

# KULR TECHNOLOGY GROUP, INC.

Q2'2024 Investor Presentation

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Important factors that could cause actual results to differ materially from those in the forward looking statements include: a decline in general economic conditions nationally and internationally; decreased demand for our products and services; market acceptance of our products; the ability to protect our intellectual property rights; impact of any litigation or infringement actions brought against us; competition from other providers ability and products; risks in product development; inability to raise capital to fund continuing operations; changes in government regulation, the to complete customer transactions and capital raising transactions.

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#### Forecasts

All forecasts are provided by management in this presentation and are based on information available to us at this time and management expects that internal projections and expectations may change over time. In addition, the forecasts are entirely on management's best estimate of our future financial performance given our current contracts, current backlog of opportunities and conversations with new and existing customers about our products.

#### **Reference Material**

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This presentation contains multiple third-party market growth forecasts that may not take into account negative impacts due to circumstances related to the COVID-19 pandemic.



## **Financial and Operational Highlights**

- Q2'24 Year-Over-Year Growth
  - Engineering Service Revenue up 76%
  - Total Customer Increased 53%
  - Service Revenue Customer Increased 86%
  - Product Revenue Customer Increased 25%
- KULR Texas Update : Center of Excellence for Battery Design and Testing
- KULR ONE Space : Expanding Customer Engagements
- KULR VIBE for Server and Industrial Applications
- Foundation for 2H'2024 Year-Over-Year Revenue Growth

## **KULR Texas – Center of Excellence in Battery Design & Testing**

#### Strategic Location close to NASA and Customers

OYAGER



**BLUE ORIGIN** 

LOCKHEED MARTIN





## **Battery Design and Analysis Capabilities**

100 Wh KULR ONE Space (K1S)

**Radiation Tolerant BMS** 

Custom Batteries	KULR ONE	Products		
<ul> <li>Industry Experts</li> <li>Designs by engineering team with space flight hardware and BMS dev. experience.</li> <li>Engineers with backgrounds from NASA, Axiom, commercial battery industry, small-sat industry</li> </ul>	<ul> <li>KULR ONE Space</li> <li>18650/21700 architecture</li> <li>Thermal runaway safety achieved via passive propagation resistant (PPR) design architecture.</li> <li>Designed with intent for JSC 20793 Revision D satisfaction.</li> </ul>	<ul> <li>Radiation Tolerant Battery Management System (BMS)</li> <li>Designed for 20793 Rev. D battery systems</li> <li>Off-the-shelf, vacuum tolerant &amp; radiation tolerant, flight ready system.</li> <li>Ground up safety first architecture.</li> </ul>	<ul> <li>Trigger Cells and ISC-Ds</li> <li>Internal short-circuiting device for implant.</li> <li>Pre-built trigger cells with ISC-D already implanted.</li> <li>Low temp trigger thermal runaway at 55 °C</li> <li>High temp trigger thermal runaway at 70 °C</li> </ul>	
<ul> <li>Computer Aided Design (CAD)</li> <li>Solidworks</li> <li>Design management w/ Solidworks PDM</li> <li>Autodesk Fusion 360</li> <li>Design management with Autodesk Fusion Manage</li> <li>ISO9000/AS9100 controlled design release processes</li> </ul>	<ul> <li>KULR ONE Guardian</li> <li>18650/21700 architecture</li> <li>PPR safety strategy.</li> <li>Robust materials selection for extreme environments.</li> <li>Designed for DoD applications.</li> <li>MIL-STD-810H and MIL-PRF.</li> </ul>	<ul> <li>CellCheck<sup>™</sup></li> <li>Real time monitoring and logistics of battery performance.</li> <li>Safety and state-of-health monitoring.</li> <li>Fleet management.</li> </ul>	<ul> <li>Thermal Runaway Cell Body Heating Protection</li> <li>Thermal Runaway Shield (TRS) for rapid cooling of conducted thermal runaway heating.</li> <li>KULR core composite interstitial solution for operation heat management and thermal runaway heat management.</li> </ul>	
Finite Element Modeling (FEM) and Analysis • ANSYS SpaceClaim & TD Direct • Thermal Desktop • SINDA/FLUINT • GT-SUITEmp	<ul> <li>KULR ONE Air</li> <li>Pouch silicon cell architectur</li> <li>Low mass / low volume structures for aerospace (eVTOL) applications.</li> <li>Module-to-module propagation resistance strategy.</li> <li>Consideration given to DO311 requirements.</li> </ul>	<ul> <li>WI-37A Screened Cells</li> <li>18650 format li-ion cells.</li> <li>Pre-screened to NASA JSC EP-WI37A</li> <li>Cells arrive to customers pre-matched, screened, and ready to be installed.</li> </ul>	<ul> <li>Thermal Runaway Ejecta Mitigation</li> <li>Side wall rupture tubing to protect from potential products expelled through an off- nominal failure.</li> <li>Burst covers to protect from flowing ejecta.</li> <li>Fibercore flame arrestor to ensure only smoke exits the pack for single cell TR.</li> </ul>	



## **Battery Cell and Pack Level Testing Services**

Abuse Testing			Electrical Testing	Environment Testing	
<ul> <li>Small Fractional Thermal Runav Calorimetry</li> <li>Li-ion cells up to 10 Ah</li> <li>Total energy yield,</li> <li>Cell body vs. ejected energy yield</li> <li>Variability characterization vs. trigger method and SOC.</li> <li>Combination synchrotron.</li> </ul>	<ul> <li>Cell Level Abuse Testing</li> <li>Temperature measurement</li> <li>Heater, ISC-D, and nail trigger methods</li> <li>4K videography</li> <li>IR video feed</li> <li>Facilitate of online and inperson interaction with customer.</li> </ul>	<ul> <li>Gas Analysis</li> <li>Equipped to take samples during testing (vacuum bottle)</li> <li>Submit for 3<sup>rd</sup> party analysis</li> <li>Evaluation of composition of expelled thermal runaway gases.</li> </ul>	<ul> <li>WI-37A Screening</li> <li>Mass and dimensional consistencies</li> <li>Capacity retention.</li> <li>DCIR consistency.</li> <li>Visual defect inspection (scratches, dents, corrosion)</li> <li>Matched for pack installation.</li> </ul>	Thermal Vacuum (2025 K1-TS Pipeline) 60 C to +150 C thermal - 10-6 Torr vacuum pull Can combine with Arbin systems for pack/module cycling. Electronics (BMS) check-out	
<ul> <li>Large Fractional Thermal Runav Calorimetry</li> <li>Li-ion cells up to 200 Ah</li> <li>Total energy yield,</li> <li>Cell body vs. ejected energy yield</li> <li>Variability characterization vs. trigger method and SOC.</li> </ul>	<ul> <li>Pack/Module Abuse Testing</li> <li>Temperature measurement</li> <li>Heater, ISC-D, and nail trigger methods</li> <li>4K videography</li> <li>IR video feed</li> <li>Facilitate of online and in- person interaction with customer.</li> </ul>	<ul> <li>Particle Size Analysis</li> <li>Ejecta materials vary in particle size depending on ejection characteristics and level of material decomposition.</li> <li>Microscopic characterization of particle size as a function of grouping.</li> </ul>	<ul> <li>Cell Cycling</li> <li>60 A / channel cycling capability w/ Arbin based systems.</li> <li>Cell capacity fade vs. cycle count vs. power profile.</li> <li>Accelerated aging (2025 pipeline).</li> </ul>	<ul> <li>Thermal &amp; Humidity (2025 K1-TS Pipeline)</li> <li>-40 to 120 C environment.</li> <li>Up to 100% humidity.</li> <li>Can combine with Arbin systems for pack/module cycling.</li> <li>Electronics (BMS) check-out</li> </ul>	
<ul> <li>Impingement Zone Mapping</li> <li>Li-ion cells up to 30 Ah</li> <li>Ejecta impingement region intensity and heat flux characterization.</li> <li>High speed videography and frame by frame analysis of ejecta behavior.</li> <li>Variability characterization vs. trigger method and SOC.</li> </ul>	<ul> <li>Adiabatic Bomb Calorimetry</li> <li>Adiabatic calorimetry modes</li> <li>Heat, wait, seek (standard ARC testing)</li> <li>Determination of material decomposition threshold</li> <li>Measurement of thermal runaway onset temperature</li> <li>Char acterization of cell body heating rates</li> </ul>	<ul> <li>Specialized Instrumentation and Set-up (All Methods)</li> <li>Equipped to provide custom specialized instrumentation and set-up for all testing methods.</li> <li>Ex: In-Situ HF sensors, gas collection systems, customizable NI based DAQ chassis.</li> <li>Controlled atmosphere composition experiments.</li> </ul>	<ul> <li>Module Cycling</li> <li>200 A / 200 V channel cycling</li> <li>200 A / 200 V channel cycling</li> <li>capability with Arbin based system.</li> <li>Conducive set-up for pack/module electrical and ther mal performance characterization.</li> <li>Can combine with abuse testing apparatus upon request.</li> </ul>	Vibration (2026 K1-TS Pipeline) • Up to 300 lb payload. • SLS, Vulcan Centaur, and GEVS profile compatible.	

### **Battery Pack Production and Engineering Services**

KULR



Amada Weld Tech Resistance Tab Welder



Formlabs Fuse1 SLS 3D Printer



ISO 9001 Certification

## Why KULR ONE Space and Why Now?

- Overall space economy to \$1.8T by 2035 (McKinsey & Company)
- Space battery market by Virtue Market Research estimated at \$3.67B in 2022 with expected growth to \$6.35B by 2030.
- Key Growth Drivers:
  - Rapid growth of private space companies
  - Continued growth over traditional prime contractors
  - Smaller satellites
  - Private space stations
- New Regulations and Technical Requirements:
  - NASA JSC 20793 Certifications
  - Fast time to market
  - Lower cost

KULR

The space economy is projected to triple in value to \$1.8 trillion by 2035, up from \$630 billion in 2023. McKinsey & Company

## **KULR ONE Space Batteries**

KULR's engineering team specializes in battery design services to deliver efficient and reliable power solutions for your unique requirements. Specifically, our team specializes in development of battery packs designed to mitigate the effects of thermal runaway and to prevent cell to cell propagation using passive propagation resistant (PPR) techniques, flame arresting devices, and side-wall rupture protection.

#### Benefits

- Pre evaluated architectures
- Low mass / low volume architectures
- Customized power solutions to meet unique requirements
- Enhanced safety features for better product safety
- Improved battery performance and durability

#### Key Features

- Low mass / low volume structures and packing factors
- Housing design and coating selection
- Cell selection
- Thermal protection for thermal runaway ejecta
- Cooling for thermal runaway
- Side wall rupture protection
- COTS vs. custom BMS selection
- Electrical interfacing and interconnect design
- Built to NASA JSC 20793 specification





## **KULR VIBE for Server and Industrial Fans**

#### Instant Thermal Boost

• No changes, no added hw cost, same suppliers

AI / Server Transition

- Al is Coming Fast, 1KW GPUs, Blackwell
- liquid cooling is coming slow. Infrastructure transition
- Avoid throttling under max load conditions

#### HOW? Completely Remove Fan Vibration.

- Increase Fan RPM 2x, Reduce Noise
- Thermal Impact +35%, Improved Reliability

No Changes to Designs or Suppliers

- Just Better Thermal Capacity
- Safety Net for transition to liquid cooling

#### **Architecture Overview**

- ORv3 compliant
- 80U chassis
- Three interconnected trays using cables:
  - CPU Tray (20U)
     Switch Tray (20U)
  - Switch Tray (20U)
     Accelerator Tray (40U)
  - Accelerator Tray (400)
- System and trays all support hot swap

#### **CPU Tray**

- 2-socket motherboard (Intel and AMD options)
- 8 downstream PCIe 5.0 x16 channels to the Switch Tray
- DC-SCM, horizontal form factor
- 2 OCP NIC 3.0 TSFF

#### Switch Tray

- 4 Broadcom PEX89144 PCIe 5.0 switches with 144 lanes each
- 8 upstream PCIe 5.0 x16 channels from CPU tray
   8 OCP NIC 3.0 TSFF
- 16 E1.S SSD
- 8 downstream PCIe 5.0 x16 channels to accelerator tray

#### Accelerator tray

Compatible with NVIDIA HGX pinout specification







#### Key Growth KPI's are Up











### **Using Less Cash**







### **Revenue Growth Continues**





### **Balance Sheet is Stronger and More Stable**





## Q2'24 Financial Summary

YoY Summary								
		2023Q2	2024Q2	QoQ%				
Revenue	Total Revenue	\$2,695,506	\$2,432,005	-10%				
	Service Revenue	\$738,136	\$1,297,236	76%				
	Product Revenue	\$1,957,370	\$1,134,770	-42%				
Customers	Total Customers	17	26	53%				
	Service Customers	7	13	86%				
	Product Customers	12	15	25%				

2024Q2 Highlights

- YA SEPA terminated
- Service revenue grew 76% can foreshadow Product revenue
- Gross margin 21% (24Q2) v. 37% (23Q2)—anticipate return to trend
- Paying customers increased +53%
- Q2 operating expenses down 17% from Q2 last year
- Stronger Balance Sheet v. 12/31/2023
  - Cash+AR UP 40%
  - Liabilities down 42%
- Cash used Operating+Investing activities down 13% 24Q2 v. 23Q2







# Thank You!