# FutureHorizons
## The Global Semiconductor Industry Analysts

# FH MONDAY

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## Nvidia Fulfils Promise to Support Arm

Nvidia introduced a reference design platform for GPU-accelerated Arm-based servers. Arm, Ampere, Cray, Fujitsu, HPE, and Marvell are all going to build such servers for a variety of applications including, of course, supercomputing,.

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## Graphcore's AI Chips Used in Microsoft's Azure Cloud

LONDON — Graphcore's AI accelerator chip, the Colossus intelligence processing unit (IPU) is now available for customers to use as part of Microsoft's Azure cloud platform.This is the first time any major cloud service provider has publicly offered customers the opportunity to run their data on an accelerator from any of the dozens of AI chip startups and as such, it represents a big win for Graphcore

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## TALK TO US

## First Open Source Silicon Root of Trust Revealed

Aiming to make security more accessible and transparent, a new group has been launched to deliver what it said is the first open source silicon root of trust (RoT) design. The OpenTitan project brings a coalition of companies together to deliver an evolution of Google's Titan chip, to help critical system components have their trust anchored in silicon.

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## Wireless Telecom Will Acquire Holzman Instruments

Wireless Telecom Group will add Holzworth Instrumentation to its portfolio of RF businesses, which already include Boonton, NoiseCom, MicroLab, and CommAgility. Holzworth will become the third RF test brand under the Wireless Telecom name, the others being Boonton and NoiseCom.

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## Nuvia Takes On Intel In The Data Center

A company called Nuvia just introduced itself and announced it will be taking on Intel in the data center market, where Intel has utterly dominated with market share in excess of 90 percent for years, despite having been perpetually assailed by the likes of AMD and Arm.

Nuvia plans to create a CPU server core and associated SoC that will provide a "step-function" in performance improvement over every other product in the category — all while working within current data center power constraints, according to the company's vice president of marketing, Jon Carvill.

"This is a product built for performance leadership — full stop," Carvill said. He declined to provide any other details, including what core the company might have chosen.

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Nvidia has been casually experimenting with Arm processors for supercomputers for at least 8 years, but its full support had previously been reserved for the x86 and Power ecosystems. Last summer it vowed to fully support Arm with its CUDA-X software platform, and today's announcement is delivering on that promise. The company is initially making its Arm-compatible software development kit available as a preview.

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This is the first time any major cloud service provider has publicly offered customers the opportunity to run their data on an accelerator from any of the dozens of AI chip startups and as such, it represents a big win for Graphcore. Microsoft has said access will initially be prioritised for customers who are "pushing the boundaries of machine learning".

Microsoft and Graphcore have been working together for two years to develop cloud systems and build enhanced vision and natural language processing models for the Graphcore IPU. In particular, the natural language processing (NLP) model, Google's BERT (bidirectional encoder representations from transformers), which is currently very popular with search engines, including Google themselves.

## First Open Source Silicon Root of Trust Revealed

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OpenTitan is staffed by engineers representing a coalition of partners who say they want to deliver a more open, transparent, and high-quality RoT. The project is managed by the lowRISC CIC, an independent not-for-profit company with a full-stack engineering team based in Cambridge, UK. It is supported by a coalition of partners, including ETH Zurich, G+D Mobile Security, Google, Nuvoton Technology, and Western Digital.

Speaking at a press conference to launch the project, Google Cloud's OpenTitan lead, Dominic Rizzo, said, "System integrity should be anchored in silicon. At Google, we built our own silicon root of trust with the Titan family of chips. This was proprietary to Google. We learned a lot from integrating it into our data centers: such as the importance of transparent integration and instruction integrity. This was great for our customers, but proprietary, as were other roots of trust. So OpenTitan is designed to be open and flexible." Rizzo emphasized that many proprietary RoT's require developers to put blind trust in them, and added that with OpenTitan, "Blind trust is no longer necessary.

## Wireless Telecom Will Acquire Holzman Instruments, adding More RF Test

Wireless Telecom Group will add Holzworth Instrumentation to its portfolio of RF businesses, which already include Boonton, NoiseCom, MicroLab, and CommAgility. Holzworth will become the third RF test brand under the Wireless Telecom name, the others being Boonton and NoiseCom.

The acquisition adds products such as phase noise analyzers, amplifiers, downconverters, and phase shifters to the group. The photo, taken at the 2018 International Microwave Symposium, shows phase-noise analyzer connected to a signal generator.

Phase noise adds small random fluctuations or uncertainty in the phase of a signal. Traditionally used for RF measurements phase-noise analyzers now find use in measuring jitter in digital data streams and in characterizing data converters. The HA7062D phase-noise analyzer operates from 10 MHz to 26 GHz.