



GaN Adoption, Market-by-Market

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The Enabling Force



Navitas:
Over 35M GaNFast ICs shipped
Zero GaN-related field failures

20x

Faster
Switching

3x

Smaller &
Lighter

Up To
40%

Energy
Savings

Up To
3x

Higher
Power Density

3x

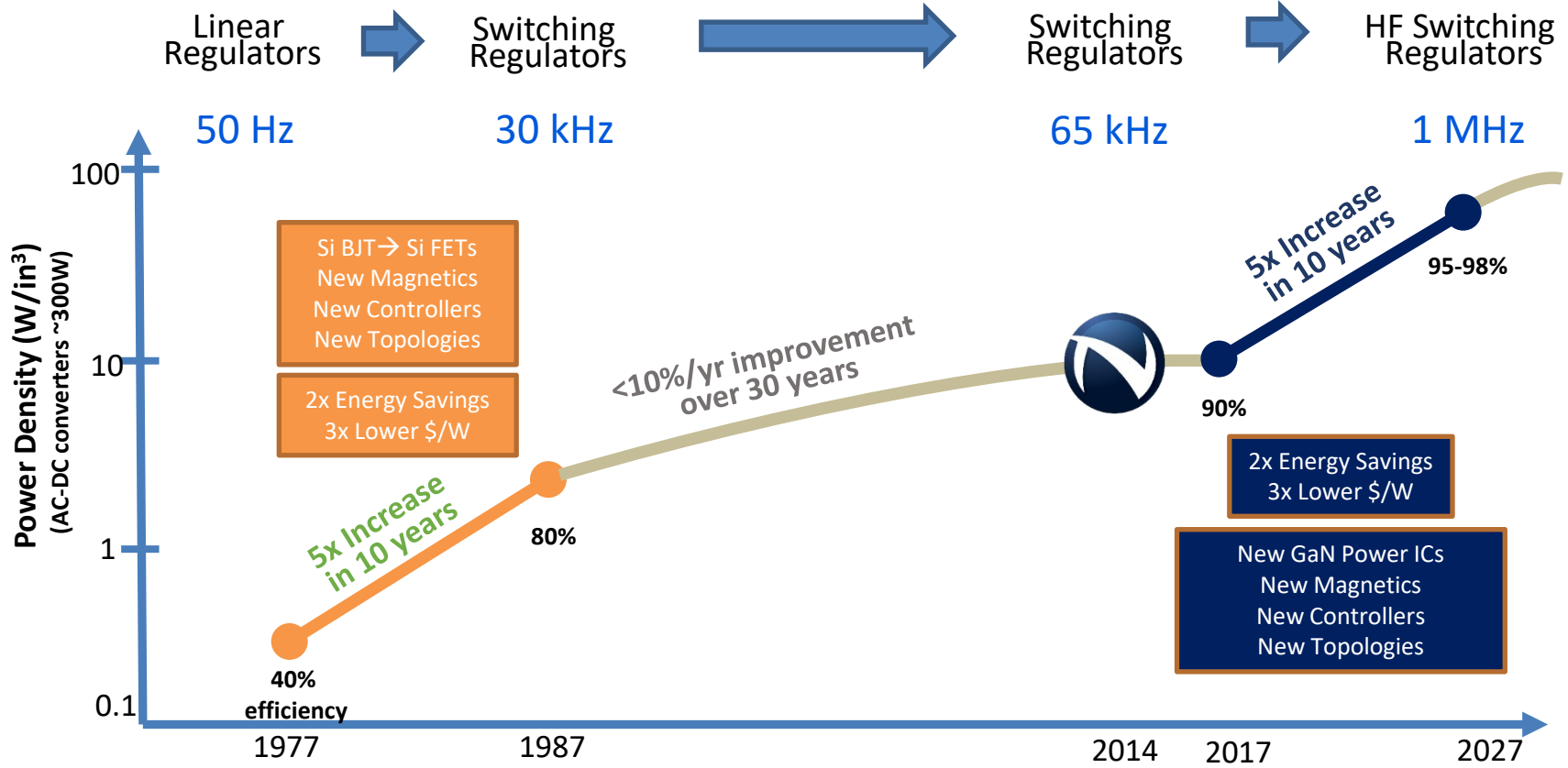
Faster
Charging

20%

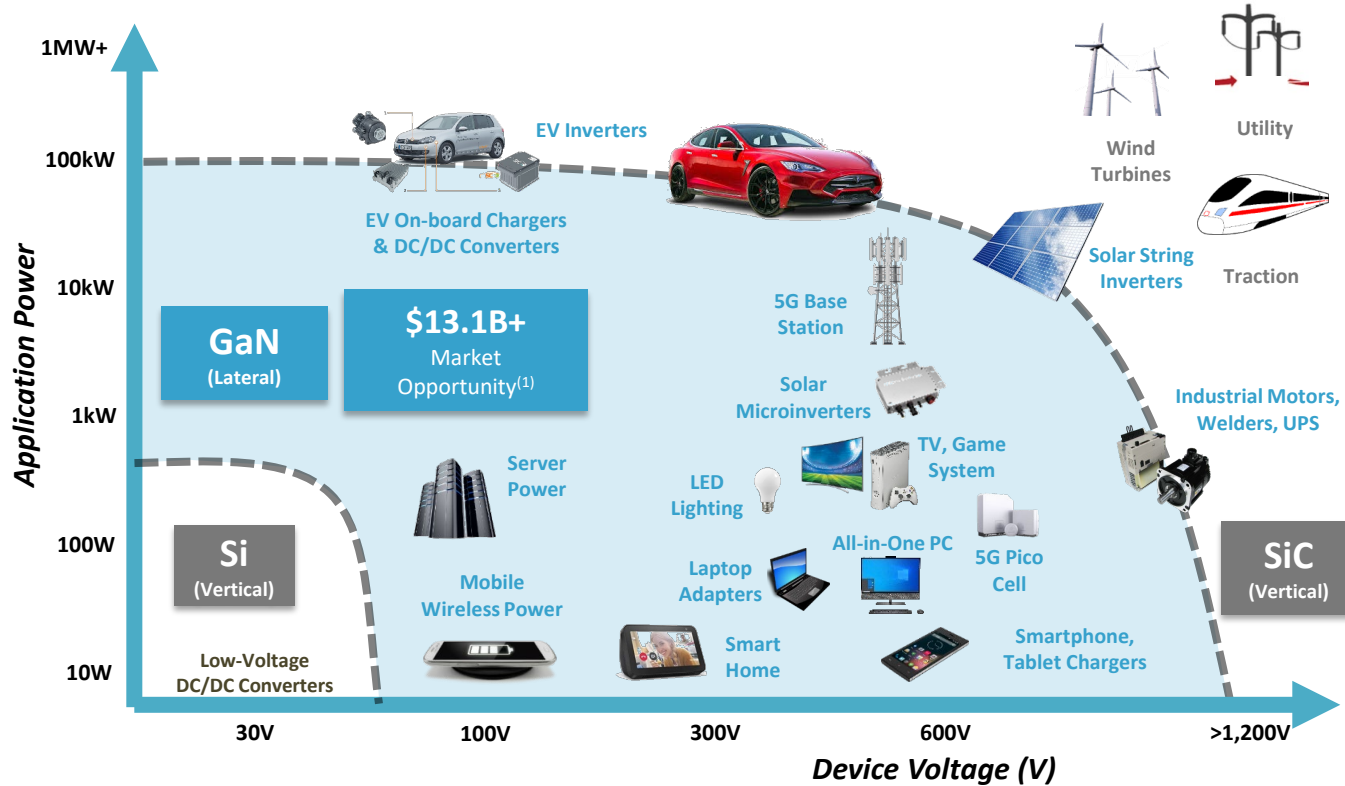
Lower
System Cost

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.

Second Revolution in Power



An Expansive Market Opportunity



GaN vs. SiC Comparison		
	GaN	SiC
Device Structure	Lateral	Vertical
Circuit Integration	Yes (Power + Analog)	No
Switching Frequency	Highest (200 kHz – 2 MHz)	Medium (100 – 300 kHz)
Cost	Si substrate (very low cost)	SiC substrate (10x cost vs Si)
Thermal performance	Same as Silicon (1.3 W/cmK)	Highest (3.8 W/cmK)

(1) GaN IC potential market based on voltage rating of 80V – 1,000V derived from Yole Développement. Status of the Power Electronic Industry 2020. Reflects estimated GaN market opportunity for power semiconductors by 2026.

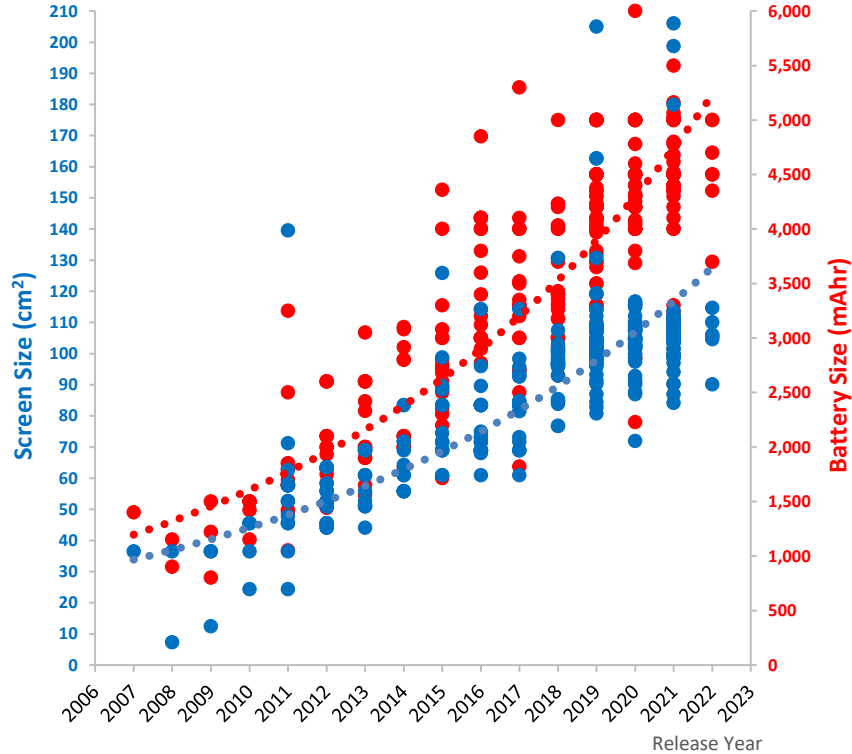
Phones: More Battery, Longer Charge Time



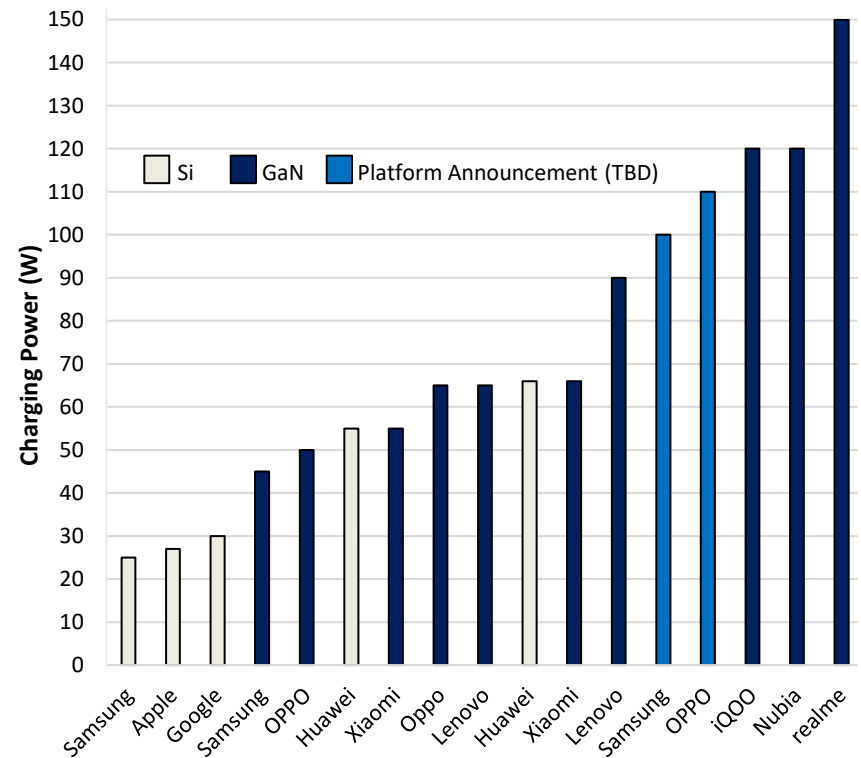
Phones: More Battery, More Power

Screen Size and Battery Capacity

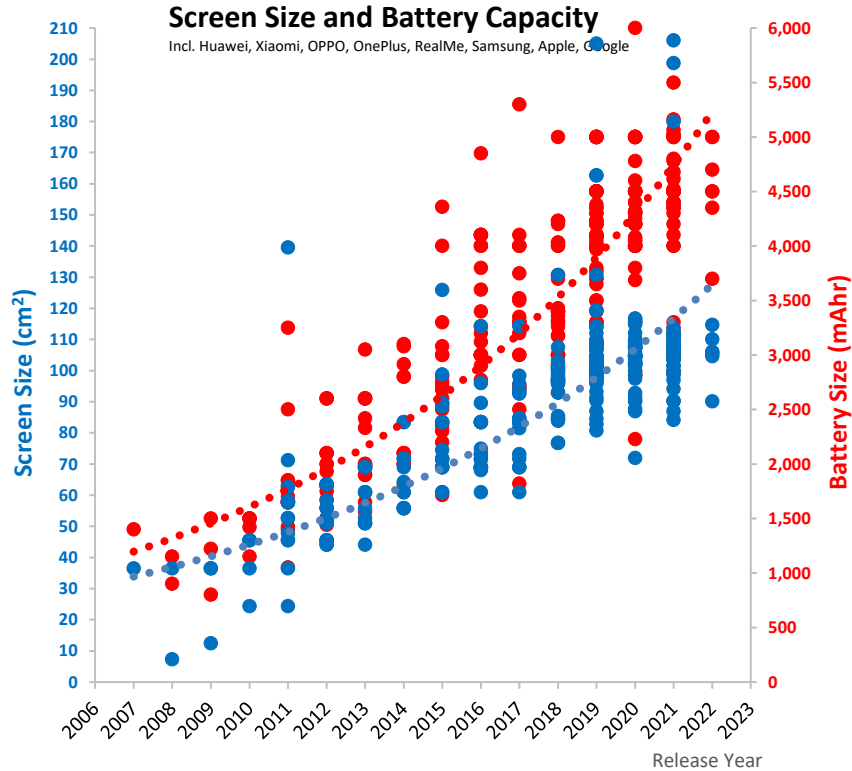
Incl. Huawei, Xiaomi, OPPO, OnePlus, Realme, Samsung, Apple, Google



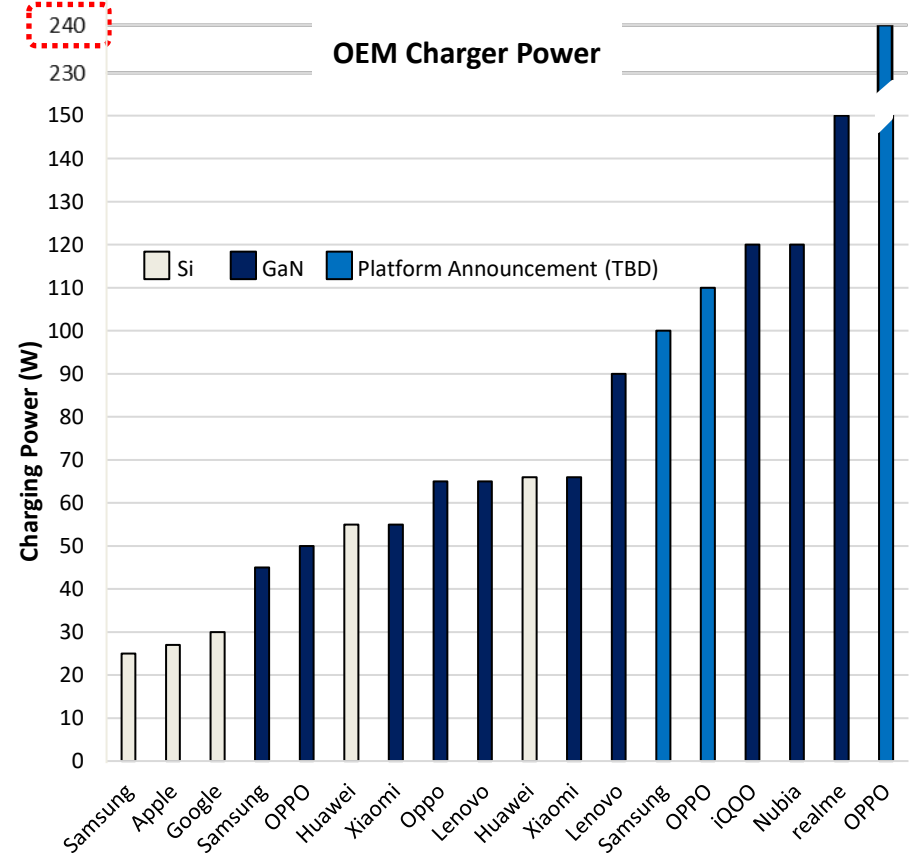
OEM Charger Power



Phones: Even More Power



USB-PD 3.1 Extended Range to 240W



Fast... Now Ultra-fast Chargers

- New, fast-growth market
- Full charge in <10 mins (150W), <20 mins (120W)
- Require 2x or 3x GaN power ICs
 - PFC and DC-DC stages



Xiaomi Note 11 Pro+, 120W



vivo iQOO 9, 120W



Realme GT Neo 3, 150W

GaN Adoption Within A Market

muⁱⁱ



Boutique Aftermarket
2018

AUKEY



Major Aftermarket
2019

DELL



Tier-1 Accessory
2020

DELL



Tier-1 In-Box
2021

GaN Adoption Within A Customer



“How tiny is this GaN charger?”

Xiaomi CEO



Tier-1 Accessory
Feb '20



Tier-1 In-Box Option
Dec '20



Tier-1 In-Box
Feb'21

Consumer Choice

标准版
不含充电器和数据线



¥3999起

The image shows a white rectangular box for the Xiaomi Mi 11 standard edition. The box features the '11' logo in gold on the top surface and 'XIAOMI 11' on the side. A small gold square is visible in the top right corner of the box.

Use an existing charger
(save CO₂)

套装版
小米11标准版
55W小米GaN充电器(99元)









¥3999起

The image shows the same white rectangular box for the Xiaomi Mi 11 kit edition. To the right of the box is a smaller image of the 55W GaN charger and its packaging, which is white with a red accent.

Get a GaN charger for free
(and still save CO₂)

Smaller, Lighter, Lower Cost

	<i>Silicon</i>			<i>GaN</i>		
Brand	Innergie	Apple	Lenovo	AUKEY	Xiaomi	Lenovo
						
Size (cc)	57	149	79	61	53	63
Weight (g)	86	193	127	92	82	93
Price (\$)	\$109	\$69	\$46	\$36	\$32	\$30

Average 45% smaller, lighter, lower cost

3-in-1, 3x Smaller, Lighter, Cheaper



Apple Si 18W
42 x 41 x 27 mm
= 47 cc, 60 g
(fixed AC pins)

Retail \$29



Apple Si 30W
55.9 x 55.9 x 32 mm
= 87 cc, 158 g

\$49



Apple Si 61W
73 x 73 x 28 mm
= 149 cc, 193 g

\$69



USB-C #1 up to 65W
USB-C #2 up to 30W
USB-A up to 30W

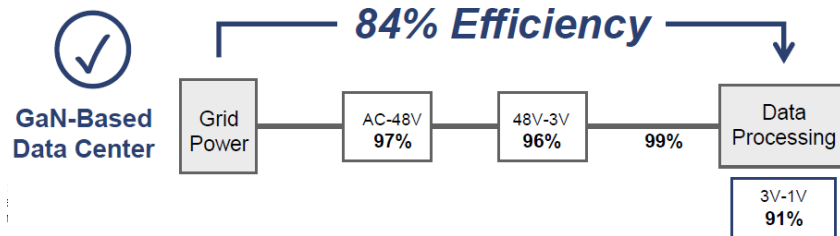
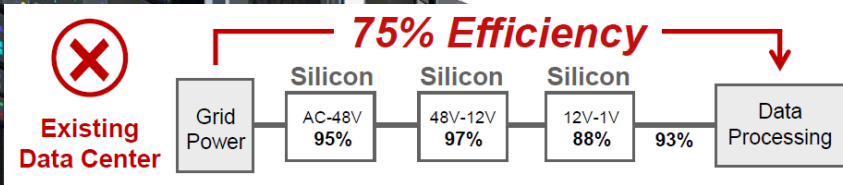
B Baseus GaN 65W
75 x 35 x 32 mm
= 84 cc, 125 g

283 cc, 411 g, \$147



84 cc, 125 g, \$35

Data-Center



GaN could save >15 TWh or \$1.9B/yr or over 10 Mtons CO₂/year

NEWS!

“Titanium Plus!” European Union’s ‘Directive 2009/125/EC, 2019 Annex’, in force by January 1st, 2023.



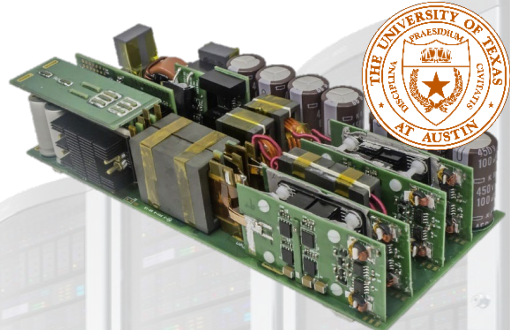
“GaN is a breakthrough new technology”



Data-Center: AC Power



3kW GaN/Si AC-54V
50kHz PFC
(109 x 41,5 x 327 mm)
(2.0 W/cc, 37 W/in³)



3.2kW 'All GaN' AC-54V
MHz CrCM Totem-Pole PFC + **MHz** LLC
(210 x 81 x 43 mm)
(4.4 W/cc, 72 W/in³)



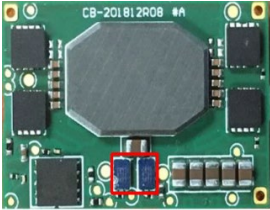
1.2kW GaN/Si CPRS AC-12V
T-P PFC + LLC
(185 x 73.5 x 39 mm)
(2.26 W/cc, >96% pk)

“Lower cost than silicon”

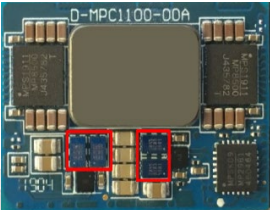
Data-Center: DC Power

48V courtesy EPC (EPC2045)
400V Navitas NV61xx

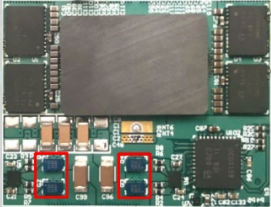
48V DC-DC



- Production GaN (Delta)
- 300 W 10:1, 27 x 18 mm, **1700 W/in³**



- Production GaN (MPS)
- 300 W 10:1, 27 x 18 mm, **1700 W/in³**



- Reference Design (TI)
- 600 W 6:1, 26 x 36 mm, **1700 W/in³**

400V (HVDC) "1/4 Brick" DC-DC



Best-in-Class Silicon: 150W

High Speed GaN = 2x-6x More Power



Production GaN: 300W

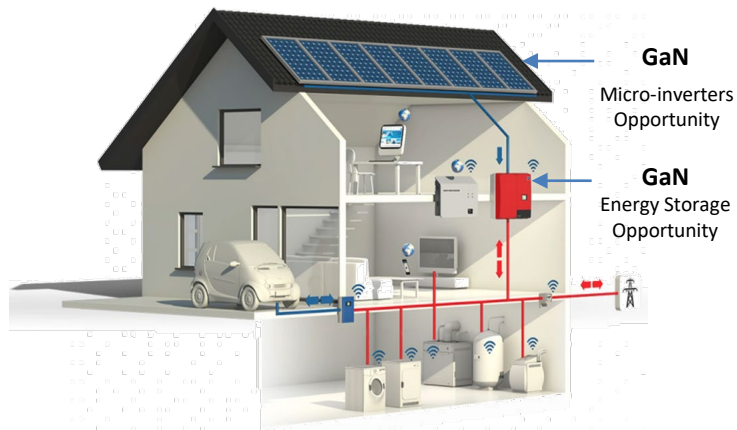
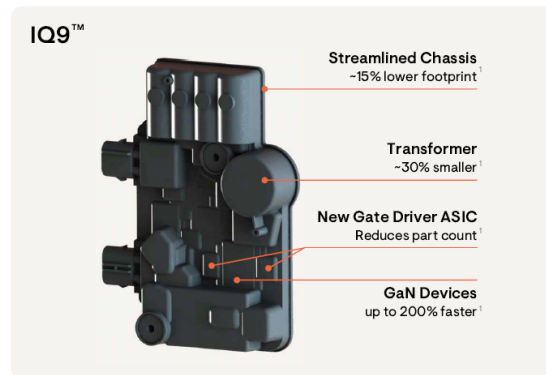


Prototype GaN: 1,000W

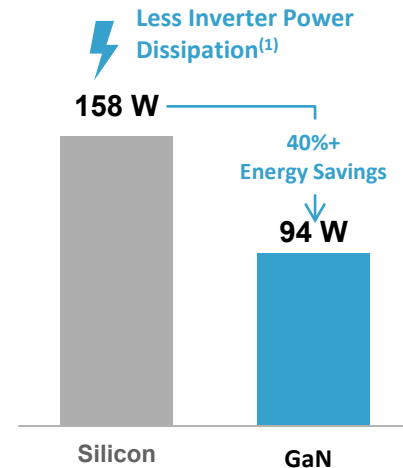
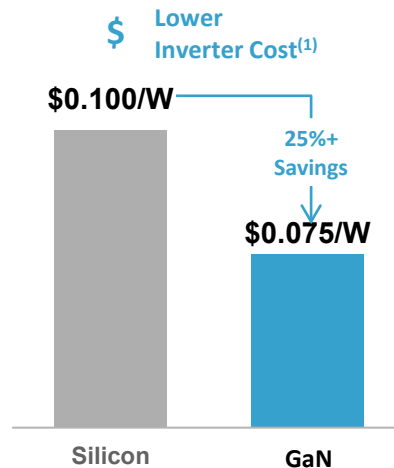
Solar

“It's the *end of the road for silicon.*”

“GaN offers >10x frequency, *significant* cost advantages”



Power is converted from DC low-voltage solar panels to AC high-voltage to power your home or the power grid and to high-voltage DC stored in a battery (energy storage).

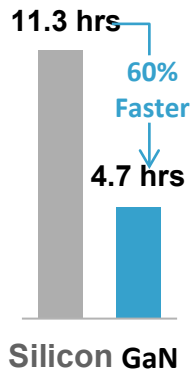


(1) Navitas estimate based on 6.2 kW residential installation with silicon inverter at 97.5% efficiency and GaN inverter at 98.5% efficiency.

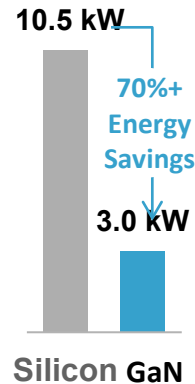
eMobility

- Accelerate Adoption by 3 years⁽¹⁾
 - 3x faster charging⁽²⁾
 - 70% energy savings enables
 - 5% longer range, or 5% lower battery cost⁽³⁾

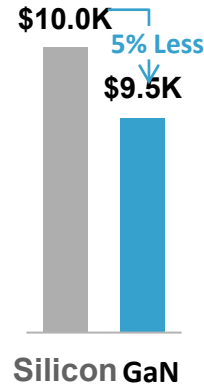

Faster
Charge Time⁽⁴⁾



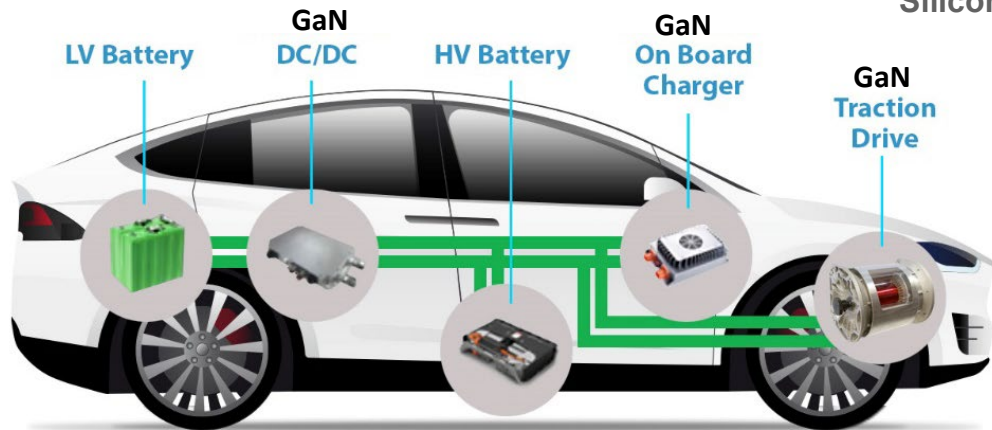
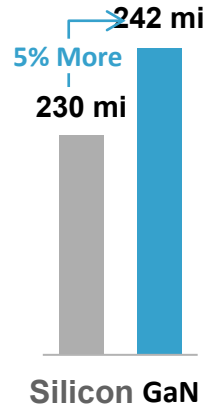

Less Inverter
Power Dissipation




Lower
Battery Cost




Longer
Driving Range



- OBC ~\$ 50
- DC-DC ~\$ 15
- Traction ~\$200
- GaN potential/EV = ~\$250⁽⁴⁾

(1) Navitas engineering estimate 6.6 kW Si OBC vs. 21 kW GaN OBC assuming a 90 kWh battery and 80A wall charge limit.
 (2) Assumes 150 kW traction inverter, 100 kWh battery, \$100/kWh battery cost and typical 230 mile range. DNV & Navitas analysis
 (3) Based on BCG Research, Yole Research and Navitas analysis.
 (4) Navitas estimate based on discussions with major suppliers of power electronics to the electric vehicle industry.

eMobility



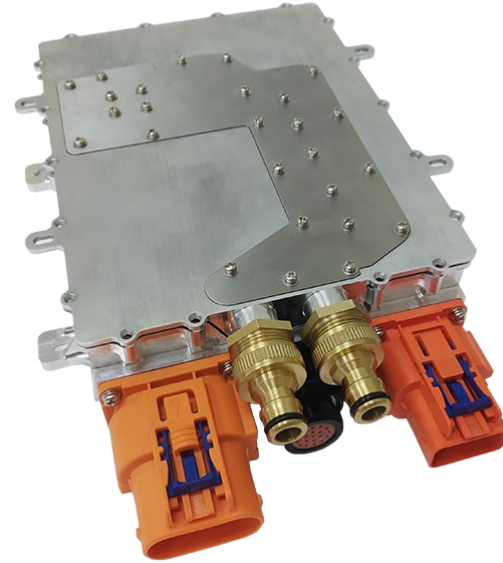
Mild Hybrid 1.7kW DC-DC

10-52 V_{IN} and V_{OUT}

>97% efficiency

Increased frequency from 200kHz (Si) to 600 kHz (EPC GaN)

137.4 x 104 x 26.2 mm = 45 kW/l



Prototype VisIC 6.7kW

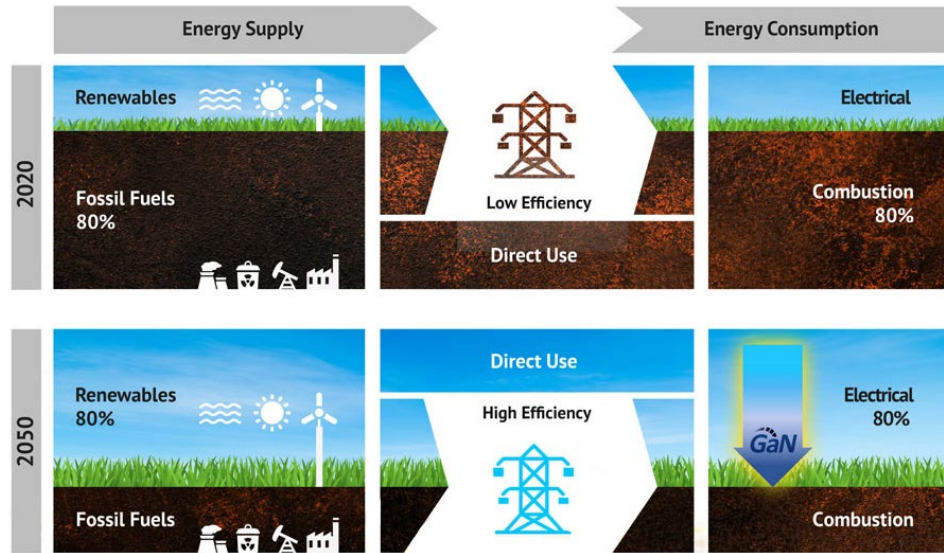
On-Board-Charger Reference Design

AC-400V

96% efficiency

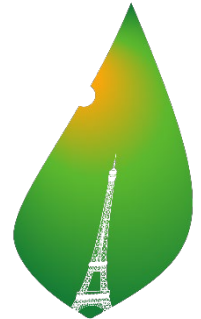
3kW/l

Electrify Our World™



Every
GaN IC
saves⁽³⁾

4 kg CO₂



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

4x-10x lower component CO₂ footprint than silicon⁽¹⁾

28% lower lifetime CO₂ footprint for chargers / adapters⁽²⁾

Accelerate transition from ICE to EV by 3 years, saving 20%/yr of road sector emissions by 2050⁽⁴⁾

GaN saves up to 2.6 Gton / year by 2050⁽⁵⁾

(1) Navitas and Earth-Shift Global analysis. 4x lower for 2021, 10x lower by 2022 per life-cycle analysis
 (2) Navitas and Earth-Shift Global estimated based on 65W charger per life-cycle analysis
 (3) Navitas estimate based on GaN vs Si total life-cycle analysis.
 (4) DNV estimate for 75%-adoption milestone pull-in, total road sector benefit
 (5) Company information, DNV GL, EPA, IEA, International Renewable Energy Agency (IRENA). See 5-7-21 Investor presentation for details (filed with SEC). Derived from demand & energy efficiency CO₂ reduction of 1.4 Gt; assumes a \$0.12 / kWh cost of electricity and a carbon to energy ratio of 0.00071 tons / kWh, aligned with the EPA's marginal emission rate.