



# Flange-to-Flange Solution - 6B

## Industry-Leading Manufacturer Lowers Emissions and Increases Efficiency to Meet Spain’s Environmental Regulations

### Customer Opportunity/Challenge

A leading manufacturer of corrugated cardboard boxes, S.A. Industrias Celulosa Aragonesa (SAICA) faced the prospect of no longer qualifying for Spain’s total feed-in tariff, unless it could upgrade the plant to meet Spanish environmental regulations. After operating a GE Frame 6B gas turbine at its Zaragoza-based paper mill for 15 years, SAICA needed a major system upgrade to meet the government’s efficiency and emissions regulations. An upgrade of this magnitude would be a major disruption to the production line.

### Solution

SAICA’s accelerated schedule required a unique solution. With a highly skilled team of more than 60 people, GE replaced the entire gas turbine engine with a brand new Frame 6581B production unit including a Mark\* VIe control system in just seven weeks. The Frame 6581B’s Dry Low NOx (DLN 1) combustion system reduced the mill’s NOx emissions without steam injection. With the units advanced design parts, SAICA also experienced a 3 percent efficiency improvement.

### Results

Choosing GE’s [Flange-to-Flange replacement solution](#), SAICA renewed their plant with the latest production gas turbine within the span of a typical major inspection.

The Flange-to-Flange Solution allows customers to incorporate all the latest turbine technology at minimal disruption to plant operations by replacing the entire gas turbine engine. The term “Flange-to-Flange” is used because the entire engine from inlet flange to exhaust flange is replaced as one piece. In addition to increased output and efficiency, Flange-to-Flange replacement can be a cost-effective solution to address multiple needs at once—such as asset life extension, performance recovery, rehabilitation, emissions controls, and fuel flexibility.

### CUSTOMER VALUE

- Emissions Compliance
- Heat Rate Improvement
- Long Term Plant Life Renewal
- 7 Week Outage to First Fire†

†Facility and Scope Dependent

