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Sparking interest: engineering student Dennis Doerffel at work on a Ford Fiesta he has transformed into the car of the future with a hybrid electric/petrol-driven system. He says it has an average fuel consumption of more than four times the rate of conventional cars.
Key words: Technology, Transport, Lithium-ion battery.

Picture by: Anne Purkiss

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Mean But Green - The Car Of The Future

Story ID: GRN_07221

Environment – 450 words – one colour picture

By Anne Purkiss, LPS Special Correspondent

ENGINEERING student Dennis Doerffel can drive the car of the future today. He has transformed a Ford Fiesta into a super fuel-miser by fitting it with a hybrid electric/petrol-driven system.

His innovative "mean machine" is perfect for students – or anyone keen to keep motoring costs down – because it can achieve an average fuel consumption of 320 kilometres (200 miles) per 4.5 litres (one gallon) in city traffic, more than four times the rate of conventional cars.

To demonstrate the effectiveness of his revolutionary concept, Doerffel - a postgraduate research student at Southampton University, southern England - converted the Ford Fiesta, using the latest lithium-ion batteries linked to a small petrol engine which cuts in automatically if more power or range is required.

Doerffel based part of his research on the fact that more than 90 per cent of all car journeys are fewer than 80km (50 miles) long. The battery used in his hybrid car covers exactly that range and can be charged overnight from a domestic power socket.

At the same time, longer journeys are possible with the aid of the economical petrol engine. He is convinced that "future cars will need to have less impact on the environment and significantly lower fuel consumption without loss of performance."

Doerffel's research centres on making the various systems and components work together as efficiently as possible. The results of his three-year project are described by the university as a "vital stage in the development process towards new fuels".

His supervisor at the university's School of Engineering Sciences, Dr Suleiman Abu-Sharkh said: "What makes our research different from say, the attitude of car manufacturers, is that we are working on a low-energy vehicle that is perfect for urban use. We are not trying to win Formula One races or give spectacular acceleration. We are aiming at making the best possible use of the energy available. Our intelligence is in energy management, in telling the driver how much energy is still available in this battery and how to use it efficiently."

The super Fiesta has already been displayed at the Winchester Alternative Transport Day and at the Environmental Show at nearby Brockenhurst College. Later this year Dennis Doerffel plans to take part in an alternative-vehicle race around Germany to test the reliability of the technology he uses.

Southampton is one of the UK's leading teaching and research institutions with an annual turnover of

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235 million pounds sterling. The university was founded in 1952 and has 20,000 students and 4,500 staff.

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