

By providing excellent service and value we help our customers achieve their goals and deal with change.

www.trioseng.com

Company



- We operate out of Windsor, Ontario, Canada and are available to service customers around the world.
- Trios Engineering is an Engineering and Project Management Services company. Our team of engineers and designers utilize efficient tools, multi-disciplinary skills and knowledge to deliver high value, quality work, and service. We are a private and licensed company.
- Currently, we are a team of dedicated mechanical engineers, designers, with part time support for electrical engineering, civil engineering, and additional CAD drafting.

Leadership Team

- The leadership team is a seasoned group of professional engineers with a variety of experience servicing customers in food processing, automotive design, automotive manufacturing, chemical and metal processing industries.
- Our team has experience with customers in Canada, the US, Japan and other markets around the globe. Between the owners, total experience is more than 35 years.

Industries



Trios Engineering is ready to support customers in the following manufacturing industries;

- Food and Beverage Processing
- Chemical Processing
- Steel or Metal Processing
- Automotive Manufacturing
- Durable Goods Manufacturing

Whether you need new equipment, need to modify existing equipment, or need to determine what can be done to your equipment to make it meet your new requirements, Trios can help. We will apply our engineering expertise to specify, select, and design new equipment, as well as our project management skills to manage the timing, budgets, and quality of the launch. We can also provide mechanical engineering product design support to durable goods and automobile manufacturers.

To realize the best value, customers can utilize our multi-disciplinary knowledge and experience by sourcing Trios Engineering to supply any combination of product, process, equipment design, and project management. By keeping more of these different disciplines in the hands of one team – our team, you will be able to achieve a truly integrated system at minimum cost.

Manufacturing Support



Plant Engineering Support

- HVAC system design
- Power piping system design (steam, air, etc.) and registration with TSSA plant
- Layout / material flow analysis
- Process piping systems
- Energy management / quantification
- Pre-audit preparation activities

Process Design Support / Analysis

- Tooling selection
- Feasibility studies
- Tolerance stack-up analysis
- Process selection
- Process flow
- Failure Mode and Effects Analysis (PFMEA)
- Process capability / tolerance selection

Project Management

- Timeline creation
- Budget creation
- Cost estimation
- Project specification
- Supplier selection / management
- Build management / tryouts / line-off

Custom Machinery Design

- Scrubber system design;
- Fume exhaust systems for corrosive gases treatment of line effluents for compliance with regulations.
- Fume scrubbers for steel pickling chemical processing chemical treatment processes.

Also...

- Pickling lines
- Counter-current rinse systems
- Corrosion resistant equipment
- Piping systems
- Mass transfer equipment
- Acid recovery systems for steel pickling lines
- Simple machining station design
- Metal removal processes
- Mod kits for existing equipment
- Auto gage stations
- Basic and Advanced gage system



Product Design Support



Product Design Support / Analysis

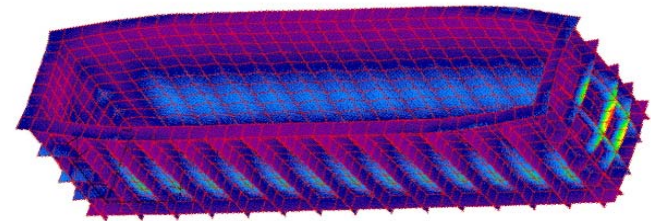
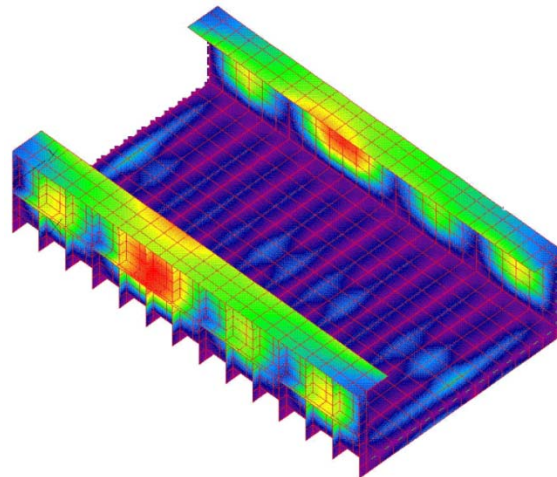
- Concept creation
- Concept selection
- Design for manufacturing
- Design for assembly
- Design to specification
- Finite Element Analysis (FEA, linear only)
- Design - Failure Mode and Effects Analysis (DFMEA)
- Material selection
- Process selection design
- Design to cost
- Validation plan design
- Design comparison / selection
- Designing with nylon
- Designing with acetal
- Designing with bent wire
- Designing for metal stamping process
- Designing for machining process
- Specification creation
- Tolerance stack-up analysis
- Tolerance selection

Project Management

- Timeline creation
- Budget creation
- Cost estimation
- Project specification
- Supplier selection / management
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Basic Mechanical Engineering Studies

- Finite Element Analysis (FEA, linear only)
- Tolerance stack-up / variation analysis
- Stress analysis
- Energy calculations



Special Multi-Disciplinary Support



Cost Effective Manufacturing Issue Resolution

By applying the similar approach used to correct / find root causes, we will determine and recommend the cost effective solution to your mfg issue;

1. Collect factors affecting the root cause and determine relationships between the factors and root cause.
2. Formulate effective countermeasures and establish their cost vs. effectiveness.
3. Recommend most cost effective way to implement a corrective action plan.

Root Cause Analysis

We can use our experience in sorting out mechanical design issues to help you find the root cause(s) of your problems, then determine appropriate countermeasures to eliminate the failure mode. Our typical approach is as follows;

1. Determine the failure mode
2. Theorize potential factors and root causes
3. Audit potential root causes in priority sequence to find the real root cause
4. Collect factors affecting the root cause and determine relationships between the factors and root cause
5. Formulate effective countermeasures and establish their cost vs. effectiveness
6. Recommend most cost effective way to implement a corrective action plan

Cost Benefit Analysis

With our Cost-Benefit Analysis we can help you understand and prove to other team players whether or not an equipment investment is worthwhile. The question could be modification vs. replacement, project viability, investment vs. outsource, buy vs. rent; we will be able to help you put together the real story in an organized fashion so that all who need to understand, will be able to do so easily.

Contact Trios Engineering



Please feel free to contact our team at any time to discuss your questions and discover the possibilities.

We are located in Belle River, Ontario, Canada. This is 10 minutes drive outside Windsor and 30 minutes drive from the international border crossings between Detroit, USA, and Windsor, Canada.

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