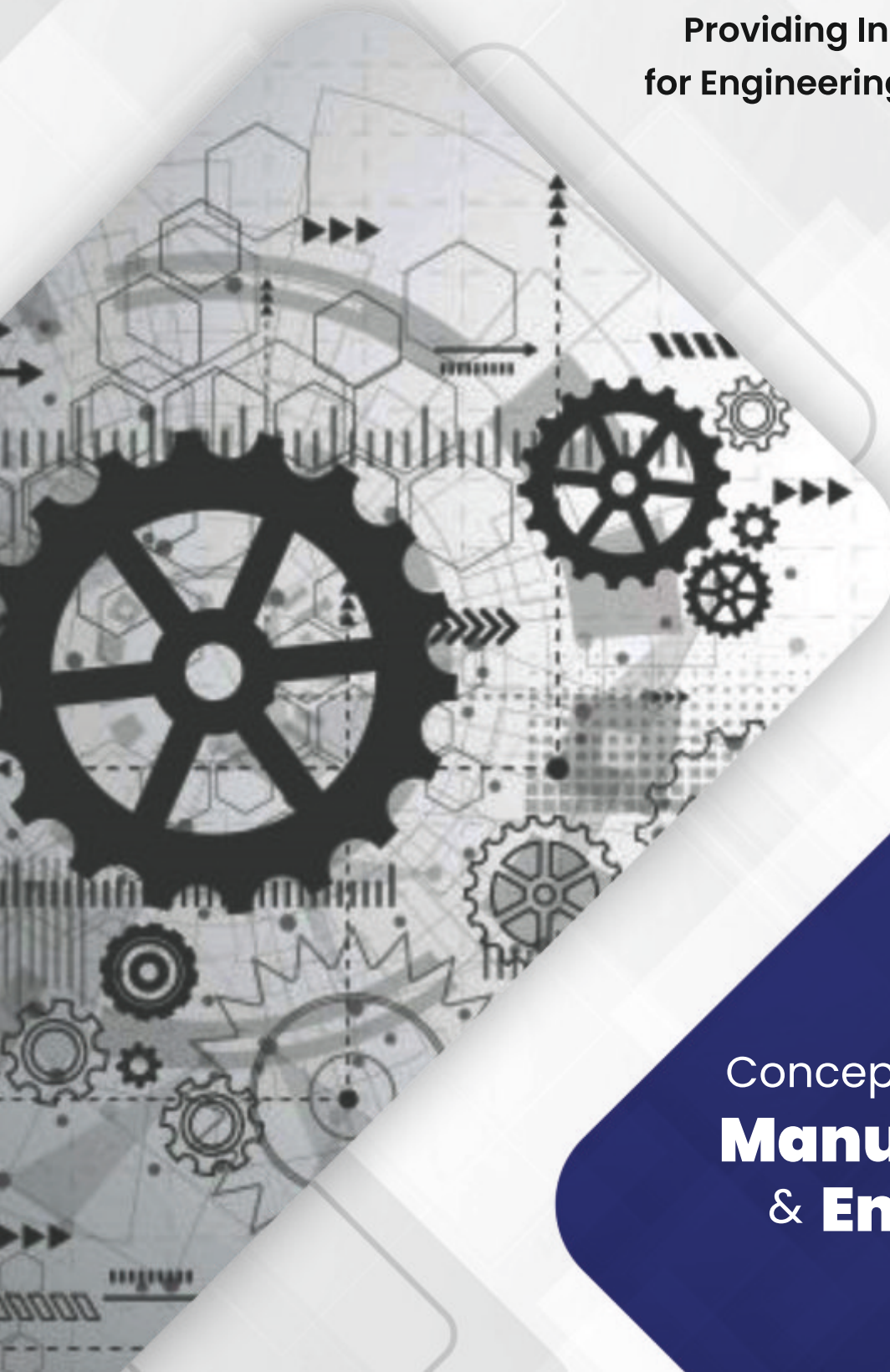




## **LODESTAR QUALITY LLC**

Providing Innovative Solutions  
for Engineering & Manufacturing



From  
Concept to Production  
**Manufacturing  
& Engineering**  
Solutions

# REDESIGN & MANUFACTURE OF VACUUM PUMP

## ■ THE PROBLEM

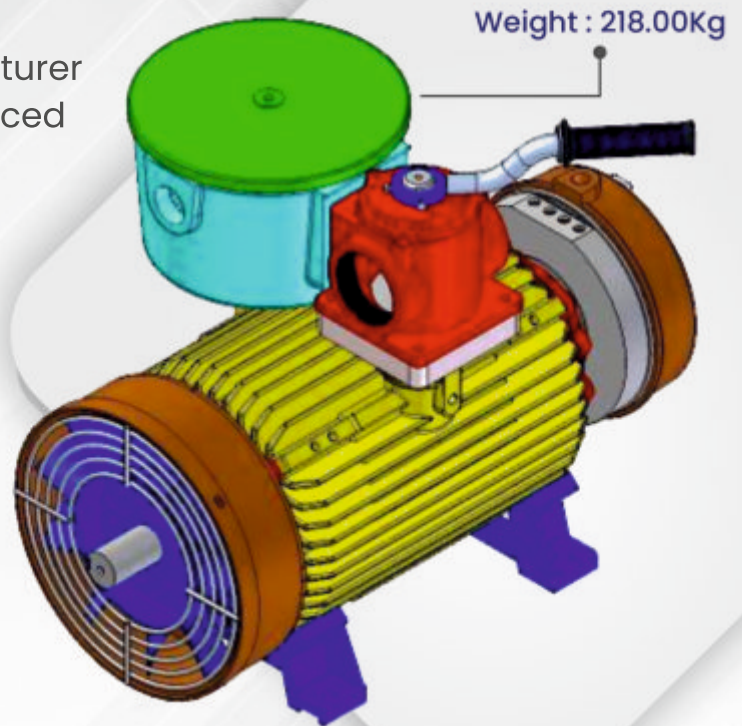
A reputed North American manufacturer of vacuum pumps for oilfield was faced with loss of sales and market share due to outdated Pump design and quality problems.

## ■ LODESTAR'S SOLUTION

- ▶ Conducted Root cause analysis to identify components and areas where design and manufacturing improvement was needed using the DMAIC model.
- ▶ Redesigned the entire pump including key components like housing, rotor eccentricity, valves and others using latest design philosophies and using tools like CFD
- ▶ Developed an innovative design to prevent catastrophic Pump failures due to entry of liquid in the Pump – a problem none of the manufacturers in the industry have solved.

## ■ RESULTS

- ▶ **The design & manufacturing improvements increased Pump performance as measured by flow-rate by over 50%, from 310 CFM to over 452 CFM.**
- ▶ Enabled customer to focus on growing Sales and capturing market share given the confidence that he now has the best performing pump in the market, that is not only fail-safe but also has the highest quality of parts.

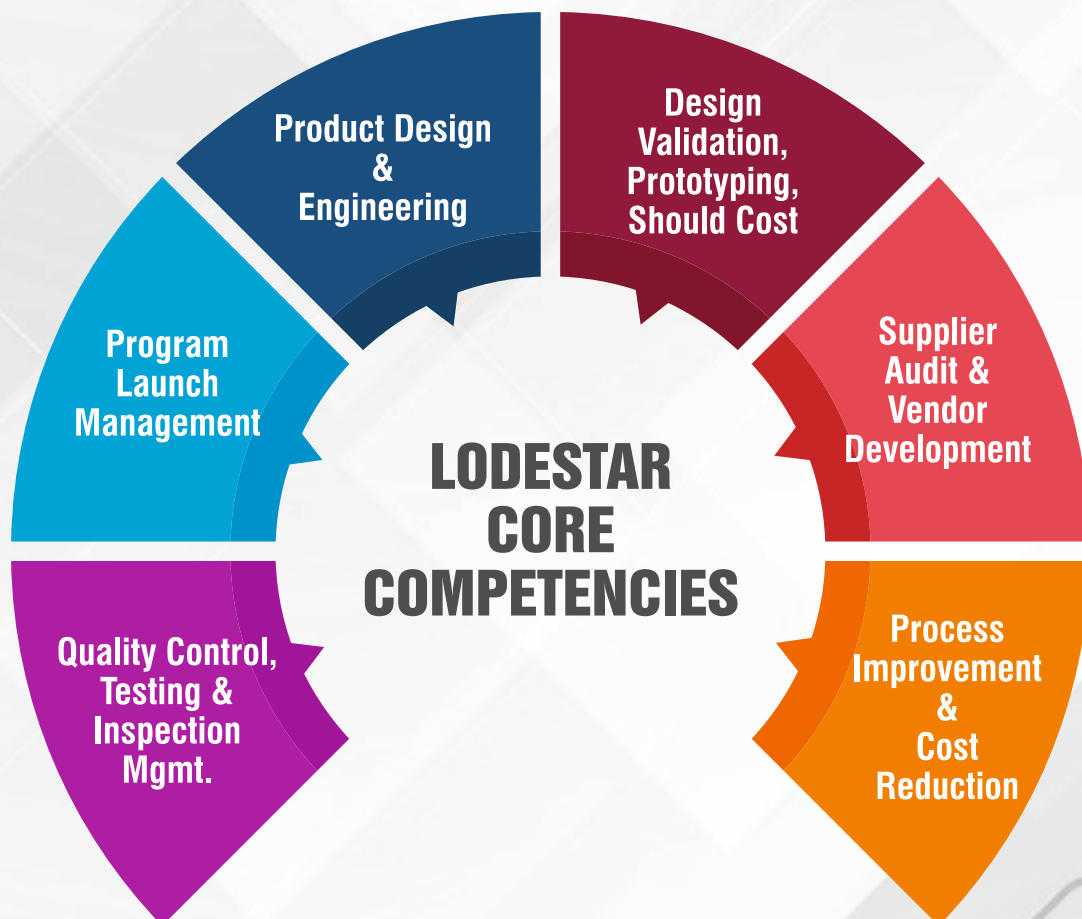


# ABOUT LODESTAR QUALITY LLC

Lodestar Quality LLC is a knowledge-driven custom manufacturing solutions provider that

- ▶ Provides manufacturers of products a full range of services from innovative design and engineering, to sourcing and production using best in class quality control methods in a cost- efficient manner.
- ▶ Focus areas include fabrications, castings, machining and forging, and plastic products.

Our team of engineering experts and network of high-quality manufacturers work together to develop and deliver products to our customers.



“Lodestar utilizes the expertise of its team members and its manufacturing partners to address key problems faced by industry segments or individual manufacturers with high quality products and intelligent solutions which are customized to address a particular market's or entity's needs in a comprehensive manner.

**THANK YOU!**

