

Hermosa Beach, CA

2025 July 31

AIAA Los Angeles

Newsletter

**AIAA AVIATION
& ASCEND
Forums 2025**

LA Section Booth
**A Family &
Community
for All**

Voyagers Legacy
**Dr. John
Casani, AIAA
Honorary
Fellow,
passed away**

**12 August: The
New World on
Mars:**

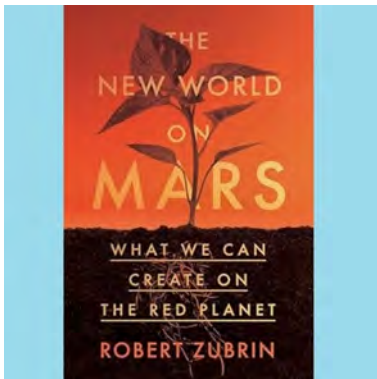
Michael V. Ciminera

**21 July: The Aircraft
Designers: A Northrop
Grumman Historical
Perspective**

**American Institute of
Aeronautics and Astronautics,
Los Angeles Section**



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Upcoming Section Meetings (LA Section)



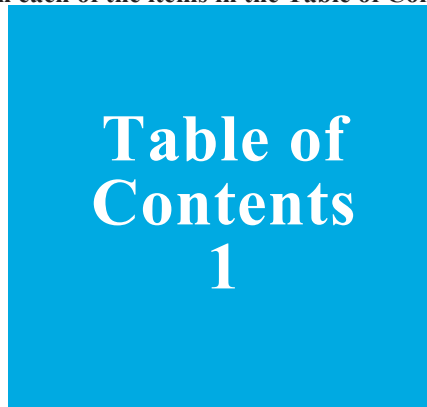
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(7/20) AIAA Los Angeles Section
Outreach to the AIAA Regional
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2025



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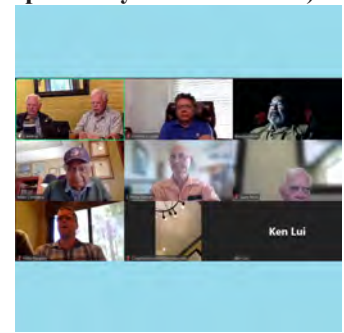
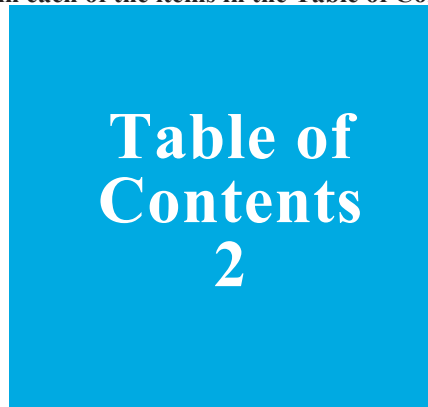
(7/12) AIAA LA Section
Outreach to the Aerospace
Summer Games (ASG) 2025
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American Institute of Aeronautics and Astronautics
Los Angeles Section

Newsletter

Upcoming Events / Meetings of AIAA / Los Angeles Section

(<https://www.aiaa-lalv.org/events/2025-events-program>)

RSVP and Information :

(<https://lp.constantcontactpages.com/ev/reg/xwsjdc8/lp/43c165ad-051a-4b88-a946-e469094f25ec>)

Tuesday, August 12, 2025, 4:30 PM PDT (GMT -0700) (5:30 PM Presentation starts)

The New World on Mars:

What We Can Create on the Red Planet

Speakers:

Dr. Robert Zubrin

President and Founder of the Mars Society

AIAA Distinguished Lecturer

(The speakers will present in person.)

Moderator:

Dr. Jeff Puschell

AIAA Region VI Deputy Director of Education

AIAA Fellow, SPIE Fellow, National Academy of Engineering

(This event is not sponsored by the El Segundo Public Library)

Tentative Agenda: (All Times PDT)(GMT -0700)(U.S. and Canada)

4:30 PM: Check-in, networking (dinner if additional ordered or bring own dinner)

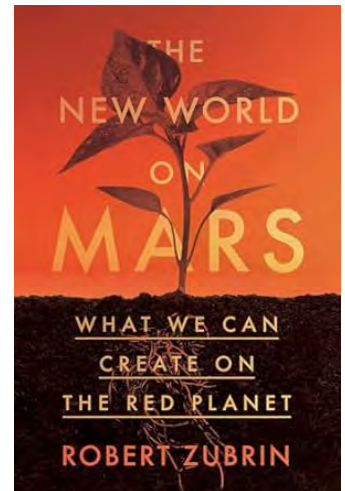
5:30 PM: Presentation, Q&A

7:00 PM: Networking; Book signing

7:30 PM: Adjourn

7:45 PM: Meeting Room Closes.

8:00 PM: Library Closes.



In-Person in:

El Segundo Public Library (Sue Carter Community Room)

111 W Mariposa Ave., El Segundo, CA 90245

Online:

(Please register / RSVP and you will receive the ticket with the Online link. Please check Spam or Junk folder shortly after registration to make sure. If not, please try using an alternative email address to register.)

(Meeting link/url in the confirmation email after RSVP or in reminders)

Disclaimer: The views of the speakers do not represent the views of AIAA or the AIAA Los Angeles Section. AIAA

LA Section: General Contact: contact@aiaa-lalv.org, Events/Program events.aiaalav@gmail.com



American Institute of Aeronautics and Astronautics
Los Angeles Section

aiaa-lalv.org | aiaa-lasvegas.org
engage.aiaa.org/losangeles-lasvegas

Upcoming Events / Meetings of AIAA / Los Angeles Section

(<https://www.aiaa-lalv.org/events/2025-events-program>)

Wednesday, August 13, 11:15 AM - 1 PM PDT (GMT -0700) (US and Canada)

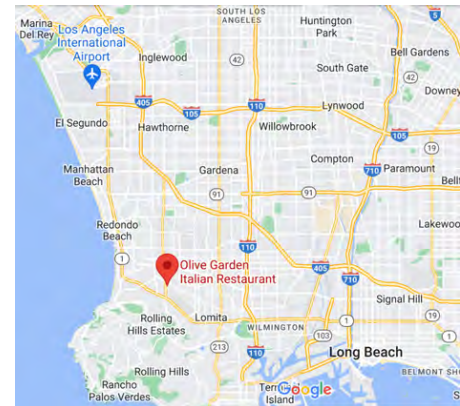
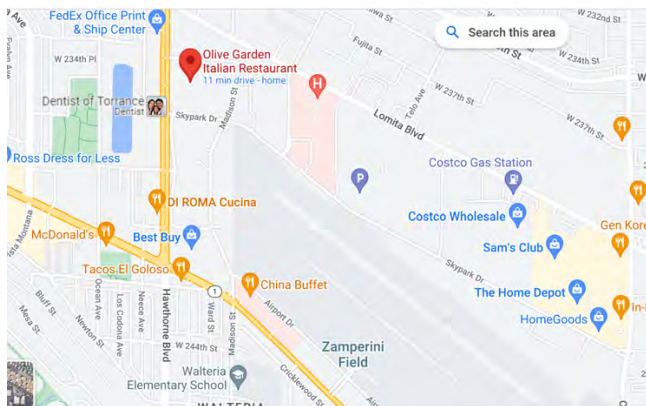
AIAA LA Aero Alumni Meeting

Hybrid in-person luncheon and Zoom on-line meeting

Our monthly Aero Alumni Zoom meeting is at 11 am PDT (on-line) / 11:15 am PDT (in-person) on August 13 (the 2nd Wednesday of August). It will be a hybrid meeting (both in-person there and on-line) at the Olive Garden in Torrance, 23442 Hawthorne Blvd., Torrance, CA 90505. If you can, please join us at the Olive Garden. We'll meet you there. If you can't, you can use the Zoom link below. It will take a few minutes to set up the link. You can chat among yourselves until it's ready.

In-Person in:

***Olive Garden in Torrance, 23442 Hawthorne Blvd., Torrance, CA 90505
(South of 105/405 Hwy, West of 101 Hwy, North of Pacific Coast Hwy (1))***



Join Zoom Meeting: <https://aiaa.zoom.us/j/83176354498?pwd=P94vwahQdmDwzzBXSx1jKaThOabZma.1>

Dial by your location

- +1 669 444 9171 U
- +1 346 248 7799 US (Houston)
- +1 719 359 4580 U
- +1 720 707 2699 US (Denver)
- +1 253 205 0468 U
- +1 253 215 8782 US (Tacoma)
- +1 386 347 5053 U
- +1 507 473 4847 U
- +1 564 217 2000 U
- +1 646 558 8656 US (New York)

One tap mobile

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- +13462487799,,83176354498# US (Houston)

- 833 548 0282 US Toll-free
- 833 928 4608 US Toll-free
- 833 928 4609 US Toll-free
- 833 928 4610 US Toll-free
- 877 853 5257 US Toll-free
- 888 475 4499 US Toll-free
- 833 548 0276 US Toll-free

Meeting ID: 831 7635 4498 Passcode: 319312

Find your local number: <https://aiaa.zoom.us/u/kboWcyVumP>

Please contact Mr. Gary Moir (gary.moir@ingenuir.com)



*The World's Forum for
Aerospace Leadership*



*Second Career?
Third Career?
Retired?*

*But still want to stay
in touch with your
profession!*

Join the AIAA Alumni Group of the LA Section

For:

- *Discussion topics of current or historical aerospace interest*
- *Lunch with colleagues during the meeting (hybrid)*
- *11 am the 2nd Wed of month*
- *Olive Garden in Torrance, 23442 Hawthorne Blvd., Torrance, CA 90505.*



For more information contact:

*Gary Moir
(310) 378-7076
gary.moir@ingenuir.com*



Upcoming Events / Meetings of AIAA / Los Angeles Section

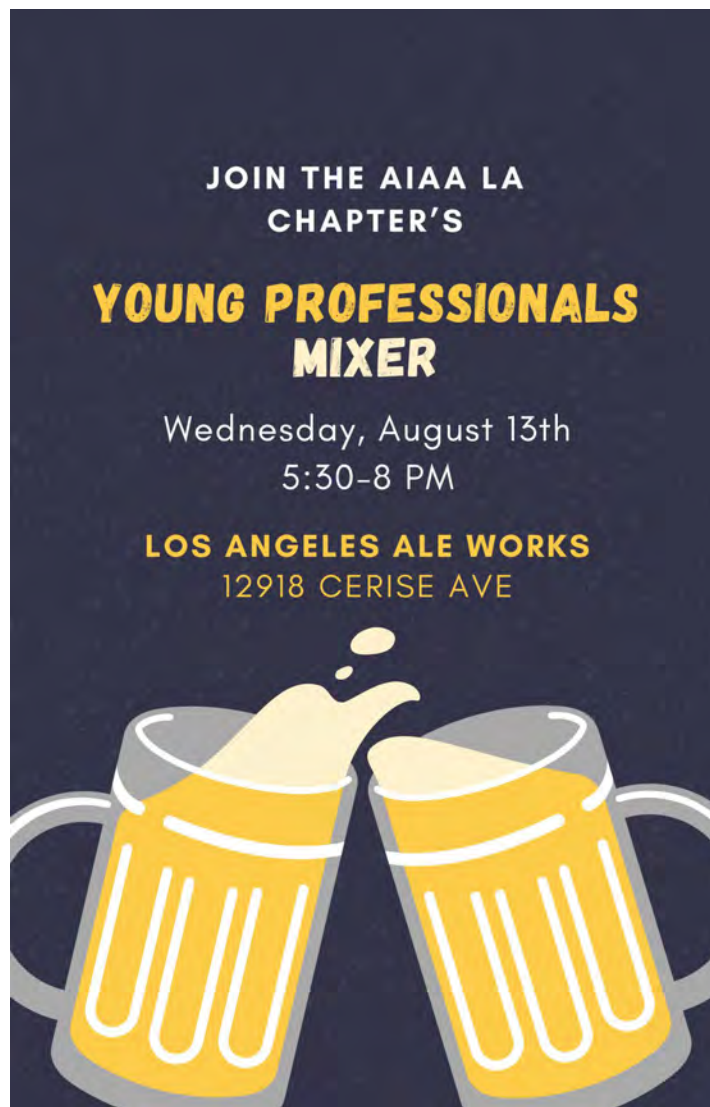
(<https://www.aiaa-lalv.org/events/2025-events-program>)

RSVP and Information :

(<https://lp.constantcontactpages.com/ev/reg/w28cb65/lp/a98e6b43-e862-480f-bd7f-9ea0e43e1675>)

Wednesday, August 13, 2025, 5:30 PM PDT (GMT -0700)

Young (Early Career) Professionals Mixer



(Free admission. No AIAA Membership is required for attendance. No payment needed for AIAA / LA Section. RSVPs / Registrations are needed for chairs/logistics.)

A minimum order of at least a drink from the bar on-site is required. No outside food is allowed in the bar area. There are foods onsite available for order. Alcoholic consumption is optional. All attendees are encouraged to drink responsibly.

Disclaimer: AIAA / AIAA Los Angeles Section cannot be involved in any transactions of alcoholic beverages or foods, or cannot be responsible for any consequences of consuming alcoholic beverages or foods. The views of the attendees do not represent the views of AIAA or the AIAA Los Angeles Section.

AIAA Los Angeles Section Young (Early Career) Professionals Chair: young-professionals-chair@aiaa-lalv.org

Upcoming Events / Meetings of AIAA / Los Angeles Section

(<https://www.aiaa-lalv.org/events/2025-events-program>)

RSVP and Information :

(<https://lp.constantcontactpages.com/ev/reg/74wewv9/lp/ab4d1f9c-348b-4dba-8f1f-030189ac9a48>)

Saturday, August 23, 2025, 11 AM PDT (GMT -0700) (U.S. and Canada)

Ku/K/Ka Band Innovation in Space & Defense: TR Multicoax and Flight-Ready Socket Solutions

(Webinar)

Speakers:

Mr. Luke Conroy

Field Applications Engineer at Amphenol Ardent Concepts

(The speakers will present on-line remotely.)

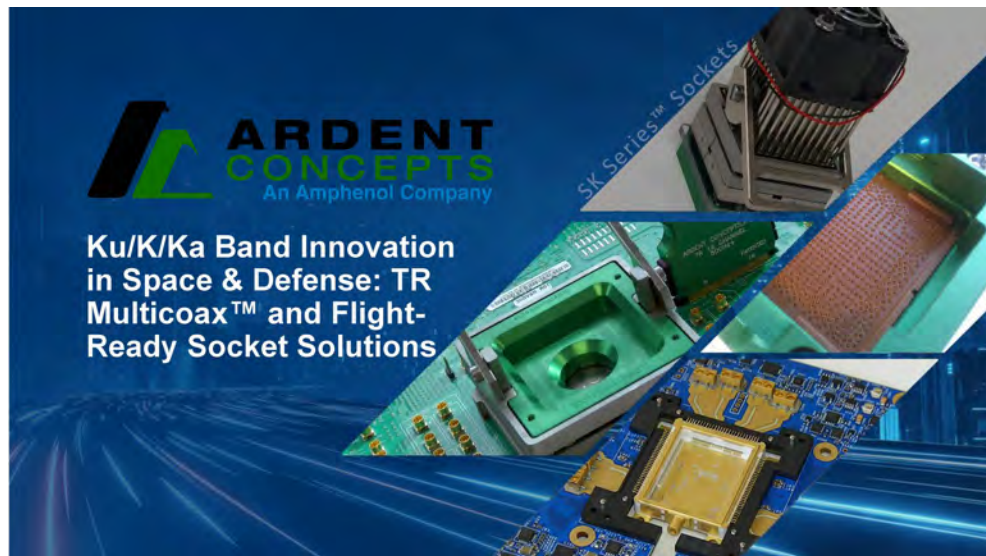
(This event is not sponsored by the Lawndale Library)

Tentative Agenda: (All Times PDT \\\(GMT -0700)
(U.S. and Canada)

11:00 AM: Welcome and Introduction

11:05 AM: Presentation, Q&A

12:45 PM: Adjourn



Online:

***(Please register / RSVP and you will receive the ticket with the Online link. Please check Spam or Junk folder shortly after registration to make sure. If not, please try using an alternative email address to register.)
(Meeting link/url in the confirmation email after RSVP or in reminders)***

Disclaimer: The views of the speakers do not represent the views of AIAA or the AIAA Los Angeles Section.

AIAA LA Section: General Contact: contact@aiaa-lalv.org, Events/Program events.aiaalalv@gmail.com

AIAA Honorary Fellow Casani Died in June 2025 / ASCEND AVIATION News

by AIAA, 2025 July 1 (<https://aiaa.org/2025/07/01/aiaa-honorary-fellow-casani-died-in-june-2025/>) (and other dates)



John R. Casani, AIAA Honorary Fellow. | Credit: AIAA—©

FROM THE INSTITUTE

John R. Casani, an engineer who served a central role in many of NASA's deep space missions, died on 19 June. He was 92 years old. Casani volunteered on the AIAA Management Technical Committee and the Institute Development Committee (1996–2000); he also served as Board of Directors Vice President of Standards (1997–2000). A Class of 2009 Honorary Fellow, Casani also was honored with the 1979 AIAA Space Systems Award, the 1991 AIAA von Kármán Lectureship in Astronautics, and the 2005 AIAA Goddard Astronautics Award.

Full Story (*Aerospace America*)

Editor's Note:

Dr. John Casani was the speaker in our AIAA Los Angeles Section's special event: AIAA LA The Voyager Program's 40th Anniversary on Nov 16 2017, along with late Prof. Ed Stone, moderated by Mr. Rod Pyle, and led by the former AIAA Los Angeles Section Chair, Mr. Robert Friend. (<https://youtu.be/L5I-U1zQyIc>)



ASCEND AVIATION News



(7/25) ASCENDANTS – Making the Case for Generative, Restorative, and Just Human Space Activity



(7/24) “Live from the ISS”: 2025 ASCEND Opens with ISS Astronauts, A Sit-Down with Axiom Space CEO



(7/23) Watch Select Recordings from ASCEND 2025



(7/22) AIAA Volunteer Leaders Gather in Las Vegas



(7/22) Future of Aviation: Where Digital Capabilities Fuel Human-Led Innovation and Expertise



(7/21) Watch Select Recordings from the 2025 AIAA AVIATION Forum



(7/21) AFWERX: Accelerating Technology from Civilian to Military Use

Cover Page Description and Artwork Contributor

COVER ART

Hermosa Beach, CA

2025 July 31

AIAA Los Angeles

Newsletter

AVIATION + ASCEND

AIAA AVIATION & ASCEND Forums 2025

Voyagers Legacy
Dr. John Casani, AIAA Honorary Fellow, passed away

LA Section Booth
A Family & Community for All

12 August: The New World on Mars:

Michael V. Ciminera
21 July: The Aircraft Designers: A Northrop Grumman Historical Perspective

American Institute of Aeronautics and Astronautics, Los Angeles Section

AIAA Los Angeles Section in AIAA
AVIATION / ASCEND Forums 2025
Las Vegas, NV

(7/22-7/24) AIAA LA Outreach to the AIAA ASCEND & AVIATION Forums 2025

Photos Only (<https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-22-24>)



Thanks to AIAA! The AIAA Los Angeles Section was so happy to support it with the Booth during ASCEND/AVIATION within the Section's area.



(Left) Visitors were very happy with the LA Section's displays. (Right) Gulfstream's booth is nearby.



(Left) Ms. Amanda Simpson was so happy to see the F-14 model, as she was involved with that project. (Right) Mr. Luis Cuevas, AIAA Los Angeles Section Chair, explained to the visitors.

(7/22-7/24) AIAA LA Outreach to the AIAA ASCEND & AVIATION Forums 2025



(Left) Mr. Liam Kennedy gave a talk in The Hub Session. (Right) He also volunteered for 1 day at the LA Section Booth to greet the visitors and interested them with education and AIAA / LA Section.



(Left) Liam's ISSAbove gadget was particularly good for education and catching eyes with member educational activities. (Right) A nice booth!



(Left) Niyati, our former co-Chair of Events/Program, chatted with a visitor at the Section Booth. (Right) We played the greeting video made by Ms. Arpie Ovsepyan, Chair of the AIAA LA Section K-12 STEAM Outreach Chair, while Luis was chatting with Mr. Sina Aboutorabi (right), a USC Alumnus.

(7/22-7/24) AIAA LA Outreach to the AIAA ASCEND & AVIATION Forums 2025



(Left) We displayed the Las Vegas Chapter Banner (part of the LA Section). (Right) Dr. Susan Ying, the AIAA Wright Brothers Awardee 2025, is affiliated with the LA Section.



(Left) Lockheed Martin has a beautiful large booth. (Right) Thanks to all the sponsors.



It's a great occasion for networking! (Left) Mr. Stephen Blanchette (AIAA SMG Director); (Middle) Prof. Cees Bil (AIAA Region VII Director); (Right) Marty explained to visitors about Las Vegas Spaceport and AIAA / LA Section / Las Vegas Chapter.

(7/22-7/24) AIAA LA Outreach to the AIAA ASCEND & AVIATION Forums 2025



(Left) Boeing had nice displays in their large booth as well. (Right) AIAA is a great family, and the AIAA Logo signage is a wonderful place for selfies / group photos!



(Left) Mr. George Freas III (left) and Mr. Marty Waldman (right) chatted about the Las Vegas Spaceport and AIAA/LA Section. (Right) An interesting FPV Drone remote system.



(Left) The AIAA Los Angeles Section Booth is open for all, and we are a great warm welcoming family! (Right) Great F-14 model donated by Mr. Dennis Leung, and the slide shows showing Luis in the Section booth in ASCEND 2024.

(7/22-7/24) AIAA LA Outreach to the AIAA ASCEND & AVIATION Forums 2025



(Left) (left) Mr. Sina Aboutorabi listened with interest to the introduction for the Las Vegas Spaceport from Mr. Marty Waldman (right). (Right) A large ISS model by a STEM education group.



(Left) Look forward to the 2026 ASCEND in Washington, D.C.! (Right) The beautiful ASCEND signage with lighting for group photos!



AIAA LA Section and Section Booth are a great family! (Left) Marty explained to a visitor. (Right) Mr. Randall Ushiyama (left) sat at the Booth and chatted with Marty (right) in more interesting conversations.

(7/21) AIAA LA Outreach at AIAA AVIATION 2025 in Mike Ciminera's Lecture "The Aircraft Designers: A Northrop Grumman Historical Perspective"

(Photos Only) (<https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-21>)



First day of the AIAA AVIATION Forum! People posed at the new AIAA logo for photos!



Many attendees arrived and gathered for networking and conversations!



(Left) The speaker, Mr. Michael Ciminera, former VP of Northrop Grumman, sat down during booth setup at AIAA Los Angeles Section, with a wonderful F-14 model (donated by Mr. Dennis Leung), wearing an F-14 hat when he was a manager working on it. (Right) Jacob, who gave a webinar with the Los Angeles Section in December, also stopped by and said hello to Mike and Ken.

(7/21) AIAA LA Outreach at AIAA AVIATION 2025 in Mike Ciminera's Lecture "The Aircraft Designers: A Northrop Grumman Historical Perspective"



(Left) Mike and Sam (the moderator) got together. (Right) They also checked with the audio-visual team (right).



The distinguished speaker, Mr. Michael V. Ciminera, former VP of Northrop Grumman, during the exciting talk "The Aircraft Designers: A Northrop Grumman Historical Perspective" his new AIAA book (2 volumes), which was nominated for the Best Book of the Year of AIAA.

(7/21) AIAA LA Outreach at AIAA AVIATION 2025 in Mike Ciminera's Lecture "The Aircraft Designers: A Northrop Grumman Historical Perspective"



Many people gathered in the hall to listen to Mike's presentation.

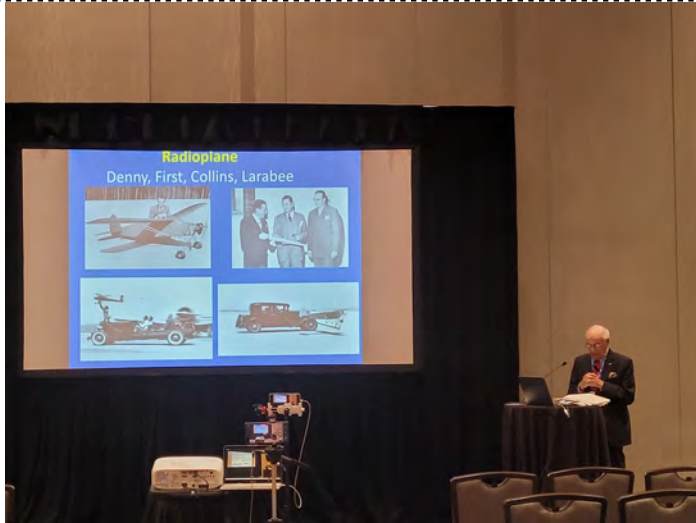


(Left) Mr. Sam Atchison moderated the event excellently. (Right) The turn-out was great.



(Left) Attendees enjoyed the great stories of Northrop Grumman aircraft designers from Mike. (Right) One of the great examples was the YF-23.

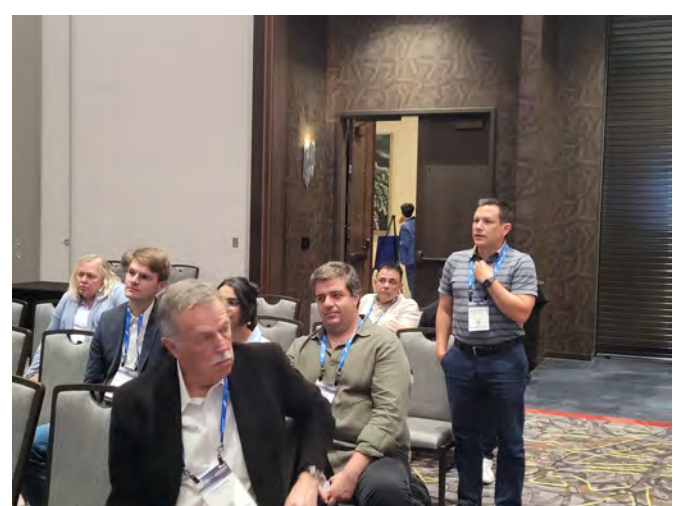
(7/21) AIAA LA Outreach at AIAA AVIATION 2025 in Mike Ciminera's Lecture "The Aircraft Designers: A Northrop Grumman Historical Perspective"



(Left) Mr. Jack Northrop had great visions and skills. (Right) Mike's dynamic speech really electrified and inspired the attendees.



(Left) This talk was also in memory of those great aircraft designers of Northrop Grumman. (Right) Attendees couldn't wait to ask questions.



(Left) Mike and Sam handled the questions so well. (Right) Attendees were very interested in and fascinated by Mike's talk / book.

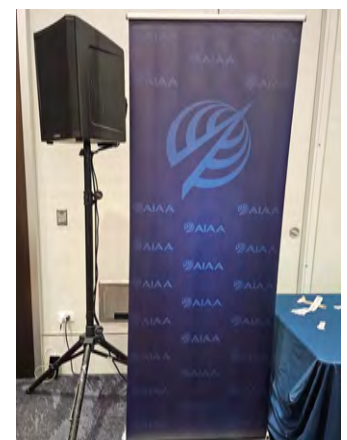
(7/20) AIAA Los Angeles Section Outreach to the AIAA Regional Leadership Conference (RLC) 2025 *(Photos Only)* (<https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-20>)



(Left) Ken and Marty made it to the RLC Meeting Room! (Right) Ms. Merrie Scott was instrumental to AIAA and helped everyone!



Mr. Clay Mowry, the CEO of AIAA, welcomed all and showed a video about his vision for AIAA.



(Left) Attendees listened to the speech by Clay. (Right) Clay talked about the new branding initiatives.

(7/20) AIAA Los Angeles Section Outreach to the AIAA Regional Leadership Conference (RLC) 2025 *(Photos Only)*



Mr. Angelo Iasiello talked about different tiers of volunteer leadership and challenges.



(Left) Young Professionals shared the views and asked questions. (Right) Attendees participated in discussions.



(Left) Mr. John Rose gave a speech on Public Policy with AIAA. (Right) He was on the panel later on as well.

(7/20) AIAA Los Angeles Section Outreach to the AIAA Regional Leadership Conference (RLC) 2025 *(Photos Only)*



(Left) Mr. Luis Cuevas (the 2nd from left), Section Chair of the Los Angeles Section, received the Section Awards for the Los Angeles Section / Council Members. (Right) Another one.



(Left) Another Section Award! (Right) AIAA really prepared it very well for each of the Section Awards with slides.



(Left) Luis Cuevas received the Section Award for Council Member Ian Clavio! Representatives from various winning sections posed for photos.

(7/20) AIAA Los Angeles Section Outreach to the AIAA Regional Leadership Conference (RLC) 2025 *(Photos Only)*



(Left) Ms. Patricia Carr (left) and Ms. Lindsay Mitchell (right) did wonderfully, helping people get the Section Award Certificates. (Right) Folks got the award certificates in turns.



(Left) Luis and the other 3 winning sections / officers posed for photos. (Right) New branding, new promotion items for AIAA!



(Left) Ms. L. Jane Hensen spoke to the attendees about the READ processes. (Right) Prof. Jeff Marchetta (left) and the other AIAA Student Branch Director (right).

(7/20) AIAA Los Angeles Section Outreach to the AIAA Regional Leadership Conference (RLC) 2025 *(Photos Only)*



(Left) Mr. Marty Waldman shared his views in the Roundtable discussions. (Right) Dr. Lesley Weitz talked about TAD activities.



(Left) Ms. L. Jane Hansen added more points after Dr. Lesley Weitz's report. (Right) Each table reported their Round-table discussion summary.



(Left) Another table summarized the discussions. (Right) Luis listened with great interest.

(7/14) Building the Impossible Airplane for the First Armless Pilot

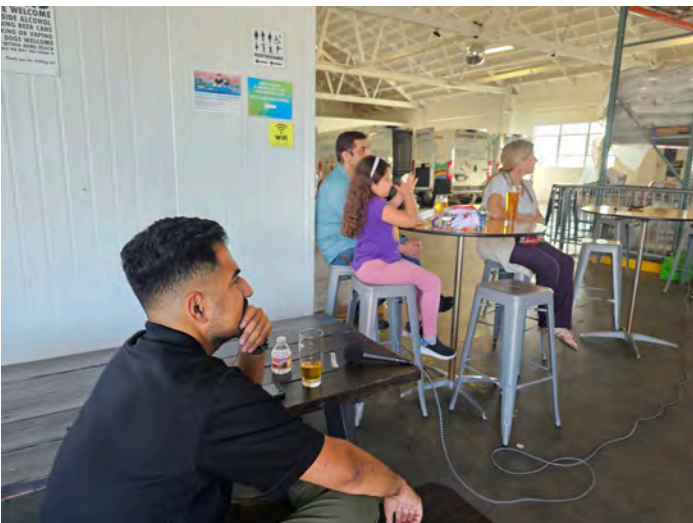
(Photos Only) <https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-14>



(Left) The speaker, Jessica Fox, and her husband, networked with early arrivals before her talk. (Right) Mr. Patrick Chamberlain served as the moderator / speaker.

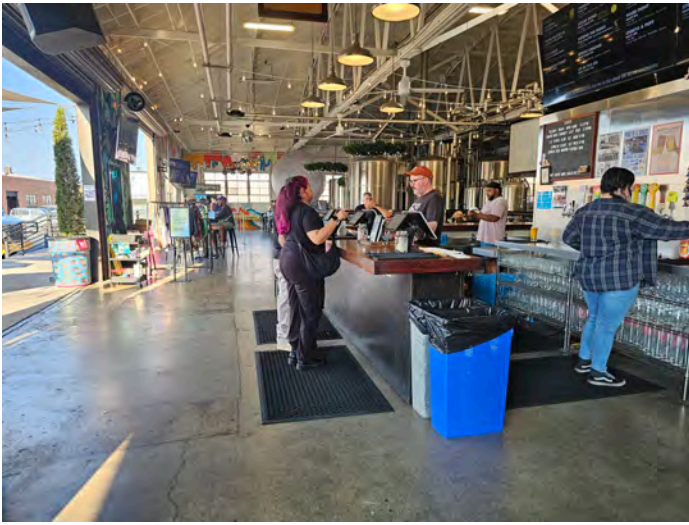


(Left) A little girl was very inspired by the speaker! (Right) Attendees listened enthusiastically to the presentation.



Attendees were absorbed into the talk completely, as Jessica's sharing / presentation was so inspiring!

(7/14) Building the Impossible Airplane for the First Armless Pilot



(Left) More people arrived and first ordered some beverages. (Right) Jessica's service dog, Chewy, accompanying Jessica, was very friendly.



(Left) There were people in other areas of the Brewery, and some later joined the presentation of Jessica as well.

(7/14) Building the Impossible Airplane for the First Armless Pilot

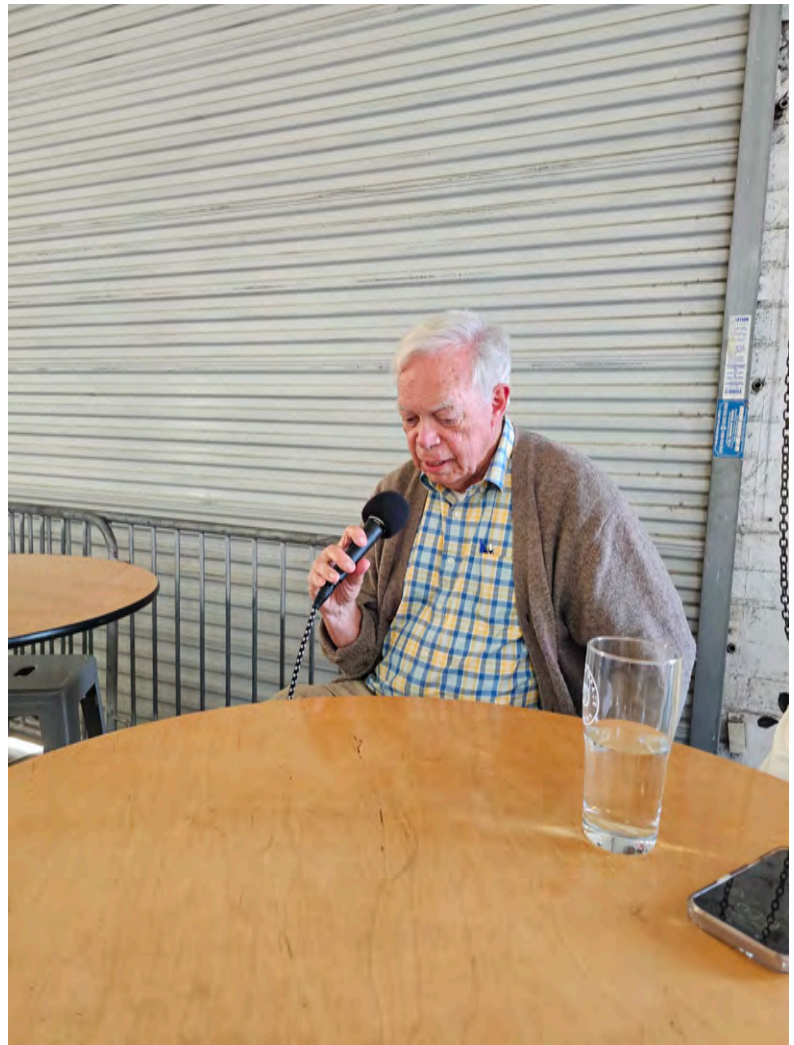


Ms. Marilyn McPoland (in white / light yellow), the former AIAA LA Section Council Member, asked excellent questions. Patrick / Jessica answered in detail. Great interactions! Mr. Lynn Jenson from AIAA LA Council also asked questions on-line.



Jessica/Patrick answered a very cool question from the little girl. There were also many good interactions with online attendees.

(7/14) Building the Impossible Airplane for the First Armless Pilot



(Left) More great questions from and interactions with in-person and on-line attendees. (Right) Mr. Gary Moir, the AIAA LA Technical Chair, asked very insightful questions, and talked about his Apollo 11 Command Module and the Wright Flyer Replica experiences.



(Left) Q&A between Patrick/Jessica and Gary on piloting and aircraft building. (Right) Networking!

(7/14) Building the Impossible Airplane for the First Armless Pilot

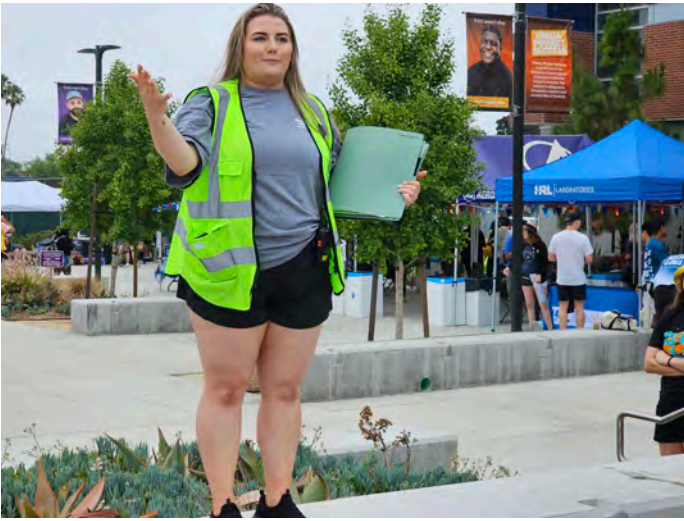


What a wonderful event, speaker, and family / community!



(Left) Marilyn shared her thoughts with Jessica and others. (Right) Continued post-presentation networking.

(7/12) AIAA LA Section Outreach to the Aerospace Summer Games (ASG) 2025 at El Camino College (Photos Only) (<https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-12>)



Jodi, the chief organizer in the Northrop Grumman Team for this year's Aerospace Summer Games (ASG) briefed with folks with booths.



(Left) Mr. Dennis Leung, the newly elected Career and Workforce Development Chair of the AIAA Los Angeles Section, volunteered at Booth of the Section. (Right) A wonderful van for easy booth supplies transportation.



Mr. Dennis Leung at the booth and greeting the visitors.

(7/12) AIAA LA Section Outreach to the Aerospace Summer Games (ASG) 2025



Visitors of all ages, from schools / universities, companies, government, all came to check out the AIAA LA Section booth and say hi.



(Left) Mr. Dennis Leung was very knowledgeable and incredibly good at talking to visitors. (Right) Most companies had teams in Games.



(Left) Amazing T-shirt and a wonderful LA aerospace community member from the Aerospace Corp. (Right) Folks were interested.

(7/12) AIAA LA Section Outreach to the Aerospace Summer Games (ASG) 2025



(Left) Many visitors that day. The aerospace community in the Los Angeles Section area is a great family! (Right) a student played models.



(Left) Our LA Section Booth attracted visitors. (Right) Folks visited our neighboring booths as well afterwards.

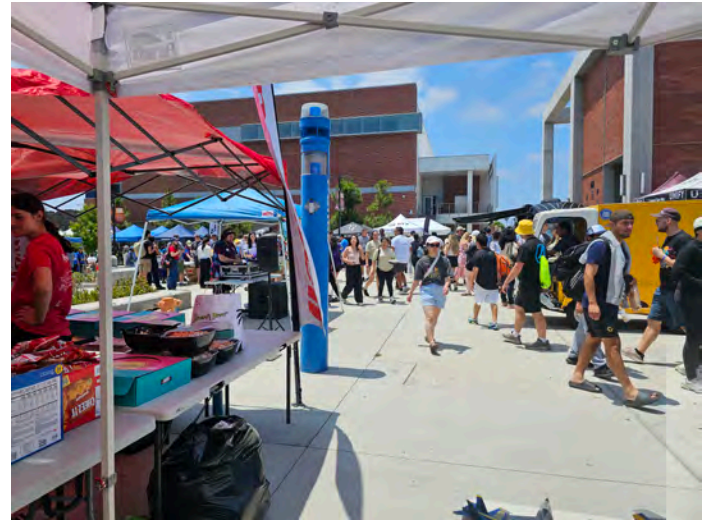


(Left) Mr. Dennis Leung chatted with the visitors from JPL. (Right) The girl loved airplanes models and wanted to take them home!

(7/12) AIAA LA Section Outreach to the Aerospace Summer Games (ASG) 2025



Visitors continued to stop by and inquired about AIAA and LA Section, as well as enjoying the models.



(Left) Folks really enjoyed the displays and learned more about AIAA/LA Section, membership etc. (Right) The sun showed up!



(Left) El Camino College is a great and suitable place for games / sports! (Right) Neighboring booth (Millennium Space Systems)

(7/12) AIAA LA Section Outreach to the Aerospace Summer Games (ASG) 2025



(Left) A visitor in an interesting costume. (Right) Many fun activities!



Attendees enjoyed lunches or walked around to check out various booths and hopped in between games.



Folks were curious about AIAA and the Los Angeles Section.

Paid Ads (*non-AIAA/non-Los Angeles Section*)

Capillary Fluids Modeling with Surface Evolver

A two-day short course on zero-g and micro-fluidics capillary statics modeling.

August 11 and 12, 2025 at the Hilton Los Angeles Airport

Instructor: Steven Collicott, PhD (steven@collicott.com)

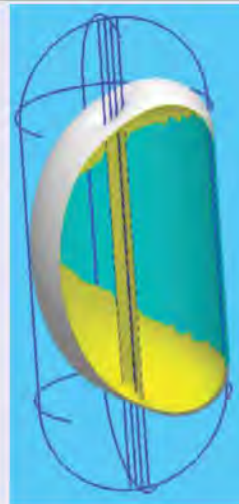
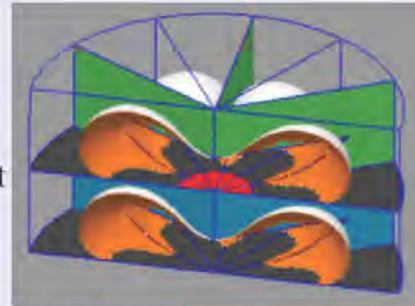
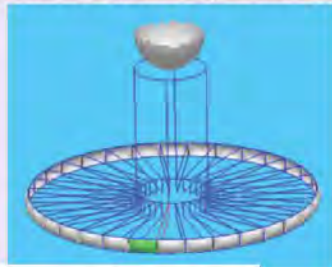
Cost of the class: \$1,900 per person, Maximum of eight people in the class.

Advance registration only, by July 16, 2025.

What is the course?

Surface Evolver is a computational tool useful for capillary fluid statics developed decades ago on NSF funding and since validated by experiments in ISS and elsewhere. **The course** is designed to advance you from using the two fluids demos in *Surface Evolver* and into doing original zero-g capillary fluids modeling. This first general-public offering of this course, delivered to engineers at industry clients numerous times, includes:

- 2 days of instruction, *Surface Evolver* exercises, 1-on-1 coaching, fe-file creation, debugging, quantitative output, grid management, spaceflight fluids background, etc
- Examples demonstrating important features, choices, applications, extensions, etc. of *Surface Evolver* and to illustrate capillary fluid physics modeled by *Surface Evolver*.
- Propellant tank & PMD analysis examples.



- Automation tools for overnight sweeps of parameter spaces.
- Instructor** Steven Collicott, PhD, a *Surface Evolver* user since 1993.
- **More information** at <https://capstanaerospace.com/>
 - **To ask questions or to register, email the instructor at** steven@collicott.com



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full-page ads for \$300 donation

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(Contact: editor-newsletter@aiaa-lalv.org)

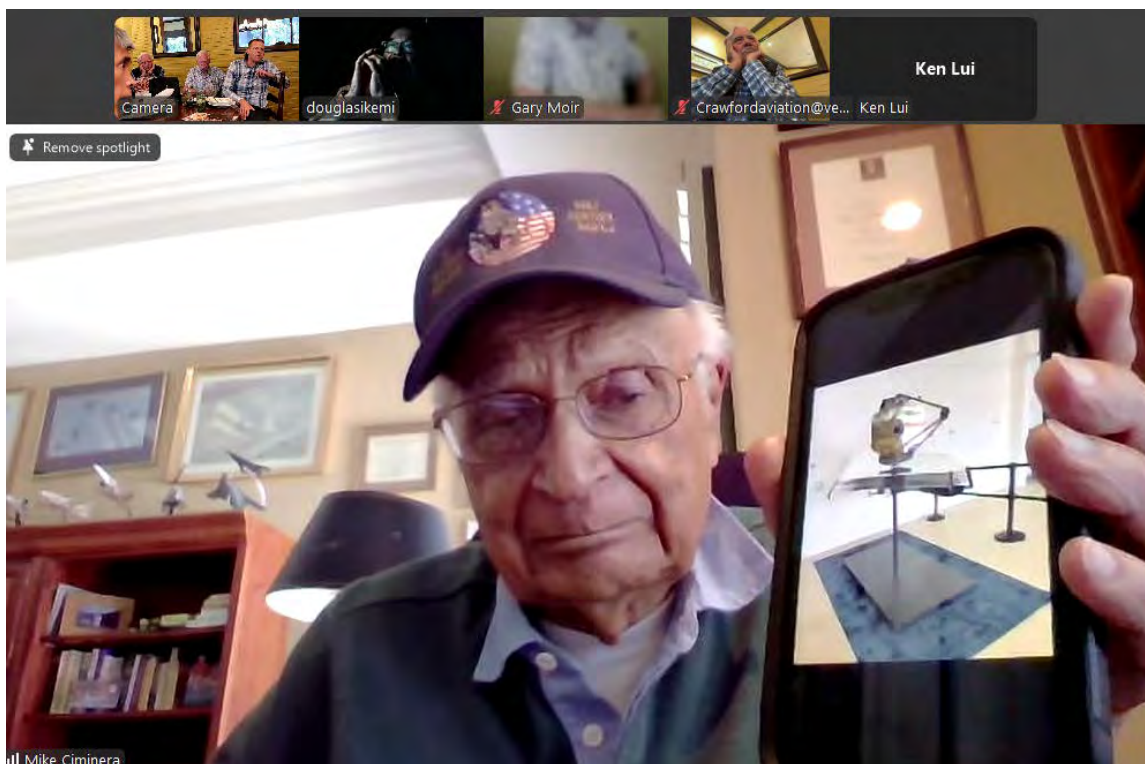
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AIAA LA Aero Alumni (Retirees from aerospace industries) Meeting (July 9)

(Screenshots & photos) (Contact: gary.moir@ingenuir.com) (<https://www.aiaa-lalv.org/blogs/2025-blogs/2025-july/2025-july-9>)



Attendees gathered in this month's retiree's meeting (Aero Alumni) to chat about the latest news and interesting aerospace news/technologies.

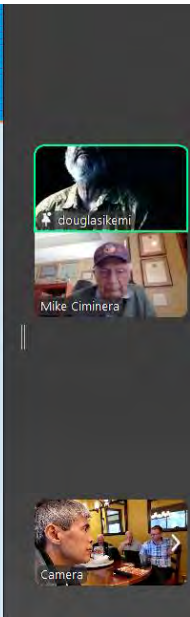


Mr. Mike Ciminera shared the new display of the James Webb Space Telescope in the Western Museum of Flight.

AIAA LA Aero Alumni (Retirees from aerospace industries) Meeting (July 9)

Introduction

- MIM-3 Nike Ajax served from 1954-1970
 - SAM: 20,000-60,000 ft.
 - Replaced 120mm M1 guns and Skysweepers, etc.
 - 265 batteries defending major cities and bases
 - Point defense system, supplementing interceptors
 - US Army, developed by Bell Labs and Douglas Aircraft
- MIM-14 Nike Hercules served from 1958-1974, 1979 (foreign)
 - Ceiling of 100,000 feet.
 - Nuclear armed
 - Eventually developed anti-missile capability
 - Ground-to-ground capability



Mr. Doug Ikemi gave a presentation on the historic sites of the Nike Missiles in the Los Angeles area.



Attendees in person, as well as the online attendees, enjoyed Doug's presentation.

Election Results: AIAA Los Angeles Section Council Members 2025-2026

<https://www.aiaa-lalv.org/council>

Congratulations!

- Chair: Luis Cuevas
- Treasurer: Lynn Jenson
- Technical Chair: Gary Moir
- Education Chair: Ian Clavio
- STEAM K-12 Chair: Arpine Ovsepyan
- Public Policy Chair: Daniel Scalese
- Membership Chair: Sherry Stukes
- Career & Workforce Development: Dennis Leung
- Events & Program Chair: Ken Lui

(Advisor: Dr. Jeff Puschell)

(Las Vegas Representative: Marty Waldman) (by Appointment)

(Ambassador: Dr. Seth Potter)(Ex-Officio)(by Appointment)

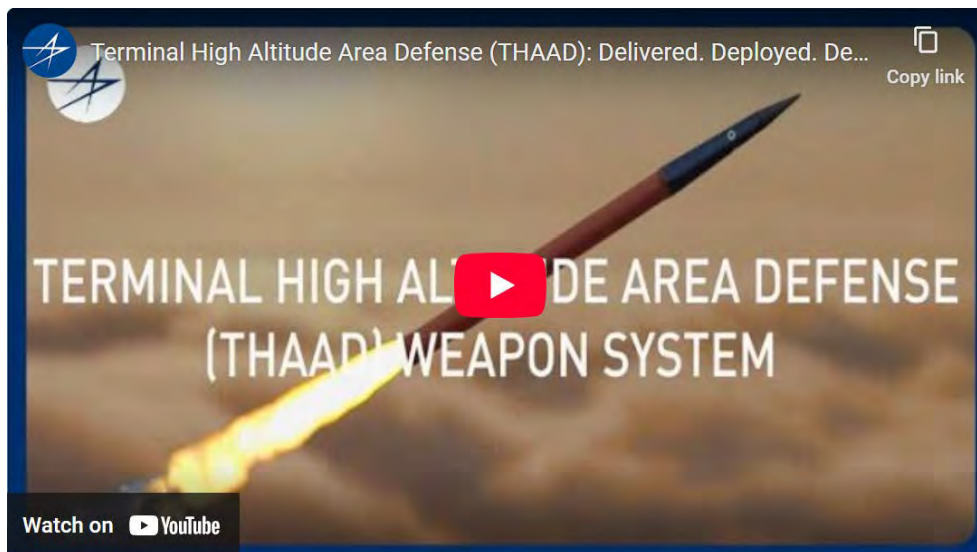
The Concerning Future of Missile Defense

by Dr. Stephen Bryen, former Deputy Under Secretary of Defense, a leading expert in security strategy and technology, 2025 July 24 (<https://weapons.substack.com/p/jamming-critical-in-fighting-chinese>)

Results from a New Study Show Limited Supply, Slow Manufacturing

Between June 13 and 24 Iran launched 574 missiles attacking Israel. Some of them got through, despite Israeli and US efforts to stop them. Until now we have lacked convincing data allowing some cogent analysis of the results of missile defenses. That information is partly supplied by a new study by the Jewish Institute for National Security Affairs, a Washington-based think tank that is pro-US defense and pro-Israel.

There are some surprises. The biggest one is the role of THAAD operated by US personnel in Israel and in the Gulf.



<https://www.youtube.com/watch?v=5ZG-amjaDBw>

THAAD is the Terminal High Altitude Area Defense system. It is designed to intercept short, medium and long range ballistic missiles. THAAD interceptors cost \$12.7 million each, making them expensive, but not nearly as costly as the AEGIS SM-3 Block 2A interceptor that is priced at just under \$28 million per shot.

THAAD is a hit to kill, or kinetic kill interceptor that does not use explosives. It has an operational ceiling of around 92 miles, so it is not capable of exoatmospheric intercepts (310 to 620 miles). Israel's high altitude interceptor, Arrow 3, is said to be capable of intercepts in the exoatmosphere.

According to the JINSA report, in the June conflict, THAAD intercepted 47.7 percent of all the missiles fired at Israel, an unexpectedly high number. In doing so, the US expended at least 14% of its total THAAD interceptor stockpile. JINSA says it will take Lockheed, which manufactures the THAAD interceptors, around 8 years to replenish the US stockpile, assuming the rate of production is not significantly increased.

Take Note: We only know the number of Iranian missiles shot down by THAAD (92). We do not know how many THAAD interceptors were launched to shoot down the Iranian missiles. The 14% number represents the claimed kills, not the actual number fired. Thus the remaining inventory of THAAD interceptors may be smaller than stated in the report.

The Concerning Future of Missile Defense



Saudi THAAD personnel. Source: Kingdom's Ministry of Defense

From various reports in the trade press, it seems that the Indian Air Force (IAF), flying both Rafale jets and There are a couple of important caveats. The first is that the US is supplying other countries with THAAD systems. Saudi Arabia has a THAAD system delivered from the United States and 50 interceptors. However, it has ordered 360 interceptors, which will take years to manufacture. The UAE reportedly has 192 THAAD interceptors, although it is not clear all have been delivered. The US also has THAAD systems in South Korea (where there are now reports North Korea is boosting its missile production) and in Hawaii, Guam and Wake Island. Given the Chinese missile threat and regional volatility, the US may have to beef up supplies for the Pacific. The alternative is to rely on AEGIS, a very expensive system that operates at sea and therefore is not capable of fully protecting US and allied bases in the region.

The second problem is intercepting hypersonic missiles. Iran reportedly used some of these attacking Israel and China and Russia already have them (e.g., DF-17 with DF-2F hypersonic glide vehicles and Russia's Avangard and Oreshnik ballistic missiles, plus Kinzhal and Zircon). THAAD probably needs to have longer range and speed to counter hypersonic missiles, something that has been proposed (THAAD-ER) but not yet approved.



https://www.youtube.com/watch?v=Q3SMs_IR1vc

The Concerning Future of Missile Defense

Israel has Arrow 2 and Arrow 3, the latter able to operate in the exoatmosphere. In the recent conflict, Israel says it intercepted more than 200 Iranian missiles. Another 258 missiles were not intercepted because Israel determined they were not going to hit populated areas or critical infrastructure. THAAD intercepted 92 Iranian missiles.

According to Israeli reports, that left 57 Iranian missiles that got through and did damage.

What the information tells us is that more than half of Iran's missiles were inaccurate (for one reason or another). It tells us that Israel does not have an adequate missile intercept inventory or launcher capability. Apparently Israel recognizes this shortcoming, but it depends on US manufacturing to help fill the gaps.

It also tells us that Israel cannot defend its territory without the United States. The great importance of THAAD for defending Israel is critical.

The JINSA report does not take into account Iranian and other drones fired at Israel. However, that threat will also multiply in future. (Israel has Iron Dome and Iron Beam, and can also use its air force to shoot down drones,)

Patriot also played a role in the conflict, mainly to defend al Udeid air base in Qatar. The Iranians fired 14 short and medium range missiles at the air base on the last day of the conflict, and the US was warned about the attack ahead of time by Iran. In response the US launched 30 Patriots and intercepted 13 out of 14 Iran's missiles. One missile got through and damaged a communications dome on the base.



Before and after photos of damage at Al Udeid Air Base last month. Planet Labs

The Concerning Future of Missile Defense

In practice this means it takes at least two Patriot interceptors for every enemy missile fired. As is well known, the US is in short supply of Patriot, which the US, its allies and friends rely on for air defense. This has caused significant controversy in connection with supplies of Patriots for Ukraine. The Pentagon has made clear that stockpiles are at a critical level and it does not want to deplete them further in support of Ukraine. Instead, at President Trump's initiative, Germany has agreed to supply Patriot interceptors (model unclear, as there are different Patriot interceptors, the most important PAC-3), but Germany does not have enough. The German Defense Minister, Boris Pistorius, is negotiating with his European counterparts, to "find" the missiles Ukraine needs. Allegedly, Germany will pick up the bill for replacing them later., but the Germans now want US guarantees.

The JINSA paper also points out that Israel destroyed some 250 Iranian missile launchers (only after they fired their missiles). This is a luxury that Ukraine, for example, does not have and it is a challenge for the US and its Pacific allies, because finding and destroying adversary launchers (e.g., potentially China or Russia) is a far bigger challenge than Iran.

The Future

The US and Israeli ability to manufacture air defense missiles is inadequate against Russia, Chinese, Iranian and maybe North Korean factories to produce ballistic missiles. What is true for the defense of Israel, supplementation of Israel's local air defenses with US assets, also is true for Europe and Asia. NATO has very limited air defenses, well below what Israel has but a need to protect a massively bigger territory. Our Asian allies, Japan and South Korea, also have limited air defenses, mainly relying on their own Patriot systems or on Patriot plus AEGIS in the case of Japan. Taiwan has Patriot PAC-3, but not enough systems or missiles. The US, at present, would find it extremely difficult to backstop NATO against a massive attack by Russia, or to support Japan and South Korea, let alone Taiwan, with de minimis stockpiles and too few systems.

There is THAAD in Korea, but not in Japan or Taiwan. Japan even rejected AEGIS Ashore to protect its territory, although it does have four AEGIS-equipped ships. Taiwan publicly rejected THAAD, an incredibly foolish move.

To make a long story short, the US and its allies are not well prepared against saturation missile attacks and don't have enough coverage to protect military installations, command and control centers, airfields, naval ports, or even logistic centers and factories (putting aside attacks focused on critical infrastructure, as we see on a daily basis in Ukraine).

It should be obvious that the US industrial base is not ready for the challenge, that there are not enough factories, and efficiency (understood in terms of output) is low. The Pentagon is still relying on ordering missile production from existing factories rather than really trying to reform the manufacturing infrastructure so we can match the output of Russia, China or even Iran.

AIAA LA Aerospace News Digests *(by Dr. Ken Lui, AIAA Los Angeles Section)*



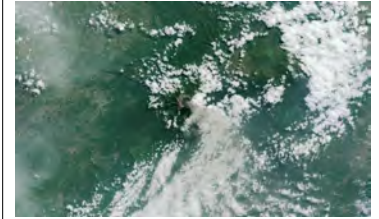
(7/29) Palmer Luckey's Anduril leads second quarter venture capital investments for greater L.A. - Los Angeles Times



(7/28) Firefly Aerospace sets IPO range that would value it at \$5.5 billion



(7/26) Scientist Suggests Tests to See if Large Object Headed Toward Earth Could Be an Alien Spacecraft



(7/26) NASA's AI Satellite Just Made a Decision Without Humans — in 90 Seconds



(7/25) Tech and defense giant L3Harris shuts down California office, lays off 149 workers



(7/25) Investing in Space: NASA's months of reckoning



(7/23) NASA Launches Mission to Study Earth's Magnetic Shield - NASA



(7/22) SpaceX launch is delayed after widespread power outage scrubs mission with 45 seconds to spare



(7/22) Lockheed records \$1.6B in losses, mostly linked to continued strife on classified aero program



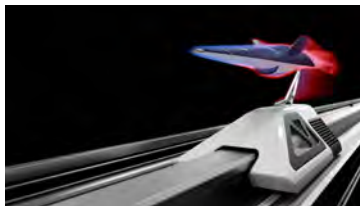
(7/20) Starship Will Put an Entire Space Station in Orbit in One Go, They Call It Starlab



(7/21) FAA says it will investigate incident between SkyWest jet and B-52 - ABC News



(7/19) Orbital slides, space shuttle at Exposition Park are almost ready for a big reveal



(7/16) US firm's maglev ramp will fire rockets to orbit with almost no fuel



(7/21) Boeing's Wisk Aero plans autonomous air taxi service in US cities by 2030



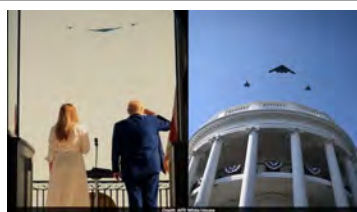
(7/14) FAA Greenlights First Electric Engine Propeller



(7/10) Varda Announces \$187 million in Series C Funding to Make Medicines in Space



(7/10) Trump Names Transportation Secretary Sean Duffy as Interim NASA Chief



(7/4) B-2 Bombers Roar Over White House As Trump Celebrates US Independence Day



(7/4) After decades of service, Taiwan retires its last F-5 fighter jets | AP News



(7/1) Trump EVTOL Speedup Order Effects Seen At Archer Aviation

America's AI-Nuclear Renaissance: Executive Orders Unleash Trillions, and MSBAI Leads the Charge

by Allan Grosvenorby, Founder and CEO at MSBAI (Techstars '20), 2025 July 25

<https://www.linkedin.com/pulse/americas-ai-nuclear-renaissance-executive-orders-msbai-grosvenor-n6nvc/>



Depiction of U.S. Army Personnel Taking Delivery of Tam Fortis Microreactors at a Forward Operating Base

Imagine a hyperscale cloud executive in Phoenix next spring, staring at blueprints for a 100 MW data center and asking: "Where do I plug this in?" Two presidential signatures have now answered that question—and ignited a technological boom. On July 23, 2025, President Trump's AI Executive Order [1] mandated "truth-seeking, ideologically neutral" models for federal use, prioritizing systems that emphasize "historical accuracy, scientific inquiry, and objectivity." This complements the May 23 nuclear orders [2], aiming to quadruple U.S. capacity to 400 GW by 2050 and spotlighting mobile microreactors as "resilient, secure, and reliable power" for defense, mining, and AI's voracious demands. These aren't isolated edicts—they mirror a global frenzy where AI and advanced energy converge amid exponentially growing orbital traffic, hypersonic rivalries, and compute needs set to triple data center power by 2030 [3]. As Eric Schmidt proclaimed in his May 2025 TED talk [4], "the computers are now self-improving; they're learning how to plan thousands of steps ahead" through reinforcement learning. Yann LeCun, at GTC 2025, added: AI demands "reasoning, planning, and persistent memory" to move beyond language models. This surge calls for reliable AI—explainable, fault-tolerant systems free from bias. MSBAI, with its hybrid intelligence platform, delivers exactly that, accelerating digital engineering and autonomous operations to harness this trillion-dollar wave.

America's AI-Nuclear Renaissance: Executive Orders Unleash Trillions, and MSBAI Leads the Charge

Policy Meets Market: A Trillion-Dollar AI-Energy Flywheel

The order's "Winning the AI Race" blueprint requires unbiased models while promoting exports [5] and deregulating energy for compute infrastructure. Nuclear orders fast-track licensing for factory-built reactors, eyeing 300 GW net new by 2050. This alignment is fueling hypergrowth: Global AI is projected to expand from \$244 billion in 2025 to \$1.8 trillion by 2030 (29% CAGR) [6], with industrial AI reaching \$191 billion by 2034 [11] and unlocking \$1.3 trillion in efficiency gains by 2030. AI data centers could demand 327 GW globally by 2030 [3,8]—exceeding 3X the energy consumption of Japan—necessitating up to \$7 trillion in capex [9]. American facilities alone might require 123 GW by 2035, a 30-fold increase [10].

Nuclear surges in tandem: Small modular reactors (SMRs) grow from \$6 billion in 2024 to \$7-16 billion by 2030 (3-9% CAGR) [11], but microreactors—from \$543 million in 2024 to a potential \$8.9 billion by 2037 (19% CAGR) [12]—are the breakout star. Post-EO, investments are booming: \$406 billion in mining projects, \$50 billion+ in tokenized assets [13], and \$25 billion in SMRs by 2030. The May order's directive to "facilitate the expansion of American nuclear energy capacity from approximately 100 GW in 2024 to 400 GW by 2050" could attract \$900 billion cumulatively.

This symbiosis is electric: AI's 600 TWh U.S. demand by 2030 will exceed the limitations of existing grids, where renewables falter on intermittency. Portable nuclear fills the void, while new export incentives will bundle AI with reactors, as the order commands: Export American AI to Allies and Partners [5]. The outcome? A multi-trillion-dollar ecosystem where compute devours power, and nuclear sustains the feast.

MSBAI: Crafting Reliable AI for High-Stakes Innovation

As MSBAI's CEO, I've seen firsthand how the latest in reliable AI can bridge the gap between this policy vision and real-world breakthroughs. Our GURU platform—hierarchical planning AI fusing symbolic reasoning with reinforcement learning (RL), Joint Embedding Predictive Architecture (JEPA), and Automated Machine Learning (AutoML)—embodies the AI order's ethos, delivering 98% anomaly detection precision and driving below 2% failures in hypersonic CFD and space ops, as detailed in our July 2025 *Frontiers in Robotics and AI* paper [14] on fusing symbolic reasoning with machine learning for space operations and digital engineering tasks. With the foundational R&D conducted on DOE's premier exascale systems Frontier and Aurora (currently under a 1.4 million node-hours award from the ALCC program), it automates workflows, cutting setup time from hours to minutes—essential to achieve the speed and reliability required in the EO. Our neuro-symbolic architecture ensures explainability, surpassing conventional biased generative models: As the order insists, systems must "prioritize historical accuracy, scientific inquiry, and objectivity."

America's AI-Nuclear Renaissance: Executive Orders Unleash Trillions, and MSBAI Leads the Charge

From a technological standpoint, MSBAI's leadership supercomputing capabilities enable us to train in an hour what many would require weeks to do, using Simulation-Based Virtual Ranges (SBVRs) to generate high-quality labeled synthetic data to fill gaps where real-world data doesn't exist. We've focused on building fault-tolerant autonomy, adapting our operations capabilities originally built for Space Domain Awareness and anomaly detection at the DIII-D fusion facility to additional emerging industrial operations needs, such as the remote autonomous operation of microreactors. This year our business traction has surged, including a DoD Phase III contract for GURU Gen 2 devoted to HPCMP hypersonic vehicle aerothermal simulations, a new Phase II contract for OrbitGuard to CDAO & Air Force DTO for advanced space operations, and commercial contracts and licensing agreements to Tam Fortis Solutions and Nexcavate for nuclear/mining, and a new NASA contract focused on eVTOL certification. As Bryon Foster, AFRL DSRC Chief, observed: "Tools like GURU help us run higher-fidelity calculations faster and cheaper, especially for regimes—like hypersonic flight—that can't be fully tested." [15] And as I often say, "What once took a team hours... now takes minutes."

The Game-Changer: MSBAI and Tam Fortis's Power Play

Tam Fortis Solutions harnesses MSBAI's AI for microreactor design and remote ops—from 10W palm-sized power cells to 40kW units that can be flown in by helicopter or truck-mounted—directly addressing May EO mandates for mobile power. This partnership taps a \$150 billion+ off-grid SMR TAM, soaring to \$295 billion by 2043 [16], with microreactors grabbing as much as \$72-114 billion by 2032 (24-41% CAGR). GURU's digital engineering automation expedites prototypes, while MSBAI's operations autonomy tech ensures fault-tolerance—imagine AI datacenters powered by reactors run with the same reliable AI that detects 98% of anomalies in fusion or space operations. The EO's export push amplifies this: Bundled AI-reactor deals for allies, financed federally, turn the government into our sales engine.

Forging the Future: Why This Renaissance Needs MSBAI Now

Where does this leave us? In a flywheel where AI demands power, nuclear supplies it, and reliable planning AI orchestrates both—unlocking a new level in American industrial dominance. With \$50 billion in tokenized assets [17,18], including nuclear, post-EO and productivity gains from AI yielding \$1.3 trillion by 2030, MSBAI/Tam Fortis Solutions are primed to capture it. What's your role in this supercycle? Let's connect—innovation powers progress.

#AI #NuclearRenaissance #DigitalEngineering #Hypersonics #Innovation

America's AI-Nuclear Renaissance: Executive Orders Unleash Trillions, and MSBAI Leads the Charge

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The Digital Escort Fraud --Another Major DOD Security Failure

by Dr. Stephen Bryen, former Deputy Under Secretary of Defense, a leading expert in security strategy and technology, 2025 July 19 (<https://weapons.substack.com/p/the-digital-escort-fraud-another>)

Microsoft was caught with its pants down in a brilliant exposé by Propublica that said that a major part of the Defense Department's Cloud Computer system was run by Chinese engineers and monitored by so-called Digital Escorts who supposedly looked out for any compromise of DOD information. Now, when Senator Tom Cotton called Defense Secretary Hegseth's attention to the mess, Microsoft withdrew the Chinese engineers and pretended everything was fixed.

Nothing could be farther from the truth.

Back in April, 2018 I participated at the Hudson Institute in a special panel review of the then-Pentagon plan to transition all its heritage computer databases to a single computer cloud. (I have posted the full video below,) The Pentagon plan was to shut down the old computer systems after the cloud was up and running. DOD claimed that the cloud would be easier to maintain than a number of separate computers, and more secure.



https://www.youtube.com/watch?v=9yly4EWSq_A

DOD's problem is that it has done a poor job on cyber security for years, and DOD contractors and sub-contractors, operating under weak departmental guidance, have been even worse.

There have been many scandals as the so-called "advanced persistent Cyber threat" has continued to get worse.

A persistent cyber threat is one that operates in the shadows for long periods of time and steals vast quantities of sensitive information. At the time of the DOD cloud proposal, government and contractor computers were under constant attack from hackers. Some of these hackers were teams of Chinese and Russian operators, others came from domestic and international hackers who could sell the acquired information to different bidders, including terrorists. Still others were from rogue countries who are still engaged deeply in hacking, including from North Korea and Iran.

The Digital Escort Fraud --Another Major DOD Security Failure



<https://www.youtube.com/watch?v=8kpnSb4yGR0>

Around the same time DOD determined that around 50 gigabytes or more F-35 stealth fighter jet data had disappeared. We know where it went: China, and we know the result, China was able to field a stealth fighter jet in record time.



Chengdu J-20

The Digital Escort Fraud --Another Major DOD Security Failure

Of course it was not only the design information and other details that enabled China to be successful: China also conducts industrial espionage in depth, so its agents can penetrate US contractors and subcontractors and infiltrate their supplier networks.

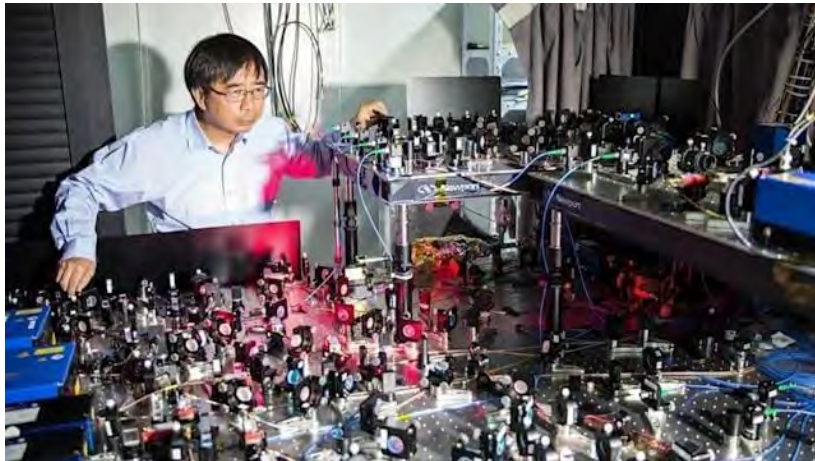
The US classifies some sensitive information, but actually quite a lot less than one might think. This enables contractors to work without the burden of cleared workers. We have seen numerous cases of people caught working in critical companies smuggling components needed by China either for further exploitation or use. In regard to cloud security in 2018 I said: "DoD has laid down its own standards, if you want to call them that, or guidelines, if you want to call them that, on what it expects the security of a system that it's going to procure should look like. And basically what they've done, for the most part, is two things. One, of course, is to make sure the employees that are working in the cloud environment that's being proposed are cleared American employees. That, by the way, creates a significant problem in being able to find enough cleared American employees to do the job. And I'm not sure they are so readily available. But that is definitely a challenge, let's say, that's out there. And the second is to take some of the procedures that are used to secure DoD's existing computers and servers and equipment and apply that to the cloud."

We understood, in 2018, that the cloud security problem was supposedly solved by using only security-cleared American employees. It seems that pledge was violated by the Defense Department that permitted foreign workers to support and service the DoD cloud so long as they were "supervised." The supervisors are called "digital escorts." The workers, so far at least in Microsoft's case, turn out to be Chinese.

Chinese engineers work remotely in China, and it is probably a fair assumption that digital escorts allegedly monitor the work of the Chinese engineers, also remotely. In other words, the so-called Escorts are virtual, they don't sit next to the Chinese operators.

We do not know anything really about the qualifications of the Digital Escorts, or even if they understand the Cloud network they are supposedly protecting. They would have to understand the actual cloud software and the underlying processors, and they would need to follow guidelines on what might constitute any sort of breach of the protocols or data by the Chinese. Any clever operator in China could figure out how to insert malware into the cloud, but actually since they have full time access to it anyway there is no overpowering reason for them to do so. Instead they can just suck up all the data and run it through their supercomputers, or even their latest quantum computers. China leads the world in quantum computers, and if they really do work, they can smash encryption codes in seconds.

The Digital Escort Fraud --Another Major DOD Security Failure



working on a quantum computer

DoD information in the cloud is supposed to be encrypted, or at least we are told that. But that may just be the outside of the system to keep out random hackers. The actual information may not actually be encrypted. That would mean a potential bonanza for China and a huge risk to US security.

The original DOD contract was supposed to be to a single contractor. However, complaints from industry and the public, and from security experts as in our panel discussion, pushed the department to support more than one cloud application (and also may have allowed for some backup if a cloud operation crashed, for whatever reason, although DoD has not told us about any backup). The question arises, if Microsoft was using Chinese engineers, were the other cloud providers doing the same thing, and did they have Digital Escorts, or something like them? Along with Microsoft, other participants in the DoD cloud contract, initially for \$9 billion, were Amazon, Google and Oracle. All of them do business in China. Oracle has offices in Beijing. Amazon has offices in Beijing, Shanghai and Wuhan. Google has offices in Beijing, Shanghai and Shenzhen. Of course we do not know if DoD granted them the same deal they allowed for Microsoft, but it is important to find out.

Or maybe DOD never agreed to Digital Escorts and Chinese engineers? We don't really know, but it is unlikely Microsoft could have hired Chinese engineers without some Defense Department input. If DoD never approved, then it is another example of a security failure. If they did approve, of course, it is also a security failure. Either way it is a disaster.

Secretary of Defense Pete Hegseth understands the Digital Escort issue is a big deal, but he cannot just accept Microsoft's decision to end China's participation in the Defense Department cloud. Hegseth needs to back a full scale inquiry and investigation. We need an assessment of how much damage was done and, potentially, what programs may have possibly been compromised. Such an investigation has to assess just how long the Digital Escort system has been in place. How long has China had access to the Defense Department's computer heartland? Secretary Hegseth needs to find out what the other contractors are doing and if they are using foreign workers.

Finally there is a serious question about outsourcing American security to private contractors, especially those who are not core defense contractors and who depend on foreign revenues to support their bottom line. Companies that are mainly commercial are inherently a risk because they lack a security culture and always want to expand into markets that can prove difficult and risky. Putting trust in them raises more than eyebrows.

Making Hegseth's Drone Dominance Policy Possible

by Dr. Stephen Bryen, former Deputy Under Secretary of Defense, a leading expert in security strategy and technology, 2025 July 14 (<https://weapons.substack.com/p/making-hegseths-drone-dominance-policy>)

Some offshore Production is Needed

On July 10 Secretary of Defense Pete Hegseth stood in front of the River Entrance of the Pentagon to disclose his new policy called "Unleashing U.S. Military Drone Dominance." His objective was to clear away the "red tape" and other obstacles and gear up US drone manufacturing. His focus was on "small UAVs" which he hoped to scale up across the Joint Force by 2026.



<https://www.youtube.com/watch?v=10iIQvO5bg>

Hegseth was accompanied by hovering drones as he gave his talk. One drone, reportedly, was produced by a US company Neros. That drone was dangling a sheet of paper which, it turns out, was apparently the Hegseth memo. Hegseth reached up and snagged the paper, which he proceeded to sign. (I printed out the policy memo and it needs more than one page, so maybe the signing was just to show how enormously important drones are.)

Small UAVs are a big part of the warfare ongoing in Ukraine. Both the Ukrainians and the Russians are using them in enormous quantities. Most of them are known as FPV drones.

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<https://www.youtube.com/watch?v=mQGh7FA5yIQ>

FPV refers to First Person View drones where the drones are flown by nearby operators who pick out targets and drive the drones to hit them.

There are different versions of FPV drones, but in Ukraine they are mainly quadcopters running four electric powered motors. The drones have a camera which transmits near real time video to the drone operator. He (or she) can see what the camera sees, either using a laptop or tablet computer, or computer goggles.

Such drones do not need GPS for navigation, they transmit video. The video can be jammed, although on a battlefield jamming is not always successful and can interfere in your own drone operations. Recently the Russians introduced drones that transmit through ultra-thin fiber-optic cable in order to allow them to use their own jammers while taking away the enemy's ability to jam the Russian fiber optic controlled drones.

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<https://www.youtube.com/watch?v=ow9sxZOMtS8>

In the early stages of drone warfare the explosive package strapped onto a quadcopter was often the warhead from an RPG. More recently, specialized warheads are finding their way onto drones.

Short range battlefield drones range from very simple machines with plastic bodies, cheap cameras, and mass-produced electronics, to improved platforms with better jam resistance, better explosive packages that can penetrate armor, and in some cases computers that can lock onto a target and close in on it without the operator's guidance. Longer range, but still battlefield worthy, drones also play a role. Drones such as the Russian ZALA Lancet has proven very effective against armor vehicles, air defense complexes and command centers. Priced at around \$30,000 (compared to a few thousand for quadcopters), it is built with Western and Chinese electronics.



Lancet Drone (Photo: Kalashnikov Concern.)

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Hegseth was not clear on what drones he wants to see mass produced, what price points would be acceptable to the Pentagon, or what the mix might be for effective battlefield operations. What he was clear on was his directive is aimed at setting up American manufactured and sourced drones as quickly as possible. This is music to the ears to American drone companies who, presumably, will greatly benefit from new orders and lots of cash.

Can we get there from where we are now, assuming that DOD will order thousands of cheap drones? A lot depends on the type of drones required (which is not clear), the cost of the components, the domestic supply chain (to the degree it exists), the ability to recruit and train workers, and how the US-only drones compare to their competition.

Most of the world's cheap drones, and supply of drone components, is Asian, specifically Chinese. The Ukrainians and Russians rely, for cheap drones, on tens of thousands of Chinese parts, including motors, cameras, controllers, tablets or goggles and electronics.



A Ukrainian soldier attaches grenades to a DJI Mavic 3 drone on Feb. 18 in Bakhmut, Ukraine. Ukrainian forces have acquired large numbers of commercial drones made by China's DJI and modified them to carry grenades and other small explosives. John Moore/Getty Images

Important Chinese drone makers include DJI (which has around 70% of the commercial drone market), EHang, Autel Robotics and Yuneec. DJI has a large US distributor network. The US government is currently considering whether to ban DJI from the US market, although that has not happened as yet and could wind up in significant litigation if a ban is put in place. There are also lots of suppliers of drone components from China. For example, SunnySky manufactures very stable small electric engines for drones. The company SunnySky USA is owned by Zhongshan LangYu Model Company, Ltd. and all the motors are made in China. Another motor company EMAX also produces small motors for drones and distributes them in the USA. I have been unable to locate its Chinese parent company, but all the products are manufactured in China.

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SUNNYSKY X2304-V3 1480KV Outrunner Brushless Motor

What applies to the small motors for drones also is true of the onboard cameras, electronics and controllers for small drones, the majority of them for low cost drones are from China. As you climb the scale of sophistication, you find stabilized cameras, more sophisticated electronics (often with US-sourced components), and better operator hardware.

Hegseth is seeking to localize manufacturing in the United States, but that is a challenge given the nature of the US labor market, supply chain, and required investment. There is no information yet to indicate how a US-only sourced drone would compare in price to a Chinese sourced platform, but the odds are great that the US-only pricing will be high comparatively and the ability to deliver in significant quantities limited.

There are other alternatives, but they are off the table at present. One of them is to turn to other Asian manufacturing sources to produce parts needed for US drones. In other words, let US drone companies seek supplies from other countries, but not China. That would potentially accomplish three goals: first it would lower manufacturing costs; second it would be a faster way to ramp up production; third it would allow US companies to focus on developing better software, improved and smarter electronics, and other techniques to improve the lethality of small drones. There is no reason not to encourage joint ventures or even outright ownership of foreign manufacturing facilities.

What makes this pathway unlikely at present is the strong administration emphasis on USA-only products for national defense. However, the above suggestion does not require that an entire drone be manufactured offshore. Focusing on the labor intensive parts, with the rest made in the USA, could meet existing Buy America requirements and also help assure US military drone dominance.