

Beat: Lifestyle

NAVITAS Publishes WORLD'S FIRST GaN SUSTAINABILITY REPORT

"ELECTRIFY OUR WORLD™"

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USPA NEWS - Navitas Semiconductor, the industry-leader in gallium nitride (GaN) power ICs has released its first annual sustainability report. As well as detailing the goals and progress of corporate initiatives to reduce its own greenhouse gas emissions, the Sustainability Report 2021 highlights how the company's GaN technology supports global carbon 'net-zero' ambitions by reducing Navitas customers' CO2 footprints and accelerating the evolution from fossil fuels to renewable energy sources and electricity-based applications.

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Navitas publishes world's first GaN sustainability report: "Electrify Our World™"

Navitas is the first company to publish a sustainability report that comprehensively quantifies the positive impact of GaN power semiconductors on climate change based on global standards. The report includes a third-party Lifecycle Assessment (LCA) of GaN technology according to ISO14040/14044, the international standard for assessing environmental impacts throughout a product's life cycle — from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal. The Navitas report also quantifies corporate Greenhouse Gas (GHG) impacts through third-party assessments.

Gallium metal is derived as a by-product when smelting aluminum, and nitrogen is readily-available in our atmosphere, so GaN has a minimal material-origin CO2 footprint, is easily sourced and low cost. GaN is also non-toxic and free from conflict-mineral concerns. And although GaN is an advanced 'wide band-gap' semiconductor material, GaN power IC devices can be manufactured using older, well established and available CMOS processing equipment (350nm). As a result, GaN device production today yields 3-5x greater output for a given equipment set when compared to traditional silicon power devices.

As a next-gen power semiconductor, GaN runs up to 20x faster than legacy silicon and enables up to 3x more power and 3x faster charging in half the size and weight. Navitas' GaNFast™ power ICs integrate GaN power and drive plus protection and control to deliver simple, small, fast and efficient performance. Due to advanced-material performance and Navitas' proprietary AllGaN process design kit, GaN power ICs are much smaller than silicon chips, and have 4x-10x lower CO2 footprint to manufacture and ship.

High-efficiency, high-speed applications using GaN power ICs are smaller, lighter and use less material and less energy than silicon systems. For example, a 65W laptop adapter with GaN has up to 30% lower footprint – delivering a net-benefit of over 4 kg of CO2 reduction per GaN IC shipped. In data centers, GaN has the potential to save over 10 million tons of CO2/year through increased efficiency. When GaN is considered for EV applications like on-board chargers, DC-DC converters and traction drive, it is estimated that an upgrade from silicon to GaN could accelerate the worldwide transition from internal combustion engines to EVs by 3 years, and reduce total road-sector emissions by 20% per year. The report also explains how GaN ICs drive down cost-per-watt of energy conversion and storage in solar power applications to support cost reductions of up to 25% - reducing payback periods and accelerating adoption.

"Our mission is to become the next-generation power semiconductor leader and contribute to reduction of fossil-fuel emissions as we work with others to 'Electrify Our World'," says Navitas CEO and co-founder Gene Sheridan. "Our technologies can increase our customers' ability to achieve their own CO2 emissions targets by reducing the end-use electricity and material requirements of their products. We contribute to power and emission reductions in every major market segment across mobile, consumer, industrial, computing, communications and transportation, and strive to be a critical enabler of improvements in electrification and energy efficiency to meet the Paris Accord's Net-Zero goals as highlighted in the IEA's World Energy Outlook 2021 report."

* Photo cover: "Our mission is to become the next-generation power semiconductor leader and contribute to reduction of fossil-fuel

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