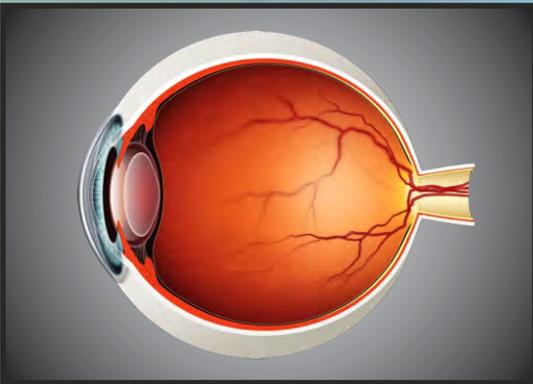




## Edge Computing Top Influencers

The Edge50 showcasing the 50 personalities who are leading edge computing through charting new innovations or technological breakthroughs, sheer investment or business acumen or exceptional entrepreneurial skillsets



## Disrupting Eye Healthcare

About 40 Startups tackling eye disease:

- Glaucoma
- Dry eye
- Cataracts
- Retina
- Diagnostic & tracking
- Telemed & telerefraction



## Rugged Solutions for Radar and Sonar Processing

Meeting Military Data Signal Analysis  
Imperatives

Radar and Sonar Processing using  
VPX and CompactPCI Standard Architecture



## Airbus Abandons Iconic A380 Superjumbo

Barely a decade after the double-deck, 500-plus-seat plane started carrying passengers, Airbus says it doesn't have enough customers to sustain production

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- Disrupting Eye Healthcare
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Daniel Dierickx  
CEO & co-Founder  
at e2mos  
Acting Chief Editor



Over 3 Decades  
Semiconductors & Computer  
Systems Market Expertise

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## White Paper

# Rugged Solutions for Radar and Sonar Processing

## Meeting Military Data Signal Analysis Imperatives



## Radar Processing

Synthetic aperture radar (SAR), phased array radar, and hybrid radar systems are prevalent in military information gathering. Applications include air-defense systems, antimissile systems, aircraft anti-collision systems, ocean surveillance systems, altimetry and flight control systems, and guided missile target locating systems. The suitability for GPGPU acceleration in this space dates back nearly a decade. Consider the benchmarking results of Peter Morris, et. al., from India's Defense Research & Development Organization, which compared an Intel® Xeon® processor-based system with eight NVIDIA Quadro FX 3800 GPUs (launched in 2009) against a PowerPC equivalent. The GPGPU-driven system realized acceleration rates for various radar tasks (data conditioning, MTI, Doppler processing, etc.) from 16X to 82X.

Consider just one example of current developments in military radar applications: The U.S. Navy recently announced a \$3 million contract to design a GPGPU-based upgrade to the Lockheed Martin F-35 Lightning II joint strike fighter's Block 4 radar. Upgrades will include a wide-area, high-resolution SAR mode to the craft's existing Northrup Grumman APG-81 radar. The resulting upgrades, due in two stages in 2021 and 2023, will yield "Big SAR" capability able to capture a significantly larger ground area than what is possible with current systems. This will aid in reconnaissance and targeting, with GPGPU-driven processing allowing the system to handle the much larger data load.

Within the military computing space, VPX (also known as VITA 46, of which there are now many sub-specifications) has emerged as a popular Eurocard/ backplane/chassis technology for highly compact, dense computing platforms. VPX switched fabric backplanes provide high data throughput that allows for simultaneous operations on large data sets. ADLINK is one of the key members of the VME International Trade Association (VITA) VPX Working •

Group that designs and promotes VPX specifications, and ADLINK maintains an ever-evolving roster of VPX and similar computing products well-suited to military signal analysis applications.

### **GPGPU-based**

ADLINK GPGPU-based products provide high-tech radar systems with digital signal processing and machine learning capabilities able to extract useful information from very high noise levels.

These products include: see next page.





## Rugged Solutions for Radar and Sonar Processing

... from previous page

### For Radar Processing



#### **VPX3010**

Designed for rugged 3U enclosures, the VPX3010 processor blade features three CPU options: the Intel® Xeon® D-1559 (12-core, 45W TDP), Intel® Xeon® D-1539 (8-core, 35W TDP), and Intel® Pentium® D1519 (4-core, 25W TDP). The VPX3010 provides a power-efficient processor base on which can be added a complementary GPU solution, such as the VPX3G10 or the XMC-G1050TI through the XMC interface.



#### **VPX Graphics Card**

The 3U VPX GPGPU blade embeds dual-channel GDDR5 memory alongside the NVIDIA GPU. Featuring hundreds of processing cores and CUDA compatibility, the VPX graphics card is available in conduction-cooled (R) and air-cooled (A) variants.



#### **cPCI-6940**

For various reasons, including legacy investment support, some solutions may fare better using CompactPCI rather than VPX. Like the VPX3010, the ADLINK cPCI-6940 processor blade with Intel® Xeon® processor D-1500 and AMD Radeon™ E8860 GPU in 6U form factor offers a high-performance foundation for radar processing systems.





## Rugged Solutions for Radar and Sonar Processing ... from previous page

### For Sonar Processing

Within the sonar sphere, digital signal processing can extend to analysis of signals from towed and fixed acoustic arrays, sonobuoys, torpedo guidance, and other systems.

Applications include the MK-48 torpedo, the Poseidon P-8, and autonomous underwater vehicles (AUVs). As with radar, GPGPU processing can perform the herculean task of cutting through "salt and pepper noise" in a far faster, efficient manner than CPU-only computation. This was proven by the University of Catania's Placido Salvatore Battiato when he benchmarked real-time image and

acoustic workloads comparing Intel® Core™ i7-4510U (2 cores), NVIDIA GeForce 820M (96 cores, entry-level at the time), and NVIDIA GeForce GTX 480 (480 cores, mid-level at the time) platforms. Not surprisingly, the GTX 480 trounced its rivals.

ADLINK's broad range of GPGPU products provide sonar receiver designers with multiple processing options based on SWaP considerations. A sampling of these includes:

#### VPX6000

When SWaP priorities allow for more leniency in form factor, the 6U VPX form factor delivers the most compute performance per rack unit for GPGPU applications.

ADLINK's VPX6000 harnesses up to two Intel® Core™ i7-4700EQ (4-core, 47W TDP), providing significant processing horsepower that remains within the bounds of conduction-based cooling.

However, as the Core™ i7 only provides integrated Intel graphics, a companion GPU card is still required for a full GPGPU solution.

#### XMC Graphics Module

The XMC standard, also known as Switched Mezzanine Card, is one type of PCI Mezzanine Card (PMC) defined by the VITA 42 standard.

XMC specifies multiple high-speed serial connection formats and offers an easy way to add modular, cutting-edge I/O options to a platform without the heavy investments of a custom solution.

ADLINK's XMC features surface-mounted GDDR5 memory and an NVIDIA GPU. Various SKUs offer display output options as well as conduction or air cooling.



**ADLINK**  
Worldwide Contact List



# Disrupting Eye Healthcare

By CBINSIGHTS

Are your eyes the window to your soul? Perhaps. And they're certainly a window to your health, offering insight into a host of diseases. We dive into the companies using tech to improve your vision.

The eye industry is attracting more attention than ever.

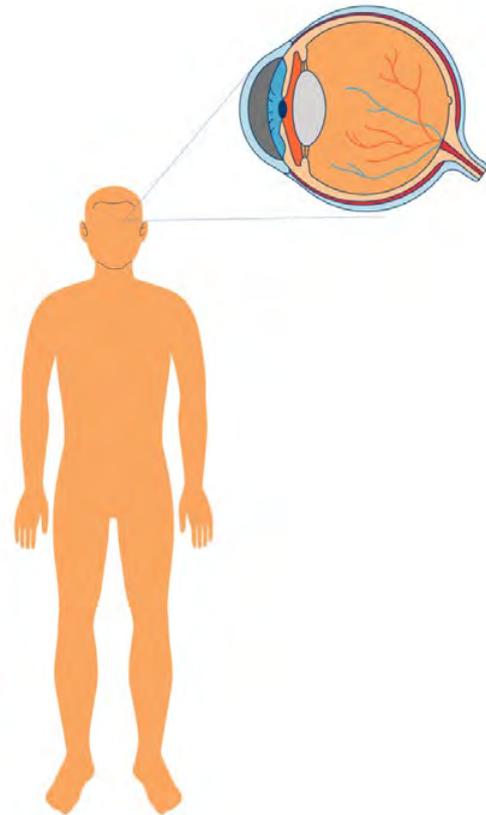
As healthcare technology evolves, emerging companies are offering new (and often less invasive) treatments for common eye diseases like glaucoma, as well as reimagining existing technologies as simple as eye drops.

In this report, we use CB Insights data to dive into the startups leveraging tech to tackle eye disease, emerging treatments in eye care, and how the eye can be a gateway to understanding full-body health.

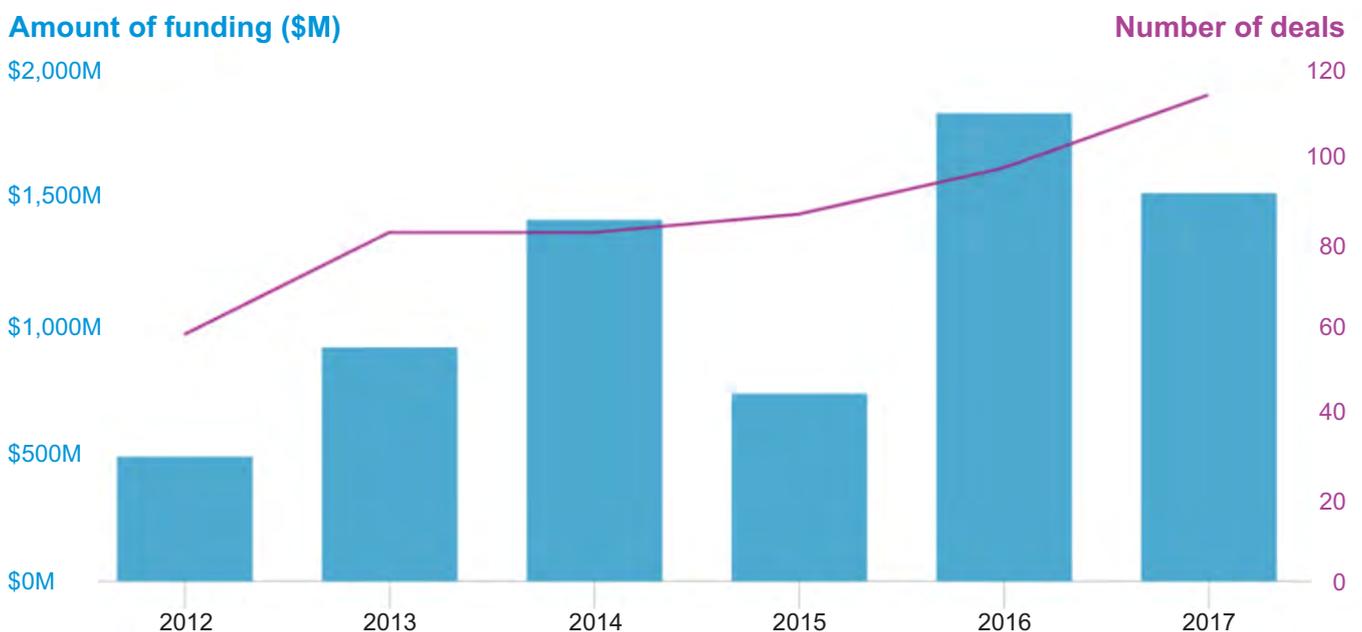
Vision provides a major opportunity for companies and investors to capitalize on.

Funding and deals have trended upward over the past five years. Last year, there were 114 deals in the eye health space, totaling \$1.5B in funding.

Given the new technologies on the horizon, we expect the pace of investment and disruption to only accelerate.



## Deals to the eye health space continue to rise

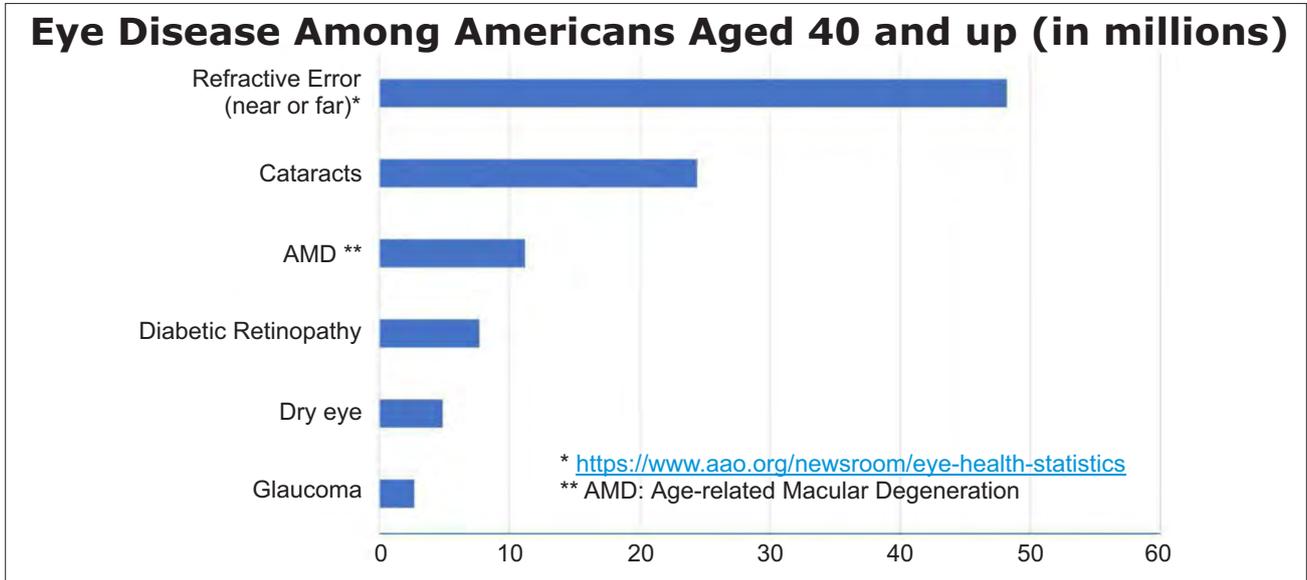


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## Startups tackling eye diseases

Our eyes are susceptible to many diseases, linked to both hereditary and environmental conditions. Some of the most prevalent eye diseases for Americans aged 40+ include refractive errors (e.g. near- or farsightedness), cataracts, and retinal diseases like diabetic retinopathy.



## Startups Promoting Eye Health

Below, we highlight the companies leveraging tech to tackle these common diseases and promote eye health. This market map consists of private, active companies only and is not meant to be exhaustive of the space. Categories are not mutually exclusive, and companies are mapped according to primary use case.

### Catarats

- AcuFocus
- LensGen
- ATIA VISION
- PowerVision
- VIEWPOINT THERAPEUTICS
- IanTech
- RxSIGHT

### Diagnostic/Tracking

- Verana Health
- EyeQue
- neurovision
- gobiquity
- D-EYE
- RightEye

### Dry Eye

- tearfilm innovations
- SILKTECH
- Azura Ophthalmics
- LOYSER POINT

### Retina

- maculogix
- HORAMA
- IDx
- fixium vision
- ocugen
- iBIONICS

### Telemed/Telerefraction

- WARBY PARKER
- 20/20NOW
- SimpleContacts
- iris
- opternative
- SMART VISION LABS
- Retina Labs

### Glaucoma

- QURA
- CAMRAS
- RENETX BIO
- IVANTIS
- SENSIMED
- MicroOptx Medical
- IOP

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The Glaucoma, Dry Eye, and Cataracts categories contain companies addressing these specific conditions, while the Retina category more broadly includes startups working on various retinal diseases.

The Diagnostic/Tracking and Telemed/Telerefraction categories both contain companies working on a wide range of diseases and conditions, offering services such as vision exams and products like prescription glasses and contacts.

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In case of problems sent request to [mgt@e2mos.com](mailto:mgt@e2mos.com)

## Top investors across the eye space

There is a fairly consistent group of investors making bets within the eye space; we round up the top 15 below.

Investors were chosen based on their number of investments into eye health from 2012 to 2018.

Versant led with 53 investments, followed by SV Health Investors with 38 and InterWest Partners with 29. The remaining investors made between 15 – 25 investments in the eye space.

TOP 15 EYE HEALTH INVESTORS (By # OF INVESTMENT ROUND, 2012 - 2018)		
Count	Rank	Company
1	1	Versant Ventures
2	2	SV Health Investors
3	3	InterWest Partners
4	4	De Novo Ventures
5	5	Domain Associates
6	6	Polaris Partners
7	6	Johnson & Johnson Innovation
8	8	OrbiMed Advisors
9	9	New Enterprise Associates
10	10	Morgenthaler Ventures
11	11	The Carlyle group
12	11	Essex Woodlands
13	13	Accuitive Medical Ventures
14	13	Kleiner Perkins Caufield & Byers
15	15	Delphi Ventures
16	15	Prism VentureWorks
17	15	Medimmune Ventures

## ARTIFICIAL INTELLIGENCE

Artificial intelligence is also being used to diagnose vision issues, as AI in ophthalmology moves to reduce the need for a physician during the diagnostic process.

In April, the [FDA](#) approved IDx-DR, an autonomous diagnostic AI system that's able to detect diabetic retinopathy by analyzing retinal images. It does not require a clinician to interpret the results, thus enabling faster, simpler detection.

Assuming the images are of sufficient quality, the algorithm reports back to specific results:

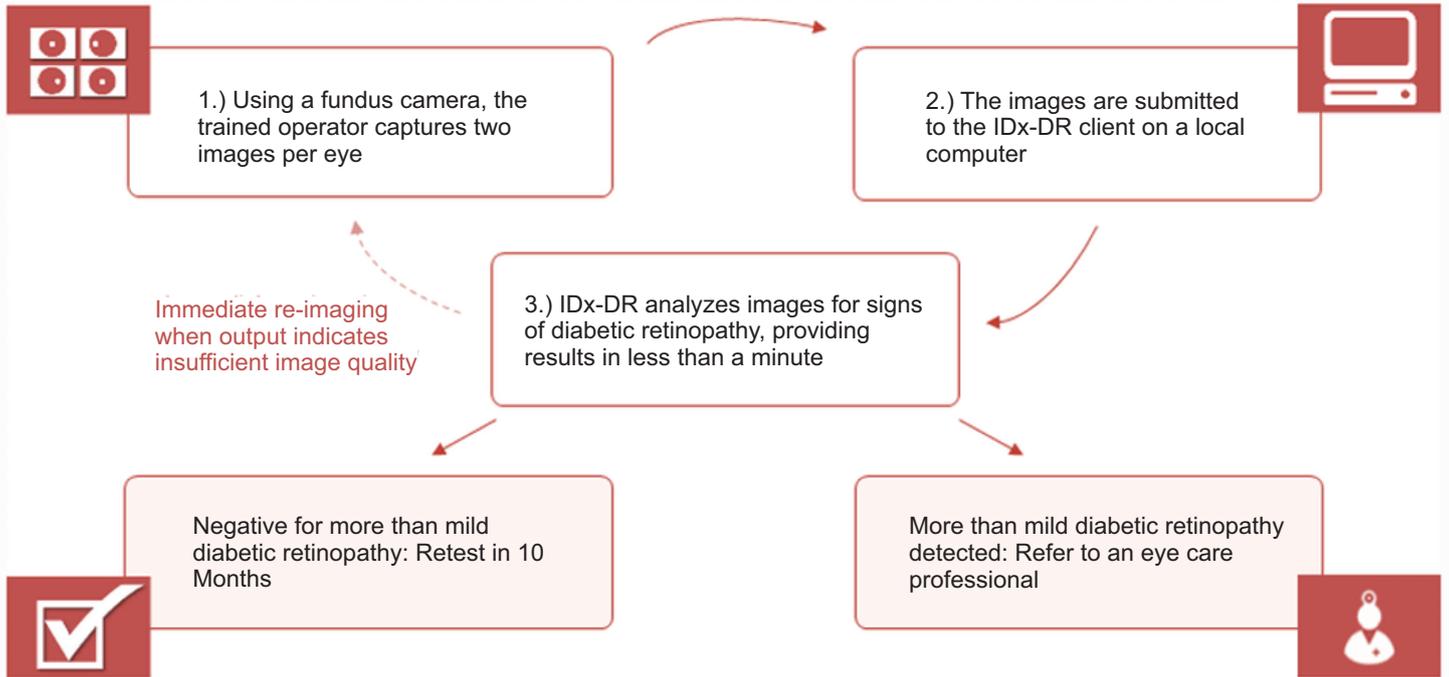
1. "More than mild diabetic retinopathy detected: refer to an eye care professional" or
2. "Negative for more than mild diabetic retinopathy; rescreen in 12 months."

The study that helped lead the FDA to approve the system was published in [Nature](#).

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## How IDx-DR Works



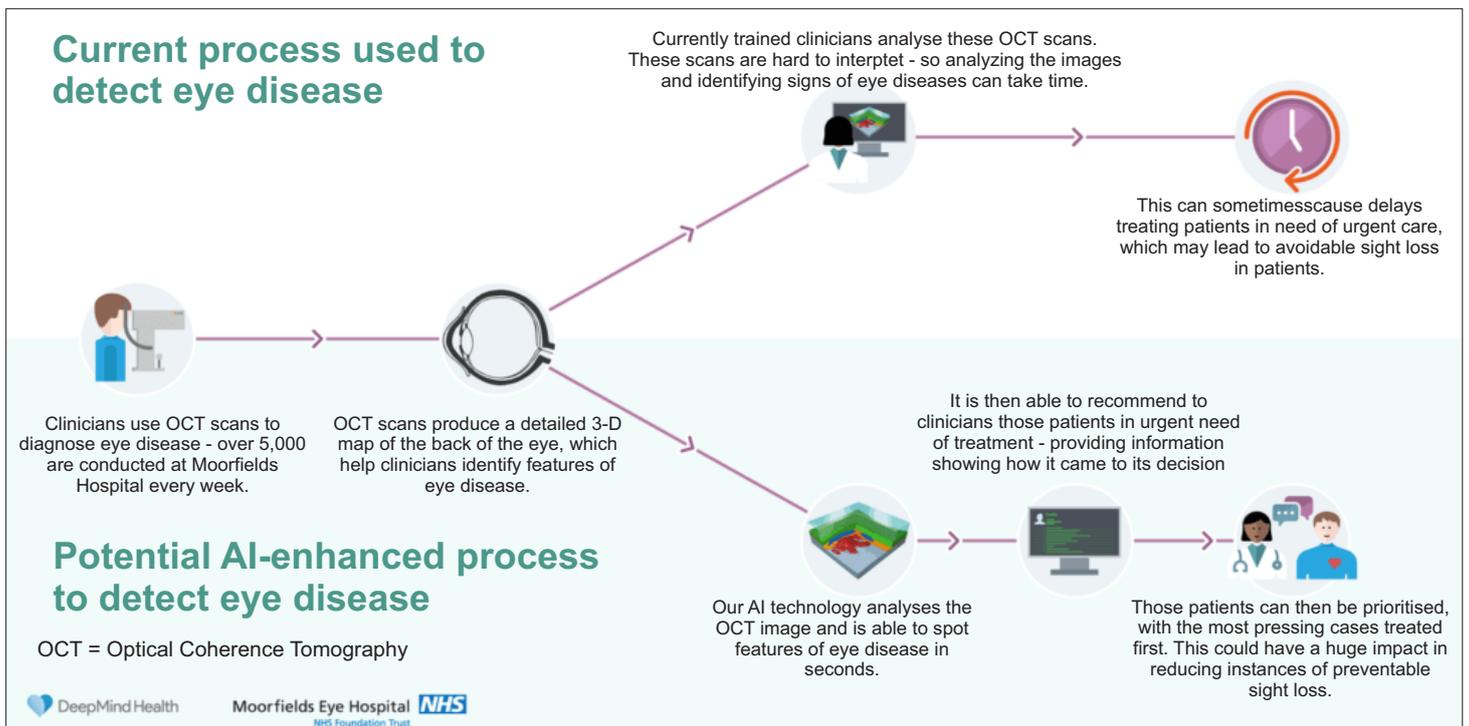
**Google’s DeepMind division is working with the Moorfields Eye Hospital in the UK** to help eye doctors assess the risk of a patient having diabetic retinopathy, glaucoma, and macular degeneration. DeepMind’s technology analyzes data from retinal scans previously tagged as having the conditions listed above.

The algorithm could help ease workloads for doctors and increase diagnostic accuracy, and Google hopes to enter [clinical trials](#) within a few years.

Recently, DeepMind published a [paper](#) discussing how its neural networks were able to recommend the correct referral decisions for over 50 sight-threatening eye diseases with 94% accuracy (also with Moorfields Eye Hospital).

In order to train the algorithms, DeepMind invested significant time into labeling and cleaning up the database of OCT (Optical Coherence Tomography) scans — used for detection of eye conditions — to make it “AI ready.”

According to the DeepMind blog, the database is owned by Moorfields as a non-commercial public asset, and is being used in 9 separate studies. Moorfields can use DeepMind’s AI model for its future non-commercial research efforts.



## Companies like yours who've found success at the Edge with ADLINK IoT

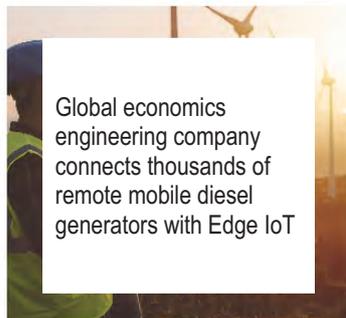
**Companies around the world are looking to ADLINK for leading Edge IoT solutions and guidance. Learn how companies like yours are finding real ROI at the Edge.**



### Industrial Automation



### Energy & Power



### Transportation



### Retail



**MORE:** Click on the Pictures  
**Contact ADLINK:** [World Wide Offices](#)

# EDGE 50: The world's first top 50 edge computing influencers

By: [João Marques Lima](#) | #Edge50 is sponsored by EdgeConneX and CNet Training

Data Economy is proud to run for the first time "#Edge50", showcasing the 50 personalities who are leading edge computing through charting new innovations or technological breakthroughs, sheer investment or business acumen, or exceptional entrepreneurial skillsets.

Here are 2 of the 50 "EDGE 50" influencers [Full list in IoT World Jan-Feb 2019](#)



**Andre Fuetsch**  
**President AT&T Labs & CTO, AT&T**

Fuetsch is responsible for delivering the architecture and design of AT&T's future networking evolution for edge applications. He leads a team of over 2,000 engineers and computer scientists working on programs encompassing both the business and mass market customer segments.



**Angelo Corsaro**  
**CTO, ADLINK Technology**

Based in the French capital, Corsaro is an expert in high performance and large scale distributed systems crucial to the edge. He oversees ADLINK's Technology strategy and innovation for industrial IoT and is behind the company's Fog Computing Platform built for edge devices.

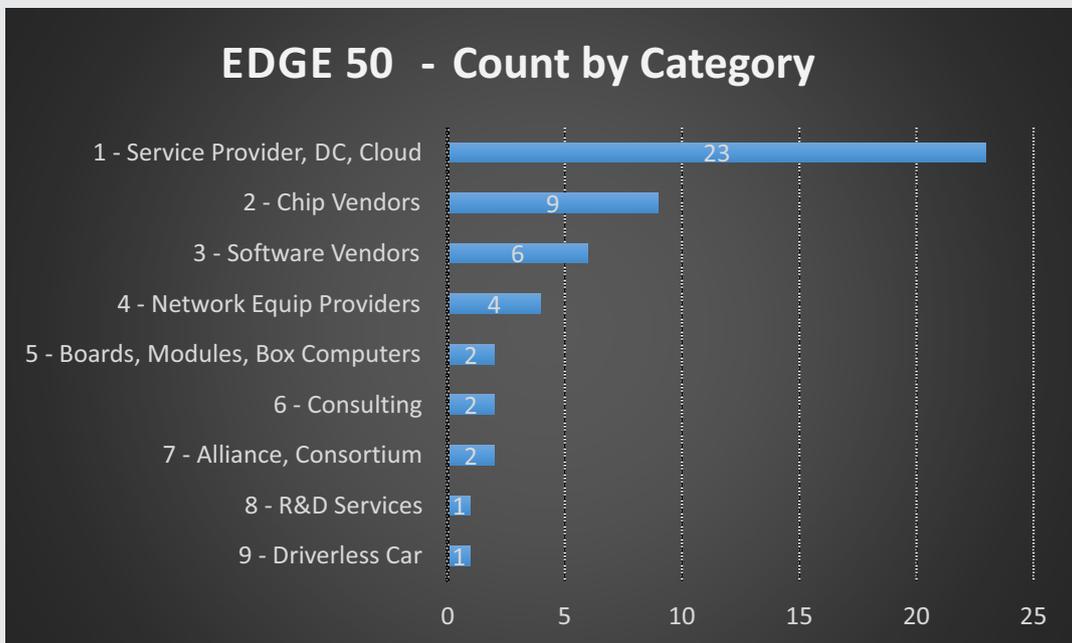
## Editor Note What are those "EDGE 50" doing?

By: Daniel Dierickx, e2mos [www.e2mos.com](http://www.e2mos.com)



What is the activity and market segment of those world's first top 50 edge computing influencers?

We have tried to make a list of expertise categories based-on the profile of those influencers, just as a simple approach, anyhow fact.



### Conclusions

Please be careful with your conclusions and remember this is for Edge Computing, categories may be a little bit relative and the ranking is not always a direct relation of the total business of the category, of course. It could be very different in years to come.

### Here some observations:

- Service Providers and related (1) dominates
- Chip Vendors (2) very strong number 2, not a surprise to me (I enjoy 30+ years Semiconductor Business Expertise)
- Out of the only two native Boards Vendor is Angelo Corsaro CTO **ADLINK Technology** (see above)

**More about ADLINK Technology:** Click Here <https://www.adlinktech.com/en/index.aspx>

## Advantech names new associate VP of embedded IoT Europe

Advantech has appointed Dirk Finstel as associate vice president embedded IoT Europe, effective from January 1st, 2019. Dirk will lead the Embedded IoT sector in Europe, underlining the importance of the Embedded business in Europe to Advantech.



He has over 25 years of experience in the embedded computing sector, having had a successful career in both sales and technology. Dirk was previously CEO of sales & marketing for the embedded boards division and CTO and member of the management board of Kontron AG. Dirk also worked several years as CEO EMEA and EVP at ADLINK Technology. In his most recent role, Dirk worked as managing partner /CTO at eCOUNT embedded in Munich, Germany. **More:** [www.advantech.com](http://www.advantech.com)

## Advantech Announced the Completion of OMRON Nohgata, Renamed as "Advantech Technologies Japan"

Advantech (2395.TW) today (Feb 01, 2019) announced the completion of the 80% stake acquisition of OMRON Nohgata, a subsidiary of OMRON Corporation (TYO 6645). OMRON Nohgata will now be known as "Advantech Technologies Japan" (ATJ). ATJ is located in Nogata Fukuoka Japan, focusing on application markets in factory automation, machinery, and medical sectors.

ATJ will be led by the current management team and will join Advantech's Embedded IoT Business Group (EIoT SBG) in developing new products and integrating sales resources. With this acquisition, Advantech will effectively expand its embedded system market share in Japan and enhance its localized manufacturing services capability. Advantech further envisions cooperation with OMRON Corporation in IoT platform development.

Mr. Miller Chang, the president of Embedded IoT Group, stated that, "Japan is Advantech's strategic market for IoT business opportunities. It is our view that there are big opportunities in both industrial and IoT markets given the strong and advanced industrial demand. Japan-based industrial customers generate stable demand and moderate growth in embedded system markets annually. The current core business of ATJ is Design & Manufacturing Services (DMS) for domain customers such as healthcare, robotics industry, and machine builders.

## Advantech's Global Gaming HQ, in Newcastle, UK Centre Gears up

Advantech, a leader in global intelligent systems (stock symbol: 2395Taiwan stock exchange), announced the expansion of its Advantech-Innocore facility in Newcastle-Upon-Tyne (United Kingdom). The company, a global leader in embedded computer products for the gaming industry, designs and manufactures some of the market's most advanced PC products tailored specifically for the gaming industry.

The expanded Advantech-Innocore facility, located in the Silverlink Business Park where the company established itself some ten years ago, nearly doubled in size. The team, currently celebrating 20 years in the industry, has grown year on year and is set to grow further as a result of current market demands. "This expansion is excellent news for both Advantech-Innocore and the local community. It's a direct result of the hard work put in by all of the gaming team, and the loyal support of our customers, enabling us to post a 6-year CAGR of more than 30%" said Edward Price, Managing Director, Global Gaming and EU Displays Division at Advantech. "Some of our flagship products were created right here in the UK – including the best-selling DPX range of embedded boards which are approved in all major gaming jurisdictions and running hundreds of thousands of slot machines and lottery terminals worldwide."

For its part, parent company Advantech is accelerating the deployment of branch locations throughout Europe to better leverage its 25 years of local industry experience.

## Advantech Ranks Among Taiwan's Top 5 Global Brands First Time

Advantech (2395.TW), a leading global provider of intelligent systems, is pleased to announce its recent ranking at No. 5 in the 2018 Best Taiwan Global Brands list, with an estimated brand value of 500 million USD. Research for the Best Taiwan Global Brands Award is conducted by Taiwan's Ministry of Economic Affairs and Interbrand, the world's leading brand consultancy firm. Since its establishment, Advantech has promoted its brand globally and received several Best Taiwan Global Brand awards. However, this is the first time that Advantech has ranked among the top 5.

Linda Tsai, president of Advantech's Industrial IoT group, highlighted how Advantech has endeavored to incorporate its brand vision into the company culture internally, while emphasizing the goal of "enabling an intelligent planet" externally in order to establish a consistent organizational strategy from the inside out. In recent years, Advantech has served as an enabler in the promotion of the IoT industry. The company has not only developed the WISE-PaaS industrial IoT cloud platform for software/hardware integration, but also shared resources with partners in order to co-create solution-ready packages for rapid deployment in the automation, energy, and smart city industries.

Beginning in 2019, in accordance with its goal of "enabling an intelligent planet," Advantech will host 60+ industry-focused co-creation partner conferences around the world in an effort to build a complete IoT industry supply chain in collaboration with various industry partners. Advantech also aims to expand each vertical domain by using its "co-creation" model to achieve mutual benefits and stimulate innovation.

# Airbus Abandons Iconic A380 Superjumbo

Source: Published in IEN | Feb 14, 2019  
Authors: Angela Charlton, Jon Gambrell



*An Airbus A380 performs during a demonstration flight at the 49th Paris Air Show at Le Bourget airport, east of Paris in June 2011.*

*Airbus said Thursday, Feb. 14, 2019 it will stop making A380 superjumbo jets in 2021 after struggling to win clients.*

*Barely a decade after the double-deck, 500-plus-seat plane started carrying passengers, Airbus says it doesn't have enough customers to sustain production.*

TOULOUSE, France (AP) — European plane maker Airbus said Thursday it will stop making its superjumbo A380 in 2021 for lack of customers, abandoning the world's biggest passenger jet and one of the aviation industry's most ambitious and most troubled endeavors.

Barely a decade after the double-deck, 500-plus-seat plane started carrying passengers, Airbus said that key client Emirates is cutting back its orders, and as a result, "we have no substantial A380 backlog and hence no basis to sustain production."

The decision could affect up to 3,500 jobs and already cost plane maker 463 million euros (about \$523 million) in losses in 2018, Airbus said.

The company, a European economic powerhouse, is also girding for serious disruption to its cross-continental manufacturing from a likely chaotic British exit from the EU next month. CEO Tom Enders, however, said Thursday that "We are getting signals that make me a little more optimistic that we'll see a more orderly Brexit." He wouldn't elaborate.

The end of the young yet iconic jet is a boon for rival Boeing and an embarrassing symbolic blow for Airbus. A pall of mourning hung in the atmosphere Thursday at its headquarters in the southern French city of Toulouse — but there was also a hint of relief after years of straining to keep the A380 alive.

"It's a painful decision for us," Enders said. "We've invested a lot of effort, a lot of resources, a lot of sweat ... but we need to be realistic."

It's also sad news for Emirates, which has the A380 as the backbone of its fleet, based out of Dubai, the world's busiest airport for international travel.

When it started taking on passengers in 2008, the A380 was hailed for its roominess, large windows, high ceilings and quieter engines. Some carriers put in showers, lounges, duty free shops and bars on both decks.

Airbus had hoped the A380 would squeeze out Boeing's 747 and revolutionize air travel as more people take to the skies.

Instead, airlines have been cautious about committing to the costly plane, so huge that airports had to build new runways and modify terminals to accommodate it. The double-decker planes started flying in 2008.

... to next page

# Airbus Abandons Iconic A380 Superjumbo

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The A380 had troubles from the start, including tensions between Airbus' French and German management and protracted production delays and cost overruns. Those prompted a company restructuring that cost thousands of jobs.

Among early detractors of the A380 was analyst Richard Aboulafia of Washington-based Teal Group, who said its demise "was inevitable."

"But thanks to the strength of the market right now, and the strength of Airbus's other products, the damage will not have a huge impact on the industry," he told The Associated Press. "For Boeing, it has been a very long time since they needed to worry about the A380 as a competitive factor."

Airbus reported net profit of 3.1 billion euros over last year, up from 2.4 billion euros in 2017.

But it also reported losses: In addition to the A380 hit, Airbus reported a charge of 436 million euros on the A400M, used by several European militaries — and another 123 million-euro charge for complying with ethics rules as the company faces fraud investigations in the U.S., Britain and France.

Airbus also acknowledged Thursday that a recent data breach apparently targeted intellectual property. Guillaume Faury, head of Airbus commercial aircraft and future CEO of the overall group, said the company is taking technical and legal measures in response.

Airbus said it forecasts similar profits in 2019, in line with growth in the world economy and air traffic.

It promised airlines that it would still maintain the more than 230 A380s currently in flight, with Faury calling it a "benchmark" for the company even as its death is being programmed.

Emirates said Thursday it had struck a deal valued at \$21.4 billion with Airbus to replace some A380s with A350 wide-bodies and smaller A330 planes.

Emirates has long been the largest operator of the A380. Before Thursday's announcement, it had 162 of the jets on order.

"While we are disappointed to have to give up our order, and sad that the program could not be sustained, we accept that this is the reality of the situation," Sheikh Ahmed bin Saeed Al Maktoum, the chairman and CEO of Emirates, said in a statement. "For us, the A380 is a wonderful aircraft loved by our customers and our crew. It is a differentiator for Emirates. We have shown how people can truly fly better on the A380."

Industry experts initially expected A380s to long outlast the Boeing 747, which is celebrating its 50th birthday this year.

But airlines seem to increasingly favor more mid-size planes for regional routes, notably in Asia, instead of the hulking A380s or even 747s, increasingly used as a cargo plane.

## Editor note, e2mos

The very first comment I would like to make is "The A380 is a fantastic plane, a beautiful design overall and built by a great enterprise".

We, e2mos management, would like to take this opportunity to mention the great design-win we enjoyed with **Airbus in partnership with Sagem Defence in Paris, today renamed in Safran Group**.

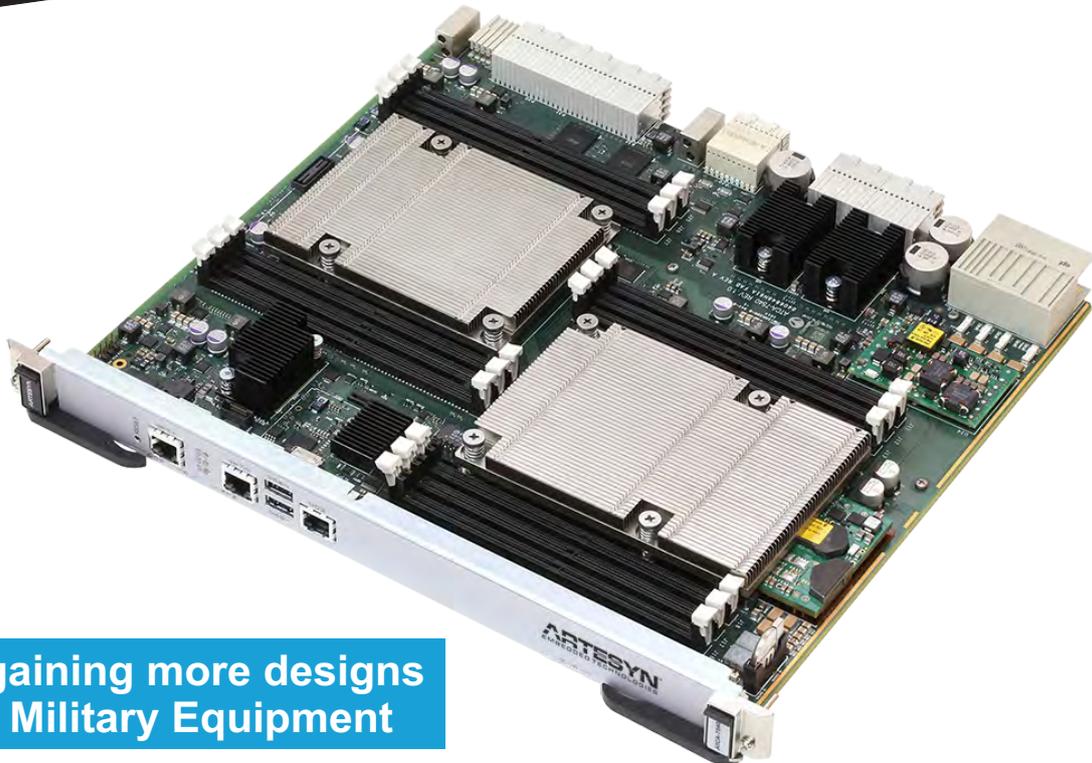
**About the design-win:** A380 cabin infotainment for passengers, based-on CompactPCI (cPCI) Embedded Computer Boards and Ethernet. This is one of the many projects we have been working on.

Please take a look at e2mos activities especially to our Top 3 Business Services for Hi-end Hardware & Software Vendors [www.e2mos.com](http://www.e2mos.com)

Daniel Dierickx



**Too big is too big  
There is an optimized size for everything**



**ATCA gaining more designs  
in US Military Equipment**

## COTS Bladed Server Architecture for High Performance Defense Applications **WHITER PAPER**

[Download this free white paper today](#) on "COTS Bladed Server Architecture for High Performance Defense Applications".

AdvancedTCA® (or ATCA®) technology has proven itself to be one of the most successful open, bladed architectures for high-performance, ultra-reliable network computing. The PCI Industrial Computer Manufacturer Group (PICMG®) ratified the original ATCA open standard specification 15 years ago, has enhanced it over the years, and continues to be an active organization of vendors and users. ATCA has defined a system architecture that supports systems which are compact, light and power efficient—which has become an ideal choice for military, aerospace and security systems.

Since 2012, a number of large military programs have adopted ATCA technology. This paper addresses the forces driving the requirements of high performance embedded computing (HPEC) for military and aerospace applications, including the modular open system approach (MOSA), commercial off-the-shelf (COTS), and reduced size, weight, power and cost (SWaP-C) as it applies to ATCA.

# Embedded Computing Boards Overview

Direct Link Click on the Pictures



## Qseven



Intel-based: several CPU 's  
Standard Size (70 mm x 70 mm)

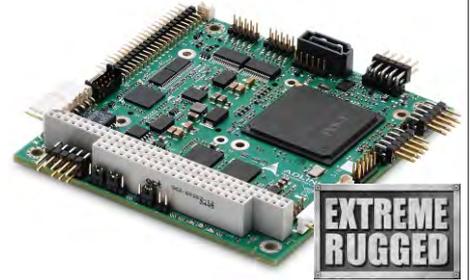
## SMARC

Smart Mobility ARChitecture



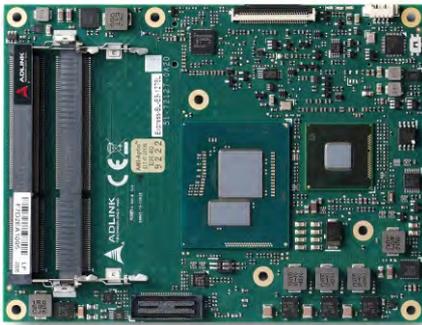
Intel-based: several CPU 's  
Short Size (82 mm x 50 mm)  
Full Size (82 mm x 80 mm)

## PC/104 PCI/104 Express



Intel-based: several CPU 's  
PCI/104-Express (V3.0)  
Size (117.4 mm x 96 mm)

## COM Express



Intel-based: several CPU 's

### Type 6

Basic Size (125 x 95 mm)  
Compact (95 x 95 mm)

### Type 7 - Intel Xeon-based

Basic Size (125 x 95 mm)

### Type 10

Mini Size (84 x 55 mm)

### Type 2

Basic Size (125 x 95 mm)  
Compact (95 x 95 mm)

## 3U-6U VPX Conduction & Air-cooled



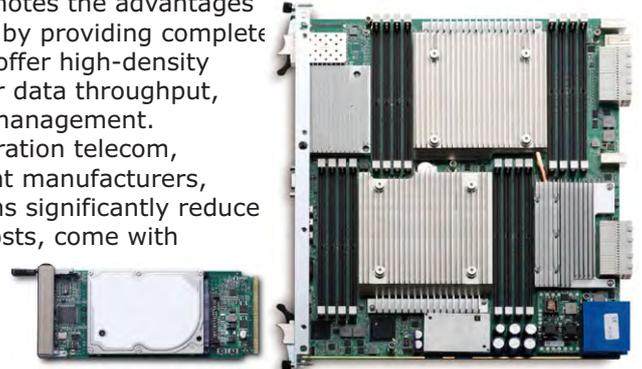
## 3U-6U CompacPCI, Plus & Serial



Conduction & Air-cooled

## AdvancedTCA - ATCA - AMC - MicroTCA

ADLINK vigorously promotes the advantages of the ATCA technology by providing complete platform solutions that offer high-density processing power, faster data throughput, and intelligent system management. Designed for next-generation telecom, datacom, and equipment manufacturers, ADLINK's ATCA platforms significantly reduce over-all development costs, come with extended operating lifecycles, and speed up critical time-to-market.



## Ind. Motherboards Mini-ITX



## PCIe



Frame Grabbers  
Video Capture Cards

## PXI - PXIe



# New CEO of Enea recruited



Stockholm, Sweden, January 8, 2019 Enea® (Nasdaq Stockholm: ENEA)

Enea today announces the recruitment of Jan Häglund as new CEO of Enea.

As communicated in November 2018, Anders Lidbeck will resign as CEO and subject to the 2019 annual general meeting so electing, become new chairman of the board.

Jan Häglund brings 25 years of international experience from the telecom industry. He has spent his career working for the Swedish telecom giant Ericsson, where he is currently heading Product Portfolio and R&D for Digital Services. He is very well connected in the industry. Stationed in Silicon Valley he was heading up Ericsson's IP and Broadband division and he also worked as Technical Director for Ericsson in Japan for a few years. Over the years he has held several relevant positions with responsibilities including investment decisions for products and M&A activities, and he is extremely well versed in all the major technologies and markets shifts affecting Enea's business today.

Jan Häglund will assume the position as new CEO of Enea in connection with the Enea's annual general meeting May 6, 2019.

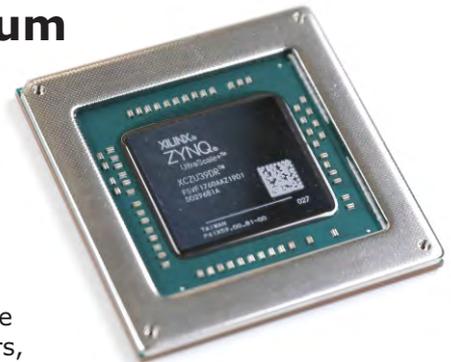
## About Enea

Enea develops the software foundation for the connected society. We provide solutions for mobile traffic optimization, subscriber data management, network virtualization, traffic classification, embedded operating systems, and professional services. Solution vendors, systems integrators, and service providers use Enea to create new world-leading networking products and services. More than 3 billion people around the globe already rely on Enea technologies in their daily lives. Enea is listed on Nasdaq Stockholm. For more information: [www.enea.com](http://www.enea.com)

## Enea Unveils Integrated Linux Solution for Xilinx UltraScale+ at Xilinx Developer Forum

### Accelerated Linux simplifies development of high-performance real-time applications

Stockholm, Sweden, and San Jose, Calif., Oct. 2, 2018 (Xilinx Developer Forum) - Enea (NASDAQ OMX Nordic: ENEA) has announced an extended version of its Accelerated Linux, fully integrating all processing units on the Xilinx UltraScale+ range of devices, at the Xilinx Developer Forum (XDF) 2018. XDF connects software developers and system designers to the deep expertise of Xilinx engineers, partners, and industry leaders.



The solution adds a **software level integration to the UltraScale+ System-on-Chip (SoC)**, providing the means to efficiently control, communicate and transfer large amounts of data between applications running on the different processing units. This greatly simplifies software projects and reduces the time spent on platform development.

**Accelerated Linux vastly improves Linux' real-time characteristics** by using a high-performance real-time executive **running side-by-side with Linux on the ARM Cortex-A53 cluster**. Linux and the real-time domain are integrated through high speed IPC, big data transfer between domains, and access to shared resources such as file systems. Building on this framework, the extended solution showcased at XDF takes advantage of the open source OpenAMP project for communication between Accelerated Linux and FreeRTOS running on the ARM Cortex-R5s. It also allows access to the FPGA on the SoC.

"The UltraScale+ SoC from Xilinx is a very capable and flexible device that needs a sophisticated runtime environment to efficiently connect the different processing units. This solution shows our deep expertise in embedded real-time solutions and our capability to deliver complete high-performance solutions also for very complex systems," said Adrian Leufvén, SVP OS Business Unit Enea.

"With demands on enhanced performance, greater flexibility and scalability, and shorter time-to-market, the availability of integrated solutions that simplify application development is a must," said Simon George, Director of System Software and SoC Solution Marketing, Xilinx. "We are very happy to have Enea support our UltraScale+ devices."

At XDF Silicon Valley, Enea will show live demonstrations of the extended Accelerated Linux, showing latency benchmarks, OpenAMP communication between Accelerated Linux and FreeRTOS, big data transfer between cores over shared memory, and program load of the FPGA.

# Green Hills Software's INTEGRITY-178 tuMP Multicore Operating System Completes Certification of Conformance to the FACE Technical Standard v3.0



The New FACE Technical Standard Requires the Ability to Execute an Application Across Multiple Cores in Multicore-Based Systems

SANTA BARBARA, CA — February 6, 2019 — Green Hills Software, the worldwide leader in high-assurance operating systems, today announced that it has achieved certification of conformance of its INTEGRITY®-178 Time-Variant Unified Multi Processing (tuMP™) real-time operating system (RTOS) to the Future Airborne Capability Environment (FACE™) Technical Standard edition 3.0. The certification covers both the Safety Base profile and the Security profile. The INTEGRITY-178 tuMP RTOS is the first software component of any type to be certified conformant to edition 3.0, which underscores the commitment of Green Hills Software for certification to open standards.

Version 3.0 of the FACE Technical Standard represents a major improvement over the prior version 2.1.1 in that it addresses the use of multicore processors in safety-critical applications. The technical standard now requires any Operating System Segment (OSS) that claims support for multicore partitions to meet ARINC-653 Part 1 Supplement 4, including the requirement for multicore operation as defined in Section 2: "Multiple processes within a partition scheduled to execute concurrently on different processor cores." In ARINC-653, each application is called a partition and has its own memory space.

Asymmetric Multi-Processing (AMP), the simplest software architecture in a multicore-based system, is not sufficient to meet the requirements of Supplement 4. INTEGRITY-178 tuMP is the only certified FACE-compliant operating system to meet the requirements of ARINC-653 Supplement 4, and it does so with the availability of Bound Multi-Processing (BMP) in addition to AMP and Symmetric Multi-Processing (SMP). By definition, BMP is an enhanced and restricted form of SMP that can statically bind an application's ARINC-653 processes (i.e., tasks) to a specific set of cores, allowing the system architect to more tightly control the concurrent operation of multiple cores. INTEGRITY-178 tuMP allows the system developers to bind ARINC-653 processes within an application to a core using an API or using the system configuration file. In addition, INTEGRITY-178 tuMP meets the ARINC-653 Part 2 Supplement 3 requirements for SMP operation.

## Cadence and Green Hills Software Announce Strategic Partnership to Accelerate Embedded System Safety and Security

SAN JOSE, Calif., February 19, 2019 — Cadence Design Systems, Inc. (NASDAQ: CDNS) and Green Hills Software, a privately held company, today announced a strategic partnership that is expected to leverage their respective strengths to drive embedded system safety and security, while accelerating growth for both companies. **As part of the partnership, Cadence has invested about \$150 million that represents an approximate 16 percent ownership interest in Green Hills, and Cadence CEO, Lip-Bu Tan, has joined the Green Hills Board of Directors.**

There continues to be rapid growth of hyperconnected embedded systems that are deployed into critical infrastructure such as aerospace and defense, automobiles, industrial and medical devices. Security has become one of the most serious challenges that these industries face, and it is paramount that all embedded systems are designed with safety and security in mind.

Green Hills is the industry leader in embedded safety and security software solutions, with its INTEGRITY-178B real-time operating system having been certified to EAL6+, the highest Common Criteria security level achieved for an operating system. **Green Hills products are broadly deployed across multiple application domains, particularly in aerospace and defense, with customers including Boeing and Lockheed Martin, and in automotive, with many top OEM and Tier 1 customers including Toyota and Ford.**

The partnership furthers the Cadence System Design Enablement strategy and builds upon its leading core electronic design automation (EDA), verification hardware, embedded processor and IP solutions to address new market expansion opportunities in the estimated \$3 billion plus embedded system safety and security space. Cadence and Green Hills expect to collaborate on providing integrated solutions that comprehend both hardware and software aspects of safety and security, to enable the development of highly secure embedded systems.

**The partnership will leverage the technologies, domain expertise, market reach and resources of both companies to explore opportunities for joint go-to-market and technology collaboration across the companies as well as joint marketing initiatives.**

"The hyperconnected era is creating increasing safety and security challenges, particularly for the critical aerospace and defense, automotive, medical and industrial IoT domains," said Lip-Bu Tan, chief executive officer of Cadence. "By partnering closely with Green Hills, we look forward to delivering solutions that will accelerate the development of highly secure embedded systems in these critical areas and furthering our System Design Enablement strategy by broadening our reach in these verticals to expand beyond our core business into newer adjacent areas of the system space."

# Wind River Unveils Edge Platform to Accelerate the Evolution from Automated Devices to Autonomous Systems

## NEWS HIGHLIGHTS

- Wind River introduces software platform for edge devices designed to enable the modernization of legacy systems in aerospace, automotive, defense, industrial, and medical.
- Wind River Helix Virtualization Platform brings together company's proven technology and safety expertise for designing and implementing a range of application options at the edge.
- With latest innovative offering, company's comprehensive edge compute software portfolio provides a path for the development journey from automated devices to more intelligent and autonomous systems.

**ALAMEDA, CA – Feb. 26, 2019** – Wind River®, a leader in delivering software to critical infrastructure, today announced the release of Wind River Helix™ Virtualization Platform (Helix Platform). The offering combines the company's industry-leading commercial real-time operating system (RTOS) and embedded Linux distribution into an edge compute software platform, and allows other operating systems to run unmodified within the same framework, providing a software development environment across the Wind River portfolio.

From modernizing aerospace platforms to updating industrial infrastructure and advancing autonomous driving, the rise of more sophisticated edge computing across industries means that system developers will need to adapt quickly to modern software and cloud deployment practices, while maintaining dedicated, long-standing software. This paradigm shift to a more modern development approach will bring benefits in terms of flexibility, scope of applications and manageability. But it also brings new design challenges and uncertainties in terms of the pace of change, hardware and software technology choices, as well as future-proofing. As critical infrastructure also become more intelligent, with various forms of artificial intelligence running on edge devices, further layers of complexity and uncertainty are being introduced.

Developers need to know they can meet current project and compliance requirements, and plan their roadmaps, without having to make disruptive changes in the future if new hardware, software, frameworks or cloud services are needed. Helix Platform means legacy software can remain unchanged while running alongside new applications, and it provides all the benefits of a consistent, scalable and agile platform for edge devices.

Helix Platform addresses a wide range of critical infrastructure development needs, from highly-dynamic environments without certification requirements, to highly-regulated static applications such as in avionics and industrial, as well as systems requiring the mixing of safety-certified applications with non-certified ones, such as in automotive. It maximizes ROI and total cost of ownership (TCO) by increasing asset value and reducing operational costs with the following features:

Robust time and space partitioning leveraging Wind River's industry-leading RTOS and virtualization technology, safety certified functionality, and commercial off-the-shelf (COTS) certification evidence. Multi-operating system capabilities enable the consolidation of mixed-criticality workloads, side by side, on a single edge compute platform. Consolidation of multiple applications into one platform allows common edge devices to serve diverse system architecture needs, such as low latency control functions on an RTOS alongside Linux-based applications and frameworks, such as machine learning.

"The industry is moving in a direction of heterogeneous systems where the development of many critical infrastructure systems requires both an open source Linux and a proven commercial RTOS, and Helix Platform offers the best of both worlds with VxWorks® and Wind River Linux integrated in a single solution, from a single supplier," said Jim Douglas, Wind River president and CEO. "Drawing from our rich proven technology heritage and unmatched safety expertise, Helix Platform is a critical building block for how we will continue to accelerate the evolution from automated devices towards more intelligent and autonomous systems."

The offering comprises VxWorks along with its virtualization technology, integrated with Wind River Linux and Wind River Simics® for system simulation. It meets the stringent safety-certification requirements of the DO-178C, IEC 61508, and ISO 26262 safety standards. Helix Platform is operating system-agnostic, providing the capability to run any unmodified guest operating system, such as Microsoft® Windows®, roll-your-own, and others. It also provides multi-core hardware support and availability on the latest Arm®, Intel®, NXP®, and Xilinx® silicon platforms that enable both 32- and 64-bit guest operating systems.

More information about Helix Platform is available at [www.windriver.com/announces/helix-platform](http://www.windriver.com/announces/helix-platform). To learn more, visit Wind River at [www.windriver.com](http://www.windriver.com).

## QUOTES [Click Here](#)

- Chris Rommel, Executive Vice President, VDC Research
- Neil Stroud, Director, Technology Strategy, Automotive and IoT Line of Business, Arm
- Noy Kucuk, Vice President of Product Management, Digital Networking, NXP
- Simon George, Director of System Software and SoC Solution Marketing, Xilinx



Extreme Engineering Solutions

## Rapid Growth Fuels X-ES Move to New Corporate Headquarters



Expansive new building accommodates office and state-of-the-art manufacturing

To accommodate current and future growth, Extreme Engineering Solutions (X-ES) has moved to a new corporate headquarters in Verona, WI. Completed in September 2018, the combined office and manufacturing space is located at 9901 Silicon Prairie Parkway, approximately six miles from the company's previous headquarters in Middleton, WI.

The new 126,200 sq. ft. facility is a significant upgrade from the 50,000 sq. ft. Middleton facility, offering more office space and improved amenities for employees and customers, including more than twice the meeting space.

The design by KEE Architecture features a central atrium and clerestory windows that provide abundant natural light to offices and common areas. The building is situated on 13.8 acres, leaving ample room to grow as the company expands.

Significantly enlarged manufacturing space.

Nearly half of the new facility is devoted to a state-of-the-art manufacturing space, where X-ES performs final product assembly, integration, and testing.

The 60,000 sq. ft. manufacturing area is temperature-, humidity-, and ESD-controlled, and approximately four times larger than the Middleton manufacturing space. As part of this expansion, X-ES has acquired 165 new workbenches, six new thermal chambers for temperature testing, and one new shaker for shock and vibration testing.

[See the Products:](#) COM Express, CompactPCI, VME, VPX, XMC / PMC



## Kontron Introduces New TRACe-RM404 Railway 19-Inch Platform for Train Control



Augsburg, Germany, January 29, 2019 – Kontron, a leading global provider of IoT/Embedded Computing Technology (ECT), today announced the Kontron TRACe-RM404-TR, a fanless 19-Inch 1.5U railway computer. EN50155-certified, it is specifically designed for train control and communication applications. Designed as a robust and compact 19-Inch 1.5U box computer, the Kontron TRACe-RM404-TR provides a perfect balance between processing performance, I/Os, power consumption, and reliability in demanding railway environments.

Thanks to its 19-inch mechanical design (compliant to EN60297-3- 100), the Kontron TRACe-RM404-TR can easily fit any existing railway equipment. The box computer has already been chosen for a train retrofit by a large rail system solutions provider in Asia, supporting the train control in an automated metro.

Kontron TRACe™ platforms are designed to make customization faster, system integration easier, and to reduce time to market while shrinking maintenance and support costs over the entire life cycle of the program. Kontron's TRACe-RM404-TR 10 year's product lifetime combined with the long term support services ensure long service life, up to 25 years and more.

The first TRACe-RM404-TR variant features the Intel Atom® x5-E3940 quad-core @ 1.6 GHz high performance per watt processor, with 2GB DDR3L memory up to 1866 MHz (optional up to 8GB DDR3L) and 64 GB Industrial MLC SSD memory. Moreover, the unit supports the Kontron Security Solution APPROTECT, which offers comprehensive security mechanisms such as IP and copy protection while avoiding reverse engineering.

For more information please [Click Here](#)