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The Global Semiconductor Industry Analysts

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Putting AI into the Edge Is a No-Brainer

In 2020, Deloitte predicts that more than 750 million edge AI chips — full chips or parts of chips that perform or accelerate machine learning tasks on-device, rather than in a remote data center — will be sold, representing US\$2.6 billion in revenue.

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RF Front-End Market Leaders Still Resist the

Pushed by 5G megatrend, the RF front-end industry is showing an intense competition. The RF front-end and connectivity markets content increases year over year (YoY) while cost pressure remains important.

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Huawei Chooses France, But Will France Choose Huawei?

France secured a total of €8 billion in investments from business leaders in January at its third Choose France Summit, held at the Palace of Versailles. That doesn't include Huawei's plan to spend more than €200 million on a new wireless equipment plant in France. Should we light up Louis XIV's Hall of Mirrors and run the Grand Fountains in celebration? Not vet.

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TALK TO US



IMEC Chip Processes Radar Signals Using SNNs

Imec claims to have built the world's first spiking neural network (SNN) based chip for radar signal processing, enabling the creation of applications such as smart, low-power anti-collision radar systems for drones that identify approaching objects in a matter of milliseconds

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IoT Security Requires 'Multi-Tiered Approach,'

The IoT ecosystem has undergone explosive growth, thanks to the rapid proliferation of voice assistants and connected devices (such as intelligent thermostats and security cameras) and even intelligent infrastructure.

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Putting AI into the Edge Is a No-Brainer

In 2020, Deloitte predicts that more than 750 million edge AI chips — full chips or parts of chips that perform or accelerate machine learning tasks on-device, rather than in a remote data center — will be sold, representing US\$2.6 billion in revenue. Furthermore, the edge AI chip market will grow much more quickly than the overall chip market. By 2024, we expect unit sales of edge AI chips to exceed 1.5 billion, possibly by a great deal. That represents compound annual unit sales growth of at least 20%, more than double the longer-term forecast of 9% CAGR for the overall semiconductor industry.

These edge AI chips will likely find their way into an increasing number of consumer devices, such as high-end smartphones, tablets, smart speakers, and wearables. They will also be used in multiple enterprise markets: robots, cameras, sensors, and other devices for the internet of things. The consumer market for edge AI chips is much larger than the enterprise market, but it is likely to grow more slowly, with a CAGR of 18% expected between 2020 and 2024. The enterprise edge AI chip market is growing much faster, with a predicted CAGR of 50% over the same time frame.

RF Front-End Market Leaders Still Resist the Competition Pressure

Pushed by 5G megatrend, the RF front-end industry is showing an intense competition. The RF front-end and connectivity markets content increases year over year (YoY) while cost pressure remains important.

Yole Développement announces a 8% CAGR between 2018 and 2025 for the RF front-end market. With US\$15 billion in 2018, this industry should reach US\$25.8 billion by 2025, confirms the RF electronics team at Yole.

Yole and System Plus Consulting have built an overall and detailed picture of the RF front-end architecture as well as a comprehensive industry outlook

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China's Huawei Technologies announced it would build its first European manufacturing plant — and the second outside China — on French soil. The "highly automated and intelligent facility" is expected to produce 4G and 5G equipment and to have a demo center that will showcase the wireless base station production, software loading, and testing process. The €200 million investment, which covers the acquisition of the land, construction, and setup of the machine tools and equipment, is just the first phase. Huawei estimates that the project will create 500 jobs and that the direct annual economic activity will amount to €1 billion.

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Mimicking the way groups of biological neurons operate to recognize temporal patterns, imec said its chip consumes 100 times less power than traditional implementations while featuring a tenfold reduction in latency – enabling almost instantaneous decision-making. For example, micro-Doppler radar signatures can be classified using only 30 mW of power. While the chip's architecture and algorithms can easily be tuned to process a variety of sensor data (including electrocardiogram, speech, sonar, radar and lidar streams), its first use-case will encompass the creation of a low-power, highly intelligent anti-collision radar system for drones that can react much more effectively to approaching objects.

IoT Security Requires 'Multi-Tiered Approach,' Says ST's Scarletella

The IoT ecosystem has undergone explosive growth, thanks to the rapid proliferation of voice assistants and connected devices (such as intelligent thermostats and security cameras) and even intelligent infrastructure. Today, connected devices are integrated into critical management systems for air traffic control, energy networks, environmental controls, and many other high-value systems.

As connected devices on the internet of things become even more widespread, safety becomes a central issue. This will inevitably lead regulators to insist that developers respond accordingly with appropriate security measures for a consumer audience increasingly aware of the positive and negative aspects of ubiquitous connectivity.