APEC

June 2021

"Electrify Our World™"

Stephen Oliver
VP Corporate Marketing & Investor Relations
stephen.oliver@navitassemi.com

Navitas

Energy • Efficiency • Sustainability

Rev 5-4-21

GaN Video

Navitas

Navitas

- **Energy** to revolutionize power electronics
- **Energy** to accelerate change
- **Energy** to make a sustainable difference for our world

Navitas

GaN is a high-speed semiconductor that switches up to 100x faster than Si and enables more efficient, smaller, lighter, cooler and lower cost systems; delivering 30-40% in energy savings.

Navitas

Sustainability

By the 2050 timeline of the Paris Accord, GaN will address a 2.6 Gtons/year reduction in CO_2

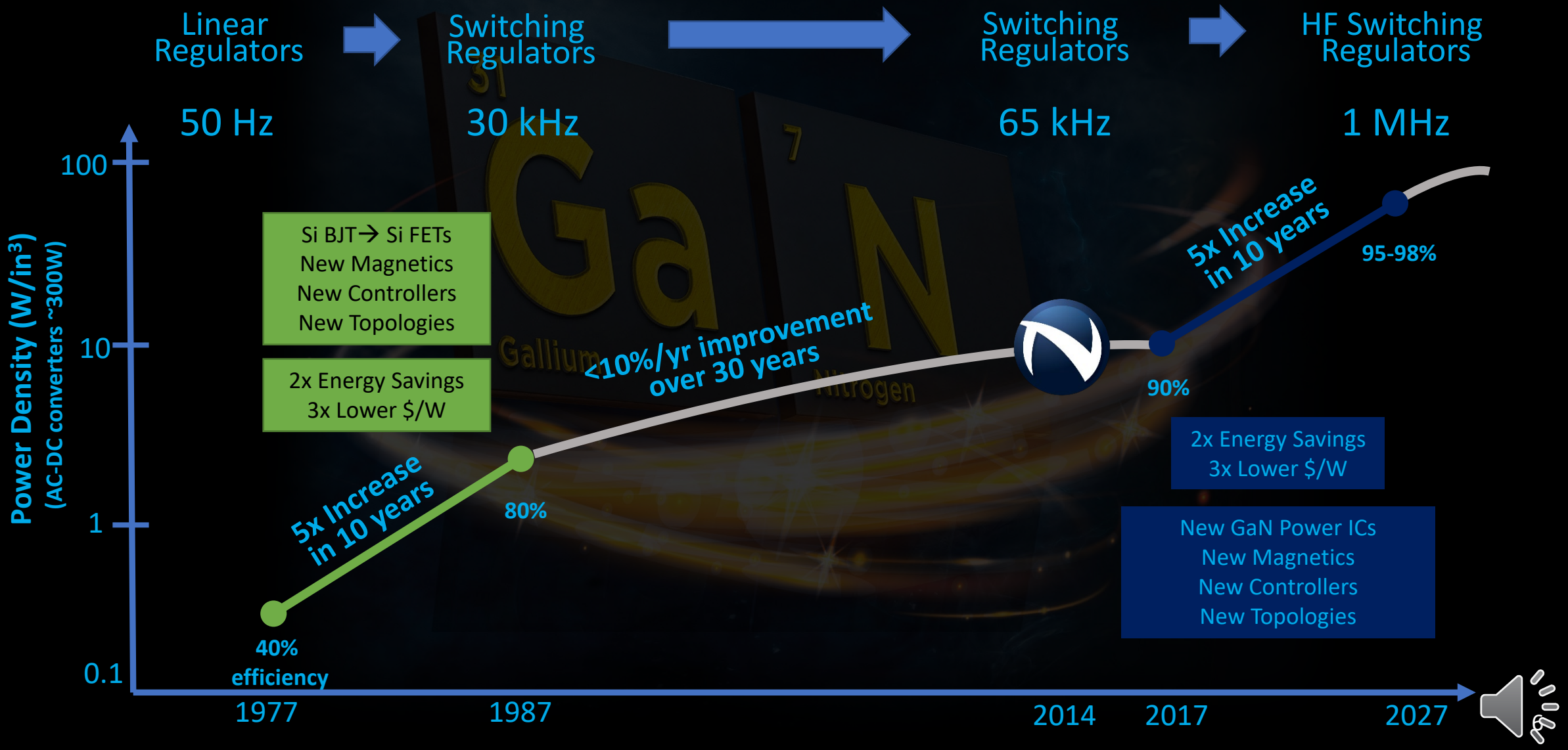
- **Over 6.5 trillion** miles driven by an average car,
- **Over 6 billion** barrels of oil, or
- **650** fewer coal power plants

Source: Company information, DNV GL, EPA, IEA, International Renewable Energy Agency (IRENA)
Assumes 58.9% renewable electricity emissions reduction attributable to non-solar generation and 25% GaN share of Si replacement. Assumes 10% demand reduction, 50% efficiency improvement and 50% GaN share of Si replacement

Once every 40 years…

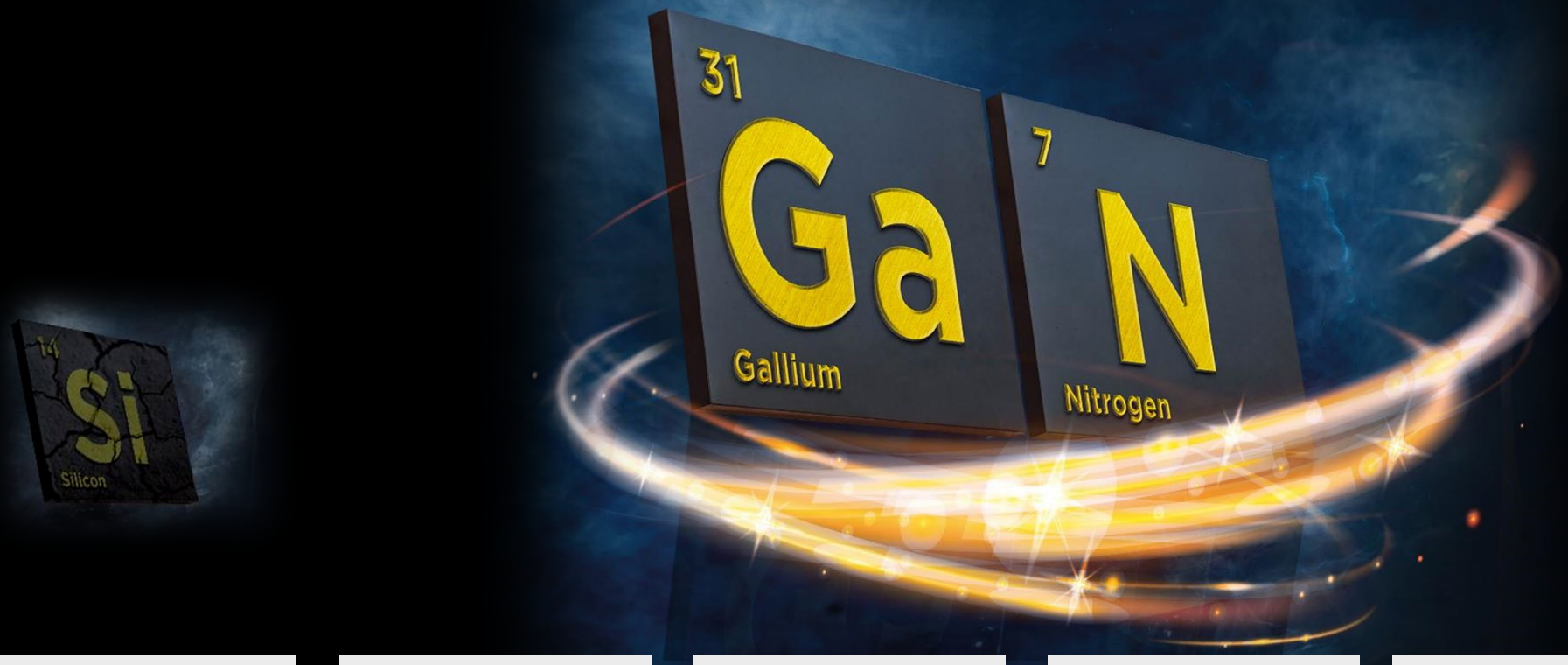
Second Revolution in Power

Navitas



The Enabling Force

Navitas

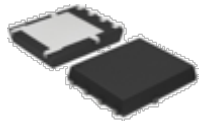
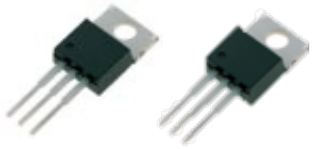


20x Faster Switching	**3x** Smaller & Lighter	**Up To 40%** Energy Savings	**Up To 3x** Higher Power Density	**3x** Faster Charging	**20%** Lower System Cost

Note: Statistical data is based on Navitas estimate of GaN-based power systems compared to Si-based systems in the 2024-2025 timeframe. Based on Navitas measurements of select GaN-based mobile wall chargers compared to Si-based chargers with similar output power. Relative to silicon, GaN has 10x stronger electrical fields and 2x greater electron mobility, enabling high voltages in fast chips and fast switching with high energy savings.

GaN Integration Is Key To Speed, Efficiency And Size

Navitas' proprietary integration unlocks GaN's potential

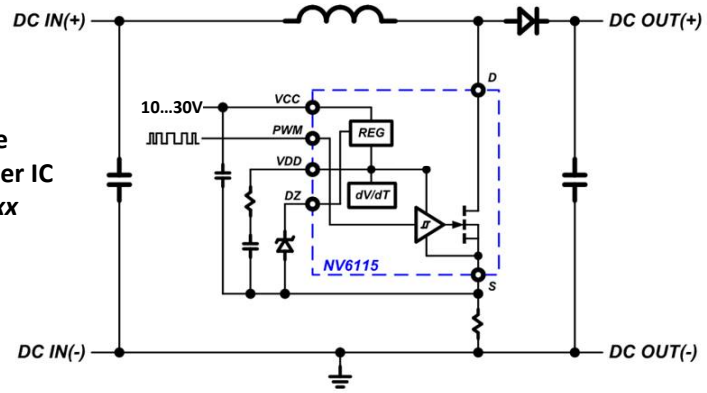
Solution	Drive, Control & Protection	Power	Speed (Switching Frequency)	Passive & Mechanical Components	Energy Efficiency	Size & Weight Density
Navitas **GaN Power ICs**	 **Compact, integrated solution** Combines drive, control, protection and power		 **2MHz**	 **Small / Light**	**92-95%** (40% energy savings)	**3x**
Discrete GaN			 **500kHz**	 **Medium Size / Weight**	**88-92%** (20% energy savings)	**2x**
Silicon			 **100kHz**	 **Large / Heavy**	**85-90%**	**1x**

Note: Based on Navitas estimate for typical 65W mobile wall charger.

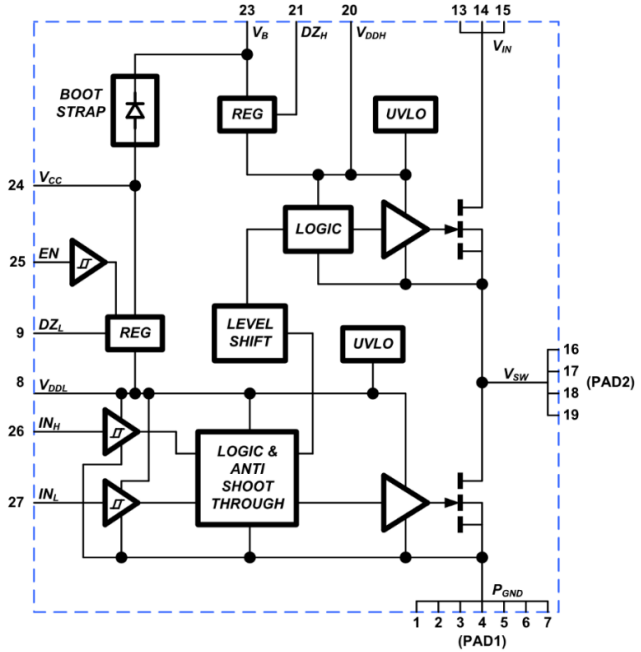
GaNFast™ Power ICs: Single, Half-Bridge

Navitas

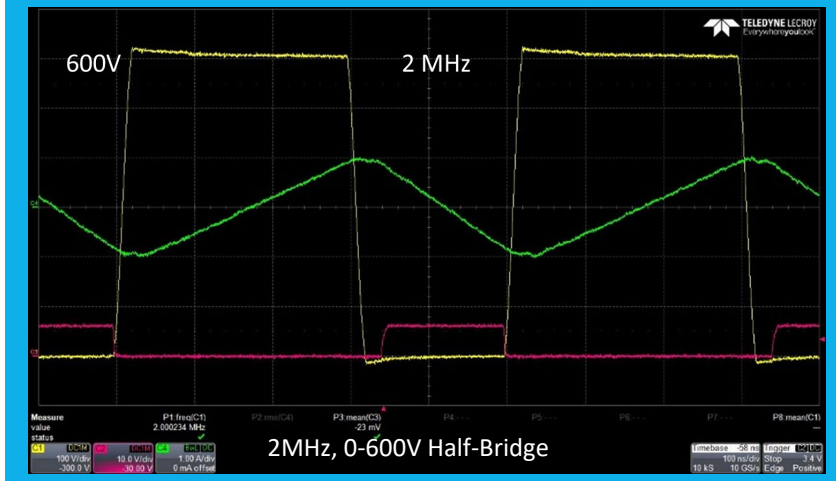
Single GaN Power IC *NV61xx*

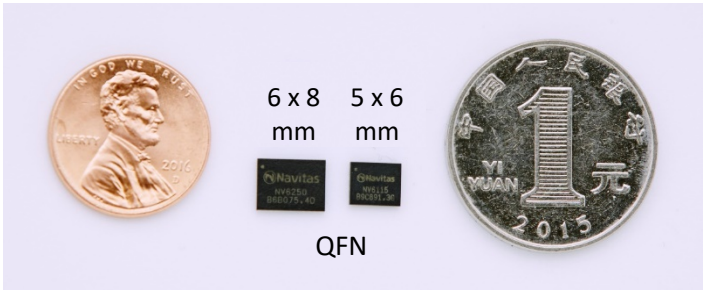


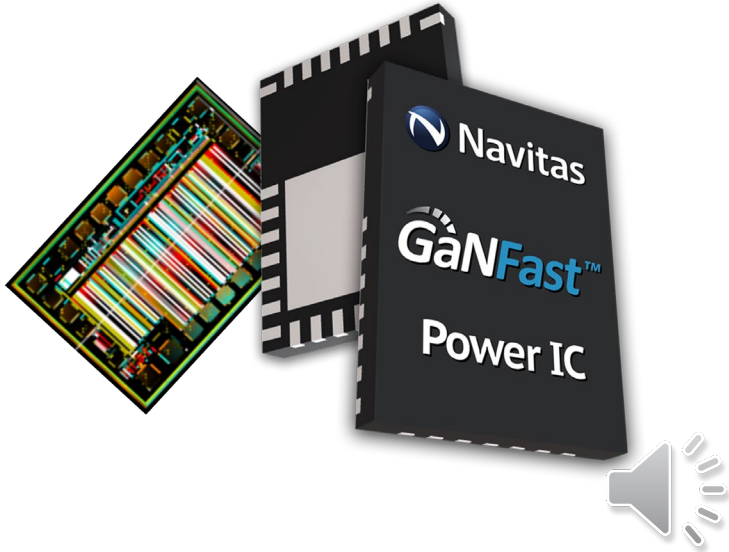
Half-Bridge GaN Power IC *NV62xx*



- "Digital In, Power Out"
  - 650V/800V, 2MHz
  - Monolithic integration
  - GaN Power FET(s), GaN Driver, Control and Protection
  - On-board regulators, hysteretic input, level-shift, bootstrap
  - dV/dt control, UVLO, shoot-through & ESD protection







Leadership in:
Industry Experience & Impact

Navitas

Gene Sheridan
Co-Founder
& CEO

Dan Kinzer
Co-Founder
& CTO/COO

Nick Fichtenbaum
Co-Founder
& VP Engineering

Jason Zhang
Co-Founder
& VP Applications,
Technical Marketing

David Carrol
Sr VP Worldwide
Sales

Stephen Oliver
VP Corporate Marketing
& Investor Relations

Marco Giandalia
VP IC Design
Engineering

Anthony Schiro
VP Quality
& Sustainability

Todd Glickman
VP Finance

Charles Zha
VP & GM
Navitas China

Lip-Bu Tan
Advisor

1st GaN power IC 2014

1st commercial planar MOSFETs (co-inventor)

1st integrated driver + FET

1st High-Voltage Power ICs

1st p-ch power MOSFET

300+ years of power semiconductor experience[1]

>$4B/yr revenue created[2]

320+ patents

20+ generations of power semiconductors

>5,000 power products

200+ technical papers

120+ employees, 70% of management with PhD, MSEE, MBA

News, May 7th 2021: "Navitas Semiconductor, the Industry Leader in Gallium Nitride (GaN) Power ICs, to Go Public at an Enterprise Value of $1.04 Billion via Live Oak II SPAC Business Combination"

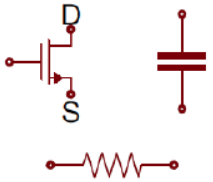
(1) Based on cumulative professional experience of the Navitas senior management team. Navitas estimate based on co-founder accomplishments spanning their professional careers.

Leadership in: *Innovation*

- Industry inventor and pioneer for GaN power IC
- Multi-year lead over all other GaN suppliers
- 120+ patents
  - Proprietary AllGaN™ PDK
    - Integrated drive, control and protection with proprietary GaN power FET
  - High-frequency packaging
  - High-frequency systems

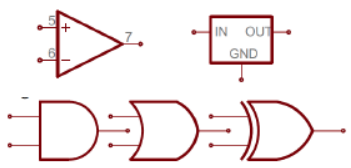
Device Development / Library

- 650V eMode power FET
- 12-40V eMode power FET
- 650V dMode power FET
- 12-40V dMode power FET
- 2-DEG & SiCr resistors
- Gate capacitors
- MIM / hybrid capacitors
- Over 20 devices developed



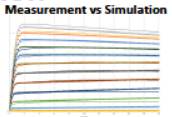
Circuit Development / Library

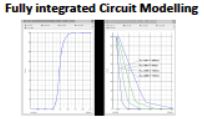
- Logic gates & latch
- Linear regulators
- Comparators
- Voltage sensors
- Charge pump
- Bootstrap circuits
- Level-shifters
- Protection circuits
- Over 20 circuits developed



Models & Simulation

- Device & circuit models w/ <5% accuracy
- Ultra-fast system simulations (Simplis)
- Accurate and fast device, circuit and system models cut design time from weeks to days and reduce design cycles by 50-75%





Characterization & Verification

- Dedicated & automated characterization stations (wafer level, package)
- Safe Operating Area (SOA)
- Layout Design Rule Checker (DRC)
- Layout Versus Schematic (LVS)
- Layout Parasitic Extraction and simulation tool (LPE)
- Over 1Mu characterized

Overcoming Key Barriers To Entry

Navitas

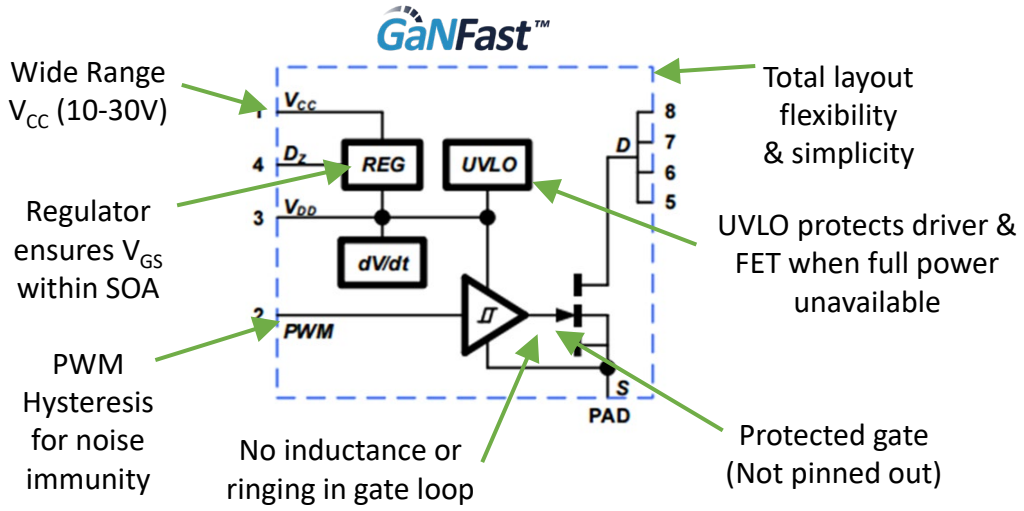
	Significant Barriers to Entry		Proprietary GaN IC
Manufacturability	**Poor Manufacturing / Yields** Material mismatch (GaN / Silicon)		**Stable >90% Yields(1)**
Reliability	**Poor Reliability** Defect densities	***Founding Team with 30+ Years of GaN Experience***	**Fully-Qualified, >1B Device Hours Tested, >20Mu Shipped(2), Zero Failures(3)**
Complexity	**Extra System Components** Difficult to drive, control and protect GaN FET		**Single Integrated IC Solution**
Cost	**High Manufacturing Costs 2x-3x Si** Limited GaN production capacity		**Low GaN Manufacturing Costs** Volume, Integration & Manufacturing Leadership

(1) Based on Navitas production data over prior 6 months for highest volume products based on wafer-level and final test yield results.
(2) Based on cumulative production shipments through Q1 2021.
(3) Based on no customer-reported consumer failures for production shipments through March 2021.

Leadership in: Reliability

Navitas

Reliability by Design



Field-Proven Reliability

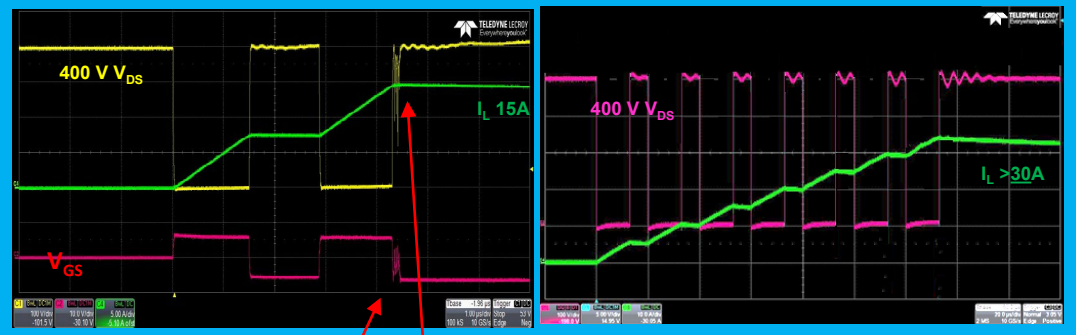
As of May 3rd, 2021

20,000,000 GaNFast power ICs shipped	46.4B Device Hours In the Field
0 Field Failures	0 Field PPM
0.16 FIT Rate	5.8B Equivalent Device Hours Tested

GaNFast power ICs shipped: Production material only.
Device Hours in the Field: assumes 3-month allocation for transits, distribution and customer assembly times.
Field Failures: confirmed GaN-related field-use failures.
Field ppm: Parts per million defect ratio (# field failures / # Million units shipped)
FIT Rate: 'Failures In Time' (# Reliability Test Failures / Billion Equivalent Device Hours)
Equivalent Device Hours Tested: Total device hours tested x reliability acceleration factors.

Integrated Gate Reliability

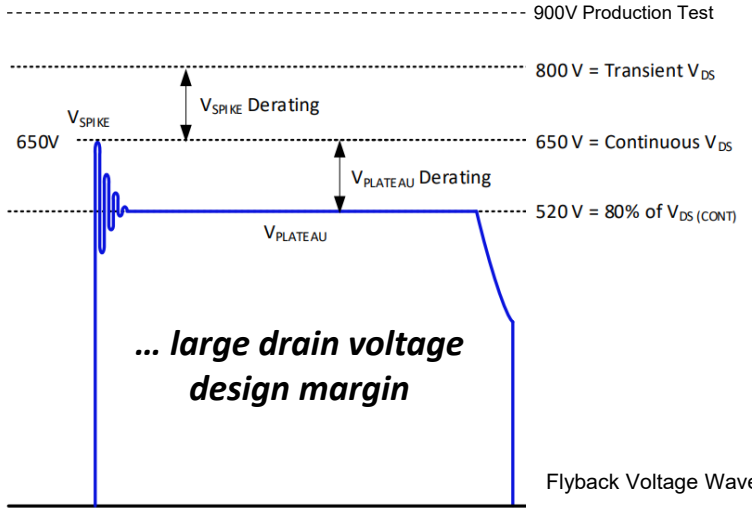
Discrete GaN ⟹ **GaN Power IC**



- Exposed gate
- Faulty switching
- Dangerous ringing & glitching!
- Significant reliability risks

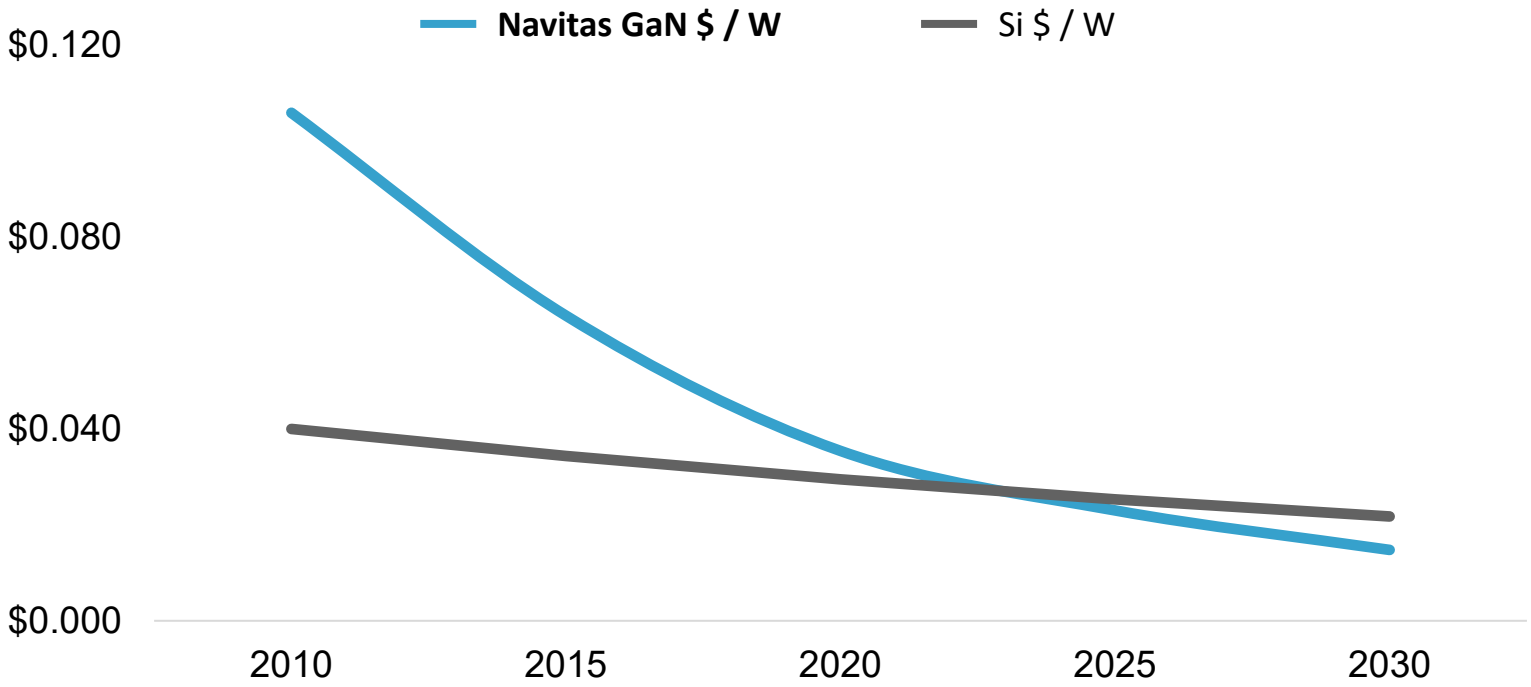
- Integrated gate drive
- Clean switching
- Safe, robust and reliable performance

Integrated Drain Reliability



Leadership in: System Cost

Navitas GaN vs Silicon – $/W (1)



Navitas Advantage

Early Mover Advantage
High yields and
low manufacturing cost(2)

New GaN Generations Every Year
Cost and performance improvements
each generation

Increasing Levels of GaN Integration Every Year
Lower customer implementation costs

Faster GaN Performance Every Year
Smaller and lower cost external
components every year

(1) Navitas estimate comparing cost of GaN-based vs Si-based wall charger bill-of-materials cost (high-voltage power device, driver/controller, magnetics, PCB and case) for typical 65W mobile charger.
(2) Based on Navitas production release of 650V GaN power IC in Q3 '18.

Leadership in:

System Design, Capacity, Roadmap & Climate

Navitas

System Design

- #1 in GaN, #1 in high-freq. power, #1 in planar transformer
- Shanghai, Hangzhou, Shenzhen, Los Angeles
- Dedicated customer support from concept to MP

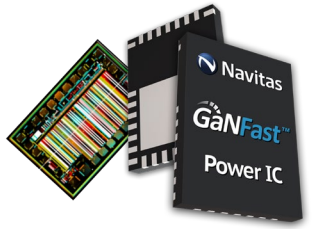
World's smallest:

50W PPS
500 kHz

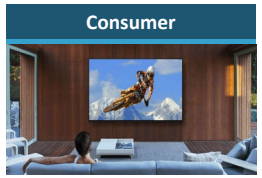
65W PD
400 kHz

1kW 400V DC-DC ¼-brick
825 kHz

Roadmap



- New generation every 9-12 months
- 20-30% better cost/performance every generation
- Higher:
  - Frequency
  - Efficiency
  - Integration
  - Power density

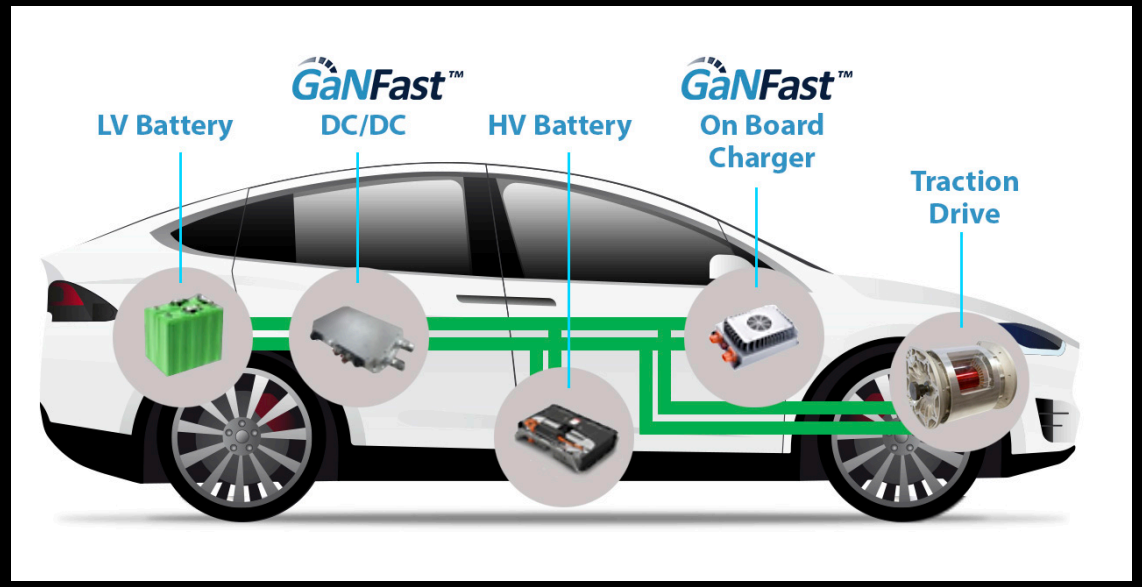


Capacity

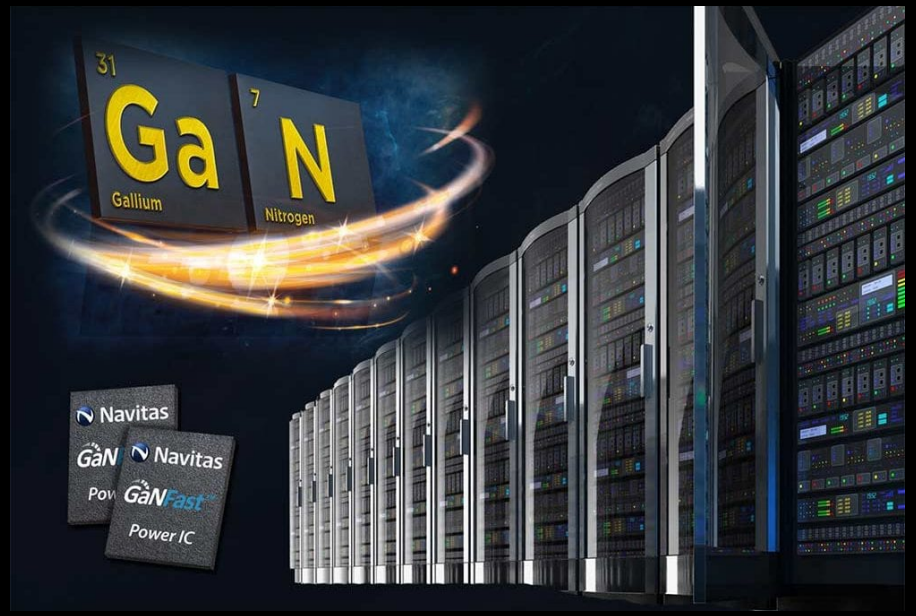
- Production since 2018, #1 in GaN shipments
- >300% capacity increase planned for 2022
- 3-5x more die per wafer compared to Silicon

Sustainability

- "Electrify Our World™"
- GaN can impact >33 Gtons of cumulative CO_2 reduction by 2050
- Navitas NetZero program
- CO_2 'Total Lifecycle Analysis'
  - GaN charger has 50% lower CO_2 footprint than silicon
- Target to support suppliers' and customers' sustainability goals



Energy, Efficiency & Sustainability Apply to All Markets



Generating Exciting Growth

Navitas

Headcount, Valuation & Revenues

Founded

World's 1st GaN Power IC Prototype

World's 1st GaN Half-Bridge Prototype

World's Smallest 25W USB-A

World's Smallest 150W

3.2kW Data Center Prototype

30+ Patents

World's Smallest 65W USB-PD

Mass Production

World's Thinnest 45W USB-PD

World's Smallest 27W USB-PD

3kW EV Prototype

World's Smallest 300W

100+ Patents

World's Smallest 65W

120+ Patents

NetZero CO_2 Program

20,000,000 Shipped
Zero Failures
(May 3rd 2021)

Consumer
Enterprise
Renewables /Solar
EV / eMobility

ANKER
AUKEY
RAVPOWER
mu

verizon
ASUS
NVIDIA
Baseus
FULHAM
HYPER
EINOVA

mi
Lenovo 联想
oppo
DELL
belkin
realme
spigen
DENSITYPOWER

amazon

75+
GaN Chargers In Mass Production

150+
GaN Chargers In Development
(MP 2021, H1'22)

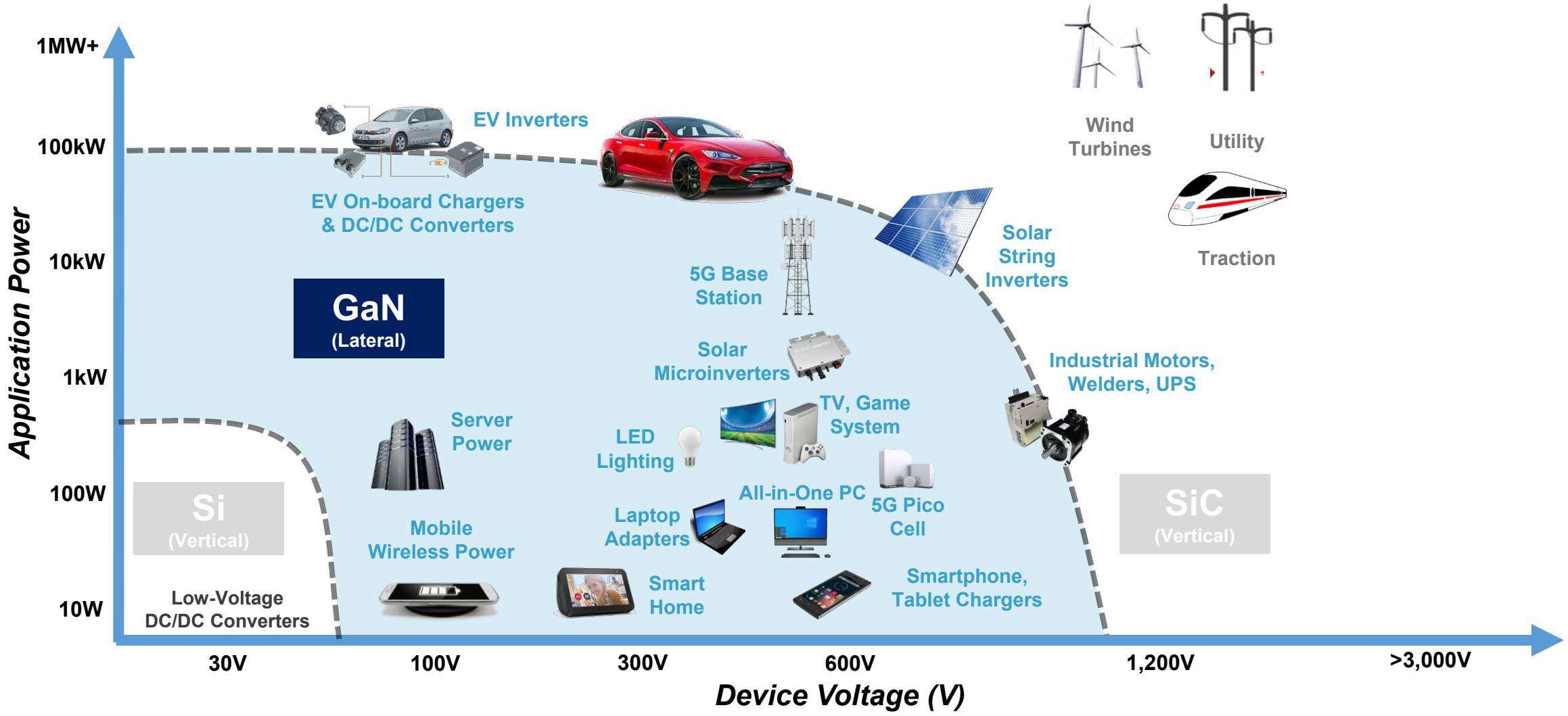
90%+
Mobile OEMs Designing With Navitas GaN ICs

2014 2015 2016 2017 2018 2019 2020 2021 *Future*

Note: Charger metrics as of March 2021.

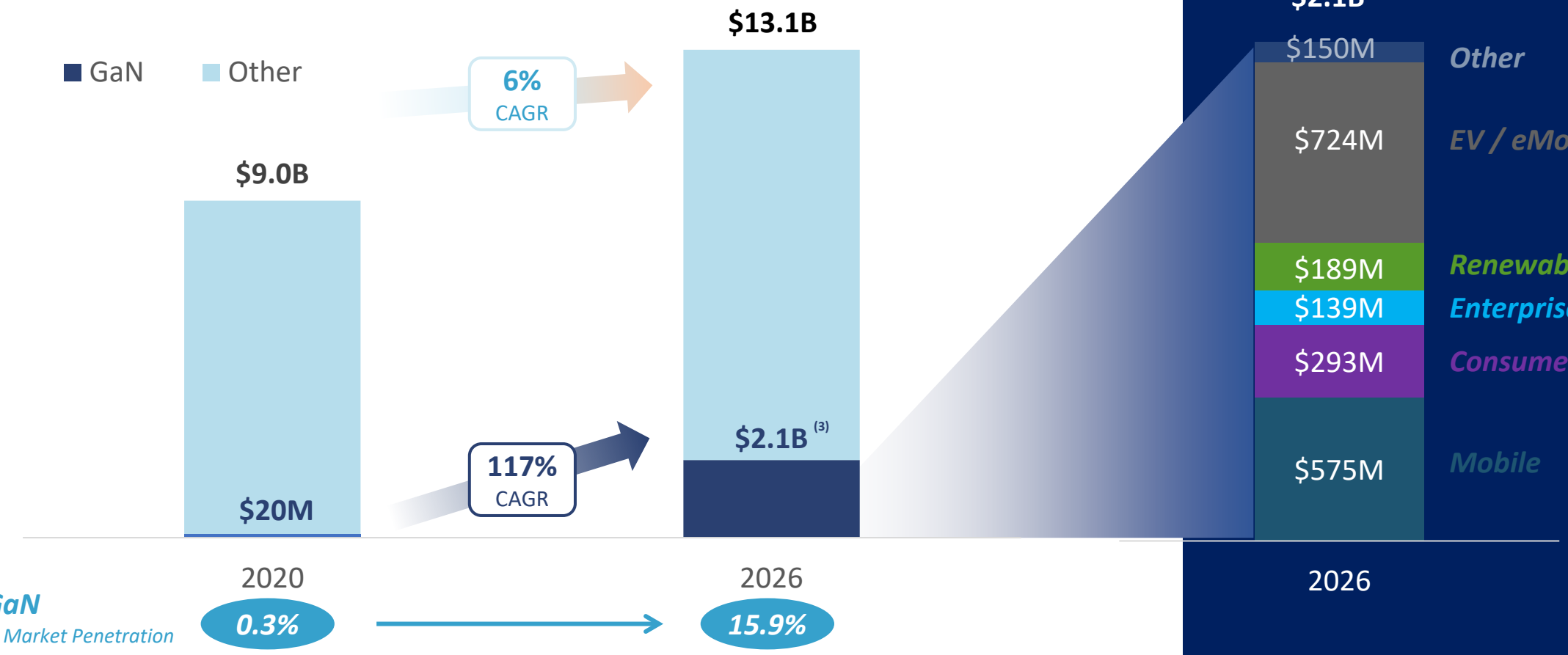
In Broad Markets & Applications

Navitas



GaN ICs Address a $13B TAM

GaN Grows 20x Faster Than Total Power Semi TAM(1,2)



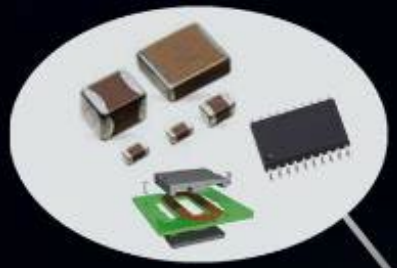
(1) GaN IC potential market based on voltage rating of 80V – 1,000V derived from Yole Développement, Status of the Power Electronic Industry 2020.
(2) IHS SiC GaN Power Semiconductors Report 2020, Yole Power Devices Summary – 2019-25, expert interviews.
(3) Reflects midpoint of forecasted 2026 market size range of $1.6 billion to $2.6 billion.

Join the GaN Generation!

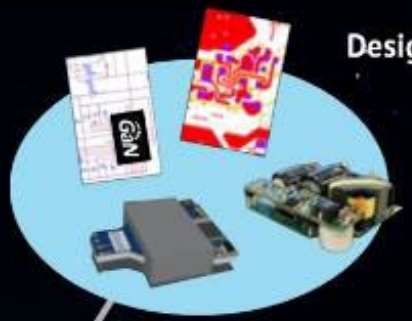
Navitas

Team Navitas

Power Electronics Partners

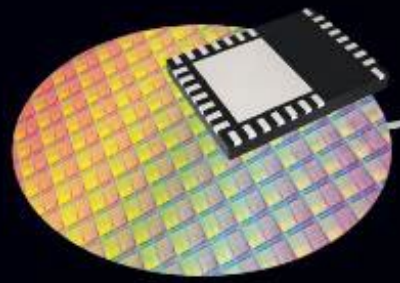


Design Houses



Customers

Manufacturing Partners



Consumers

Investors

Environmental Groups

Universities

www.navitassemi.com
www.ganfast.com

Let's go GaNFast™