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MISSION-ENABLING
TECHNOLOGIES

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ADVANCED AUTONOMY

HII's Odyssey™ suite of autonomy solutions provides the AI-driven command-and-control foundation for multi-domain unmanned operations, enabling operators to plan, execute, and manage missions across individual vehicles or coordinated system-of-systems operations. Odyssey™ integrates with Minotaur, a government-owned, HII-developed mission management solution, and other sensor data, and emerging AI tools.

Odyssey Advanced Autonomy Solutions®

Advanced, intelligent autonomy solutions for platforms in multiple domains

HII's Odyssey Advanced Autonomy Solutions® transforms any vehicle into an intelligent robotic platform. Delivered from a variety of vehicle, module, and algorithm-level implementations across platforms, sensors, payloads, and missions, Odyssey Advanced Autonomy Solutions® enable multi-vehicle collaborative autonomy, sensor fusion, and advanced perception.

The solution is built on robust International Regulations for Preventing Collisions at Sea (COLREGS)-compliant autonomous navigation system and a modular, software-defined architecture that allows for rapid adoption to any platform or mission set and easily integrates third-party payloads, sensors, and autonomy suites.

ADVANTAGES

- **Adaptability:** Scalable from human-assisted operations to full AI-enabled independence.
- **Intelligent Transformation:** Converts platforms into intelligent robotic systems capable of advanced autonomy and multi-vehicle collaboration.
- **Seamless Integration:** Supports smooth operation on both manned and unmanned platforms with intuitive mission planning interfaces.
- **Field-Proven Reliability:** Backed by more than 20 years of development and rigorous testing for robust, trusted performance.



FEATURES

- Full sensor, navigation, propulsion, vehicle control, and payload management.
- Operates in limited or no bandwidth multi-domain environments.
- Intuitive user interface for mission planning and monitoring.
- Enhanced situational awareness and health monitoring options.
- Robust, reliable COLREGS compliant navigation.
- Wide-ranging library of single and multi-agent mission behaviors for complex mission scenario creation.
- Data management for secure storage and real-time or post-mission analysis.
- Open architecture, modular design compatible with customer or third-party sensors, payloads, algorithms, and interfaces.

Odyssey Advanced Autonomy Solutions® is currently integrated on REMUS and ROMULUS™ platforms in 30 countries.

Odyssey™ Mission

Next-Gen command and control interface for seamless UxV management

Odyssey™ Mission is an intuitive, web-based cross-domain user interface solution for all-in-one unmanned vessel management. The suite's user-first experience provides four cohesive lifecycle views to manage vehicle configuration, plan missions, monitor simultaneous missions, and perform critical post-mission analysis.

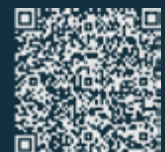
ADVANTAGES

- **Scalability:** Deploy once and manage any vehicle anytime, anywhere through a common web interface.
- **Performance:** Designed for multi-vehicle experience, proven for double-digit connections, with minimal operators.
- **Intuitive User Interface:** Streamlined and user-focused design for simplified mission planning, monitoring, and analysis.
- **Cross-Domain Capability:** Unified platform for managing diverse unmanned vessel platforms across different operational environments.
- **Comprehensive UxV Management:** All-in-one suite covering vehicle configuration, mission planning, real-time multi-vehicle monitoring, communication management, and post-mission analysis (PMA).
- **Enhanced Situational Awareness:** Provides operators with a clear and consolidated view of mission-critical data, user role management, and higher echelon data exchange.

FEATURES

- Web-based architecture, SaaS architecture, deploy once and access UxVs through a role-based user authentication service.
- Intuitive graphical user interface (GUI) design based on Google's "material design."
- Third-party open interface, allowing integrators and external UIs.
- Extensible platforms API allows operators to redefine their existing vehicle features.
- Supports REMUS UUV platforms, HII Odyssey-based USVs, and UMAA-compliant vehicles.
- Data management for secure storage and real-time/post-mission analysis.
- Plug-and-play design compatible with customer or third-party sensors, payloads, algorithms, and interfaces
- Odyssey™ Atlas Integration provides unified service.
- Able to view side-scan data, charting different formats, and much more
- Adheres to open architecture standards, inc. UMAA, ROS and DDS.

ODYSSEY™



Odyssey™ Sim

A Maritime Virtual Test Environment for Unmanned Vehicle Operations

Odyssey™ Sim provides a physics-based, modular simulation environment for maritime operations. Its 3D virtual world platform includes customizable terrains, real-time environmental updates, and dynamic ocean effects. By integrating hydrodynamic solvers and sensor emulation microservices with the virtual world platform, Odyssey™ Sim supports realistic mission execution, vehicle design assessment, and system testing. Its hybrid configuration enables seamless transitions between virtual and hardware-in-the-loop operations.

ADVANTAGES

- **Customization:** Modular architecture supports customization and scalability of simulations.
- **Flexible Configuration:** Virtual-hardware hybrid setup transitions from virtual environments to hardware-in-the-loop configurations.
- **Rapid Fielding:** Seamless integration with third-party autonomy or payloads for rapid deployment and testing.
- **Dynamic Realism:** Real-time vehicle response to changing environmental conditions, such as waves and currents, for realistic scenarios.



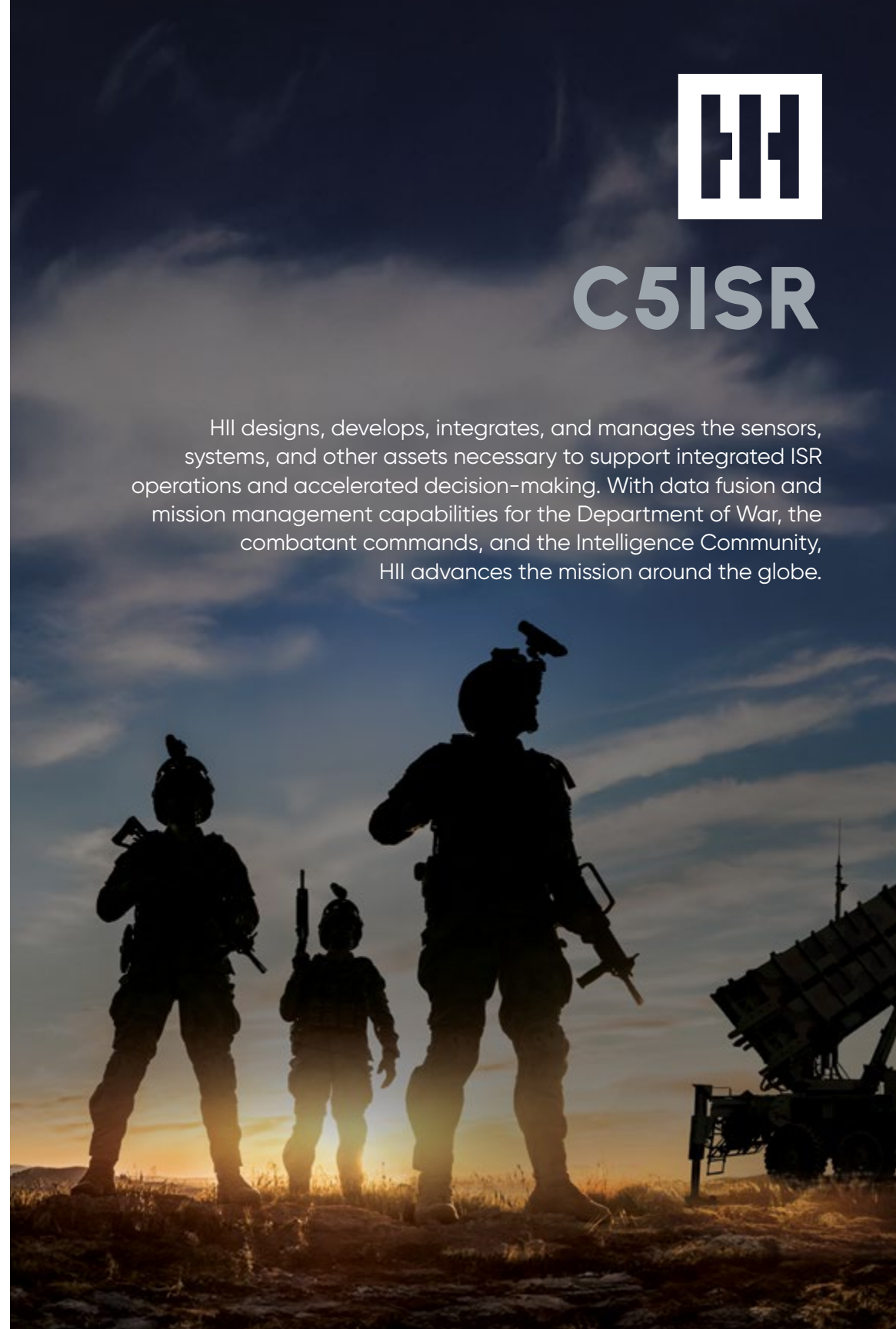
FEATURES

- Hydrodynamic solver for six degrees of freedom vehicle dynamics, ensuring precise responses in a variety of flow conditions.
- Contains REMUS digital twins that facilitate software and hardware development and integration.
- Emulated actuator, sensor, and acoustic communication components replicating hardware behavior.
- Capability to create unique virtual environments tailored to operator needs.
- Real and synthetic bathymetry.
- Population of 3D vehicles, obstacles, and targets in operational environments.
- Support for collaborative operations and capturing collision events.
- Configurable simulation tools for vehicle testing and mission planning.



C5ISR

HII designs, develops, integrates, and manages the sensors, systems, and other assets necessary to support integrated ISR operations and accelerated decision-making. With data fusion and mission management capabilities for the Department of War, the combatant commands, and the Intelligence Community, HII advances the mission around the globe.



G-BOSS(E)

Quickly stand up wide area surveillance for command-and-control networks virtually anywhere

G-BOSS(E), Ground-Based Operational Surveillance System (Expeditionary), is a government-owned system, self-contained, medium tower platform sensor for persistent surveillance. It integrates various sensor technologies to observe, collect, detect, classify, identify, track, record, and report on objects and threats 24 hours a day, providing continuous situational awareness.

Hill develops, integrates, upgrades and manufactures G-BOSS(E) components.

ADVANTAGES

- Set up time is 30 to 60 minutes.
- Provides persistent surveillance to support HHD MP BNs with enhanced sensor capabilities.
- Portable Control Station (PCS) interfaces with the sensor and can be used in standalone mode, connected to a tactical network or interconnected to other G-BOSS(E) nodes with a PCS.



FEATURES

- Mast and sensor are mounted on a single axle HMMWV trailer.
- 19.7 feet (6m) telescopic aluminum mast houses the sensor package.
- Powered AES with MEP-831 3kW TQG (Solar Panel Interface); additional NATO compatible Shore Power available via cable.
- 360 degrees surveillance for 10-20 km.



Mission Management System

Enabling a rapid, unified decision-making framework

Delivering tactical, agnostic decision superiority and insight to the warfighter, Hill's Mission Management System offers a powerful, integrated display of multi-platform, multi-sensor data, enabling a rapid, unified decision-making framework deployed across multiple military platforms.

Hill develops and maintains the government off-the-shelf Minotaur Mission Management System as the prime software developer and integrates the software into airborne, maritime, and shore-based platforms for the DOW and DHS.

ADVANTAGES

- **Enhanced Situational Awareness:** Integrates vast amounts of sensor data into a single, rich operational display for effective decision-making.
- **Continuous Tracking:** Maintains positive identification and tracking of key targets through automated sensor correlation.
- **Streamlined Prioritization:** Enables operators to quickly assess and prioritize targets for mission-critical objectives.



FEATURES

- Intuitive interface provides single common operational picture with rich, correlated sensor context.
- Real-time radar processing and track formation.
- Ingests and displays national data feeds.
- Tactical screen replay to review a target's entire flight in seconds and track the target via its trajectory, even if target stops broadcasting information or otherwise evades the sensors.
- Real-time imagery geo-registration/mapdraping and automatic target identification.
- Automated sensor tasking and processing to reduce operator workload.
- API for third-party applications.
- Multi-platform data integration and correlation.
- Rapid technology insertion.
- GOTS integration.

DIRECTED ENERGY SOLUTIONS

Modular, rapidly deployable weapon system enabling precision targeting, instant engagement, scalability, and cost-effective defense.

Hill awarded nation's first Extended- High Energy Laser (E-HEL) prototype as a MOSA integrator and production/sustainment agent.

- Detects, identifies, tracks, and kinetically defeats small to mid-size unmanned airborne systems, cruise missiles, and other similar airborne threats.
- Optimized for maximum range (up to 4km) at minimum cost and SWaP with a large, 40cm aperture and a high beam quality 30kW laser source.
- Leverages Hill's advanced organic power, cooling, and infrastructure, designed for "stackability" up to 300kW and beyond (containerized).
- Employs electricity-magazine air defense or "electrical ammunition" instead of physical ammunition to fire, recharge, or operate defensive effectors at a very low cost.



Munitions Launch Systems

Inserting new technology into existing naval combat systems

Beginning with Mk 41 and Mk 57 Vertical Launching Systems (VLS) that can be deployed on Zumwalt-class ships, HII designs and prototypes a broad array of munitions launch systems for the U.S. Navy. By employing universal canister electronics units, these systems can be deployed to quickly maximize the defensive capabilities of our warfighters.

- Improved performance and flexibility of Mk 41 and Mk 57 launch systems.
- Rapid prototyping accelerates delivery of new capabilities.
- Critical research, test, and evaluation underway.
- Technology insertion brings improvements that maximize defensive capabilities and ameliorate obsolescence.
- Strengthens integration across naval weapon systems, combat systems, and sensors.
- Increases firing flexibility with universal canister electronics that allow any missile to be launched from any cell.



CYBER AND BIG DATA

HII works within our nation's intelligence and cyber operations communities to defend our interests in cyberspace and anticipate emerging threats. Our capabilities in cybersecurity, network architecture, reverse engineering, AI for defense, software development and hardware development uniquely enable us to support sensitive missions for the U.S. military and federal agency partners.

CounterMeasures®

Risk analysis products and services suite

CounterMeasures® is the preferred risk assessment tool used throughout the U.S. military, government and industry to identify, quantify, and manage your organization's vulnerability and risk.

Its unique methodology can help you meet government, risk assessment standards and compliance.

INFORMATION ASSURANCE

- National Institute of Standards and Technology (NIST) Special Publication 800-53, Recommended Security Controls for Federal Information Systems.
- Integrates industry best practices.
- Ascertain information security posture: Assesses information-security posture and reports incidents to detect malicious, procedural, or process issues from both insider and outsider threats.

TOOLS AND TRAINING

- Two-day software and application training.
- Unlimited installation of data and collection module.
- One year support including upgrades, enhancement.
- Ability to create customized security datasets.
- Ability to analyze individual or group surveys.

PACKAGE VARIANTS

Physical Security: Counters threats of key assets to ensure continued operational performance and security of facilities.

CounterMeasures® Chemical Assessment Tool (CCAT): Counters threats to key assets to our nation's essential chemical industry infrastructure.

Cyber Security: Ensures continued operational performance and security of IT systems through network assessments.

Interagency Security Committee (ISC): Supports the Interagency Security Council (ISC) Risk Management Process (RMP), consistent with executive orders.

Intellectual Property Security: Identify, analyze, quantify, and communicate risk to your proprietary data and intellectual property.



IONIC Data™

Eliminate sprawling data silos

Improve your data exploration experience with the IONIC Data™ tool suite. This data storage upgrade transforms systems into a data lake-house, eliminating software technology gaps and enhancing core functions, including improved query and analytic performance, increased data exploration flexibility and ingest rates, and the processing and storage of trillions of records—all accomplished with cell-level security.

ADVANTAGES

- **Explore:** Efficiently search, organize, and categorize your data.
- **Analyze:** Perform data science operations, create visualizations and intuitive dashboards.
- **Share & Act:** Automate business operations, collaborate, and empower data driven decisions.



FEATURES

- **Intelligent Infrastructure:** Optimize resources based on load and performance usage and targets.
- **Cloud-Based:** Security, flexibility, and lower TCO.
- **Cost Effective:** Pay only for the resources you use.
- **Confidentiality:** Data is protected with customizable table, record, and cell-level visibilities and safeguarded from unauthorized changes.



LeviathanAI™

Comprehensive agentic AI platform for building, managing, validating, and monitoring AI workflows

LeviathanAI™ is an interoperable agentic AI solution that bridges the gap between cutting-edge AI capabilities and operational implementation. Supporting custom-built AI solutions as well as integrating with external or third-party systems, users can adapt to existing workflows and infrastructure providing flexibility in AI capabilities delivery, reduced implementation time, and maximum return on existing tech investments.

ADVANTAGES

- Unparalleled scalability through open standards and open architecture.
- Modular design to fit a wide variety of implementations from custom to third party.
- Reduced implementation time and costs by adapting to existing resources.
- Extends usefulness of legacy systems and reduces training time.
- Supports deployment in sensitive environments, both open and closed.
- High levels of customization at no risk of vendor lock-in.



FEATURES

- **Neurosymbolic AI:** Integrates NLP, traditional data science, and targeted GenAI to intelligently analyze large-scale data while maintaining explainability.
- **Modular Open Systems Approach:** Continuously evolving platform with free-tier pilot access for a limited time, open standards, and flexible models.
- **Enterprise System Integration:** Extensive APIs, pre-built data connectors, authentication support, and integration options.
- **Deployment Flexibility:** Cloud-agnostic containerized architecture with optimized configurations.
- **Edge GenAI:** Hardware and software solutions for AI decision aides in air-gapped, disrupted, or disconnected environments.
- **Legacy System Uplift:** Enhances existing systems with the latest advancements in GenAI and agentic workflow.

SABERHUNT™



Scalable, reliable, deployable cyberspace threat-hunting sensor

SABERHUNT™ is a deployable cyber sensor designed to capture, characterize, and analyze network traffic in support of hunt-and-clear missions. With scalability, modularity and seamless integration, it adapts to dynamic mission needs, enabling defensive cyber operators to effectively address evolving challenges in traditional, cloud or hybrid environments.

ADVANTAGES

- **Mission Scalable:** Scales to dynamic mission parameters with software integration and automation.
- **Integrated Dashboards:** Allows user to perform all functions from single interface, providing status of each tool in real-time.
- **Expedited Delivery:** Ensures rapid hardware delivery in less than 72 hours (excluding austere/conflict zones).
- **24/7 Availability:** Features 24/7 end-to-end support for troubleshooting and maintenance.
- **Hardware Flexibility:** Offers modular hardware with flexibility for kit configuration and mission adaptation.
- **Global Collaboration:** Promotes collaboration with world-class technology providers and global reach-back support.
- **Efficient Performance:** Hunts efficiently in traditional, cloud and hybrid environments.

FEATURES

- Seamless software/hardware integration for mission success.
- 24/7 help desk for continuous operational support.
- Robust help materials and training modules available offline to enhance operator readiness.
- Integrated Dell Remote Access Controller 9 (iDRAC) for remote management.
- Cloud-based persistence via Lower Echelon Analytic Platform-Tactical (LTAC).
- Software-agnostic design supporting customer-approved applications.
- Small form factor deployment for compact, efficient kit setups.
- Custom ATA-compliant discreet case for secure transport.



VENOM

Advanced cyber tool for passive data collection and analysis

VENOM (Vulnerability Enumeration and Network Object Matching) is a powerful cyber tool that combines our expertise in cyber operations, big data, and systems design to enable passive characterization of target network environments. By integrating publicly available and proprietary data, VENOM provides a single analytical source for assessing system vulnerabilities, exploits, and leaked credentials, supporting both offensive and defensive cyber operations.

ADVANTAGES

- **Unified Analysis:** Leverages publicly available and proprietary data for a complete characterization of the network environment.
- **Targeted Precision:** Enables vulnerability/exploit matching and effectiveness scoring for precise actions.
- **Mission Flexibility:** Employs scalable, flexible architecture for rapid updates and customer-specific customization.
- **Modern Design:** Uses technologies including Docker, schedulers, and microservice architectures.

FEATURES

- Characterizes target network environments.
- Conducts capability apportionment for mission readiness.
- Offers alternate courses of action for dynamic operational needs.
- Integrates vulnerability/exploit analysis with leaked credential identification.
- Customizable system components, including data ingest and user interfaces.
- Passively collects data to enhance situational awareness and network security.



SPECTRUM DOMINANCE

Hill's advanced electromagnetic spectrum solutions provide reliable, interference-resilient performance in today's complex, congested and contested environments. With more than 65 years of expertise in RF engineering and electromagnetic environment analysis, Hill is a recognized leader in helping military and commercial users maximize their allocated spectrum while minimizing interference.

Low SWaP-C GPS navigation assurance solution for GPS-denied environments

CLOAK™ is an advanced GPS navigation assurance solution that ensures reliable positioning, navigation and timing (PNT) in even the most challenging GPS-denied environments. Tailored for air, land, sea, space, and electromagnetic spectrum domains, CLOAK™ combines exceptional anti-jam technology with unparalleled energy efficiency, consuming significantly less power than traditional systems. It protects military and defense operations by maintaining access to secure and precise GPS signals, even in the face of contested environments.

ADVANTAGES

- **Low SWaP-C Efficiency:** Uses one-third the power of existing anti-jam systems while maintaining peak performance.
- **Anti-Jam Performance:** Delivers 2x-3x power efficiency over existing anti-jam systems.
- **Multi-Domain Versatility:** Functions seamlessly across air, land, sea, space, and EW applications.
- **Compact, High-Performance, Design:** Maintains robust signal assurance in challenging electromagnetic environments.

FEATURES

- Small form factor design integrates seamlessly into existing platforms with minimal footprint.
- 4-Element Controlled Reception Pattern Antenna provides high-precision anti-jam capabilities.
- Operates with significantly lower power consumption than traditional anti-jam solutions.
- Maintains reliable GPS navigation despite jamming and spoofing threats.



Small form factor spectrum dominance solution enabling direction finding, geolocation and electromagnetic attack (EA)

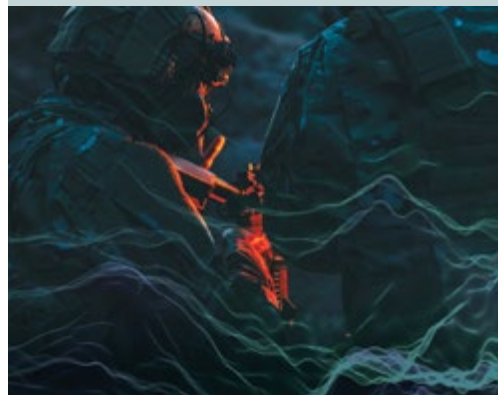
Designed for real-time geolocation and direction finding of adversary signals and emitters of interest, this high performance payload delivers unparalleled situational awareness, intelligence support, and force protection capabilities. Engineered for low size, weight, power and cost (SWaP-C), GRIMM™ empowers advanced operations across diverse environments around the world, including contested electromagnetic spectrum scenarios.

PLATFORM INTEGRATION

- Plug and play with all MOD payload compliant platforms.
- Rapid integration with unmanned platforms (UAS, USV, UUV and high altitude platforms).
- Remotely operable with automated collection modes.
- Conforms to VITA 49 and JICD open standards.
- IATT certified.
- Operator configurable SOI/emitter list for adaptation to new/emerging threats.

FEATURES

- 1U small form factor design; <2 pounds; mod payload compliant.
- Flexible and scalable for many different missions.
- 24/7 passive monitoring with ability to transmit.
- Conforms to open standard allowing users to override code.
- Interfaces with third-party tools.
- Versatile integration with unmanned/manned platforms, including high altitude balloons, manpack, and static ground nodes.
- Passive RF detection, direction-finding and geolocation across 10 MHz-18 GHz frequency range.



DELIVERING THE **SPEED** ADVANTAGE

Hill delivers mission ready technologies at the speed of relevance across all domains. From rapid prototyping and product development to agile acquisition pathways, we deliver the solutions the warfighter depends on.



MANTA

Multi-role drone executing ISR and EW missions

GRIMM™

Spectrum dominance solution for identification, geolocation and EM attack of adversary signals

CLOAK™

Navigation assurance in GPS-denied environments

MANTA Launcher

Multi-drone deployment for operations in contested environments



Integrated Tactical, Mission-Ready Platform

GRSLi

High-power, rapidly deployable, holistic navigation warfare solution that disrupts both civilian and military GPS receivers

GRSLi is a multi-GNSS (Global Navigation Satellite System)/GPS navigation warfare solution with unparalleled offensive electromagnetic attack capabilities, targeting both civilian and military GPS receivers. By effectively denying position, navigation and timing (PNT) signals to adversaries, GRSLi empowers friendly forces with freedom of maneuver while disrupting enemy decision-making. With its high-power output and global deployability, GRSLi stands as a game-changing force multiplier, delivering superior operational impact across air, land, sea, space, and the electromagnetic spectrum.

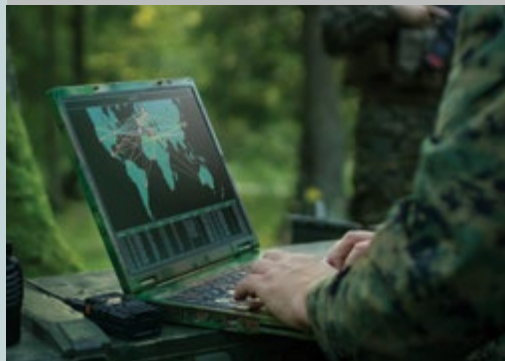
ADVANTAGES

- **Electromagnetic Attack Capability:** Provides an offensive EW tool for PNT denial and adversary disruption.
- **High-Power Capability:** Uses high power to effectively overwhelm GPS receivers.
- **User-Defined Operation:** Configurable settings allow operators to tailor disruption effects based on mission needs.
- **Rapid Global Deployment:** Designed for quick deployment worldwide to support dynamic mission requirements.



FEATURES

- Disruption of both civilian and military GPS receivers; affects standard navigation systems and GPS navigation bands used by adversaries.
- Disrupts navigation signals up to 20km from the source.
- User-defined jamming configurations to adapt to specific operational environments.



HII TIREM™

Optimized electromagnetic environment analysis software to predict network coverage and reduce spectrum interference

HII's Terrain Integrated Rough Earth Model (HII TIREM™) is the premier software tool for precise electromagnetic analysis, addressing the increasing demand for interference-free spectrum access. Backed by decades of expertise, HII delivers fast, accurate, and scalable solutions to maximize coverage and connectivity while mitigating radio frequency interference (RFI).

ADVANTAGES

- **Precision RF Analysis:** Combines physics-based algorithms with sub-meter Lidar data for reliable RF analysis.
- **Adaptive Modeling:** Supports long-term fading models and atmospheric condition adjustments.
- **Broad Compatibility:** Complies with modern computing requirements, supporting MathWorks, Python, Windows, and Linux platforms.
- **Flexible Terrain Analysis:** Includes empirical models for analysis without requiring detailed terrain data.



FEATURES

- Utilizes deterministic modeling for power, density, and field strength calculations, accounting for Fresnel interference and deep fading loss.
- Automatically selects and combines propagation models for land/sea and homogeneous terrain paths.
- Incorporates advanced modeling techniques, including atmospheric raytracing with rain, dust, and fog simulations.
- Stores signal data for post-analysis and integrates more than one million calculations for precision.

RFarchitect®

Network planning and management software for reliable and efficient connectivity

RFarchitect® is an advanced, integrated, fully internationalized deconfliction software tool for RF network planning and management. Designed to optimize spectrum usage and ensure reliable, interference-free communications, it enables path reliability while reducing network analysis and planning time, and RF congestion and electromagnetic interference (EMI). It empowers spectrum operators and network planners to maintain communication superiority in complex and contested electromagnetic environments.

ADVANTAGES

- **Comprehensive Interference Analysis:** Accurately models RF environments and interference sources with customizable radio characteristics.
- **Network Laydown Planning:** Predicts, prevents, detects, and mitigates EMI to enable seamless spectrum-sharing with federal agency and private sector partners.
- **Enhanced Path Reliability:** Allows RFarchitect™ to integrate RF network analysis for line-of-sight paths with terrain analysis and analysis of world-wide geoclimatic factors, including tropospheric-scatter and knife-edge refraction.

FEATURES

- 3D antenna pattern analysis using standard formats, with georeferencing by point location and vertical angle.
- Dynamic propagation models assign models and variables at individual interaction levels.
- Handles 300+ emitters in a single simulation with efficient runtimes.
- Variable terrain resolution using data from sub-meter LiDAR to 90m Digital Terrain Elevation Data (DTED) in one simulation.
- Imports equipment data from diverse file formats/standards.



RFarchitect® performed ~6,000 simulation runs in the mid-3Ghz band to support spectrum-sharing studies.

RFsentry®

Modular spectrum monitoring system that safeguards RF operations

RFsentry® provides real-time spectrum monitoring capability with adaptable hardware and software that detects RF interference from authorized or unauthorized transmissions. The flexible system architecture seamlessly integrates with any network requirements and mission planning tools to enhance the overall situational understanding and management of the RF electromagnetic environment.

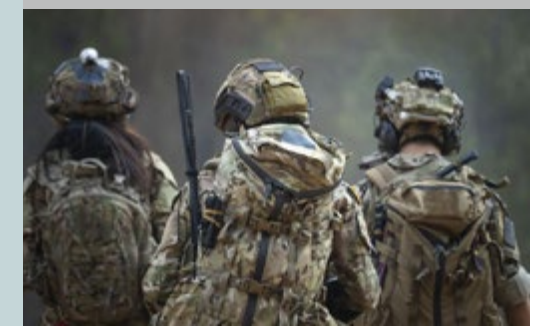
ADVANTAGES

- **Comprehensive Monitoring:** Enables long-term spectrum monitoring, short-term RF environment characterizations, and signal playback for analysis.
- **Accurate Direction Finding:** Identifies signal direction of arrival (DOA) and matches signals with frequency assignment databases.
- **Proactive Interference Management:** Categorizes electromagnetic interference, providing real-time threshold violation notifications.
- **Reliable Remote Operations:** Offers remote access and 24/7 unattended operations for continuous monitoring.
- **Situational Awareness:** Designed to interface seamlessly with the Tactical Assault Kit (TAK) platform.



FEATURES

- Intuitive user interface with spectrum plots, customizable threshold masks, and accessible main menu options.
- Centralized dashboard for remote, unmanned monitoring, and dynamic site reconfiguration.
- Default display includes spectrum graph, energy signals, and azimuth chart with detailed signal characteristics (e.g., frequency, amplitude, bandwidth).
- Full 3D visualization software for signal reporting, autonomous monitoring, and color-coded severity status updates.
- Secure login with configurable permissions for varied access levels.



VIPER®

Next-generation 3D propagation modeling and simulation for reliable and efficient network connectivity in a 5G world

VIPER® (Volumetric Integrative Propagation Engine for Ray-Tracing) is HII's cutting-edge software solution for true 3D propagation modeling and simulation, accurately predicting the behavior of dense 5G deployments. VIPER™ allows precise evaluation of small-cell base stations, satellite constellations, spectrum-sharing arrangements, and vehicle-to-transportation networks.

ADVANTAGES

- **Unmatched Speed:** Where traditional models take 2D shortcuts, VIPER® combines broad coverage of stochastic heat maps with deterministic ray-tracing to deliver ultra-fast and precise simulation results.
- **High-Fidelity Modeling:** Leverages sub-meter Light Detection and Ranging (LiDAR) data with default or user-modified radio characteristics, guaranteeing accurate modeling of the RF environment and potential interference sources.
- **Full 3D Environments:** Integrates terrain-based analysis with the analysis of geoclimatic factors and fully 3D environmental characteristics, including real-world-building geometry and materials.
- **Scalable Flexibility:** Adapts seamlessly to small-scale or global scenarios using variable geometry formats and is specifically designed to be part of the model-based design engineering (MBDE) and model-based systems engineering (MBSE) lifecycle.

FEATURES

- Full 3D analysis achieving real-time speeds (path profiles in ~8 micro-seconds) using Vulkan Application Programming Interface (API), which integrates with Unity and Unreal Engine and is supported on iOS and Android (including TAK).
- Graphics Processing Units (GPU)-based propagation model capable of efficiently simulating complex wave interactions.
- Cloud scalable and standalone installable.
- Geometric scalability for deterministic simulation of real-world situations at lightning speed.
- Able to process native LiDAR scans (LAS format) at varying point densities in operational environments with single simulations at ~6 degrees of horizontal resolution.



UNMANNED SYSTEMS

Today's battlespace is too complex, contested, and data-dense for traditional, manned-only systems to operate effectively. HII's unmanned systems extend the reach and decision advantage needed to build the Navy's future fleet, delivering across air, land, and sea.

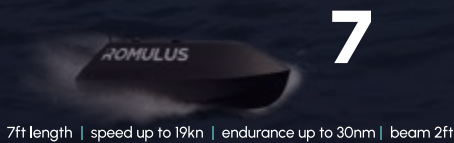


ROMULUS™

Family of Unmanned Surface Vessels

Modular, AI-Enabled and Mission Ready— The Future of Autonomous Maritime Power

Powered by Odyssey™ Advanced Autonomy



7

7ft length | speed up to 19kn | endurance up to 30nm | beam 2ft



25

25ft length | speed up to 40kn | endurance up to 500nm | beam 8.5ft



151

151ft length | speed up to 25.5kn | endurance up to 2600nm | beam 27ft



184

184ft length | speed up to 23.5kn | endurance up to 2500nm | beam 29.5ft

ROMULUS™ is a high-endurance family of unmanned surface vessels (USVs) designed to usher in the next generation of maritime power. Engineered for sustained open-ocean operations, ROMULUS™ is rapidly reconfigurable and cost-efficient, and designed for operations led by the United States Navy, joint forces, and allies.

FEATURES

- Endurance from 30 to 2500 nautical miles
- Size from 7 ft to 184 ft
- Open architecture for rapid integration of solutions
- Odyssey™ autonomy suite for manned/unmanned teaming

ADVANTAGES

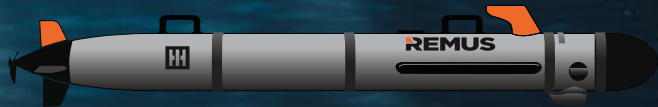
- **Modular Design:** Rapid, flexible reconfiguration for a variety of missions from maritime security to mine counter-measures.
- **Autonomous Endurance:** Ability to operate for extended periods of time with manned and unmanned teammates.
- **Cross-Domain Interoperability:** Unifies air, land, sea, and undersea assets to coordinate and tackle any threat.
- **Rapid Development and Deployment:** Built with speed and designed with scale, ROMULUS™ can be quickly deployed.



REMUS

Family of Unmanned Underwater Vehicles

REMUS 300



Small-class | 305m depth rating | endurance up to 30 hours | range up to 165km

REMUS 620



Medium-class | 600m depth rating | endurance up to 110 hours | range up to 509km

REMUS 6000



Large-class | 6000m depth rating | endurance up to 25 hours | range up to 160km

REMUS unmanned underwater vehicles (UUVs) provide a proven, mission-ready advantage across defense, research, and commercial operations by providing autonomous undersea systems that can deliver one-way kinetic and non-kinetic effects when needed. REMUS supports ISR and mine countermeasures, anti-submarine warfare, and electronic warfare, and can operate independently or alongside manned platforms to expand operational reach.

FEATURES

- Endurance from 10 to 60+ hours
- Depth ratings from 100 to 6,000 meters
- Swappable sensors and payload modules
- Open-architecture software integration
- Launch and recovery from ship, shore, and sea vehicles
- Physics-based REMUS Simulator for training and mission preparation

ADVANTAGES

- 25 years of autonomous experience
- 30 countries served
- +750 vehicles delivered
- 90% systems still in operation



Sea Launcher

Autonomous Launch and Recovery System

HII's Sea Launcher is an automated, shipboard launch-and-recovery system for the REMUS Family of UUVs, designed to enable fully hands-off, end-to-end deployment in real maritime conditions. Sea Launcher deploys unmanned assets from manned and unmanned vessels demonstrating HII's approach to modular, containerized launch capabilities for distributed maritime operations.

ADVANTAGES

- **Reduced Risk:** Eliminates need for manual launch and recovery.
- **Increased Speed:** Shortens time between sorties.
- **Platform Flexibility:** Integrates with unmanned surface vessels (USVs) like HII's ROMULUS™.
- **Improved Reliability:** Reduces UUV wear and recovery-related failures.

FEATURES

- **Automated Launch and Recovery:** Hands-off deployment when using REMUS autonomous line-capture.
- **Modular Interfaces:** Supports line guide or docking head configurations.
- **Ruggedized Frame:** Aluminum back with carbon-fiber cradle engineered for maritime environments.



MATERIALS AND COATINGS

HII's space coatings portfolio includes high-temperature protective materials engineered for spacecraft, hypersonic systems, and advanced aerospace platforms. These coatings provide thermal management, durability, and environmental protection in extreme conditions.





ADVANCED MATERIALS & COATINGS LAB

60+ years driving advanced coating and chemistry solutions

Hill engineers high-performance thermal control products designed to regulate the external temperature of aerospace structures and components. By minimizing UV radiation absorption, our coatings enhance the operational stability and efficiency of satellite instruments.

Our coatings provide both protective and insulative performance across extreme temperature ranges and are available with specialized options for electrostatic-sensitive environments and anti-reflective requirements.

Hill has produced coatings for NASA missions including Gemini, Apollo, and the International Space Station, and U.S. Department of War assets.



ACQUISITION PATHWAYS PROGRAM MANAGEMENT OFFICE

We secure and manage strategic contract vehicles across the full acquisition continuum, from Federal Acquisition Regulation (FAR)–based contracts to Other Transaction (OT) agreements, ensuring government partners can efficiently access HII's advanced technologies and mission solutions.

**For more information, contact:
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