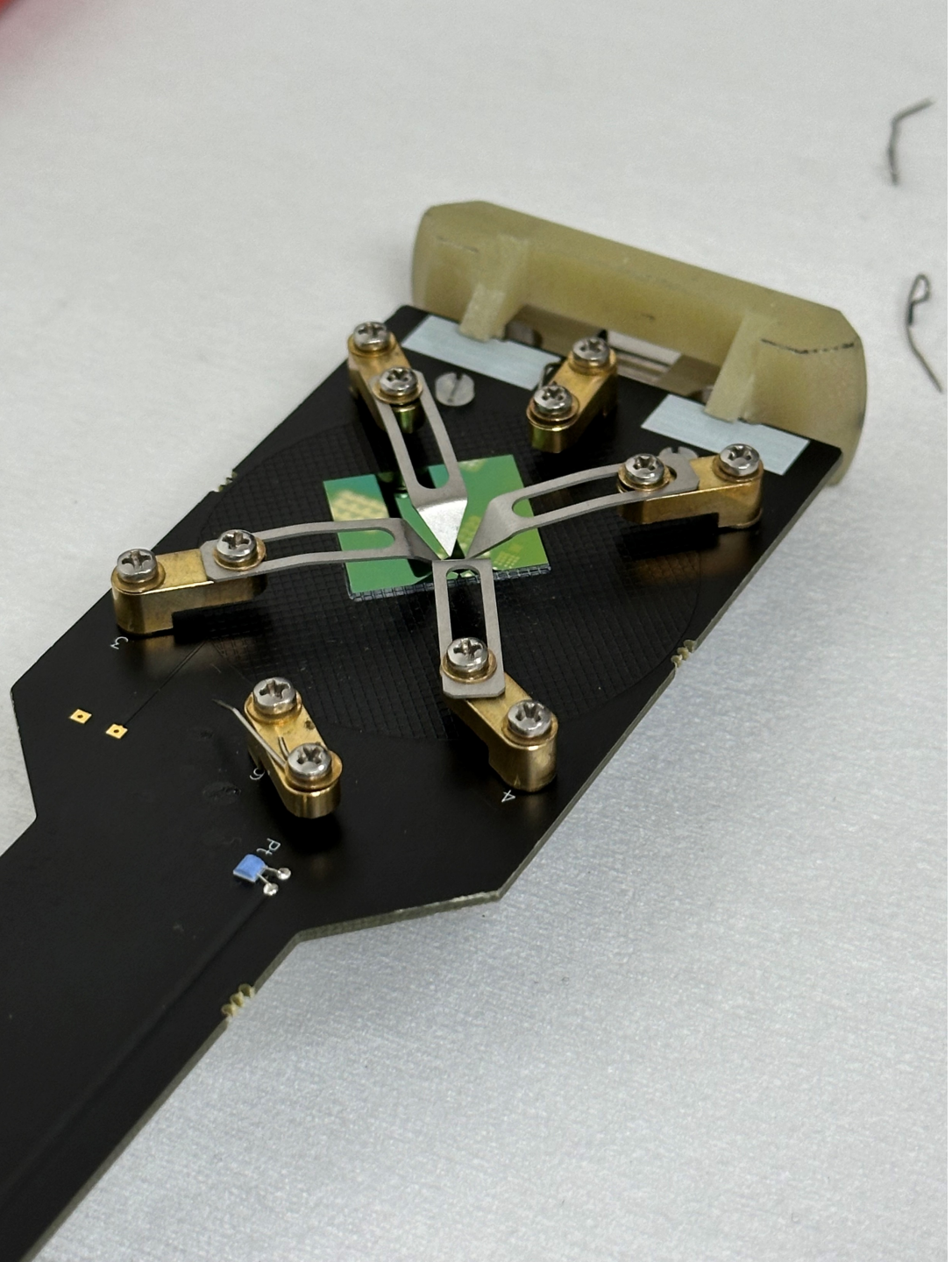

DIAMOND QUANTA

Revolutionizing the Third Wave of Semiconductor with Diamond

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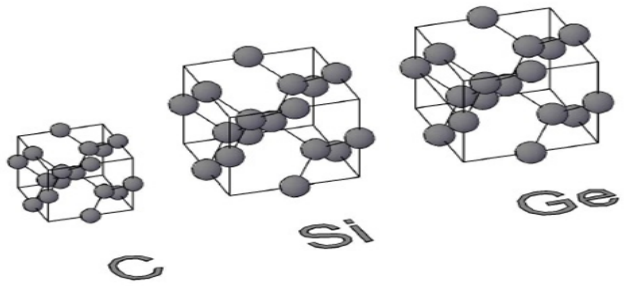
Contact:
Adam Khan
Founder & CEO
adam@diamondquanta.com

Semiconductors At Heart of Every Major Electronics Revolution

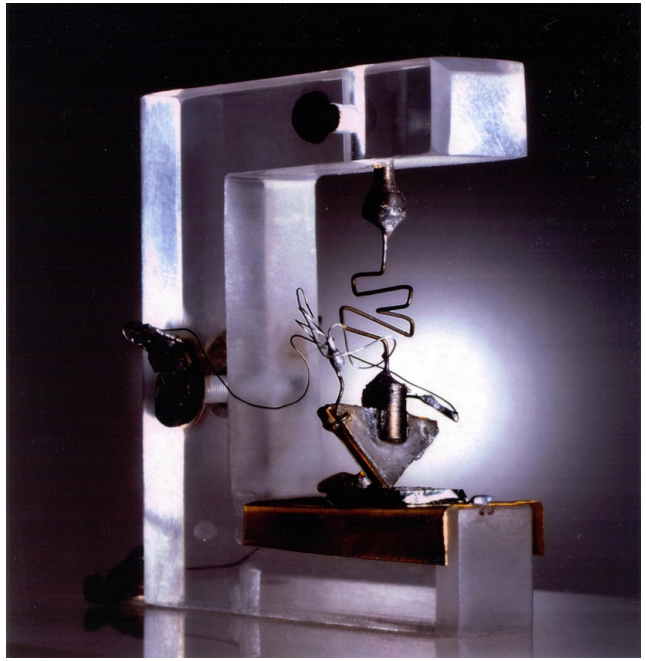
We've already witnessed two significant waves that shaped modern electronics. The first wave was germanium, which enabled the birth of the transistor. The second wave was silicon, revolutionizing the industry by making chips cheaper and more efficient. Now, we're on the cusp of the third wave – the era of diamond semiconductors.



The “Diamond Lattice” Molecular Structure

The First Wave: Germanium

- Silicon believed too expensive to commercialize …high cost and high process temps
- if a car was parked in the sun on a really hot summer day, the radio no longer worked. Why?
- strong motivation to replace Ge transistor with Si transistors.



The first working transistor: Bell Labs (1947)

Motorola “Chrome Nose” Radio Utilizing Germanium Transistor Technology (circa 1950s)

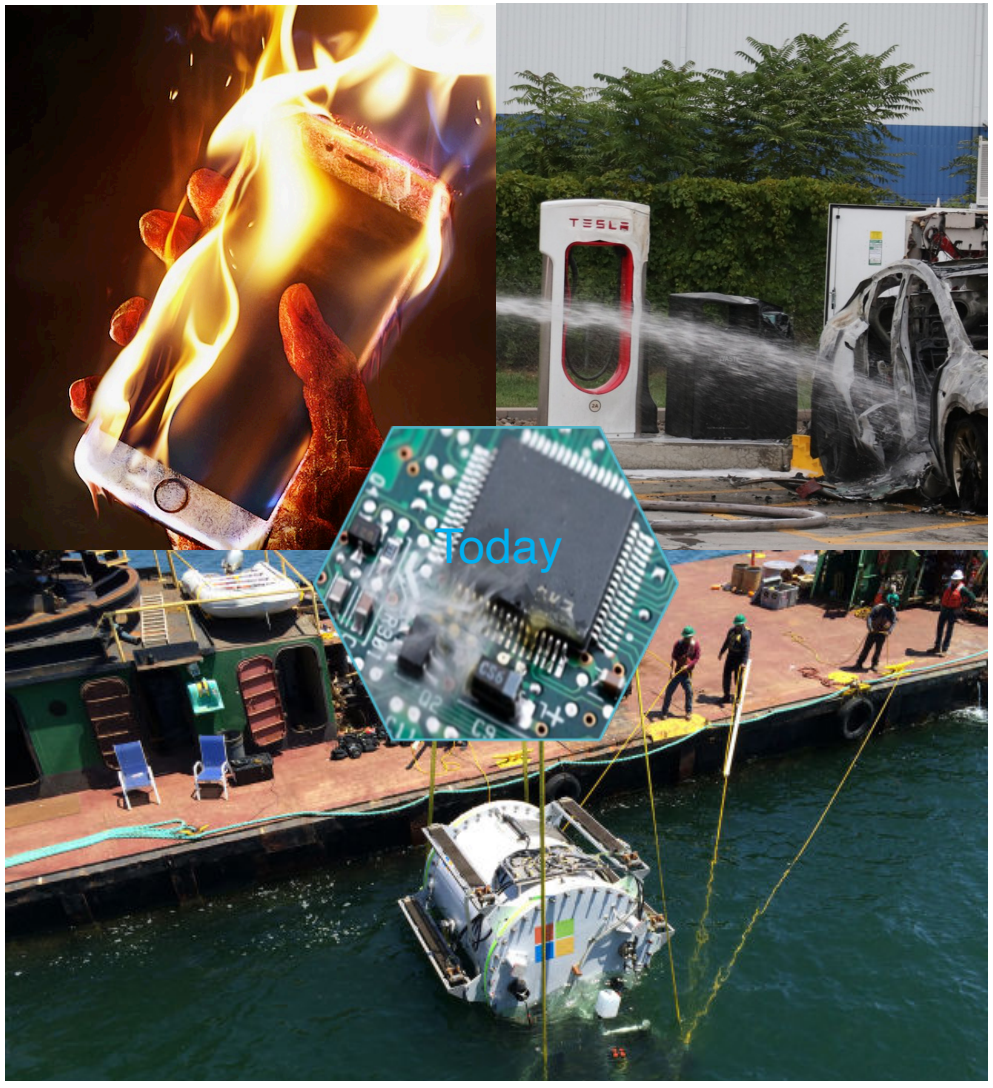
The Second Wave: Silicon

Silicon became the second wave in the late 1950s, bringing improved scalability and cost-effectiveness.

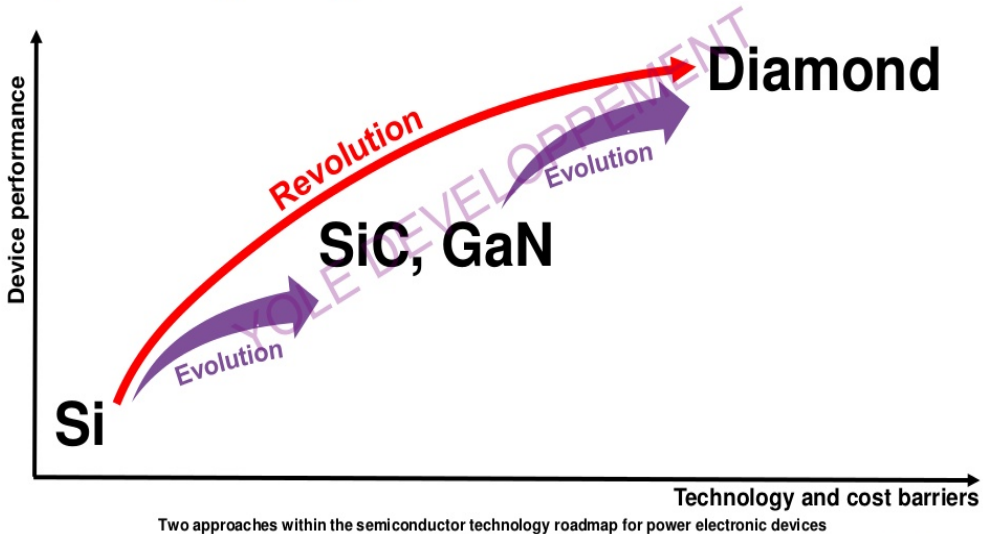
Silicon's availability and ability to be manufactured into intricate and efficient designs fueled the rapid growth of computing power, bringing us from room-sized machines to the smartphones in our pockets today. It also gave birth to Moore’s Law, predicting the exponential growth of computing power.

But silicon is now reaching its physical limits.

Heat management, efficiency, and miniaturization challenges mean we need a new material to meet future demands.

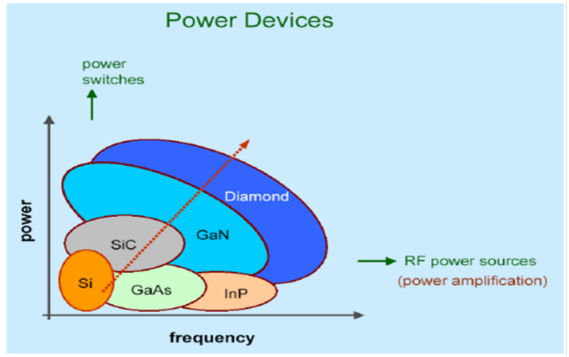


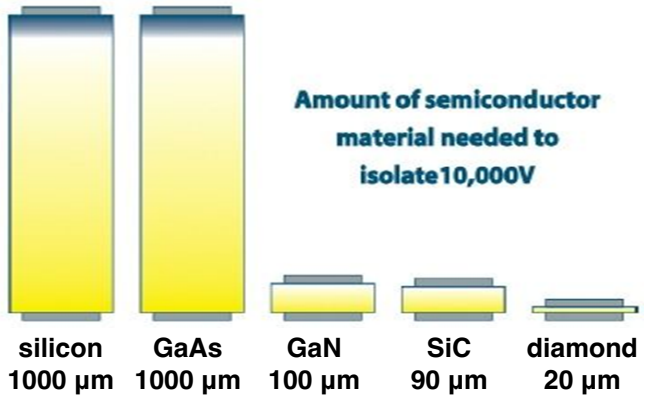
The Third Wave: Diamond



Two approaches within the semiconductor technology roadmap for power electronic devices

Industry & Analyst Consensus On Diamond As An Ultimate Silicon Successor





Diamond Energy/CO2 Savings Comparison: Automotive H/EV & PHEV

16.7-75 TWh/year or **1.7%-7.7%** of total forecast power consumption in automotive electric vehicles

Diamond Energy/CO2 Savings Comparison: AI/Data Center

19.9 TWh/year or **17.5%** of total forecast power consumption of Data Centers

PHEV: Plug-in Hybrid Electric Vehicle, H/EV: Hybrid Electric Vehicle, PJ: petajoule, TWh: Terawatt-Hour
***Data Source: "Wide Bandgap Semiconductor Opportunities in Power Electronics" Oak Ridge National Laboratory (2017)*

Market Opportunity

The demand for semiconductor innovation is greater than ever.

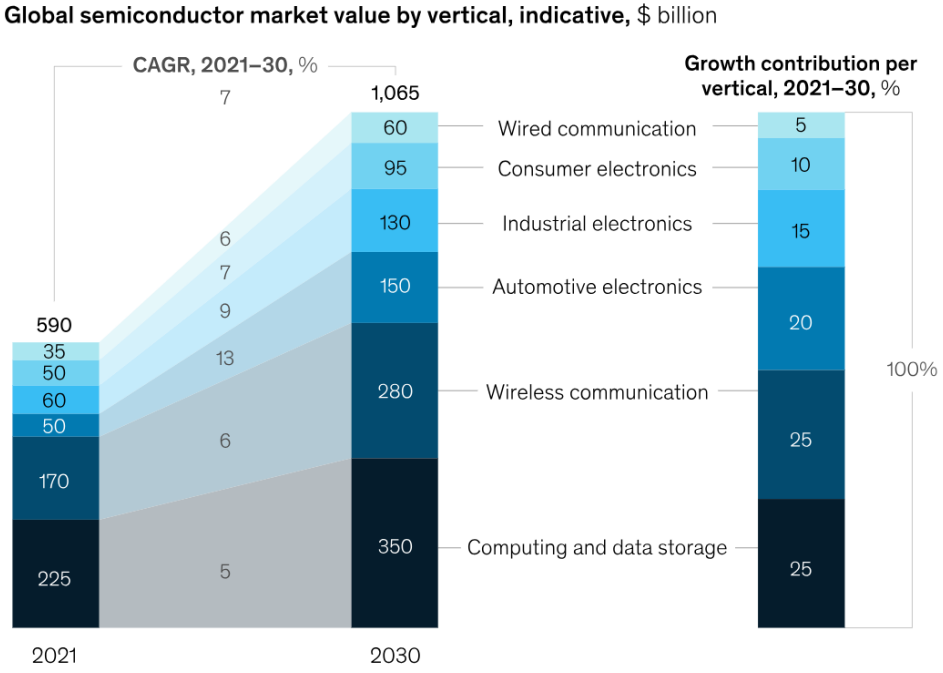
The global semiconductor market is projected to grow to over $1 trillion by 2030.

However, silicon can no longer meet the high-performance demands of applications such as 5G, electric vehicles, and quantum computing.

Diamond technology represents a multi-billion dollar opportunity by addressing these unmet needs.

We're at the dawn of a market transition, just as we saw from germanium to silicon, and the companies that embrace this shift will be the next tech giants.

The overall growth in the global semiconductor market is driven by the automotive, data storage, and wireless industries.



Source: McKinsey "The Semiconductor Decade: A trillion-dollar industry"

Why Now

Revolutionary Doping Methodology

Innovation: First-ever technique to achieve commercially competitive n-type and p-type doping in diamond semiconductors effectively, outperforms competing materials on every figure of merit.

Benefit: Unlocks the full potential of diamond semiconductors for a wider range of applications, including high-power electronics and quantum computing.

Enhanced Thermal Properties

Innovation: Our diamonds demonstrate significantly improved thermal conductivity and stability.

Benefit: Enables devices to operate at higher efficiencies with reduced cooling requirements, crucial for next-gen computing and automotive industries.

Scalability and Versatility

Innovation: Compatible with existing diamond growth methods used in both industrial and gem-quality diamond production.

Benefit: Allows for seamless integration into current manufacturing processes, reducing barriers to adoption and scaling.

Durability/Ruggedness

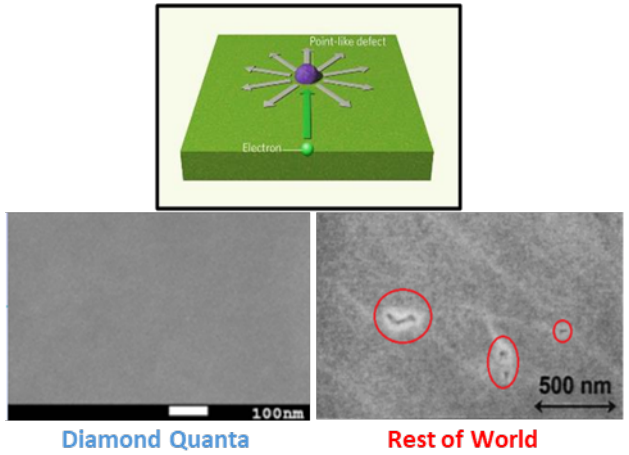
Innovation: Diamond Ultra-hardness, chemical and biological inertness

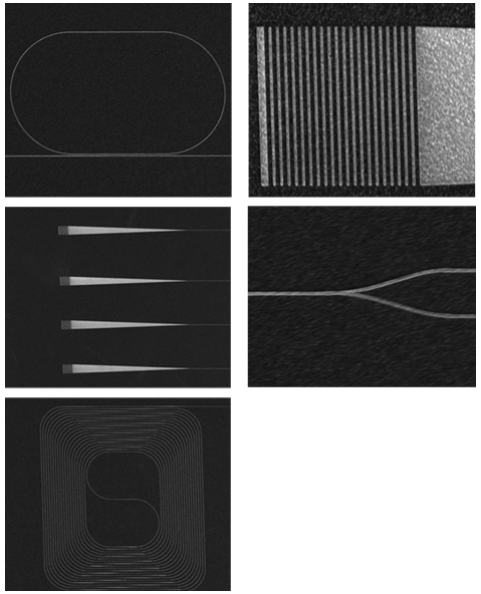
Benefit: Enables performance in extreme environments as well as survivability in harsh processing enabling higher yield per lot.

Sustainability Edge

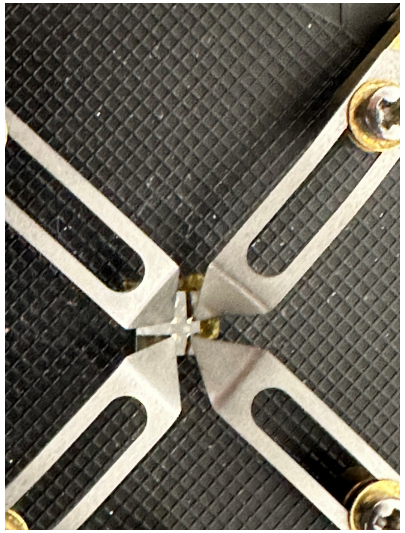
Innovation: Diamond-based solutions significantly reduce energy consumption and carbon emissions.

Benefit: Provides companies a path to meet sustainability goals without sacrificing performance.

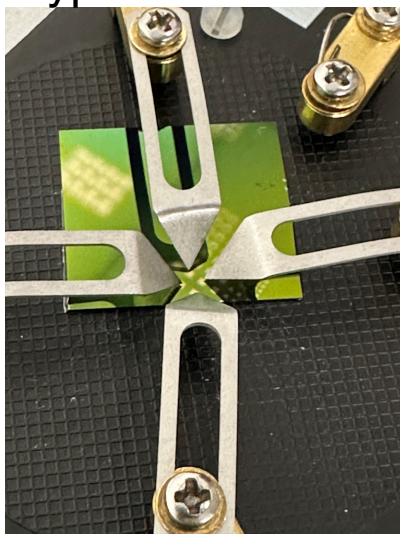




Photonic Waveguide Devices



P & N-type Semi Materials



Unleashing Market Potential with Innovative Solutions

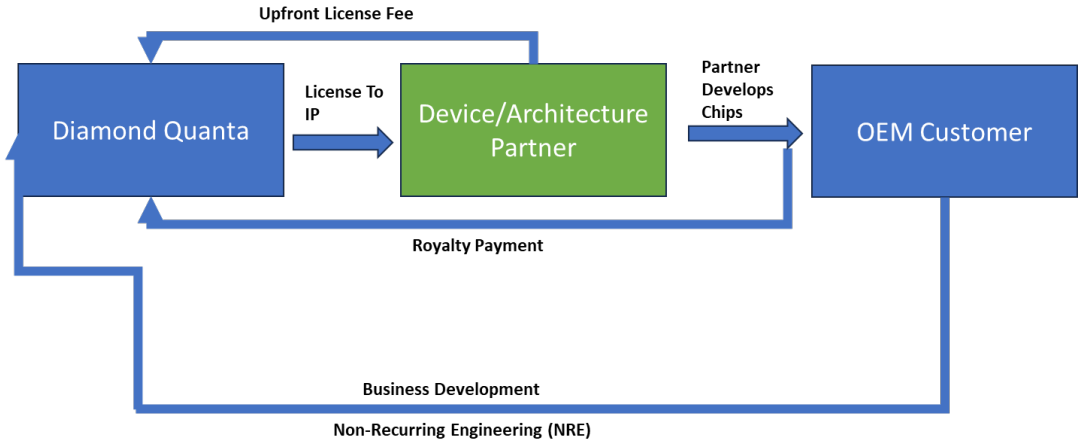
Our Business Model

Technology as a Service (TaaS)

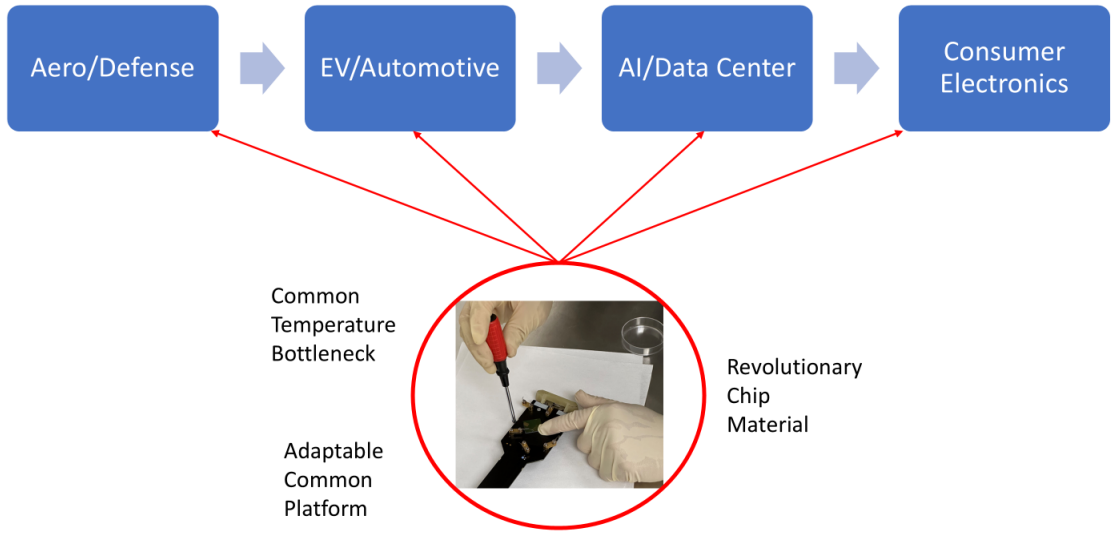
OEM & IP + **Specialized Chips**

Advanced Diamond Technology Services (ADTS)
Enables co-creation of highly differentiated solutions (foreground IP) which are the unique creation of the combined OEM/Diamond Quanta multi-disciplinary tech teams

Diamond Materials Services (DMS)
Supply customers with coating & free-standing materials and microdevices for commercial or mission-ready products.



Platform for Broader Market Opportunity



Team

Seasoned Founding Technical Team, >20 Yrs. Of Diamond Semiconductor, Materials Research, Development, Power And Photonic Device Fabrication

Adam Khan
(Diamond Physics)
Founder, CEO/CTO

University of Illinois Chicago (Condensed Matter Physics & Elec. Engr.), Stanford University (Stanford Nanofabrication Facility & SNSF), 35+ Issued Patents on Diamond Tech, Several Peer Review Publications, Former Industry Researcher at Argonne National Laboratory, Founder AKHAN, 2014 Forbes 30 Under 30 (Energy).

Kiran Kumar Kovi, Ph.D.
(Diamond Engineering)
CSO/VP Engineering

Seasoned technology executive formerly with AKHAN, Euclid TechLabs and Swedish Institute of Space Physics. Extensive background in diamond materials and diamond electronics. M.S. from Chalmers University of Technology, Ph.D. in Electrical Engineering from Uppsala University, and Post-Doctoral Fellowship at Argonne National Laboratory.

Tae Sung Kim, Ph.D.
(Photonics & Device Fabrication)
Sr. Photonics & Fab Engineer

UC Santa Cruz (Elec. Engr., Physics), Stanford Nanofabrication Facility,
Formerly research engineer in design, simulation, and fabrication of micro-electromechanical systems devices at NASA's Ames Research Center, EPIR Technologies, CERN and the Lawrence Berkeley National Laboratory.

Present Status

Partnerships

SNF Stanford Nanofabrication Facility

HELLER INDUSTRIES

LGDinTECH℠ Connecting Diamond Growers with the Technology Sector

PLUG AND PLAY

UPPSALA UNIVERSITET

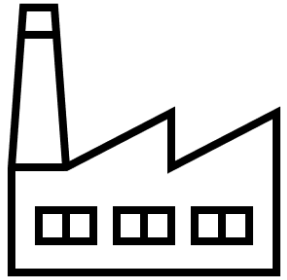
+More

Customer Guided Development

- Engaged With (2) of Top 5 Consumer Electronics OEMs on Diamond Optical Coatings Product Interest
- Engaged with Aero/Defense OEM, Semiconductor Electronics OEM & Quantum Sensing Startup on Diamond Semiconductor/Photonics Product Interest
- Proceeding to NRE & Letter of Intent Phase

What We Are Looking For

Partners & Investors



OEM Companies

Global Semi Alliances