

The Coming of the CH-53K to the Israeli Defence Force



By Robbin Laird

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The Next Phase in the Israeli Procurement of the CH-53K

February 17, 2022

Recently, a formal announcement has been released with regard to Israeli acquisition of the new heavy lift helicopter, the CH-53K.

I will highlight that announcement later in the article, but this will be the first in a three-part series which will highlight the acquisition and its importance for the IDF.

In the next piece, I will address what we have learned from current CH-53K operators about the aircraft and its capabilities which will be particularly important for the IDF in its evolving operational envelope.

In the third piece, I will then address how that operational envelope is changing along with the evolving strategic and tactical environment facing the IDF within which the CH-53K will both fit and drive change.

On January 4, 2022, NAVAIR announced the IDF signing the letter of acceptance to purchase the CH-53K.

The Israeli Air Force (IAF) has signed a Letter of Acceptance with the United States government to purchase the CH-53K King Stallion heavy lift helicopter on December 30.

“We’re happy the IAF recognizes the unrivaled capabilities and performance of the K and have chosen to move forward with us,” said Colonel Jack Perrin, Program Manager, heavy lift helicopter program office (PMA-261). “Welcome to the CH-53K family!”

The CH-53K is the most powerful helicopter ever built by the U.S. government and will replace the IAF current fleet of modified CH-53D Yasur helicopters, which have been flying for over 50 years.

The signed agreement states first deliveries of the aircraft are planned for 2025. In addition to the aircraft, the agreement includes T408-GE-400 engines; facilities study, design and construction; spare and repair parts; support and test equipment; publications and technical documentation; aircrew and maintenance training; U.S. government and contractor engineering, technical and logistics support services; and other related elements of logistics and program support.

As the long-range logistic support backbone for the U.S. Marine Corps, the CH-53K will support Israeli special operations programs first, as well as provide the Israeli Defense Forces with a platform that has the speed, safety and gross weight capability to support all of its missions, including troop and cargo transport, and search and rescue.

The decision wraps up a multi-year negotiation process. In the end, the King Stallion offered more capabilities and the latest technology compared to the competition. During this period, PMA-261 hosted multiple visits by IAF leadership as they compared aircraft, including orientation flights and flight evaluations with IAF pilots and acquisitions professionals.

The CH-53K King Stallion program is in the Initial Operational Test and Evaluation stage and is on track to achieve Initial Operational Capability in early 2022, with first fleet deployment planned for FY2024.

On February 15, 2022, Lockheed Martin issued a press release which highlighted the IDF acquisition.

Stratford, Conn., Feb. 15, 2022 – Lockheed Martin will produce 12 CH-53K heavy lift helicopters for Israel under a U.S. Navy Foreign Military Sales (FMS) agreement.

This production announcement is for the first four of 12 aircraft for Israel and is on the heels of a contract to produce nine more aircraft for the U.S. Marine Corps. The signed letter of offer and acceptance (LOA) between the U.S. Government and Israel states first deliveries of the baseline aircraft are planned for 2025.

The CH-53K helicopters will replace the Israeli Air Force (IAF) fleet of modified CH-53D Yasur helicopters, which have been in Israel's inventory for over 50 years. The all-new CH-53K delivers modern state-of-the-art capabilities that result in improved survivability, safety, and reduced aircrew workload over its predecessor, making it the perfect fit for the demanding IAF mission. Also, with a reduction in support equipment footprint compared to the legacy fleet, the CH-53K will mean reduced operating costs.

“We are building on decades of experience and partnership in supporting the CH-53E for the Marine Corps and the CH53D for the IAF. Sikorsky has a deep understanding of the world-wide heavy lift mission enabling our team and proven supply chain to offer tailored solutions resulting in more efficient missions , “ said Paul Lemmo, president, Sikorsky. “We are committed to provide training and sustainment support to ensure a smooth entry into service for the IAF.”

The aircraft will be manufactured at Sikorsky headquarters in Stratford, Connecticut, leveraging the company's digital build and advanced technology production processes.

And the U.S. Department of Defense issued a contract announcement on February 15, 2022:

Sikorsky Aircraft Corp., a Lockheed Martin Co., Stratford, Connecticut, is awarded a \$372,040,552 fixed-price incentive (firm-target) modification (P00007) to a previously awarded contract (N0001920C0047).

This modification exercises an option for the production and delivery of four low-rate initial production, Lot 6, CH-53K Heavy Lift aircraft, as well as associated aircraft programmatic and logistical support for the government of Israel.

Work will be performed in Stratford, Connecticut (37.57%); Wichita, Kansas (9.56%); Salt Lake City, Utah (5.60%); St. Louis, Missouri (4.36%); Bridgeport, West Virginia (3.11%); Redmond, Washington (1.99%); Kent, Washington (1.67%); Quebec, Canada (1.63%); Cudahy, Wisconsin (1.42%); Rochester, United Kingdom (1.29%); Fort Walton Beach, Florida (1.19%); Rome, New York (1.12%); Saint Marcel, France (1.04%); Jupiter, Florida (1.03%); various locations within the continental U.S. (26.36%); and various locations outside the continental U.S. (1.06%), and is expected to be completed in November 2025.

Foreign Military Sales funds in the amount of \$372,040,552 will be obligated at time of award, none of which will expire at the end of the current fiscal year. The Naval Air Systems Command, Patuxent River, Maryland, is the contracting activity.

And finally, Breaking Defense where I am on the board of contributors published a piece on February 16, 2022 from their Israeli correspondent which added some further details:

TEL AVIV: Lockheed Martin has officially announced it will produce a dozen CH-53K heavy-lift helicopters for Israel, choppers that sources here say will be augmented with high-tech Israeli-made systems.

The announcement, made Tuesday, comes after the Israeli government approved the deal in January for 12 helicopters for some \$2.4 billion, though the Tuesday's announcement only concerns the first four helos.

Lockheed said the choppers, made by subsidiary Sikorsky, will replace the Israeli Air Force fleet of CH-53D Yasur helicopters "which have been in Israel's inventory for over 50 years."

"The all-new CH-53K delivers modern state-of-the-art capabilities that result in improved survivability, safety, and reduced aircrew workload over its predecessor, making it the perfect fit for the demanding IAF mission," Lockheed said in its announcement.

The initial delivery of the base helicopters is expected for 2025, but Israeli sources told Breaking Defense Israel plans to outfit the helos with their own systems, which could delay delivery by a year or so. Most of those systems are classified, but sources said one will be a version of the Elbit MUSIC system designed to protect against man-portable ground-to-air missiles.

Lockheed's announcement comes as the Israeli Defense Forces also look to buy new combat helicopters and upgrade those in their current fleet, sources said, including potentially purchasing 20 new Apache E helicopters and upgrading another 20 Apache D helicopters.

CH-53K Capabilities and the IDF

February 22, 2022

The acquisition of the CH-53K™ by the IDF can be described as a replacement for their aging CH-53 Yasur helicopters. But the CH-53K is a very different capability and comes at a time of IDF transition as well.

In this second piece in my three-part series on the CH-53K coming to the IDF, I am focusing on what the CH-53K brings to the IDF.

The first and in many ways the most important one is that this new heavy lift helicopter is entering the USMC force as the final piece of the triad of the Osprey-F35-B and the CH-53K. Marine air capabilities have transformed the USMC.

This means that the IDF can tap into lessons learned and being learned as the Marines continue their force transformation process.

A key part of that process is shaping more effective ways to do mobile basing and force insertion, given the capabilities of the CH-53K enabled by the other Marine air capabilities. The Marines have generated significant innovations in force insertion as they built out their innovative air mobile capabilities, and the CH-53K is tapping into the innovations by USMC integration of CH-53 with K operations as well.

And certainly, working force insertion at a distance with the F-35 as the partner for the CH-53K is something which the IDF will leverage going forward.

The second is the significant automation of systems built into the aircraft.

This leads to ease of use; this leads to reduced training time to get the operating team up to ops speed; this leads to shaping new flight crew working relationships as the reduced pilot load allows the flight crew to focus on a wider range of tasks than simply mastering the ability to fly a heavy lift helicopter.

As the 2nd Marine Air Wing Commander, MajGen Cederholm put it last year in my interview with him: “I was amazed at the automation that’s built into the aircraft. To be honest with you, I can’t stop thinking about what the different possibilities are of how we can make this platform support our operating concept on the battlefield of today; but not just today, but on the battlefield of the future.”

The reduced training time aspect was highlighted in a discussion I had with LtCol Frank head of the VMX-1 CH-53K detachment at Marine Corps Air Station New River.

The digital aircraft has many advantages and one can be seen on the training dimension. As with the F-35, pilots can train to core proficiencies more rapidly, which leaves room for expanding training options for the evolving mission sets which the Marines are clearly focusing on for full spectrum crisis management.

With regard to conversion training, they have discovered at VMX-1, that hours and flight events could be reduced for the pilots. As LtCol Frank put it: “the initial conversion syllabus from the CH-53E to the CH-53K was tailored based on our best guess of what events and flight hours would be required for the conversion aircrew. Following our initial foray into our own flight and simulator training and through our evaluations of the current syllabus we realized we could reduce those numbers by around 25%.

“Currently, we are focusing heavily on the co-pilot series-conversion syllabus which began as 17 total flight events for 26 flight hours. After our pilots completed this period of instruction, surveys taken at the end indicated that we could pare those numbers down by 7 events and 10 less flight hours. My hope is that this 25% savings will result in a typical Marine Heavy Helicopter Squadron saving 6 months over the duration of their transition.

“So now, if we can can capitalize on the flight hours savings and pair that with an enhanced focus on the higher-level syllabus, we could expand training for those missions to meet high end events that the Marine Corps has decided is important in the evolving context.”

The third is that combining range, lift capabilities and automation shape a new combat capability.

As LtCol Lukas Frank, put it:

“You have an aircraft that can carry significant supplies or Marines inside and can carry 36,000 pounds externally. They can carry a lot of stuff. It has automated flight control systems that allows you to land in the degraded visual environments that you would not dare land an ECHO or a DELTA in. It can fly long distance without the air crew being fatigued. If you’re aerial refueling and flying 1,000 miles in the E, the air crew would be wet noodles getting out after the flight. In the K you can relax a little, take a breath, allow the aircraft to help you fly and thus reduce aircrew fatigue significantly.

“I think when the necessity for conflict rears its head the K will be able to respond, and using human ingenuity, the operators will be able to find a way to support any mission that the Marine Corps needs it to do. The K is so versatile that I don’t see people being pigeonholed into not being able to do something with a K. I think they’ll be able to answer the call 99.9% of the time.”

The fourth is how the digital nature of the aircraft can open up the way ahead for enhanced man-machine operational capabilities.

In a discussion with Col. Jack Perrin, Program Manager, PMA-261, H-53 Heavy Lift Helicopters, Naval Air Systems Command at Patuxent River, Maryland, we focused on how the digital nature of the aircraft opened the aperture for future combat capabilities.

Question: I would like to return to the digital point for a moment.

The CH-53K is a digital aircraft as you have said and working digital data as part of the operational and sustainment efforts is a key foundation as the force works towards adding autonomous systems – which are completely software driven to the force.

How would you characterize the impact of the manned digital system preparing the way for unmanned systems?

Col. Perrin: The digital character of the aircraft reduces the workload of the pilots and the crew so much that they can have that spare capacity to do those additional tasks that they will see in that digital battlefield, whether it’s communicating or operating with other symbiotic platforms that are going be out there.

Because I agree with you, the future really is about the unmanned world and that force multiplier that they can provide to some of those manned systems, but to get there you have to start by understanding, working with and mastering digital backbone manned systems.

I will stop there and turn in the final piece into how the IDF can translate these proven capabilities into a significant combat advantage for the way ahead for the IDF.

Featured Photo: A Marine Corps CH-53K King Stallion lowers a Navy MH-60S Knighthawk helicopter to the ground after recovering it from the nearby mountain ranges after it conducted a hard landing near, Bishop, California, Sept. 5, 2021.

The two-day operation was the first official fleet mission for the CH-53K King Stallion, as it is currently undergoing an operational assessment while the Marine Corps modernizes and prepares to respond globally to emerging crises or contingencies.

The CH-53K and Transformation of the USMC and the IDF

February 27, 2022

The CH-53K comes into the USMC and into the Israeli Defence Force as both are in the process of transformation.

The two forces are on different transformation paths with different adversaries as focal points, but this platform is coming to both forces as they are working new ways to operate and evolving their concepts of operations.

And the two forces clearly interact with one another and will certainly cross-learn thereby taking lessons being learned about using the new aircraft as they shape their evolving concepts of operations approaches.

Last year, I did an interview with a Marine who indeed spent time in Israel training with the IDF. And notably, this Marine was working directly on the USMC transformation process. This is what I have written in my new book on the USMC transformation path about our conversation.

"II Marine Expeditionary Force supports service and Combatant Commander's initiative as required. At the same time, II MEF is in transition and must focus on preparing for future operations and shape new ways to do so while being able to operate now. This is hardly an easy challenge, but one which II MEF must meet head-on. At the command, the head of G-35, Future Operations is Colonel Ryan Hoyle.

"He noted in our discussion that for the command, a look ahead in an 18-to-24-month period is the focus of future operations.

'But as we discussed, the focus on change was coming through exercises but also working ways to rework the Marines' ability to integrate with the Navy and with allies to shape evolving capabilities for the future fight. His background is diverse, and very impressive. I mention this because if you want someone to work through how to work a way ahead with the force in being, it is clearly an advantage to have someone with wide-ranging experience with the current force and enough experience in working with non-Marine joint and allied forces focused on change. Among other experiences, he has been aide to camp to the Deputy Chairman of the NATO Military Committee, Amphibious Staff Officer and exercise planner at NATO's Special Operations Headquarters.

"And he has a Master of Science in Political Science from the Israel National Defense College. There is probably no force in the world which has work joint integration in a more challenging political and military environment than the Israeli Defense Force (IDF). He brings this experience to the current challenging task of transitioning and preparing for the future fight while reshaping the force in being. How do you do this? And how is II MEF approaching this challenge?

"The Israelis provide an interesting case because post-Abraham Accords, they are focusing on their ability to have a strategic reach to be able to deal with threats on their periphery. It is no surprise than that the IDF is operating a core USMC capability, the F-35, and are adding the latest capability,

namely, the CH-53K. The IDF is increasingly focused on becoming more mobile and expeditionary, which brings them closer to the USMC trajectory of change as well."

For the Marines, the CH-53K will be a key element for working mobile basing for the expeditionary force, a focus of my series on mobile basing as a strategic capability and the subject of book in progress.

For the IDF, the flexibility of the CH-53K is clearly important and part of their working an enhanced combat capability for distributed operating teams as well.

The ability of the CH-53K as a digital aircraft to manage data in the context of operations and operate either as a provider of information or a user of information is crucial to what the IDF is looking for in its focus on a force which can deploy in a distributed manner but be integratable through C² and ISR systems or what we have focused on as kill web enabled concepts of operations.

Ed Timperlake and I have focused on these concepts of operations in our forthcoming book entitled *Maritime Kill Webs: Deterrence and Warfighting in the 21st Century*.

In his assessment of the transformation of the IDF, Avi Jager quoted Benny Gantz, then serving as Israel's alternative prime minister with regard to that transformation:

"[T]he purpose of [these changes] was to create a smaller yet deadlier army, capable of confronting non-state adversaries in complex environments and on multiple fronts. . . . The ability to be a smaller yet deadlier military depends primarily on the ability to obtain accurate intelligence, process and analyze it effectively, and transfer it to the combat forces in real time."

Jager went on to underscore that the focus of the transformation was away from countering direct adversary occupation threats to Israel to countering specific adversary threats wherever there are located in the broader perimeter of the air-ground-maritime environment of Israel.

As he noted: "The IDF's missions no longer were to occupy vast adversary-state territory but, instead, to gain operational control over geographically limited hostile areas and eliminate localized threats...." This led to establishing brigades as independent battle groups instead of operating as division-sized formations.

He added that "The driving forces behind these changes were fire support. To allow better control and coordination between the different battalions, groundbreaking innovations in military each brigade battle group was technology. given its own command-and- control headquarters. These headquarters were in continuous communication with other field forces, as well as with parallel forces and the senior commander. Brigades were now responsible for managing their own logistics, rearmament, and tactical extractions." [1]

These changes were made starting in 2011 to deal with the dispersed threats from the Hezbollah and Hamas.

Now innovations enhancing the combat power of a CH-53K enabled force package can draw directly on the C²/ISR capabilities of the F-35 as well upon the capabilities over time for the CH-53K to evolve its ability to work with various autonomous systems and weapons through its onboard digital management capabilities.

And the ability of the aircraft to manage itself with the significant automation onboard allows the flight crew to take on broader tasks of mission management, rather simply being spending much of your cognitive capabilities on simply operating the aircraft effectively and safely.

This is especially important given the key role reserves play in the IDF. With the shorten training cycle to operate the K versus the legacy CH-53 and the ability to learn the new capabilities delivered by the aircraft through software upgrades on the new simulators, the reserve force becomes much more rapidly a frontline capability for the IDF.

And given the twin impacts of the Abraham Accords and the evolution of the Iranian threat, an ability to move combat formations to specific areas of interest rapidly is of increasing significance.

With the Abraham Accords, the IDF has more potential locations from which to operate, and that, in turn means, that they need to move support for an insertion force, as they will have to use General Carlisle's famous phrase, "places not bases" from which to operate.

And with the growing threat from Iran, not only are they facing a diverse range of operating bases for missiles, and the potential for marrying that to a nuclear payload, but the Iranians operate through surrogates all around the periphery of Israel. And air strikes are not always the most effective means to eliminate pockets of Iranian operational capabilities.

In short, the CH-53K will both benefit from the USMC and IDF transformation processes and contribute to them.

And both experiences can be significant for the German military as Germany deals with the impacts of the Russian invasion of Ukraine on its own defense and its ability to move force to deal with its proximate neighbors most threatened by direct Russian actions in the future.

[1] Avi Jager, "The Transformation of the Israeli Defense Forces," Naval War College Review," (Vol 74 (2021), No. 2. <https://digital-commons.usnwc.edu/nwc-review/vol74/iss2/4/>

Additional CH-53K News

By NAVAIR

February 22, 2022

NAVAL AIR STATION PATUXENT RIVER, Md.

The CH-53K King Stallion test team, part of the Heavy Lift Program Office, PMA-261, is the recipient of the Department of the Navy Test and Evaluation Working Integrated Product Team (WIPT) award for 2021.

The 18-person WIPT will be honored in a virtual ceremony this spring. According to the award announcement the team, "demonstrated superior performance in delivering outcomes while overcoming significant challenges in execution."

During the past year, the CH-53K King Stallion WIPT successfully kept the program on track toward Operational Test (OT) in support of Initial Operational Capability (IOC) and Full Rate Production. That success came despite late technical discoveries, solution implementation timelines and some unresolved deficiencies.

When findings surrounding internal cargo handling in the aircraft and engine performance capabilities put program timelines at risk, the team was able to leverage the close alignment of Developmental Test and Operational Test within the WIPT to keep the program on track.

“Our team did a fantastic job collaborating and focusing efforts to bring the CH-53K to Operational Test, supporting the fleet’s critical need for heavy lift capability,” said Gene Clark, former Assistant Program Manager for Test and Evaluation for PMA-261 in 2020 and 2021. Clark drafted the award nomination prior to moving to his current position as Assistant Program Executive Officer, Test and Evaluation for Program Executive Office Unmanned and Weapons.

Strong collaboration, concise communication and an extraordinary analytical effort by the team culminated in a successful entry of the CH-53K into OT in July. The WIPT’s efforts ensured the best possible product was tested and the program remains on track to enter IOC this summer, looking to first fleet deployment in FY24.

A CH-53K King Stallion aircraft undergoes night aerial refueling tests over the Chesapeake Bay in June, 2021. US Navy photo

This article was published by NAVAIR on February 22, 2022.

Iran’s New Long-Range Strike Capability and Nuclear Dynamics

02/25/2022

By Debalina Ghoshal

In February 2022, amid the nuclear crisis, Iran unveiled a 1450km range missile with reportedly better accuracy and greater speed than other missile systems in its inventory.

The missile is also reported to be better capable of evading enemy missile defence systems given its high maneuverability.

Unveiling a new missile system is part of the regime’s messaging system.

For years, Iran has used hard power prowess as a component of soft power and diplomacy.

The missile was displayed for the first time by the Iranian Revolutionary Guard Corps (IRGC) just a day prior to the Vienna talks.

IRGC is in charge of Iran's missile inventory system and is a key functionary body of the Supreme Commander of Iran.

The IRGC is equally an integral component of Iran's soft power diplomacy and unveiling of a long range strike capability that could reach targets in Israel and U.S. military assets in the Persian Gulf was a message conveyed by Iran and the IRGC that no amount of coercion or sanctions can stop Iran from exerting its influence in the Persian Gulf region.

Low weight, high speed and greater maneuverability mean that the missile may have greater capability to strike U.S. assets.

There is no doubt that Iran wants to save the Joint Comprehensive Plan of Action (JCPOA) of 2015 from which the United States withdrew in 2018. a

However, the recent set of deals demand that Iran further limits its nuclear activity in return for some economic sanctions. The weapon system is used as a coercive diplomatic tool against the United States and the European 3 (Britain, France and Germany) to accept a viable solution to the nuclear impasse and lift off more sanctions for Iran to find the nuclear deal more conducive.

At the moment, Iran wants the United States to lift off all the sanctions imposed on it, but the Biden administration has only offered to lift off sanctions that were imposed on Iran during the Trump administration.

There is also the challenge from Iran's proxy wars in neighboring areas.

Iran has been accused (though denied by Iran) of transferring missile systems to Houthis in Yemen, Hezbollah and Hamas. Being solid fuelled, and thus easily road mobile, this proliferation of missile system can become much easier.

In the future, such long range strike capabilities with sophistication could be proliferated to asymmetric organizations threatening counter value and counter-vailing and also counter-force targets of adversaries like Israel and Saudi Arabia, though at the moment, Israel's layered missile defence system and U.S. Patriot systems in Saudi Arabia are countering these threats.

Iran's long range strike capabilities clearly threaten Israel. An Israeli daily expresses concerns, "Khaybar, Khaybar ya yahud" being an anti-semitic chants that encourages genocide of the Jews and could have a message reminding the Jews of the Battle of Khaybar.

It is interesting to note that in 628CE Muslims attacked Medinese Jews in the Arabian Peninsula region, present day Saudi Arabia during the Battle of Khyber been carried out by Ali-leading a force loyal to Prophet Muhammad.

One Iranian hardliner newspaper, the Khorasan also read, "the precise, radar-evading and pin pointing missile is capable of dealing maximum blows on the Zionist regime in any potential confrontation."

In fact, another hardliner newspaper, the IRGC affiliated Javan reminded the Jewish of the defeat in the Battle as it echoed, "we will remain revolutionary smashers of Khayber."

The then deputy leader of the IRGC in 2019, Hossein Salami warned that Iran's "strategy is to erase Israel from global political map."

He further added, "We have managed to obtain the capacity to destroy the imposter Zionist regime" and this is now "an achievable dream."

The Iranian missile program from the Iranian point of view should not be affected by any nuclear deal.

Editor's Note: With the Abraham Accords and enhanced Israeli cooperation with the GCC, the Iranian twin effort at longer range strike couple d with a nuclear path may well lead to results that the Iranian leadership might not wish to see.