# Study on for vehicle recycling centre

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A techno-economic feasibility study is nearing closure for a Gauteng-based end-of-life vehicle centre, which could potentially disassemble old cars for spare parts, and recycle the rubber, plastic and metal material out of which cars are made.

If viable, the Pelican project will be the first such recycling centre in Africa, and may lead to the establishment of other similar centres in areas with high car densities.

University of Pretoria life-cycle engineering chair **Alan Brent** reports that the feasibility study will finalise the costs of the proposed recycling modules and the disassembly unit.

The disassembly unit, which is the heart of the project, will include equipment for disassembling cars – including for the safe, environment-friendly removal of liquids and gases – and also shredding technologies for separating the different materials for recycling, he says.

Combined, the rubber, plastic, metal and disassembly modules are likely to cost more than R40-million, with additional operating costs.

The project is intended to take advantage of environment-friendly European Union legislation, which currently insists on a recyclable content of 85% in each car by 2006, and will require that 95% recyclable levels are reached by 2015.

While original-equipment manufacturers (OEMs) are not required to create the support industries which can reuse material and parts from cars, many OEMs are considering the recycling of their products.

This is in line with the concept of product stewardship, which states that manufacturers are responsible for a product once it leaves the factory.

Hence, South African OEMs are likely to be supportive of the initiative, as is BMW Germany, which has been assisting the project with technical expertise, states Brent.

Preliminary indications are that the project could be profitable and sustainable in South Africa.

The chief disadvantage of the location is the lack of a support industry to buy the recycled materials.

**Recycling centres in Europe**

However, the most significant advantages are the low cost of labour, which might allow the facility to process imported vehicles, as well as the large potential source of vehicles and the significant numbers of consumers of reusable and remanufactured parts.

Funding is being considered for the project's location at a Rosslyn site, which is still to be finalised, Brent reports.

The funding includes the transfer of the required technologies from Europe and the training of low-skilled labour.

The disassembly project will be housed in a facility of at least 5 000 m², much of which will be used for storage, he says.

However, there will be space to expand the facility to incorporate some of the material-specific recycling and component-remanufacturing modules.

It is envisaged that these modules will be managed by separate small, medium and micro enterprises.

Some of the OEMs were concerned that the project will result in an expansion of the secondary-parts market, which would compete with parts which they sell, describes Brent.

However, discussions continue with OEMs about creating OEM-compliant and -guaranteed parts, he says, acknowledging that the refurbishing and sales of parts are likely to be important parts of the project's success.

In addition, the scrapping industry will earn credits by delivering vehicles to the facility.

This will enable members to claim required automotive components against credits, states Brent.

A further advantage is that the scrap industry will not have to store their own vehicles for parts, he says.

The University of Pretoria, with support from the Automotive Industry Development Centre, is collaborating with private entrepreneurs who will manage the facility.

The university will be responsible for environmental issues through the Chair of Life Cycle Engineering in the Department of Engineering and Technology Management, and for the co-ordination of the factory layout and other manufacturing issues through the Chair of Automotive Manufacturing in the Department of Industrial and Systems Engineering.

Brent informs that the project will be funded for the first three to five years of its existence, but is then expected to be able to generate its own revenue.

It has been shown in recycling plants elsewhere that projects of this nature need to be able to process between five and ten vehicles a day.

While Brent believes that this figure could be increased significantly, he will be satisfied if the facility can process between 5 000 and 10 000 vehicles a year.

He hopes that the disassembly facility will be established by the end of this year, and will be operating efficiently by the middle of next year.

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90% of men kiss their wife goodbye when they leave the house. The rest kiss their house goodbye when they leave the wife.