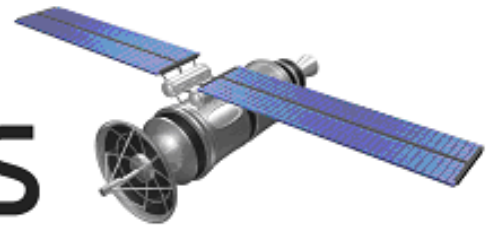


# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

22 May 2023

Sodaq joins Nordic design programme for IoT tracker

Leading Dutch design house Sodaq has joined Nordic Semiconductor's partner programme to all to boost its tracking and sensing capabilities.

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Startup launches quiet electric duct engines for commercial drones

Greenjets in the UK has developed a quiet, tiny ducted electric propulsor, or 'jet engine', for commercial drones. The startup is a spinout of consultancy Blue Bears and has been developing the scalable engine design for the last two years

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Nexperia launches e-mode GAN FETs

Nexperia has developed a range of GaN FETs using an enhancement mode (e-mode) configuration for low (100/150 V) and high (650 V) voltage applications. The range of seven devices adds to the existing cascode GaN devices, making Nexperia the only supplier with both technologies.

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TALK TO US



Startup Aims Algorithms at Quantum Error Correction

London-based startup Phasecraft is creating and implementing algorithms to lower the error rate of quantum computers and is working with several quantum hardware providers to advance the pace of development.

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NuCurrent, Infineon Cozy Up to Expand NFC Use Cases

A preferred partnership between NuCurrent and Infineon aims to achieve more use cases for near-field communication (NFC), with cellphones powering contactless, wireless smart locks, Tim Tumilty, executive VP of business development at NuCurrent, said

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## **Sodaq Joins Nordic Design Programme For IoT Tracker Boost**

Leading Dutch design house Sodaq has joined Nordic Semiconductor's partner programme to all to boost its tracking and sensing capabilities.

Sdaq develops low power, solar-powered or smart label IoT hardware for large-scale, enterprise-sized deployments, largely based on Nordic's nRF91 Series cellular IoT system in package (SiP).

Sodaq designs and creates unique hardware for large corporate IoT departments and manufactures products for companies who want to deploy tracking and sensing devices in their logistics chain. In addition to off-the-shelf products, the company provides custom hardware, embedded software,

## **Startup launches quiet electric duct engines for commercial drones**

Greenjets in the UK has developed a quiet, tiny ducted electric propulsor, or 'jet engine', for commercial drones.

The startup is a spinout of consultancy Blue Bears and has been developing the scalable engine design for the last two years. It weighs 750g and provides a maximum thrust of 5kgf at an efficiency of 360W/kgf.

The first engine, the IPM5, is engineered around a ducted fan architecture, which offers both a reduction in noise and an increase in safety over open bladed propellers. Greenjets has also patented several features that overcome weight and efficiency challenges traditionally faced by ducted fans. Other variants with 10 or 15 kgf of thrust can be quickly and easily developed.

## **Nexperia launches e-mode GaN FETs**

Nexperia has developed a range of GaN FETs using an enhancement mode (e-mode) configuration for low (100/150 V) and high (650 V) voltage applications.

The range of seven devices adds to the existing cascode GaN devices, making Nexperia the only supplier with both technologies.

The portfolio launched at PCIM Europe 2023 this week includes five 650 V rated e-mode GaN FETs (with RDS(on) values between 80 mΩ and 190 mΩ) in a choice of DFN 5x6 mm and DFN 8x8 mm packages. They improve power conversion efficiency in high-voltage, low-power (<650 V) datacom/telecom, consumer charging, solar and industrial applications. They can also be used to design brushless DC motors and micro server drives for precision with higher torque and more power.

## **Startup Aims Algorithms at Quantum Error Correction**

Quantum computers can perform complex computations in a fraction of the time required by classical computing architectures, promising benefits in industries such as drug discovery, financial modeling and cryptography, but quantum error rates must be reduced before that goal can be broadly realized. London-based startup Phasecraft is creating and implementing algorithms to lower the error rate of quantum computers and is working with several quantum hardware providers to advance the pace of development.

Ashely Montanaro, a Phasecraft co-founder and director, discussed the company' history, mission and projects. Montanaro has worked in the field for more than 15 years, specializing in quantum algorithms and quantum computational complexity, and has published over 50 papers on the topic. He holds a Ph.D. in quantum computing from the University of Bristol and is a professor of quantum computation there.

## **NuCurrent, Infineon Cozy Up to Expand NFC Use Cases**

A preferred partnership between NuCurrent and Infineon aims to achieve more use cases for near-field communication (NFC), with cellphones powering contactless, wireless smart locks, Tim Tumilty, executive VP of business development at NuCurrent, said.

This is the same technology at work when using a cellphone to open a hotel room door or Tap to Pay. The key difference: Infineon's energy-harvesting actuator collects the phone's energy to power the transaction—minimizing or even eliminating the need for batteries and the costs associated with those batteries, Tumilty said.

One of the challenges of deploying smart locks is the batteries," he said. "Home-lock manufacturers put 9-V battery terminals on the outside of the lock. If the battery goes dead, the homeowner has to find a 9-V battery. Many companies and industries—schools, hospitals and manufacturers—want to replace traditional keyed locks with smart locks. But batteries cost time and money to replace. Eliminating the dead battery problem is driving the demand."