

Cost Benefit Analysis of Next Generation Lightweight Armor in
Military Helicopters

LIFEPORT

Trusted solutions for the battle ahead

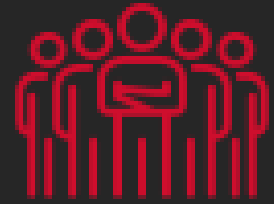


October 2024



WHO WE ARE

SKILLED TEAM MEMBERS



- Provide engineered products and solutions for fixed and rotary wing platforms

WE SOLVE PROBLEMS



- Proven track record of introducing new, customized solutions to meet end-user objectives and needs

INDUSTRY LEADER



- Pioneered mission-critical and life-saving solutions for the MEDEVAC, CASEVAC and HEMS community

TOTAL CUSTOMER FOCUS



- Broad range of global commercial and military end-users

PRODUCT LINES



ARMOR



VIP INTERIORS



AIR MEDICAL



STRETCHER SYSTEMS



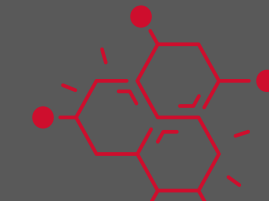
LOADING SYSTEMS



SEATING



GALLEY & LAVATORY



Advanced Materials



UTILITY FLOOR SYSTEMS

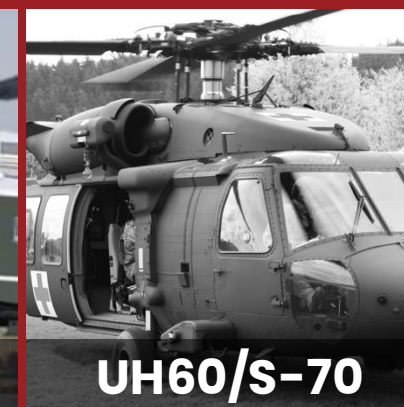
PLATFORMS



MH/AW139



VH/S-92



UH60/S-70



MH/CH-47

Pinette 7000T Press

- Top of the line press
- Pressures beyond 10,000 PSI
- Process up to 160 square feet of material per cycle (ten cycles/day)
- Vertical integration has resulted in significant material lead time reductions (from months to weeks)
- Enables implementation of AS9100 quality standards for armor material consolidation



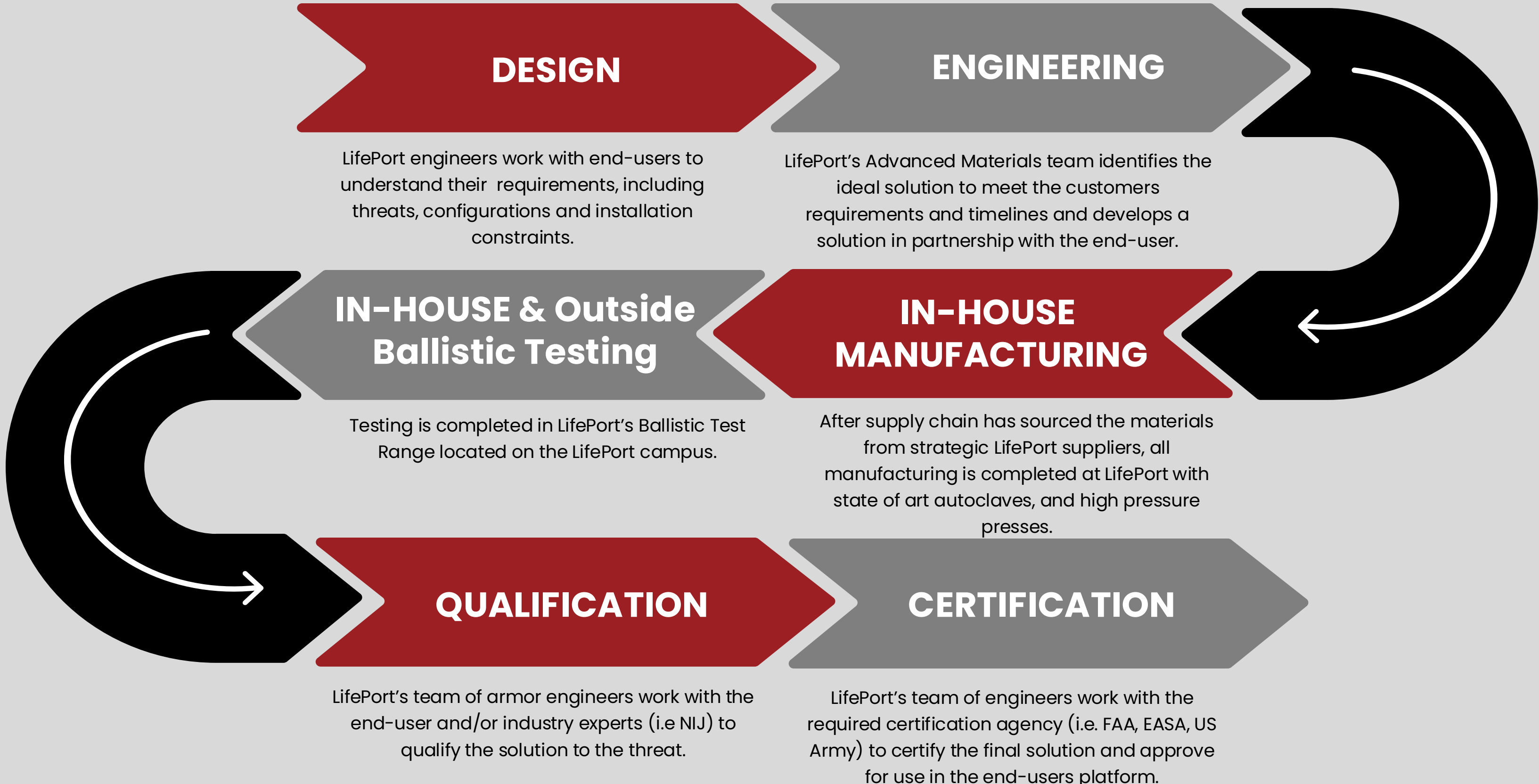
Ballistics Range

DEDICATED BALLISTIC TEST RANGE

Current ballistic capability:

- 9 mm Luger
- .44 Magnum
- .30-06 Springfield
- 5.45x39 mm
- 5.56x45 mm
- 7.62x39 mm
- 7.62x51 mm
- 7.62x54R mm
- .50 Caliber





US Manufactured Armor Acquisition Paths

DCS

FMS

Direct Commercial Sales (DCS) with TAA

- Direct sale of defense articles, services, or technology by U.S. defense contractors to foreign buyers.
- Subject to **ITAR** regulations and requires U.S. Department of State approval.
- Distinct from **FMS** (government-to-government sales), DCS involves direct negotiation between contractors and foreign entities.
- Typically used for non-complex systems, upgrades, or services.
- Can procure from Helicopter OEM or directly with Manufacturer of Armor

Potentially Lower Cost

Longer Timeline

Allows for Greater Customization

US Manufactured Armor Acquisition Paths

DCS

FMS

Direct Commercial Sales (DCS) with TAA Cost & Time:

Engineering & Qualification Cost: \$400,000

Timeline for 15 Month DCS Armor Delivery

Engineering: 90 days

Prototype: 30 Days

Qualification: 180 Days

First Article: 90 Days

1st shipset Delivery: 60 days

US Manufactured Armor Acquisition Paths

DCS

FMS

Foreign Military Sales (FMS) Government to Government Agreement

- Government-to-government sale of defense equipment and services, managed by the **U.S. Department of Defense**.
- Subject to U.S. government regulations and oversight to ensure compliance with foreign policy and national security.
- Typically involves larger, complex defense systems or full military capabilities.
- U.S. government facilitates the contract, including pricing, logistics, and delivery.
- Preferred for long-term strategic partnerships with allied nations.

Potentially Higher Cost

Faster Timeline

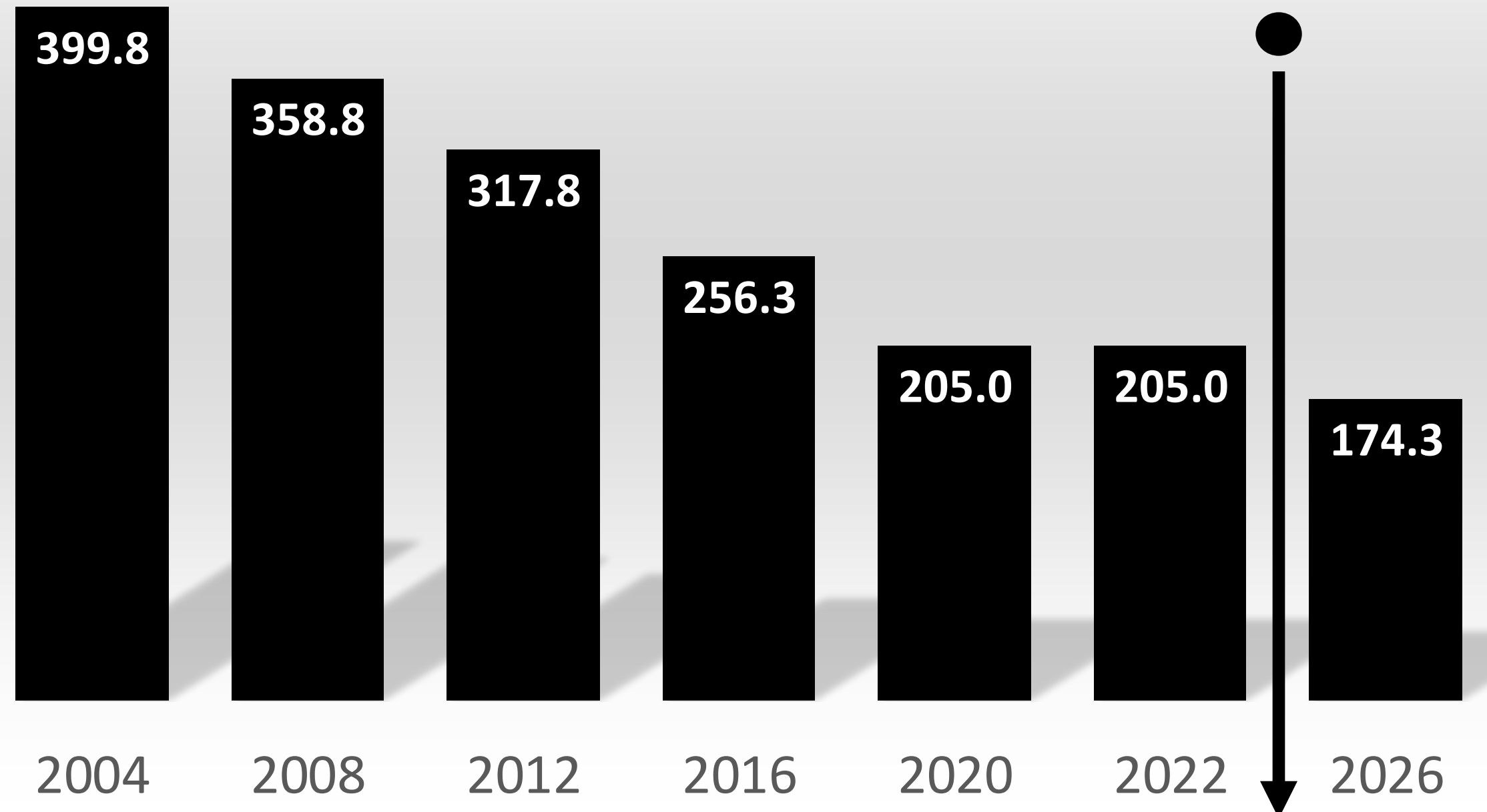
Case Study: Heavy Lift Helicopter

7.62 Ball @
Muzzle Velocity

~15% Reduced
weight every 4
years

~1050 KG
Steel Armor

Armor Cabin & Cargo Mass (KG)
for 21 Square Meters of Armor



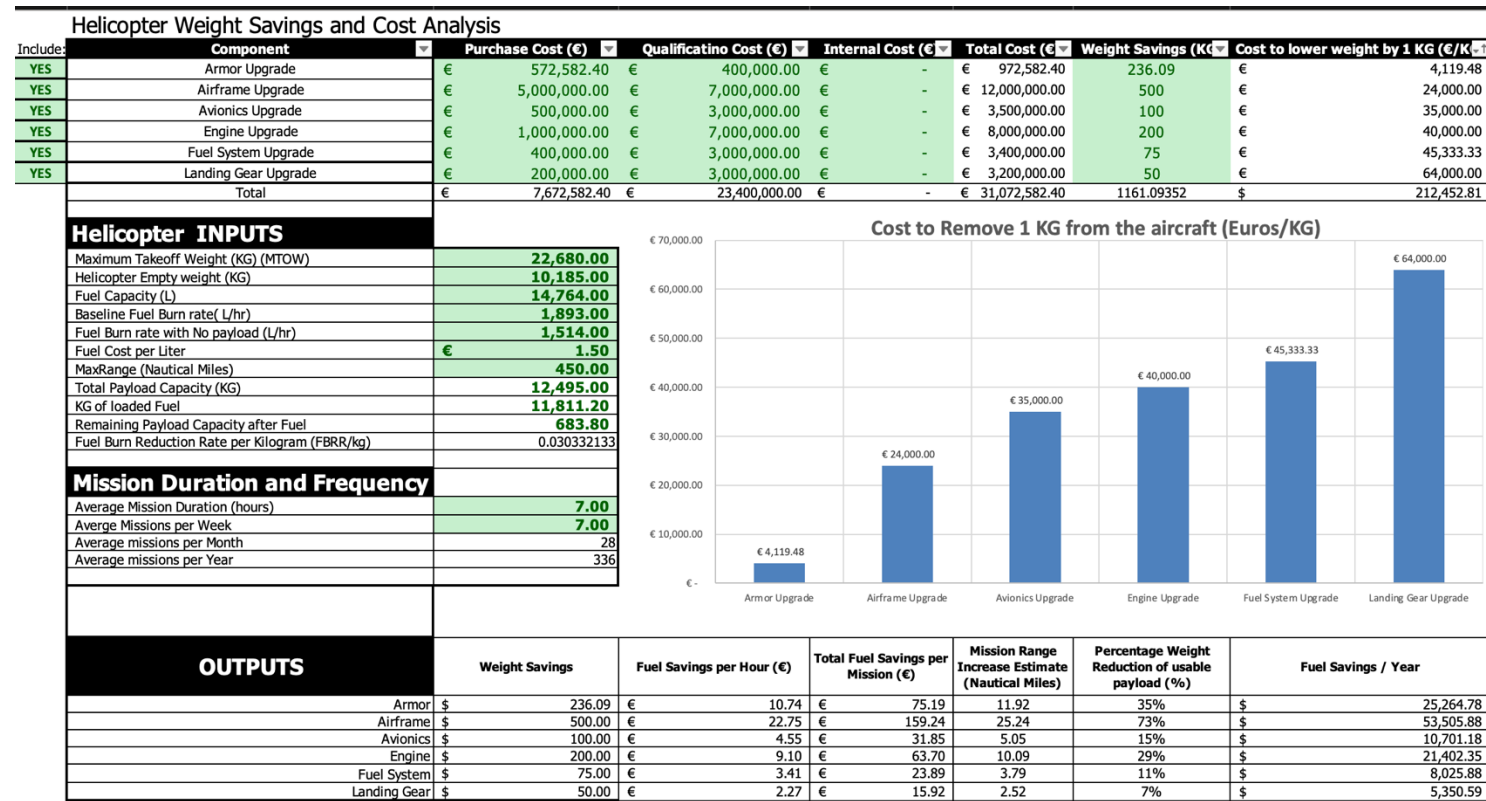
Platform weight savings Calculator:

Calculate the cost to remove 1KG of weight From your platform

Compare the cost across multiple platform sub systems

Input:

- Procurement Costs (Based on Acquisition Strategy)
- Platform Technical Information
- Alterative Weight Saving Program Options



Output:

1. Total Weight Saved on your platform
2. Cost to remove 1KG of mass from the platform
3. Calculate Weight, Fuel, and Payload trade options

THANK
YOU!

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