

Leading the GaN Revolution

Fiscal Q4 & Full Year 2023
Investor Update

June 27th, 2023
NASDAQ: TGAN

transphorm

Highest Performance, Highest Reliability GaN

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GaN momentum drives decision for a strategic review of opportunities

GaN power semiconductors generating significant recent interest

- Significant M&A transaction by power semiconductor leader
- Capital raises
- Recent GaN interest or small internal efforts by multiple large power semiconductor companies

Transphorm well situated as one of the very few pure play GaN companies at scale in the market

- Leader in high power GaN, key player in low power GaN, ramped in market at scale
- Best in class technology, high reliability, consistently outperforming “e-mode” GaN or “Leading-Foundry” GaN
- Own wafer manufacturing and strong IP of more than 1,000 owned or licensed patents

Strategic review to enhance shareholder value and accelerate growth of our GaN business

- Based on multiple opportunities and various levels of inbound interest
 - Financing – semiconductor strategic and/or traditional financing alternatives
 - Licensing opportunities – US, Asia
 - Potential M & A

Simultaneously target options to strengthen balance sheet targeting runway well into fiscal 2025

- Rights offering, up to \$15M, with key stockholders indicating interest in participating
- Conventional asset-based debt under discussion

Key Focus – Scaling Product Revenue to address \$440 million+ Pipeline

1) High Power Leadership / Low Power expansion, 2) Capacity & Supply Chain 3) Product/Tech Leadership

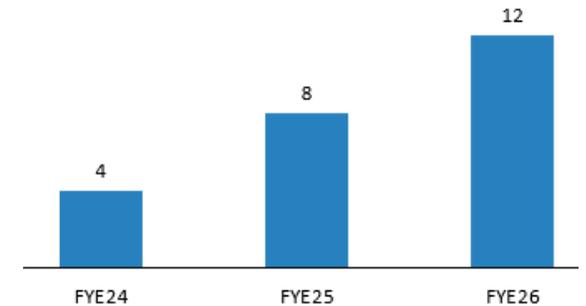
Key focus areas	Achieved
1. Revenue/Products, FQ4-23	<ul style="list-style-type: none"> ✓ \$3.2M Products, High Power Revenue > 70% , Total Revenue \$3.2M ✓ Full year \$16.5M (Product Revenue \$14.7M, 21% increase YoY)
2. Low Power: Adapters/Chargers: (25W – 300W), Till date	<ul style="list-style-type: none"> ✓ Design-Ins: 90+ (10 new), a > 10% sequential increase in design-ins ✓ In Production: 25+ (3 new) ✓ System-in-package solutions enabled (Weltrend partner SiP)
3. High power: (300W-4kW), Till date	<ul style="list-style-type: none"> ✓ Design-Ins: 60+ (15 new), a > 25% sequential increase in design-ins ✓ In Production: 30 (4 new) ✓ Ramped in Computing (Server, Blockchain, Gaming), Microinverters, UPS
4. Product SKUs	<ul style="list-style-type: none"> ✓ Total: 25 products (production/sampling, AEC qualified: 3), >45% increase ✓ 6 surface mount devices (SMDs) in Industry Std. PQFN Packages, New robust high-power TOLL surface mount packages ✓ 1200V GaN Simulation kit released
5. Capacity Proof Points	<ul style="list-style-type: none"> ✓ Japan Epi-wafer capacity is ramped with two reactors in production ✓ New Reactors in qualification at Global Wafers (on track) ✓ Lower cost high power packaging partners/sub-cons: Product released (dual source, improve margins)

Key Business Update – Strategic Partnerships

Manufacturing Capacity Increase, Partnerships – Expanding to meet strong demand

- **MOCVD reactors at Global Wafers (Partner) started, process setup & qualification ongoing, on track, 6 of 8 reactors now installed, 4 running various levels of production/development**
- AFSW Fab (Transphorm's JV) – Managing with GaNovation (Financial/Strategic partner). Per plan – Capacity in place, Expansion plans in place.

Planned MOCVD Reactors in Production

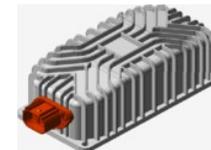


Industrial and Automotive

- **Yaskawa (Industrial)**– On track. Secured next \$0.5 million development funding (June '23)
- **Nexperia (Automotive)** – Streamlined partnership, exclusivity for EV expired (April'23), Long-term partnership with Supply agreement for Wafers
- **EV 2/3 Wheelers: Sampling OBC and Portable Charger Solutions**
 - **On track for 1st win by end CY23, Ramp CY24**
- **Launching new initiative for EV 4-Wheeler** - WW effort (Focus China, EU, NA, Japan) for OBC, dc-dc Converter opportunities, Significant interest in new 1200V GaN

Transphorm's EV Charger Solutions 300W – 2kW (New)

800W OBC



2kW



Portable, IP65 rated, Turnkey



Government Revenue and Epi Business

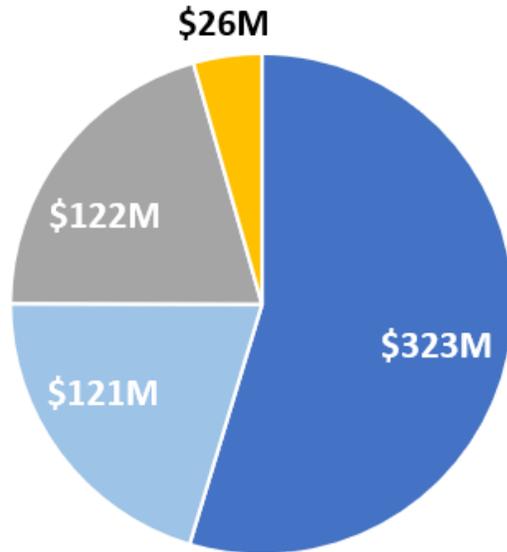
- New Program – **Secured a new \$15 million program for next 3 years (FQ1'24)**
- Manufacturing Funding – Pursuing potential CHIPS partnership with US Foundry Co. and Microelectronics Commons submissions for US based GaN R&D (higher voltage GaN, rf GaN)



Large and Expanding Pipeline of New Business Opportunities

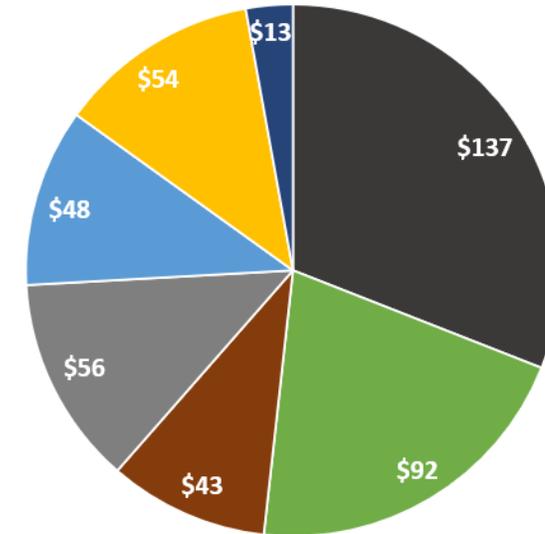
5-Year Pipeline – Power Products, Wafer Products and Government

\$591M Pipeline – \$274M Weighted¹



■ High Power ■ Low Power ■ Wafers-Power ■ Government

\$444M Power Products Pipeline – \$172M Weighted²



■ Broad Industrial ■ Power Adapters (Mobile/Laptops)
 ■ Datcenters (Server/Telecom/Blockchain) ■ Renewable
 ■ EV Mobility/Charging ■ Consumer (Computing/Gaming)
 ■ Other

Commercial RF Epi Wafer Business Represents Additional Upside Opportunity

1) >90% of total and >95% of weighted pipeline is for 5 years (FY24-28).

2) >90% of power products and >95% of weighted power products pipeline is for 5 years (FY24-28).

TGAN – One Core Platform, Crossing the Power Spectrum

Targeting \$3B Power Market Opportunity in 2023, Upside from EV in 2025+



End customers in Production with TPH GaN– 45W to 4 kW, **175 Billion Field Hours**

- Fast charging
- Lower thermals/ smaller form factor
- Lower system cost
- Proven ability to double available power in standardized server/5G telecom form factors
- Enable Titanium-class efficiency EU requirement, Broad IP
- Reduces size/weight of systems
- More efficient charging for battery/battery-powered equipment and vehicles
- 2/3/4 Wheeler EV: Reduces size/weight of on-board chargers, converters and inverters
- Longer distance per charge

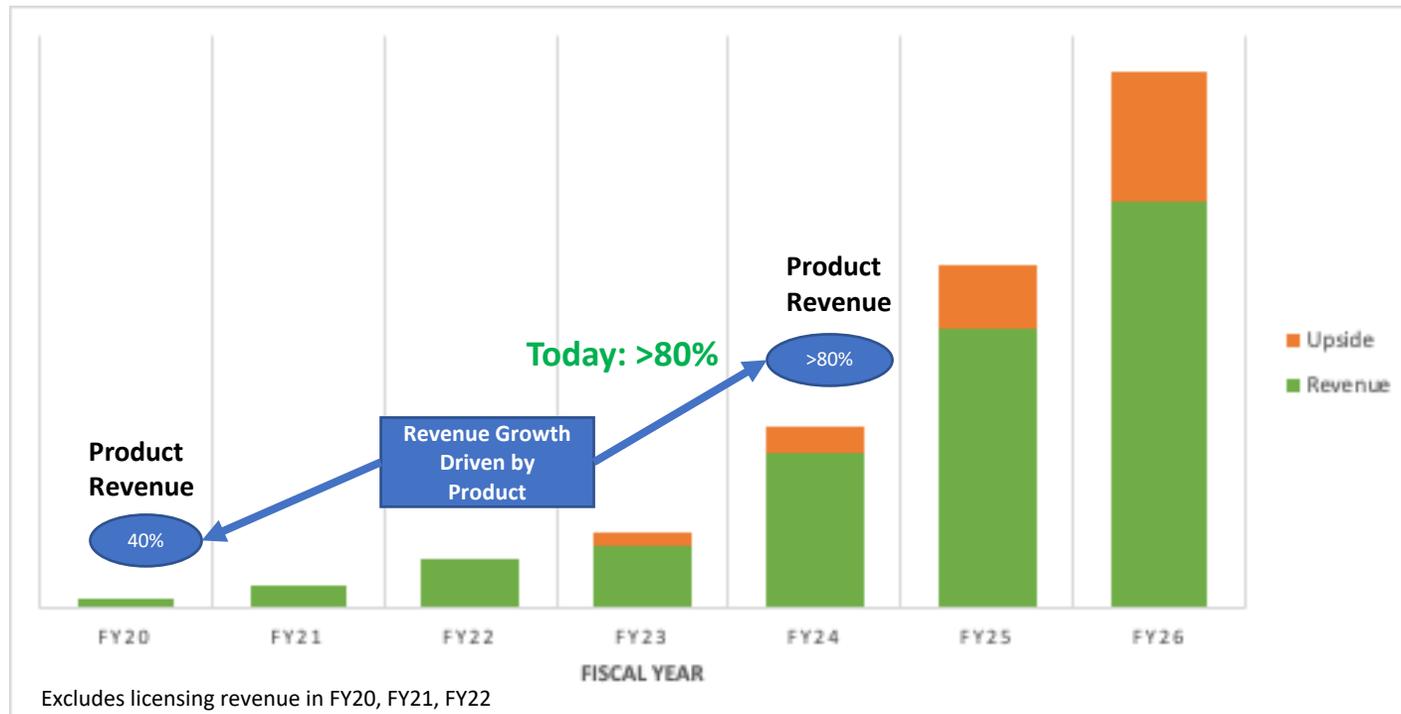
Key ESG Impact: Over 300 Tera Watt Hours Electricity Savings next 2 decades

Key Financial Highlights

	Q4 FY23	Q3 FY23	Commentary
Revenue	\$3.2m (~100% Product)	\$4.5m (>85% Product)	<ul style="list-style-type: none"> FY23 Product revenue increased 21% from FY22 Q4FY23 Revenue reduced due to delayed award of Government Contract Strengthened pipeline of customers
Gross Margin	5%	(59)%	<ul style="list-style-type: none"> Lower Q4 Margin a function of scale and fixed cost absorption. One-time EPI-Wafer inventory write-off impacted Gross Margin in Q3, excluding write-off comparable to Q4 Stable direct margins remain in Q4 Strong margin increase expected in Q1 FY24
OPEX (non-GAAP)	\$7.5m	\$5.9m	<ul style="list-style-type: none"> Reduced Government R&D absorption in Q4 Increased R&D costs to improve capacity Legal, audit, IT costs to support compliance increased
EPS (non-GAAP)	(\$0.13)	(\$0.16)	<ul style="list-style-type: none"> EPS excluding inventory write-off (\$0.11) in Q3 Q4 impacted by reduced revenue and increased OPEX
Cash	\$16.1m	\$23.6m	<ul style="list-style-type: none"> \$15m Rights Issue announced Supplementary non-dilutive asset-based debt in progress

Target Operating Model

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

GaN Power Semiconductor Pioneer and Leader, addressing multi-billion GaN TAM and ramped in both high power and low power GaN market

Disruptive Technology

GaN Enables Next Generation Power Conversion Solutions – **99% Efficiency¹, 50% More Compact/Lightweight, Lower System Cost**

Large Market Opportunity

Transphorm's GaN Solutions will Enable the Future of **Electric Vehicles** and Fast-charging for **5G** – Contributing to **GaN TAM growing to \$6B²** in 2026

Validation From Blue Chip Partners and Customers

Including KKR, SAS, Nexperia, Yaskawa, Marelli, Microchip, Diodes, Weltrend and the U.S. DoD(Navy), DOE



Ramping Commercially with Strong Manufacturing Base

Ramping in market, continued innovations in Tech and Product, **Integrated Manufacturing**, \$17M FY-23 Revenues, Target **>50% LT CAGR**

Best-In-Class Differentiated GaN Technology + Industry's Strongest IP Position

IP Portfolio Appraised around **\$170M³** Leader in **Quality + Reliability, > 175 Billion Field hours**, Silicon-like Reliability⁴

TGAN FET: Higher performance, easy to interface

Team Led by World-Renowned GaN Experts

Proven Leadership, 100+ team, 15+ PhDs and Over 300 Years of GaN Expertise

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Income Statement

Product Revenue increase > 20% year on year

	Three Months Ended March 31,		Twelve Months Ended March 31,	
	2023	2022	2023	2022
Revenue, net	\$ 3,192	\$ 4,927	\$ 16,511	\$ 24,050
Cost of goods sold	3,017	3,789	17,461	12,530
Gross profit	175	1,138	(950)	11,520
Research and development	3,013	1,632	8,908	6,655
Sales and marketing	1,651	1,047	5,247	3,535
General and administrative	3,854	2,917	13,672	11,226
Total operating expenses	8,518	5,596	27,827	21,416
Loss from operations	(8,343)	(4,458)	(28,777)	(9,896)
Other income (expense), net:				
Interest expense	180	181	730	792
Loss in joint venture	659	677	2,724	3,971
Changes in fair value of promissory note	-	-	-	(605)
Other income, net	(392)	(317)	(1,633)	(3,819)
Total other income (expense), net	447	541	1,821	339
Loss before tax expense	(8,790)	(4,999)	(30,598)	(10,235)
Tax expense	-	-	-	-
Net loss	\$ (8,790)	\$ (4,999)	\$ (30,598)	\$ (10,235)

Revenue

- Revenue of \$3.2m in Quarter – reduction driven by delay in now secured government contract
- Reduced revenue y/y driven by licensing in FY22
- Product revenue for year \$14.7m (vs \$12.2m in FY22)

Gross Margins

- 5% in quarter – expect to see strong increase in Q1
- Annual negative GM impacted by Q3 write off – excluding that solid GM% for the year

Operating Expenses

- OPEX increased q/q driven by no government absorption. Costs of bring up reactors and staffing
- Prime increase y/y due to additional personnel

OIE

- Reduced y/y as share of JV reduced

Balance Sheet

	March 31, 2023	March 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	\$ 15,527	\$ 33,435
Restricted cash	500	500
Accounts receivable, net, including related parties	4,396	2,558
Inventory	8,406	6,330
Prepaid expenses and other current assets	1,859	1,971
Total current assets	30,688	44,794
Property and equipment, net	7,890	1,649
Operating lease right-of-use assets	3,033	-
Goodwill	1,079	1,180
Intangible assets, net	321	617
Investment in joint venture	715	143
Other assets	726	263
Total assets	\$ 44,452	\$ 48,646
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	\$ 7,895	\$ 3,588
Deferred revenue	-	346
Accrued interest	180	180
Unfunded commitment in joint venture	-	-
Accrued payroll and benefits	1,458	1,171
Operating lease liabilities	404	-
Revolving credit facility	12,000	-
Total current liabilities	21,937	5,285
Promissory note	-	12,000
Operating lease liabilities, net of current portion	2,670	-
Other liabilities	230	-
Total liabilities	24,837	17,285
Commitments and contingencies		
Total stockholder's equity (deficit)	19,615	31,361
Total liabilities and stockholders' equity	\$ 44,452	\$ 48,646

Notables

- Cash and cash equivalents of \$16.1m
 - Increased burn in quarter, lower revenue (as no government) and increased DSO thru collections (now resolved) and non-linear revenue
- CAPEX - \$1.2m in quarter (SAS reactor).
 - Overall Equipment increase in FY23 driven mainly by reactors purchases
- ASC 842 adopted in Q1 – asset/liability now on B/Sheet – minimal P&L impact
- Revolving credit facility (\$12m) – due Q1FY24

GAAP to NON-GAAP Reconciliation

	Three Months Ended			Twelve Months Ended	
	March 31, 2023	December 31, 2022	March 31, 2022	March 31, 2023	March 31, 2022
GAAP net loss	\$ (8,790)	\$ (10,460)	\$ (4,999)	\$ (30,598)	\$ (10,235)
Adjustments:					
Stock-based compensation	858	1,123	758	3,199	2,614
Depreciation	174	180	147	672	547
Amortization	74	74	74	296	296
Other income and expense, net	447	562	541	1,821	339
Total adjustments to GAAP net loss	1,553	1,939	1,520	5,988	3,796
Non-GAAP net loss	\$ (7,237)	\$ (8,521)	\$ (3,479)	\$ (24,610)	\$ (6,439)
GAAP net loss per share - basic and diluted	\$ (0.15)	\$ (0.18)	\$ (0.09)	\$ (0.54)	\$ (0.22)
Adjustment	0.02	0.03	0.02	0.10	0.08
Non-GAAP net loss per share - basic and diluted	\$ (0.13)	\$ (0.15)	\$ (0.07)	\$ (0.44)	\$ (0.14)
Weighted average common shares outstanding - basic and diluted	57,144,218	56,739,450	53,343,862	56,227,007	46,056,331

	Three Months Ended			Twelve Months Ended	
	March 31, 2023	December 31, 2022	March 31, 2022	March 31, 2023	March 31, 2022
GAAP operating expenses	\$ 8,518	\$ 7,229	\$ 5,596	\$ 27,827	\$ 21,416
Adjustments:					
Stock-based compensation	796	1,035	715	2,955	2,453
Depreciation	101	102	94	394	385
Amortization	74	74	74	296	296
Total adjustments to GAAP operating expenses	971	1,211	883	3,645	3,134
Non-GAAP operating expenses	\$ 7,547	\$ 6,018	\$ 4,713	\$ 24,182	\$ 18,282

Non-GAAP includes D&A, OIE and SBC

Non-GAAP OPEX higher in the quarter

- Wind down of ONR contract
- G&A (legal/audit)
- Staffing/recruitment

Depreciation slightly higher

- Due to CAPEX investment, reactors not depreciating as in CIP