

### DESIGN, ENGINEERING AND PROTOTYPING

Do you have a Product Idea?

Do you want to improve your competitiveness or increase your market share?

We at LODESTAR have the Design and Engineering expertise and tools to make YOUR vision a Reality.

⇒ Product design and development

⇒ Reverse Engineering

⇒ Prototyping

*"Lodestar's team of engineers upgraded our Vacuum Pump using innovative design concepts, making it the best performing in the industry. They also produced all the parts for the pump maintaining critical quality requirements enabling the pump to achieve its design potential"*

— President, Pump Company

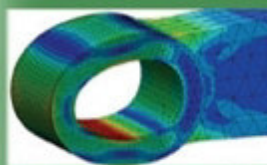


Reverse Engineering



3D Prototyping

Lodestar's Design & Engineering services and Custom manufacturing solutions have helped customers increase sales by over 15% and reduce cost by over 25%.



Finite Element Analysis



- ⇒ Concept Design and Redesign
- ⇒ CAD Modeling and Drawing
- ⇒ Detailed Drawing Development
- ⇒ Latest CAD tools like SolidWorks and CREO used for Modeling, Virtual Validation and Finite Element Analysis

#### Reverse Engineering

- + Equipment used includes a Faro Edge 7 axis 9ft Arm-HD scanner, a Mitutoyo AE-122 CMM, a Brown and Sharpe 15-22-10 CMM and numerous measuring tools and gauges

#### Prototyping

- + 3D printing is used for Fit check and to ensure that design requirements are met



FARO Edge ScanArm