

# Superconductor Technologies, Inc.

Investor Presentation

September 2017





# Safe Harbor Provisions

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Statements in this presentation regarding our business that are not historical facts are "forward-looking statements" that involve risks and uncertainties. Forward-looking statements are not guarantees of future performance and are inherently subject to uncertainties and other factors, which could cause actual results to differ materially from the forward-looking statements. These factors and uncertainties include, but are not limited to: our limited cash and a history of losses; our need to materially grow our revenues from commercial operations and/or to raise additional capital (which financing may not be available on acceptable terms or at all) in the very near future, before cash reserves are depleted (which reserves are expected to be sufficient into the first quarter of 2018), to implement our current business plan and maintain our viability; the performance and use of our equipment to produce wire in accordance with our timetable; overcoming technical challenges in attaining milestones to develop and manufacture commercial lengths of our HTS wire; the possibility of delays in customer evaluation and acceptance of our HTS wire; the limited number of potential customers and customer pressures on the selling prices of our products; the limited number of suppliers for some of our components and our HTS wire; there being no significant backlog from quarter to quarter; our market being characterized by rapidly advancing technology; the impact of competitive products, technologies and pricing; manufacturing capacity constraints and difficulties; the impact of any financing activity on the level of our stock price; the dilutive impact of any issuances of securities to raise capital; the steps required to maintain the listing of our common stock with a U.S. national securities exchange and the impact on the liquidity and trading price of our common stock if we fail to maintain such listing; the cost and uncertainty from compliance with environmental regulations; and local, regional, and national and international economic conditions and events and the impact they may have on us and our customers.

Forward-looking statements can be affected by many other factors, including, those described in the "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of STI's Annual Report on Form 10-K for the year ended December 31, 2016 and in STI's other public filings. These documents are available online at STI's website, [www.suptech.com](http://www.suptech.com), or through the SEC's website, [www.sec.gov](http://www.sec.gov). Forward-looking statements are based on information presently available to senior management, and STI has not assumed any duty to update any forward-looking statements.




# Superconducting Wire Innovation

Superconducting wire is to power, as fiber optics was to telecom.



- Focused on **Smart Grid** market opportunity:
  - **Grid reliability:** Outages are increasing, costing billions of dollars
  - **NEW renewable energy sources:** Distributed power requires interconnection
  - **Growing demand for power:** Aging grid must be transformed to support growth
  - **Low carbon foot print:** High efficiency with low power loss
- **Sustainable production advantages:** Technological superiority and patent portfolio
- **Commercial scale production now operational**
  - State of the art factory, **expandable by 5X**
- **Growing customer demand for product qualification and approval**
  - Multiple orders from large, multi-national industrial companies for certification testing
  - DOE awarded \$4.5M to STI and partners - June 2017
  - Focused on Fault Current Limiters, Magnets, Cables and Next Generation Machines
- **Expanding IP trade secrets – Awarded U.S. Patents**
  - Two recent awards on STI core technology and manufacturing system design

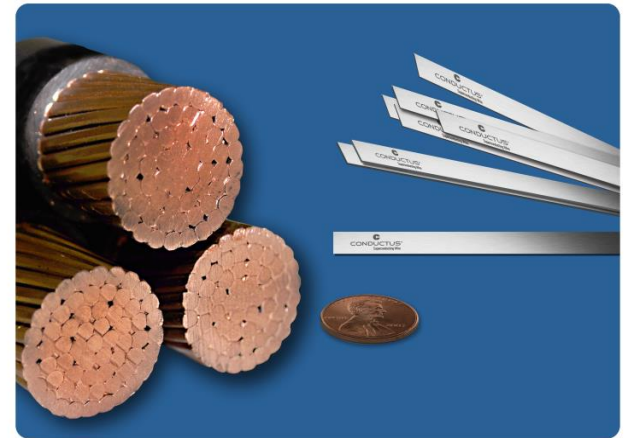


# Validation of the Gained Knowledge

	 CONDUCTUS <sup>®</sup> Superconducting Wire	Conventional Copper
Capacity	100X Greater	Low
Efficiency	Extremely High	Poor - Significant Heat Loss
Size, Weight	Compact, Light Weight	Large and Heavy
Economics	Improving	Static, Limited
Design	Enabling New Devices	Limited

	 CONDUCTUS <sup>®</sup> Superconducting Wire	
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**Next Generation Machines  
Enabling Technology**  
*2G HTS Superconducting  
Wire vs Conventional  
Copper*

- **Heavy Industry:** Highly efficient motors and generators
- **Energy:** New high efficiency large scale wind turbines, New energy storage
- **Defense:** High power density systems, electric aircraft
- **Transportation:** Ship propulsion, MagLev
- **Medical:** Ultra sensitive Imaging Techniques
- **Science:** 3X the performance of current superconducting magnets, fusion



# DOE focused on Enabling Technology for NG Machines

**\$4.5M Award**

**Began Work June 2017**

**Provider**

U.S. Department of Energy's (DOE)  
Office of Energy Efficiency and Renewable Energy (EERE)  
on behalf of the Advanced Manufacturing Office (AMO)



**Prime  
Recipient**

Superconductor Technologies Inc.

**Focus**

Next Generation Electric Machines (NGEM) program:  
To improve the superconductive wires manufacturing process at high  
enough temperatures where nitrogen can be used as the cryogenic fluid to  
improve performance and yield while reducing cost.

“Advancing these enabling technologies has the potential to boost the competitiveness of American manufacturers and take the development of more efficient electric machines a giant step further. These technology R&D projects aim to significantly improve industrial motors for manufacturing, helping companies who use these motors in manufacturing save energy and money over the long run.”

*Mark Johnson, director of the EERE Advanced Manufacturing Office*



# Our best-in-class partners for DOE project



“TWMC recognized the immense value of superconductor technology for high-power electric machines early, and we are committed to their commercialization. We look forward to collaborating to develop the transformational technology needed to achieve commercial viability of high power superconducting next-generation electric machines.”

*Pat Rogers, President, TWMC*



“STI’s goal of high performance at low cost can be a game changer for a wide range of applications, not only at temperatures near liquid nitrogen, but also at lower temperatures.”

*Joseph V. Minervini, Plasma Science and Fusion Center Assistant Director,  
MIT*



“By bringing together university knowledge and capabilities from MIT and UNT with STI, a world class manufacturer of superconducting materials, and TWMC, the end user and device maker with over 100 years of experience in motor design and application, the full range of research and development to product manufacturing and wide scale commercialization of superconducting materials will be achieved.”

*Dr. Marcus L. Young, Assistant Professor Materials & Science Engineering,  
UNT*



# Large Addressable Market: ~\$40B by 2030\*

Industry stake holders: Advanced Superconducting Manufacturing Institute (ASMI)\*



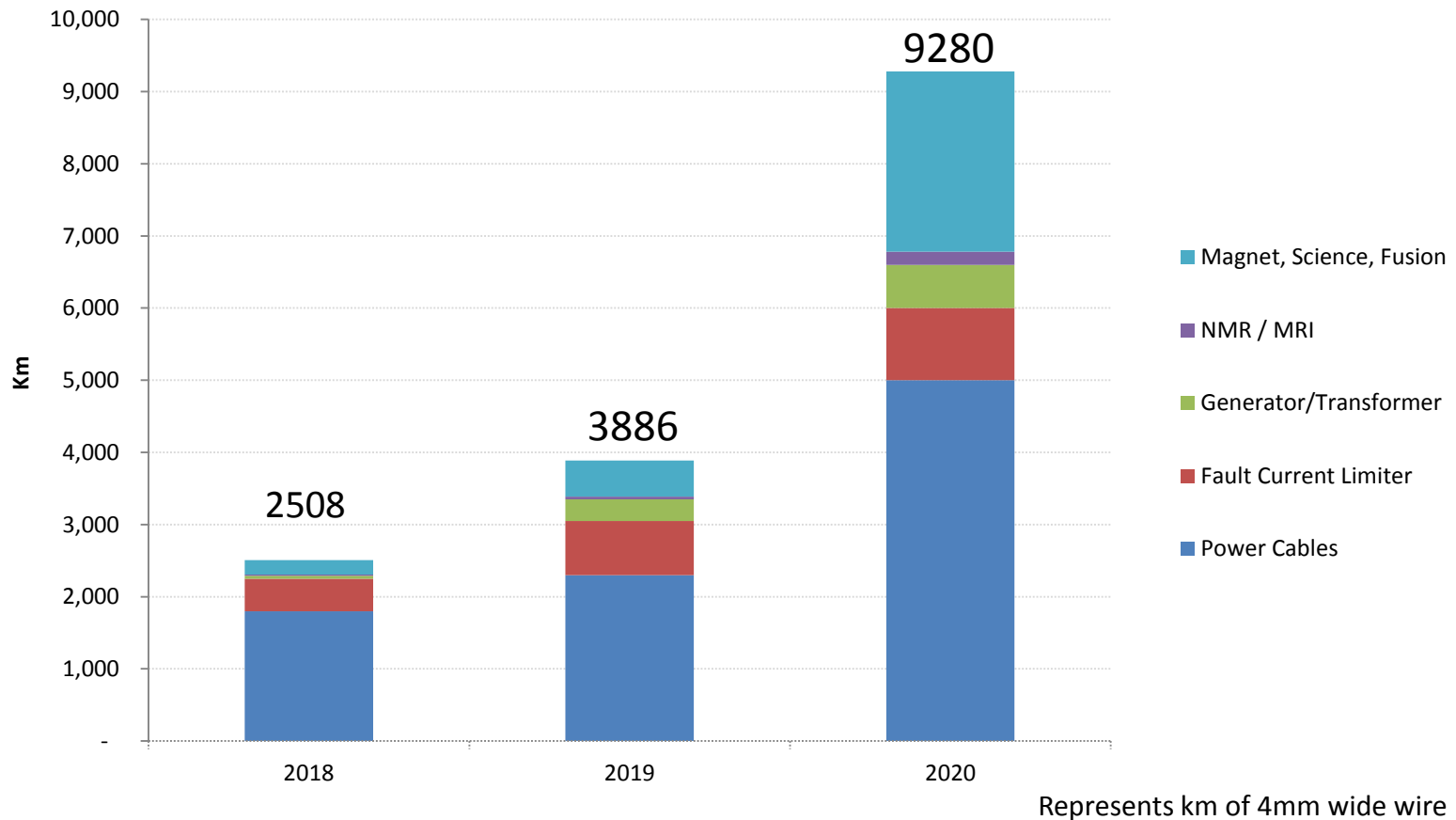
Figure 1.1. ASMI draws broad support from partners across the nation in industry, academia, and government.

\* ASMI estimates \$40B market opportunity by 2030



# Customers Signal Strong Demand for HTS Wire

STI estimates customers' needs will exceed initial STI production capacity more than 10X



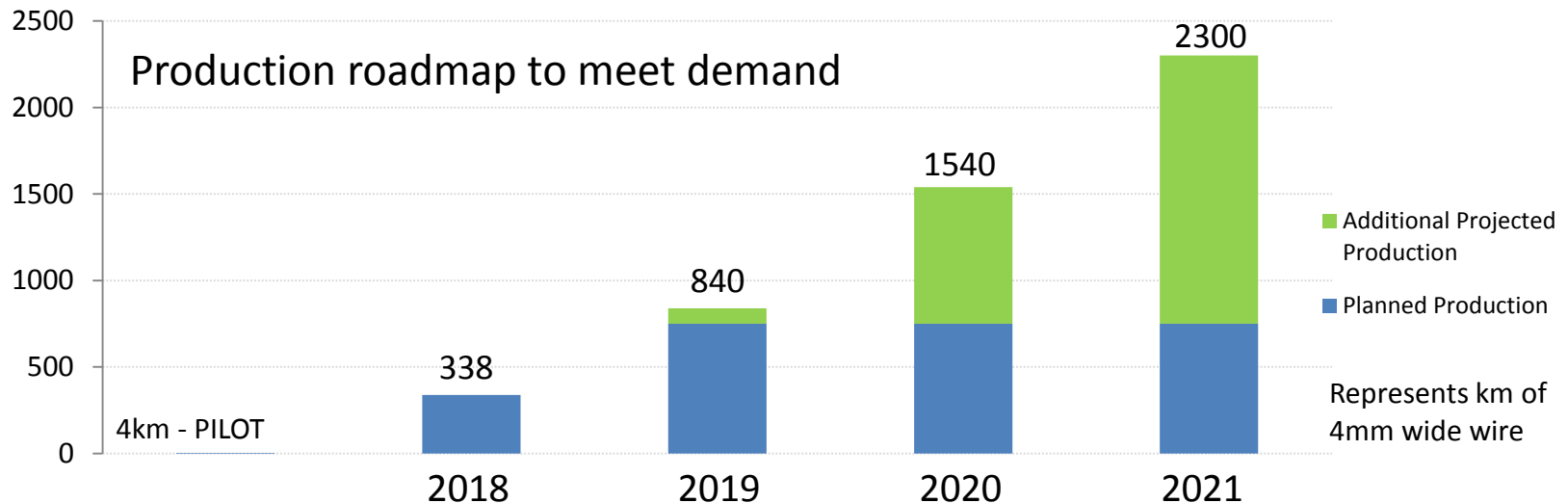




# Production Ramp to Meet Demand

- Facilities are in place to scale capacity 5X
- Modular production process

Space to expand





# Conductus<sup>®</sup> Proprietary Wire Process

Simple, Repeatable, Commercially Proven

\$200M + investment to develop STI's proprietary manufacturing process

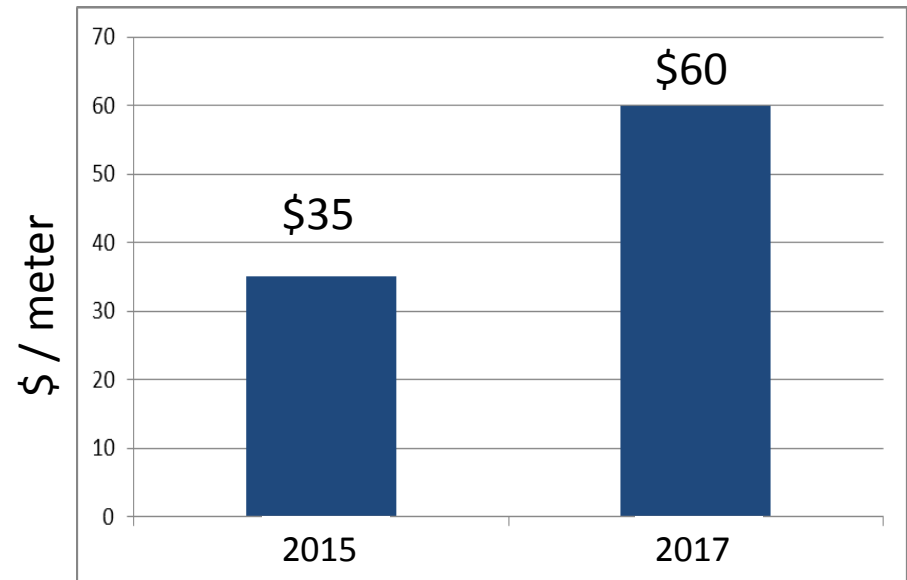
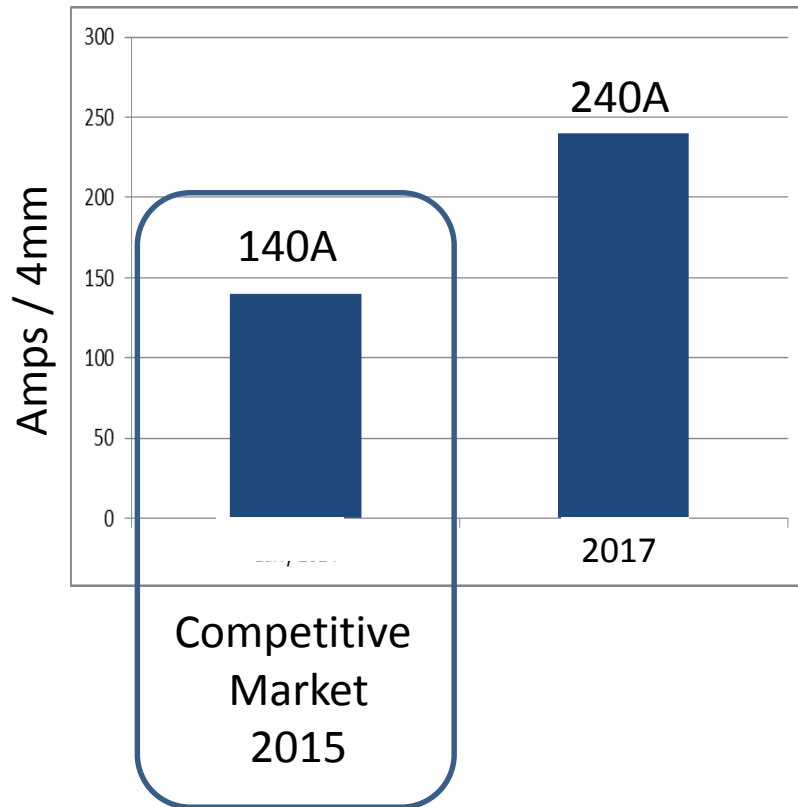
- Utilizes simplified wire architecture
  - High performance
  - Configurable to meet all Smart Grid applications
- Leverages STI assets
  - \$200M+ investment
    - \$37M on Conductus wire development
    - NEW manufacturing facility - \$11M in CapEx
- Extensive IP portfolio - Developed over 100 patents
- Provides sustainable production advantage
  - Increased performance - Robust and flexible design
  - Low Cost - Simplicity of manufacturing process





# 2x Product Performance = Increase price per meter

Conductus<sup>®</sup> performance superiority expected to command premium price



\$/meter and Amps is represented by 4mm wide wire equivalent

70% Improvement in sales price

- Price assumes \$250/kA-m
- Conductus roadmap targets both cost and performance



# Conductus<sup>®</sup> High Volume Production System



<b>Tape Product Width:</b>	<b>3mm</b>	<b>4mm</b>	<b>10mm</b>	<b>12mm</b>
Batch Size: (meters)	3000	2150	1000	850
<b>Annual Capacity: (Km)</b>	<b>950</b>	<b>750</b>	<b>300</b>	<b>250</b>



# Transition Plan from R&D to Production

Partnered with industry leaders who have requested confidentiality

Positioned to complete the customer approval process

- Met specification during internal comprehensive evaluation and testing
  - Implemented improved architecture enhancements
    - Improved bend radius by 28%
    - Achieved over 600A critical current using new template architecture
- Completed internal qualification process for third party suppliers
- 2H/2017: Complete open qualification orders from industry leaders

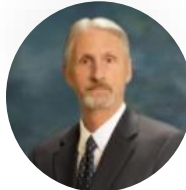


# Leadership

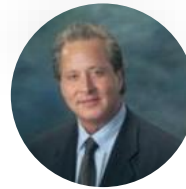
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**Jeff Quiram**  
President & CEO  
12 Years at STI



**Bill Buchanan**  
CFO  
19 Years at STI



**Bob Johnson**  
SVP, Operations  
17 Years at STI



**Adam Shelton**  
VP, Product Management & Marketing  
11 Years at STI



**Ken Pfeiffer**  
VP, Engineering  
5 Years at STI

## Goals:

- Provide the world's most efficient, high-performance and cost effective superconducting wire for power applications
- Improve our long-term competitiveness
- Reach profitability
- Deliver value to our shareholders and customers



# Financial Highlights

## Key Metrics:

- 95% of CapEx for initial production of Conductus wire has been invested
  - 750km capacity
- Additional production suites – 1500km increments
  - \$12.5M in CapEx expected to deliver \$75M in estimated revenue at current market prices

## Balance Sheet Highlights

<i>dollars in millions</i>	<b>July 1, 2017</b>
Cash	\$6.5
Working Capital	\$6.0
Total Assets	\$10.2
Debt	0

- Average trailing 12-month cash used to fund operations: \$1.88M per QTR
- As of 07/01/17, cash reserves are expected to be sufficient into Q1'18



# Pathway to Conductus<sup>®</sup> Success

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- Addressing a large Smart Grid opportunity with disruptive technology
- Delivering market leading current handling product performance
- Obtaining customer validation of high performance compared to competitors
- Leveraging proprietary manufacturing process
- Utilizing scalable modular production plan
- Driving down production cost with manufacturing experience

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as fiber optics was to telecom.**



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