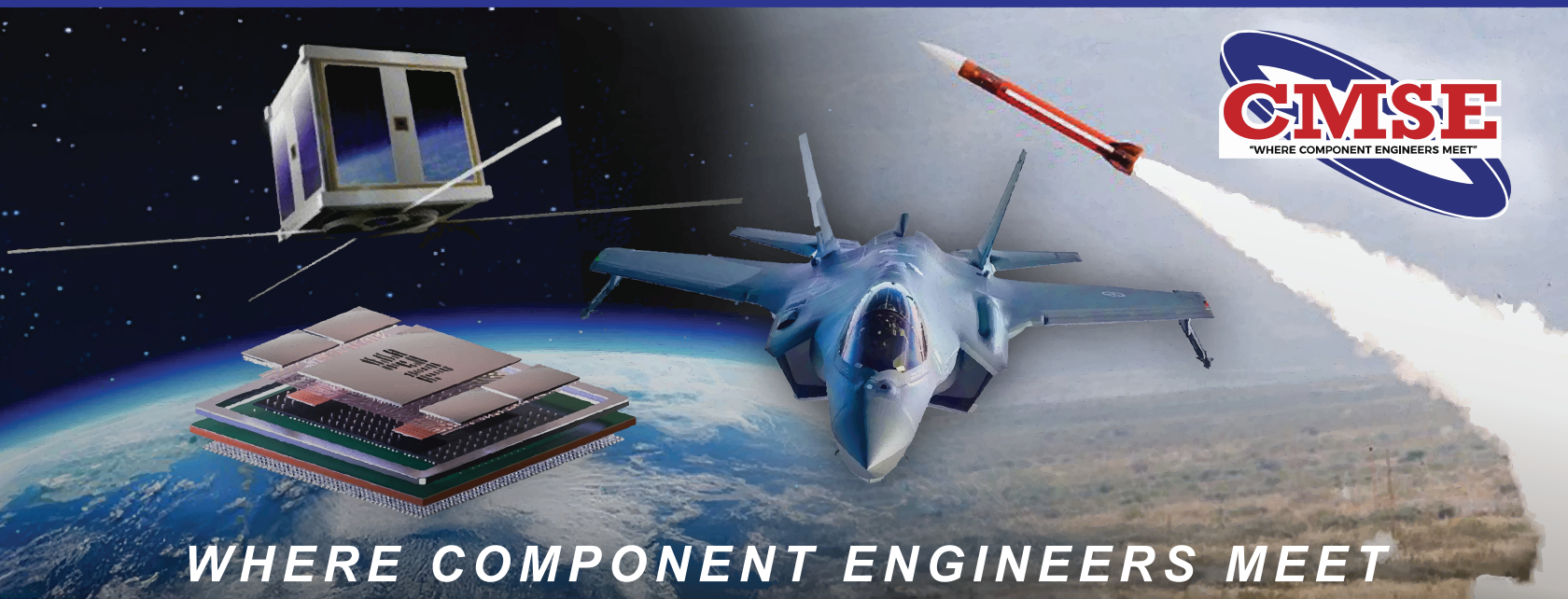


# CMSE 2025 PROGRAM BOOK



**28<sup>th</sup> Annual**  
**Components for Military & Space Electronics**  
**Conference & Exhibition**

**April 29th - May 1st, 2025**  
*Renaissance Hotel LAX*  
*9620 Airport Blvd*  
*Los Angeles, CA 90045*

## **CMSE 2025**

### ***Message from the Chair***

On behalf of the CMSE Program Committee I would like to personally welcome everyone to this year's 28th annual CMSE Conference and Exhibition. One of the unique aspects of CMSE is our focus on both active and passive components. You will find experts in both fields coming together under one roof to converse and share solutions to common challenges of designing and building reliable hardware for both military and commercial space programs. This year we continue our focus on education with a new class on the design and test on "Non-Hermetic" microelectronics for military and space.

On Wednesday we start off with several talks on the impact of AI in our community then we will hear about advances in next generation packaging technologies along with what's new in the world of capacitors. Thursday, we continue the learning with a special 1 hour Primer on the newly released Mil-Std-1580 DPA for EEE Parts.

I'd like to personally thank our sponsors and exhibitors for supporting CMSE and everyone on our CMSE planning committee. So pay attention, take the time to listen, ask good questions and don't hesitate to respectfully challenge each other's ideas and technical opinions.

Welcome to CMSE 2025!



Thomas Green  
**CMSE Program Chair**



ORGANIZED BY: TJ Green Associates

## **Program Committee**

**Tom Green**  
*General Chair*

**Tom Terlizzi**  
*Exhibits Chair*

**Trevor Devaney**  
*Hi-Rel Laboratories*

**Ron Demcko**  
*Kyocera/AVX Corp.*

**Jon Rhan**  
*Vishay*

**Aaron DerMarderosian**  
*RTX: Collins Aerospace Mission Systems*

**Bob Lowry**  
*Electronic Materials Consultant*

**Larry Harzstark**  
*Aerospace*

**Andy Moor**  
*Northrop Grumman Space Systems*

**Tomas Zednicek**  
*EPCI European Passive Component Institute*

**Rick Rodriguez**  
*Raytheon*

**Sultan Ali Lilani**  
*Integra Technologies LLC*

**Peter Majewicz**  
*NASA*

**Anthony Casasnovas**  
*Honeywell Aerospace*

**Eric Higham**  
*Microwave Journal*

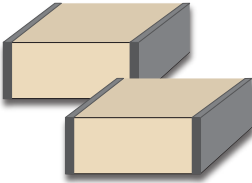
**John Reardon**  
*COTS Journal*

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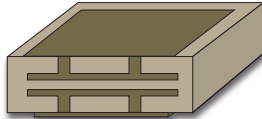
## WHEN RELIABILITY IS PARAMOUNT

### PORCELAIN



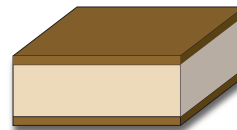
**HIGH Q LOW ESR NPO**

### WIREBONDABLE SINGLE LAYER



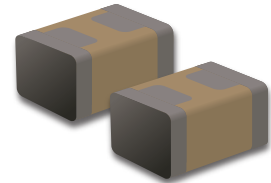
**ULTRA LOW LOSS NPO  
& STABLE BX**

### WIREBONDABLE BYPASS

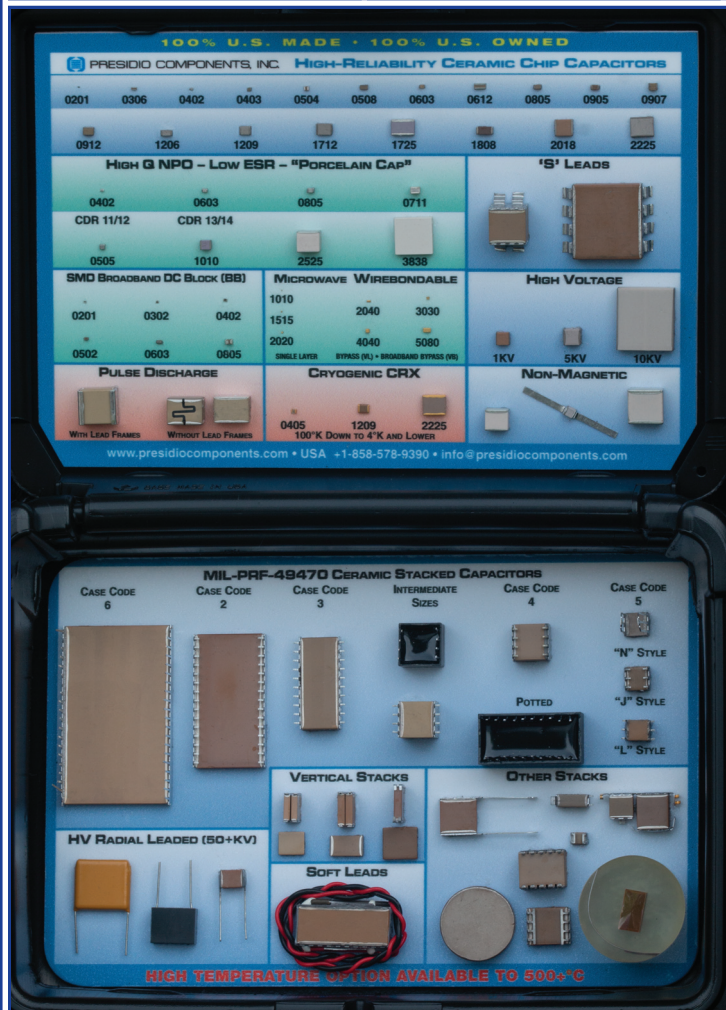


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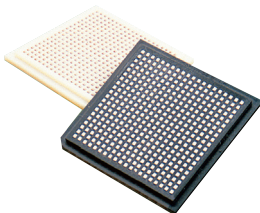
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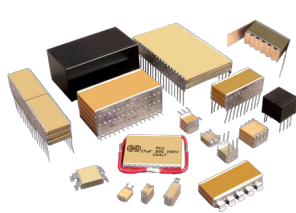
**MIL-PRF-123, -49467, -49470, -55681, -32535**

**MIL-STD-202 & MIL-STD-790**

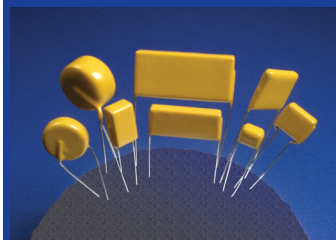
**NASA S311-P-829**



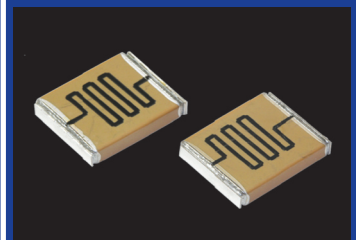
**CERAMIC CHIPS  
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**SMPS STACKS  
MIL-PRF-49470**



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# 2025 KEYNOTE SPEAKERS



## **Louise Sengupta, Ph.D.**

*Director of Business Development, Northrop Grumman*

Dr. Louise Sengupta is currently the Director of Business Development and Capture for Northrop Grumman Microelectronics Center (NGMC) that includes both Mission Systems and Space Systems sectors. She is responsible for growing the business and creating the go to market strategy for all new business in microelectronics across all services and across the company.

From 2018 to 2022 she was the Director of Advanced Electronics at Northrop Grumman Mission Systems and has >30 years of experience leading businesses and technology in microelectronics and is an expert in advanced sensing and advanced materials fabrication. She joined Northrop Grumman

in 2015 and expanded the work in digital AESAs, trusted electronics, advanced imaging and advanced processors.

Prior to this, from 01/2006 to 07/2015, she was the Director of Advanced Sensors, for BAE Systems – Columbia, MD and served as an Engineering Fellow for BAE Systems and was the first woman to be elected to this position.

From 05/1998 to 01/2006, Dr. Sengupta founded and served as CEO/CTO of Paratek Microwave that was acquired by Blackberry RF in 2011. Paratek's product lines included phased array antennas and tunable RF components. The technology was based on intellectual property that she invented while at ARL (Army Research Laboratory) from 05/1991 to 05/1998.



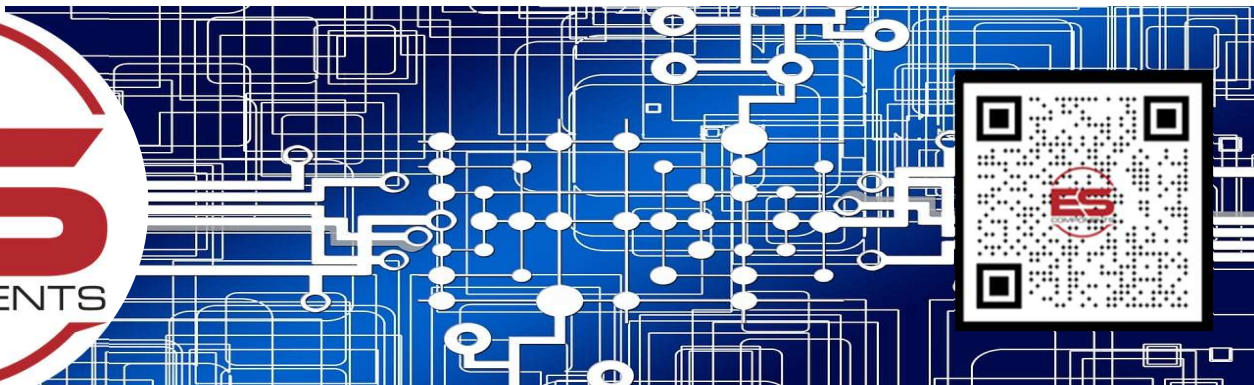
## **Larry Harzstark**

*Technical Fellow, The Aerospace Corporation*

Larry Harzstark is currently a Technical Fellow for Aerospace Corporation and he has over 35 years of experience in parts and component management- related engineering areas. He has been involved in all aspects of component engineering from the design of custom radiation-hardened devices to meet strategic missile requirements, to failure analysis, parts selection, design reviews, supplier audits, technology reviews and parts control boards. Recently, Larry has been involved in aspects of Commercial Off the Shelf (COTS), as well as Plastic Encapsulated Microcircuits (PEMs) and their utilization in military systems. He developed the guidelines for use of PEMs in an Army missile system and in space applications. His extensive expertise and knowledge in the field of microelectronics has earned him a

reputation as a problem solver. Larry currently is an Aerospace Fellow responsible for technical aspects of new technology insertion, PMP management, evaluations of alternative technologies and problem resolution for programs. He earned his BSEE from the Polytechnic Institute of Brooklyn in 1969, and his MSEE from Clarkson College of Technology in 1970





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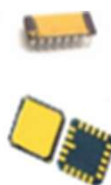
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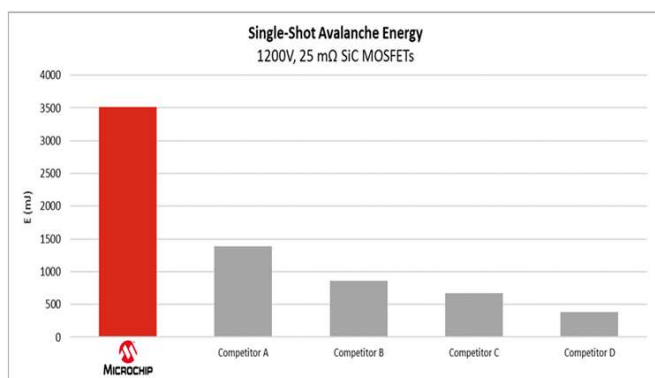
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# 2025 TUTORIAL SCHEDULE

TUESDAY, APRIL 29

0700-0900

Registration and Student Breakfast Sponsored by All Tech Electronics

## TUTORIAL #1 LOCATION: Malibu Room

0800-1530

**Microelectronic Component Engineering  
Principles and Practices**

**Instructors:**  
Thomas J Green (TJ Green Associates)  
Ron Demcko (Kyocera/AVX)  
Trevor Devaney (Hi-Rel Labs)  
Brian Ward (Vishay)

## TUTORIAL #2 LOCATION: Venice Room

0800-1530

**Design and Test of Non-Hermetic  
Microelectronics for Military and Space**

**Instructors:**  
Thomas J Green (TJ Green Associates)  
Jeff Gotro, Ph.D. (InnoCentrix)

1200-1300

**STUDENT LUNCH: In Renaissance IV Sponsored by All Tech Electronics  
(For those attending tutorial classes only)**

## TUTORIAL #3 LOCATION: International Ballroom

1600-1730

**Understanding Military Standards and Update  
on JEDEC and New Spec Initiatives**

**Instructors:**  
Lawrence Harzstark (Aerospace)  
Sultan Lilani (Integra)  
Shri Agarwal (NASA JPL)

## Student & Professional Networking Event

Location: Malibu Room

Time: 1730-1900

*(Join us for drinks and light snacks)*

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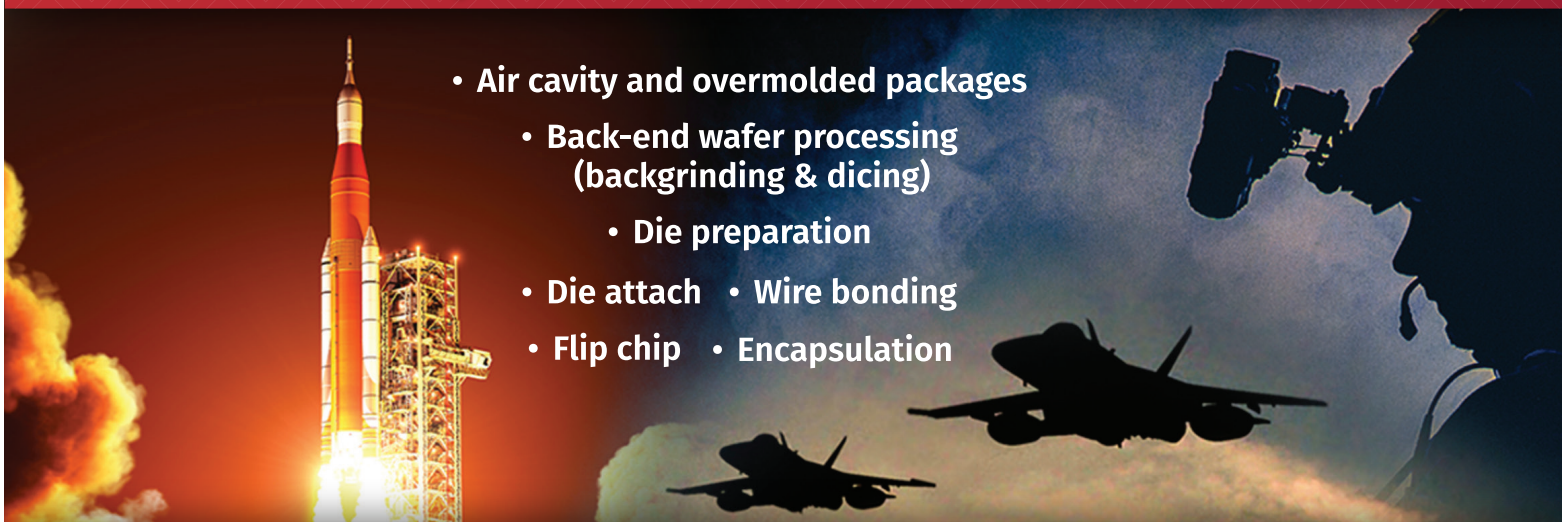
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# 2025 PRESENTATION SCHEDULE

WEDNESDAY, APRIL 30

0700	REGISTRATION & COFFEE	
0800-0815	Welcome To CMSE 2025 Introduction by General Chair	Thomas J Green TJ Green Associates
Session 1A		Session Chair: Rick Rodriguez (Raytheon RTX)
0815-0840	Electronic Components Challenges in AI Power Management	Tomas Zednicek EPCI
0840-0905	COTS and AI Transforming Space Operations	Ralph Grundler Aitech
0905-0930	AI-Driven Secure Electronics Manufacturing: Detecting Counterfeit and Hardware Tampering	Dr. Eyal Weiss Cybord
0930-0955	Braided Solder Columns for Next Generation Large Heterogeneous 2.5D Packages	Marty Hart TopLine
0955-1020	COFFEE BREAK: Sponsored by Kyocera/AVX	
1020-1045	GaN and InP Chiplet Integration in CMOS Wafers for Millimeter-wave Front-ends	Florian Herrault PseudolithIC
1045-1110	IBM Research - Recent Developments in Advanced Components	Julian Warchall, Ph.D. IBM
1110-1200	KEYNOTE: Northrop Grumman Microelectronics Center (NGMC) Supports Next Generation Packaging Technologies	Louise Sengupta, Ph.D. Northrop Grumman
1200-1355	LUNCH BREAK: Sponsored by Kyocera/AVX	
Session 1B		Session Chair: Tomas Zednicek (EPCI)
1355-1420	New MIL PRF Metal Strip Current Sense	Brian Yarborough Vishay Dale
1420-1440	Advanced Technology Microcircuit (ATM) QML Development	Sultan Lilani Integra Technologies
1440-1530	Overview of Non-Hermetic Advanced Packaging	Jeff Gotro, Ph.D. InnoCentrix
1530-1550	COFFEE BREAK: Sponsored by Kyocera/AVX	
1550-1615	Integrated Thin Film Passive Components: A New Option for Miniature Flight Electronics	Ron Demcko Kyocera/AVX
1615-1640	Miniaturization and Performance Improvement of Electronic Systems by Utilizing Embedded Thin-film Resistors and Gap Capacitors	John Andresakis Quantic Electronics
1640-1705	Advanced Reflowable Chip Capacitor for Military and Space Electronics and Embedded Solutions	Christopher Deane Fastcap
1705-1730	A Common Approach to Characterizing Electronic Components for Demanding Applications	Brian Ward Vishay Vitramon
1745-2000	Welcome Reception In Exhibits Area	





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# 2025 PRESENTATION SCHEDULE

THURSDAY, MAY 1

0700	REGISTRATION & COFFEE	
Session 2A		Session Chair: Brian Ward (Vishay)
0800-0835	<b>KEYNOTE: Evolution of EEE Parts for Space Missions</b>	Larry Harzstark The Aerospace Corporation
0835-0900	Benefits of a Hybrid Planar Transformer Package and an Overview of Product Screening Levels	Jackson Sonterre Vishay Inductors
0900-0925	Advancements of Stacked Capacitors for Military and Flight Applications	Tyler Lagnese Kyocera/AVX
0925-0950	The First 3-terminal Ceramic Gap Capacitor	Alex Moalemi Quantic Eulex
0950-1015	Commercialization of GN3 Graphene Material as the Active Electrode for High Energy	Tomas Zednicek EPCI
1015-1035	COFFEE BREAK: Sponsored by Presidio	
1035-1050	Lessons Learned from Buying Commercial Wafers for MIL Project	Ben Mendoza Golden Altos
1050-1115	Enhancing Microelectronics Reliability Through Comprehensive Outgassing	Jay Das ORS
1115-1215	Destructive Physical Analysis (DPA) of Electronic Components – A Primer On MIL-STD-1580 “DPA for EEE Parts”	Sultan Lilani/Trevor Devaney Integra/Hi-Rel Labs
1215-1330	LUNCH BREAK: Sponsored by Presidio	
Session 2B		Session Chair: Tyler Lagnese (Kyocera/AVX)
1330-1355	Addressing the Growing Challenges of Electronic Component Unavailability and Industry Knowledge Loss	Rob Picken Sourceability North America
1355-1420	Scaling National Security: The SCALE Program’s Role in Growing the Nation’s Skilled Microelectronics Workforce	Peggy E. Williams, Ph.D. NSWC Crane
1420-1445	Improved Impedance Measurement Precision Utilizing Innovative Test Fixture Design	J Gasque, W Harrell, K Jenko SKG, Clemson, Universal Avionics
1445-1510	Why Planar Magnetics are ideal for Harsh Environments	Jim Marinos Payton America
1510-1535	Tin Whiskers	Jeff Montgomery AEM
1535-1600	Cu Direct Plating Technology on Quartz Glass for RF Application	Tetsuya Onishi Koto Electric Co.
1600-1630	John R. Devaney Award for Best Presentation at CMSE \$1,500 Cash Prize	
1530-1550	COFFEE AVAILABLE: Sponsored by Presidio	





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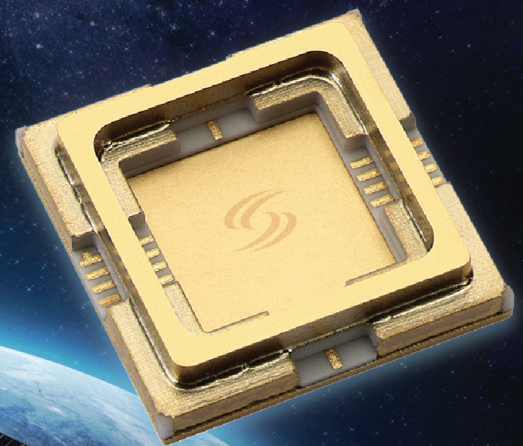
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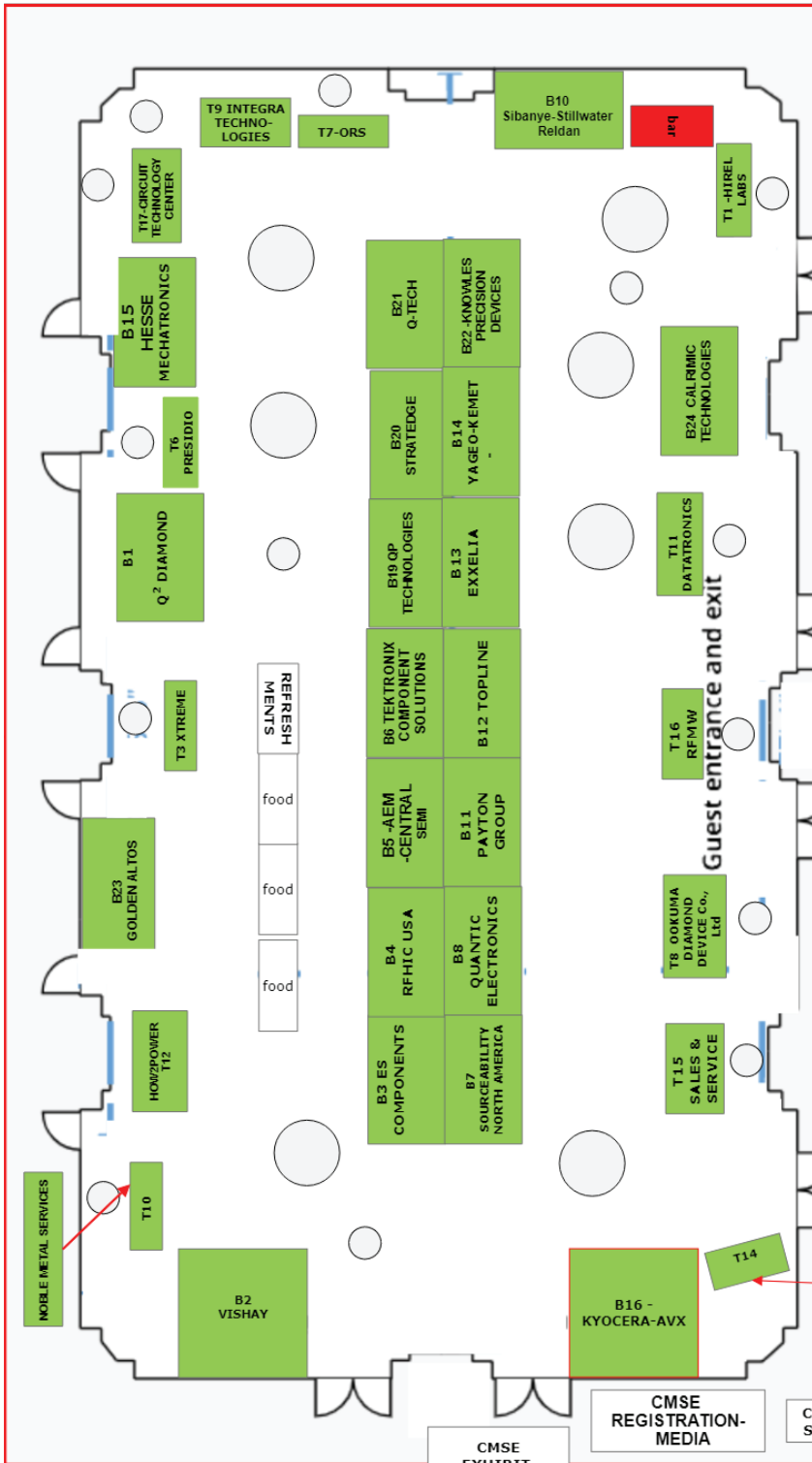


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# 2025 EXHIBIT FLOOR LAYOUT



B#T#	COMPANY
B5	AEM
T14	AGILE MICROWAVE TECHNOLOGY
B24	CalRamic Technologies llc
B5	Central Semiconductor
T17	Circuit Technology Center
T11	Datatronics Romoland Inc.
B3	ES Components
B13	EXXELIA
T14	GM SYSTEMS
B23	Golden Altos Corp
B15	Hesse Mechatronics Inc.
T1	Hi-Rel Laboratories, Inc.
T12	HOW2POWER
T9	Integra Technologies - A Micross Company
B22	Knowles Precision Devices
B16	KYOCERA AVX
T10	Noble Metal Services
T7	Oneida Research Services, Inc. (ORS)
T8	OOKUMA DIAMOND DEVICE Co., Ltd
B11	Payton America Inc
T6	Presidio Components
B1	Q <sup>2</sup> DIAMONDS (Quantum Quest)
B19	QP Technologies
B21	Q-Tech Corp
B8	Quantic Electronics
B4	RFHIC US Corporation
T16	RFMW LTD
T15	SALES & SERVICE INC.
B10	Sibanye-Stillwater Reldan
B7	Sourceability
B20	StratEdge Corporation
B6	Tektronix Component Solutions (CSO)
T14	TJ GREEN ASSOCIATES LLC
B12	TOPLINE CORPORATION
B2	VISHAY
T3	XTREME Semiconductor
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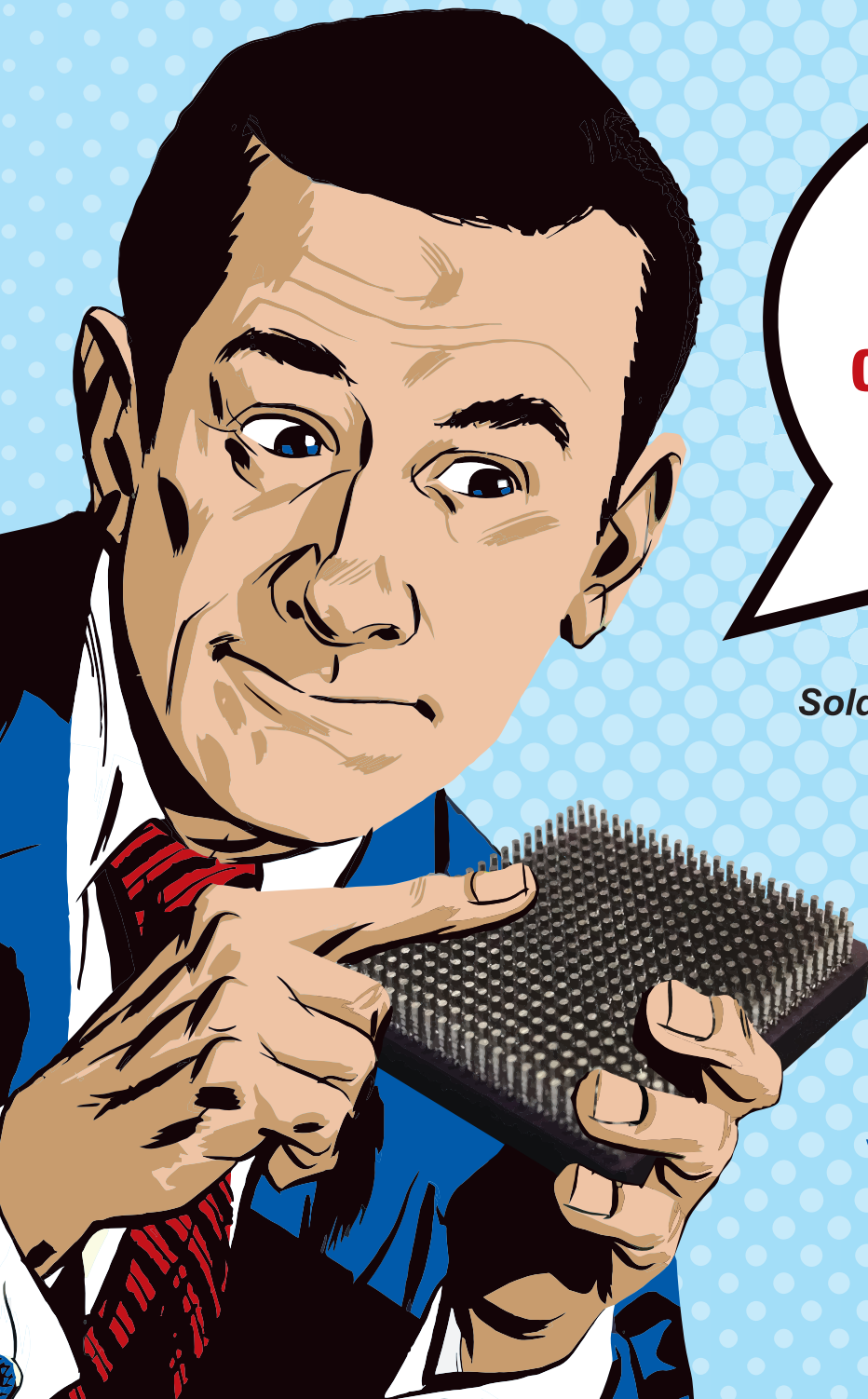
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