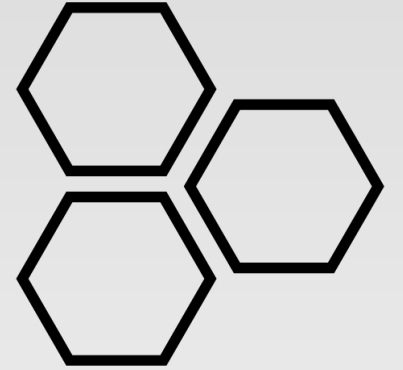


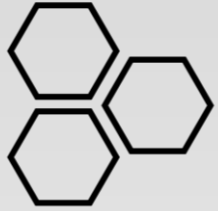
# ODYSSEY SEMI



Product Development Agreements with Customers Commencing in Q2 2023

Leading The Transformation From Silicon and Silicon Carbide  
To High-Voltage Vertical GaN

May 10, 2023 | OTCQB: ODII



# SAFE HARBOR STATEMENT

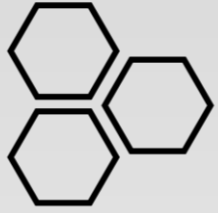
## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The information contained in this presentation includes some statements that are not purely historical and that are “forward-looking statements” within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements regarding the Company’s and its management’s expectations, hopes, beliefs, intentions or strategies regarding the future, including the Company’s financial condition and results of operations. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words “anticipates,” “believes,” “continue,” “could,” “estimates,” “expects,” “intends,” “may,” “might,” “plans,” “possible,” “potential,” “predicts,” “projects,” “seeks,” “should,” “will,” “would” and similar expressions, or the negatives of such terms, may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. The term “Company” in this presentation includes Odyssey Semiconductor Technologies, Inc. and its wholly-owned JR2J, LLC subsidiary.

The forward-looking statements contained in this presentation are based on the Company’s and its management’s current judgment, expectations and beliefs, but our actual results, events and performance could differ materially from those expressed or implied by the forward-looking statements. There can be no assurance that future developments actually affecting the Company will be those anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond the Company’s control) or other assumptions described more fully in the company’s filings with the Securities and Exchange Commission that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements, including those relating to potential fluctuations in our operating results, our possible dependence on a few large customers for a substantial portion of our revenue, a loss of revenue if contracts with the U.S. Government, defense or other major customers are cancelled or delayed, our ability to implement innovative technologies, our ability to bring new products to market, achievement of design wins over our competitors, the rate of acceptance of our products in the market, the efficient and successful operation of our wafer fabrication and other facilities, our ability to adjust production capacity in a timely fashion in response to changes in demand for our products, variability in manufacturing yields, our ability to successfully integrate our Ithaca wafer fab or other facilities or entities we may acquire, our ability to obtain a Trusted Foundry accreditation for the wafer fab, industry overcapacity, inaccurate product forecasts and corresponding inventory and manufacturing costs, dependence on third parties, our ability to attract and retain skilled personnel and senior management, the dilution that may be caused to our stockholders’ ownership by our future need of substantial additional funding, our ability to protect our intellectual property, claims of intellectual property infringement and other lawsuits, security breaches and other similar disruption compromising our information, and the impact of government or environmental regulations. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by any of these forward-looking statements. The Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

These materials do not constitute any offer to sell, or the solicitation of any offer to buy, any securities of Odyssey or any other entity. Any presentation to the contrary should be ignored.

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# ODII: INVESTMENT HIGHLIGHTS

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Odyssey successfully built high-voltage vertical GaN\* power devices which meet 1200V rating and is now building samples for customers in industrial motor, renewable energy and electric vehicle market segments

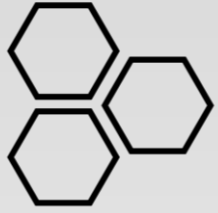
With the industry's strongest vertical GaN IP portfolio, Odyssey is delivering 10X smaller die size and higher performance at cost levels unattainable by silicon carbide

- 10x smaller die size lowers defectivity = improved yield and higher performance
- Smaller die size also makes supply chains and delivery much easier

Odyssey will disrupt the 40% CAGR, \$5B+ silicon carbide market with greater than 40% target gross margins. Megatrends drive the need for high-voltage vertical GaN

**Key:**

\*GaN: Gallium Nitride



# IMPORTANT MILESTONE RECENTLY ANNOUNCED



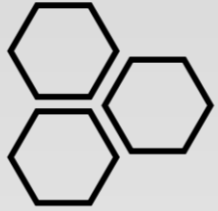
## Odyssey Semiconductor Technologies Delivers Vertical GaN Product Samples to Lead Customers in Q1 2023

- *Product samples were delivered to customers as planned; results validate the leadership performance expected from vertical GaN power devices vs. competing technologies*
- *Product development agreements with lead customers underway with signed agreements expected in Q2 2023*

ITHACA, N.Y., April 4, 2023 – Odyssey Semiconductor Technologies, Inc. (OTCQB: ODII), a semiconductor device company developing innovative high-voltage power switching components based on proprietary Gallium Nitride ("GaN") processing technology, today announced the Company's successful delivery of vertical GaN product samples to lead customers in Q1 2023, as planned. Odyssey Semiconductor remains on track to sign product development agreements with customers by the end of Q2 2023.

### CEO Commentary

"We set an aggressive goal to deliver vertical GaN product samples in Q1. Now that we've delivered product samples to lead customers, we're focused in Q2 2023 on delivery of samples to additional customers and signing product development agreements with customers, which will lead to large-scale commercialization," said Mark Davidson, Odyssey's Chief Executive Officer. "Lead customers have collaborated along the way and have validated the performance metrics expected from vertical GaN for power applications. There is no doubt that these products will be successful in the market."

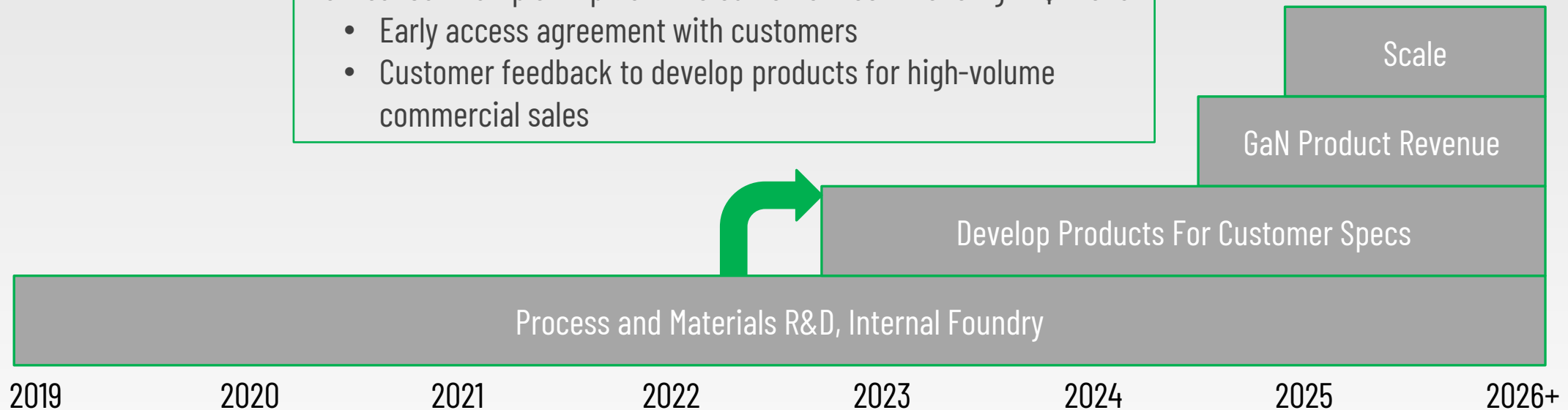


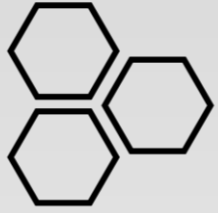
# A SIGNIFICANT STEP FOR ODYSSEY SEMICONDUCTOR

**With the proven and protected IP to build 1200V vertical GaN FETs, Odyssey has taken the step to develop products that meet customer specifications**

Vertical GaN sample shipments to customers commencing in Q1 2023:

- Early access agreement with customers
- Customer feedback to develop products for high-volume commercial sales





# SIGNIFICANT RECENT ADVANCEMENTS AND MILESTONES

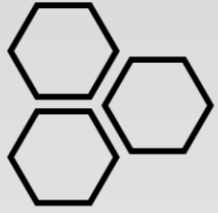
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## Technology

- Completed 650 and 1200 volt vertical GaN product sample fabrication as planned in Q4 2022
- Delivered Vertical GaN product samples to 2 lead customers as planned in Q1 2023
- Will deliver significantly more samples to customers in Q2 and Q3 2023
- Negotiating product development agreements with customers – two expected by the end of Q2 2023

## Business

- Secured additional \$2.35M in funding executed on December 28, 2022
- Cash used in operations averaged ~\$312k per month in Q1 2023
- Foundry business has on-boarded two new customers with additional large opportunities in 'closing' phase. On track for \$500k revenue for the year, up 50% from 2022.



# DEEP DIVE – GaN VS SiC

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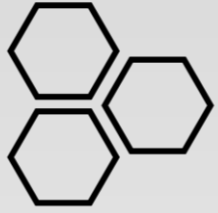
SiC is in the news – a great deal of capital investment to expand capacity

Vertical GaN is a better alternative

First isn't best

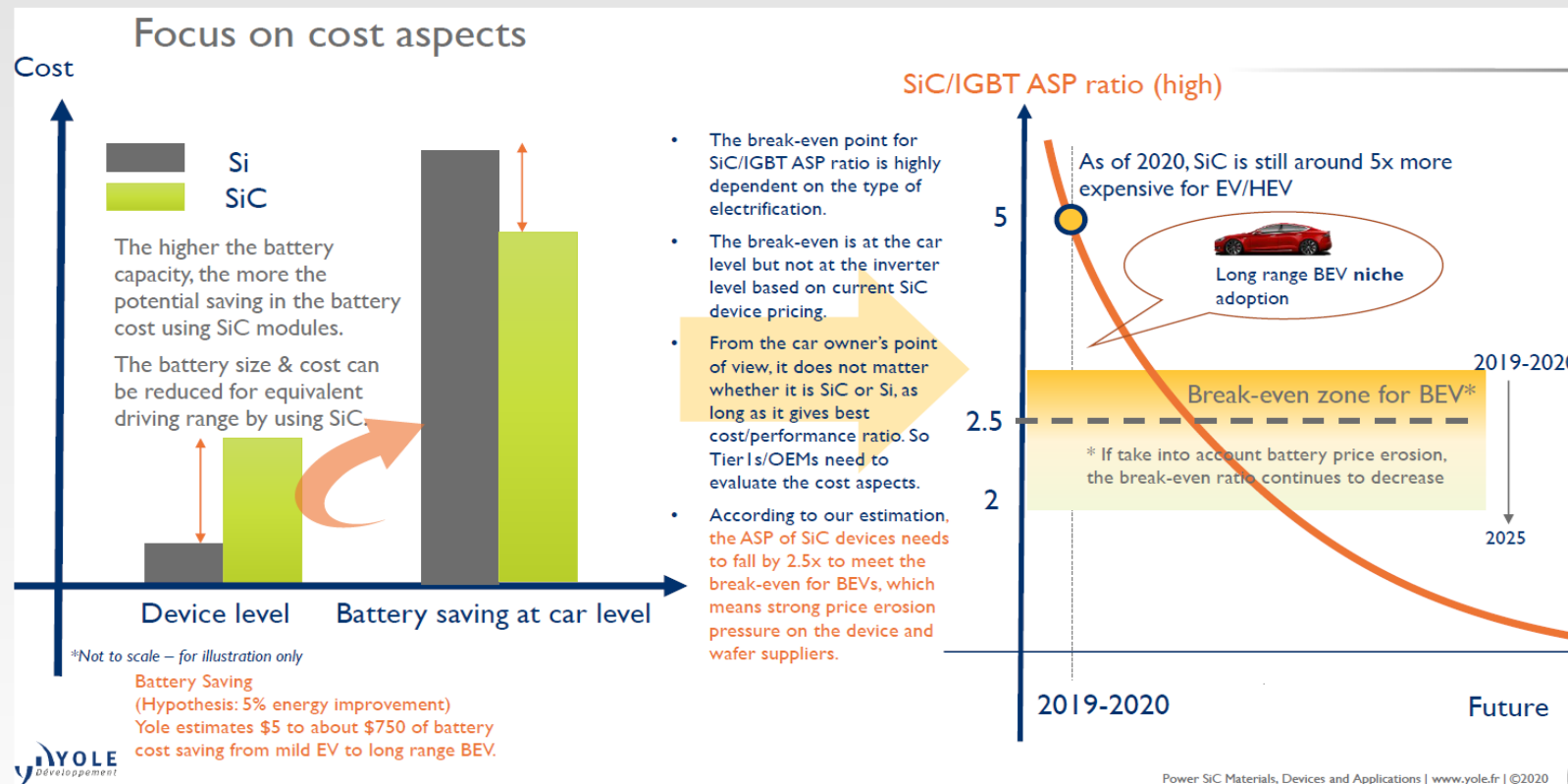
## SILICON CARBIDE

Tesla announces that it will use 75 % fewer SiC transistors in its powertrains

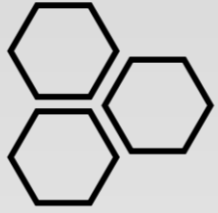


# SILICON CARBIDE ECONOMICS FALL SHORT

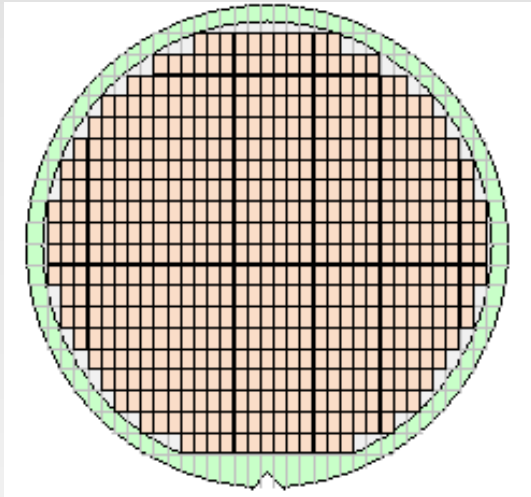
Silicon Carbide prices need to erode 2.5x to meet EV economics





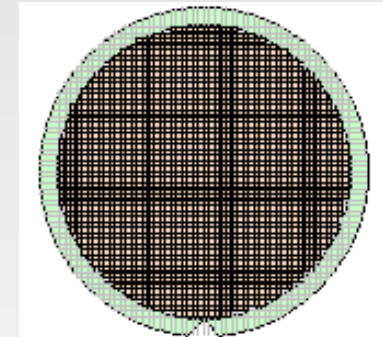


# THE ECONOMICS FAVOR VERTICAL GaN



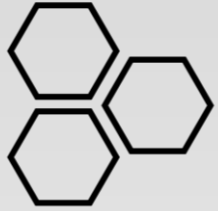
6" SiC Wafer  
522 die

|                   | SiC      | Vertical GaN |
|-------------------|----------|--------------|
| Wafer Size        | 6"       | 4"           |
| Product per wafer | 522      | 2128         |
| Wafer Cost        | \$812    | \$1500       |
| Revenue per wafer | \$35,036 | \$142,831    |



4" GaN Wafer  
2128 die

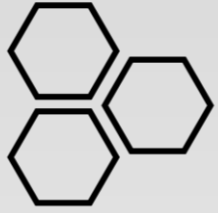
4" Vertical GaN outproduces 6" SiC by 4x/wafer



# HIGH VOLTAGE VERTICAL GaN VS. SiC

| High-Voltage Vertical GaN Advantages vs. SiC |   |                       |
|--|---|-----------------------|
| Faster switching speeds                      | → | Higher power density  |
| 10X Performance                              | → | Higher energy savings |
| Smaller components                           | → | Lower systems cost    |
| Lower defect densities                       | → | Higher reliability    |

Only Vertical GaN Takes Advantage Of The Material Property Benefits Vs. SiC



# MANUFACTURING CAPACITY & COSTS

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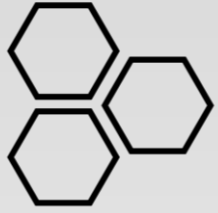
SiC requires significant more wafer starts vs. GaN

- Low quantity of devices per wafer
- Low yield

New SiC capacity translates to high-costs

- New, non-depreciated equipment

GaN utilizes mature, depreciated equipment (compatible with silicon fabrication)



# WHAT DO THE CUSTOMERS THINK?

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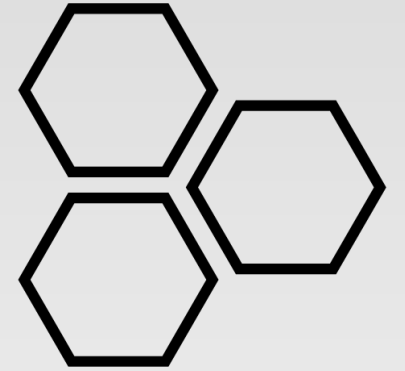
Odyssey currently has over 10 customer opportunities - customers finding us based on our progress and news

In our focus markets

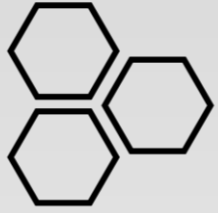
- EV OEMs
- Automotive Tier 1
- Automotive Tier 1 (power module suppliers)
- Solar
- Industrial motors

“We don’t see silicon carbide closing the gap on required performance and system cost.”  
- Automotive Tier 1 Executive

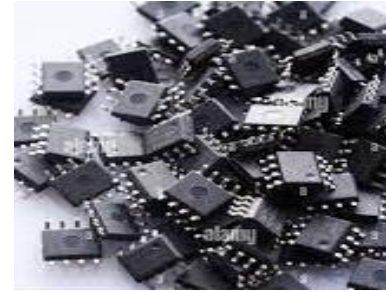
ODYSSEY SEMI



REST OF SLIDES INCLUDED FOR REFERENCE  
NOT PRESENTED

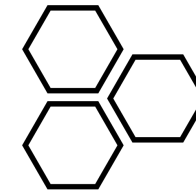


# THE OPPORTUNITY

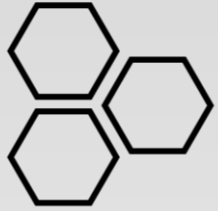


Sustainability AND Electrification AND Availability AND Affordability

ODYSSEY SEMI



Odyssey Semiconductor is uniquely positioned as the premier company to address all of these needs due to our industry strongest vertical GaN intellectual property



# THE MARKET IS ENORMOUS AND GROWING

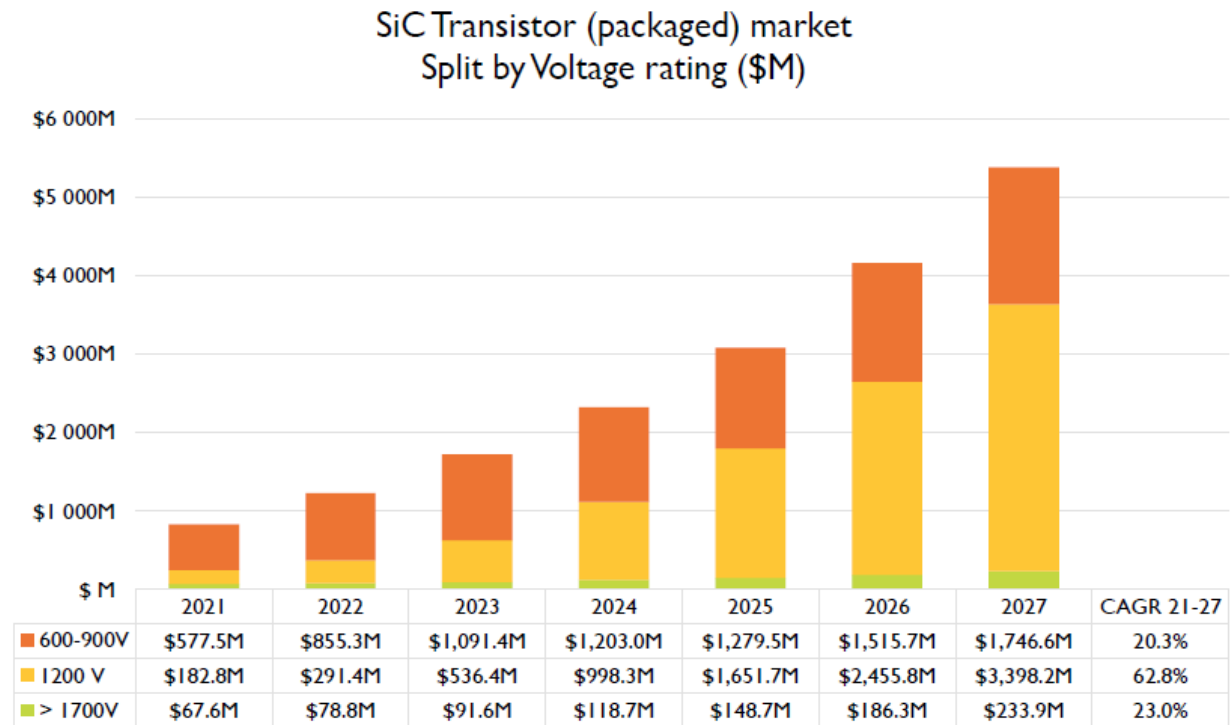
Odyssey will disrupt the 40% CAGR, \$5B+ silicon carbide market

## Strong Growth in Addressable Markets 2021 to 2027

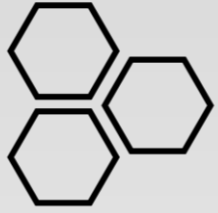
600 to 900V: **+20% CAGR**

1200V: **+63% CAGR**

>1700V: **+23% CAGR**



Power SiC 2022 | [www.yole.fr](http://www.yole.fr) | ©2022



# WE FOCUS ON HIGH VOLTAGE APPLICATIONS

100 V

650 V

1,200 V

> 2,000 V

Power Supplies



Electric & Hybrid Electric Vehicles



Solar Inverters



Industrial Motors



Smart Grid

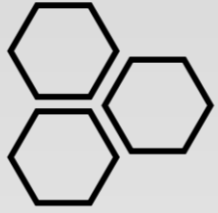


Electric Train Propulsion



Odyssey delivers dramatic energy savings over competition for industrial motors, electric vehicles, and renewable energy



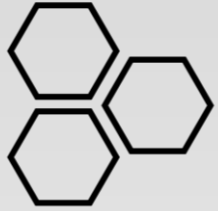


# HIGH VOLTAGE CONSERVES ENERGY

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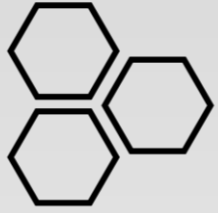
As operating voltages increase, energy efficiency improves  
There are limited power converters at these higher voltages, which keeps prices high  
THIS PRESENTS THE BREAKTHROUGH OPPORTUNITY FOR ODYSSEY



# HIGH VOLTAGE VERTICAL GaN VS. SiC

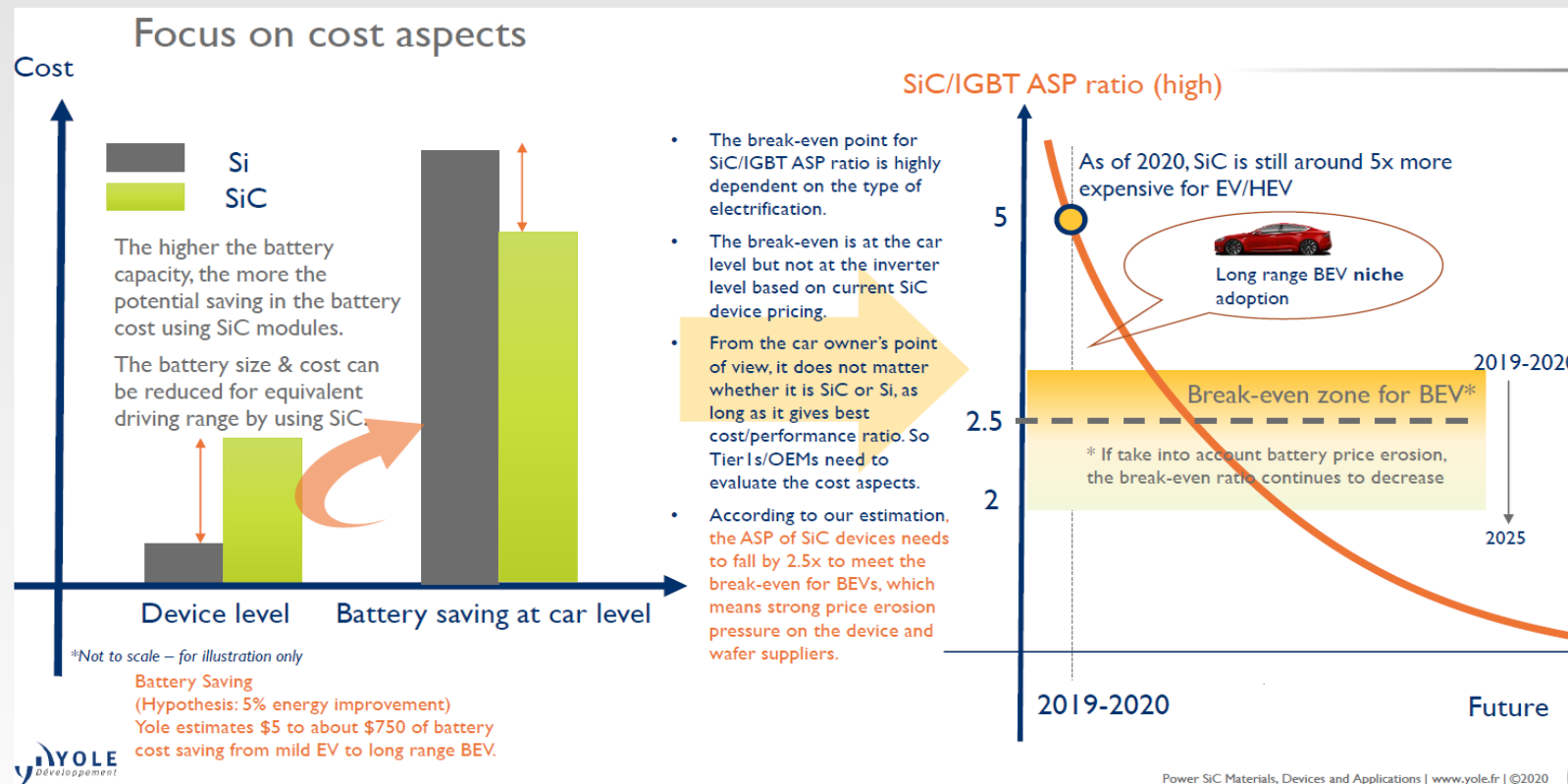
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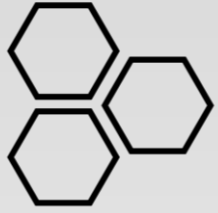
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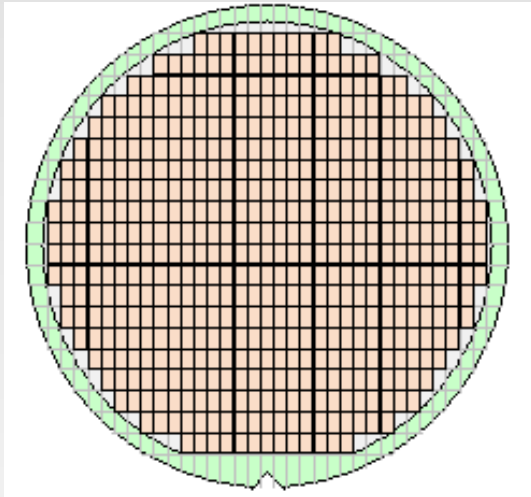
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Silicon Carbide prices need to erode 2.5x to meet EV economics



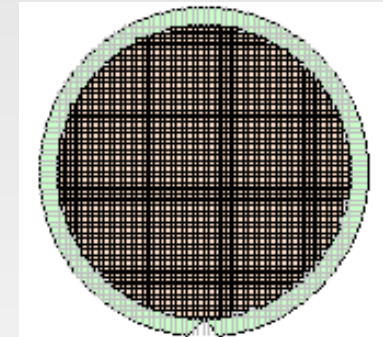


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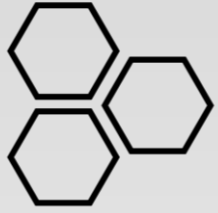
6" SiC Wafer  
522 die

|                   | SiC      | Vertical GaN |
|-------------------|----------|--------------|
| Wafer Size        | 6"       | 4"           |
| Product per wafer | 522      | 2128         |
| Wafer Cost        | \$812    | \$1500       |
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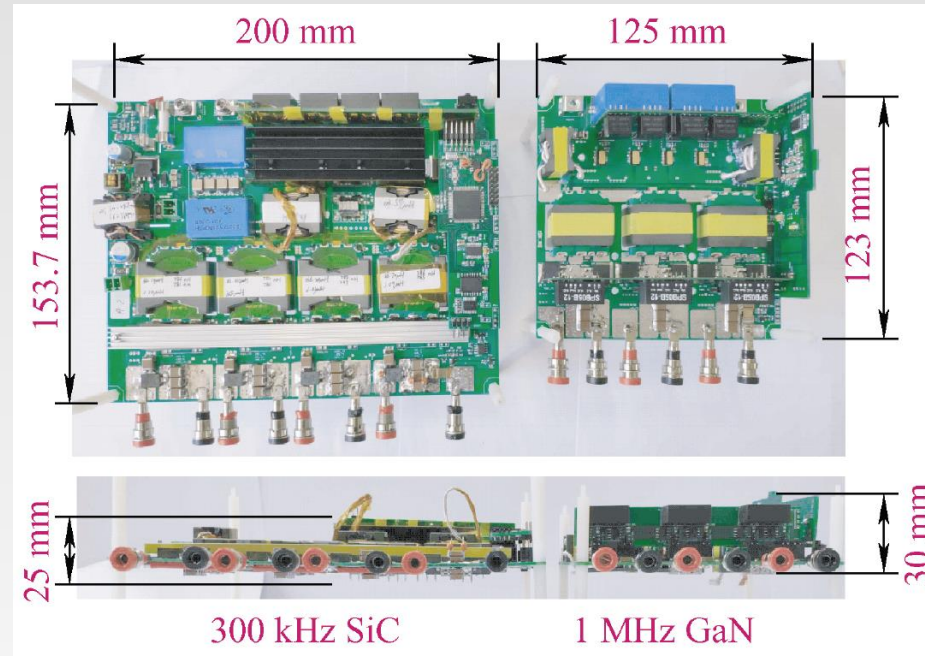


4" GaN Wafer  
2128 die

4" Vertical GaN outproduces 6" SiC by 4x/wafer

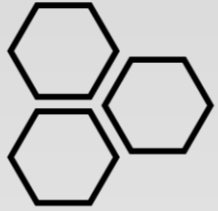


# WITH UNMATCHED PERFORMANCE



40% smaller solution | higher efficiency | same output power

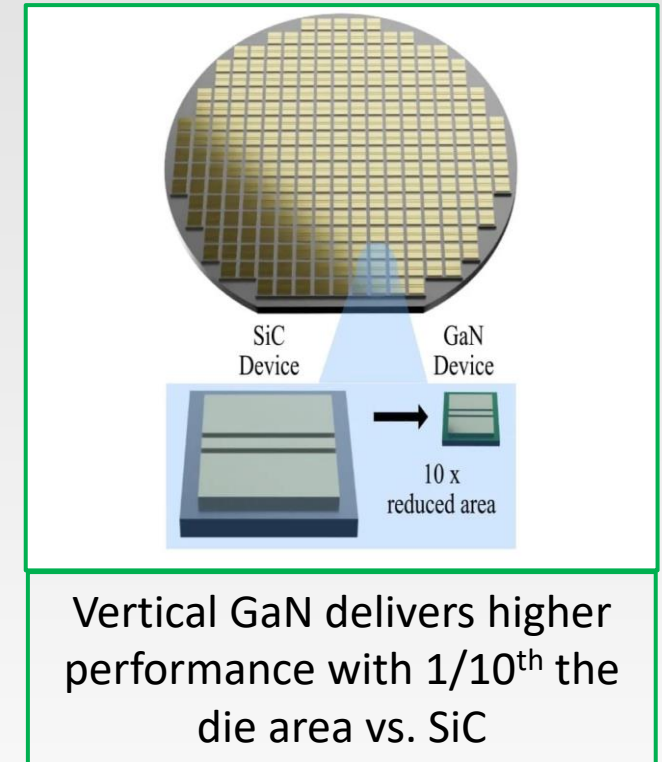
# ODYSSEY IS UNIQUELY POSITIONED IN VERTICAL GaN



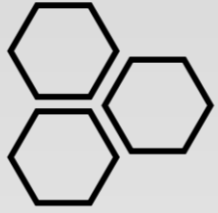
We have the expertise across technology, marketing and manufacturing

We have protected our IP that makes Vertical GaN practical

We are developing two product lines to be commercialized:  
650V and 1200V







# WE OWN OUR PRODUCTION CAPABILITIES

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Odyssey's device fabrication facility delivers innovation and will service production revenue

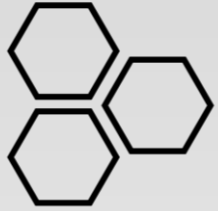
Target \$10 to \$20 million annual revenue from Odyssey's fabrication facility

With our own foundry:

- We control our supply
- We innovate faster than competition



Odyssey's 10,000 sq. ft.  
wafer fabrication facility  
in Ithaca, NY



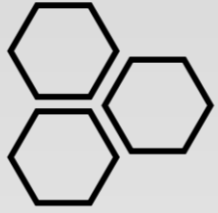
# CUSTOMER ENGAGEMENT

We have prioritized and will deliver samples to customers in Q1 2023

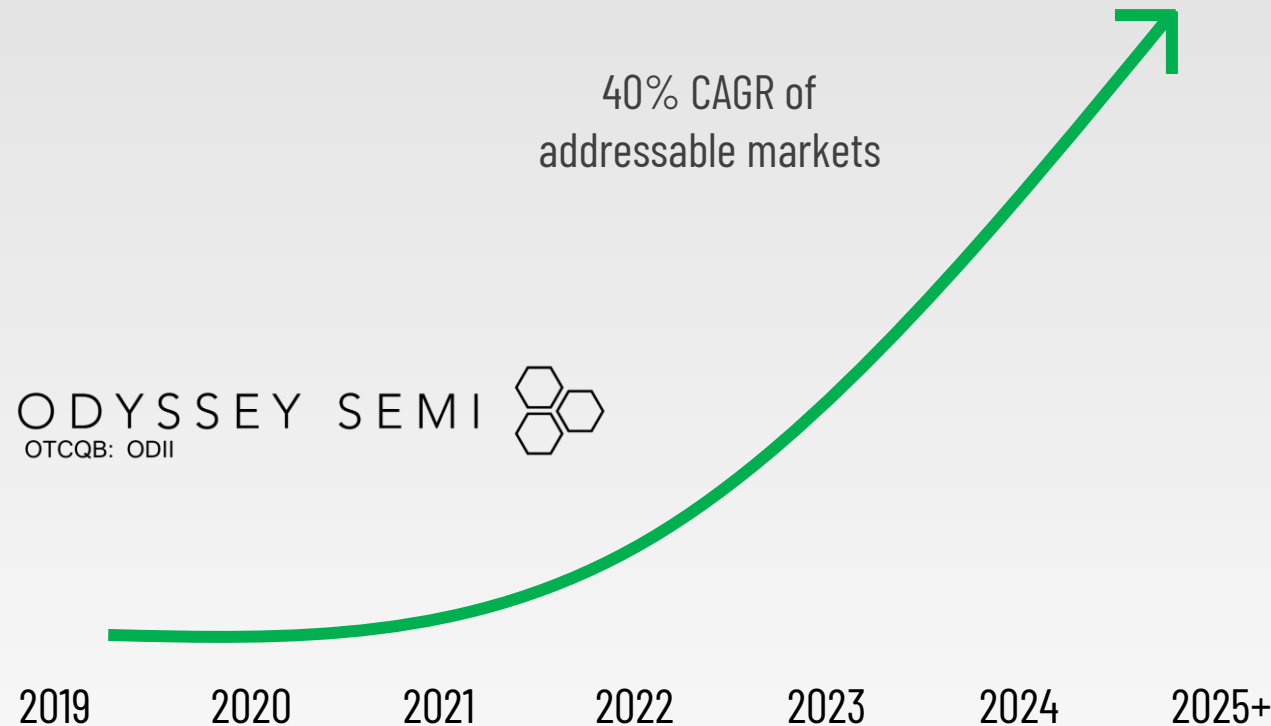
We have narrowed to 3 initial customers with 3-5 additional customer sample requests to be supported later in Q1 2023

|                           |   |  |
|---------------------------|---|--|
| Fast Adoption Cycles      | Ideal customers to <u>scale new</u> products                                    | Ideal customers to <u>scale established</u> products |
| Sustained Adoption Cycles | <b>Initial Customer Focus</b><br>Ideal customers to <u>develop new</u> products | Ideal customers to <u>scale established</u> products |
|                           | Technology Drivers  | Fast Followers                                       |





# ODII: THE EMERGING LEADER IN VERTICAL GaN

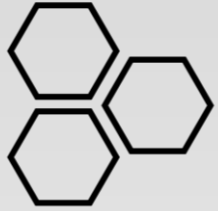


High growth megatrends of Electrification and Sustainability create market opportunity where silicon and silicon carbide cannot deliver

Vertical GaN delivers the performance and economics needed for continuous, high-margin growth

Odyssey Semi is uniquely positioned to capture significant market-share

Odyssey Semiconductor: Positioned for Long Term Growth



# ODYSSEY SEMICONDUCTOR AT A GLANCE

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OTCQB: ODII

Odyssey's proprietary technology is designed for GaN to replace SiC as the leading high-voltage power switching semiconductor material

Insiders and management own ~40% of total shares outstanding

Previous rounds of financing

- Bridge loan (convertible note) executed December 28, 2022 for \$2.35M

- Bridge loan (convertible note) executed August 8, 2022 for \$1.25M

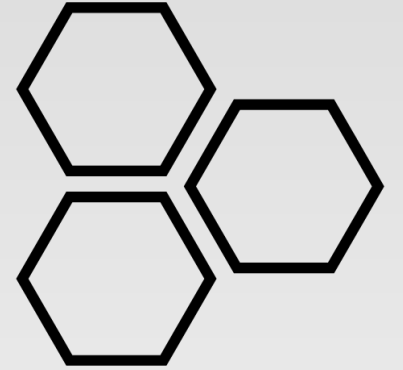
- March 2021 - \$5M @ \$4.00

- August 2019 - \$2.9M @ \$1.50

- Minimal increase in fully diluted share count: 12.7M on 12/31/22 and 12.4M on 12/31/21

S-1 filed in 2022

ODYSSEY SEMI



THANK YOU

OTCQB: ODII

Mark Davidson, CEO | [mark.davidson@odysseysemi.com](mailto:mark.davidson@odysseysemi.com)

Jeff Christensen, IR | [jchristensen@darrowir.com](mailto:jchristensen@darrowir.com)