



MUNRO DEFENSE

Munro's 30+ years of experience consulting across every major industry means we can offer design and manufacturing solutions that stretch the boundaries of what is considered possible.

ESTABLISHED IN 1989, MUNRO HAS BEEN AT THE FOREFRONT OF LEAN PRODUCT DESIGN, ENGINEERING, AND MANUFACTURING CONSULTING FOR OVER THIRTY YEARS.

Munro has improved dozens of iconic defense technologies, from the Javelin and Excalibur to the Iron Dome and F-35.

The Munro methodology is trademarked and proven to lower cost and increase quality across tens of thousands of commercial and defense products.

Munro's clientele includes the world's most renowned Defense and commercial customers.

PAST PERFORMANCE

LEGACY OF SUCCESS

GENERAL DYNAMICS

LEONARDO DRS

LOCKHEED MARTIN



DEVCOM

NASA

IBAS



AFRL



NORTHROP GRUMMAN

Raytheon

AM General

Honeywell

BAE SYSTEMS



L3HARRIS

BOEING



▲ AMMUNITION



Photo: © U.S. Army

▲ AEROSPACE



▲ GROUND VEHICLES



▲ NAVAL



Photo: © Idaho National Laboratory

▲ NUCLEAR



Photo: © U.S. Army

▲ WEAPON SYSTEMS

SERVICE OFFERINGS

PRODUCT DEVELOPMENT

Refining products and processes to achieve an efficient design that maximizes Value, Quality, and Profit.

MANUFACTURING IMPLEMENTATION

Enhancing the manufacturing process to reduce costs through increased efficiencies.

BENCHMARKING INTELLIGENCE

Giving customers an edge through understanding of a product's design in the context of its competitive landscape.

COSTING SERVICES

Understanding the complete picture through detailed analysis of every part, process, and tool.



MUNRO

GLOBALLY RECOGNIZED

Sandy Munro's Lean Design® principles have captured the attention of engineers and entrepreneurs worldwide through YouTube on their Munro Live Channel. These principles focus on the following key aspects:

90% of Total Life Cost (TLC) in defense and aerospace products is determined by design.

Reducing complexity and enhancing producibility starts with design.

Efficiency and precision comes from a Right First Time (RFT) approach.

MUNRO LIVE

"Munro's analysis of Tesla engineering is accurate, both pro & con. I think he will appreciate some elements of the Model Y body design." —Elon Musk



MANUFACTURING SYSTEMS DEVELOPMENT

It's nearly impossible to achieve truly efficient manufacturing without paying attention to Lean Design. The success of the Munro methodology reinforces the fact that manufacturing systems development must be intertwined with the design process to achieve optimal efficiency.

LEAN DESIGN® OPTIMIZATION

Baseline Mapping
"Discovery Process"

Value Challenge
& Ideation

Redesign & Concept
Generation

Costing & Validation

Business Case
Report

PES/COMPETITIVE ANALYSIS

BENCHMARKING
& TECHNOLOGY
REPORTS

REVERSE
ENGINEERING

WORKSHOPS

DETAILED COSTING
ANALYSIS

TRUSTED SUPPLY
CHAIN & VALUE
STREAM ANALYSIS

SETA &
ENGINEERING
SERVICES

NAICS CODES

541330: Engineering Services

541420: Industrial Design Services

541715: Research & Development in the Physical, Engineering and Life Sciences

611430: Professional & Management Development Training