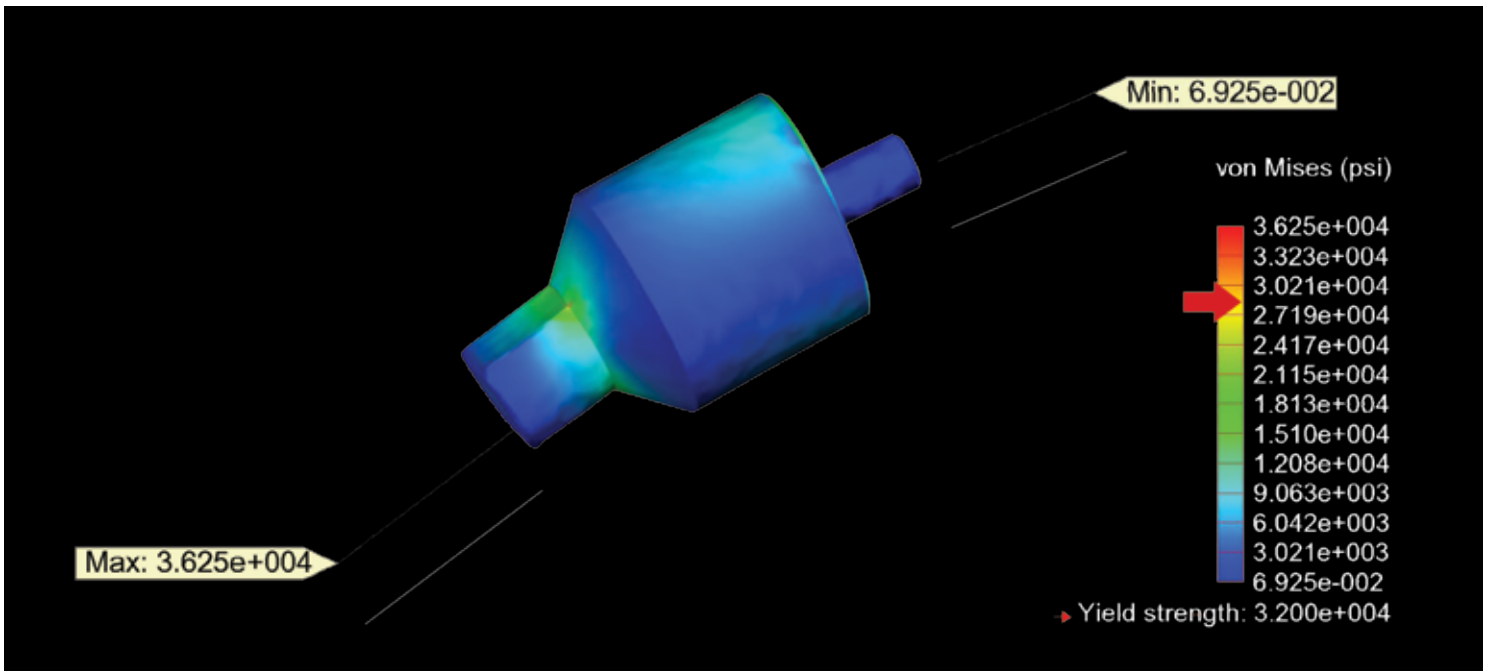


machine design

ssoe®. making clients successful.



Why SSOE? The SSOE Experience is the combination of our Value Promise and Great Client Service that results in trusted relationships.

To consistently exceed clients' expectations is a common goal in our industry. So, how is our promise of outstanding performance any different from others? We have proof. Greater than 91% of clients we surveyed would recommend SSOE Group to a colleague. And more than 150 of our clients have been with us for at least 20 years. These endorsements are a result of our Great Client Service—our corporate-wide commitment to understand and exceed your expectations and deliver unexpected benefits.

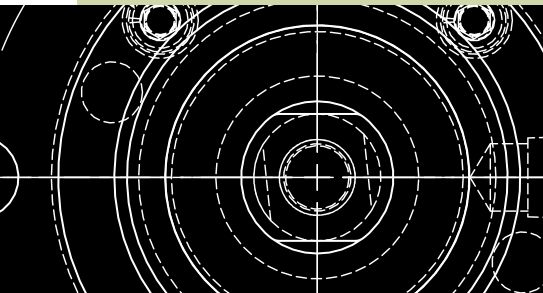
For decades, we've found ways to deliver greater value to clients. You can count on us to deliver high quality projects, on schedule, with fewer problems, and for lower total cost to save you time, trouble, and money. Through this Value Promise SSOE returned 126% of our fee to clients in the form of project savings over the last 3 years.

Advantages

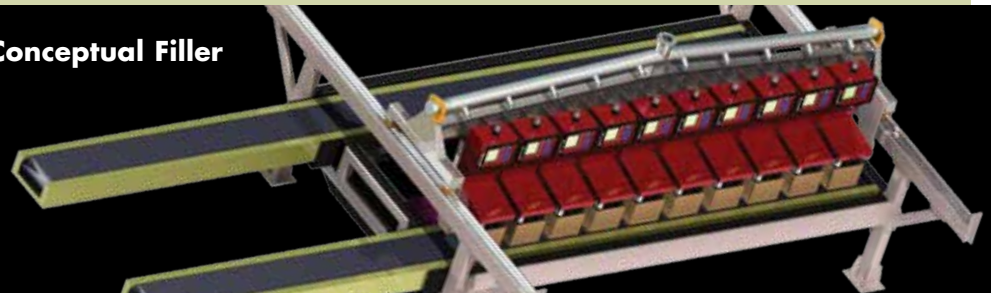
- Our extensive experience provides clients with tailored solutions including equipment modification, equipment procurement (and customization), and equipment design from the ground up.
- Working closely with our clients and focusing on project details helps us consistently provide reduced production costs, Rapid Change Over (RCO), and adherence to code compliance producing higher product quality and more reliable machinery, which results in an improved production rate overall.
- Our dynamic 3D technology for machine design allows us to animate the machine's functions for the client to review. This preliminary analysis in the design stage allows us to correct any potential design flaw, avoiding costly, time-consuming rework in the installation phase.

Design Services

- 2D assemblies and details
- 3D models linked to 2D drawings with final deliverables to suit client needs
- 3D design reviews
 - Complete design understanding
 - Reviews of the “real thing”
 - Manipulate during reviews
- 3D technical documentation
 - 3D images in many formats including JPEG and BMP
 - Use in maintenance, training, or operational documentation
- 3D system or component animation
 - Animation of systems or components reflect general function of the proposed solutions
- Automatic updating of 3D model, assembly drawings and 2D drawings if detail parts are changed
- Finite element analysis



Conceptual Filler



Project Types

Custom and commercial packaging equipment

- Aerosol enclosures and equipment guarding
- Capping
- Corrugate and container management
- Filling
- Graphite grinding equipment modifications / improvements
- Manufacturing and material processing equipment
- Material handling
- Process equipment design and modification
- Quality control equipment
- Raw material handling equipment
- Various types of rapid changeover equipment and tooling

Technical Specialties

- 3D design and modeling
- Commercial / Custom equipment integration
- Custom designed equipment
- Equipment troubleshooting / evaluations
- Finite element analysis
- Installation and start-up support
- Machine modification / retrofit design
- Process and systems capabilities studies
- Shop testing and inspection

Representative Clients

- BMW
- Chase Brass and Copper
- FedEx
- GrafTech
- Holcim
- Iams
- Johns Manville
- Morgan AM&T
- Owens Corning
- Pilkington
- Procter & Gamble
- Saint-Gobain

Locations

Albany, NY
Alliance, OH
Atlanta, GA
Birmingham, AL
Chandler, AZ
Cincinnati, OH
Columbus, OH
Denver, CO
Hamburg, Germany
Huntsville, AL
Kalamazoo, MI
León, Mexico
Lima, OH
Midland, MI
Mobile, AL
Monterrey, Mexico
Mumbai, India
Nashville, TN
Omaha, NE
Penang, Malaysia
Portland, OR
Raleigh-Durham, NC
Riverside, CA
Santa Clara, CA
São Paulo, Brazil
Shanghai, China
St. Paul, MN
Toledo, OH
Troy, MI
Washington, DC

Markets

Energy
Life Sciences
Manufacturing / Process
Telecommunications

Services

Architecture
Construction management
Data / Fire / Security
Energy consulting
Engineering
Machine design
Master planning
Procurement
Project / Program management
Site selection
Tool install
Virtual Design and Construction

Rankings

Engineering News-Record (ENR), 2015

- Top 5 Semiconductor Design Firm for the past 3 years
- Top 5 Automotive Plant Design Firm for the past 8 years
- Top 10 Solar Power Design Firm for the past 6 years
- Top 10 Food and Beverage Design Firm for the past 9 years
- Top 10 Manufacturing Design Firm for the past 4 years
- Top 20 Chemical Plant Design Firm for the past decade
- Top 20 Industrial Process Design Firm for the past decade

ENR Global Sourcebook, 2014

- 6th International Automotive Assembly Design Firm

Building Design + Construction, 2015

- Top 10 BIM Engineering Firm for the past 4 years
- Top 10 Engineering / Architecture Firm for the past 3 years
- Top 10 Industrial Sector Engineering Firm for the past 3 years

Named "Best AEC Firm to Work For"
(Building Design + Construction)

SSOE Facts

- SSOE was founded in 1948 and currently has more than 20 locations worldwide.
- We are a global engineering, procurement, and construction management (EPCM) firm with projects in more than 30 countries.
- SSOE offers program management services from design through construction, to commissioning and start-up, for seamless project delivery. We serve commercial, industrial, and institutional clients that include small local companies, global *Fortune 100 companies*, and everything between.
- Our project management standards are drawn from the Project Management Institute. In fact, SSOE's goal is to have all of our project managers earn the prestigious designation of Certified Project Management Professional (PMP).
- Our energy consulting group offers an integrated approach to meeting your renewable energy, conservation, and sustainable design goals. We have more than \$1 billion in projects that have been LEED® certified.



www.ssoe.com



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