

CASE STUDY — Aviation MRO Facility (U.K.)

10.4% Validated Energy Reduction | 15,184 kWh annual saving | £3,037 annual value | 12.56 month payback

INTRODUCTION

Aviation maintenance, repair and overhaul facilities operate some of the most demanding electrical environments in industry. Precision tooling, climate-controlled hangars, compressed air systems, and continuous lighting loads all contribute to a high and complex electricity demand profile - much of it running around the clock.

For this UK-based aviation MRO operator, energy cost was a growing overhead with no obvious lever to pull. A site survey identified significant power quality inefficiency across the electrical installation - reactive losses and harmonic distortion were driving up consumption without adding any operational value.

enPact FilterPro was installed as a passive, retrofit solution. No changes to existing plant, no operational disruption, no downtime. What the live monitoring data has since confirmed is a result that exceeded every projection made at the outset.

SOLUTION

Patented enPact FilterPro Technology

enPact FilterPro was installed to improve power quality across the full electrical installation, reducing energy wasted through reactive current, heat, and harmonic distortion. The technology operates entirely in the background - no changes to equipment, processes, or operational routines.

FilterPro was deployed to:

- Reduce site-wide energy consumption across all electrical loads
- Improve power factor and reduce reactive losses
- Lower electricity costs without capital plant investment
- Deliver measurable, verified financial savings
- Support carbon reduction and ESG reporting objectives

CHALLENGE

Aviation MRO facilities present a challenging energy environment. Key issues at this site included:

- High and variable electrical demand across hangar, workshop, and office loads
- Power quality inefficiency across a complex multi-load installation
- Rising energy costs with no existing mitigation strategy
- Need for a solution that caused zero disruption to live operations
- Requirement for independently verified, reportable savings data

RESULTS:

- Whole-Site Energy Savings**
- 10.4% validated reduction in site energy consumption
 - 15,184 kWh annual energy saving
 - 45.1 kWh average daily saving
 - Performance exceeded the guaranteed minimum of 7%
 - Savings sustained consistently across the monitoring period
- Financial Impact**
- £3,037 annual financial saving
 - 12.56 month payback — against a quoted estimate of 23.45 months
 - Payback delivered nearly a year ahead of the original projection
- Environmental Impact**
- 950 kg CO2 avoided to date

Metric	Quoted	Actual
Savings (%)	7%	10.40%
Annual kWh Savings	8,210 kWh	15,184 kWh
Annual Financial Savings	£1,626	£3,037
Payback (Months)	23.45 months	12.56 months

CONCLUSION

enPact FilterPro has delivered a 10.4% validated reduction in energy consumption at this UK aviation MRO facility - generating £3,037 in annual savings and a payback of 12.56 months, nearly a year ahead of the original 23.45 month estimate.

The results demonstrate what is possible when passive power quality optimisation is applied to a complex, high-demand industrial environment. With zero operational disruption and independently verified savings data available through the enPact Energy Analytics Platform, the case for wider deployment across similar facilities is clear.

SCALABILITY INSIGHT

Aviation and aerospace facilities typically operate multiple sites with similar electrical load profiles. The savings achieved here translate directly to equivalent operations elsewhere.

At £3,037 per site per year, the estate-wide opportunity grows quickly:

Scale	Projected Annual Saving
• 5 sites	£15,185
• 10 sites	£30,370
• 25 sites	£75,925

For operators managing multi-site MRO or aviation infrastructure, enPact FilterPro offers a fast-payback, no-disruption route to meaningful and independently verified energy cost reduction.

INTERESTED IN ACHIEVING SIMILAR SAVINGS ACROSS YOUR ESTATE?

Get in touch to discuss validated energy-reduction opportunities and multi-site rollout potential.

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