TATA TECHNOLOGIES

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Case Study | Industrial Heavy Machinery

ENGINE STUDY COMPACT EXCAVATOR

THE CUSTOMER NEEDED TO GET ITS LINE OF COMPACT EXCAVATORS INTO NEW GEOGRAPHIC MARKETS WHERE A CURRENT ENGINE SUPPLIER DID NOT OFFER CUSTOMER SUPPORT.

THE CHALLENGE

- Performing a study of diesel engines used in competing compact excavators in the target markets and exploring potential alternatives to their current engine offering.
- Configuring the redesigned engine to fit the limited space constraints of the existing excavator platform.

THE COMPANY

The world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. This global corporation, with a distribution network of nearly 200 dealers, is based in North America.

THE SOLUTION

Phase 1 – Analysis

- Analyzed the main parameters of compact excavators using product brochures, website specifications and technical journals.
- Selected nine competitive equipment manufacturers for engine evaluation and analyzed the advantages and disadvantages for 58 versions of 27 engines.

Phase 2 – Comparison

- Selected seven engines, based on the existing compact excavator platform dimensions and configurations, to compare to 3D models of the client's engines.

Phase 3 – Recommendations

- Performed final analysis based on an individual evaluation of functional and dimensional parameters for each engine, including a stack-up tolerance analysis.
- Made a recommendation for the use of two different engines.

THE RESULT

Redesigned engines can be used globally

Redesigned engines required almost no change to the existing platform

Customer requested a similar study for larger excavators

ABOUT US

Tata Technologies is a global engineering and product development IT services company that is focused on fulfilling its mission of helping the world drive, fly, build and farm by enabling manufacturing companies across the automotive, aerospace and industrial heavy machinery verticals realize better products and drive efficiencies in their businesses. There are two components to our value proposition – managing and delivering outsourced engineering services and products for our manufacturing clients, and helping them identify and deploy technologies that are used to conceptualize, design, validate, build, test, benchmark and realize better products. For more information, visit **www.tatatechnologies.com**.

Engineering a ***better world.***