



Ranges, Engineering, and Analysis Department

LEADER IN UNDERSEA TEST AND EVALUATION AND FLEET TRAINING



NUWC Industry Day

Ranges, Engineering, and Analysis Department

(Code 70)

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Navy's Range Enterprise: ASN RDA T&E / OPNAV N94

Presented by

Ranges, Engineering, and Analysis

Deputy Department Head

25 October 2022

Navy Range Enterprise Strategy



Why: to ensure effective warfighting readiness assessments and the advancement of technology, through collaboration among T&E and training organizations and a focus on enabling cost effective, operationally realistic Range capabilities.

Objective: focused on development of cross-domain holistic Navy Range plan to enable an integrated and optimized range environment – based on Demand (Range User / Program needs) and Supply (Enterprise capabilities)

Who:

- **Range Enterprise Executive Board (REEB):** established to guide and advise the mission/objectives of RES; comprised of SES/Flag level leaders from SYSCOMS, Fleet, and OTAs with Senior level staff support from each.
- **Range Enterprise Advisory Board (REAB):** established to carry out mission/objectives of RES; comprised of G15/06 leaders from SYSCOMS, Fleet, and OTAs.
- **Navy Range Enterprise Focus Area Teams:** Working Groups made up of and sustained by SME's from all Commands and organizations that investigate and recommend high value opportunities to the RES/REEB.
- **Navy Range Enterprise Stakeholders:** The entirety of the T&E and Training Range stakeholder community. Leaders from a wide and cross- cutting set of organizations will be engaged regularly to ensure priorities and alignment.

What: *Navy Range Enterprise...*

- **Foundation Building:** Establishing the Community of Stakeholders, streamlining information resources, and facilitating decision-making with senior leadership.
- **Tiger Team Investigations (TTIs):** Volunteer teams conduct studies or discovery into specific high value opportunities that look at optimizing Navy Ranges across a variety of topics and capability needs.
- **RES CONOPS:** Use of authoritative processes, Forums, and Requests for Information (RFIs) to identify opportunities to be more holistic, leverage and identify gaps and need for current and future states
- **Navy Range Capability Evolution Plans (CEPs)** based on current capabilities and future needs will be a key tool for the RES Community of Stakeholders.



Navy Range Enterprise Strategy

FULL SPECTRUM ENGINEERING



RES Objectives

Optimize Synergy, Collaboration, and Sharing across T&E and Training Ranges

Focus Areas

- Tracking Instrumentation
- Data Enterprise
- Operations and Infrastructure
- Threat Emulation
- Security & Surveillance
- Signature Measurement

Warfighting Areas

- Anti-Submarine Warfare
- Anti-Surface Warfare
- Air Warfare
- Cyber Warfare
- Electronic Warfare (EW/IO/ISR)
- Expeditionary Warfare
- Info Warfare
- Mine Warfare
- Subsea & Seabed Warfare

Understanding, Awareness, Visibility

NRE Opportunities

- Expand the Advantage
- Enable warfighter readiness
- Reduce Total Ownership Cost
- Leverage R&D, T&E and Training



MRTFB T&E RANGES (N94 RS)

- Nanoose & Dabob Bay, NUWC, Keyport, WA
- China Lake Ranges, NAWC WD, China Lake, CA
- Pt Mugu Sea Range, NAWC WD, Point Mugu, CA
- Atlantic Undersea Test and Evaluation Center, Andros Island, Bahamas
- Atlantic Test Ranges, NAWC AD, Patuxent River, MD
- Pacific Missile Range Facility, Barking Sands, HI (TM, Optics, Radars, MATSS)

Non-MRTFB

- Lake Pend Oreille: Bayview, ID
- Southeast Alaska Acoustic Measurement Facility, Ketchikan, AK
- Coastal Test Range, NSWC Panama City, FL
- South Florida Ocean Measurement Facility, Fort Lauderdale, FL
- Southeast Tongue of the Ocean Acoustic Measurement Facility
- Potomac River Test Range, NSWC Dahlgren, VA
- Narragansett Bay, NUWC Newport RI
- Seneca Lake Sonar Test Facility, Seneca Lake, NY
- Dodge Pond Acoustic Measurement Facility, Dodge Pond, CT
- NAVSEA Surface Combat Systems Center
- NSWC PHD Det White Sands
- NUWC Quinalt/Keyport Sites

TRAINING RANGES (N94, N9, N2/N65, N96, N97, N98, N2/N6 RS's)

- Northwest Range Complex: NAS Whidbey Is
- FRTC Range Complex (NAWDC): NAS Fallon
- El Centro Range Complex: NAF El Centro, CA
- Southern California Tactical Training Range: NAS North Is
- HAWAII Range Complex PMRF - Barking Sands, HI
- YUMA Range Complex: MCAS Yuma, & Miramar
- Key West Range Complex: NAS Key West
- Japan Range Complex
- OKINAWA Range Complex
- MARIANA Range Complex
- Jacksonville Range Complex : NAS Mayport
- VACAPES Range Complex: NAS Oceana
- BEAUFORT RC : MCAS Beaufort, SC
- Navy Cherry Point Range Complex

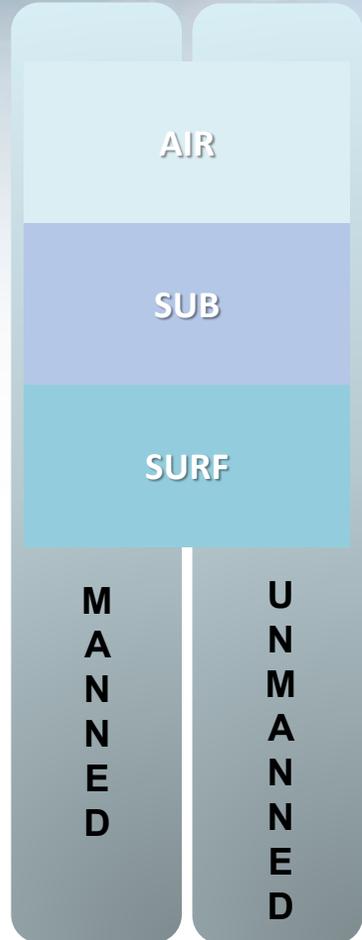


Mission, Warfighting, and Focus Areas

FULL-SPECTRUM ENGINEERING

Mission Areas

Warfighting Areas



- Anti-Submarine Warfare
- Anti-Surface Warfare
- Air Warfare
- Cyber Warfare
- Electronic Warfare (EW/IO/ISR)
- Expeditionary Warfare
- Info Warfare
- Mine Warfare
- Subsea & Seabed Warfare

Focus Areas / Sub-Focus Areas

TRACKING INSTRUMENTATION

- Fixed Ranges
- Portable Ranges
- Above Water Tracking
- Below Water Tracking

OPERATIONS & INFRASTRUCTURE

- Business Operations
- Range Control / Test Conduct Management
- Launch & Recovery
- Target Vehicles Support
- Units Under Test Processing
- Operational Safety
- Environmental Measurement

SECURITY & SURVEILLANCE

- Data Protection
- Protect Stealth
- Encroachment

DATA ENTERPRISE

- Range Displays
- Real Time Connectivity (off range)
- Post-test Data Distribution
- Automated Analysis
- Comms / Frequency
- Telemetry

THREAT EMULATION

- Electronic Warfare
- Targets
- Emitters
- Countermeasures
- Weapons
- Ocean Representation
- Environments
- Cyber Effects

SIGNATURE MEASUREMENT

- Radar Cross Section
- Acoustics
- IR Measurements
- Other Non-Acoustics

NAVY RANGE ENTERPRISE

Major Range and Test Facility Base (MRTFB) T&E Ranges

- Atlantic Test Range (ATR), NAWC AD Patuxent River, MD
- Atlantic Undersea Test and Evaluation Center (AUTEC), Andros Island, Bahamas
- China Lake Land Ranges, NAWC WD China Lake, CA
- NanOOSE, NUWC Keyport, WA
- Dabob, NUWC Keyport, WA
- *Pacific Missile Range Facility (PMRF) Barking Sands, HI (*Note: MRTFB capabilities include Radars, Telemetry, Optics and MATSS barge)
- Point Mugu Sea Range, NAWC WD Point Mugu, CA

Navy Working Capital Fund (NWCF) Test Ranges

- Acoustic Research Detachment (ARD), Lake Pend Oreille, Bayview, ID
- Naval Meteorology and Oceanography Command (CNMOC), John C. Stennis Space Center, MS
- Coastal Test Range (CTR), NSWC Panama City, FL
- Dodge Pond Acoustic Measurement Facility (DODGE), Dodge Pond, CT
- Lake Glendora, NSWC Crane, IN
- Narragansett Bay, Test Facility (NBTF), NUWC Newport RI
- NSWC PHD Det at White Sands Missile Range, White Sands, NM
- Quinault Underwater Tracking Range (QUTR), NUWC Keyport, WA
- Potomac River Test Range (PRTR), NSWC Dahlgren, VA
- Seneca Lake Sonar Test Facility (SENECA), Seneca Lake, NY
- Shipboard Electronic System Evaluation Facility, (SESEF), Virginia Beach, VA
- Southeast Alaska Acoustic Measurement Facility (SEAFAC), Ketchikan, AK
- Southeast Tongue of the Ocean Acoustic Measurement Facility (STAFAC), Andros Island, Bahamas
- South Florida Ocean Measurement Facility (SFOMF), Fort Lauderdale, FL
- Surface Combat Systems Center (SCSC), Wallops Island, VA

Fleet Training Ranges

- El Centro Range Complex, NAF El Centro, CA
- FRTC Range Complex, NAWDC, NAS Fallon, NV
- Jacksonville Range Complex, NAS Mayport, FL
- Japan Range Complex, Japan
- Key West Range Complex, NAS Key West, FL
- Marianas Range Complex, Guam
- NAVAL Air Station Whidbey Island, (NAS Whidbey Is), Quinault, WA
- Navy Cherry Point Range Complex, Cherry Point, North Carolina
- Okinawa Range Complex, Okinawa
- Hawaii Range Complex PMRF, Barking Sands, HI
- Southern California Tactical Training Range (SCTTR), NAS North Island, California
- Virginia Capes Ranges Complex (VACAPES), NAS Oceana, VA
- **Yuma Range Complex, MCAS Yuma and Miramar, Yuma, Arizona (**Note: Marine Corp Training Range)

WESTERN U.S.



SESEF Locations

NUWC DIVNPT: Norfolk (Ft. Story); Mayport; Rota, Spain
 NUWC DIVKPT: PACNORWEST; Barbers Point; San Diego; Guam
 SRF-JRMC Yokosuka: Nagai & Yokosuka



EASTERN U.S.



CONUS/OCONUS T&E AND TRAINING SUPPORT



Ranges, Engineering, and Analysis Department

LEADER IN UNDERSEA TEST AND EVALUATION AND FLEET TRAINING

FULL-SPECTRUM ENGINEERING

Code 70 provides a full spectrum of engineering resources to enhance undersea warfare through the application of simulation-based design, range development, engineering analysis and design, prototype fabrication, test and evaluation, readiness and training in both simulated and in-water environments.

Who We Are / What We Do

Code 70 Vision: The recognized leader for undersea test and evaluation and fleet training

Range\Facilities

- Atlantic Undersea Test and Evaluation Center
- Seneca Lake Acoustic Test Facility
- Shipboard Electronic Systems Evaluation Facility
- Narragansett Bay Test Facility
- Survivability Testing Facility
- Industrial Services Enterprise / Cal Lab
- Dodge Pond Acoustic Test Facility
- NATO Naval Forces Sensor and Weapons Accuracy Check Sites

Technical Expertise

- Fixed & Portable Range Development & Sustainment
 - Underwater Tracking
 - Ocean Engineering
 - Acoustic Survey
 - Range display, processing and control
 - Cyber security
- Computational Science & Engineering
- Marine Species Monitoring & Modeling
- Reliability, Maintainability Engineering
- Independent System Safety
- Waterside Security



AUTEC



SENECA LAKE



SESEF



NBTF



SURVIVABILITY



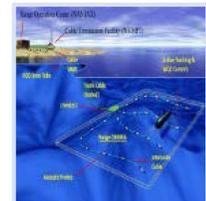
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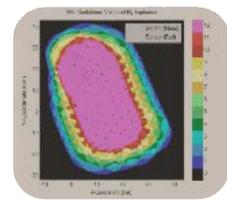
NATO FORACS



FIXED RANGES



PORTABLE RANGES



COMPUTATIONAL S&E



MARINE MAMMALS



RM&E



SYSTEM SAFETY



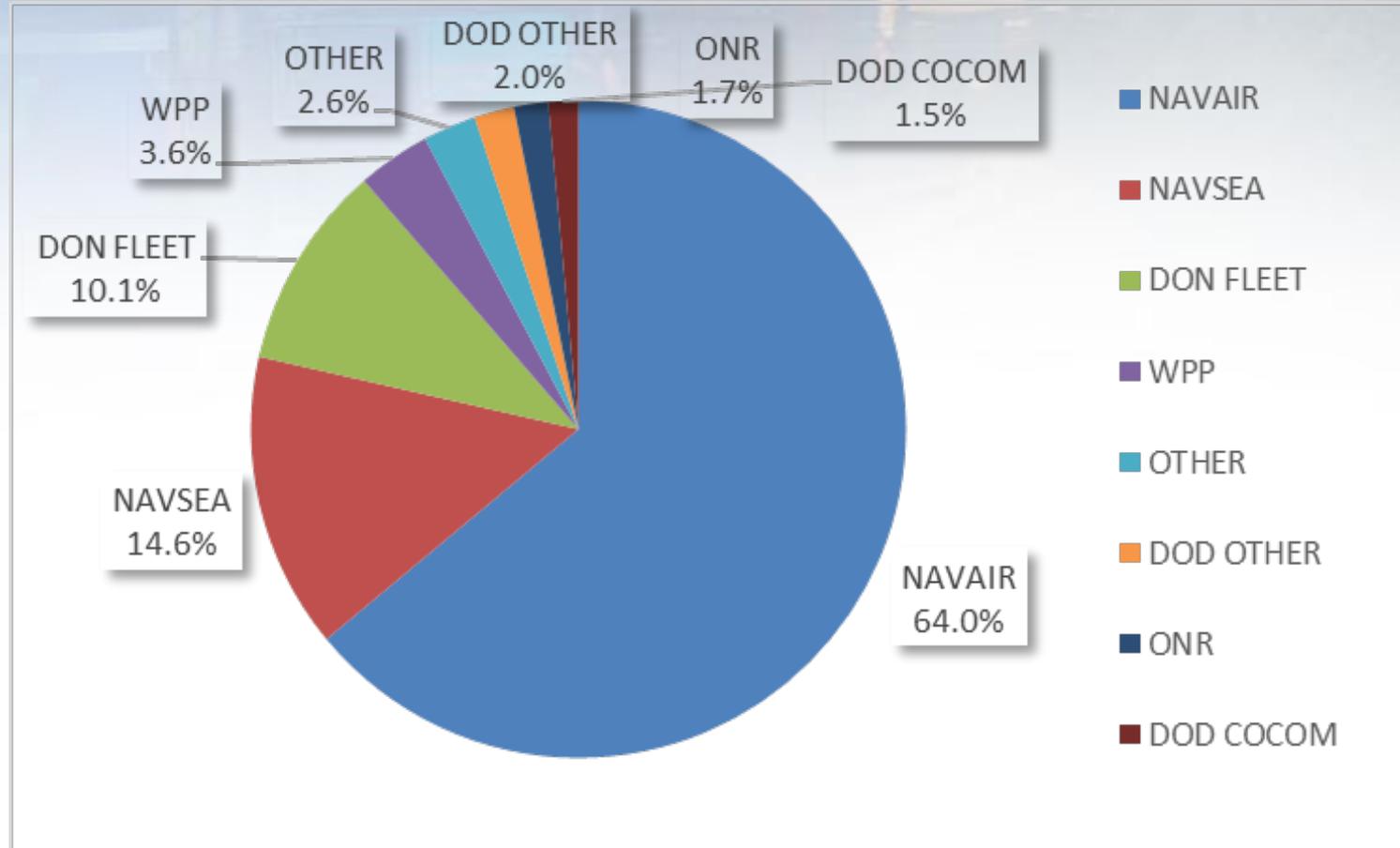
WATERSIDE SECURITY



ADVANCED INSTRUMENTATION SYSTEMS TECHNOLOGY



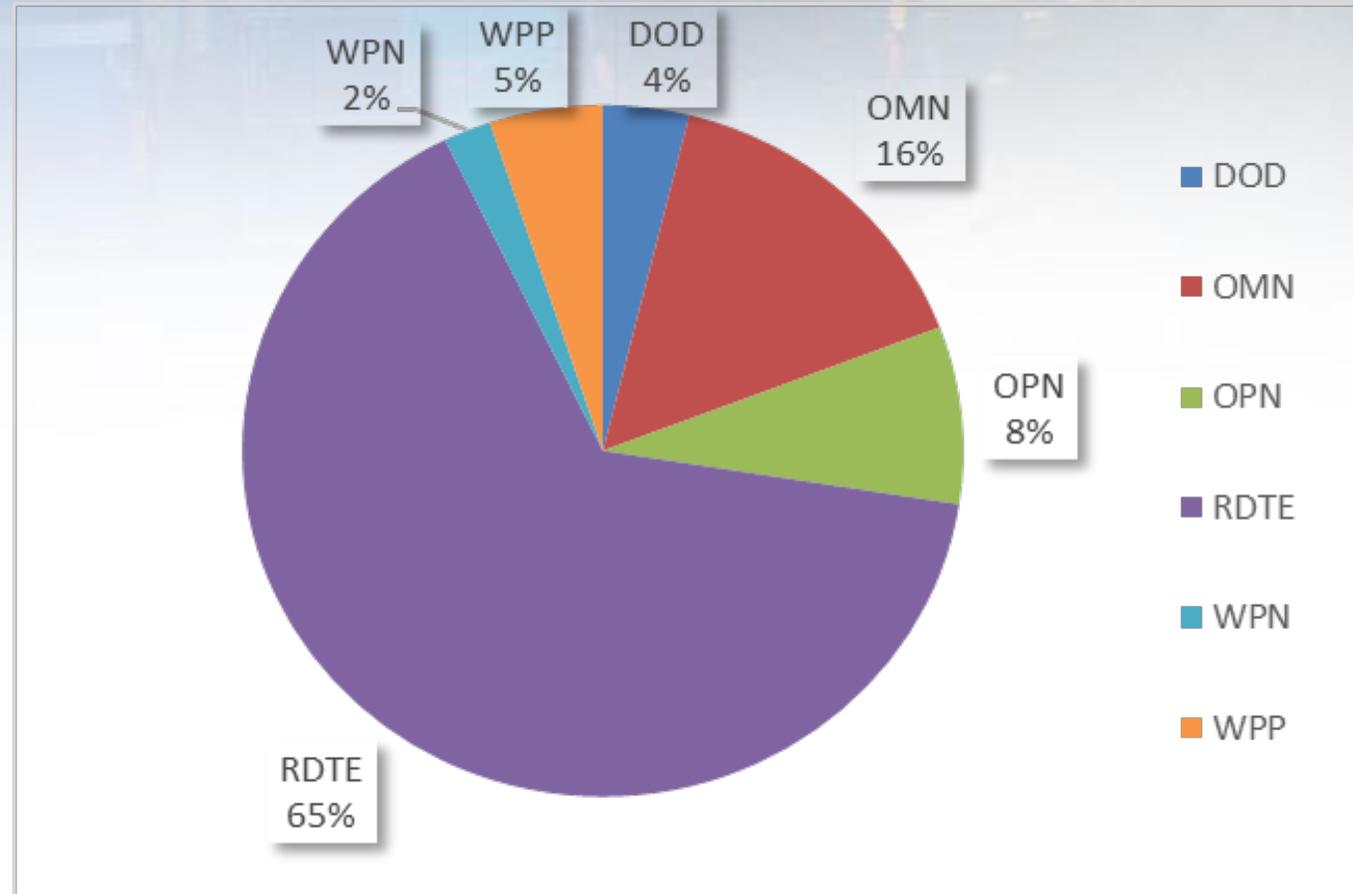
FY22 Funding Profile Funding by Sponsor



Total Funding Profile - \$169 Million



FY22 Funding Profile Funding by Appropriation



Total Funding Profile - \$169 Million



Current Code 70 Major Service Contracts

- Amentum Services, Inc. (*expires December 2031*)
 - AUTECH Maintenance and Operations (M&O)
 - Scheduling and conduct of test programs on range
 - Operation and maintenance of range instrumentation and test support systems
 - Performance of all base operations functions at AUTECH on Andros Island
- Purvis Systems, Inc. (*expires September 2025*)
 - AIST Program Support
- Systems Resource Management, Inc. (SRM) (*expires May 2023*)
 - Industrial Services Enterprise Technicians and Machinists
- Oasis Systems, LLC (*expires October 2024*)
 - Seneca Lake/Dodge Pond M&O Support
- Fathom Research, LLC (*expires June 2025*)
 - Narragansett Bay Diving Services
- Goldbelt C6, LLC (*expires June 2025*)
 - Calibration Laboratory Support



Current Code 70 Major Service Contracts (cont'd)

- Seaward Services, Inc.
 - Operational Support Services for Ocean Testing
- Oceanetics, Inc.
 - Operational Support Services for Ocean Testing
- Metson Marine Services
 - Operational Support Services for Ocean Testing

Multiple Award Contract
(expires May 2025)

- Metson Marine Services *(expires September 2023)*
 - NBSWTF M&O Support
- GSTEK, Inc. *(expires January 2025)*
 - SESEF
 - M&O Support on site at Norfolk, Mayport and Rota
 - Training at the other sites

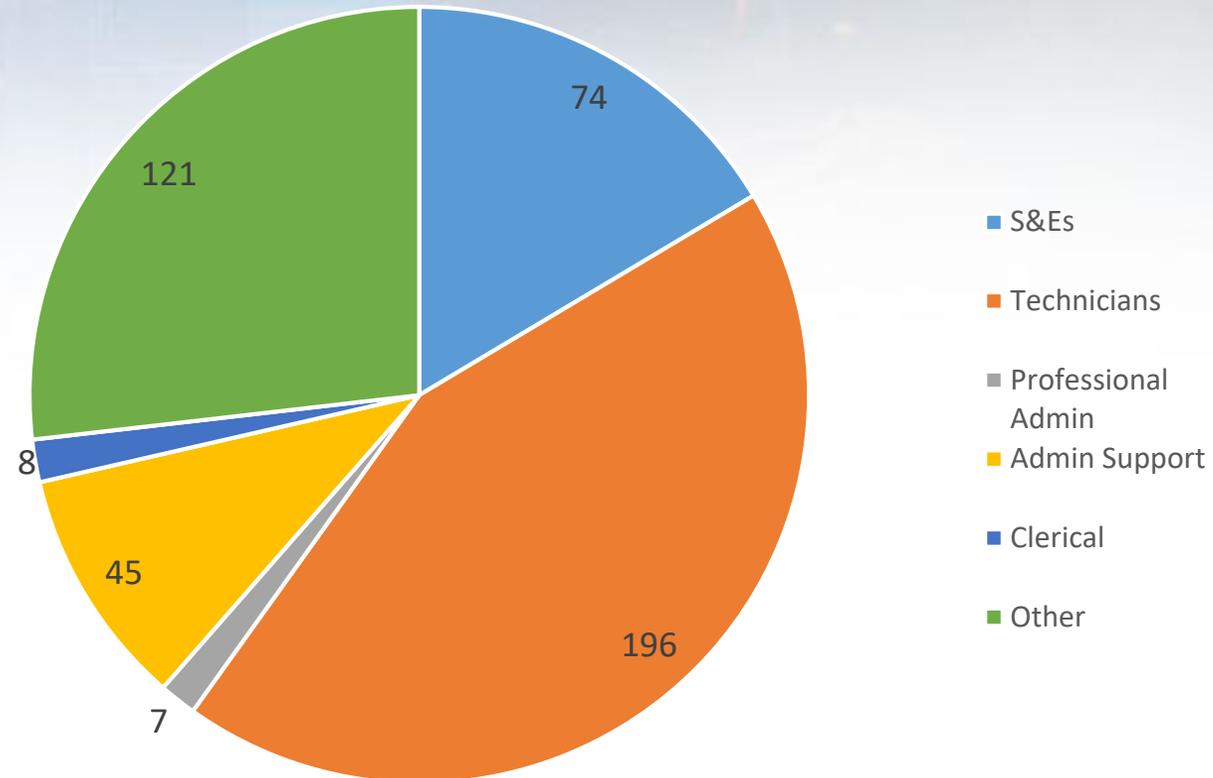


Current Code 70 Major Service Contracts (cont'd)

- SAIC (*Code 70 portion ends December 2022*)
 - Codes 85 & 70 Joint Contract -- Administrative Support
- L-3 Communications, Division Maripro (*expires June 2024*)
 - In-water Sensor (IWS) System Maintenance, Repair and Upgrade for Undersea Ranges
- KMS Solutions, LLC
 - Engineering & Technical Support Services (*expires February 2027*)
 - System Safety and Reliability and maintainability Engineering Support Services (*expires July 2026*)
- Mikel, Inc. (*expires April 2025*)
 - Codes 70, 25 & 15 Joint Contract – Submerged Acoustic Navigation System (SANS)
- Sonalysts, Inc. (*expires October 2028*)
 - Codes 70, 15, 34, 45 & 85 Joint Contract – Acoustic and Shock Modeling

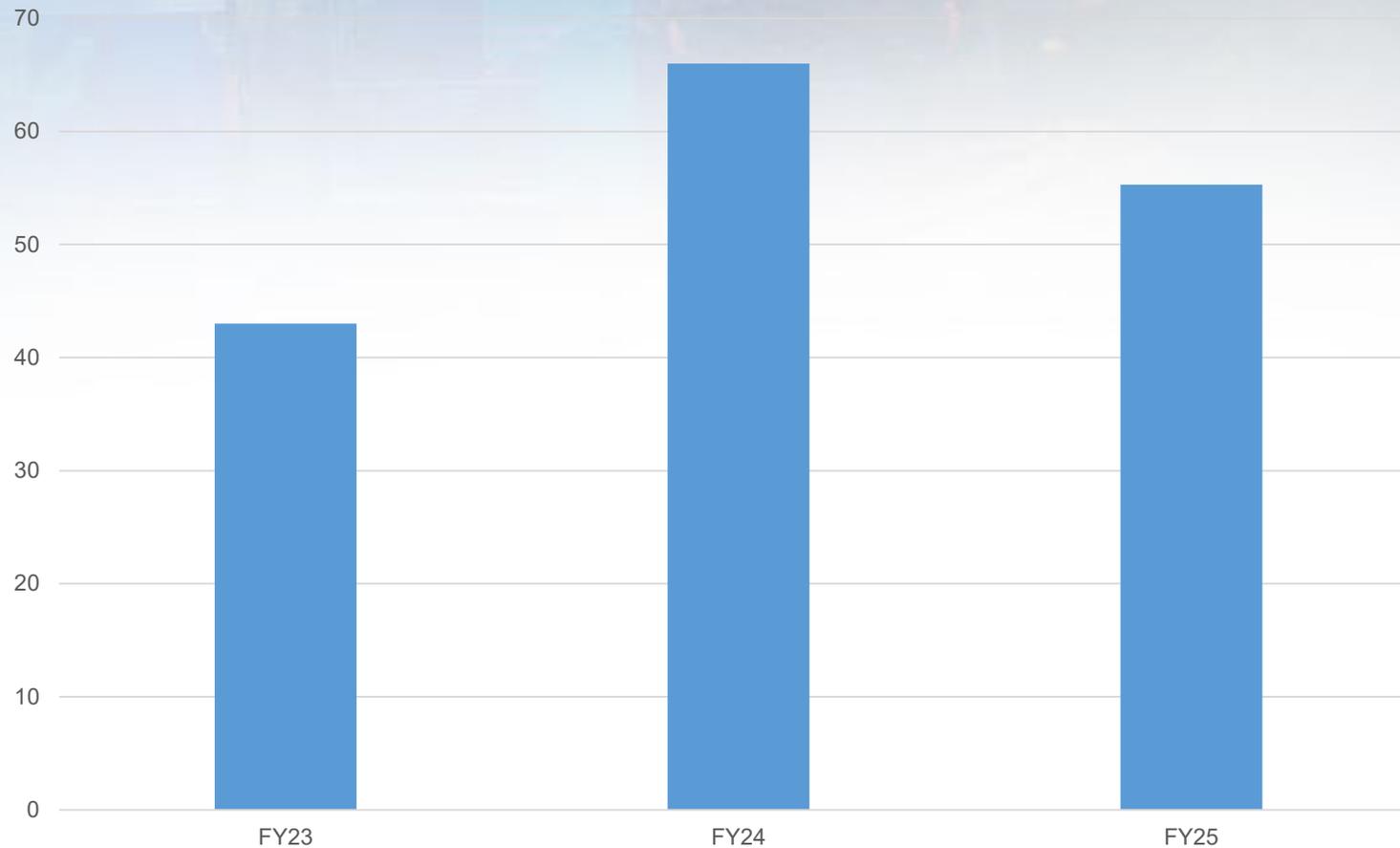


Contractor Personnel Profile





Projected Major Services Contracts FY23-FY25 (\$M)





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Code 70 Projected Contracts FY23

Contract #n	Title	Estimated Value (w options)	Incumbent	Seaport	Follow-On	Current Contract Type	Estimated RFP Release	Strategy
N00178-04-D-4136/ N6660418F 3012	Industrial Services Enterprise Support	\$24.5M	SRM Inc.	Y	Y	FFP / CPFF	Nov 2022	SBSA
N00178-14-D-7830/ N6660418F 3019	NBSWTF M&O Support	\$18.5	Metson Marine Services	Y	Y	FFP / CPFF	Jan 2023	SBSA



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Code 70 Projected Contracts FY24

Contract #	Title	Estimated Value (w options)	Incumbent	Seaport	Follow-On	Current Contract Type	Estimated RFP Release	Strategy
N66604-19-D-A900	Range Sustainment	\$48M	L3 / Maripro	N	Y	CPFF	Nov 2023	Competition
N00178-04-D-4081/ N6660419F3010	Seneca Lake / Dodge Pond M&O Services	\$11M	Oasis Systems, LLC	Y	Y	FFP / CPFF	Jan 2024	SBSA
N00178-14-D-7737/ N6660420F3901	SESEF M&O Support Services	\$7M	GSTEK Inc.	Y	Y	FFP / CPFF	Jul 2024	SBSA



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Code 70 Projected Contracts FY25

Contract #	Title	Estimated Value (w options)	Incumbent	Seaport	Follow-On	Current Contract Type	Estimated RFP Release	Strategy
N66604-20-D-H001	SANS / PUTR II Support	\$47M	Mikel Inc.	N	Y	CPFF	Nov 2024	Sole Source
N66604-20-D-N000	NUWC Calibration Laboratory Services	\$3.1M	Goldbelt C6, LLC	N	Y	CPFF	Jan 2025	8(a)
N00178-19-D-3861/ N6660420F3009	AIST Support Services	\$5M	Purvis Systems, Inc.	Y	Y	FFP / CPFF	Jan 2025	SBSA
N66604-20-P-8067	Diving Services	\$200K	Fathom Research, LLC	N	Y	FFP	Jan 2025	SBSA



Summary

- The Ranges, Engineering, and Analysis Department operates a number of ranges, facilities and service centers
 - Contracts are used for M&O support
- Undersea Range System Development and Engineering Support to Other Departments
 - Contracts for General Engineering Support, Prototype Systems Fabrication & Testing, System Safety and Cybersecurity
- In-water Sensor System contracts
 - Maintenance/Repair/Upgrade for existing systems
 - New IWS systems for new and existing locations
- The Navy's Range Enterprise is there for all of the Navy's developers and testers, industry included