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OTCQX: TGAN

Leading the GaN Revolution

Quarterly Business Update

November 10, 2021

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Highest Performance, Highest Reliability GaN

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Transphorm is a leader in GaN Power

Gallium Nitride ("GaN") reduces energy waste and enables more compact, cost effective power conversion

At a Glance

- **OTCQX:** TGAN
- **Founded:** 2007; headquartered in Goleta, CA
- **Employees:** > 100 (18 PhDs >300 years of GaN expertise)
- **Patents:** >1,000 patents, industry leading
- **Full Production Capabilities:** high-volume wafer fab in Japan
- **World-wide** base with U.S., Japan strength
- **Total Revenue:** $12.7 million in FY2021 (Apr'20 to Mar'21)

Blue Chip Strategic Partners

KKR, nexperia, DIODES INCORPORATED, SAS, YASKAWA, MARELLI, MICROCHIP

End Market Applications: Power Converters/Inverters

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

Products

- Leader in *high voltage* (650V and above) & *high power* GaN
- Comprehensive portfolio with multiple generations; >25 billion operating hours and <0.4 failure per billion hours in field
- First JEDEC & AEC-Q101 qualified 650V devices in the market
- Grown product unit shipments >100% quarterly CAGR from Jul'20-Sept'21

Targeting $3 Billion Power Market Opportunity in 2023

Upside to TAM 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 | Crypto-Mining

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

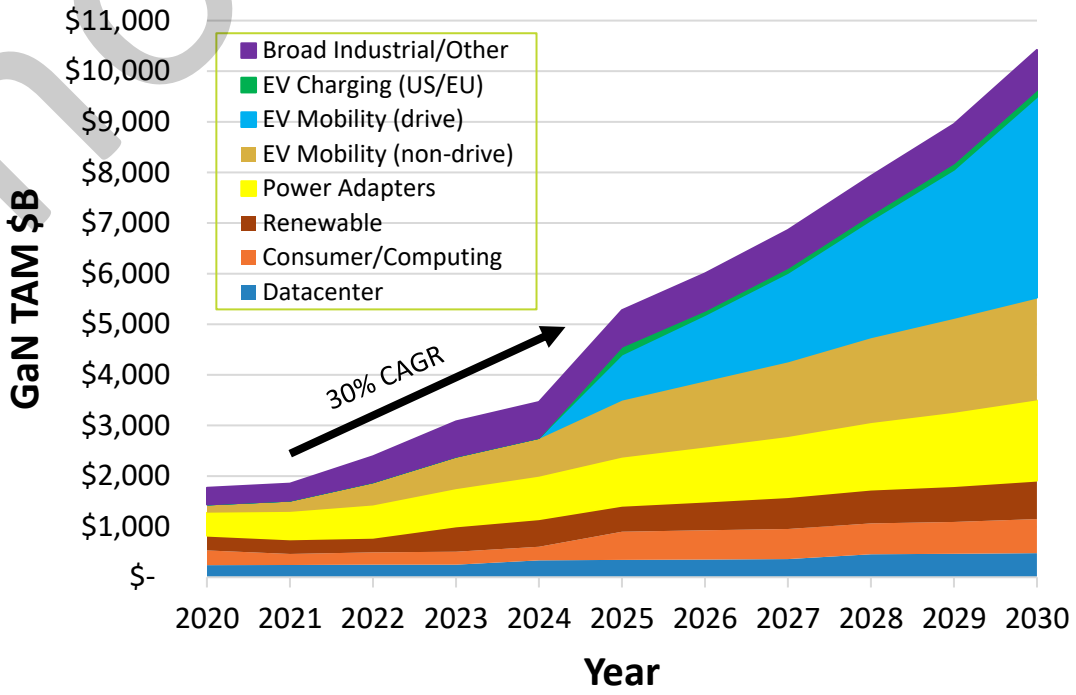
Broad Industrial

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

Automotive EV and Charging | + EV Powertrain from 2025

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

GaN TAM: Total Addressable Market for GaN[(1)]



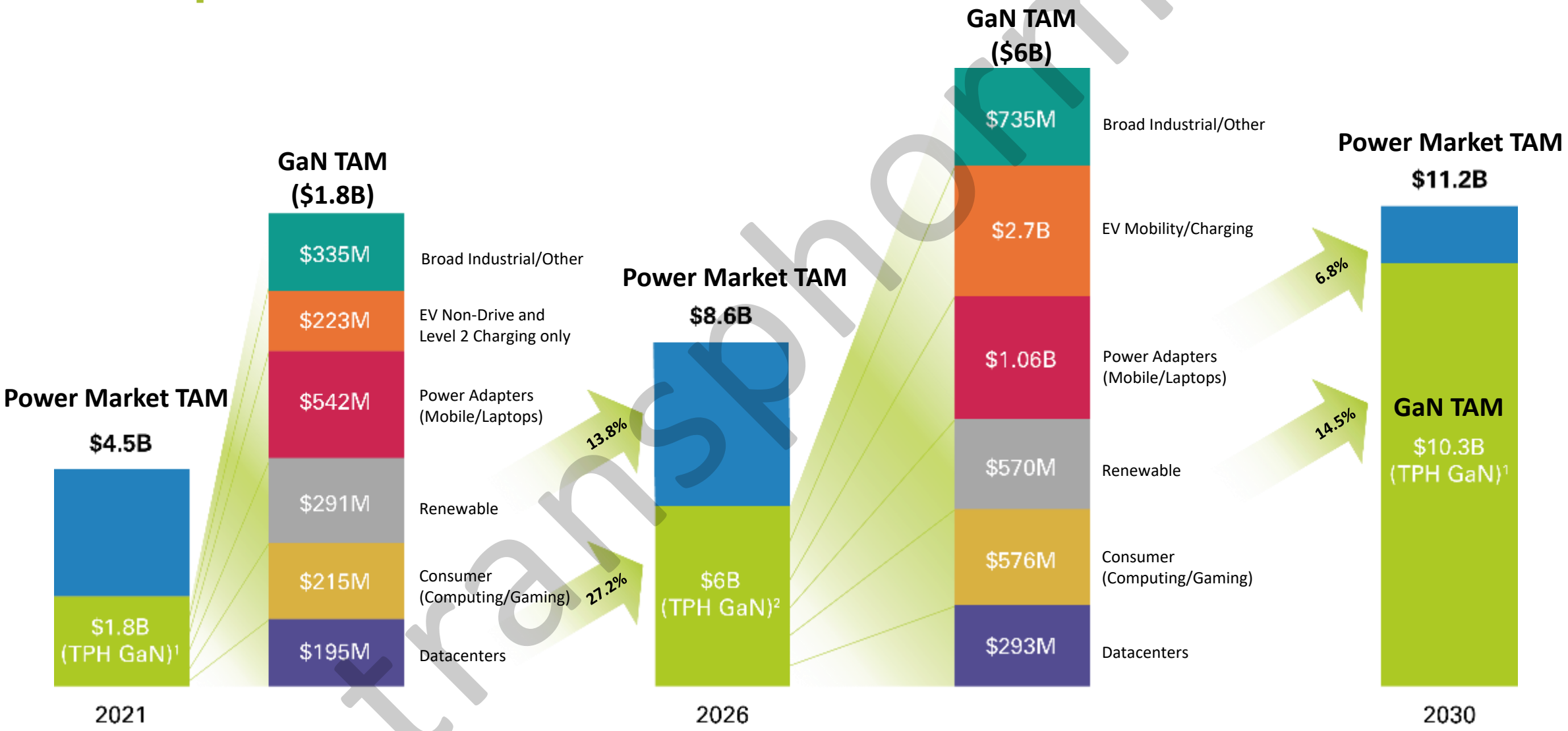
GaN TAM > $3B in 2023, breaks out in 2024-25 based on EV Mobility Opportunities

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.

Total GaN Opportunity Growing to >$6B in 5 Years

Breakdown of the GaN TAM



[1] Market access based on current, future device offerings with operations to support shipments. Does not include the adoption of GaN technology nor Transphorm's yearly adoption rate
[2] Shows the breakout; potential GaN market sizes, does not include any adoption rate
[3] Includes modules for EV inverter and EV fast charging starting in 2024 and beyond
[4] See appendix for references

Delivering Superior ROI for Customers

Transphorm wins by taking the Intrinsic Benefits of GaN to the Next Level

Intrinsic Benefits of GaN

	Transphorm Advantage
Performance	• Field-proven best-in-class efficiency • Demonstrated over wide power levels
Quality & Reliability	• JEDEC + AEC-Q101, best-in-class robustness • <0.3 FIT | > 25B hours
Volume production Capability	• In-house GaN supply, vertically integrated value chain • Capacity to support higher unit volumes
Comprehensive Product Portfolio	• Products span low-to-high power, 30W to 10kW • Only company with 900V GaN
Ease of Drivability and Design-in	• Compatibility with standard Silicon Driver/ Controllers • Growing number of reference designs and IC partners
Patent & IP Coverage	• Industry's strongest GaN IP position with >1K patents • From material and process to design and application

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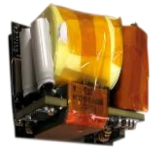
SuperGaN™

Faster, Smaller, more Efficient and Robust Solutions

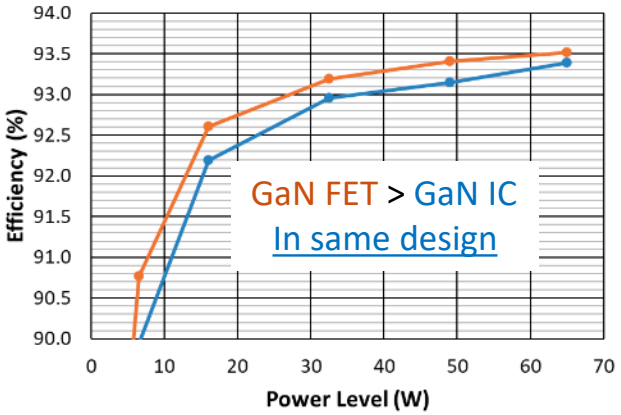
GaN Technology Needs to offer More to All Customers

Faster, Smaller, more Efficient and Robust Solutions vs. Si and other GaN

Key Factors (All solutions are normally off)	Transphorm GaN FET	Silicon MOSFET	e-mode GaN
Ease of use (std. drivers, agnostic to controllers)			
Size (form factor)			
Performance (efficiency)[1]			
Speed of operation (frequency)			
Added BoM components (cost)[2]			
Power levels addressed			
Package (SMD/leaded)			
Reliability[3]			



65 W USBC Adapter



Market Misinformation Clarified: "IC" or Discrete Integrated or Other – Performance is what matters

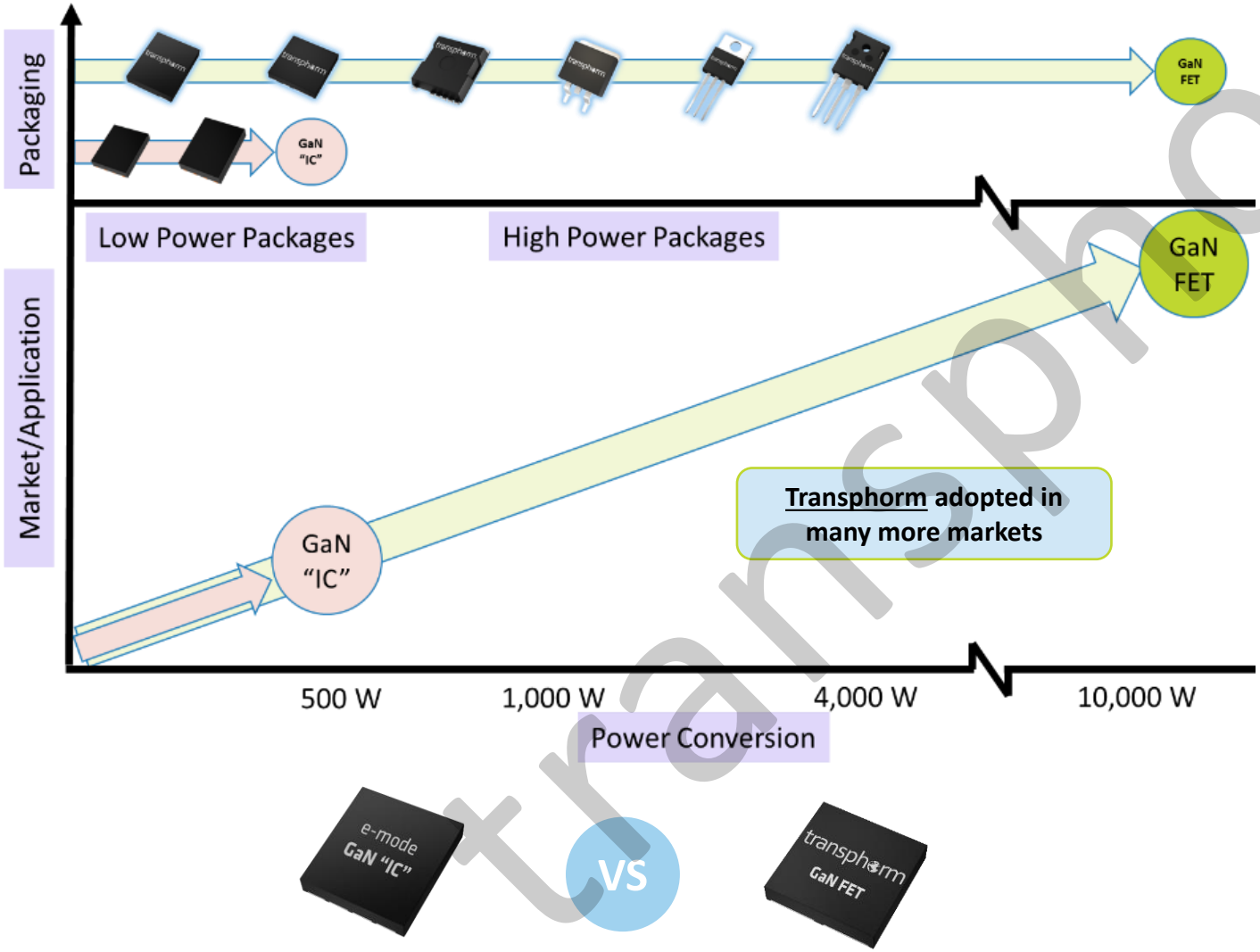
- **Normally off vs. "E-mode" – Fact**: Customer/Application demands normally off Transistor (many ways of doing it)
- **Higher performance – Fact**: GaN FET 93.5% vs. GaN "IC" 93.3% in same 65W Adapter
- **Higher frequency, MHz plus – Fact**: GaN FET 99% 1 MHz, 1kW operation verified
- **Drivers/Integration – Fact**: Modern day controllers have drivers integrated (free), especially for Adapter/Chargers areas! TGAN FET – No extra driver need

[1,2]Based on multiple public and internal reference designs, https://www.transphormusa.com/en/reference-design/tsadp-sil-usbc-65w-rd/

[3]Impact of OFF-state Gate Bias on Dynamic R,on of p-GaN Gate HEMT (33rd ISPSD, 2021)

TGAN FET: Higher Range, Higher Reliability, Higher Performance

Other types of GaN like "IC"- power limited (< 500 W); Transphorm offers packages for ALL power levels



In Production[1]		
Markets	**GaN IC**	**GaN FET**
Adapters	✓	✓
Datacenters	✗	✓
Gaming (desktop)	✗	✓
Crypto mining	✗	✓
Industrial (≥ 500 W)	✗	✓
Aerospace	✗	✓

[1]Based on our best knowledge of released products

Leading in Solutions for Adapters/Chargers, 45W-250W

Best-in-class, External partner designs across density/cost/efficiency vectors

- **TPH -** QRF – 24W/in^3
- **Partner 1** Solution – 18W/in^3

- **TPH** QRF – 25W/in^3
- Silanna CF – 30W/in^3
- **Partner 1** – 22W/in^3
- DIODES CF – 30W/in^3

- **TPH** QRF – 16W/in^3
- Silanna ACF – 20W/in^3
- DIODES ACF – 20W/in^3

- DIODES ACF – 16W/in^3
- Several solutions made by customers

- **TPH** – 25W/in^3
- **Partner 2** Solutions in progress

45W

65W

90W - 110W

120W – 150W

250W

Expanding Adoption in Adapters and Fast Chargers

Adding key ODM and leading brands-based designs

Example Recent Wins

Ultra slim, light weight (65 W)

Compact, high efficiency (68 W)

Quick Charge-5, USB C PD (100 W)

Compact Power Bar, 65W 1A-1C

High-efficiency (65 W)

Wall plug – high efficiency, compact (35 W)

Note book – small size, 200 KHz high speed (160 W)

Compact 30W Power Bar

Compact, 65W, Type A

Ultra compact 240W

Compact, efficient USB-C (65W)

40% more compact (65W 2C)

Proven Performance for Higher Power

Industry leading Transphorm GaN: 25-38% lower loss vs. SiC FETs

Packs High Performance with High Reliability

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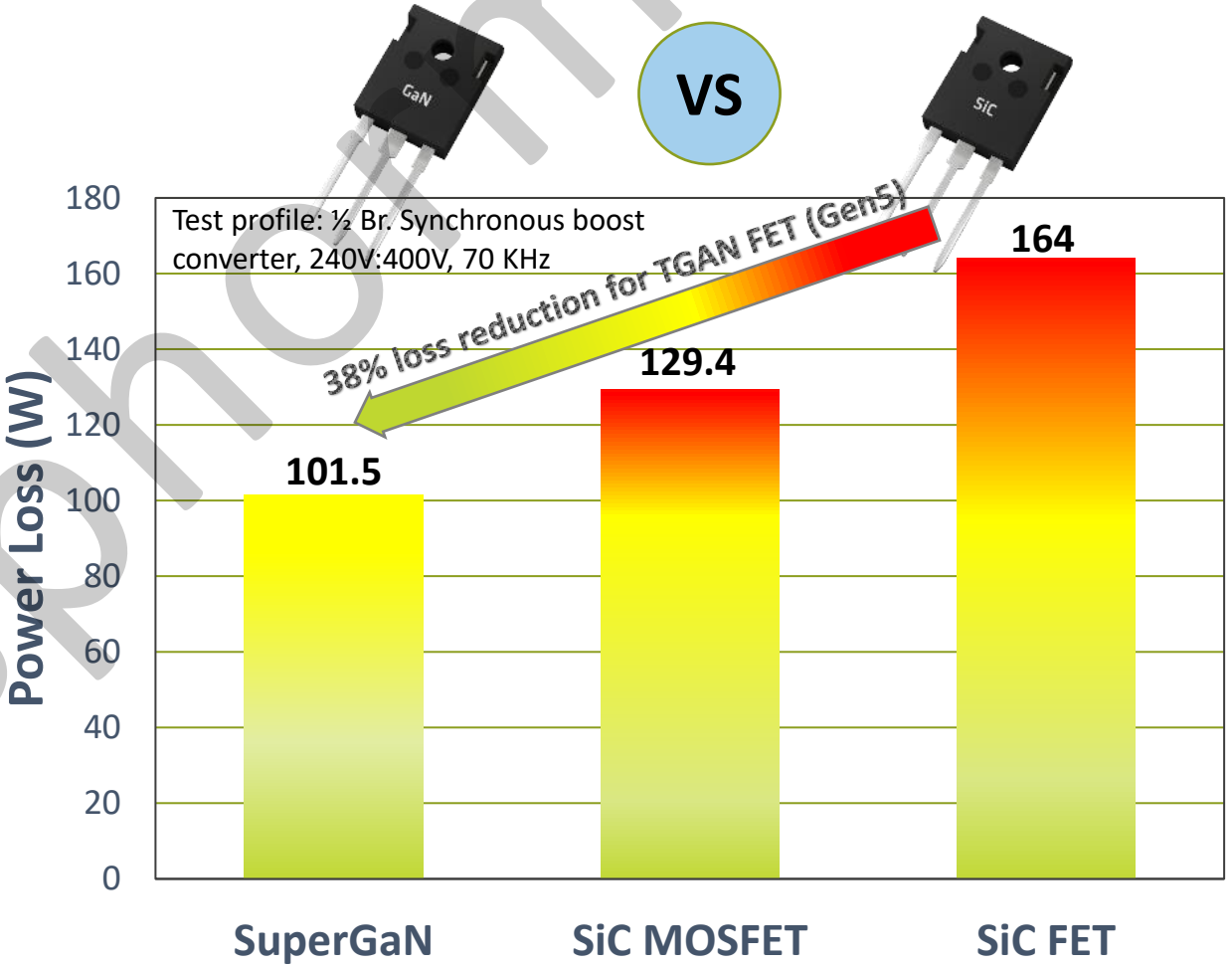
Normally-off GaN FET

LV Silicon FET (low voltage)

HV GaN HEMT (high voltage)

(Gen IV, Gen V now commercially released, Gen IV also Automotive qualified)

- *Other GaN such as e-mode or "IC" GaN cannot be offered in std. TO packages currently due to device weakness*



Device Power loss comparison at 9.2 kW in a standard half-bridge circuit configuration

GaN: Faster Speed / Higher Efficiency / Low loss

Customers Select Transphorm GaN

Efficient, Reliable, Highest Performance, Ease of Drivability and Designability

The Corsair AX1600i is the **best PSU** that money can buy today, period."

tom's HARDWARE

"Transphorm's GaN within a totem-pole PFC configuration proved the **most reliable**, highest performing solution possible today,"

bel POWER SOLUTIONS & PROTECTION

"Ease of drivability and designability—does not require custom drivers. Proven reliability — JEDEC and AEC-Q101"

AES

"We initially selected Transphorm's transistors for the reputable reliability and our experience has since exceeded our expectations,"

MAROTTA

"Based largely on the power semiconductors' proven quality and reliability as well as the team's reputation for successful collaboration,"

TDK

GaN Enables Future of Next-Gen Electric Vehicles

EV challenges for existing Silicon-based solutions

- Slower Charging
- Power Loss
- Heat Constraints
- Limited Driving Distance
- Oversized Batteries

→ Higher Cost & Power Demand

Transphorm Gen IV 650V 35mΩ GaN FET

- AEC-Q101 stress test to 175°C
- 3rd automotive-qualified product line

Gen IV and Gen V Benefits

- Enables AC-DC bridgeless totem-pole PFC designs
  - Increased power density
  - Reduced system size and weight
  - Overall lower system cost
- Increased efficiency, both hard- & soft-switching
- Increased noise immunity
- Easy to drive with commonly-used gate drivers
- Patented GSD pin layout improves high speed design

Future of EV with GaN-based solutions

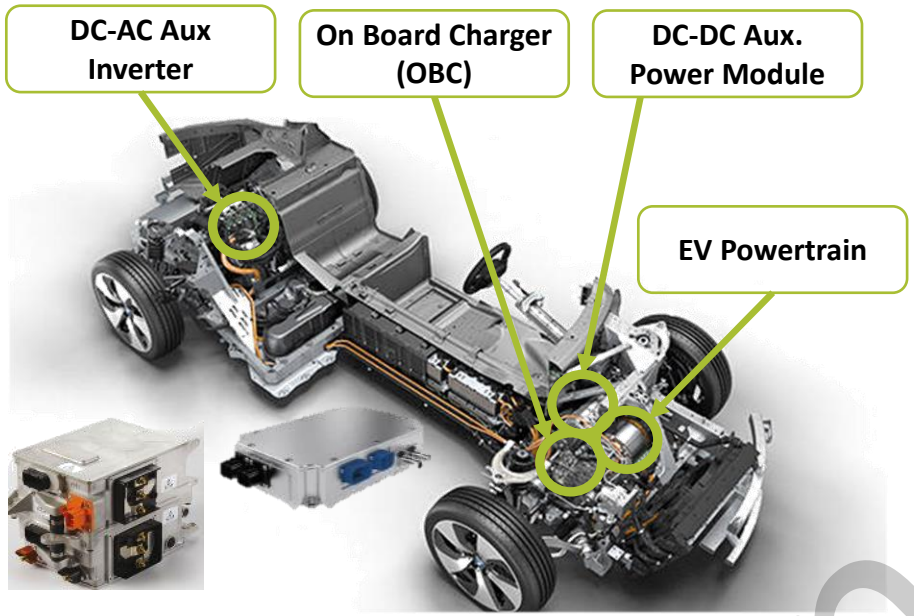
GaN-enabled Power Solution Benefits:

- Faster Charging
- Less Power Loss
- Reduced Size & Weight
- Farther Drive Range
- Smaller battery = same range
- Same battery = extended range

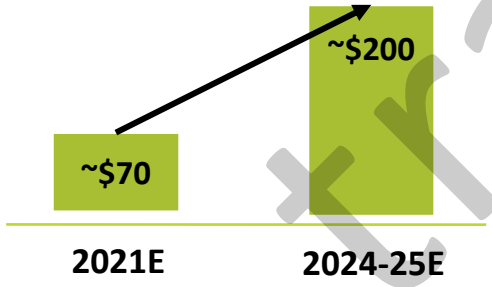
Accelerating Opportunity for GaN Enabled Power in EV

Transphorm GaN AEC-Q101 Qualified NOW

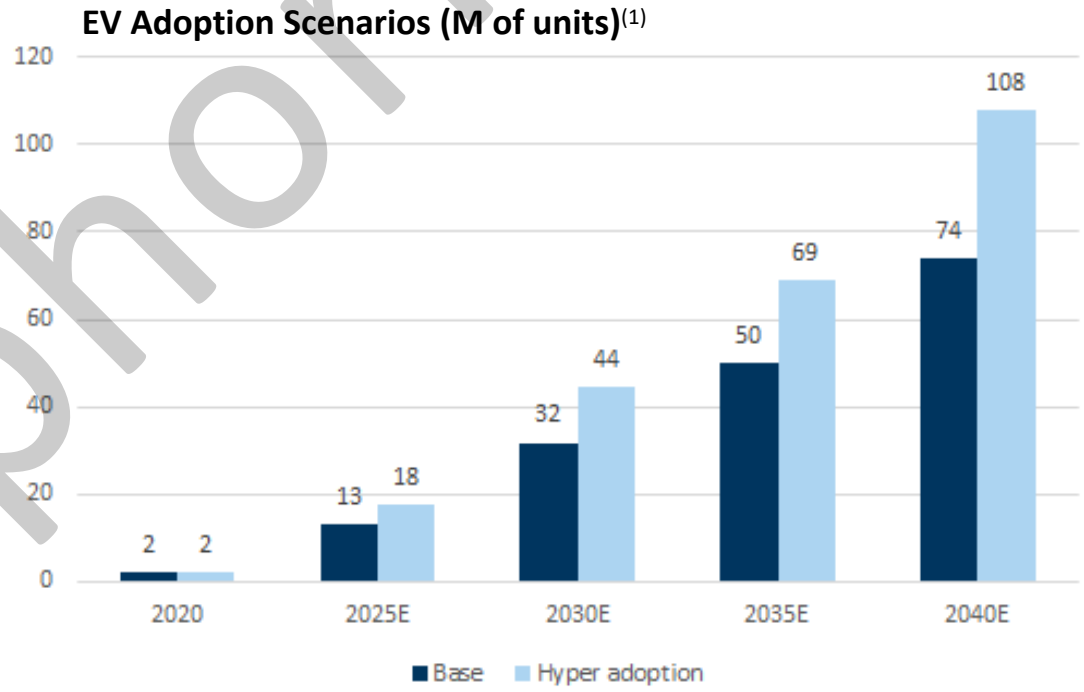
GaN Opportunities in EV



GaN $ Content/EV(2)



Accelerating EV Opportunity



Well positioned for automotive opportunity with leading products, strategic partners

(1) IHS and Goldman Sachs Global Investment Research
(2) Transphorm company internal estimates

Forged Partnership & Secured $15M Investment from SAS

Will help expand supply chain, brings total raised this week to $33 million

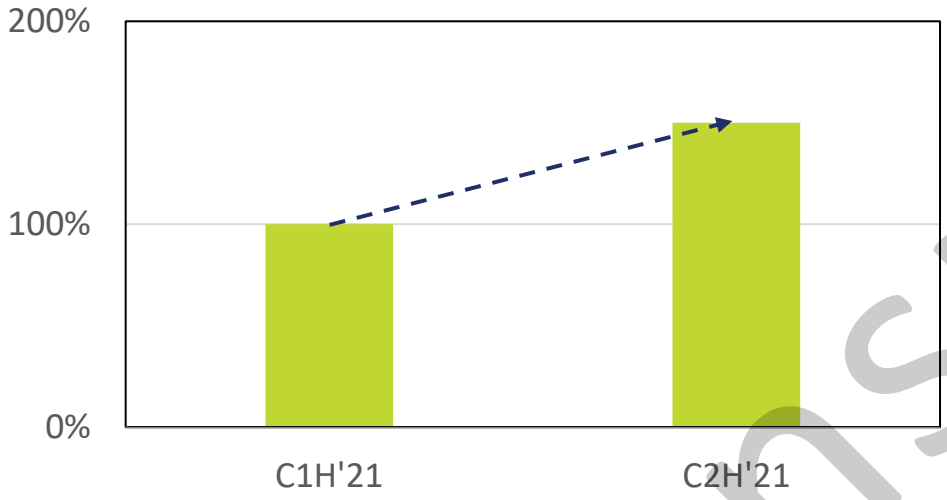
- **Sino-American Silicon Products (SAS) – Total Green Energy Solution Provider and Parent to Global Wafers Corporation (top 3 supplier of Silicon wafer materials WW)**
  - SAS-GWC have combined market capitalization over US $16 billion
  - Both GWC, SAS multi-billion-dollar annual revenues
    - Global manufacturing operations including Asia, Japan, U.S. Europe

- **SAS made $10 million new equity investment (previously initial $5 million in August)**
  - Brings the total investment raised since August to $38 million ($23 million from KKR + US Institutional investors)

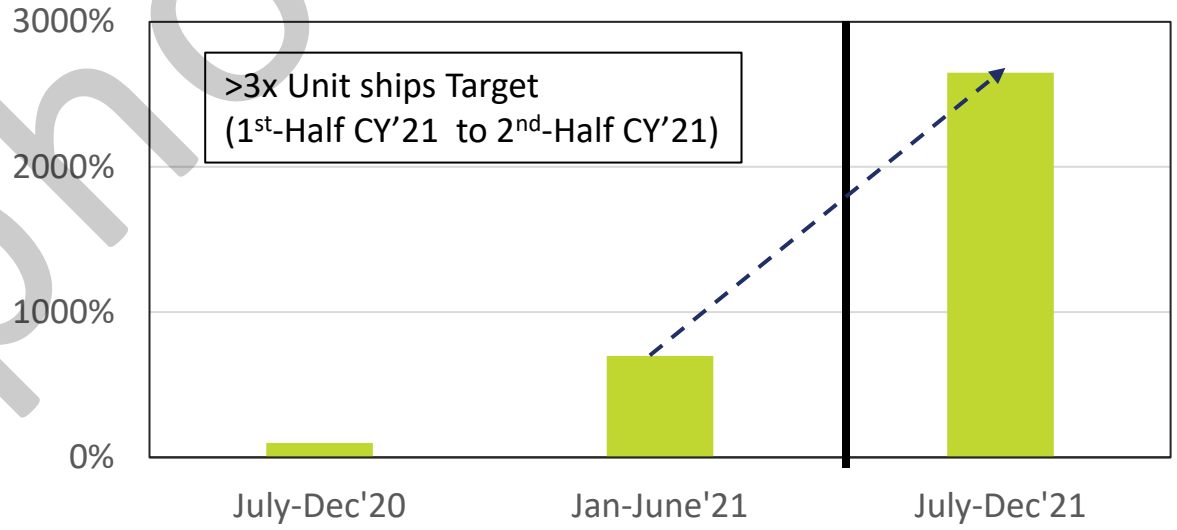
- **SAS/GWC partnership helps enhance GaN Epiwafer supply chain in future, while protecting core IP**
  - Augment Transphorm's internal capacity and targeted for faster ramp in 2023
  - Also become a distributor for select Transphorm Epiwafer and Power Products

Ramping Power Products Revenue Growth

1.5x Product Revenue Growth
Targeted in 2nd Half of Calendar Year



Total Unit Shipments (Normalized to C-2H'20)
>100% Quarterly CAGR Targeted over Calendar 2021



Rapid growth in Adapter/Charger market with proven solutions +
Sustained shipping in higher power gaming/server/crypto-mining segments

Key Business Focus – Scaling Product Revenue

$11.3M total revenue in July-Sep 2021, product revenue $2.3M

1. Adapters and Chargers	Metric Achieved	Status
Design In /Production: 30W to 240W	>40, >20 in production **(increasing penetration fast)**	FQ3 (current) fully booked Added multiple wins, e.g. Philips brand (new)
Solutions/Reference designs	10 solutions done/ongoing partners (**ahead of plan**)	With Silanna, Diodes (new) 2-3 additional released
Capacity	>1m/mth PQFN Pkg target (**achieved on target**)	2 OSATs in place, Increase unit shipments
New products introduced	PQFN 5x6 Package (**on plan**)	High power compact PQFN

DIODES INCORPORATED

2. Higher Power Segment	Metric Achieved	Status
Design In /Production: 1kW – 4kW	>20, >10 in production **(leading high-power brand)**	Added multiple wins, including prominent gaming supplier
Solutions/Reference designs	Multiple solutions incl. leading partners (**ahead of plan**)	Release new 2.5kW Totem Pole (TGAN strong IP)
New products introduced – Higher power Gen4 and Gen5	Gen 4, Auto Qual (**on target**) Gen 5, record high power (**ahead of plan**), sampling started	1.5/3/4 kW class products in next 1-2 quarters Secure Gen5 production win

Targeting Annual Product Revenue Growth of 3x

Key Business Update – Strategic Partnerships

Strong execution on Partners and Government/Epi programs

Leverage TGAN FET ease of designability for solutions/reference designs

- Completed **Diodes Inc.** 130W reference design (65W also released, powered by TGAN)
  - 130W: Power density, 13W/In3, Peak efficiency >93.5% low thermals, Only with **2 TGAN devices** (no other LV FETs or secondary controller), **No external gate driver**
- Continuing designs partnering with **Silanna** (high performance ACF)

130W Adapter

Execution on Strategic partnerships – Industrial and Automotive

- Yaskawa (Industrial) – **$15.6M** Convertible note to Equity, Continued development progress, *Dec'21 target for next development/funding milestone for $0.75M*
- Nexperia (Automotive focus) – *Focus on epi and fab wafer supply,* **Completed** SoW/Tech milestones for $8M revenue recognition in July'21
- Marelli (Automotive) – Continue **targeted product development** phase, with Gen IV AEC-Q101

Government Revenue and Epi Business

- **Completed** initial transfer for major US DoD customer, *Target commercial win (end '21), SAS partnership*
- Navy contract revenue *>$3.5M in CY'21* – **On track ($1M in Jul-Sep'21)**, $1.4M *DARPA program (RF Epi) in place*

Significant Progress on Financing, Partners, Govt and Product

Positioned to maintain strong momentum

	Key Recent Milestones	Impact
1	**Nexperia** Licensing Revenue (July)	• $8m P&L, shareholder equity • Gen 5 Commercial Qual
2	**Yaskawa** Convertible to Equity (Sep)	• $15.6M note converted • Strong industrial partner support
3	**DARPA** Contract start (Sep)	• $1.4M RF epi development
4	**Gen 4** AEC Qualification (Nov)	• Automotive Qualification (OBC/dc-dc product) • Marelli and other customer activity boost
5	**Diodes Inc.** 130W high power adapter design release with TGAN FET (Nov)	• Proof point for TGAN FET ease of use vs. others • Accelerate market penetration
6	**$23M** Equity Investment, **KKR** + Institutional (Nov)	• Strengthens balance sheet • Shareholder support
7	**$5M** (Aug) + **$10M** (Nov) **SAS** Equity Investment, Partnership	• New multi-billion $ international partner • Faster scaling of epi-wafers, accelerate product revenue

Transphorm Inc.
Leading the GaN Revolution

Financial Update

November 10, 2021

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Highest Performance, Highest Reliability GaN

Income Statement

Continued revenue growth; EPS above consensus

	6 months to 9/30/2021	9/30/2021	6/30/2021	6 months to 9/30/2020
Revenue, net	**$ 14,519**	**$ 11,303**	**$ 3,216**	**$ 8,258**
Operating expenses:				
Cost of goods sold	4,806	2,239	2,567	3,291
Research and development	3,414	1,591	1,823	2,665
Sales and marketing	1,512	825	687	1,075
General and administrative	5,457	2,714	2,743	4,746
Total operating expenses	**15,189**	**7,369**	**7,820**	**11,777**
Income (loss) from operations	(670)	3,934	(4,604)	(3,519)
Income (loss) before tax expense	(1,072)	5,980	(7,052)	(9,010)
Net income (loss)	**$ (1,072)**	**$ 5,980**	**$ (7,052)**	**$ (9,010)**
GAAP EPS - (basic)	**$ (0.03)**	**$ 0.15**	**$ (0.17)**	**$ (0.25)**
NON-GAAP EPS (basic)	**$ (0.04)**	**$ 0.09**	**$ (0.13)**	**$ (0.16)**

General Comments

- Synergy from Governmental contract activity offsets R&D spend
- G&A base costs higher due to increased ongoing compliance, personnel & insurance costs

Record Revenue of $11.3M in Quarter

- Increased adoption across multiple segments
- 7th successive quarter of Production Revenue growth
- 200% year on year Product revenue growth

Cost of Goods reduction driven by mix

Operating Expenses

- GAAP OPEX reduced to $5.1M from $5.3M
- Non-GAAP OPEX $4.5M reduced from $4.6M
- Continued headcount expansion to support growth

Other Income/Expense

- Fair Value aligns with conversion price
- Joint Venture deal completed August 1st

Non-GAAP Earnings per Share

- $0.09 in quarter - above consensus

Balance Sheet

$60M improvement in Shareholders Equity from June 30 to today

	September 30, 2021	June 30, 2021	March 31, 2021	September 30, 2020
Assets				
Current assets:				
Cash and cash equivalents	2,488	2,462	9,500	4,369
Accounts receivable, net, including related parties	1,585	2,247	1,618	1,125
Inventory	4,774	2,924	2,223	1,372
Prepaid expenses and other current assets	1,329	2,160	953	1,743
Total current assets	10,176	9,793	14,294	8,609
Other assets	4,160	4,241	3,850	4,257
Total assets	**14,336**	**14,034**	**18,144**	**12,866**
Liabilities, convertible preferred stock and stockholders' deficit				
Current liabilities:				
Accounts payable and accrued expenses	4,047	3,744	3,140	2,687
Deferred revenue	607	1,016	505	178
Development loan	-	8,000	10,000	10,000
Revolving credit facility, including accrued interest	184	166	10,150	10,153
Unfunded commitment in joint venture	-	1,339	1,866	1,684
Accrued payroll and benefits	1,447	1,582	1,410	1,325
Total current liabilities	**6,285**	**15,847**	**27,071**	**26,027**
Revolving credit facility	12,000	12,000		
Promissory note	15,597	17,190	16,128	16,327
Total liabilities	**33,882**	**45,037**	**43,199**	**42,354**
Total Stockholders' deficit	**(19,546)**	**(31,003)**	**(25,055)**	**(29,488)**
	14,336	**14,034**	**18,144**	**12,866**

Assets

- Stable cash position
- Inventory build up to support ramp

Liabilities

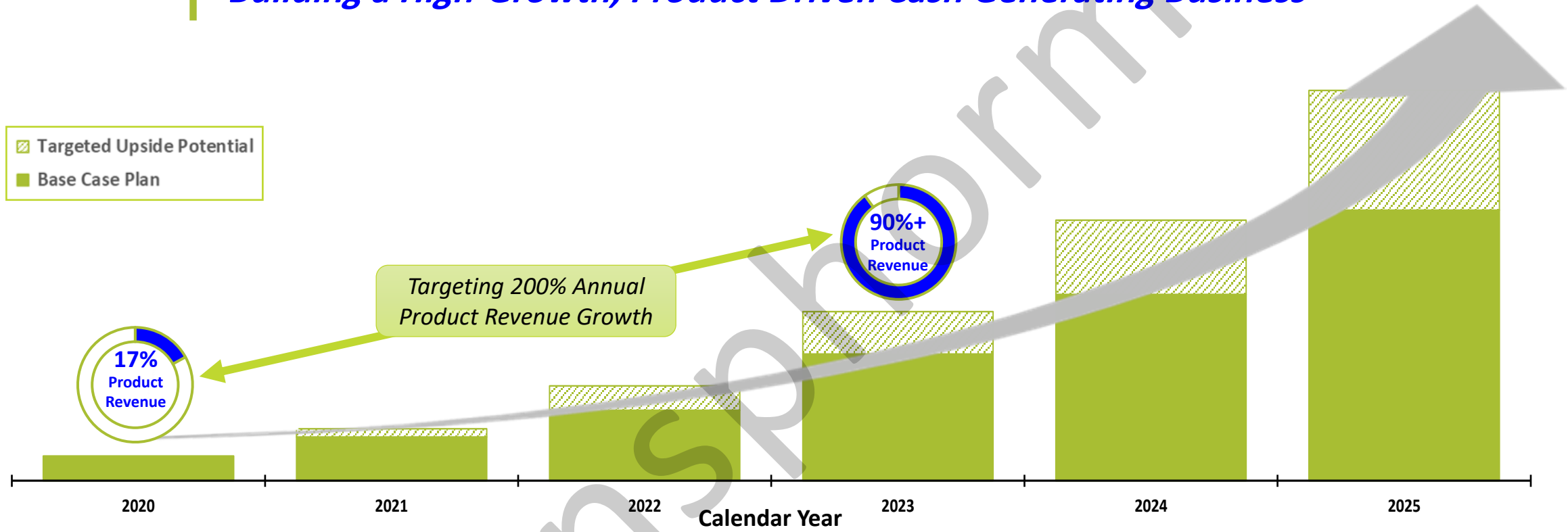
- Deferred revenue reduced with Yaskawa payment
- Development loan forgiven – Nexperia SOW
- Yaskawa note value decreased to conversion value - $15.6M

Key Events post 9/30

- Oct 4th – $15.6M Yaskawa loan forgiven
- Nov 9th – $23M equity round including lead shareholder KKR and additional US Investors
- Nov 10th – $10M SAS, bringing total investment to $15M

Long-Term Growth

Building a High-Growth, Product Driven Cash Generating Business



Operating Guidelines

- Rapid top-line growth and GaN adoption across multiple 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%+**
- 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% 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 $200M

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

Publicly Traded GaN Company
OTCQX: TGAN

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