4-24
- Silicon-proven

BOSCH
ECOSYSTEM PARTNER PROFILE

BOSCH
Invented for life

Bosch helps to cultivate start-up technology for future IoT microchips

As new mobility, sensors and IoT electronics bring new demands, Bosch is partnering to develop more innovative and impactful semiconductor-centric solutions

To foster semiconductor-centric innovations, Bosch is now a strategic ecosystem partner with Silicon Catalyst, the world's only incubator focused exclusively on accelerating solutions for semiconductor startups.

Bosch has been developing and manufacturing semiconductors for more than 45 years.

Automation, connectivity and electrification are fueling growth in automotive semiconductors.

Bosch is building a 300mm wafer-fab in Dresden (Germany) to strengthen its leadership.

Plymouth, Mich. and Silicon Valley – In order to facilitate innovation and bring its expertise in semiconductor manufacturing and validation, Bosch has become a strategic ecosystem partner with Silicon Catalyst, a global start-up incubator headquartered in Silicon Valley focused exclusively on semiconductor-centric innovations and solutions. Through this collaboration, Bosch engages with early stage, innovative startups focused on creating higher performing, intelligent and power-efficient solutions in silicon, targeting future mobility, sensing and IoT applications.

"We are extremely pleased to be working with Bosch, as they are an industry leader bringing together comprehensive expertise in vehicle technology and offering complete mobility solutions that include hardware, software and services," said Pete Rodriguez, CEO of Silicon Catalyst. "The number of connected vehicles on the road is greatly increasing, creating unique opportunities for innovation, especially for semiconductor solutions."

The Silicon Catalyst ecosystem includes industry-leading companies as In-Kind Partners, expert advisors and investors specialized in semiconductors. The focus is guiding advancements in silicon from idea to prototype to product. Already more than 300 startup companies have engaged with Silicon Catalyst since April 2015.

Semiconductors – the heart of IoT and mobility

At the heart of new mobility, IoT and sensing technologies is an unsung hero - semiconductors. They are vital core components of all electronic and sensor systems. In the vehicle, semiconductors empower automation, connectivity and electrification advancements. In IoT, semiconductors improve the consumer experience for connected devices by enabling longer battery life.

Bosch has been developing and manufacturing semiconductors for more than 45 years. The supplier of technology and services is responsible for numerous innovations in semiconductors. This includes inventing the deep reactive-ion etching (DRIE) process, now more commonly known worldwide as the "Bosch process." Bosch has nurtured its expertise since, continuously improving its manufacturing process performance to become the undisputed leader today in microelectromechanical systems (MEMS) sensors design and production.

"Bosch is the only company equally at home in the automotive and semiconductor industries," said Tim Frasier, regional president of Automotive Electronics for Bosch in North America. "We have an unrivaled track record for deploying holistic automotive-grade solutions and applying our knowledge across adjacent markets."

Going beyond Moore's Law with more intelligent and power-efficient silicon solutions

In order to support a sustainable growth of semiconductor applications into the future, technology node advancements are no longer sufficient. In fact, the physical limit is being reached and semiconductors can no longer just get smaller. The semiconductor must become more intelligent and efficient.

"Our rich history in semiconductors makes Bosch an ideal business partner that can help to materialize and industrialize new ideas for those technologies," Frasier said. "The pace of innovation especially in mobility and IoT applications can't be tackled single-handedly. A dedicated and strong ecosystem for the development of new semiconductor solutions is what we sought and found with Silicon Catalyst."

Standard bearer for semiconductors in automotive

Within the global semiconductor market, applications for mobility are set to increase, driven by advancements in automation, electrification and connectivity. The global automotive semiconductor market was nearly $35 billion in 2017 and is expected to grow at more than eight percent per year from 2018 until 2027, according to Research & Markets. By 2027, the market will be worth nearly $77 billion globally.

Bosch has been applying its semiconductor expertise to vehicles since the 1970's, resulting in numerous smart applications for vehicles. Bosch holds over 1,500 patents and patent applications for engineering and manufacturing its semiconductors. In fact, every vehicle newly registered worldwide in 2016 had an average of more than nine Bosch chips on board.

For automotive use in particular, semiconductors must be able to withstand stresses such as strong vibrations and extreme temperatures for a vehicle's entire lifetime. Bosch uniquely understands the higher standards for development of automotive applications. It is especially about understanding the physical principles at work.

Bosch's current semiconductor portfolio focuses on microelectromechanical systems (MEMS), application-specific integrated circuits (ASICs), and power semiconductors and modules. Demand for higher functional integration will ensure more semiconductors with increasingly complex features.

Power semiconductors and modules are for instance at the heart of every hybrid or electric vehicle to transfer power from the battery to the electrical motors. Looking ahead, silicon carbide (SiC) power switches open new technical opportunities for better performance and greater range for electric vehicles

ASICs are integrated circuits tailored to a particular application thus enabling high functional integration and highly optimized performance vs. costs.

Bosch MEMS are the sensory organs of modern vehicles. They supply a vehicle's ECUs with important information regarding its handling, such as if the vehicle is braking or accelerating, or if it is skidding on a smooth road surface. The ESP electronic stability program uses this information to keep cars, trucks, and even motorcycles safely on track and in their lanes.

Beyond automotive – semiconductors as a key enabler for IoT and consumer applications

Bosch semiconductors have applications that extend far beyond the world of vehicles. Bosch MEMS-based sensors can be found in more than half the world's smartphones, and are indispensable for fitness trackers, drones, game consoles, and smart home applications. When it comes to MEMS sensors, Bosch is both a pioneer and the world's leading manufacturer.

One billion euros for one of the most advanced wafer fabs

Bosch is underpinning its growth strategy for semiconductors with the single largest investment in the company's history: it is putting some one billion euros into a new wafer fab in Dresden. Following a rollout phase, pilot manufacturing operations are expected to start at the end of 2021. Up to 700 associates will be involved in the highly automated manufacturing process, working to plan, manage, and monitor production. After Reutlingen, the Dresden plant will be Bosch's second wafer fab in Germany. With it, the company aims to expand its manufacturing capacity, and thus to further boost its competitive edge in global markets.

Additional information:

www.bosch-semiconductors.com

SILICON CATALYST ADVISOR PROFILE

Interview with Mark Ross

Q. YOU WORKED FOR AND IN COMPANIES RUN BY SOME OF THE LUMINARIES IN SILICON VALLEY INCLUDING STEVE JOBS, ANDY BECHTOLSHEIM, AND TJ RODGERS. WHAT WAS THAT LIKE?

A. I have had the privilege to work with and for incredible people throughout my career. The ones you list are obviously brilliant, similar in that they push you to do more than you think possible, and completely different in how they approach people and business.

Steve was a visionary product person who pushed to include technology that was 5+ years ahead of what was possible. He assembled incredibly talented teams and was able to unite us behind a "we are the best" and "we are changing the world" philosophy.

Andy is a consummate engineer, capable of distilling a collection of data into a cohesive architecture. He is also an insightful investor.

TJ is a renaissance man who can span device physics, chemistry, business, and politics and who pushed me to raise my thinking more than any other boss.

Being around them all made me a better engineer, businessman, manager, and thinker.

Q. YOU HAVE ENJOYED A DISTINGUISHED CAREER IN THE SEMICONDUCTOR INDUSTRY. AS A SILICON CATALYST ADVISOR, YOU ARE ONE OF THE OVER 150 SEASONED VETERANS SERVING TO HELP GUIDE AND ADVISE THE SILICON CATALYST STARTUPS WHICH WE CALL PORTFOLIO COMPANIES OR PC'S. PLEASE TELL US ABOUT YOUR BACKGROUND AND DON'T BE SHY?

MARK ROSS

PRODUCT DEVELOPMENT MANAGEMENT ARCHITECTURE

A. I started my career in 1984 after finishing my Bachelor's and Master's degrees and passing the PhD qualifying exam at Stanford. I wanted to "stop out" for a year before pursuing my PhD studies - that has turned out to be the longest year of my life! My first company was a startup, Weitek, designing full custom chips. I designed the first commercial CMOS multiplier and multiplier accumulator chips; most students don't realize that a 16 by 16 multiplier was an entire chip back then.

I went to Xerox PARC after an issue with a Bell 202 modem paused my next chip for more than a year and I didn't want to become a full time manager - I wanted to remain a technical contributor. In 1989, I was encouraged to join NeXT by a friend at PARC who went to NeXT and there I was hired by another Silicon Catalyst Advisor, Rich Page. The experience at NeXT set the stage in multiple ways for my subsequent career. Rich might not remember it, but he told me that building computers was a "social problem, not a technical problem" and that prompted me to look beyond technology into sociology and psychology as important factors in achieving success. At NeXT, I built the greatest computer you've never heard of. Today, it sits as a monitor stand (yes, really), reminding me what happens when you do everything right technically but fail in either of two other critical areas: marketing and most importantly, sales. That computer, the NeXT RISC Workstation (NRW), had user level device drivers, was the first computer to boot Unix on a PowerPC processor, and had the most efficient IO system of any workstation built during this time. When we shut down hardware at NeXT, I interviewed at only one company, our arch rival, Sun Microsystems, because I wanted to exorcise my demons for not achieving commercial success. There, I led the first three Ultra-SPARC workstation projects, all of which were commercially successful.

While no longer building full custom chips, ASICs were a critical part of this phase of my career. I did architecture, logic design, verification, and tool building throughout this period. I learned how to lead teams and moved up the management ladder. I joined Granite systems, moving my focus from computers to networking where I built the first gigabit ethernet NIC, the world's first multi-channel gigabit

> Many of the companies that apply to Silicon Catalyst have good ideas and they need help shaping those ideas into success. They also don't always appreciate that the things you don't know will often get you into trouble - a great technical idea won't always lead to success.

ethernet switch, and created a memory technology that would generate hundreds of millions of dollars per year in revenue: the TCAM. TCAM stands for Ternary Content Addressable Memory and was widely used in processors for Translation Lookaside Buffers. Unlike traditional memory where you provide an address and get the data at that address, a TCAM does a parallel lookup of all possible values and returns the address of any matching entry if there is one. The "ternary" part means that for any bit being compared, a check may be made for "0", "1", or "X" meaning "don't care". TCAMs were known in networking but considered too large and slow to work. I worked with an outside startup to prove this wrong.

Granite was purchased by Cisco as their 13th acquisition and I stayed at Cisco through 2001. After leaving, I was consulting and worked with one of the early TCAM startups that had been acquired by Cypress. After that year, Cypress made me an offer I couldn't refuse: join as their CTO working for TJ Rodgers. That experience was one of the best of my career. Cypress values learning, multi-disciplinary thinking, and results. I have never worked for anyone who encouraged me to raise my thinking the way that TJ did.

I left Cypress in 2005 to co-found a startup working with someone I'd known back in my NeXT days. I had always built chips and systems that used chips and this was a further push up the stack into systems companies. We built connected music players similar to what later became the iPod Touch and the portable equipment used by Sirius Satellite Radio. That company was sold to Dell where I remained through 2009. After a year, I co-founded another startup, Striiv, building wearable fitness monitors. Our goal was to use personal informatics plus behavior change to positively effect peoples' lives. Most of the major chip companies we used asked for advice on upcoming chips so advising chip companies has been ongoing for some time.

I left Striiv in early 2018 and have been working on "what's next" since then. I came across Silicon Catalyst because another advisor knows Pete Rodriguez and suggested that a conversation might be worth both our times. That lunch was the start of my involvement with Silicon Catalyst. I'm grateful to have met Pete, the Silicon Catalyst Team, and the advisors who make up the ecosystem.

Q. WHAT ARE YOUR INTERESTS OUTSIDE OF SEMICONDUCTORS.

A. Photography, travel, art, and humpback whales. If you like humpback whales, book a trip to Tonga and go swimming with them. I just came back from a trip to Tonga and it is an experience you'll never forget.

Q. AT SILICON CATALYST, WE MARVEL AT THE TALENT THAT LIES WITHIN OUR ADVISOR ECOSYSTEM. WHAT ATTRACTED YOU TO BECOME AN ADVISOR?

A. I joined because I believe in the mission of helping and recognize the difficulty most semiconductor startups face. Additionally, the advisor network is itself a reason to become involved. It is filled with brilliant, successful people who are fun to be around.

Q. YOU TRULY ARE AN ASSET TO BOTH SILICON CATALYST AND ITS PORTFOLIO COMPANIES. PLEASE TELL OUR READERS WHAT A SILICON CATALYST ADVISOR DOES.

A. Advisors are a source of knowledge, experience, and intuition about what works and what doesn't work in building great companies. We listen, encourage, advise, and sometimes roll up our sleeves and do work to help startups succeed. Many of the companies that apply to Silicon Catalyst have good ideas and they need help shaping those ideas into success. They also don't always appreciate that the things you don't know will often get you into trouble - a great technical idea won't always lead to success. I learned this painfully with my NeXT experience. Also, relating to that, Rich Page's comment about "social problems" in addition to "technical problems" makes me constantly think about the people, relationships, and leadership required for success.

Q. ARE YOU CURRENTLY ENGAGED WITH ANY OF OUR STARTUPS? IF SO, WHO AND WHAT ARE YOU DOING FOR THEM.

A. Yes, I'm currently involved with one Silicon Catalyst Startup: Mentium. I am playing multiple roles right now including making key introductions, advising on system architecture, company and product goals, and even writing code. While perhaps not typical of all advisors, I find that sometimes

there is no substitute for being able to quickly prototype an idea to show what can be done. I'm also working with another company that will apply to Silicon Catalyst in the near future and worked with another that chose to become an In-Kind Partner.

Q. MANY OF OUR READERS ARE UNFAMILIAR WITH THE LEVEL OF ENGAGEMENT SOME OF OUR ADVISORS HAVE WITH OUR STARTUPS. YOU ARE AWARE THAT JOHN EAST WENT FROM SILICON CATALYST ADVISOR TO BOARD MEMBER AT SPARK, A SILICON CATALYST PORTFOLIO COMPANY. IS THERE ANY COMPENSATION YOU RECEIVE FROM A STARTUP AS AN ADVISOR?

A. I did realize that about John East and it just goes to show the advisor network has value on so many levels. Most but not all Silicon Catalyst companies are cash strapped when they apply, so mostly the compensation is in the form of equity. It has the added benefit of aligning goals since the payout comes when the company is successful.

Q. AS YOU KNOW, SINCE ITS INCEPTION IN 2015, SILICON CATALYST HAS SCREENED NEARLY 300 STARTUP COMPANIES. THIS IS A TWO PART QUESTION. WHERE DO YOU SEE SILICON CATALYST FITTING INTO THE SEMICONDUCTOR STARTUP ECOSYSTEM AND WHAT DO YOU THINK OF THE QUALITY OF THE STARTUPS WE HAVE ADMITTED?

A. Silicon Catalyst is completely unique in its outlook, its ability to bring so many In-Kind Partners, and its advisor network. Also, unlike traditional VCs, Silicon Catalyst seems to do more directly and through the advisor network to help companies succeed. I am pleased with the level of companies that have been admitted and having been a part of multiple screening sessions can attest that the quality of applicants has reached a very high level.

Q. WHAT ARE THE FIVE MOST IMPORTANT THINGS A STARTUP NEEDS TO FOCUS ON IN THE SEED STAGE?

A.

- Time to revenue - you need a plan for this even at the seed stage.
- The team - make sure they have a shared vision; great people without a shared vision won't perform at optimal efficiency and rarely work out.
- Demonstrating the core value of the business idea.
- Adding advisors, partners, or board members who can augment your team to fill gaps and push you to be better in your core areas of strength.
- Competitors - hopefully you have some and you need to know what they are capable of doing. Make sure you consider where they will be, not where they are when understanding your advantages.

Q. WHAT IS THE BEST SINGLE PIECE OF ADVICE YOU WOULD LIKE SOMEONE TO TAKE AWAY FROM THIS INTERVIEW?

A. Focus on time to revenue. It is a single thought that will encourage you to

- identify, cultivate, and satisfy your customers
- build a product not just a technology
- build the team to realize this vision.

Q. WHAT'S YOUR FAVORITE MOVIE?

A. I have several but let me pick one: Gattaca. Interesting insights, dystopian future, unlikely hero, and most of all, perseverance in spite of everything. Don't save anything for the swim back! If you don't understand the reference, watch the movie.

Q. WHERE'S THE BEST VACATION SPOT IN THE WORLD FROM YOUR PERSPECTIVE?

A. Any place with culture, history, and photography opportunities galore. Japan and Portugal are two great examples.

SILICON CATALYST **ADVISOR MEETING**

SILICON CATALYST ANGELS LAUNCH EVENT

SEMICONDUCTOR FORUM SPRING 2019

SPRING 2019 **PORTFOLIO UPDATE**

VENTURE UNIVERSITY **FRONTIERTECH INVESTING SPRING 2019**

VC PC PITCH

EVENTS

OCT. 22 - 24, 2019
MEMS & SENSORS EXECUTIVE CONGRESS - MSEC 2019

San Diego, California, United States

OCT. 22 - 24, 2019
MOBILE WORLD CONGRESS

Los Angeles, California, United States

OCT. 28, 2019
SILICON CATALYST ANGELS MEMBER MEETING

NOV. 12 - 15, 2019
SEMICON EUROPA 2019

Munich, Germany

DEC. 7 - 11, 2019
IEEE INTERNATIONAL ELECTRON DEVICES MEETING

San Francisco, California, United States

2019

DEC. 11 - 13, 2019
SEMICON JAPAN 2019

Tokyo, Japan

JAN. 7 - 10, 2020
CES LAS VEGAS

Las Vegas, Nevada, United States

FEB. 5 - 7, 2020
SEMICON KOREA 2020

COEX, Seoul, South Korea

2020

FEB. 16 - 20 2020
INTERNATIONAL SOLID-STATE CIRCUITS CONFERENCE 2020

San Francisco, California, United States

FEB. 24 - 27 2020
MOBILE WORLD CONGRESS BARCELONA 2020

Barcelona, Spain

Silicon Valley Bank and Silicon Catalyst Establish Strategic Collaboration

Relationship will enable business growth for startups and early-stage semiconductor companies

Santa Clara, CA., May 30, 2019 - Silicon Catalyst, the world's only incubator focused exclusively on accelerating solutions in silicon, and Silicon Valley Bank (NASDAQ: SIVB), the bank of the world's most innovative companies and their investors, announced the establishment of a strategic collaboration for startups and emerging companies in the semiconductor industry.

The collaboration spans multiple levels of involvement between the two companies, as SVB has become the preferred banking partner offered to Silicon Catalyst's Portfolio companies. The relationship includes the introduction of startup companies in the Incubator to SVB, working with their innovation centers around the world. Incubating companies will also have access to the "Startup Bundle" of services from SVB. Additionally, SVB will be hosting events at their offices in Silicon Valley and their other facilities in high-tech regions of the semiconductor industry to provide the semiconductor ecosystem with valuable insights, observations and solutions from thought leaders in the industry.

"SVB has helped countless semiconductor startups grow over the past three decades, and our collaboration with Silicon Catalyst will help us continue to do so. Silicon Catalyst and SVB are aligned in our vision to support businesses that invent the future," said Joseph Restagno, Managing Director, Silicon Valley Bank.

"We welcome Silicon Valley Bank as our preferred banking partner for the companies in our Incubator," stated Pete Rodriguez, CEO of Silicon Catalyst. "Our Incubating companies have access to world-class advisors, design tools, semiconductor manufacturers, funding sources and marketing acumen needed to successfully launch and grow their businesses. Now, with the addition of SVB, these companies can leverage our relationship with a global banking powerhouse whose rich tradition of enabling innovative companies is without parallel."

About Silicon Valley Bank

For more than 35 years, Silicon Valley Bank (SVB) has helped innovative companies and their investors move bold ideas forward, fast. SVB provides targeted financial services and expertise through its offices in innovation centers around the world. With commercial, international and private banking services, SVB helps address the unique needs of innovators. Learn more at svb.com.

Silicon Catalyst Announces Three Newly Admitted Startups to Semiconductor Incubator: EcoCircuits, Mentium and Quadric

Silicon Valley, CA - July 31, 2019 - Silicon Catalyst, the world's only incubator focused exclusively on solutions in silicon, announces the admission of three early-stage companies into the semiconductor industry's highly acclaimed incubation program. The three companies include two at seed-stage and Silicon Catalyst's first post-Series A company:

• EcoCircuits BV (seed stage) based in Nijmegen, Netherlands Smart and efficient power management solutions

• Mentium Technologies (seed stage) based in Santa Barbara, California Analog in-memory computation for AI

• Quadric (post Series A) based in Burlingame, California Edge processors for real-time AI

Silicon Catalyst uniquely provides startups with goods and services from a comprehensive network of In-Kind Partners (IKPs) to dramatically reduce the cost of chip development. Now in its fifth year of operation, Silicon Catalyst has reviewed close to 300 early-stage companies and has admitted a total of 21 startups into the incubator. These Portfolio Companies can utilize tools and services from a variety of Silicon Catalyst's In-Kind Partners (IKP) design and test vendors, as well as access to shuttle / MPW runs with TSMC foundry services. Companies accepted into the incubator have 24 months of free or significantly discounted access to these IKP's tools and services during the incubation period. The startups can tap into the rapidly expanding Silicon Catalyst network of Advisors and investors. Additionally, incubating companies can work with the newly established Silicon Catalyst Angels group to assist in funding their business growth.

"It's with great pleasure that we welcome these three, exciting early-stage companies into our incubator, as they are developing leading edge solutions spanning the edge computing, artificial intelligence and power management segments. Their innovative products are poised to significantly improve overall performance and cost-effectiveness across many industries and applications," stated Pete Rodriguez, CEO of Silicon Catalyst. "In addition to the fact that we've now crossed the 20 company threshold of incubating companies, we've now also achieved two significant company milestones; our first European-based company, EcoCircuits,and although Silicon Catalyst has had several portfolio companies enter our incubator as seed-stage startups and exit our program with significant Series A funding, Quadric is the first post Series A company admitted to our incubator."

New Portfolio Companies in the Incubator:

EcoCircuits

EcoCircuits BV - Nijmegen, Netherlands: Bert de Koning, CEO and co-founder

EcoCircuits has developed patented Power Management chip technology that enables a significant increase of battery lifetime for wireless IoT devices. The EcoCircuits Battery Booster chip offers an innovative solution to improve the tradeoff between operating lifetime and power burst requirements for wireless transmission applications, resulting in higher reliability, longer lifetime and smaller battery size. The Battery Booster solution enables lower overall cost and delivers a breakthrough in miniaturization. Further company information can be found at www.ecocircuits.com

MENTIUM TECHNOLOGIES

Mentium Technologies - Santa Barbara, California: Mirko Prezioso, CEO and co-founder

The company's Analog Computing Memory (ACM) is based on Non-Volatile Memory devices used to carry out analog in-memory computation for AI / neural networks, eliminating the memory transfer bottleneck and exploiting the inherent efficiency of analog computation. Analog computing has previously suffered from technical limitation of dealing with variations and noise, leading to low precision computation. Mentium has solved these issues and the ACM solution has demonstrated superb resilience to temperature and device variations, delivering extremely fast and efficient AI computation. Further company information can be found at www.mentium.tech

quadric

Quadric - Burlingame, California: Veerbhan Kheterpal, CEO and co-founder

Quadric is building the industry's only end-to-end architecture optimized for real-time edge computing. The company's product family can be incorporated into a wide range of products that require instantaneous processing of real-world data streams with maximum speed with minimal power requirements. The company sells single-board supercomputers that are plug-and-play compatible with a broad range of after-market sensors. Quadric has a raised $15M to date. Their Series A was led by Denso, the tier 1 automotive company, who will also be one of Quadric's customers for all levels of autonomous driving solutions. Other key investors include Leawood VC, Pear VC, Uncork Capital, SV Angel, Cota Capital, and Trucks Venture Capital.

"As the earliest investor in Quadric, we invested in the company because of the massive market opportunity for edge computing and the technical talent of the co-founders," said Mar Hershenson, Managing Partner at Pear VC. "The team is experienced with developing and shipping sophisticated processing technology with limited start-up resources. In just two years they have gone from zero to early system prototypes. Joining with Silicon Catalyst and their extensive network of ecosystem partners will further enhance Quadric's business growth opportunities."

More information can be found at www.quadric.io

Silicon Catalyst Expands Activities to Israel

Incubator for Semiconductor startups expands to key region for innovation

Santa Clara, California and Tel Aviv, Israel, September 3, 2019 - Silicon Catalyst, the world's only incubator focused exclusively on accelerating solutions in silicon, today announced the appointment of Israel-based semiconductor executives Danny Biran and Moshe Zalcberg to its advisory team to support semiconductor startups in the country.

Silicon Catalyst uniquely provides startups with goods and services from a comprehensive network of In-Kind Partners (IKPs) to dramatically reduce the cost of chip development. Now in its fifth year of operation, Silicon Catalyst has reviewed close to 300 early-stage companies and has now admitted a total of 21 startups into the incubator. These Portfolio Companies utilize In-Kind Partner (IKP) goods and services including design tools, simulation software, design services, foundry PDK access and TSMC CyberShuttle® runs, test program development and tester access. Companies accepted into the incubator have 2 years of no-cost or significantly discounted access to these IKP goods and services during the incubation period. Additionally, the startups can tap into the world-class Silicon Catalyst network of Advisors and investors.

The new Israel-based advisors bring extensive semiconductor industry experience and business success to local entrepreneurs and early stage companies.

Danny Biran

Previously a Senior Vice President of Altera Corporation until its acquisition by Intel in 2016 and before that held senior leadership positions at Silverback Systems, LSI Logic and National Semiconductor. In addition, he served as VP, International Division of the Israel Innovation Authority and as a member of the board of directors of the Global Semiconductor Alliance (GSA).

Moshe Zalcberg

With more than 20 years of experience in the semiconductor and design automation industries, Moshe is currently CEO of Veriest Solutions, a leading design engineering services company. He has previously served as General Manager Israel and world-wide VP of Business Development with Presto Engineering. Moshe also spent over 12 years at Cadence Design Systems, in roles that included General Manager, Israel and Head of European Professional Services.

"Israel is a hotbed of innovation and has an impressive track record of creating successful semiconductor start-ups. It is only natural that as Silicon Catalyst expands internationally we want to focus on Israel," stated Pete Rodriguez, CEO of Silicon Catalyst. "We believe that the value Silicon Catalyst and its partners offer to startups, along with the local support by Danny and Moshe, will help more entrepreneurs overcome the challenges of getting early funding for semiconductor companies."

Dov Moran, the Managing Partner of Grove Ventures and one of Israel's most prominent hi-tech leaders, entrepreneurs and investors, add: "as Israel excels in semiconductors, I am happy to see Silicon Catalyst's activities expanding to Israel, helping startups reach the prototype stage earlier. Partnerships with foundries and design tool vendors are crucial to such startups, and any activity that enables better access to these elements is blessed. I hope Silicon Catalyst will help us see, in the coming years, more and more start-ups in this area, striving to create additional success stories like Mobileye, Mellanox and M-Systems."

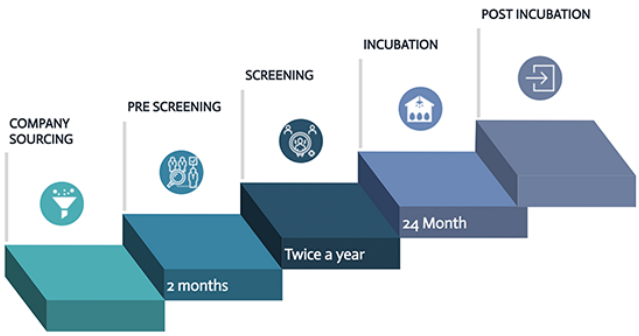
Meet-and-Greet at the SiFive Seminar

Silicon Catalyst will be participating at the upcoming SiFive Tech Symposium on Thursday September 5th at the Daniel Hotel Herzliya, with a presentation by Danny Biran during the morning session. Both Danny and Moshe will be available to meet with attendees to provide information about the newly launched operations in Israel. More details about the event can be found at: https://sifivetechsymposium.com/agenda-israel/

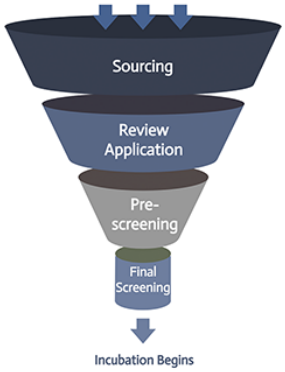
Si Strategic Ecosystem Partners

Si In-Kind Ecosystem Partners

The Silicon Catalyst Process™



INCUBATOR SELECTION PROCESS



SOURCING
Companies are sourced from Silicon Catalyst Ecosystem.

REVIEW APPLICATION
Companies apply to Silicon Catalyst via Proseeder.

PRESCREENING
Silicon Catalyst ecosystem members will review companies.

Final SCREENING
A larger group of ecosystem members will review applicants to determine best fit for Silicon Catalyst Incubator admission.

24-MONTH INCUBATION

BEGINNING OF INCUBATION
Develop a customized 24 month incubation plan covering the following:

- Advocate and Advisor engagement
- Product Planning and In-Kind services connection to support product development
- Product Market Fit
- Operational Planning
- Fundraising Plan

DURING INCUBATION
Regular interaction with a dedicated Silicon Catalyst advocate and advisor

- Development of comprehensive fundraising Deck
- Periodic Status Update to ecosystem
- Assist with staffing
- Connect with In-Kind Partners
- Connect with investors
- Connect with Strategic Partners

INCUBATOR CURRICULUM

PROBLEM/SOLUTION
Clearly articulate Problem or opportunity.
Define your solution

GO TO MARKET
How to target and reach your customer
Customer traction
Sales

TEAM
Building a credible and capable team

MARKETING OPPORTUNITY
Market opportunity
Potential Customers
Competition

LEGAL
Corporate
Intellectual Property

FINANCIAL
Create financial plan
Create funding timeline to support plan

About Us

Silicon Catalyst is the world's only incubator focused exclusively on accelerating solutions in silicon. We address the challenges faced by these startups while guiding them from idea to prototype, and then to product. Close to 300 startup companies have engaged with Silicon Catalyst since April 2015, and we have admitted 21 exciting companies.

Silicon Catalyst exists to help semiconductor startups succeed. We have created a growing ecosystem of In-Kind partners, industry-leading companies, expert advisors, investors, leading universities and industry organizations such as the Global Semiconductor Alliance and SEMI, which enables our startups to form deep relationships with people that provide value to their long-term success.

We provide the startups we incubate with several millions of dollars worth of goods and services from our network of industry-leading In-Kind partners to dramatically reduce the cost of development. These goods and services include EDA tools, PDK access, foundry wafers, test equipment, design services, and other valuable technical and business capabilities which include, but are not limited to, software development, patent filing, and financial management.

Silicon Catalyst startups interact with a valuable network of expert advisors. In addition, our strategic partners share their experience and actively look for opportunities to work together with our startups.

Our two-year incubation program also provides a path to funding through our connections with venture capitalists, strategic investors, individual angel investors, angel investment groups, and government agencies that provide grants.

In our first year we were awarded the prestigious UBM Canon Startup Company of the Year, in anticipation of our impact on the semiconductor industry. We are proud to have created a broad ecosystem which provides our startups with the greatest opportunity for a successful exit.

Silicon Catalyst Angels was formed to foster the startup companies admitted into the Silicon Catalyst incubator. Comprised of seasoned semiconductor veterans who bring with them a wealth of knowledge along with their ability to invest they are driven by passion and a desire to 'give back'. Our members understand the hardware space thanks to a lifetime of engagement in the industry. When you couple our members enthusiasm, knowledge, and broad network of connections with companies that have been vetted and admitted to Silicon Catalyst, you have a formula that is to date, non existent within the investment community.

A VALUABLE RESOURCE FOR THE SEMICONDUCTOR STARTUP COMMUNITY

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