VOLUME 24, ISSUE 5

Lockheed Martin Management Association Retirees Newsletter

Looking Forward Towards A Wonderful Retiree Future!

MAY 2017

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Needed: Staff Help

LMMAR needs volunteers to help keep LMMAR going. We have several vacancies on the Board and we particularly need a secretary and a newsletter editor. If you think you can help please contact:

Norm Dhom, President – (408) 732-2742

Jerry Vaughan, Treasurer – (408) 985-2708

Your Story We need your input. Have you done anything exciting lately? Do you have any news that might be of interest

to our members? Your story and photo is welcome! Email it to: jerry.allan.vaughan@gmailcom

Sunshine If a member knows of anyone ill or grieving, please send an email to Karen Stayrook at: karenstayrook@comcast.net or call (408) 622-5539

ZOO-OLOGY

They tell me of a distant zoo
Where a carcajou met a kinkajou.
Full soon to savage blows they came
From laughing at each other's name.
The agile ajous fought till dark
and carc slew kink and kink slew carc.
Beside the conquered kinkajou
lay the carcass of the carcajou.

Frederic Ogden Nash was an American poet well known for his light verse, of which he wrote over 500 pieces. With his unconventional rhyming schemes, he was declared the country's best-known producer of humorous poetry.

Born: August 19, 1902, Rye, NY
Died: May 19, 1971, Baltimore, MD

F-35 Logistics System

ORLANDO, Fla., April 26, 2017 / PRNewswire/ – Lockheed Martin's (NYSE: LMT) next iteration of the F-35's Autonomic Logistics Information System (ALIS) has been approved for installation at U.S. Air Force and U.S. Navy F-35 sites. Along with a number of improvements to the system's baseline, the upgrade delivers significant enhancements for managing forward operations and sustainment.

ALIS is the F-35's fleet management system, reducing the cost of operations and maintenance while increasing aircraft availability. After successful flight testing, upgraded ALIS software – called version 2.0.2 – will be installed at all operational F-35 sites by the end of 2017. The upgrade has performed well in supporting F-35 operations at Nellis Air Force Base, Nevada, since March 22.

ALIS 2.0.2 now integrates propulsion data, which allows users to manage the F-35 engine from inside ALIS, eliminating the need for multiple maintenance systems and field service representatives to assist with engine diagnostics, analysis and maintenance. ALIS 2.0.2 improves the tracking of life-limited parts and streamlines resource management for deployed operations.

"This upgrade will allow deploying units to predict 'what if' scenarios inside ALIS, removing most of the manual planning that is done today," said Reeves Valentine, vice president of F-35 Logistics. "ALIS 2.0.2 will allow users to forecast and make those decisions. Picking the best jets, support equipment, spare parts and personnel for the deployment and managing resources throughout their lifecycle – that type of data should ultimately translate to better aircraft availability."

The updated software also includes a networking feature to more easily establish connections between deployed locations and home stations. This upgrade offers parent units more versatility in managing the logistics "tail" – the chain of supplies and spares – for a deployed squadron.

As the IT backbone of the F-35, ALIS integrates preventative maintenance, flight scheduling and the mission planning system. Pilots plan and debrief missions, and maintenance professionals sustain the F-35 using ALIS.

Approval for fleet-wide fielding to F-35 sites for the U.S. Marine Corps is expected in the next six weeks. The U.S. Marine Corps and U.S. Air Force declared F-35 initial operating capability (IOC) in 2015 and 2016 respectively, and the U.S. Navy is set to declare IOC in 2018. ALIS is operating at more than 20 locations and has supported more than 90,000 F-35 flight hours.

New Star One Leadership

Gary Rodrigues, Executive Vice President, Star One Credit Union, has been appointed by the Board of Directors to replace Star One President and CEO Rick Heldebrant upon his retirement in December 2017.

FURY Unmanned Aerial System (UAS)

SAN LUIS OBISPO, Calif., April 26, 2017 /PRNewswire/ – Lockheed Martin's [NYSE: LMT] advanced tactical Group 3 unmanned aerial system (UAS), Fury, is regularly flying long-range endurance test missions as the company prepares it for low-rate production.

In flight tests since May 2016, Fury has flown more than 200 hours and reliably demonstrated more than 12-hour endurance, while simultaneously operating 100 pounds of payloads, including electro-optical/infrared surveillance systems, voice communications relays, SATCOM links, and multiple signals intelligence payloads.

Lockheed Martin's Fury unmanned aerial system (UAS) has reliably demonstrated more than 12-hour endurance, while simultaneously operating 100 pounds of ISR (Intelligence, surveillance, and recon) payloads.

The ramp-up in flight tests and demonstrations has grown significantly. Fury has completed over 400 flight test hours, with significant increase in the second half of 2016.

"These flight tests have consistently proven that Fury is a true 'anytime, anywhere' tactical Group 3 aircraft.

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Fury can be deployed to execute strategic and tactical Intelligence, Surveillance and Reconnaissance missions with endurance and capability previously found only in Group 4 systems," said Kevin Westfall, Director of Unmanned Systems at Lockheed Martin. "We continue to investment internally in Fury to deliver this proven, critical capability at the best value for our customers."

Lockheed Martin regularly flies Fury at its operating base at the Yuma Proving Ground in Arizona where the team inserts pre-planned product improvements to further the Fury capability. Fury can support multiple payload integration, making it possible to efficiently execute various missions with a single aircraft.

Additionally, infrastructure is in place at Lockheed Martin manufacturing facilities to quickly deliver Fury and to rapidly scale up to full-rate production needs, Westfall said. Lockheed Martin is in discussions with potential domestic and international customers.

Lockheed Martin has five decades of experience in unmanned and autonomous systems for air, land and sea. From the depths of the ocean to the rarified air of the stratosphere, Lockheed Martin's unmanned systems help our military, civil and commercial customers accomplish their most difficult challenges.

Mobile User Objective System

SUNNYVALE, Calif., April 24, 2017 / PRNewswire/ -- The fifth Lockheed Martin (NYSE-LMT)-built Mobile User Objective System (MUOS-5) satellite is now delivering secure, beyond-line-of-sight communications to troops with legacy Ultra High Frequency (UHF) radios.

The U.S. Navy, working with Army Forces Strategic Command, configured one of MUOS-5's two communications payloads – its legacy UHF payload – to provide additional support for the Navy's legacy UHF satellite communications mission. Today, narrowband UHF communications is used by every Combatant Command in aircraft, ships, submarines, ground vehicles, as well as by troops in the field and special operations.

Eventually, legacy narrowband UHF communications will transition to next generation Wideband Code Division Multiple Access (WCDMA) capabilities provided by MUOS. To facilitate that transition, MUOS was intentionally designed with two communications payloads.

"Each MUOS satellite can simultaneously support both new WCDMA waveform capabilities and legacy UHF satellite communications," explained Mark Woempner, director of Narrowband Communications Systems at Lockheed Martin. "With MUOS 1-4 already on orbit providing near global WCDMA coverage, MUOS-5 will actively support legacy UHF communications and serve as an on-orbit WCDMA spare."

MUOS-5 is the latest edition to a network of orbiting satellites and relay ground stations that is revolutionizing communications for mobile forces. Users with new MUOS terminals will be able to seamlessly connect beyond line-of-sight around the world and into the Global Information Grid, as well as into the Defense Switched Network. MUOS' capabilities include simultaneous, crystal-clear voice, video and mission data over a secure high-speed Internet Protocol-based system.

More than 55,000 currently fielded radio terminals can be upgraded to be MUOS-compatible, with many of them requiring just a software upgrade.

Once fully operational, MUOS will provide users with more than 10 times the communications capacity of the legacy system it will replace. The network provides near-global coverage, including communications into polar regions. MUOS also has demonstrated successful communication of Integrated Broadcast Service (IBS) messages to in-flight test aircraft.

"The industry team for MUOS is an incredible partnership. Next for MUOS, we are laser-focused on bringing the complete system to full operational capability for the Navy," said Woempner. "Early combatant commander testing began in July 2016, and we have already received valuable user feedback and are working to rapidly incorporate their needs into the system."

MUOS-5 begins this transition after successful completing post-launch, on-orbit testing on January 19. The satellite completed orbit raising and successfully deployed its solar arrays and antennas for mission operations

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on Oct. 30, 2016.

Originally launched on June 24, 2016, MUOS-5 experienced an anomaly with its orbit raising propulsion system on its way to geosynchronous orbit. The Navy and Lockheed Martin engineering teams were able to isolate the issue and deliver MUOS to operational orbit using alternative propulsion.

The Navy's Program Executive Office for Space Systems and its Communications Satellite Program Office responsible for the MUOS program are based in San Diego, California. Lockheed Martin assembled and tested all five now-on-orbit MUOS satellites at its Sunnyvale, California, facility.

LMMAR Bridge

Apr 4 - Pairs Duplicate – 1st Place – Angie Schynert & Bob Vigeant and 2nd Place - Gary Bea & Chuck Schmidt.

Apr 18 – Pairs Duplicate – 1st Place – Gary Bea & Chuck Schmidt and 2nd Place – Dave himmelblau & Dave Topka.

Apr 25 – Pairs Duplicate – 1st Place – Gary Bea & Chuck Schmidt and 2nd Place – Dave himmelblau & Dave Topka.

Target Acquisition System Contracts

NASHVILLE, Tenn., April 26, 2017 / PRNewswire/ – Lockheed Martin (NYSE: LMT) has received contracts to upgrade the Modernized Target Acquisition Designation Sight/Pilot Night Vision Sensor (M-TADS/PNVS) system for Japan's fleet of AH-64DJP Apache attack helicopters and provide Performance Based Logistics (PBL) support. Under the M-TADS/PNVS contract, Lockheed Martin will deliver 14 laser designation kits through 2020 to upgrade Japan Ground Self Defense Force (JGSDF) M-TADS systems. The Modernized Day Sensor Assembly (M-DSA) upgrade improves laser reliability and the Apache's ability to designate targets and establish accurate target range. The company's Apache sustainment team will also provide PBL support under a separate three-year contract.

Lockheed Martin M-TADS Apache

"Lockheed Martin's M-DSA laser designator significantly enhances the capabilities of Japan's Apache fleet," said Paul Lemmo, vice president of Fire Control/SOF CLSS at Lockheed Martin Missiles and Fire Control. "Modernizing the M-TADS system delivers improved weapon effectiveness to JGSDF aircrews and streamlined sustainment support to maintainers."

Lockheed Martin will also upgrade JGSDF test equipment and provide in-country training. Japan is the first international Apache customer to receive a M-DSA field upgrade to its M-TADS/PNVS system.

M-TADS/PNVS, known as the "eyes of the Apache," provides pilots with long-range, precision engagement and pilotage capabilities for safe flight during day, night and adverse weather missions. Lockheed Martin has delivered more than 1,350 M-TADS/PNVS systems and spares to the U.S. Army and international customers, including more than a dozen to Japan.

Cyber Technology

FORT WORTH, Texas, April 27, 2017 / PRNewswire/ – As a follow-on to specialized mission support testing in 2015, Lockheed Martin (NYSE: LMT) has contracted Guardtime Federal as a key supplier to integrate a variety of cyber-related elements into systems engineering processes, supply chain risk management and software development efforts.

guardtime FEDERAL

Since 2015, Lockheed Martin and Guardtime Federal have conducted demonstrations of data integrity technologies to address the threat of manipulation in networked and weapon system embedded cyber physical systems. The two companies have been engaged in on-going assessments to address the continued evolution of cyber-focused threats across the entire development and fielding lifecycle.

With this effort, Lockheed Martin becomes the first U.S. defense contractor to incorporate blockchain technology into its developmental processes, enabling more efficient and assured offerings to the federal government. Using Guardtime Federal's Black Lantern appliances and the nationally distribut-

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ed Guardtime Federal Core blockchain infrastructure, Lockheed Martin plans to realize more efficient and secure software development and supply chain risk management.

To realize the next leap forward, Guardtime Federal crafted a consortium of some of the most advanced cyber-centric small businesses in the field: Galois, ForAllSecure and Trail of Bits. Collectively this consortium offers a wealth of experience in formal methods, vulnerability analysis, and automated vulnerability discovery and patching. All consortium participants are performers on the most advanced DARPA cyber-focused developments. ForAllSecure was the first place winner of the recent DARPA Cyber Grand Challenge.

"Guardtime Federal is excited about collaborating with such a high quality team for delivering capabilities to Lockheed Martin with whom we share a common vision regarding cyber and software development challenges," said David Hamilton, president of Guardtime Federal.

Lockheed Martin and Guardtime Federal are maturing a concept referred to as Cyber Aware Systems Engineering. Lockheed Martin is exploring new, non-traditional approaches, technologies, and processes to design cyber security into its business.

"These new cyber security approaches will enhance data integrity, speed problem discovery and mitigation, and reduce the volume of regression testing, which results in reduced schedule risk," said Ron Bessire, Lockheed Martin Aeronautics' Engineering and Technology vice president. "The faster our developers can discover issues, the faster we can deliver."

Lockheed Martin regularly partners with small businesses to augment its robust cyber capabilities. This new aerospace collaboration between a prime and a small business cyber consortium not only meets Department of Defense guidelines for small businesses set-aside, it also leverages the innovative dynamic nature of small, agile industry partners in the tradition of the Lockheed Martin Skunk Works® model. By experimenting now and learning to incorporate these new approaches, Lockheed Martin anticipates improved performance in future modernization of existing programs as well as discriminating advantage on emerging competitions.

LMMAR Travel

Alaska ! Land and Sea Journey Sept. 5-16

Overnight in Fairbanks. Drive to Denali National Park. See Mt. McKinley. Cruise amazing Hubbard Glacier and Glacier Bay. Visit historic Skagway, Russian-influenced Juneau, and Ketchikan (totem poles, fresh salmon). A day at sea, then on to Vancouver, and home to reminisce and share your adventures with your loved ones.

Call me for a brochure !

Solo travelers, are you tired of paying twice a much as everyone else when you take a trip? Read on for a possible solution. Ships and hotel prices are generally based on two people sharing a cabin/room. Solo travelers are usually charged for the full rate of the room/cabin for two, and, thus, end up paying twice as much as they would pay if they were rooming with another person.

I would like to gather a list of people who would like to share a room/cabin on this Alaskan adventure (Sept. 5-16) with another solo traveler in order to pay the normal per-person rate. I will not personally pair up solo travelers, but will make each Solo Traveler's contact information available to others on the list, enabling each person to phone or contact the other people in order to select their own roommate for this trip. There is no guarantee that you will find a compatible roommate on the list. Remember, though, that you will only need to share the room/cabin during sleeping and dressing times. The rest of the time you will be out and about, mingling with everyone else on the journey. Again, I will NOT choose your roommate for you, but I will make the names and contact information available to the other solos who send me their contact information. That will enable each person on the solo traveler list to make their own roommate arrangements before booking the trip. You can then book the trip as a party of two, and travel more economically.

LMMAR Travel Director Janet Hammerlund. (408) 718-9270

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MAY 2017

Activity Calendar

- **LMMAR Executive Board Meeting**. First Monday of each month unless holiday conflict, then second Monday. 9:30 a.m. Star One Administration Building, 1306 Bordeaux Dr.— Members are welcome to attend. Call Norm Dhom to arrange attendance — (408) 732-2742.

- **LMMAR Newsletter Mailing Session**. Volunteers needed. Second Thursday of each month. 9:30 a.m. Star One Administration Building, 1306 Bordeaux Dr. — Call Norm Dhom to arrange attendance — (408) 732-2742.

- **LMMAR Bridge Card Players**. Join the fun! Every Tuesday and Thursday, 11:30 a.m. at the Willow Park Condominiums located at the NE corner of Moffet Blvd. and Middlefield Road in Mountain View. Entrance is from Moffet Blvd. Contact Dave Himmelblau, 'phone No. 650 968-1121.

- **Lockheed Martin Blood Bank Drive**. Second Wednesday of each month. 8:00 a.m.– 3:00 p.m. Bldg. 163. LMMAR Contact Norm Dhom (408) 732-2742.

- **LMMAR BBQ at Central Park in Santa Clara.** Catered by Andy's Bar-B-Que on July 21, 2017. We have reserved Arbor Center Picnic Area "C." Guests welcome. For information, please call Lucille Wilson at 408-225-9566 or Gay Morgan at 408-243-2233

- **LMMAR October Fest Luncheon at Michael's Shoreline Restaurant.** Date not yet set. For information, please call Lucille Wilson at 408-225-9566 or Gay Morgan at 408-243-2233

- **LMMAR Christmas Holiday Luncheon.** Friday, December 8, 2017 at Michael's at Shoreline in Mt. View. For information, please call Lucille Wilson at 408-225-9566 or Gay Morgan at 408-243-2233

- **Lockheed Martin Retirees Investment Group (LMRIG).** Meets last Thursday of each month, 1:00-3:00 p.m. Meet at Mitchell Park Library, 3700 Middlefield, Palo Alto Midtown Room – on the right, past the library entrance. Dues are $2. Contact Don Kinell (650) 948-1520 or Martin Abelow (408) 253-6924.

For your financial needs, please contact Star One Credit Union at www.starone.org or (866) 543-5202 toll free.

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