

CORPORATE PROFILE

ESA CORPORATION

FOUNDED IN 1991, FULL TIME ENGINEERING CONSULTING SERVICES SINCE 1995

- U.S. S.B.A. 8(a) S.D.B. Certified Case No. 109223 Supplier beginning on March 12, 2003.
- DUNS: 122826857
- Tax ID: 86-0847134
- Mailing Address (Remit): ESA Corporation, 743 E. Goldenrod Street, Phoenix, Arizona 85048.
- Over 100 cumulative years engineering experience. ESA only employs U.S. citizens.
- Provide Engineering Service (contracts) that specialize in Process Improvement, Product Design Development, Research & Development, Mechanical Engineering, Analytical Simulations, Electronic Engineering Design and Analysis, Electro-Mechanical Packaging design, and Prototype Manufacturing.

DEPARTMENT OF HOMELAND SECURITY AND DOD SBIR AWARDS

ESA's "SQUID Technologies"

- DHS SBIR FY05.2, Awarded Phase I and Phase II Programs, both with successful completion. Multiple Phase III's awarded.
- Phase III work has lead to development of spiral technologies
- Spiral Technologies have led to Phase II Award with NAVSEA
- Consistently collaborating in SBIR and STTR strategy programs.
- Interested in collaborating with the Mentor Protege Program.



CAE/CAD ENGINEERING SOFTWARE

PARTsolutions - Intelligent Parts Management Software & Certified Services

CAD SW licenses (Includes Drafting, Solid Modeler, Assemblies, Translators):

- Pro-Engineer
- Solidworks
- UG / I-DEAS for Design
- AutoCAD / AutoDesk

CAE Software Licenses

(Includes Structural, Thermal, Nonlinear, Impact, Fluids, Magnetics & Kinematics)

- MSC.Patran, MSCPatran.Thermal , MSC.Nastran, MSC.Adams, MSC.Dytran, MSC.Marc
- ANSYS
- UGS NX / I-DEAS Simulation Tools
- Technical Support for MSC Reseller

WHO WE ARE

ESA CORPORATION

Founded in 1991, Engineering Science Analysis Corporation is a market leader in providing product development, engineering design, simulation and analysis consulting services, as well as advanced analytical software tools for customer CAD/CAE applications. ESA's process driven Engineering Services and Software tools consistently provide a reduction in product development time which directly translates to reduced costs.

We are a certified SDB participant in the U.S. Small Business Administration 8(a) Development Program.

With our comprehensive range of capabilities coupled with our strategic alliance partnerships, ESA provides a complete line of process driven engineering solutions for all of our client's needs. ESA expands your engineering capabilities while reducing costs in today's competitive marketplace!



OUR FACILITIES:

- 3722 square foot Engineering, Product Design, Analysis, Prototype/Manufacturing/Assembly and Test Facility located in Tempe Arizona
- 500 square foot Engineering Facility located in Prescott Arizona
- Offices in Denver and Southern California



6105 S. ASH AVE., SUITE A3, TEMPE, AZ 85283

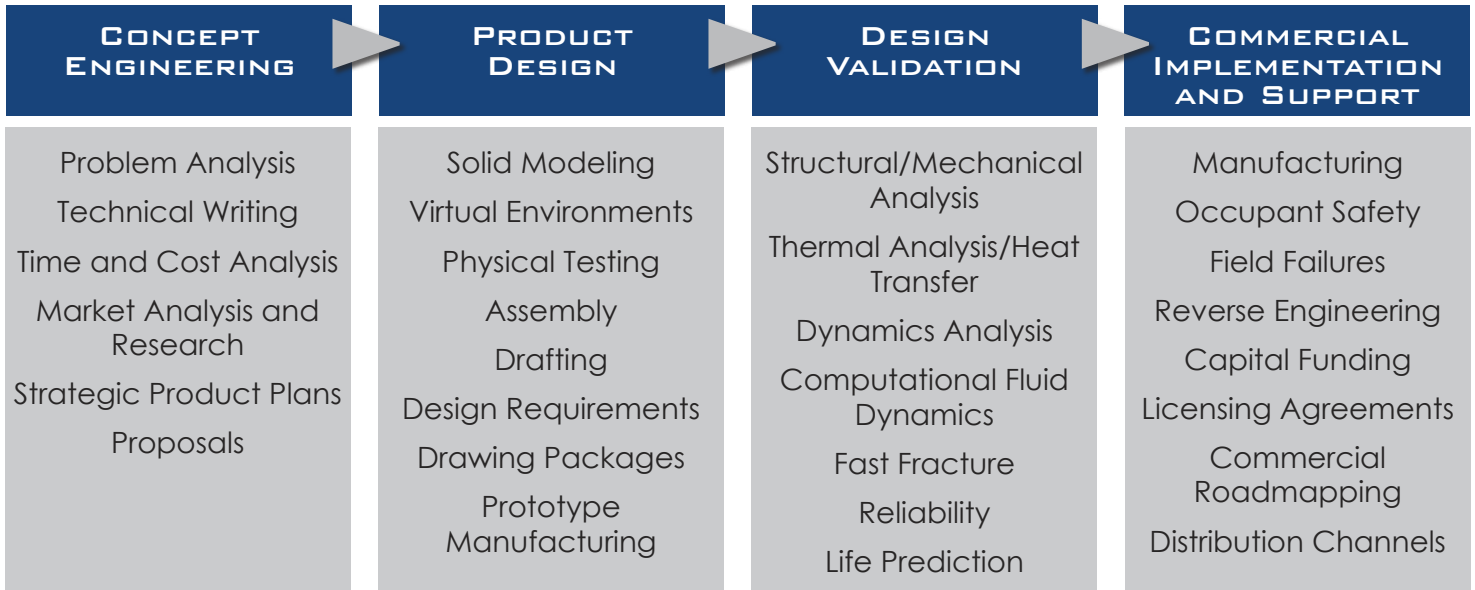
PH: 480.460.3727 FAX: 602.388.8977

U.S. S.B.A. 8(A) CERTIFIED SUPPLIER NAICS CODE: 541712, 541330

WWW.ESACORP.COM

PRODUCT DEVELOPMENT APPROACH

WE SUPPORT THE ENTIRE PRODUCT LIFE CYCLE



■ ■ ■ ■ ■ CRADLE TO GRAVE

ESA provides lean development solutions throughout all phases of the product life cycle: Conceptual Engineering, Product Design, Design Validation, and Commercial Implementation and Support.

ESA utilizes industry standards and innovative techniques to develop robust products in a cost-effective and time-efficient manner. The desired result is seamless process integration while working towards a lowest cost, market ready product.

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ESA CORPORATION

MARKETS AND APPLICATIONS

ESA PRODUCTS AND SERVICES

ESA products and services are used in virtually every industry to compress product development cycle time and reduce development costs. Major markets served by ESA's team of experienced Engineers include:



AEROSPACE • DEFENSE
AUTOMOTIVE • COMMERCIAL
ENERGY • GREEN
ELECTRONICS • SEMICONDUCTOR
BIO-MEDICAL • SPORTS SCIENCE
NON-LETHAL WEAPONS

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ESA'S SATISFIED CUSTOMERS

ESA TAKES PRIDE IN THE ENDURING RELATIONSHIPS WITH OUR PAST CUSTOMERS

A sampling of our Partners that have experienced satisfaction as a result of our process driven expertise include:

Applied Energetics	Louisville Slugger
Armorworks	MD Helicopters
ATK	Medtronic
Boeing	Moog
Crane Aerospace	Motorola
Department of Homeland Security	Nammo-Talley Defense
Evergreen Aviation	Northrop-Grumman
Global Building Systems, Inc.	Orbital Sciences
Golf Physics	Pacific Scientific Energetic Materials
Goodrich	Parker Aerospace
Henkel	Raytheon
Honeywell	Reliable Plastics
IMC Magnetics Corporation	Simula / BAE
Intel	Supreme Industries
L-3 Communications	Triumph
Lockheed-Martin	NAVSEA

EXAMPLES OF INDUSTRY EXPERIENCE

ESA CORPORATION

DEPARTMENT OF HOMELAND SECURITY ADVANCED RESEARCH PROJECTS AGENCY

- Small Business Innovative Research (SBIR) Projects
- Successfully completed Phase I and Phase II research work on Non-Lethal Vehicle Stopping Technology
- Lean Product development expertise enabled Phase III commercialization and development of Spiral Technologies leading to multiple Phase II and Phase III awards.

DEPARTMENT OF DEFENSE JOINT IMPROVISED EXPLOSIVE DEVICE DEFEAT ORGANIZATION (JIEDDO)

- Phase II research work on Less-Than-Lethal Vehicle Stopping Spiral Technology
- Phase III commercialization licensing agreement in place

HONEYWELL PHOENIX/TEMPE DIVISIONS OF ENGINES & SYSTEMS

- Turbine wheel structural analysis
- Engine test structure dynamic modeling
- Gas Turbine engine exhaust system modal, thermal, strength & Life analysis
- Engineering structural & thermal analysis for valve development programs
- Participated on advanced technology programs
- Contract on internal software development program for life cycle fatigue & materials solutions

HONEYWELL SOUTH BEND, INDIANA DIVISION OF ENGINES & SYSTEMS

- JSF Fuel Control Valves programs, including tolerance, structural, and fracture mechanics analyses

HONEYWELL PHOENIX DIVISION OF BUSINESS, REGIONAL, AND GENERAL AVIATION

- Structural, vibration, and cooling design/analyses for commercial avionics development programs
- Integrated Avionics Box chassis assembly cooling, Mini-Cabinet cooling, sustained shock analysis, plus shock & vibration analysis

CRANE AEROSPACE & ELECTRONICS

- Stress, vibration, shock, thermal analyses on hydraulic braking systems, control valves and actuators
- Stress, vibration, shock, thermal analyses on JSF Electronic Control Systems and LRU's

ORBITAL SCIENCES CORPORATION (OSC)

- Structural and thermal analyses on commercial and military missile structures
- Structural analyses on ground support equipment
- Assembly and board level thermal analyses on commercial and military avionics installations

MD HELICOPTERS

- Structural analysis on control surface system components
- Structural, vibration, shock, fatigue analysis on helicopter floor structures

EXAMPLES OF INDUSTRY EXPERIENCE

ESA CORPORATION

LOCKHEED MARTIN

- Radome Structural, vibration, shock, fatigue analysis

RAYTHEON MISSILE SYSTEMS

- Structural and thermal analyses on missile structures and electronics
- Assembly and board level thermal analyses on avionics installations
- Solder joint cyclic creep/fatigue analyses

BOEING HELICOPTER CO.

- Structural and reliability analyses on composite/foam core wing components

MOOG

- Structural, vibration, shock, fatigue analysis on aircraft control surface actuation and pilot feedback systems

ARMOR HOLDINGS

- Elastic-Plastic Structural Analysis on Armor Products, crash-worthy helicopter seating

NAVSEA

- Phase I research work on Collision Avoidance Bathymetry System
- Phase II research work on Non-Lethal Maritime swimmer/vessel applications

SUPREME INDUSTRIES

- Structural, vibration, shock, fatigue analysis on commercial and military truck frames and bodies

L-3 COMMUNICATIONS

- Structural and CFD thermal analysis on aircraft LRU electronic control systems
- Structural, vibration, shock, fatigue analysis on vibration test stands

MEDTRONIC INC.

- Structural – impact analyses on medical electronic packages, Defibrillators, Pacemakers, etc.
- Package level structural analyses on semi-conductor devices. Solder ball cyclic creep/fatigue analyses

SOLARCAT

- Winds loads CFD and structural analysis on parabolic solar dish, mount, and boom

ATK

- Gun Blast structural analysis on airframe skin and structures
- Weapons Station mounting system on airframe structures
- Gun mechanism design and structural analysis



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