VICOR

November 2019 Investor Update

CRAIG-HALLUM
CAPITAL GROUP LLC

Craig-Hallum Alpha Select Conference

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November 11, 2019

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VICOR

Vicor Corporation (Nasdaq GS: VICR)

- Vicor is known for pioneering power conversion technologies, embodied in highly-differentiated solutions addressing the most challenging customer applications
- Performance differentiation (voltage conversion efficiency, solution power density, design flexibility, and TCO) is enabled by patented/proprietary topologies, designs, control ICs, components, materials, and packaging
- Highly scalable operational model; no debt

Founded 1981; public listing 1984	Average Daily Volume (3 mo.): 204,000
41,441,000 diluted shares; two share classes	Trading float: 18,300,000
Total outstanding shares: 40,442,000 (54.6% held by insiders)	Listed share total: 28,684,000 (42.9% held by reporting institutions)

Data as of November 6, 2019.

VICOR

Positioning: Strategically Focused on High Voltages

Vicor's leadership built on foundation of:

- Decades of R&D Focused on Breakthrough Innovation
- Robust Patented / Proprietary IP Portfolio
- Factorized Power Architecture™
- Highly Differentiated Designs & 3D Packaging
- Unmatched Value Proposition

48V: the most compelling chassis and board level solution

"We need the "Killer App" that will force the watershed change in the way businesses think about power. The Killer App is the need for 48V to <1V power conversion for point of load at hundreds of amps. This is real, and it is now. You are not going to solve this problem effectively without a transformer. The converter will have to live up on the substrate next to the processor where the high current is needed.

As far as I am aware only one company – Vicor – has made the enormous investment needed to solve this problem. It is available today. But the industry is putting on blinders – who can afford such high technology? That's where the killer app idea comes in – you cannot afford NOT to do it this way.

There is going to be a disruption here.

-- Dr. Ray Ridley, President, Ridley Engineering

"In my estimation, Vicor has the best 48VDC to 1VDC and below, in the industry."

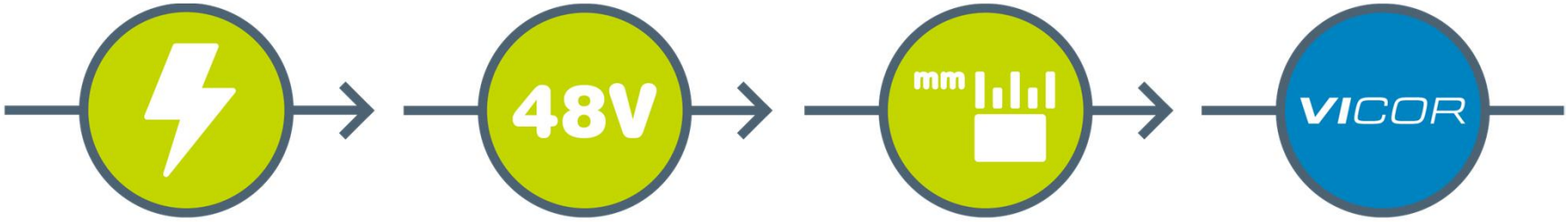
-- Steve Taranovich, Editor/Writer, EDN

"Thanks to Vicor, we are implementing the state-of-the-art 48V technology in Wiwynn® server platform, M1, which will increase power efficiency and offer the best TCO to data centers."

-- Sunlai Chang, Vice President and CTO, Wiwynn

Strategic Opportunity / Value Proposition

- Positioned to lead the accelerating transition to 48V distribution in large, high growth markets
  - Acknowledged leader in 48V conversion and distribution
  - Unmatched capabilities, enabled by substantial IP portfolio
  - Trends most evident in cloud computing and electric vehicles
    - Additional opportunities in satellite, 5G wireless infrastructure, lighting, and defense electronics
- Driver: tremendous pressure on Power Distribution Networks (PDNs) across applications



System performance driving rapidly increasing load power

Moving PDN to higher voltage eases the delivery and distribution of higher voltages and currents

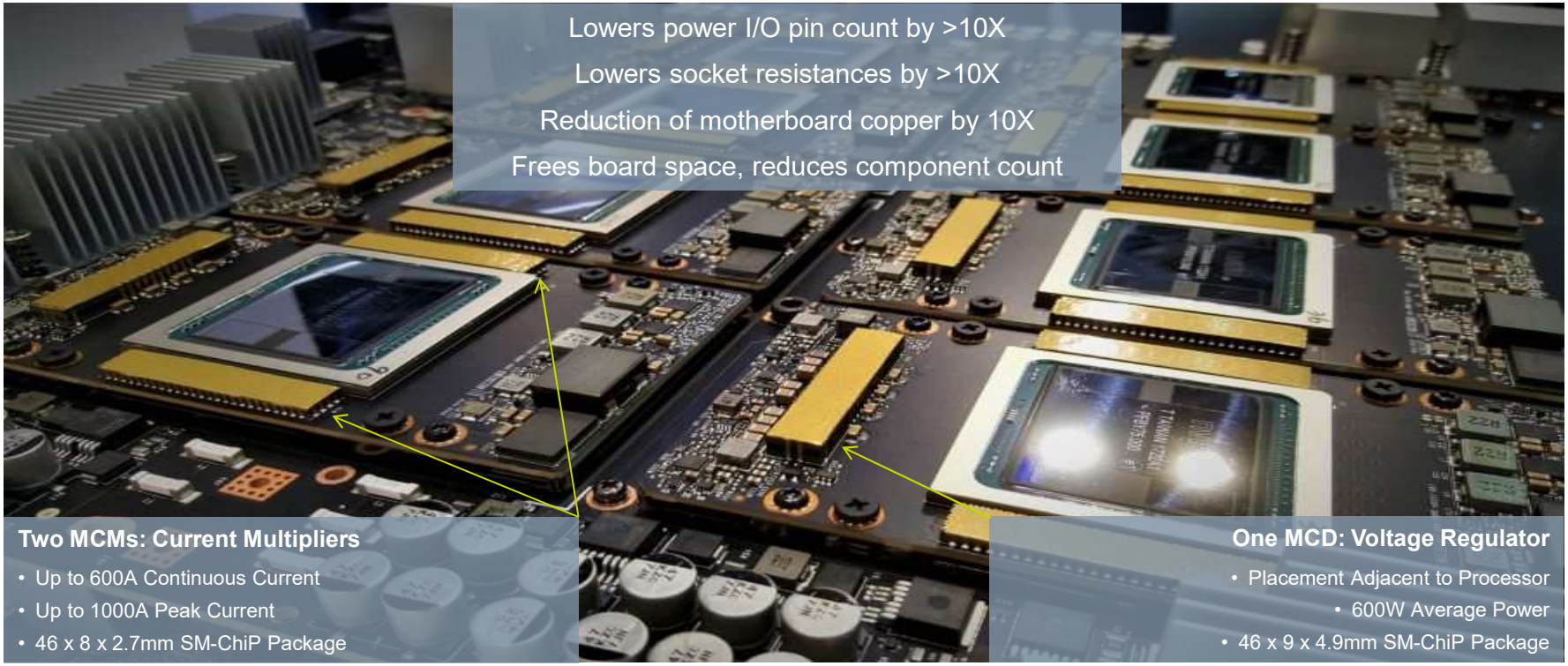
Power = Voltage x Current

High power density enables higher efficiency and performance for both system and loads

The power module company with the highest performance and density

Proof of Concept: Nvidia DGX-2

Competitively unmatched approach to current delivery to AI processors



Current Generation (2018-2019):
Eight NVIDIA SXM3 Accelerator Boards = One HGX-2 Cloud Server Platform
Two HGX-2 Boards + NVLink = DGX-2 Supercomputer

Proof of Concept: Cray/AMD Frontier Exascale HPC/SC

- High Power Racks – 80KW
  - 380V DC to 48V
  - 48V to PoL CPUs
  - 48V to PoL AI accelerator cards

Cray:
"HPC enables AI to reach its full potential."

Targeted Opportunities: Leadership of SC/HPC & Hyperscalers

AI acceleration driving the infrastructure transition to 48V

3-phase 480V AC

$2B
SAM
2023

380 V HVDC

48V

40KW to 80kW rack power

Heavy workload: HPC/AI. CPU, GPU, ASIC, FPGA

< 1V @ 350A to 1,500A

$2.2B
SAM
2023

Medium workloads: Cloud

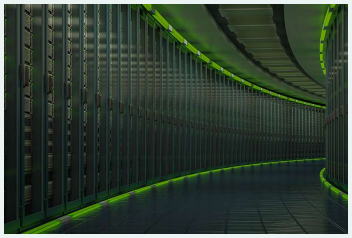
12V @ 150A to 300A

12KW to 20kW rack power

Targeted Opportunities: Facilitating Data Center Adoption

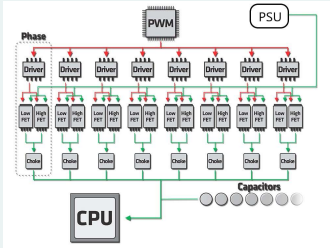
Adding 48V AI on refresh or new builds with 12V legacy PDN racks

12 Volts

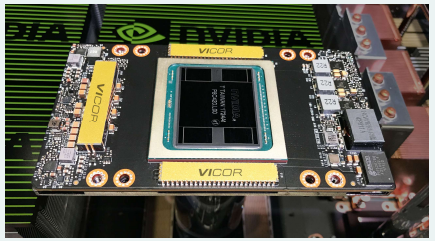


48V

Legacy PDN



SXM

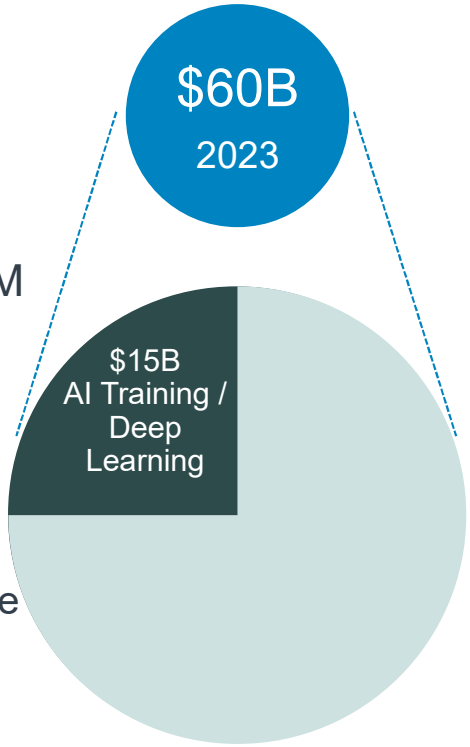


OAM

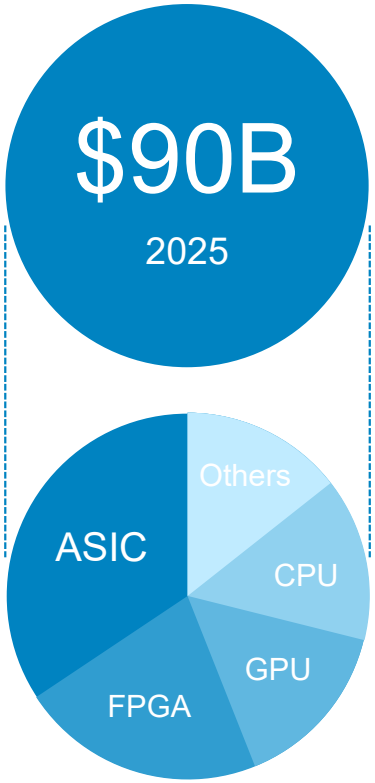
Data Center Opportunity Driven by AI Adoption

AI processor evolution should substantially increase TAM / SAM

- Estimated $15B SAM for Vicor in 2023
  - Focused on demanding, high-current AI Training applications
  - Targeted 10% share could represent $1.5B opportunity



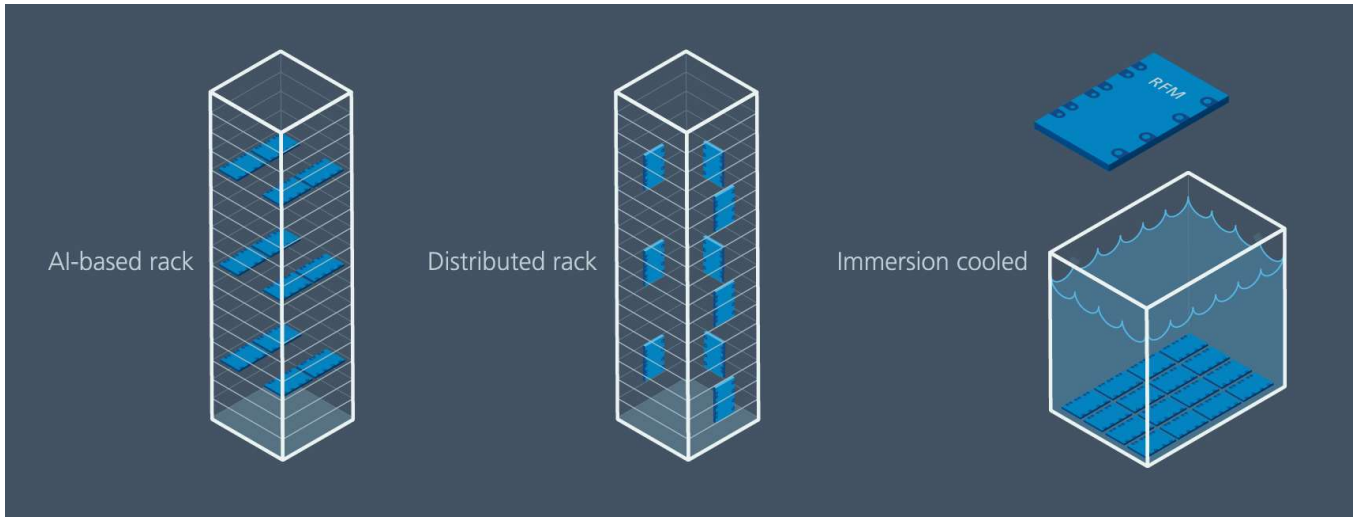
- ASICs projected to be largest segment:
  - Google
  - Amazon
  - Facebook
  - Alibaba
  - Numerous start-ups
- ASICs should dominate Training
- 48V expected to penetrate Inference



Targeted Opportunities: Redefining Rack Power Distribution

Server power requirements >20kW driving 48V and greater power density

- PowerTablet and new RFM line enable unmatched power density and design flexibility
  - Conventional DC-DC rack distribution and more advanced AC-DC power deployments
- Targeting rack power supply (PDU) TAM of $1B; potential SAM in early stage

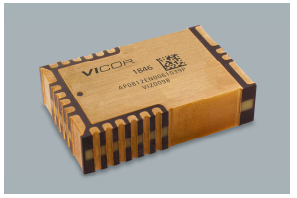


Proof of Concept:
PEZY / Exascaler Supercomputer
(Immersion)

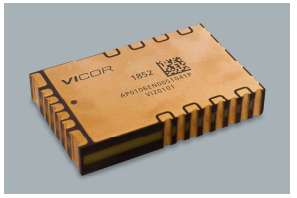
Targeted Opportunities: LEO Communications Satellites

Radiation-hardened, fault-tolerant components aimed at “constellation” applications

BCM3423



PRM2919

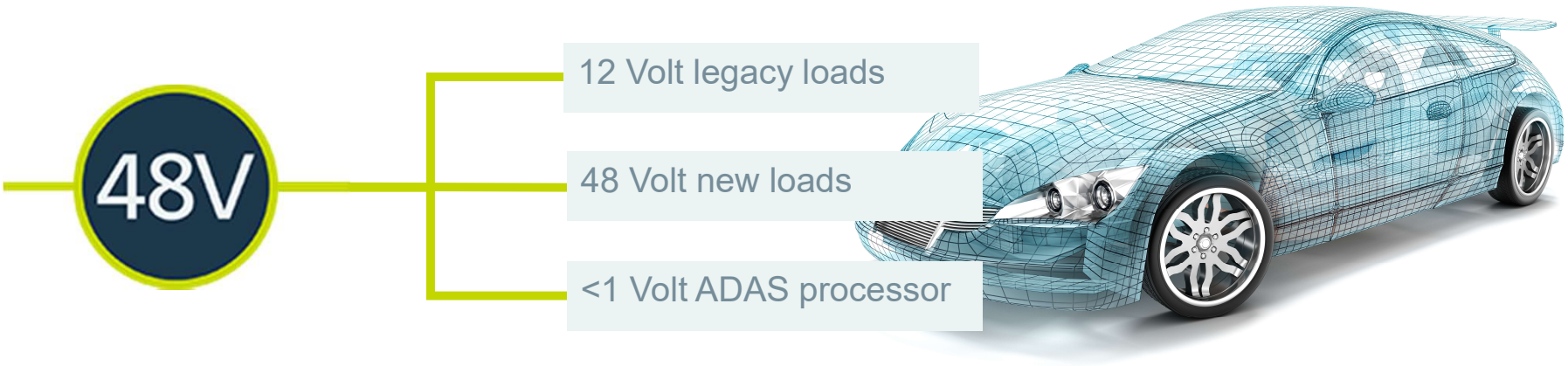


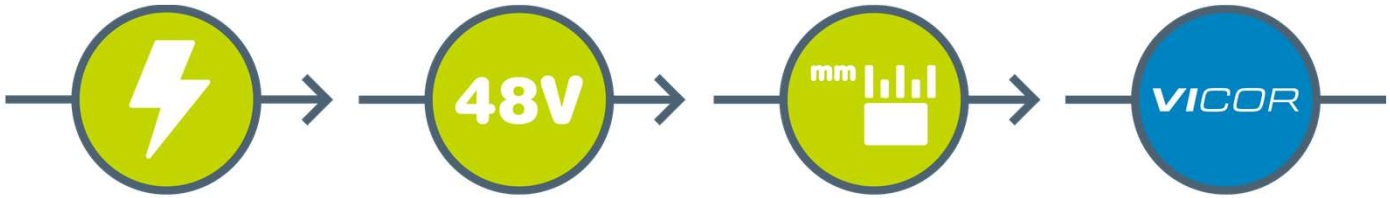
VTM2919

- Estimated $500M TAM (2023)
  - LEO Segment represents ~25% of TAM
  - Production scheduled for 2020

Targeted Opportunities: Mild Hybrid Vehicles

Enabling new features and reducing weight



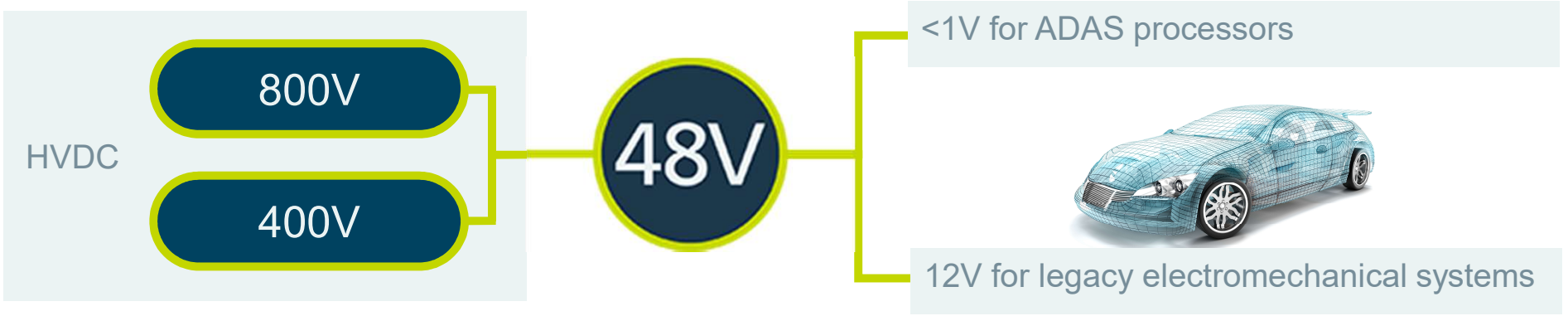


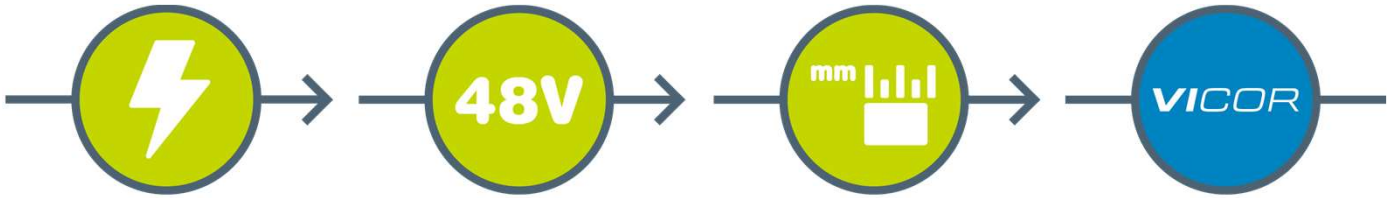
New features: 12V PDN and battery cannot meet needs

Density and lower weight to meet CO^2 standards

Targeted Opportunities: Extending EV Battery Life & Range

Increased distribution efficiency





800V and 400V battery systems need to efficiently convert to 48V

Density, higher efficiency and lower weight extends battery life and driving distance

Automotive Opportunities: Longer-term, but Substantial

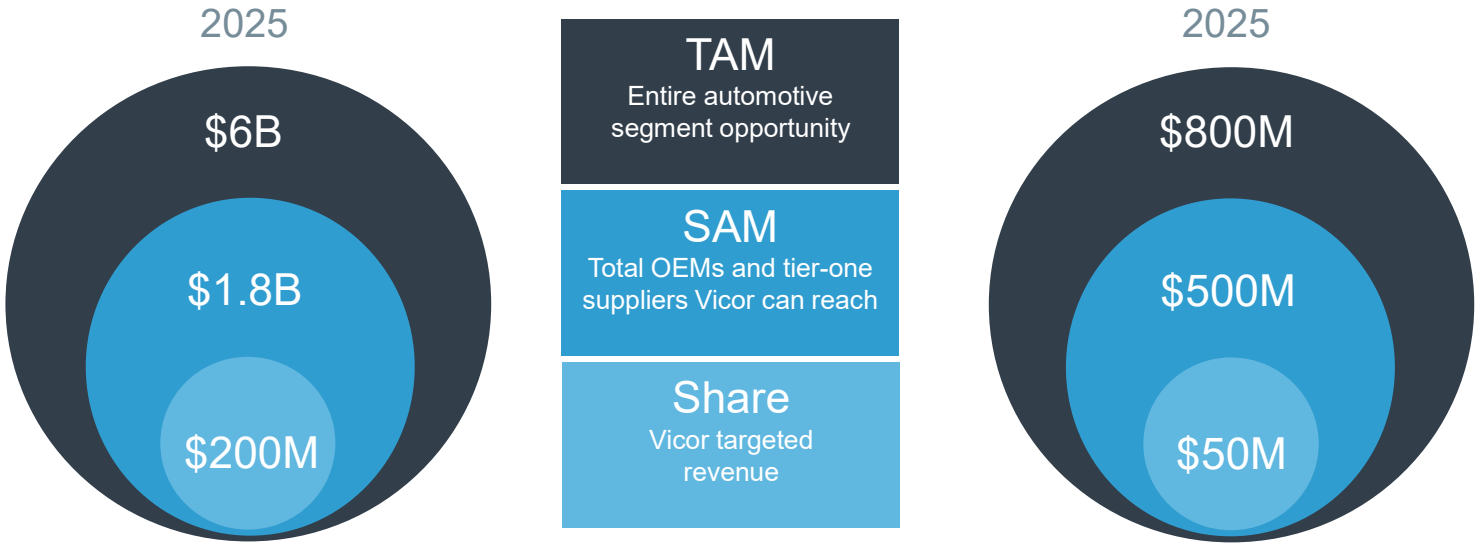
Targeting $250M revenue by 2025

Powertrain and chassis electronics

- Forecasts for ~9% CAGR, as electronic content expands from third to over half of vehicle value
- Well positioned with differentiated performance, size, and weight
- Numerous engagements, with early design wins

Autonomy / AI

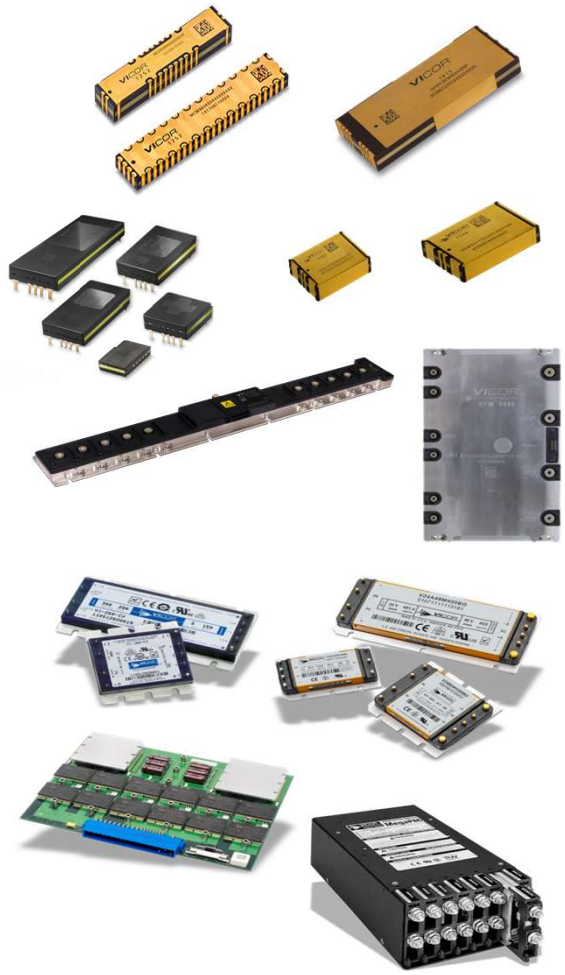
- $100M segment TAM today growing to $800M
- Technology advancements and adoption taking longer than anticipated, but enormous R&D spend; standardization expected
- Established engagements with market leaders



Strategic Shift Underway

Vicor has two product categories: Advanced and Brick

- Advanced Products (~1/3rd volume):
  - Enabled by disruptive, unmatched technology
    - Factorized Power Architecture™
    - ChiP™ modular packaging; next generation control silicon
  - Targeting most challenging applications with highest growth potential
  - Scalable manufacturing model
- Brick Products (~2/3rd volume):
  - Well-established, legacy product lines for distributed power applications
  - Mass customization serving broad range of non-commoditized segments
  - Steady revenue, profitability, and cash generation
- Advanced volume expected to exceed Brick volume by 2021



Operational Shift Underway

To high-volume / low-mix from low-volume / high-mix

- Leveraging infrastructure
  - Product platforms in place
  - Global sales and support in place
  - Expanding current production model
- Sustaining cash-generative model
- Customer transition
  - Driving economics of high volume OEMs
- Approaching mix shift
  - Expect Advanced > Brick by 2021
  - Mix shift expected to accelerate profitability

Expanding Production Capacity		
	**Estimated timing**	**Expected annualized revenue capacity**
Capacity expansion	Online Q2 2019	~$450M-$500M
90,000 sq.ft. addition	Online 2H 2020	~$750M
New facility	TBD 2022	~$1B

VICOR

Long Term Financial Model

	FY18	YTD19	Long Term Targets
Revenue	$291M	$200M	DD CAGR
Advanced Products	36%	30%	80%
Brick Products	64%	70%	20%
Gross Margin	48%	47%	~65%
R&D	15%	17%	~15%
SG&A	21%	22%	~15%
Operating Income	11%	7%	~35%

Summary

- Targeting opportunities with potential for sustained high growth
- Disruptive and proprietary topologies, designs, materials, and packaging
- Opportunity to expand share beyond existing customers and applications
- >80% market share within AI GPU and ASIC segment at 48V
- Substantial automotive pipeline developed in first nine months
- Significant operating leverage expected to drive profitability ramp