SHELL TO CO-ENGINEER THE DESIGN AND BUILD OF A CONCEPT CITY CAR

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Shell, in collaboration with the legendary race and road car designer Professor Gordon Murray and engine specialist Osamu Goto, will co-engineer an ultra-compact, efficient car for city use based around the internal combustion engine. The Shell car is scheduled to be unveiled in November 2015 and people will be able to follow the development of the car through the website www.shell.com/Projectm.

The Shell concept is intended to be a simple, practical global city car; drawing together the most innovative aspects of light-weight engineering, streamlining, and driveline efficiency and work brilliantly whether you are in a city where mass-motoring is a relatively new thing or already a century-old. Once built, the car will be tested on-the-road.

The concept is intended to inspire thinking about maximising personal mobility while minimising energy use*, helping people get around the world's ever-more congested cities where, by 2050, up to three quarters of the world's estimated nine billion people could be living**.

Initiated by Shell, the collaboration, which is called Project M, brings together Shell's Lubricant's Technology Team, The Gordon Murray Design Group and engine specialist Geo Technology. This technically intimate co-engineering relationship between the three expert teams means that the development of the lubricants, engine and vehicle will be completely integrated delivering results neither group could achieve by working apart.

Shell provides the fluids for the car specifically 'designing' the motor oil that complements and enhances the overall efficiency of the vehicle. Most people would naturally assume that oil, greases and fuels are simply added at the end of a concept-car build project like this, but the Shell car aims to show what can be achieved when its products are integrated into the design, right from the start.

"Since working with the Gordon Murray Design team on the T.25 car in 2010, we have given further thought on how to deliver a complete rethink of the car, using as little energy as possible. We believe this Shell car will demonstrate how efficient a car can be when Shell works in harmony with vehicle and engine makers during design and build, supplying fuels and lubricants technical expertise. Shell is excited to be working with such top calibre partners and invite others to join us for the remaining part of this exciting journey." **Selda Gunsel – Vice President Lubricants Technology**

The three parties last collaborated in 1988 on Ayrton Senna's and Alain Prost's Honda™-powered, Shell-fuelled race cars that won all but one Grands Prix that season, a record that still stands. Shell and Professor Gordon Murray go back way further; Shell sponsored the first car and engine Professor Gordon Murray ever built, in South Africa, when he was just 19.

Project M is being launched at the Americas round of Shell Eco-marathon, a global series which challenges student teams to design, build and test ultra-energy-efficient vehicles. Shell Eco-marathon America is in Detroit on 9-12 April 2015.

Ends

See video: Gordon Murray talks about his new collaboration with Shell.

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NOTES TO EDITORS:

PROJECT M

Shell is collaborating with automotive experts Gordon Murray Design and engine specialists Geo Technology, to co-engineer the design and build of a concept city car. Until the car's launch in November 2015, we call our collaboration 'Project M'.

The Shell car will be a ground-up, total re-think of the Gordon Murray Design T.25 car developed in 2010 using specially formulated Shell lubricants.

The project incorporated specially formulated, low viscosity engine oil, designed by the Shell Lubricants Technology Team. The vehicle's fuel consumption was 97mpg over the iconic Brighton-London course with a low friction engine lubricant playing a significant part in this impressive figure. The concept lubricant when tested reduced urban-cycle fuel consumption by up to 6.5 per cent.

Encouraged by the success of this earlier project Shell has instituted a second programme with the Gordon Murray Design team and now with Geo Technology too, to co-engineer the design and build of a concept car, optimising the engine, devising even lower friction fluids and testing the car in 'real world' conditions.

The Shell car is not intended for production, but to inspire thinking about how the efficiency and utility of a car with a relatively 'simple' conventional gasoline engine can be maximised for city use around the globe and also to prove the benefits of ground-up engineering collaborations.

*A number of potential [CO2] abatement options exist. Potential technological developments include (1) improvements to internal combustion engines; (2) reductions in vehicle weight; (3) other non-powertrain vehicle efficiency improvements; (4) electric mobility, especially when coupled with decarbonisation of electricity generation; (5) improved fuels and lubricants, giving higher efficiency; and (6) reduced carbon intensity fuels, such as second-generation biofuels. To these can be added a range of possible measures aimed at behavioural change, for example: modal shift, incentivizing downsizing in consumer vehicle choices, reductions in maximum speeds, more efficient driving styles, and road pricing. Source: Elsevier called Transportation Research: Combining technology development and behaviour change to meet CO2 cumulative emission budgets for road transport: Case studies for the USA and Europe.

****Source:** 'Why behavior is a critical aspect of tackling climate change' by NICK ALLEN, PAUL GADD, STEPHEN SKIPPON

ABOUT SHELL LUBRICANTS AND FUELS:

Shell scientists around the world are constantly working in laboratories to develop advanced fuels and lubricants that are designed to help motorists on the road. Shell conduct fuels and lubricants research and development in its technology centres in Houston (USA) and Hamburg (Germany) with dedicated

lubricants research additionally in Shanghai (China) and in Japan (in a joint venture with Showa Shell). Shell invests significantly in technology and works closely with its customers to develop innovative lubricants. Shell's scientists and engineers are passionate in its goal of finding ways to make fuels and lubricants more efficient, while delivering improved performance.

One of the ways we push the boundaries of fuels and lubricants technology is by working closely with top motor racing teams such as Scuderia Ferrari. These technical partnerships enable us to expand our knowledge of fuels and lubrication science and transfer cutting-edge technology from the race track to our commercial products.

The term "Shell Lubricants" collectively refers to Shell Group companies engaged in the lubricants business. Shell sells a wide variety of lubricants to meet customer needs across a range of applications. These include consumer motoring, heavy-duty transport, mining, power generation and general engineering. Shell's portfolio of lubricant brands includes Shell Helix, Pennzoil, Quaker State, Shell Rotella, Shell Tellus and Shell Rimula.

Shell also provides technical and business support to customers, and offers lubricant-related services in addition to the product range. These include: Shell LubeMatch – the market leading product on-line recommendation tool, Shell LubeAdvisor - helps customers to select the right lubricant through highly trained Shell technical staff as well as online tools, and Shell LubeAnalyst - an early warning system that enables customers to monitor the condition of their equipment and lubricant, helping to save money on maintenance and avoid potential lost business through equipment failure.

Shell's world-class technology works to deliver value to our customers. Innovation, product application and technical collaboration are at the heart of Shell lubricants. Shell has a patent portfolio with 150 + patent series for lubricants, base oils and greases; more than 200 scientists and lubricants engineers dedicated to lubricants research and development.

ABOUT GORDON MURRAY DESIGN:

Gordon Murray Design has built a global reputation as one of the 'finest automotive design teams in the world' and was established in 2007 to develop an innovative and disruptive manufacturing technology trademarked iStream®. Gordon Murray Design's first milestone was the T.25 – a proof-of-concept for the futuristic vision of urban mobility. When it made its debut in mid-2010, the petrol-powered T.25 instantly redefined traditional weight, footprint, safety, usability and efficiency parameters using Gordon Murray Design's patented iStream® with its innovative use of Formula 1™ technology, simplified for cost for the everyday motorist. Together with the all-electric T.27 that followed in mid-2011, the T.25 was central to both the development and validation of GMD's ground-breaking iStream® production process. The unique approach and truly creative thinking enables Gordon Murray Design to deliver complete car programmes in a highly efficient and innovative way from concept, design, prototype and development through to production ready product.

ABOUT GEO TECHNOLOGY:

Engine specialist Geo Technology is the brainchild of Osamu Goto, former Director of Honda F1, R&D Manager at Ferrari F1 and Member of the Board at a Sauber-owned company. Following his extremely successful work in motorsport, Goto founded Geo Technology – an engineering consultancy company working for the automobile and motorcycle industry. Geo Technology's highly qualified specialists have broad experience in all technical areas, including engine design, analysis and development, niche manufacturing, advanced materials, electronics and control systems. Together they develop competitive solutions to the most complex challenges, in record times.

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