

# Waste not - want not

**Research developed in Aston Business School is helping a company save thousands of pounds in manufacturing costs, during challenging economic times.**

Eminox is one of Europe's principal manufacturers of purpose-designed exhaust after-treatment systems for commercial vehicles. The company has a range of innovative solutions for meeting emissions legislation. Systems are developed using market-leading technologies, combined with substantial applications engineering expertise.

However, the company had identified that they had many laser-manufactured parts that were similar, if

not identical, and therefore could be wasting money and time on designing and manufacturing parts which already existed.

Developed using research in Aston Business School, CADFind offered an opportunity to reduce design time on new applications by reusing existing proven designs and increasing manufacturing effectiveness by reducing the product variety processed by the factory.

The previous CAD system at Eminox was very good at designing new parts but relied on extensive knowledge and experience to establish if an existing part could be used instead. Until the implementation of CAFind - a 2D and 3D graphical design retrieval system - the only solution was for a designer to

manually search potentially thousands of individual drawings.

CADFind was purchased and integrated into the company's existing Catia 3D system on a trial and evaluation basis by December 2007. By February 2008, the company had successfully processed over 42,000 laser profiles, with over 12,000 parts having siblings with the same or very similar geometric profiles. The company could now identify parts that would have been redesigned.

"CADFind now runs constantly in the background rationalising and standardising all parts and identifying matches," says Eminox engineer John Rogers. "Every time a designer creates a new part, he can see if a template part exists that can be used instead. We expect that this process will ensure that all duplicate parts will be progressively eliminated over the next five years, saving Eminox thousands of pounds."

Eminox are the first company to develop such an innovative solution for re-using sheet metal part designs in the UK. Their vision and Aston's technical innovation have combined to produce a practical solution to the problem of design duplication that is costing industry a fortune in the unnecessary waste of critical human and material resources.

Given the success of this initial project the company are continuing to collaborate with Aston to extend the approach to other, more complex, types of part that are used across their extensive product range.



Dr Doug Love of Aston Business School.

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*If you would like to find out more about the CADFind research project, please contact Dr Doug Love on 0121 204 3161 or email [d.m.love@aston.ac.uk](mailto:d.m.love@aston.ac.uk).*