



The Weir Group is a global engineering organisation operating in 70 countries and employing around 15,000 people. Originally founded in Scotland in 1871, it has a strong Scottish presence. The group's head office is based in Glasgow and the Power and Industrial Division head office is based in East Kilbride. The group also has service centres in Aberdeen and Alloa. Weir Engineering Services Limited is part of the Weir Group and offers re-engineering services for a wide range of industrial equipment. The company stopped its OEM activities in 2007 due to high costs, but decided to keep its servicing activities, which were attractive because of their higher margins.

The company's re-engineering activities are analogous to remanufacturing and generate a revenue of about £100m per year. Of this activity, about £50m is generated in Scotland. The company has been involved in re-engineering, or remanufacturing, activities since the foundation of the original Weir company.

*The company operates in the aftermarket segment of the industrial equipment value chain.*

## Remanufacturing services

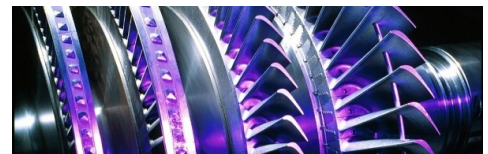
Weir Engineering Services Limited specialises in servicing three main product categories:



Centrifugal pumps



Compressors



Steam turbines

The equipment serviced is generally very large; for example, steam turbines may be between 1 and 5MW. The company serves a wide range of customers in a range of sectors, as shown below:



### Power generation

This includes hydro, wind and conventional power generation customers.



### Oil and gas industry

There is a ready customer base in Scotland because of the North Sea fields.

### Industrial

Industrial plant customers include steel mills and refineries.



### Water utilities

The company has water utility customers in both Scotland and England.



# Why remanufacture industrial equipment?

- **Product suitability**—centrifugal pumps, compressors, steam turbines and other industrial equipment is suitable for remanufacturing as they are high value and complex products with significant energy, material and labour embedded in each item.
- **Cost savings**—the bespoke nature of many installations means that it is often significantly cheaper to remanufacture individual components or elements than to replace the entire system.
- **Waste reduction**—remanufacturing reuses about 90% of the original products components, avoiding the costs and environmental impacts of disposal.
- **Long-life products**—many of the products have long service lives, perhaps up to 50 years. Remanufacturing services provide the opportunity for improvements in energy efficiency to be incorporated into older plant.
- **Changing operating conditions during use**—for oil and gas installations, the operating conditions will change over the life of the field. Remanufacturing services provide the opportunity for equipment to be reconfigured and optimised for different stages of the operational lifetime.

Weir Engineering Services Limited offers three main services:

## Upgrade and re-rate

- Equipment can be upgraded to reflect changes in required performance, e.g. due to changes in operating conditions.
- Upgrade may incorporate: improvements for serviceability, new manufacturing techniques, automation and assembly.
- Recertification is an important activity due to the long life of some installations. A product or part may be in use for longer than the original design life, but recertification can demonstrate it is still functioning safely.
- This activity accounts for about 10% of the company's revenue.



## Advanced parts solutions (APS)

- This activity involves modification of OEM parts and components.
- This is particularly important if OEM parts have become obsolete and are no longer available on the market.
- During the modification process, the part or components can be optimised for current and future operating conditions, which may be different to the original specifications.
- This activity accounts for about 20% of the company's revenue.

## Overhaul

- Overhaul activity is the most common service activity for the company.
- A key factor for overhaul is being located close to customers.
- The company has three service centres in Scotland, with others throughout England.
- Equipment will generally be transported by road to the service centre for overhaul.
- This activity accounts for about 70% of the company's revenue.



*“Increasingly, modelling and design work can be outsourced to countries like India, where there is low cost, skilled labour available.”*

Graeme Kentley—General manager, Engineering, Weir Engineering Services Limited

There are two main challenges identified for Weir Engineering Services Limited’s re-engineering activities:

- **Competition from low cost labour overseas**—while some of the activities around remanufacturing requires localised services, e.g. to reduce transport costs and project lead time, some high value remanufacturing activities such as modelling and design work are increasingly at risk of being outsourced to countries, like India, where highly skilled labour is available at a lower costs than in the UK. Additionally, the time difference between the two countries can reduce the project lead time by increasing the number of working hours per day. This could lead to a loss of jobs in the UK.
- **Limited brand strength**—as the company is involved in servicing activities but is not involved in OEM manufacturing, the company does not benefit from the same brand exposure as OEMs who also offer servicing functions. This makes it harder for the company to establish a relationship with new customers. The company did have OEM activities up until 2007, and so a current marketing message is that of a service organisation, which benefits from OEM experience. However, as that experience becomes less recent over time, it will be increasingly hard to use this message to attract customers.

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## Future plans and opportunities

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The biggest opportunity identified by Weir Engineering Services Limited is the transition from non-renewable to renewable energy sources. As existing off-shore oil and gas installations and equipment in the North Sea is decommissioned, it could be converted into renewable platforms, e.g. for wind or wave energy.

Weir Engineering Services Limited are well positioned to contribute to these activities as they have skills in repurposing and optimising equipment for new operational requirements and knowledge of the renewables sector.

We would like to thank Graeme Kentley at Weir Engineering Services Limited for his assistance in preparing this case study.

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All photographs are taken from the Weir Group websites.



## **Inspiring change for Scotland's resource economy**

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