



*CRITICAL THINKING.
SOLUTIONS DELIVERED.*

Team MCR Capabilities for the
Navy's System Level Cost Analysis with Total
Ownership Cost Management MAC IDIQ
(N00024-19-D-2417)

MCR, LLC

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- Navy is seeking novel solutions to the procurement of the Navy's major weapons systems by utilizing Commercial Best Practices
- MAC IDIQ SOW cover a wide range of areas:
 1. Program Cost Reduction
 2. Program Support
 3. Organization and Process
 4. Design-based Affordability
 5. Acquisition Strategy
 6. Advanced Cost Modeling
 7. IT Strategy and Acquisition
- Team MCR combines proven corporate capability with ***specialized expertise*** for transformative outcomes
- The MAC IDIQ services are available to any customer with NAVSEA or NAVAIR

MCR Federal – Prime Contractor



- More than 40 years of experience with major weapon systems and platforms
- Technology-enhanced professional services via our innovative CommandEdge™ capability suite
- Accredited CMMI Level 3 and ISO 9001:2015 Certified
- Highly skilled professionals supporting a broad spectrum of global customers
- Agile engagement management approach to seamlessly incorporated specialized expertise from partners

Team MCR provides a purpose-built engagement team with deep expertise tailored for each project

Representative Clients

40 years of on-going partnerships with MCR driving mission success





Representative Team Members – Specialized Expertise

Ship Cost
Estimating

Ship Production
Planning

Ship Design
Integration

- **SPAR Associates**

- SMEs in ship cost-estimating and production planning
- Support U.S. Naval Shipbuilders and U.S. Navy

- **Ship Design USA (Bob Keane)**

- Former US Navy Chief Naval Architect, advisor on Navy ship design & construction
- Active advisor for new U.S. Navy surface combatant acquisitions

- **P. Jaquith & Associates (Pete Jaquith)**

- SME in Lean Design and Design for Production
- Career in U.S. and Canadian Shipbuilding

- **MAESTRO Marine LLC**

- Naval architects & software developers, creators of MAESTRO
- Unique ship structural producibility optimization software tools

- **IHS Markit**

- Over 1500 datasets of research and information products

Hybrid mix of naval design, construction, cost and acquisition expertise uniquely addresses objectives of improving naval ship acquisition and in-service operations for enhanced cost-effectiveness



Capability Example: Task Area 5: Acquisition Strategy

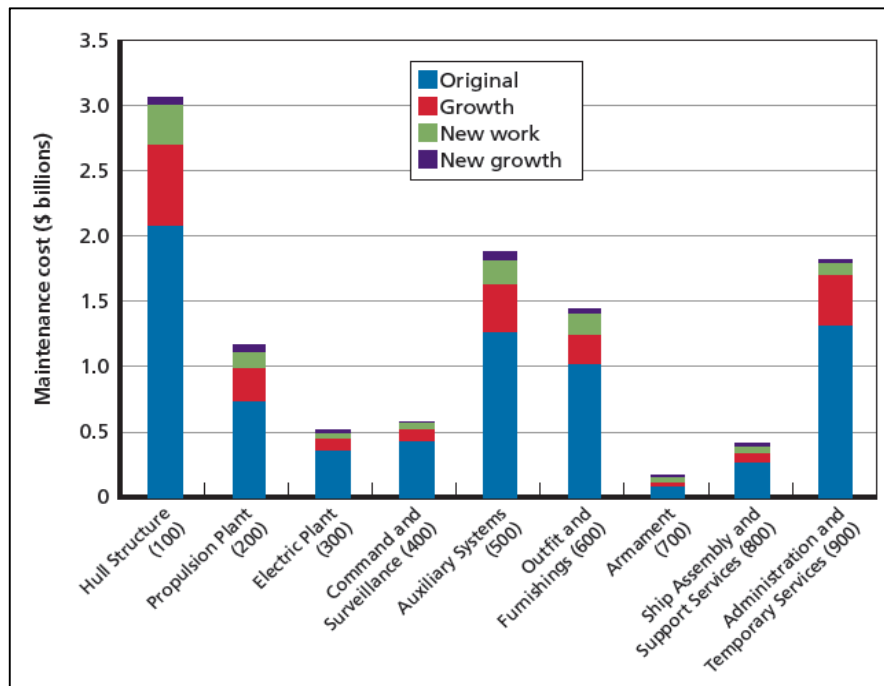
- Acquisition Strategy for new naval ships, including surface combatants such as FFG(X) and Large Surface Combatant (LSC) include:
 - relevant areas for analysis and evaluation that require the integration of ship design technical performance,
 - production methods and costs,
 - industrial base assessment, and
 - service-life costs and performance.

- MCR’s team brings a set of backgrounds and expertise that can be leveraged to address these key acquisition alternatives and decisions, including:
 - Analysis of technical and business KPPs
 - Development of sensitivity analyses and operational “tipping points”
 - Business case analyses
 - Cost-performance trade studies

Recently Completed NSRP Research Program in Ship Structural Optimization



With Fincantieri Marinette Marine as prime, this team recently completed NSRP RA Project 2017-443 “Ship Structural Design Optimization (SSDO) for Improved Producibility and Enhanced Life-Cycle Performance”



Surface Ship Depot Maintenance Costs by ESWBS, 2003-2015

- U.S. Navy’s in-service fleet experiences excessively high maintenance and repair costs for ship structures
- NSRP RA 2017-443 objectives:
 - Improve quality of ship construction
 - Reduce ship structural production costs
 - Reduce Total Ownership Costs
- Modernize structural design methods
- Integrate producibility via work content, procurement and cost factors
- Consider overall ship design such as ship density, deck heights and volume as potential acquisition and life-cycle cost drivers



Background information: SPAR Associates, Inc.

SPAR Associates, Inc. specializes in shipyard planning and operations management software applications. These applications:

- Integrate cost estimating, planning and scheduling, purchasing, inventory control, labor work orders and time charge management
- Includes multi-level job costing and earned value work performance reporting
- They have been applied to both new construction and repair, commercial and military, domestic and foreign companies.

SPAR further provides a variety of support services:

- Independent cost estimating for many different hull forms, ship types, shipbuilders, build strategies, alternative design options, etc.
- Earned value performance management reporting by SWBS, by interim product (blocks & modules), and by stage of construction
- Systems development and integration
- Training and management consulting

Background information: Ship Design USA Inc. “Bob Keane”



- Bob Keane has over 50 years of naval ship design leadership experience
- He was the Navy’s Chief of Ship Design and the last civilian senior executive leading the design of surface ships, submarines and aircraft carriers during the Navy’s build-up to the 600-ship fleet
- He served as the Navy’s technical authority for Ship Hydrodynamic/Hull Form Design, Ship Survivability and Total-Ship Systems Engineering
- For past 15 years, he has been an intellectual leader in naval ship design and acquisition recognized by Government, industry and academia



- Pete Jaquith is a retired shipyard executive providing consulting services to shipyards, design firms, and government agencies in the areas of ship design, production engineering, planning, and shipbuilding process and organizational development
- Pete has benchmarked *world-class* shipyards, automotive, and heavy manufacturing firms and has led the transfer of these best practices, including elements of the Toyota Production System, to North American shipyards
- Areas of consulting focus include:
 - Early-Stage Design and Acquisition Strategy
 - Lean Design and Design for Production
 - Planning and Program Management
 - Ship Design and Construction Processes
 - Facilities and Workstation Design

Background information: MAESTRO Marine LLC



- MAESTRO Marine specializes in developing and applying ship structures design and optimization software tools for use by U.S. Navy, U.S. Coast Guard, naval design authorities, shipbuilders and design firms worldwide
- MAESTRO Marine conducts engineering design, and research and development projects for U.S. Navy and U.S. Coast Guard
- MAESTRO optimizes designs for work content and producibility, and is used for design as well as for in-service engineering support



Example ships designed or analyzed using MAESTRO:

- CG 47
- DDG 51
- DDG 1000
- FFG 7
- LCS 1/LCS 2
- LHD
- LPD 17
- Mk V SOC
- T-AGOS 23
- 47 MLB
- 110/123 WPB
- 154 WPC
- 210 WMEC
- 225 WLB
- 270 WMEC
- 418 WMSL/NSC

Teammate IHS Markit provides context and insight to inform better decisions



IHS Markit is harnessing the deepest sources of **content, decision tools, analytics and domain expertise** for the industries and markets that drive economies worldwide and directly impact the Navy's Supply Chain.

What is next?

We provide a holistic understanding of **cause and effect, risks, costs and market opportunity** in ways that empower you to make well-informed decisions with confidence.



Team MCR - Specialized Expertise Summary



- ✓ MCR is a Prime Contractor for N00024-19-D-2417
- ✓ The specialized team members are either already on board the team or can be added
- ✓ This team offers a powerful set of naval ship design and acquisition expertise that can be effectively utilized under the Scope of Work
- ✓ Areas of potential contribution/tasking include:
 - Ship acquisition program strategy; both technical and business aspects
 - Interface of ship design with ship construction in U.S. shipyards
 - Key ship performance metrics that influence cost versus performance both in acquisition and during the long service life of naval ships
 - Among others....