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The Path to Next Generation Rotorcraft Capability

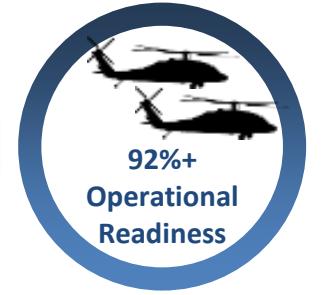
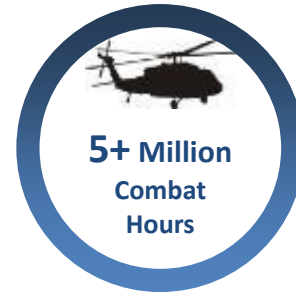
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October 2024



Agenda

- Black Hawk®: The World's Preeminent Military Multipurpose Helicopter
- Changes in the Vertical Lift Maneuver Operating Environment
- Black Hawk®: Ideal for Today's Multi-Mission Requirements
- Armed Black Hawk® Overview
- Black Hawk® Modernized & Relevant Through 2070 And Beyond
- Next Generation Sustainment Update
- Next Generation Rotorcraft Update
- Conclusion: Sikorsky Committed to Delivering Today's and Tomorrow's Capabilities

Black Hawk®: The World's Preeminent Military Helicopter



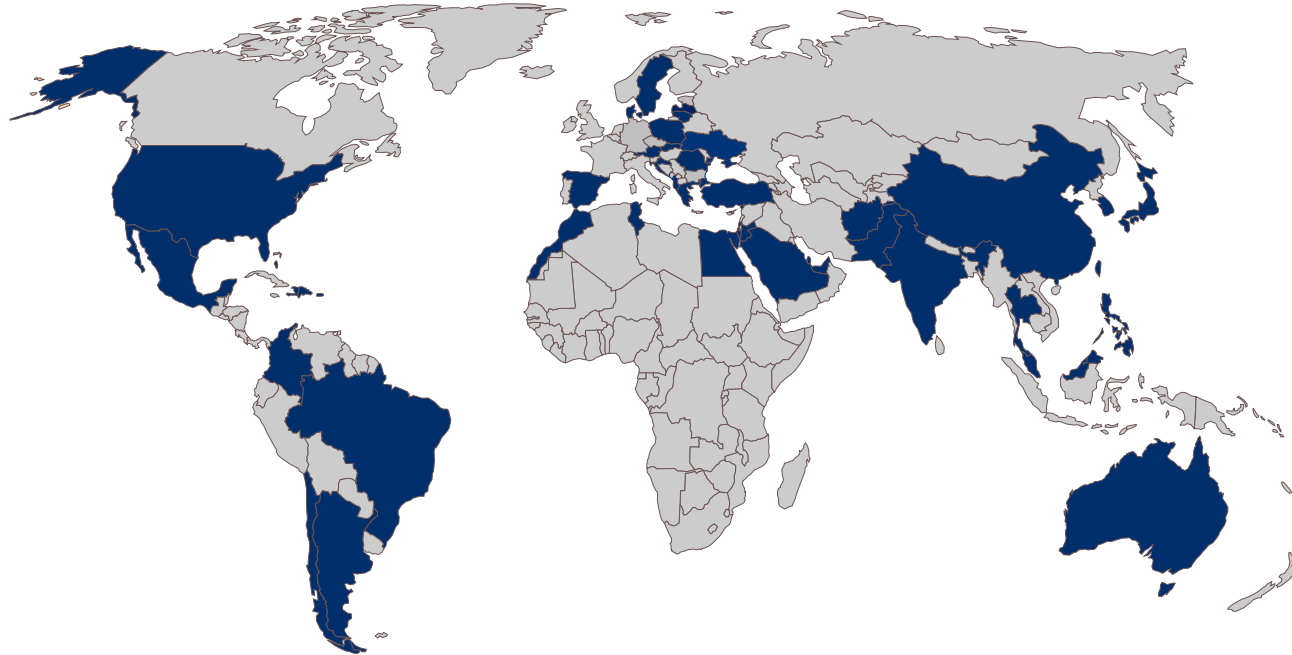
All Hawk Variants:

United States: 3,700

Asia & Australia: 600

Europe & Middle East: 700

Americas: 200



Why Black Hawk® (Today & Tomorrow)?

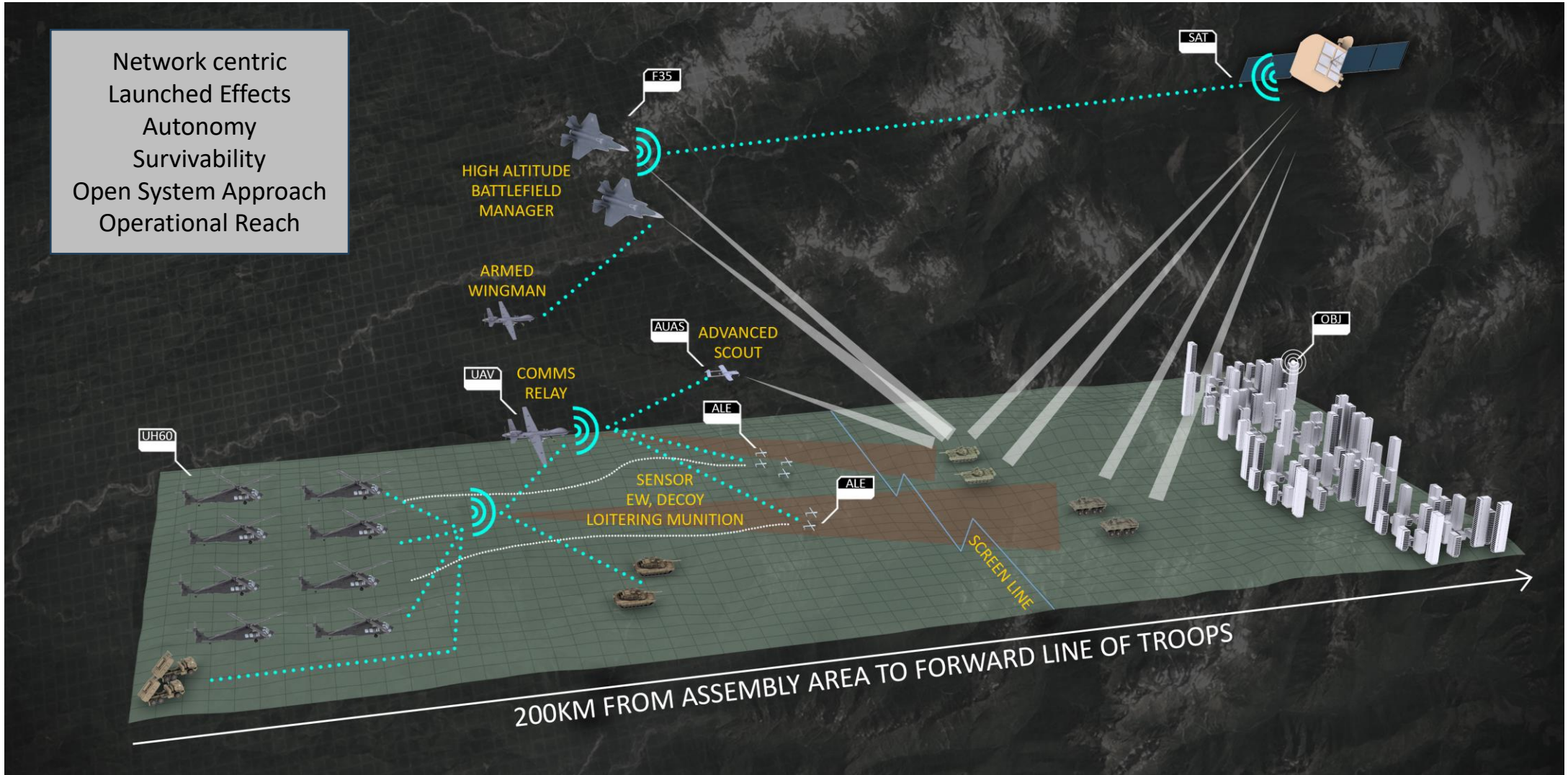
-  **Survivable**
-  **Versatile**
-  **Dependable**
-  **Interoperable**
-  **Modernization Path**

The first choice for tactical helicopter operations worldwide now and into the future

Changes in the Vertical Lift Maneuver Operational Environment

Black Hawk® Modernization CONDUCTS AVIATION SUPPORT:

Division Utility Support, Mission Command on the Move, Security/Recon OV-1 (ARMY 2040+)



Why Is Black Hawk® Right for Today's Missions?



Armed UH-60/S-70



UH-60M



S-70



S-70 FIREHAWK®

• Core Capabilities

- Air Assault and Troop Transport
- External Lift / Sling Load
- Self-Deploy: Crashworthy External Fuel System
- Enablers: Helmet Mounted Display, RNAV, ADSB-Out, Aircraft Survivability Equipment, etc.

• NATO and US Army Aviation Capability Needs

- Interoperable: Communications & Navigation; Logistics (Consumables, Maintenance, Parts)
- Survivability: Hard Landings & Spectrum of Airborne Threats
- Multiple Mission Versatility: Transport, Armed, Casualty Evacuation, Fire Fighting, VIP & Head of State

• Overmatch

- Unparalleled Performance and Range Options: Troop Transport, Fuel, Weaponization, etc.
- Tailorable Utility: Capable of Adding Unique Mission Systems Through Foreign Military Sales or Direct Commercial Sales
- Survivability and Safety: Complete The Mission And Bring The Crew And Passengers Home Safely

Highest FMS Demand in Black Hawk® History 2022-2024 During Multiyear X

Black Hawk® = Survivable, Multi-Mission Capabilities Across NATO and Worldwide

Armed Black Hawk®

Wings

Multiple Proven Light 1 or 2 Hardpoint Armament Wings or Multi-Purpose Wings (Fuel Tanks and/or Armed Payloads)

Electro-Optical Sight

Multiple Proven Options with/without Laser Range Finder / Designator

Helmet Mounted Display

Multiple Proven Options with Flight Symbology, Night Vision, and Targeting Information

Non-Precision Fixed Forward Weaponry

Multiple Proven .50 Caliber Guns and 2.75" Unguided Rockets



Electro-optical IR Sensor
Day and Night Cameras
IR Sensor
Laser range finder
Laser illuminator and designator

Precision Weapons

Armed Precision Kill Weapon System (APKWS) and Hellfire

Door Guns

Multiple Proven Multiple 7.62mm Options; Flex Fire (Fixed Forward or Traversable)

Survivability Equipment

Multiple Proven Options

Modernized Black Hawk®

Why Is a Common Modernization Path for Black Hawk® Important?



- **Improve Core Capabilities**
 - Air Assault and Troop Transport
 - External Lift
 - Reconnaissance & Security
 - Self-Deploy
- **Capitalize on NATO and US Army Capability Gaps**
 - Launched Effects
 - Reconnaissance, Security, and Target Acquisition (RSTA)
 - Mission Versatility: Transport, Armed, Casualty Evacuation, Fire Fighting...
- **Provide Overmatch Capabilities**
 - Improved Performance and Range
 - Versatility
 - MOSA: Rapid Integration for Mission Systems
 - Improved Survivability and Safety



Black Hawk® = Survivable, Multi-Mission Capabilities Across NATO and Worldwide

Black Hawk® Modernization Path

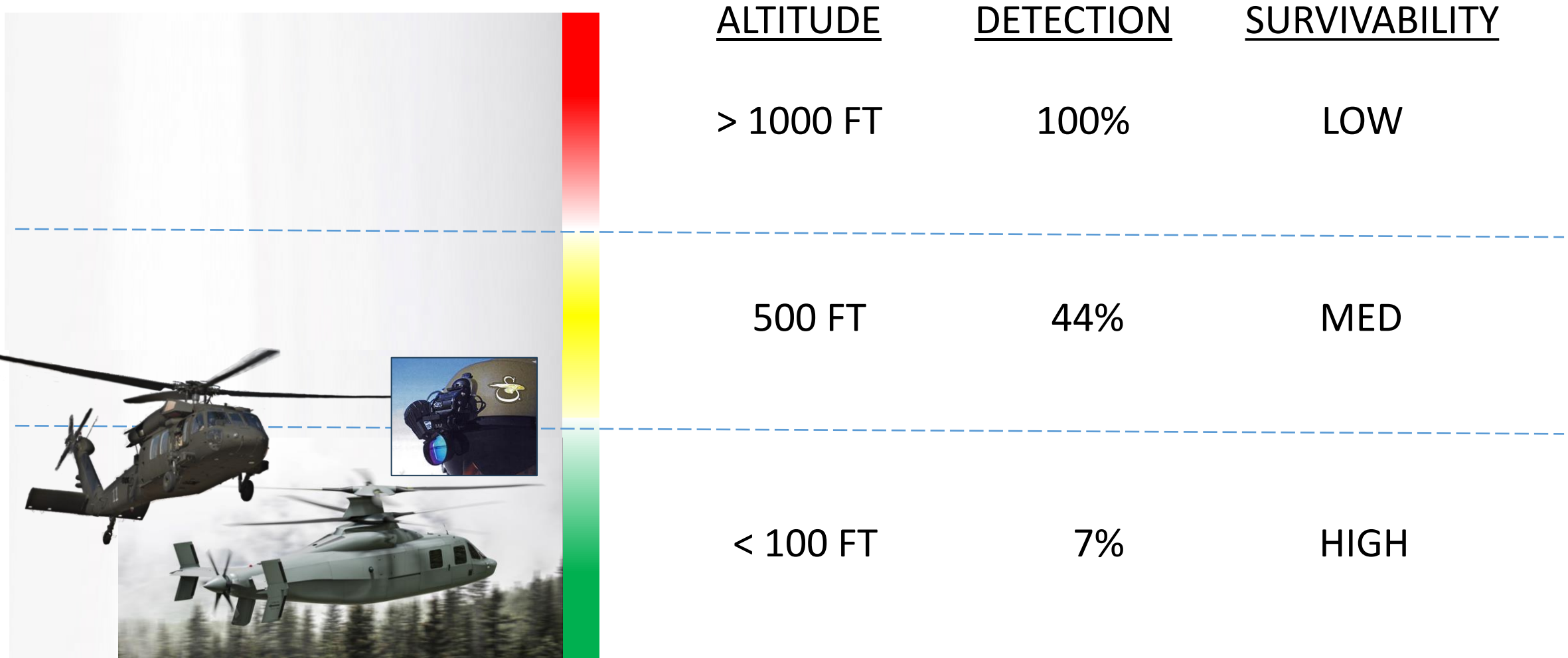
- **Near-Term Targeted Modernization**
 - Multiyear XI Procurement Opportunity to Begin Modernization
 - Science & Technology Priorities: ITE, MOSA, and Launched Effects
- **Long-term Modernization for Army beyond 2040**
 - Cabin Optimization
 - Support of Launched Effects
 - Integrate MOSA Digital Backbone
 - Continue to Evolve Fly-By-Wire to Address Survivability (DVE)
- **Benefits to the US Army & Foreign Military Sales**
 - Highly Common & Fully Integrated with FVL & SoF Fleets
 - Supports JADO: Reach, Lethality, Survivability & Sustainability
 - Common Path to Drivetrain and Airframe Improvements, Digital Backbone, MOSA, Fly-By-Wire, DVE Mitigation, Increased Survivability, Modernized

Black Hawk® Will Remain Modernized & Relevant Through 2070



Next Gen Capabilities

Modernized Black Hawk® & X2 NGRC with ITE & DVE Mitigation Speed in Low Altitude Flight - Reduces Threat Exposure



Increased Speed while at Nap of Earth Flight Decreases Detection

Black Hawk® & X2 NGRC Designed for Battlefield Connectivity



F-35 HIGH ALTITUDE AIR DOMAIN

- Precision Targeting
- Survivability in Highly Contested Air Space
- Fused Battlespace Awareness
- Sensor and Shooter
- Secure Communications
- Flexible, Evolving Architecture

LOW ALTITUDE AIR DOMAIN

Network Centrix Command on the Move

Sikorsky Technology Maturation Enables Success in the Future Operating Environment

Joint All Domain Operations (JADO)

Air Launched Effects (ALE)

Speed

Maneuverability

Endurance

Autonomy

Open System Architecture

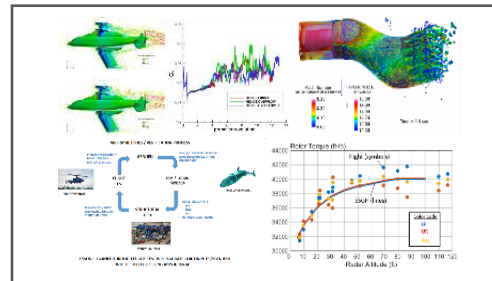




Sikorsky Technology Maturation



UH-60M
MH-60R
HH-60W
CH-53K®



Digital Engineering
Modeling Based Systems
Engineering



Next Gen Prototypes

100 Years of Sikorsky Innovation Developing and Maturing Rotorcraft Technology

Next Gen Sustainment



Lifecycle Digital Thread



Additive Manufacturing



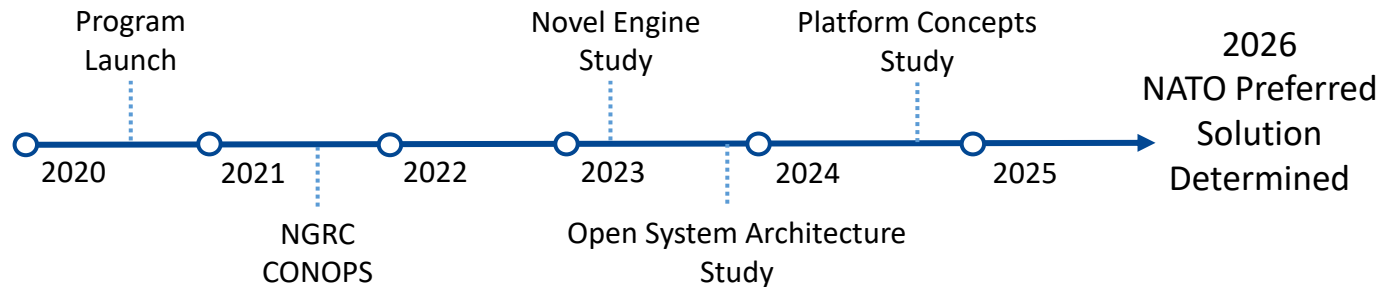
Big Data & Analytics
Condition Based
Maintenance

Increased Readiness and Maintenance Free Operating Periods

NATO – Next Generation Rotorcraft Capability

NATO Studies

- NIAG – Rotorcraft Survivability (2020)
- NIAG – Joint All Domain Operations (2021)
- NGRC – Open System Architecture (2023)
- NGRC – Integrated Platform Concepts (2024)
- NIAG – Rotorcraft Modularity (2024)



NATO – Next Generation Rotorcraft Capability



Attack / Armed Escort



**Maritime & Littoral Strike/
Anti Submarine /
Anti Surface Warfare**



**Air Assault/
Special Forces
Aviation**



**Search & Rescue/MedEvac/
Personnel Recovery**



Transport & Support

Multi-Role Configuration* Enables *Mission Flexibility* within *NATO NGRC ConOps

Conclusions

- Black Hawk® Relevant Today Through 2070
- Highest Ever Demand for FMS UH-60M & Sikorsky Commitment to International Customers
- Next Generation Enabling Technologies Successfully Demonstrated by Sikorsky
- Black Hawk® Modernization Will Share Next Generation Operational Capability with NGRC
- Increasing International Interest in X2® Next Generation Rotorcraft Technology
- Sikorsky Next Generation Enabling Technologies Compatible with Purpose Built NGRC



Sikorsky is the Choice for Delivering Next Gen Vertical Lift Technologies Now & Into the Future

LOCKHEED MARTIN 