Forward-Looking Statements & Non-GAAP Measures

Note on Forward-Looking Statements
This presentation includes forward-looking statements about Cree’s business outlook, future financial results and targets, product markets, plans and objectives for future operations, and product development programs and goals. These statements are subject to risks and uncertainties, both known and unknown, that may cause actual results to differ materially, as discussed in our most recent annual report and other reports filed with the U.S. Securities and Exchange Commission.

Important factors that could cause actual results to differ materially include the risk that the economic and political uncertainty caused by the ongoing trade dispute between the United States and China may negatively impact demand for our products; risks related to international sales and purchases generally; the risk that we may not obtain sufficient orders to achieve our targeted revenues; price competition in key markets; the risk that we may experience production or ramp-up difficulties that preclude us from shipping sufficient quantities to meet customer orders or that result in higher production costs and lower margins; our ability to lower costs; the risk that our results will suffer if we are unable to balance fluctuations in customer demand and capacity, including bringing on additional capacity on a timely basis to meet customer demand; product mix; risks associated with our factory optimization plan and construction of a new fabrication facility, including design and construction delays and cost overruns, issues in installing and qualifying new equipment and ramping production, poor production process yields and quality control, and potential increases to our restructuring costs; risks resulting from the concentration of our business among few customers, including the risk that customers may reduce or cancel orders or fail to honor purchase commitments; the risk posed by managing an increasingly complex supply chain that has the ability to supply a sufficient quantity of raw materials, component parts and finished products with the required specifications and quality; risks relating to confidential information theft or misuse, including through cyber-attacks or cyber intrusion; our ability to complete development and commercialization of products under development, such as our pipeline of Wolfspeed products and improved LED chips and LED components; the rapid development of new technology and competing products that may impair demand or render our products obsolete; the potential lack of customer acceptance for our products; risks associated with acquisitions, divestitures, joint ventures or investments generally; risks associated with ongoing litigation; the risk that our products fail to perform or fail to meet customer requirements or expectations, resulting in significant additional costs or lower demand for our products; and other factors discussed in our filings with the Securities and Exchange Commission (SEC), including our report on Form 10-K for the fiscal year ended June 30, 2019, and subsequent reports filed with the SEC.

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Strategic Overview
Gregg Lowe
President &
Chief Executive Officer
Cree Investor Day 2019
## Today’s Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Overview</strong></td>
<td>Gregg Lowe - President &amp; Chief Executive Officer</td>
</tr>
<tr>
<td><strong>Silicon Carbide 101</strong></td>
<td>John Palmour – Chief Technology Officer</td>
</tr>
<tr>
<td><strong>Wolfspeed Overview</strong></td>
<td>Cengiz Balkas – Senior Vice President and General Manager, Wolfspeed</td>
</tr>
<tr>
<td><strong>Automotive Opportunity</strong></td>
<td>Jay Cameron – Vice President and General Manager, Wolfspeed Power</td>
</tr>
<tr>
<td></td>
<td>Kenric Miller – Vice President Global Sales &amp; Marketing, Automotive</td>
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<tr>
<td><strong>Break &amp; Demos</strong></td>
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<tr>
<td><strong>Customer Perspective</strong></td>
<td>Tobias Keller</td>
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<tr>
<td></td>
<td>ABB Vice President of Product Development, Semiconductors</td>
</tr>
<tr>
<td><strong>Opportunity Pipeline</strong></td>
<td>Thomas Wessel – Senior Vice President, Global Sales and Marketing</td>
</tr>
<tr>
<td><strong>Global Operations &amp; Quality</strong></td>
<td>Rick McFarland – Senior Vice President, Global Operations</td>
</tr>
<tr>
<td></td>
<td>Lisa Fritz – Vice President, Global Quality</td>
</tr>
<tr>
<td><strong>LED Overview</strong></td>
<td>Claude Demby – Senior Vice President and General Manager, LED</td>
</tr>
<tr>
<td><strong>Financial Overview</strong></td>
<td>Neill Reynolds – Chief Financial Officer</td>
</tr>
<tr>
<td><strong>Question &amp; Answer Session</strong></td>
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</tbody>
</table>
Our Transformation Journey

We communicated several key imperatives at our last Investor Day

Wolfspeed
Build a powerhouse semiconductor company focused on silicon carbide and gallium nitride (GaN)

LED
Focus where our best-in-class technology and application-optimized solutions are differentiated and valued

Lighting
Fix the business
Our Transformation Journey

*Since then, we have made significant progress on our transformation journey…*

<table>
<thead>
<tr>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>February:</strong></td>
<td><strong>January:</strong></td>
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<tr>
<td>Announced Transformative Plan at 2018 Investor Day</td>
<td>Announced Long-Term Silicon Carbide Wafer Supply Agreement with STMicro</td>
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<tr>
<td>Announced Long-Term Silicon Carbide Wafer Supply Agreement with Infineon</td>
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<tr>
<td><strong>March:</strong></td>
<td><strong>March:</strong></td>
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<tr>
<td>Acquired Infineon RF Power Business</td>
<td>Announced Sale of Lighting Business to IDEAL INDUSTRIES</td>
</tr>
<tr>
<td><strong>October:</strong></td>
<td><strong>May:</strong></td>
</tr>
<tr>
<td>Announced Long-Term Silicon Carbide Wafer Supply Agreement with Leading Semiconductor Company</td>
<td>Announced $1 Billion Investment in Silicon Carbide Capacity Expansion</td>
</tr>
<tr>
<td></td>
<td>Selected as Silicon Carbide Partner for the Volkswagen Group FAST Program</td>
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<tr>
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<td><strong>August:</strong></td>
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<tr>
<td></td>
<td>Announced Long-Term Silicon Carbide Wafer Supply Agreement with ON Semi</td>
</tr>
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</table>
Our Transformation Journey

...Despite several near-term industry headwinds

**2018**

**April:** Ban on sales to ZTE for breaching terms of sanctions settlement

**May:** China U.S. Trade War commences with first round of tariffs

**August:** Second round of China U.S. tariffs announced

**2019**

**May:** Ban on U.S. companies’ shipments to Huawei announced

**June:** Changes in EV incentives take effect in China

**September:** Slowdown in 5G deployment due to limited availability of handsets
Momentum Continues with Recent Announcements

In the last 70 days, announced a number of key partnerships underscoring the growth opportunities across the business

**Delphi Technologies**
Leverage silicon carbide semiconductors to enable faster, smaller, lighter and more powerful systems for EVs

**ABB**
Deliver silicon carbide auto and industrial solutions, including power grid, train and traction and e-mobility sectors

**Establish world’s largest silicon carbide device manufacturing facility for lower net CAPEX with NY Partnership**

**Create highly efficient electric drivetrains for EVs with silicon carbide solutions**

**Expansion of an existing multi-year, long-term silicon carbide wafer supply agreement**
Silicon Carbide vs. Silicon

The next generation in power semiconductors will be driven by silicon carbide technology

Silicon Carbide vs. Silicon

<table>
<thead>
<tr>
<th>Feature</th>
<th>Silicon Carbide</th>
<th>Silicon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching Efficiency</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Power Density</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

Silicon Carbide Solar Inverters and On-Board Chargers are:
- Lighter
- Smaller
- More efficient

GaN-Silicon Carbide Based 5G Systems enable:
- Increased capacity and coverage
- 2X more users per tower
- More than 10X increase in data

Source: Cree estimates
Key Applications of Silicon Carbide and GaN

The superior performance of silicon carbide is powering new sectors and reviving established ones

Electric Vehicles
On-board and off-board charging systems convert power faster and with greater efficiency with Wolfspeed silicon carbide devices

RF
GaN on silicon carbide semiconductors are releasing engineers and designers from the restraints of silicon with unprecedented power and efficiency

Industrial & Energy Infrastructure
Silicon carbide power devices increase efficiency, shrink system size and reduce heat dissipation, allowing businesses to make the most out of every kilowatt hour of electricity and every square meter of floor space
EV Adoption Continues to Accelerate

Global OEMs have announced more than $300 billion of EV investments

- **Tesla**: Announces Model S and Model X extended ranges with silicon carbide power electronics
- **Ford**: Announces $11B to introduce 40 EVs by 2023
- **Volkswagen**: Announces $25B Investment to build EV versions of all 300 vehicles by 2030
- **Daimler**: Targets 15-25% EV production by 2025; investing $11B
- **Nissan**: Nissan to invest $9B in China in Race for EV dominance
- **GM**: Announces all-electric, zero emissions future with 20 vehicles by 2023
- **Volvo**: Announces every new model will run at least part on electric power in 2019
- **BMW**: Committed to 25 new EVs by 2025
Key Drivers of EV Adoption

Benefits to both consumers and OEMs are driving the opportunity for rapid EV adoption.
EU CO₂ Emission Standards – BEVs Offer a Solution

The EU CO₂ standards will dramatically alter the European car market in the coming years.

Illustrative example: 10x increase in Hybrid/Electric Cars

Requires increase in electrified platforms

Source: International Council on Clean Transportation Jan. 2019
Growing and Diversified Pipeline

*The shift to silicon carbide has led to a growing and diversified pipeline of device opportunities*

**Recent Wins**

- **Delphi Technologies**
  - Partnership to utilize silicon carbide semiconductor device technology to enable more efficient and powerful electronic systems for future electric vehicles

- **ZF**
  - Expands on existing partnership to create industry-leading, highly efficient electric drivelines

- **ABB**
  - Partnership to deliver automotive and industrial solutions including power grid, train and traction and e-mobility sectors
Winning in Materials – Key Deals Announced

Our wafers are driving the transition in the power semiconductor industry from silicon to silicon carbide.

$500+ Million

$100+ Million

$85+ Million

$85 Million

In addition to many other large contract wins in Materials
Expanding Leading Materials Position

Maintaining leadership position with silicon carbide materials substrate and epi capacity expansion
State-of-the-Art Wafer Fab

*Highly automated and automotive-qualified facility with additional future capacity at lower net cost than previously announced*
Why We Win

Well-positioned to benefit from significant and growing opportunities in silicon carbide

**Executing** well against our transformational strategy to become a powerhouse semiconductor company focused on silicon carbide and GaN

**Growing** and diversified pipeline supported by secular trends in attractive end markets including EV, 5G and Industrial

**Investing** to expand capacity to support substantial growth opportunities in silicon carbide materials and devices

**Expanding** our leading position with strong barriers to entry during the market transformation from silicon to silicon carbide
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30 YEARS of Experience and Substantial IP Position
Key Questions We’ll Address Today

What is Wide Bandgap and why is it important?

Why is silicon carbide so difficult to grow?

How are cycles of learning the KEY to making cost and quality improvements in silicon carbide crystal growth?

Why does Cree’s 30 years of experience uniquely position us in this market?
A covalent bond involves the sharing of electron pairs between atoms.

Silicon and Carbon each share four electrons—creating very strong covalent bonds.

This bond strength is key to band gap, electric breakdown, and thermal conductivity.
Band Diagrams of Common Semiconductors

Wide bandgap semiconductors allow devices to operate at much higher voltages and temperatures, making them ideal for next-generation applications.

Key for power & RF: Wide bandgap yields a 10 X higher electric breakdown field.

Wide Bandgap Semiconductors
- GaN
- 4H-Silicon Carbide
- GaAs
- Silicon

Common Semiconductors
- Silicon
- GaAs
- 4H-Silicon Carbide
- GaN
GaN High Electron Mobility Transistor (HEMT)

GaN power density is 5-8 W/mm of gate periphery
Si LDMOS or GaAs RF power density is 0.5-1 W/mm
Advantages of Wide Bandgap (GaN on Silicon Carbide) Properties

High breakdown voltage is the key for wide bandgap microwave devices

- High voltage gives higher power density in terms of W/mm of FET gate periphery

High thermal conductivity of the silicon carbide substrate enables high power densities in terms of W/mm² of die area

- Ultimate power level from any microwave device is limited by thermal dissipation
Higher Substrate Thermal Conductivity Gives Higher W/mm²

- Pitch with silicon substrate
- Pitch with silicon carbide substrate
MOSFETs in Silicon and Silicon Carbide for 1000V

Higher electric breakdown of silicon carbide than silicon allows silicon carbide power devices to have much thinner more heavily doped blocking layers.

- Silicon Carbide:
  - Drain region resistance is determined by blocking layer thickness and doping.
  - The drain region dominates the total resistance.

- Silicon:
  - Low doped drain layer.
  - Drain region resistance is <100X lower than that of Silicon!
High Electric Breakdown Field Allows Very Low on-Resistance in SiC

Lower is better
High Electric Breakdown Field Allows Very Low on-Resistance in SiC

*The lower the on-resistance, the lower the power loss*

Source: Cree estimates
Silicon Carbide Offers Much Lower Losses Than Silicon

Silicon carbide MOSFETs offer significantly lower losses than Si IGBTs at both 400V and 800V.

### 400V

**Inverter-level Loss Comparison: Silicon vs. Silicon Carbide**

*same voltage and switching frequency*

<table>
<thead>
<tr>
<th>Phase Current [Amps rms]</th>
<th>Total Inverter Losses [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>29%</td>
</tr>
<tr>
<td>140</td>
<td>35%</td>
</tr>
<tr>
<td>240</td>
<td>45%</td>
</tr>
<tr>
<td>400</td>
<td>59%</td>
</tr>
</tbody>
</table>

*(baseline – set to 100%)*

### 800V

**Inverter-level Loss Comparison: Silicon vs. Silicon Carbide**

*same voltage and switching frequency*

<table>
<thead>
<tr>
<th>Phase Current [Amps rms]</th>
<th>Total Inverter Losses [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>30%</td>
</tr>
<tr>
<td>200</td>
<td>33%</td>
</tr>
<tr>
<td>300</td>
<td>38%</td>
</tr>
<tr>
<td>400</td>
<td>43%</td>
</tr>
<tr>
<td>500</td>
<td>48%</td>
</tr>
</tbody>
</table>

Source: Delphi
Higher Efficiency of Silicon Carbide

Silicon carbide inverters are the key to driving inverter loss reduction

Using Cree’s technology, Ford tested the comparison of inverter losses during city and highway cycles

Compared to silicon, silicon carbide reduces inverter losses by ~78% in electric-only drive mode for EPA metro-highway cycle

Enables 5-10% further range for same battery size OR 5-10% reduction in battery cost for same range
Silicon Carbide Does Not Occur In Nature Without Other-Worldly Help

Canyon Diablo, Arizona
SiC Maturation for Commercial Applications – Crystal Growth

Silicon liquid-phase growth

- Silicon is pulled from molten silicon
- Seed is very small, necking reduces defects
- Rapid crystal expansion
- Process temperature ~1500°C

Silicon carbide vapor-phase growth

- Silicon carbide does not melt (sublimes)
- Must use large seed
- Limited crystal expansion
- Process temperature ~2500°C

How Hot?

- 5000 °C: surface of sun
- 2500 °C: Silicon carbide growth
- 1730 °C: molten lava
- 1414 °C: molten silicon

Cree designs and builds ALL growers in-house
SiC Polytypes

On this (0001) plane, all polytypes have the same structure

Stacking sequence for different SiC polytypes in the {1120} plane
SiC Polytypes

On this (0001) plane, all polytypes have the same structure.

But they stack differently in the 3rd dimension.

Stacking sequence for different SiC polytypes in the {1120} plane.
SiC Polytypes – More Than 200 Different Crystal Structures!
SiC Polytypes – More Than 200 Different Crystal Structures!

Only useable polytype for Silicon Carbide Power
Capacity Driven Advantage in Materials Development

Our scale in development capacity accelerates R&D and production improvements

Starting Seed

Improved Seed

High Quality Growth
- do not add new defects
- reduce existing defects

High Quality Silicon Carbide Wafers

Slice and Surface Prep

High Quality Crystals
What If Conditions Are Wrong? What If Process Shifts?

A beautiful mess!
Top Silicon Carbide Suppliers

Cree is the market leader in producing silicon carbide today…

Cree

62%

Rest of World

38%

Source: Yole Power SiC Report 2018

Rest of World includes:
- Other - 1.3%
- SICC - 0.5%
- TankeBlue - 1.7%
- Norstel - 0.5%
- Showa Denko - 2%
- Dow - 4%
- Si-Crystal - 12%
- II-VI - 16%
Top Silicon Carbide Suppliers

*Cree is the market leader in producing silicon carbide today…and for the last 22 years*

96.5%  

Cree

3.5%  

Rest of World

Source: Cree estimates
Why We Win: Silicon Carbide

Silicon Carbide and GaN are ideal materials for power and RF applications due to high power density.

Silicon carbide is extremely difficult to grow with high quality.

Cree has by far the most experience and learning in manufacturing of silicon carbide crystals.

Cree has a tremendous head start over competitors in terms of high volume production of silicon carbide boules.
Our Transformation Path
Creating a powerhouse semiconductor company focused on silicon carbide and GaN

- Capitalize on large, multi-decade growth opportunities in Electric Vehicles, Energy, Communications Infrastructure, Industrial and Aerospace and Defense
- Invest to expand scale and to accelerate growth of Materials, Power Devices and GaN RF Devices where Cree has a distinct advantage
- Establish a high-growth business with strong gross margins and good fall through to the bottom line
Strong Revenue Performance
Our focus on fast growing end markets has significantly increased our revenue over the last 4 years

Wolfspeed Revenue ($M)

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>$176</td>
<td>$221</td>
<td>$329</td>
<td>$538</td>
</tr>
<tr>
<td>Communications</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Energy</td>
<td></td>
<td></td>
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<tr>
<td>Industrial</td>
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</table>
Moving Into The Mainstream

- Clear and proven value propositions with strong focus on silicon carbide and GaN
- Substantial growth in opportunity pipeline across all addressable markets
- Material business supporting industry transition with global scale
- First phase of capacity investments in place to expand device businesses
- Global technology leadership with market’s broadest, most field-tested portfolio
Materials Business Strategy

- Maintain leading global market share
- Expand capacity to accelerate industry transition from silicon to silicon carbide
- Use scale to drive innovation, quality and cost reduction improvements
Materials Market Opportunity

*Silicon carbide materials market expanding to more than $1 billion by 2024*

**Drivers**

- Value proposition validated in applications that are driving significant growth
- EV applications driving significant volume steps in power wafer market
- Significant adoption in broad industrial market applications
- Telecom/5G commercial growth with major RF players
- Epitaxial services market is growing as every bare wafer requires epitaxy

**Silicon Carbide N-type Wafer Materials Revenue 2018**

- $121M

**SAM 2024**

- $1.1B

(Source: YOLE estimates 2019) (Source: YOLE and company estimates)
Materials Capacity Expansion

Increase in materials production

1x
Q1 FY2017

30x
FY2024

Existing building in Durham ready for deployment

Materials mega factory

Next phase of expansion

Increase in materials production over time from FY2017 to FY2024, with a significant 30x increase.
Expanding Silicon Carbide Epitaxy Business

Epitaxy Process

Silicon carbide substrate  Growing silicon carbide  Silicon carbide epiwafer

Gas Injector

Wafers

Over 4x Increase in Epi Units

units

2018  2019  2020

Epitaxy defines device performance and quality

Highly customized systems for quality and throughput

With quality and cost reductions improvements volumes are ramping significantly
Extended and Expanded Agreement with STMicro

We are accelerating the industry transition to silicon carbide

January 2019
• Cree and STMicro Announce Multi-Year Silicon Carbide Wafer Supply Agreement
• Agreement value >$250M for 150mm Power substrates and epitaxy

November 2019
• Cree and STMicro Double Existing Silicon Carbide Wafer Supply Agreement
• Agreement value >$500M for 150mm Power substrates and epitaxy
• Extends existing multi-year agreement
RF Business Strategy

Drive value with vertical integration and technology leadership

Support Communication Infrastructure customers with focused product and worldwide application

Serve Aerospace and Defense markets with select distribution partnerships
Complete Vertical Integration Serving GaN RF Market

*With the acquisition of Infineon’s RF business in March 2018, we have significantly expanded our team and capabilities*

<table>
<thead>
<tr>
<th>Materials</th>
<th>Product &amp; Technology Portfolio</th>
<th>Application Centers and Customer Access</th>
<th>IP Portfolio</th>
<th>Capabilities (system, technology, application)</th>
<th>Business Scale</th>
</tr>
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<tbody>
<tr>
<td>Pre-acquisition</td>
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<tr>
<td>Today</td>
<td><img src="image" alt="Checkmark" /></td>
<td><img src="image" alt="Checkmark" /></td>
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<td><img src="image" alt="Checkmark" /></td>
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RF Business On Track Despite Short-Term Uncertainty

Despite near-term headwinds, we are winning in the market and positioned well for long-term growth

- Challenges and uncertainty due to ongoing global trade tensions
- Over $200 billion of investments announced for 5G deployments
- GaN applications and adoption increasing in all markets with SAM now at $2 billion
- Our technology leadership will continue through near-term challenges
RF Device Market Opportunity

GaN RF device market expanding to $2 billion in 5 years

- High efficiency and power density motivates GaN adaptation
- GaN forecasted to be vast majority of RF device market in 5 years

5G revolution driven by exponential rise in data rate and bandwidth requirements
High-performance next generation aerospace and defense systems
Improved performance, higher efficiency commercial and industrial equipment

$645M
GaN RF Device Revenue 2018

$2B
SAM: Year 2024

$2B
(Source: YOLE estimates 2019)

$645M
(Source: YOLE and company estimates)
**GaN Drivers**

*GaN adoption continues in Communication Infrastructure*

**APPLICATIONS AND DRIVERS**

- Explosive growth in mobile data
- Faster Down/Up Link speeds with lower latency
- More capacity for more user equipment
- Connectivity anywhere

**SOLUTION: GaN BASED 5G SYSTEM**

- Compact systems
- Increased frequency bandwidth
- Lower carbon footprint
- Lower cost/bit/second for the operator

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**Data Rates**

<table>
<thead>
<tr>
<th>Technology</th>
<th>1G</th>
<th>2G</th>
<th>3G</th>
<th>4G-LTE</th>
<th>5G</th>
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<tbody>
<tr>
<td>LDMOS</td>
<td>N/A</td>
<td></td>
<td>63+ Mbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GaN</td>
<td></td>
<td></td>
<td>300+ Mbps</td>
<td>1+ Gbps</td>
<td></td>
</tr>
</tbody>
</table>

**Market Share by Technology**

- **LDMOS Technology**
- **GaN Technology**

**87%**

- Up to 87% less power/Mb
- More than 10x increase in data
- Up to 16x increase in HD video users

Source: Cree estimates
GaN Drivers

GaN improves system performance across multiple applications

APPLICATIONS AND DRIVERS

- Lower power consumption with higher performance
- Smaller, lighter equipment

SOLUTION

A 25W GaN solid state power amplifier provides better value than a 4kW magnetron transmitter with >60x longer operating life

- Up to 73% Less System Weight
- Up to 15% Lower System Cost
- Up to 83% Less Power Consumption

Source: Cree estimates
Power Business Strategy

Convert high voltage (>600V) power market to silicon carbide through focused ecosystem and distribution partnerships

Expand leadership position in Automotive and increase revenue diversity with Industrial and Energy

Invest in R&D, sales and marketing to gain scale
Silicon Carbide Power Device Market Opportunity

The automotive and industrial & energy end markets are driving rapid acceleration

$5B
SAM 2024

$420M
2018 Worldwide Silicon Carbide Revenue

Drivers

- System level cost benefits and increased range accelerate EV adoption
- Efficient power supplies and motor drives Fast charging stations for electric vehicles
- Increasing renewable generation Cost effective energy storage

(Source: YOLE and company estimates)
Industrial and Energy – Market Opportunity

Strategy and approach
- Increase revenue diversity through industrial and energy
- Engage a fragmented market through a larger sales team and a focused channel strategy
- Accelerate adoption through ecosystem development with industry partners

Applications
- Wide array of applications including fast charging, solar, energy storage, and uninterruptible power supplies

Value propositions
- Higher efficiency, smaller and lighter solutions, higher power density, cooler system temperatures
- Strong connection to end system performance levels and end user benefits
Automotive – Market Opportunity

Strategy and approach
- Drive enabling scale and cost reductions
- Engage through die, component and module products

Applications
- Powertrain
- On board chargers
- Primary power converter

Value propositions
- Powertrain efficiency improves over silicon, enabling longer range or smaller battery
- On board charging solutions become smaller and charge more efficiently
- Higher voltages enable faster charging
Current fast chargers can add 75 miles of range in five minutes

- Worldwide fast charger deployments predicted to be 3.3M units in 2024
- Silicon carbide will capture a portion of this market share
- Content per charger will vary based on charger capability (100kW to 300kW)
- Significant silicon carbide content per charger

Source: Grand View Research, 2019
Why We Win: Wolfspeed

- **Driving** the industry transition from silicon to silicon carbide and GaN

- **Investing** to create substantial scale necessary to serve the market

- **Expanding** serviceable markets and pipeline opportunities across all business lines

- **Building** a world-class organization with the scale and industry experience to create a semiconductor powerhouse
Automotive Opportunity

Jay Cameron
Vice President and General Manager, Wolfspeed Power

Kenric Miller
Vice President Global Sales & Marketing, Automotive

Cree Investor Day 2019
Key Messages

Significant market shift from silicon to silicon carbide for battery electric vehicles

Automotive Power Growth enabled by three dynamics:
- Automotive industry recognizes *silicon carbide value proposition* at system level
- Silicon carbide *enables more range and faster charging*
- *Increasing capacity* assures enough silicon carbide to accommodate demand

Technology advantage and scale enable us to win
Expanding BEV Market – Picking Up Momentum

Strong growth opportunity as emission standards drive significant shift to battery electric vehicles

Source: Yole and Cree estimates
Note: EV: Electric Vehicle; BEV: Battery Electric Vehicle; ICE: Internal Combustion Engine
OEM Shift from Silicon to Silicon Carbide

Unique market transformation being driven by lower costs, faster charging and better performance

Do you plan to use silicon carbide in your inverter by 2025?

As of August 2017
- Yes
- No

As of August 2018
- Yes
- No
- Probable

As of August 2019
- Yes
- No
- Probable
Driving Cost Savings in Electric Vehicles

*The shift from silicon to silicon carbide delivers cost savings for OEMs*

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Savings per car:</th>
<th>At 100K vehicles, OEM saves:</th>
</tr>
</thead>
<tbody>
<tr>
<td>~5.0% - 10% Silicon Carbide Battery Savings</td>
<td>$200 – $600</td>
<td>$20M – $60M</td>
</tr>
<tr>
<td>(80kWh battery x $102/kwh battery cost)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Space / Weight Savings (battery &amp; inverter)</td>
<td>$++</td>
<td></td>
</tr>
<tr>
<td>Cooling Requirements Savings</td>
<td>$++</td>
<td></td>
</tr>
<tr>
<td>Incremental Cost of Using Silicon Carbide</td>
<td>~$200</td>
<td></td>
</tr>
</tbody>
</table>

Source: Cree estimates
Customers Benefit from Silicon Carbide

*Silicon carbide is the driving force behind more range and faster charging*

- New Tesla drive unit has **silicon carbide** power electronics
- New Models S and X can now use Tesla 3rd generation Superchargers, which deliver **charges up to 50% faster**
- Battery capacity is **unchanged**
Investing $720M Over Five Years to Expand Silicon Carbide Capacity

Capacity announcement drove strong response from our customers and addressed major concerns regarding the shift from silicon to silicon carbide.

Increase in Output

>30x increase in silicon carbide wafer fabrication

>30x increase in silicon carbide materials production

Delivering

>25% more output compared to the previously planned facility

New >350,000 SQ FT fabrication facility

200 mm capable state-of-the-art automotive-qualified production facility in Marcy, NY
Investing $720M Over Five Years to Expand Silicon Carbide Capacity

Capacity announcement drove strong response from our customers and addressed major concerns regarding the shift from silicon to silicon carbide

“Congratulations on the capacity increase.” – Tier One Auto CEO

“It's very exciting to know that Cree is driving a 30x increase in production capacity. We look forward to working with Cree to bring Silicon Carbide to EV market.” – Power Module Company CEO

“Cree is quickly taking a commanding position in Silicon Carbide and we couldn’t be happier. Congrats!” – Car Company VP Global Supply
Automotive Pipeline Growth Opportunity

Automotive is expected to be the driving force of Power revenue

We’ve Added

$2.6B

In the Last Twelve Months

Automotive Represents

~45%

Of Total Opportunity Pipeline
Why We Win in Automotive

Silicon carbide defeats silicon
- Higher cost offset by increased battery savings
- Increased advantage with lower cost cooling system and space savings
- Provides longer range for city cars
- More efficiency for highway cars
- **Overall efficiency gain: 5% to 10%**

Cree wins silicon carbide
- The right strategy:
  - Focused on automotive silicon carbide power needs
- Great products that combine:
  - Best large die technology
  - High power density with robustness
- Reduced risk from choosing Cree:
  - Silicon carbide expertise
  - Reliability and quality advantage
  - Capacity expansion plan
Customer Perspective

Tobias Keller
ABB Vice President, Global Product Management, Semiconductors
Opportunity Pipeline

Thomas Wessel
Senior Vice President, Global Sales & Marketing

Cree Investor Day 2019
Key Messages

Pipeline spans across multiple industries where our technologies enable future capabilities

Strong development of our opportunity pipeline and the key drivers

Focused sales organization and channel partnerships to extended our geographic and market coverage
Cree Wolfspeed Focus Segments
Our silicon carbide and GaN solutions enable next generation technology in fast evolving markets
Device Pipeline Opportunity Development

$9B
Device Pipeline Opportunity today

$2.9B
New Auto / CIFR oppy

$2.5B
New oppy in Geographic Sales Territories

$1B
New LED opportunities

$1.2B
New Oppy with Arrow

Last 12 months
Focused Sales & Marketing Organization

Over the last eighteen months, we’ve established a sales and marketing team well equipped to win in the global market

- Added 1,000 years of semiconductor sales experience
- 3x FAE team for technical support
- 9x Wolfspeed global sales for broad market coverage
- 82% of hires are customer-facing
- Automotive & CIFR dedicated global teams
- 50% of broad market opportunity with Arrow

$9B
Design Cycle – Automotive Case Study

The execution of a design win is an extensive process from start to finish.

2 – 4 Years

Supplier Selection Process

Design & Qualification

Identification NBO

Commitment DIN

SOP DWIN

Pipeline Profile

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7
Automotive Pipeline Profile – Next 255 Projects

Our automotive pipeline increases dramatically through 2025 as silicon carbide adoption rapidly accelerates.
Cree Wolfspeed Opportunity Pipeline

Industrial & Energy Infrastructure
- EV Charging
- Motor Drive
- Power Supplies
- Transportation
- Solar
- Wind
- Distribution & Transportation

Lighting
- In/Outdoor
- Specialty
- Display

Aerospace & Defense
- Radar
- SatCom
- Milcom

Automotive
- Inverter
- OBC
- DC/DC
- Lighting

Communication Infrastructure
- Macro Base Station
- Massive MIMO
- NB IoT

$9B Opportunity Pipeline
~ 50% decided in 6 to 18 months
Cree Wolfspeed Opportunity Pipeline

$9B
Opportunity Pipeline

~ 50% decided in 6 to 18 months
Why We Win: Pipeline

**Capitalizing** on the electrification of the drivetrain and a clear silicon carbide value proposition

**Creating** GaN on silicon carbide technology to enable next generation communication standards

**Expanding** capacity to scale for future growth

**Establishing** a focused sales & marketing organization and Arrow partnerships to win in a global market
Global Operations & Quality

Rick McFarland
SVP Global Operations

Lisa Fritz
VP Global Quality

Cree Investor Day 2019
Key Messages

Highly automated New York wafer fab has ability to efficiently respond to demand increases while achieving a competitive wafer cost

Maintaining capacity leadership position with materials substrate and epi expansion by repurposing existing Durham building

Continuing to execute growth strategy while focusing on automotive quality culture, investing in tools and processes
Investing $720M Over Five Years to Expand Silicon Carbide Capacity

Creating an East Coast silicon carbide corridor with new wafer fab and mega materials factories

**Increase in Output**

- >30x increase in silicon carbide wafer fabrication
- >30x increase in silicon carbide materials production

**New Fabrication Facility**

- >350,000 SQ FT
- 200 mm capable

**Delivering**

- >25% more output compared to the previously planned facility
- State-of-the-art automotive-qualified production facility in Marcy, NY
Wafer Fab Strategy

Driving device capacity expansion through a highly automated, more efficient facility

Wafer Fab Capacity

- RTP Fab
- Durham Fab
- Mohawk Valley Fab

30x Increase from Q1 FY2017

Silicon Carbide vs. Silicon Learning Curve

- Silicon carbide – Rapid pace of growth
- Si – several cycles, low single digit growth

Silicon Carbide
Silicon

Cost vs. Cycles of learning

- We are in the early stages of high-scale volume silicon carbide manufacturing
- Costs will further decline as we move through additional cycles of learning

Size
- RTP Fab: 99k sq ft
- Durham Fab: 115k sq ft

Wafer diameter
- RTP Fab: 100 – 150 mm
- Durham Fab: 150 – 200 mm

Tool Layout
- RTP Fab: Bay and Chase
- Durham Fab: Ballroom

Automation
- RTP Fab: Manual
- Durham Fab: Automated
Materials and Epi Strategy

Today the silicon carbide substrate and epi business share a facility with the Durham Fab

Once Mohawk Valley is fully operational, Materials will use the whole facility

With Mohawk Valley, our wafer fab shell in Durham is available for repurposing

As demand increases, can more than double our footprint with existing building shell

Durham Buildings 1/5/8

Durham Building 21
Capacity Expansion Plans to Meet Demand

We are well positioned to ramp capacity as demand for silicon carbide expands

- When fully equipped, our fab could supply silicon carbide to 5.5M BEV, ~5% of worldwide auto sales
- When fully equipped, our materials factory could supply silicon carbide to 22M BEV, ~20% of worldwide auto sales
- 5 year planning profile aligns with expected demand
  - Equipment capex will be modulated as demand is realized
  - 2024 outlook will require <50% of our long-term capacity
- Expansion beyond 4-wall capacity will require 1 to 3 years to execute
  - Well within customer ramp visibility
Quality Strategy Update

Lisa Fritz
Cree Quality Focus

Our strategy to integrate our people, systems and culture is driving our competitive advantage

Build out experienced quality engineering teams

Invest in scaling quality management systems and processes

Advance automotive culture through key quality initiatives
Silicon Carbide Automotive Quality – A Corporate Culture

Leading the industry transformation and defining the roadmap for silicon carbide quality

Advancing Industry Standards
- Leading silicon carbide engagement in industry standards organizations (JEDEC, AEC, ECPE)

Enhancing Cree’s Commitment to Quality
- Automotive certified business and factories
- Manufacturing, supplier, and customer quality teams
- Industry standard qualifications and metrics
- Compliance and continual improvement

Implementing Key Quality Initiatives
- Quality management system investment
- Zero defect strategies
- Supplier assessments and development
- Customer satisfaction
Building Our Quality Culture

Delivering on customer expectations through key quality initiatives

**CULTURE**
- High quality product at optimized cost
- Increased customer satisfaction
- Enable zero defects
- Meet automotive expectations

**ATTITUDE**
- Proactive mindset

**BEHAVIOR**
- Active engagement in risk mitigation
- Quality management systems and factory automation

**PROCESSES & SYSTEMS**
Why We Win: Operations

**Executing** expansion strategy to efficiently respond to materials and wafer fab demand

**Reducing** total cost through improved efficiencies and scale

**Investing** in our people, processes and systems in order to achieve scale

**Implementing** zero defect strategies to further our automotive quality culture
LED Overview

Claude Demby
Senior Vice President and General Manager, LED

Cree Investor Day 2019
Industry Leading Market Position
We have established the industry’s strongest LED brand

Leading Position in Attractive Markets
- Best-in-class, high-power technology
- Broad portfolio of specific, application-optimized solutions
- Global customer and distribution network with over 1,000 customers

Strong Track Record of Product Innovation
- 1,650 patents issued and 250 patents pending
- Highly focused R&D-centric strategy
- Core elemental technologies to drive performance across categories

Global Creating a Resilient Business Model
- Silicon carbide to sapphire substrate conversion
- Transitioning to OpEx lean, CapEx light model

Cree is the Industry’s Strongest LED Brand
Focus on Attractive Markets

*Driving towards high-margin end markets with best-in-class application-optimized technology solutions*

- Leveraging our leadership in HP General Lighting to expand into Automotive, Specialty and Video Screen end-markets
- Ability to solve complex system level challenges drives high customer retention rates

**Silicon Carbide to Sapphire Conversion – Strategic Enabler**
**LED Path Forward**

*Creating a resilient LED business through innovation on sapphire substrate and transition to fabless model*

<table>
<thead>
<tr>
<th>Key Takeaways:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve profitability through silicon carbide to sapphire conversion</td>
</tr>
<tr>
<td>• Drive average cost lower as we move transition to a fabless model</td>
</tr>
<tr>
<td>• Creating a resilient LED business with more silicon carbide capacity for Wolfspeed</td>
</tr>
</tbody>
</table>

### Sales

<table>
<thead>
<tr>
<th>FY19</th>
<th>FY24</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.5B</td>
<td>~$0.6B</td>
</tr>
</tbody>
</table>

### Gross Margin

<table>
<thead>
<tr>
<th>FY19</th>
<th>1Q’20</th>
<th>FY24</th>
</tr>
</thead>
<tbody>
<tr>
<td>28%</td>
<td>19%</td>
<td>Mid 30%s</td>
</tr>
</tbody>
</table>

### Fab Transition

<table>
<thead>
<tr>
<th>FY19 Cree Fab (Insourced)</th>
<th>FY24 Fab Light (Outsourced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIC</td>
<td>SA (Outsourced Fab)</td>
</tr>
<tr>
<td>SA (Cree Fab)</td>
<td>Avg. Wafer Cost</td>
</tr>
</tbody>
</table>

107
Why We Win: LED

Achieve gross margin expansion and modest growth, supported by OpEx lean, CapEx light business model

1. Focus on attractive markets where our best-in-class technology and solutions are differentiated and valued
2. Improve profitability through the conversion of silicon carbide to sapphire substrate
3. Create a more resilient business by transitioning to a fabless model over time
Financial Overview

Neill Reynolds
Chief Financial Officer

Cree Investor Day 2019
### Key Messages

<table>
<thead>
<tr>
<th>Our transformation is accelerating; <em>business is refocused and our work continues</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Three stages to achieve our target model: <em>Transform, Ramp, Execute</em></td>
</tr>
<tr>
<td>The 2024 target model results in <em>high growth, high margin, strong cash flows</em></td>
</tr>
<tr>
<td><em>Growth accelerates beyond 2024</em> as we continue to invest for longer-term growth</td>
</tr>
<tr>
<td>For modeling purposes, we have <em>significantly judged down China revenue</em></td>
</tr>
</tbody>
</table>
Cree Transformation: Recent Accomplishments

Significant momentum in our transformation journey since our last Investor Day

- **$9B**
  - Current device pipeline

- **$720M**
  - Net investment in capacity expansion announced

- **4**
  - Silicon carbide device partnerships announced

- **$1B**
  - Materials LTAs

- **2**
  - M&A transactions completed

- **6**
  - New additions to the leadership team
Cree Transformation Roadmap
Transforming Cree into a powerhouse semiconductor company

Portfolio Transition (% of GM$)

<table>
<thead>
<tr>
<th>Lighting</th>
<th>LED</th>
<th>Wolfspeed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Q'FY18</td>
<td>24%</td>
<td>36%</td>
</tr>
<tr>
<td>4Q'FY19</td>
<td>30%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Wolfspeed Device SAM*

<table>
<thead>
<tr>
<th>Silicon</th>
<th>Silicon Carbide</th>
</tr>
</thead>
<tbody>
<tr>
<td>~$3B</td>
<td>&lt;50%</td>
</tr>
<tr>
<td>~$7B</td>
<td>80%+</td>
</tr>
</tbody>
</table>

Target Model

<table>
<thead>
<tr>
<th>Revenue</th>
<th>EBIT%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2019</td>
<td>$1.1B</td>
</tr>
<tr>
<td>FY2024</td>
<td>$2.1B</td>
</tr>
</tbody>
</table>

Summary

- Re-focused business on highest growth segment
- Divested Lighting, re-investing proceeds into Wolfspeed
- Focused LED on higher value segments, fabless model
- Significant market growth (BEV, 5G), accelerates >FY2024
- Silicon carbide market will grow faster than silicon
- Materials benefits for most non-Cree device business
- Wolfspeed growth rate at 30%+ in FY2024, LED modest growth
- Assumes more muted China with upside opportunity
- Wolfspeed GM% 50%-54%, LED mid-30%
- EBIT >20% of revenue and FCF ~20% of revenue

*Device market data (excluding Materials) based on Yole & Cree Internal assumptions
Revenue Outlook

*Wolfspeed growth driven by electric vehicle adoption rate with larger opportunity beyond FY2024*

**Wolfspeed Revenue**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>FY2019</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$538M</td>
<td>~$1.5B</td>
</tr>
</tbody>
</table>

**Drivers & Assumptions**

- Modest BEV ramp to ~5% of vehicles by FY2024
- 5G roll out expansion
- BEV charging stations, Industrial applications
- Materials LTAs support silicon carbide proliferation

**LED Revenue**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>FY2019</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$542M</td>
<td>~$0.6B</td>
</tr>
</tbody>
</table>

**Drivers & Assumptions**

- Low- to mid-single digit growth rate
- Recovery post-2020 market/channel reset
- Continue to focus on high-value end markets
Our growth reaches an inflection point as electric vehicle deployments commence

**Wolfspeed – Phases of Revenue Growth**

- **Modest Growth**
  - FY2019 - 2021
  - $0.5B-$0.7B

- **Inflection Point**
  - FY2022 - 2023

- **Accelerated Growth**
  - FY2024+
  - $1.5B+

**Transform**
- Device design wins
- Materials LTAs
- Invest in R&D / Sales
- Capacity expansion

**Ramp**
- BEV adoption
- Charging Infrastructure
- 5G deployment
- Industrial & Energy

**Execute**
- Accelerated BEV adoption
- Widespread 5G usage
- Further penetration in Industrial & Energy
Gross Margin Outlook (Non-GAAP)

Substantial cost reduction programs and scale from fab capacity support gross margin expansion

Drivers & Assumptions
- Materials cost reductions on track
- Fab costs improve with Mohawk Valley Fab
- LTAs pricing locked in with solid visibility
- Device wins providing more clarity on outlook

Drivers & Assumptions
- Near term margins impacted by lower utilization
- Outsource materials and production over 2 years
- Continue to focus on high-value end markets

Wolfspeed GM%

<table>
<thead>
<tr>
<th></th>
<th>1Q'FY20</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>19%</td>
<td>46%</td>
<td>50%-54%</td>
</tr>
</tbody>
</table>

LED GM%

<table>
<thead>
<tr>
<th></th>
<th>1Q'FY20</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>19%</td>
<td></td>
<td>Mid-30%</td>
</tr>
</tbody>
</table>

Gross Margin Outlook (Non-GAAP)
OPEX Optimization

Enhancing our cost structure to drive scale and efficiency as we grow

Realigning OPEX Spend

- R&D investment to support new products
- Expanding sales & marketing reach
- Modernizing digital capabilities & systems
- Investing for operational scale, efficiency
- Standardizing and streamlining SG&A

OPEX % of Revenue

<table>
<thead>
<tr>
<th></th>
<th>1Q’FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>FY24</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG&amp;A</td>
<td>35%</td>
<td>18%</td>
<td>17%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
</tr>
</tbody>
</table>

+13% pts operating efficiency
Capacity Expansion & Cash Flow

*Strong balance sheet supports capacity expansion; profit growth drives significant cash flows*

- Significant net $720M CAPEX investment in capacity expansion from FY20 – FY24
- Strong balance sheet: net cash position, >$900m cash & investments, $575m convert due 2023
- Operating model delivers significant cash conversion
Cree Target Operating Model

*Building a high-growth, high-margin, and significant cash generating business*

<table>
<thead>
<tr>
<th></th>
<th>FY2019</th>
<th>FY2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1.1B</td>
<td>$2.1B</td>
</tr>
<tr>
<td>Wolfspeed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Rate (organic)</td>
<td>46%</td>
<td>30%+</td>
</tr>
<tr>
<td>GM% (Non-GAAP)</td>
<td>37%</td>
<td>44%-47%</td>
</tr>
<tr>
<td>OPEX% (Non-GAAP)</td>
<td>29%</td>
<td>~22%</td>
</tr>
<tr>
<td>EBIT %</td>
<td>$88M</td>
<td>$0.5B</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>22%-25%</td>
</tr>
<tr>
<td>FCF %</td>
<td>$49M</td>
<td>~$0.4B</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>~20%</td>
</tr>
</tbody>
</table>

**Target Model Overview**
- Wolfspeed BEV Adoption to ~5%, 5G roll out
- Growth continues to accelerate beyond FY2024
- Wolfspeed GM% 50-54%
- OPEX scaled for growth
- Invest for scale with net $720m capacity expansion
- FCF at ~20%

**Areas to watch**
- China has been judged down, but still well positioned
- Potential for further LTA and device announcements
- Factory transitions and new product introductions
Why We Win
Transforming Cree into a powerhouse semiconductor company

- Multi-decade long growth opportunity that accelerates up to and beyond FY2024
- Leadership position with over 30 years in silicon carbide positions
- Substantial opportunity in both materials and devices
- Target model produces substantial growth, high margins and significant cash flow
Closing Remarks
Gregg Lowe
President &
Chief Executive Officer
Cree Investor Day 2019
Why We Win

Well positioned to benefit from significant and growing opportunities in silicon carbide

**Executing** well against our transformational strategy to become a powerhouse semiconductor company focused on silicon carbide and GaN

**Growing** and diversified pipeline supported by secular trends in attractive end markets including EV, 5G and Industrial

**Investing** to expand capacity to support substantial growth opportunities in silicon carbide materials and devices

**Expanding** our leading position with strong barriers to entry during the market transformation from silicon to silicon carbide

30 YEARS of Experience and Substantial IP Position
Question & Answer Session
Appendix
### Non-GAAP Gross Margin Reconciliation – FY20Q1

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$242.8</td>
</tr>
<tr>
<td>GAAP Gross Profit</td>
<td>$74.2</td>
</tr>
<tr>
<td>GAAP Gross Margin %</td>
<td>30.6%</td>
</tr>
<tr>
<td><strong>Adjustment:</strong></td>
<td></td>
</tr>
<tr>
<td>Stock-based compensation expense</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Non-GAAP Gross Profit</strong></td>
<td>$76.4</td>
</tr>
<tr>
<td><strong>Non-GAAP Gross Margin %</strong></td>
<td>31.5%</td>
</tr>
</tbody>
</table>

### Non-GAAP Operating Expense & Operating Loss Reconciliation – FY20Q1

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$242.8</td>
</tr>
<tr>
<td>Operating expense, GAAP to Non-GAAP</td>
<td></td>
</tr>
<tr>
<td>Cost of revenue, net (GAAP)</td>
<td>168.6</td>
</tr>
<tr>
<td>Less: Stock-based compensation expense</td>
<td>(2.2)</td>
</tr>
<tr>
<td>Cost of revenue, net (non-GAAP)</td>
<td>166.4</td>
</tr>
<tr>
<td>Research and development (GAAP)</td>
<td>43.7</td>
</tr>
<tr>
<td>Less: Stock-based compensation expense</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Research and development (non-GAAP)</td>
<td>41.3</td>
</tr>
<tr>
<td>Sales, general and administrative (GAAP)</td>
<td>57.6</td>
</tr>
<tr>
<td>Less: Stock-based compensation expense</td>
<td>(12.3)</td>
</tr>
<tr>
<td>Less: Factory optimization restructuring</td>
<td>(1.2)</td>
</tr>
<tr>
<td>Less: Severance and other restructuring</td>
<td>(0.8)</td>
</tr>
<tr>
<td>Less: Project, transformation and transaction costs</td>
<td>(2.6)</td>
</tr>
<tr>
<td>Less: Factory optimization start-up costs</td>
<td>(1.4)</td>
</tr>
<tr>
<td>Less: Non-restructuring related executive severance</td>
<td>(1.2)</td>
</tr>
<tr>
<td>Less: Transition service agreement costs</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Sales, general and administrative (non-GAAP)</td>
<td>35.1</td>
</tr>
<tr>
<td>Other operating expenses (GAAP)</td>
<td>11.8</td>
</tr>
<tr>
<td>Less: Amortization or impairment of acquisition related intangibles</td>
<td>(3.6)</td>
</tr>
<tr>
<td>Less: Asset impairment</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Other operating expenses (non-GAAP)</td>
<td>8.0</td>
</tr>
<tr>
<td>GAAP Operating expense</td>
<td>$281.7</td>
</tr>
<tr>
<td>Non-GAAP Operating expense</td>
<td>$250.8</td>
</tr>
<tr>
<td>GAAP Operating loss</td>
<td>$38.9</td>
</tr>
<tr>
<td>GAAP Operating margin</td>
<td>-16.0%</td>
</tr>
<tr>
<td>Non-GAAP Operating loss</td>
<td>$(8.0)</td>
</tr>
<tr>
<td>Non-GAAP Operating margin</td>
<td>-3.3%</td>
</tr>
</tbody>
</table>
## Appendix – Non-GAAP Measures Reconciliation – FY19

### Non-GAAP Gross Margin Reconciliation FY19

<table>
<thead>
<tr>
<th>Description</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1,080.0</td>
</tr>
<tr>
<td>GAAP Gross Profit</td>
<td>$391.0</td>
</tr>
<tr>
<td>GAAP Gross Margin %</td>
<td>36.2%</td>
</tr>
</tbody>
</table>

**Adjustments:**

- Stock-based compensation expense: 8.8
- Cost of revenue, net (non-GAAP): 677.5

### Non-GAAP Operating Expense & Operating Income (Loss) Reconciliation FY19

<table>
<thead>
<tr>
<th>Description</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1,080.0</td>
</tr>
<tr>
<td>GAAP Operating expense</td>
<td>$1,095.9</td>
</tr>
<tr>
<td>GAAP Operating margin</td>
<td>-1.5%</td>
</tr>
<tr>
<td>GAAP Operating income</td>
<td>$ (15.9)</td>
</tr>
<tr>
<td>Non-GAAP Operating expense</td>
<td>$ 992.7</td>
</tr>
<tr>
<td>Non-GAAP Operating margin</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Non-GAAP Operating income</td>
<td>$ 87.3</td>
</tr>
<tr>
<td>Non-GAAP Operating margin</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

**EBIT Reconciliation FY19**

<table>
<thead>
<tr>
<th>Description</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$1,080.0</td>
</tr>
<tr>
<td>GAAP Income (loss) before income taxes</td>
<td>($45.2)</td>
</tr>
</tbody>
</table>

**Other operating expenses (GAAP):**

- Amortization or impairment of acquisition related intangibles: 16.9
- Project and transaction costs: 19.6
- Executive severance: 1.3
- Factory optimization start-up costs: 1.5
- Transition service agreement costs: 3.0
- Asset impairment: 4.3
- Net change in fair value of the Lexar Investment: 17.5

**Other operating expenses (non-GAAP):**

- Corporate business restructuring: 2.6
- Sales restructuring: 1.6
- Factory optimization restructuring: 4.1
- Project and transaction costs: 19.6
- Executive severance: 1.3
- Factory optimization start-up costs: 1.5
- Transition service agreement costs: 3.0
- Asset impairment: 4.3
- Net change in fair value of the Lexar Investment: 17.5

**EBIT:**

- $87.5

**EBIT %:**

- 8.1%

**Net cash provided by operating activities of continuing operations:**

- $202.3

**Less: PP&E spending:**

- ($142.4)

**Less: Patents spending:**

- ($10.6)

**Total free cash flow:**

- $49.3

**Free cash flow as a % of revenue:**

- 4.6%
Appendix -- Non-GAAP Measures Reconciliation

Cree excludes the following items from one or more of its non-GAAP measures when applicable:

- **Stock-based compensation expense.** This expense consists of expenses for stock options, restricted stock, performance stock awards and employee stock purchases through its ESPP. Cree excludes stock-based compensation expenses from its non-GAAP measures because they are non-cash expenses that Cree does not believe are reflective of ongoing operating results.

- **Amortization or impairment of acquisition-related intangibles.** Cree incurs amortization or impairment of acquisition-related intangibles in connection with acquisitions. Cree excludes these items because they arise from Cree's prior acquisitions and have no direct correlation to the ongoing operating results of Cree's business.

- **Factory optimization restructuring.** In May 2019, the Company started a significant, multi-year factory optimization plan ("factory optimization plan") to be anchored by a state-of-the-art, automated 200mm silicon carbide fabrication facility. In September 2019, the Company announced the intent to build the new fabrication facility in Marcy, New York to complement the factory expansion underway at its U.S. campus headquarters in Durham, North Carolina. As part of the plan, the Company will incur restructuring costs associated with the movement of equipment as well as disposals on certain long-lived assets. Because these charges relate to assets which had been retired prior to the end of their estimated useful lives, Cree does not believe these costs are reflective of ongoing operating results. Similarly, Cree does not consider the realized losses on sale of assets relating to the restructuring to be reflective of ongoing operating results.

- **Project, transformation and transaction costs.** The Company has incurred professional services fees associated with acquisitions and divestitures, as well as for internal transformation programs designed to improve its operating margins and change the manner in which business is conducted. Cree excludes these items because Cree believes they are not reflective of the ongoing operating results of Cree's business.

- **Factory optimization start-up costs.** The Company has incurred and will incur start-up costs as part of the factory optimization plan. Cree does not believe these costs are reflective of ongoing operating results.

- **Non-restructuring related executive severance.** The Company has incurred costs in conjunction with the termination of key executive personnel. Cree excludes these items because Cree believes they have no direct correlation to the ongoing operating results of Cree's business.

- **Transition service agreement costs.** As a result of the sale of the Lighting Products business unit, the Company is providing certain IT services under a transition services agreement which will not be reimbursed. Cree excludes the costs of these services because Cree believes they are not reflective of the ongoing operating results of Cree's business.

- **Asset impairment.** The Company incurred impairment charges in conjunction with the factory optimization plan. Cree excludes these items because Cree believes they are not reflective of the ongoing operating results of Cree's business.

- **Net changes in fair value of our Lextar investment.** The Company's common stock ownership investment in Lextar Electronics Corporation is accounted for utilizing the fair value option. As such, changes in fair value are recognized in income, including fluctuations due to the exchange rate between the New Taiwan Dollar and the United States Dollar. Cree excludes the impact of these gains or losses from its non-GAAP measures because they are non-cash impacts that Cree does not believe are reflective of ongoing operating results. Additionally, Cree excludes the impact of dividends received on its Lextar investment as Cree does not believe it is reflective of ongoing operating results.

- **Accretion on convertible notes.** In August 2018, the Company issued $575 million in convertible notes resulting in interest accretion on the convertible notes' issue costs and discount. Management considers these items as either limited in term or having no impact on the Company's cash flows, and therefore has excluded such items to facilitate a review of current operating performance and comparisons to our past operating performance.

- **Income tax adjustment.** This amount reconciles GAAP tax expense (benefit) to a calculated non-GAAP tax expense (benefit) utilizing a non-GAAP tax rate. The non-GAAP tax rate estimates an appropriate tax rate if the listed non-GAAP items were excluded. This reconciling item adjusts non-GAAP net (loss) income to the amount it would be if the calculated non-GAAP tax rate was applied to non-GAAP (loss) income before taxes.