

# ABB Turbocharger upgrade boosts Return on Investment to 64%

Zurich, Switzerland, January 12, 2016: Independent study shows ABB turbocharger upgrades further improve engine performance and reduce fuel consumption.

ABB, the leading power and automation technology group, announced study results<sup>1</sup> showing a 64% return on investment from turbocharger upgrades. The increased revenue resulting from higher engine output of three engines in a power plant accumulated to approximately \$537,000 per year, and in addition, fuel savings of \$470,000 per year<sup>2</sup> were realized.

Forrester Consulting conducted a study\* examining the return on investment (ROI) from upgrading ABB turbochargers for a major power plant operator in the Caribbean. Data gathered and analyzed from the three engines before and after the upgrade indicated a Net Present Value of \$1.4 million<sup>3</sup>, calculated over three years, with an annual value of \$824,000 and a payback time of 11 months.

An industrial turbocharger uses engine exhaust energy to force more air into the cylinders of a combustion engine, thus enabling higher engine output and efficiency. An upgrade entails replacing old turbochargers or turbocharger components with new, improved versions. Using latest technology turbochargers or components brings about a number of significant potential benefits, such as lower fuel consumption, lower emissions, higher engine output and reduced maintenance cost. Overall, the engine operation can be better optimized to the specific needs of the operator.

In the case study, new advanced compressor wheels with a higher efficiency and wider speed margins were fitted to six turbochargers on three engines. The increased efficiency led to fuel savings of 1.6% equating to a reduction of \$470,000 in the annual fuel bill. In addition, due to the wider speed margins of the new compressor wheels, it was possible to run the turbochargers at a higher speed, particularly during the hot period of the day. Before the upgrade, the engines could not be run at full load but had to be derated due to very high outside temperatures. After upgrading, the power output could be increased by 2.4% resulting in \$537,000 additional revenues per year.

“Benefits of upgrading our products are significant and we have always been confident that improved performance gives true value to our customers”, said Oliver Riemenschneider, Managing Director, ABB Turbocharging. “The study analysis showing the financial benefits from a customer point of view helps us to even better support our customers, delivering on their needs - all in line with our Next Level strategy.”

As well as financial benefits, the study by Forrester Consulting provides information on additional benefits from the turbocharger upgrades. These include lower emissions, extended component lifetime due to lowered thermal stress, as well as longer running hours between overhauls leading to reduced maintenance cost.

Approximately 200,000 ABB turbochargers are in operation across the globe on ships, power stations, gen-sets, diesel locomotives and large off-highway vehicles. To access the full Forrester Consulting study, visit ABB's website: [The Total Economic Impact of ABB's Turbocharger Upgrade](#)

## About ABB Group

ABB ([www.abb.com](http://www.abb.com)) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 140,000 people.

\*The study was commissioned by ABB and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis. Forrester makes no assumptions as to the potential ROI that other organizations will receive and strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in a turbocharger upgrade.

*1 Title: 'The Total Economic Impact of ABB's Turbocharger Upgrade' a commissioned study conducted by Forrester Consulting on behalf of ABB*

*2 Average of median data from six turbochargers on three engines*

*3 Risk adjusted Net Present Value figure*

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