Leading the GaN Revolution

Investor Presentation

January 2021

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transphorm

Highest Performance, Highest Reliability GaN

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Company Overview

Transphorm is a Pioneer and Leading Provider of Gallium Nitride ("GaN") Power Semiconductor Devices

At a Glance

- **OTCQB:** TGAN
- **Founded:** 2007; headquartered in Goleta, CA
- **Employees:** 87 (18 PhDs >300 years of GaN expertise)
- **Patents:** >1,000 patents
- **Full Production Capabilities:** high-volume wafer fab in Japan
- **World-wide** base with U.S., Japan strength
- **Total Revenue:** $9.4 million to 30 September 2020

Strategic Partners

KKR, nexperia, Microchip, Marelli, U.S. Department of Defense, YASKAWA

End Market Applications: Power Converters/Inverters

- **Power Adapters / Compute**
- **Data Center / Comm Infrastructure**
- **Broad Industrial**
- **Automotive EV and Charging**

Products

- Leader in high voltage (650V and above) GaN
- Comprehensive portfolio with multiple generations; 10 billion operating hours and <1 failure per billion hours in field
- First JEDEC and AEC-Q101 qualified 650V devices available in the market

Key Investment Highlights

Disruptive Technology
GaN enables next generation power conversion solutions in rapidly growing, significant markets

Commercially Ramping
Technology and product development completed, set up for 50-80% revenue CAGR

Large Market Opportunity: Electric Vehicle and 5G
Transphorm's GaN Solutions will Enable the Future of Electric Vehicles and fast-charging for 5G

Best-In-Class GaN Technology and Industry's Strongest IP Position
IP portfolio valued in excess of $225M

Validation From Blue Chip Partners and Customers
Including Nexperia, Marelli, Yaskawa, Microchip and the U.S. Department of Defense (Navy)

Team Led by World-Renowned GaN Experts
18 PhDs and over 300 Years of GaN Expertise

History of Milestone Achievements

transphorm founded

1st 600V GaN-on-Si

IP & manufacturing partnership

$70M Investment

1st AEC-Q101 qualified high-voltage GaN

2nd AEC-Q101 qualified high-voltage GaN (175°C)

Gen 3 Family release

transphorm TGAN

Public Company
February 2020
OTC trading: July 2020

$21.5M

$15M

Technology Development (2007 – 2012)

Product Development and Manufacturing (2013 – 1H 2018)

Commercialization and Market Ramp (2H 2018 and Beyond)

1st qualified high-voltage GaN

Gen 1 Family release

Gen 2 Family release

GaN in Production

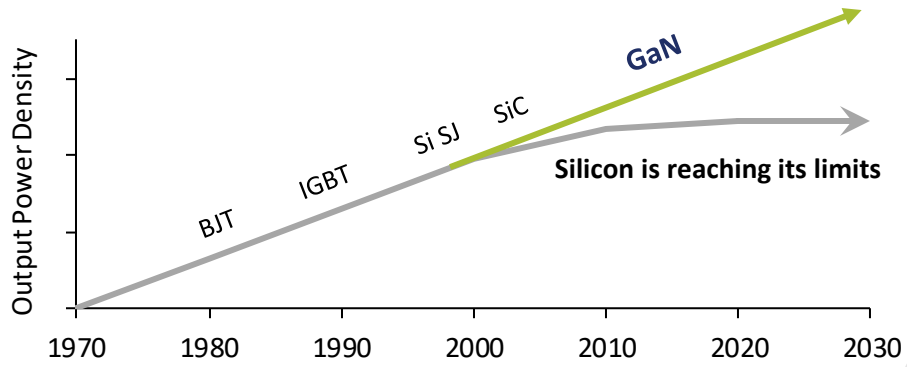
Gen 4 SuperGaN™ Released

Power Adapters/ Fast Chargers

GaN is the Future of Power Semiconductors

"Moore's Law" for Power Electronics

GaN Provides the Path to Continue to Scale Power Densities



GaN vs. Silicon & Silicon Carbide

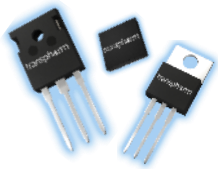
Intrinsic Performance Advantages

- GaN offers higher efficiencies with lowest losses in power conversion at any voltage range
- GaN can operate at much higher frequency

Relative Cost Advantages

- GaN on Silicon less expensive than Silicon Carbide
- GaN offers lower system cost than Silicon
- Roadmap for GaN to approach cost parity with Silicon at device-level

transphorm



99%
Efficiency

40%
Higher Power Density

20%
Lower System Cost

Smaller, Lighter, and Cooler Power Systems Drives Increased Functional Value

Mega Market Trends Driving Growth for GaN

Electric Vehicles
- On-board Chargers
- Power Converters
- Power Inverters

5G – Power Devices
- Smartphones
- Laptops/Tablets
- Gaming Consoles

5G – RF Devices
- Infrastructure
- High-Frequency Broadband
- DoD

GaN Power FETs

Epiwafer

Notes:
1) Department of Industry, Innovation and Science (2019).
2) BofA Global Research.
3) Strategy Analytics: RF GaN Market Forecast: 2018 – 2023.

Targeting $3 Billion Market Opportunity

Upside to TAM Expected From Electric Vehicle Powertrain Starting in 2025

End Market Applications and GaN Benefits

Near Term

Long Term

Power Adapters / Compute

- Fast Charging
- Lower thermals/improved power density/smaller form factor
- Lower system cost

Data Center / Comm Infrastructure

- Ability to double available power in standardized server and 5G telecom form factors
- Enable Ti-class efficiency EU requirement

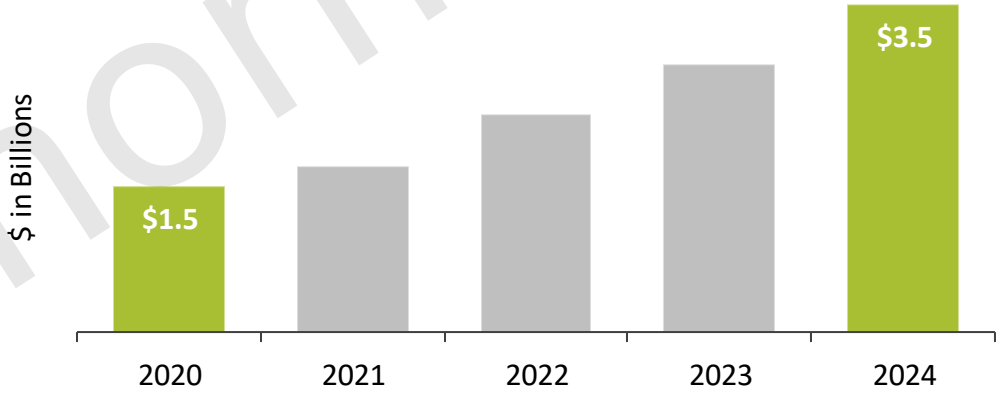
Broad Industrial

- Reduces size/weight of systems
- More efficient charging for battery and/or battery-powered equipment and vehicles

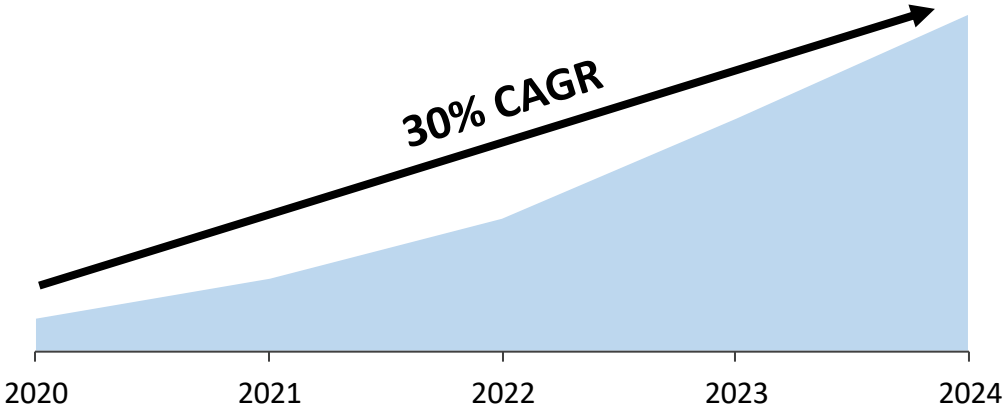
Automotive EV and Charging

- Reduces size/weight of on-board chargers, power converters and power inverters
- Resulting in longer distance per charge

Total Addressable Market for GaN[1]



GaN Adoption Curve[2]



Notes:

1) Sources: IDC (Data Center / Comm Infrastructure); Counterpoint Research, Mordor Intelligence (Power Adapters / Compute); Yole, IHS (Broad Industrial); Department of Industry, Innovation and Science (2019) (Automotive). TAM values are then calculated based on available technology, competition and value add to market.
2) IHS Markit: Power Semiconductor Intelligence Service – PCIM Europe 2019.

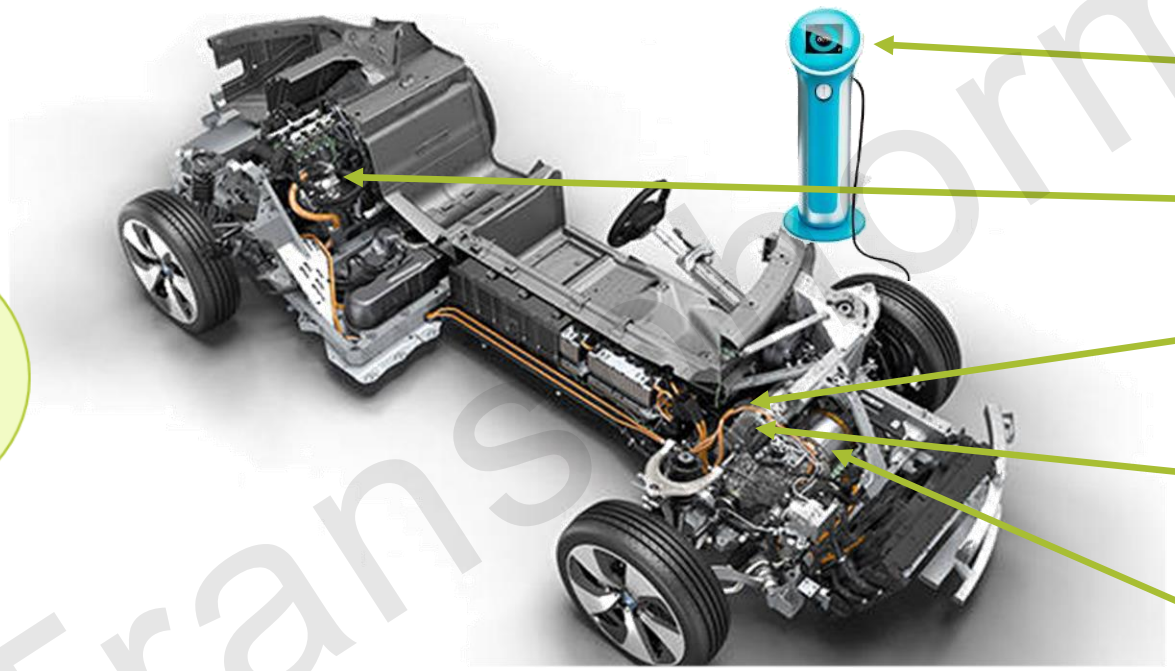
GaN is Addressing Current and Future Automotive / EV Slots

GaN Applications for Electric Vehicles

Cuts total power-stage losses ~25% vs. SiC (3)

~50% OBC weight/volume savings vs. Si *(4)*

Inverter power density 25 to > 75kW/L *(5)(6)*



- **AC Charging Pole (Level I & II)**
  Fast Charging (50 kW and higher)
- **DC-AC Auxiliary Inverter** (off-grid power)
  (1.5 kW – 2 kW)
- **DC-DC Aux. Power Module** (ex. Air Con)
  (1 kW – 7 kW)
- **AC-DC On Board Charger (OBC)**
  (3.3 kW- 11 kW)
- **EV Powertrain** (50kW-250kW)
  SiC and Si IGBT (today)
  Larger GaN die (future)

Electric Vehicle (EV) Unit Outlook[1]

25% 10-Year CAGR → 2030 **48.0M**

GaN TAM In Automotive[2]

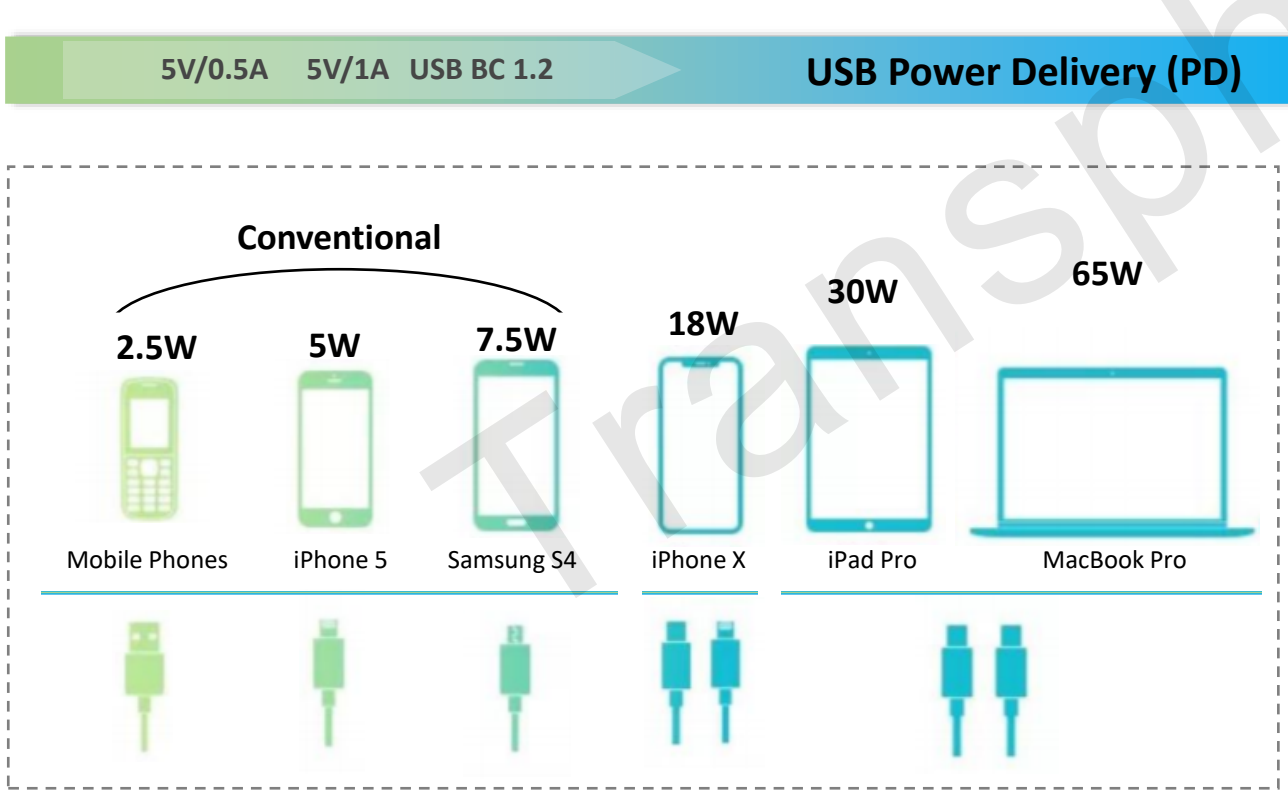
41% 10-Year CAGR → 2030 **$10.6B**

Notes:
1) Department of Industry, Innovation and Science (2019).
2) Robotics & Automation (05/2019), Includes OBC, DC – DC, Inverter content, and EV charging poles. Based on GaN technolog ' available and Transphorm management's projectionsPushing the Boundaries of High Voltage GaN
3) Power Conversion, https://www.eeworldonline.com/pushing-the-boundaries-of-high-voltage-gan-power-conversion/
4) High-Efficiency High-Density GaN-Based 6.6kW Bidirectional On-board Charger for PEVs (DOE/TPH/Fiat Chrysler).
5) Nexperia presents: Breakthrough in powertrain electrification: https://www.nexperia.com/about/news-events/press-releas es/nexperia-partners-with-ricardo-to-develop-gan-based-ev-inverter-design.html
6) (video) – paragraph below video speaks to future 150 kW in same form factor and Company internal discussions with Auto EV customer-partner..

Fast Chargers: Changing the Adapter Landscape

One Power Adapter for Multiple Portable Devices

- Fast Chargers can adapt power level for different products with same charger
- Future phones / 5G smart phones will require and utilize 65 Watts / more for fast charging
- Leading smartphone can rely on aftermarket adapters – accelerating demand → high-volume market



GaN enables a smaller form factor and higher efficiency (cooler)

Fast Charger Adapter (65W)
56cc Ultra slim

Commercially Available

GaN Solutions for Adapters: Why We Win

Select Pipeline of Transphorm GaN Based Adapters

Ultra slim, light weight (65 W)

Compact, high efficiency (75 W)

High-efficiency (65 W)

Wall plug – high efficiency, compact (35 W)

Compact, 65W, Type A

150W, 1.25x power density and high efficiency

	transphorm	vs. Leading Competition[1]
Reliability	Best-in-class, FIT < 1 several firsts for quals/lifetimes	**Better Quality and Reliability**
Robustness	Best-in-class	
GaN Technology	2-chip normally off	**50% Smaller GaN Die Size**
Adapter Technology	Discrete / module	
GaN Device Size / Cost	Baseline / Lower	**Up to ~3x Higher Frequency**
Operating Speed (freq.) / Adapter Size	Fast / Small solution	
Performance (FOM)	Best-in-class	**GaN Device FOM ~30% Better**

Notes:
1) Based on typical 65W GaN adapter/chargers available in market, not all comparisons are simultaneous.

Data Center / Comms Infrastructure

GaN Offers Substantial Systems Cost Savings within Data Centers

- 40% of total operational costs come from energy to power and cool server racks
- GaN enables **~2x increase in power density, 98%+ efficiency**
- GaN enables 80+ Titanium class efficiency certification in a simpler manner

"Titanium" Server Power Supply Solutions

(1.5 kW to 3 kW)

Smaller

Faster

Cooler

5 MW Data Center Example

AC Line (208 Vac) to 400 Vdc to 48 Vdc

- $103K saved / year[1]
- 397 tons reduced carbon footprint[2]

Global Server / Power Supply Shipments[3]

2020
11.8M

2025
15.3M

Regulation:
The European Union's Ecodesign Directive[4] on *January 1, 2023* will increase the efficiency and power factor requirements

Notes:
1) Based on company estimates done for a 5MW data center.
2) Based on existing rectifiers with 92% efficiency | Source: EPA estimated one kWh produces 1.52 pounds of carbon dioxide (excl. line-losses).
3) IDC: Worldwide Quarterly Server Tracker | September 2020.
4) European Union's Ecodesign Directive (Directive 2009/125/EC).

GaN Epi-Wafer Business for GaN RF / 5G / DoD

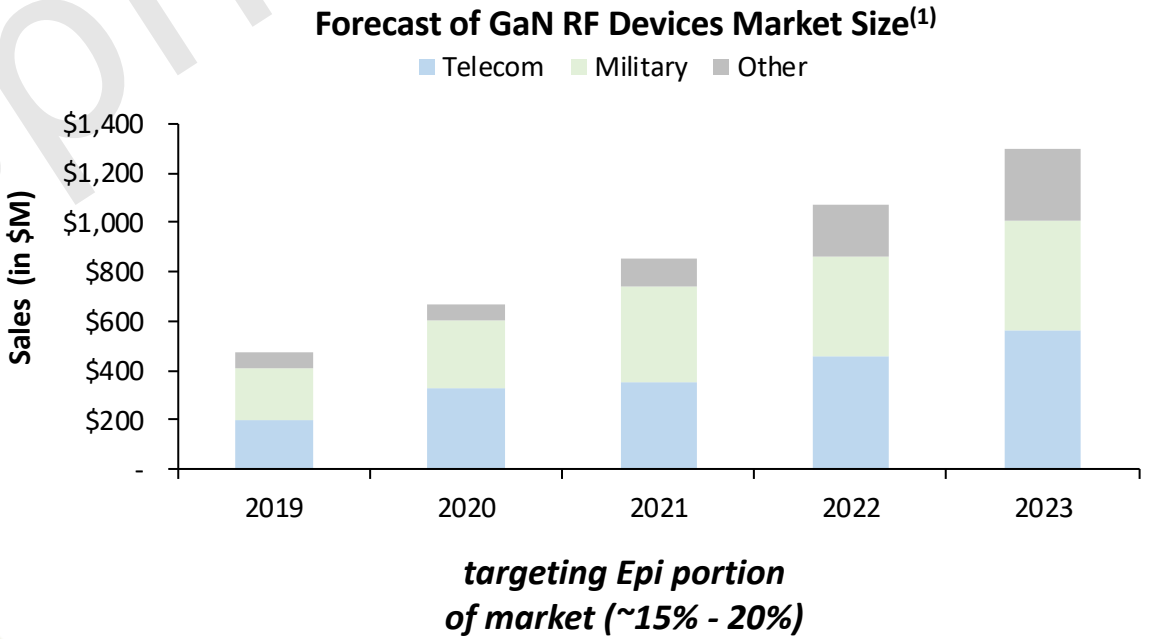
Supplying U. S. Department of Defense Ecosystem

Dual Use – Transphorm is Not Restricted to Supply Epi Only to the U.S. DoD

$19 Million Contract With the U.S. Navy (ONR)

- Establishing Transphorm as a **one-stop U.S. based supplier of GaN Epi wafers for DoD / commercial use**
- Leveraging power electronics business, Transphorm will:
  - Supply Epi wafers in high volumes for RF and mm-wave electronics (base station/transmit)
  - Ensure U.S. supply for DoD agencies and DoD designated suppliers

Enables Epi manufacturing and scaling roadmap



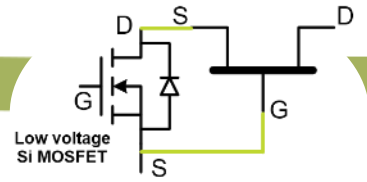
targeting Epi portion of market (~15% - 20%)

Notes:
1) RF GaN Market: applications, players, devices, and technologies 2018–2023.

In-House Capabilities Span Complete Value Chain

End-to-End Process Drives Innovation and Leadership in GaN Technology

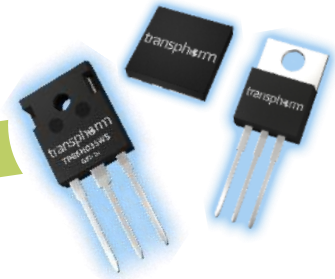
1. GaN FET design



2. Epi technology and manufacturing

3. Wafer fab

4. Packaging



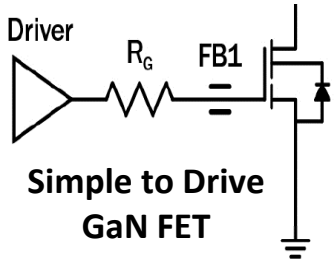
5. Applications-driven resources

6. End market/application

Transphorm GaN Advantage

Standard Gate Driver Suppliers:

- Silicon Labs
- ON Semiconductor
- Texas Instruments



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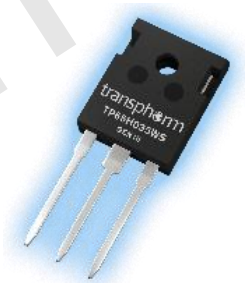
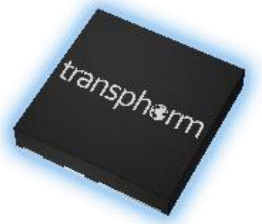
Chip-on-Chip GaN FET

LV Silicon FET (low voltage)

HV GaN HEMT (high voltage)





- **Best-in-Class Gate Robustness**
- **High Noise Immunity Easy to Drive**
- **Best-in-Class Performance**
- **Qualification JEDEC, Q101**

Delivering High Performance with High Reliability

- 3rd generation product family in the market and ramping, 4th generation released
- 10 billion device operating field hours
- < 1 failure per billion hours of field operation

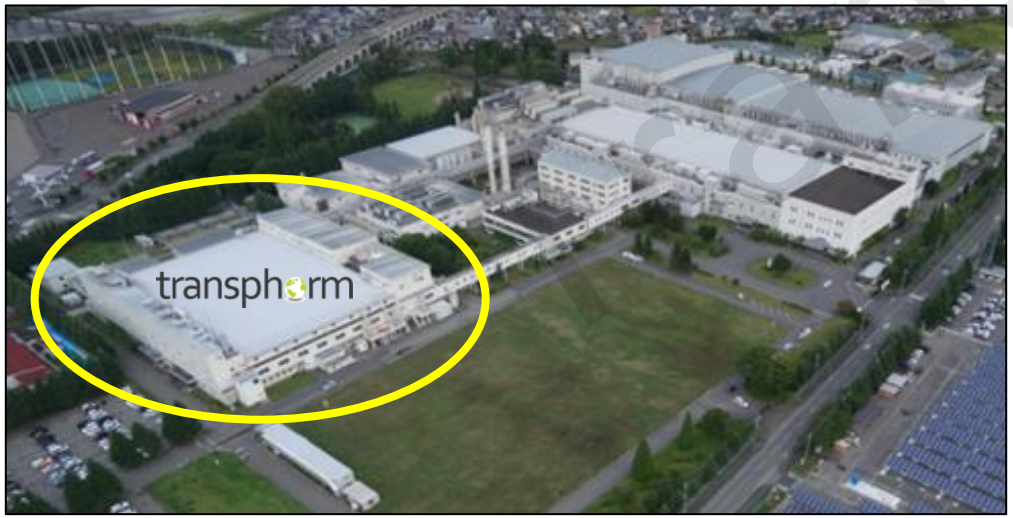
Full Production Capabilities

In-House Material Growth Capability (MOCVD and Epi Wafer)

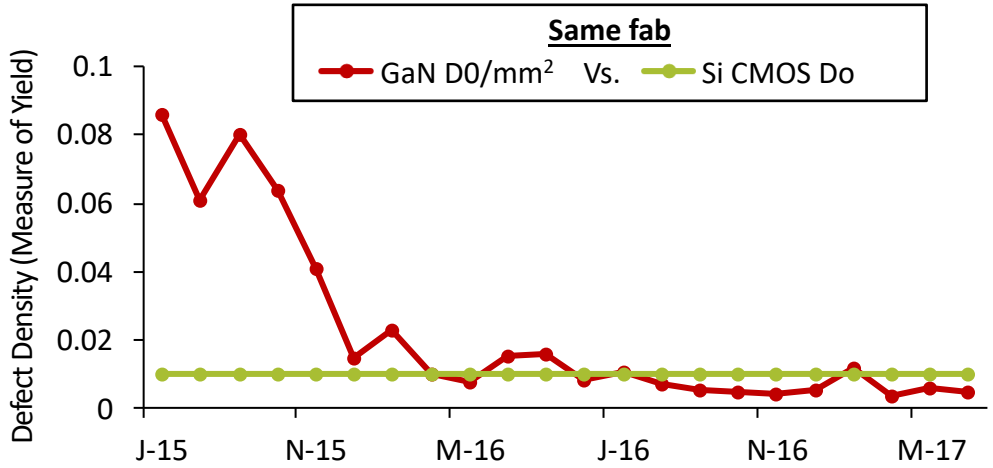
- Five 6-inch production reactors (two in Japan and three in Goleta)
- Provides sufficient MOCVD reactor capacity for near term
- Some of the reactors are 8-inch capable
- Navy partnership and US based materials supplier

High-Volume Wafer Fab In Japan (Joint Venture)

- Capacity to handle tens of millions GaN parts / year, scalable on demand
- High volume 6-inch manufacturing (former high-quality Fujitsu Fab)



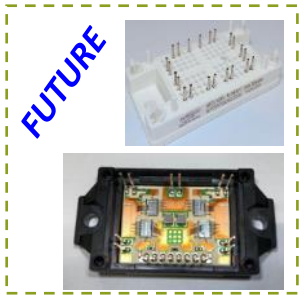
- Several million GaN die manufactured in last two years
- Defect densities same as Silicon CMOS wafers
- Fully qualified GaN on Silicon under comprehensive SPC control

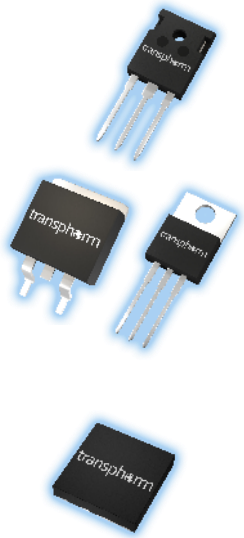


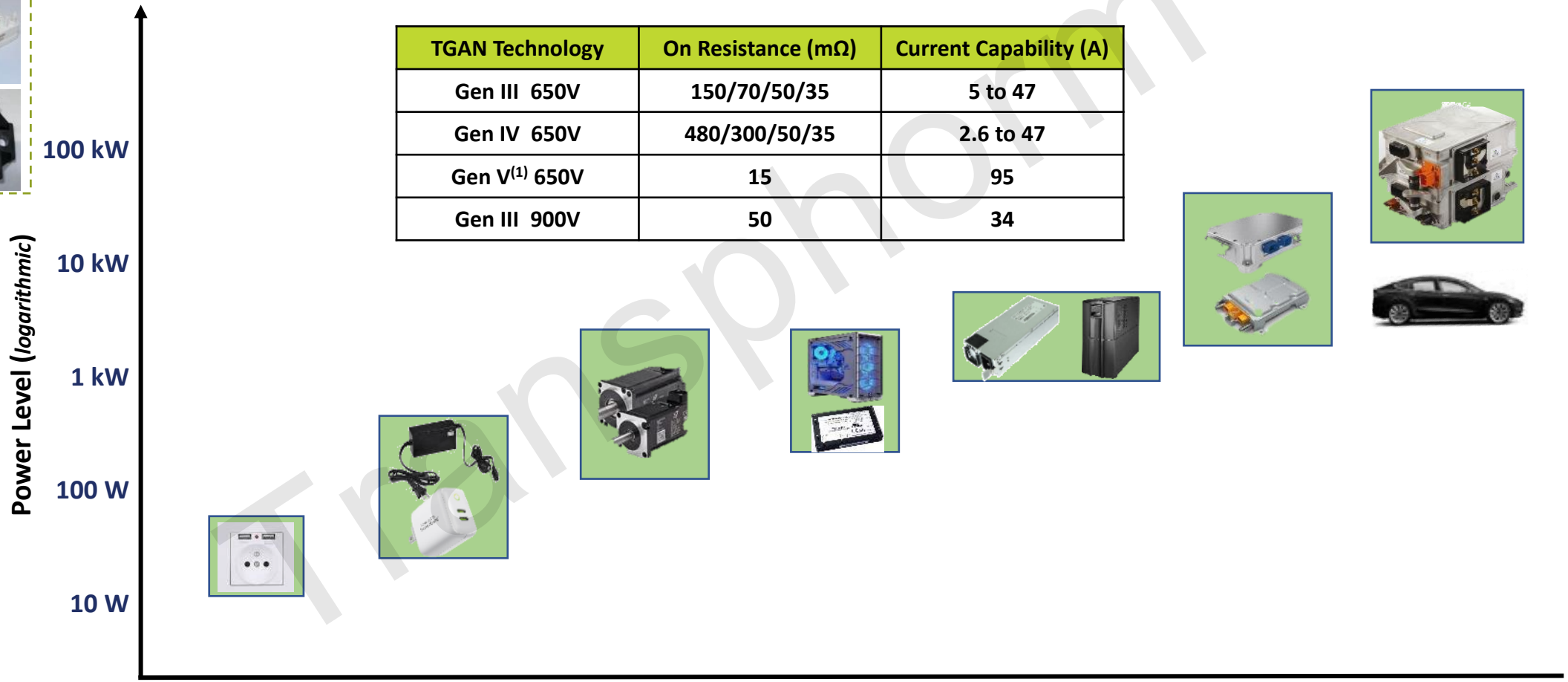
Comprehensive GaN Product Portfolio

Wide breadth of 600V to 900V and JEDEC through AEC-Q101

TGAN Technology	On Resistance (mΩ)	Current Capability (A)
Gen III 650V	150/70/50/35	5 to 47
Gen IV 650V	480/300/50/35	2.6 to 47
Gen V[(1)] 650V	15	95
Gen III 900V	50	34



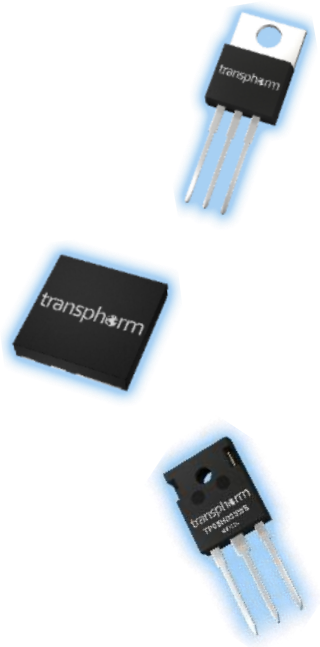




Notes:
1) In development, Gen V to be released in 2021.

Industry's Strongest GaN IP Position

1,000+ Worldwide Owned and Licensed Patents Valued in Excess of $225 Million[1]



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332 Patents

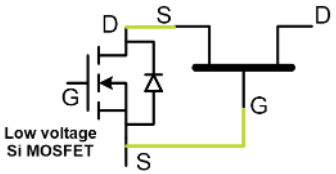
- Materials
- Device
- Fabrication
- Circuit
- Applications
- Package

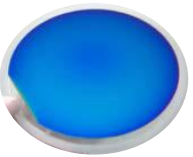
UCSB
27 Patents

FUJITSU
172 Patents

CREE
350+ Patents

FURUKAWA
150 Patents





"**Transphorm** today has the **dream patent portfolio** for all those who want to **benefit** from strategic advantages in **GaN power electronics** market…"[2]

– KnowMade
Patent & Technology Intelligence

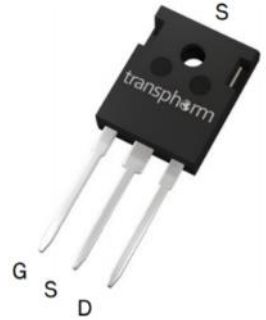
Notes:
1) 2020 Analysis done for GaN portfolio using Patsnap Patent valuation models, Patsnap valuation based on 40+ independent criteria, value consists of Transphorm's owned or exclusively licensed patents (non-exclusive patents not included).
2) KnowMade Patent and Technology Intelligence report, "Power GaN intellectual property (IP): high-voltage power semiconductor leaders, a core set of strong IP players and numerous newcomers."

Business Update – Progress in 2020

Maintaining 2020 Revenue in range despite COVID-19 impacts

First adapter product with Transphorm GaN in market

- Tenpao/Romoss 56cc slim adapter, >10 designs in pipeline
- Secured and shipped volume order with strategic adapter partner



Released Gen-4 products on time – for Adapters to UPS/Power

- Gen-4 in production, secured $5M licensing revenue for Gen-4
- Gen-5 (EV target) sampling, 25% lower total loss vs. latest SiC products(1)

Execution on Government programs and securing RF Epi sales

- Navy program on track, installation of new MOCVD reactor ongoing
- 3 RF Epi / DoD customers with > $200K POs in 2020

Execution on Strategic customer relationships

- Finalized Yaskawa $4M NRE agreement - $1m received
- Continued progress on Nexperia activities and Marelli relationship

GaN Power market has solidified in 2020

Notes:
1) Transphorm internal measurements comparing latest GaN with latest SiC Power devices with a simple gate drive and a standard TO247 package.

Consolidated Statement of Operations Data

(numbers in thousands, $k)	Three Mths Ended Sep 30 2020 (unaudited)	Three Mths Ended Sep 30 2019 (unaudited)	Nine Mths Ended Sep 30 2020 (unaudited)	Nine Mths Ended Sep 30 2019 (unaudited)
Revenue, net	**1,929**	**994**	**9,358**	**2,012**
Operating expenses:				
Cost of goods sold	2,043	1,625	**4,746**	**4,211**
* Research and development	1,071	2,041	**4,131**	**6,245**
Sales and marketing	547	572	**1,593**	**2,098**
* * General and administrative	2,688	1,270	**7,838**	**4,015**
Total operating expenses	**6,349**	**5,508**	**18,308**	**16,569**
Loss from operations	(4,420)	(4,514)	(8,950)	(14,557)
Other (income)/expenses	2,320	932	**4,247**	**3,160**
Loss before tax expense	**(6,740)**	**(5,446)**	**(13,197)**	**(17,717)**

* Reductions in R&D are driven by increased Governmental activity - absorbing a higher proportion of R&D spend

** 1-off incremental APO and related costs comprise $2m of the increase in the 9 months to 9/30/2020. Ongoing G&A base costs are higher due to increased ongoing compliance, compliance personnel & D&O insurance costs

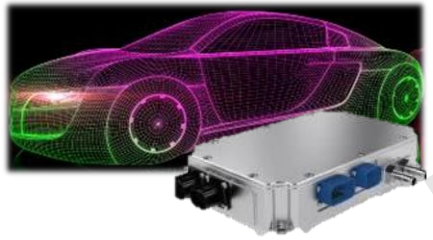
Notes:
The consolidated statements of operations data for three months ended September 30, 2020 and 2019 are unaudited and the consolidated statements of operations data for the nine months ended September 30, 2020 and 2019 are unaudited.

Balance Sheet Pro-forma

$15m raise net of fees – completed in December 2020

	September 30, 2020 (unaudited)	September 30, 2020 (pro-forma)
Cash and cash equivalents	4,369	18,369
Accounts Receivable	1,125	1,125
Other current assets	3,115	3,115
Total current assets	**8,609**	**22,609**
Fixed assets/Intangibles	4,257	4,257
Total assets	**12,866**	**26,866**
Accounts payable and accrued expenses	2,687	2,687
Outstanding loans	20,153	20,153
Other Current Liabilities	3,187	3,187
Total current liabilities	**26,027**	**26,027**
Development loans, net of current portion	0	0
Promissory note	16,327	16,327
Total liabilities	**42,354**	**42,354**
Total convertible preferred stock	**0**	**0**
Total Stockholders' deficit	**(29,488)**	**(15,488)**
Total liabilities, stock & stockholders' deficit	**12,866**	**26,866**

Phases of Revenue Growth



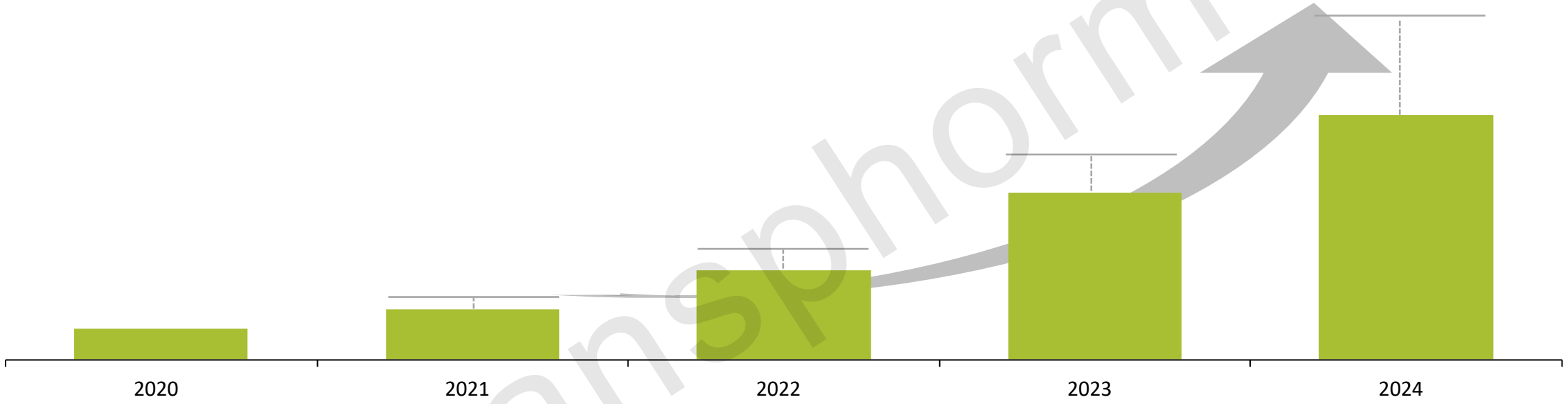
5G Market Adoption

Electric Vehicle (EV) Market Adoption

Adoption	Execution	Inflection Point	Accelerated Growth
2019-2020	2020-2021	2022-2023	2023-2024
• Licensing revenue • Secured Govt. contract • Gen 3 revenue, Auto-qualified • Gen 4 release, design wins • Initial Power Adapter/ Charger revenue • Auto partner/customer (Marelli)	• Licensing revenue • Add Govt. contracts • High-vol. Adapter ramp • Growth in servers, industrial • Growth in RF Epi Sales • Release of Gen 5 and 900V Gen 3	• Broad market growth, including 5G Penetration with Gen 4 and Gen 5 • Automotive programs reaching production • 1200V release • New Govt. contracts • Target profitability	• Continued broad market expansion • Automotive adoption growth, revenue ramp • Leader in EV, Consumer and RF Epi segments • Positive cash generation

Long-Term Growth

Building a High-Growth, Cash Generating Business



Operating Guidelines

- Accelerating top-line growth and GaN adoption across all target end markets
- OpEx for continued development of best-in-class products and IP portfolio
- CAPEX investment for increased scale

Target Model:

- 5-year CAGR range: **50 – 80%**
- Gross Margin: **40%+**
- Operating Margin: **20%+**
- Free Cash Flow: **10%+**

Key Investment Highlights

Disruptive Technology
GaN enables next generation power conversion solutions in rapidly growing, significant markets

Commercially Ramping
Technology and product development completed, set up for 50-80% revenue CAGR

Large Market Opportunity: Electric Vehicle and 5G
Transphorm's GaN Solutions will Enable the Future of Electric Vehicles and fast-charging for 5G

Best-In-Class GaN Technology and Industry's Strongest IP Position
IP portfolio recently appraised in excess of $225M

Validation From Blue Chip Partners and Customers
Including Nexperia, Marelli, Yaskawa, Microchip and the U.S. Department of Defense (Navy)

Team Led by World-Renowned GaN Experts
18 PhDs and over 300 Years of GaN Expertise

Leading the GaN Revolution

Thank You

transphorm

Highest Performance, Highest Reliability GaN