Sustainable Mobility

Photo: Akrapovič

Audi, BMW, Mercedes, Porsche, Renault, Honda, Kawasaki… You will have to look far and wide to find a car or a motorcycle brand that doesn't contain at least one component made in Slovenia. Indeed, this country is a development supplier to the world's automobile industry, adhering to the principle of sustainable mobility.

Nina Oštrbenk

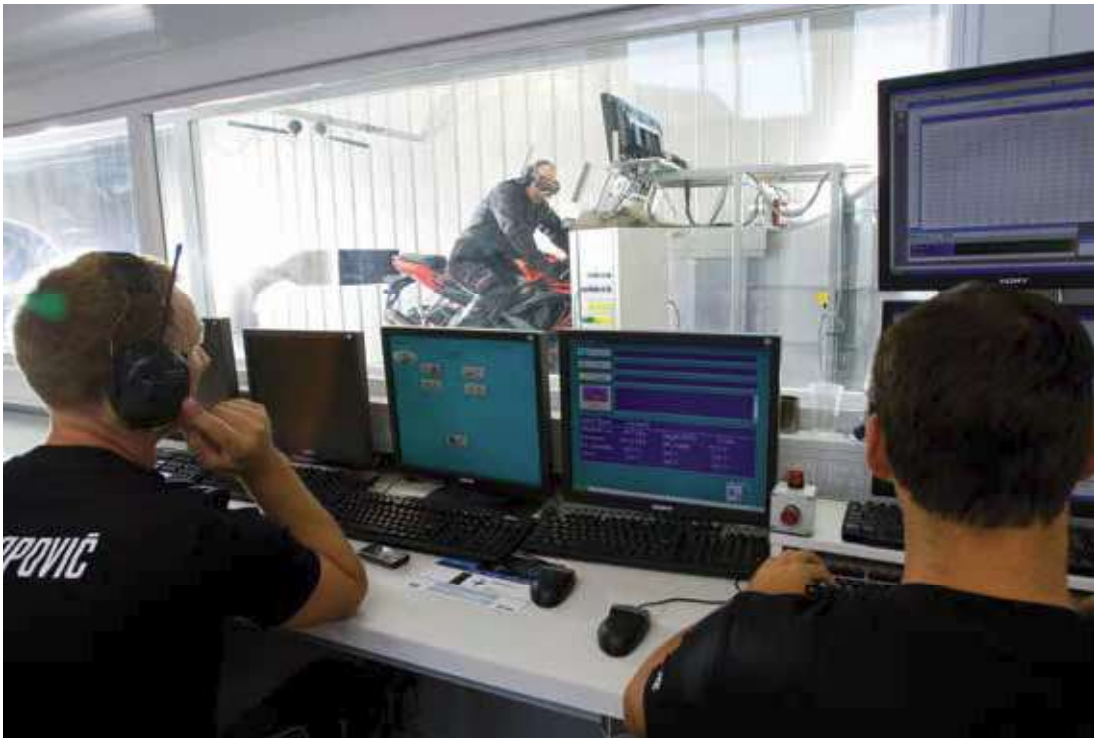

Photo: Akrapovič

There Is Hardly Any Brand Without Slovenian Components

Slovenia is a cradle of development suppliers to many of the world's most pre-eminent automotive manufacturers. Indeed, there are very few prestigious cars or motorcycles that do not contain at least one Slovenian component part.

Akrapovič's most popular exhaust systems are aftermarket products for BMW, Honda, Kawasaki, KTM and Yamaha motorcycles.

Photo: Akrapovič

Exhaust Systems for World's Fastest Cars and Motorcycles

The Koenigsegg Regera, which at its presentation last year proved to be the fastest production car in the world, boasts a hybrid Akrapovič exhaust system manufactured from titanium, Inconel and stainless steel. Akrapovič race-car exhaust systems are widely considered to be one of the most complex and technically perfect. Aston Martin Vantage GTEs and Audi R18s, which compete in the FIA World Endurance Championship, as well as the BMW M4 DTM, BMW M6 GT3 and Mini All4 Racing, all boast Akrapovič exhaust systems.

Based in Ivančna Gorica in central Slovenia, Akrapovič's development engineers collaborate with, amongst others, Audi, BMW, Mercedes, Porsche, Nissan, Chevrolet, Alfa Romeo and Renault. Currently, Akrapovič's most popular exhaust systems are aftermarket products for BMW, Honda, Kawasaki, KTM and Yamaha motorcycles. The company also provides exhaust systems especially developed for the MotoGP series, specifically for the Ducati, Yamaha, Aprilia and Suzuki teams, which are considered extremely sophisticated technical products.

Brake Discs on Bombardier Trains

Kovis is a leading global manufacturer of brake discs for railway rolling stock. Exporting to 34 countries worldwide, its principal market remains Europe, although the company is also making inroads into Japan. Kovis' brake solutions for rail freight wagons are widely regarded within the industry as the best in the world.

According to Kovis' Managing Director, Alen Šinko, winner of the CCIS Award for exemplary business and entrepreneurial achievements, one of their competitive advantages is that immediately after developing one product, they commence work on another. Applying its in-house knowhow, Kovis develops on average thirty new products per year. Its customers include, among others, such companies as Alstom, Bombardier, Siemens and Hitachi.

The Ultimate Luxury Camper

Adria Mobil is preparing a new model in its Sonic series of integrated campers for 2017. The Sonic Supreme has, among other innovative features, an electrically operated lift-up bed, below which is a dining area; a kitchen with an oven, as well as an Alde underfloor water heating system. The Novo Mesto based company also introduced a new series of its Aviva trailers as well as its innovative Active multi-purpose camper van, which is suitable for everyday use and journeys, while all its Axess models, except the Sonic, are built on a Citroën chassis.

Adria Mobil ranks among the top three in its key Scandinavian, Dutch, French and German markets, where it is also the premier imported camper-van brand. The company currently accounts for 6.6 percent of the European recreational vehicle market.

Photo: Adria Mobi

Photo: Adria Mobi

The Industry's Top Diesel Engines

The glow plug cold start technology with its integrated pressure sensor system developed by Hidria contributes to the reduction of fuel consumption and exhaust gas emissions by modern diesel engines.

Indeed, it is believed that this sensor could engender a reduction in both fuel consumption and exhaust gas emissions of up to thirty percent by 2018. Protected with 11 global patents, the Association of European Automotive Suppliers estimates that this system is Europe's green innovation of the year. The company also received the Chamber of Commerce and Industry's golden award for the best innovation of 2015. Hidria's systems are today installed in the vehicles manufactured by Audi, Mercedes, BMW, Jaguar, Porsche, Volkswagen, Škoda, Renault, Peugeot and Citroën. From its current fifteen percent market share, it is anticipated that by 2023 the company will provide more than one in three of the world's cold start systems for diesel engines, and, as such, be the world leader.

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The Idrija-based company has also developed a second-generation low voltage metallic glow plug system - Aeternus. As a result of this innovation, modern diesel-engined vehicles will be able to travel over 100,000 kilometres more before a plug needs to be replaced. The durable system is made entirely from recyclable materials and is an important qualitative leap in Europe's development of cold start diesel engines.

Among Hidria's other achievements, its solutions for the Peugeot 3008h, the world's first diesel hybrid, stand out. Together with experts from Daimler, Hidria's engineers developed key parts of the motor for the Mercedes SLS electric drive; they are also actively involved in the development of the Volkswagen Jetta Hybrid. Hidria's solutions for the central electric control unit of the Porsche 918 Spyder, however, are truly remarkable, and today the 918 Spyder boasts an excellent performance with an extremely low energy consumption. The company learned a lot from this project and it contributed significantly to a new concept in car racing. Hidria also manufactures steel and aluminium frames for BMW and Ducati motorcycles.

Photo: Hidria

Train Braking Systems for the London Underground

Livar is currently endeavouring to develop components for train braking systems that will contribute to passenger safety. Livar's braking systems are integrated into a number of high-speed trains, as well as London tube trains. However, the bulk of the company's production is dedicated to the manufacture of blanks and machined cast iron for the needs of the agricultural machinery sector. Livar components are supplied to such tractor makers as Claas, John Deere and Landini, as well as agricultural machinery manufacturers BCS and SIP Šempeter, and trailer maker AL-KO. Moreover, the company produces component parts for the automotive and mechanical engineering sectors (Dynapac and PR Industrial) as well as white goods manufacturers. Livar's products are also to be found installed in the elevator systems of some of the world's highest skyscrapers.

Livar components are supplied to such tractor makers as Claas, John Deere and Landini.

Photo: Livar

Livar is also increasingly integrated into projects deriving from its primary manufactures, thus it is involved in machining as well as more complex development and secondary manufacturing processes.

On the Road to Smart Automation

TPV is a development supplier and manufacturer of prefabricated assemblies for the automotive industry, including body and chassis components with enhanced load capacity, seat structures, as well as engine gaskets. TPV products are built into cars manufactured by Mercedes, BMW, Jaguar, Rolls Royce, Land Rover, Volvo, Volkswagen, Peugeot and Renault, as well as Mercedes, DAF and MAN trucks.

TPV is also linked to the development of 4.0 industry, namely automation and data exchange in manufacturing technologies and the creation of smart factories. In this context, the company strives to develop comprehensive and cost-effective solutions for the management of production logistics automation. Further to this, TPV has developed an automated guided vehicle - the Optimatik160, which, with lower dimensions than the standard guided vehicle, reduces the costs of the automated production system. Together with its partner Böckmann, the TPV Prikolice subsidiary is one of Europe's leading manufacturers of light trailers.

Photo: TPV

NASA Challenge Winner

Powered by hydrogen fuel cells, the only emission of the HY4 aircraft is pure water. This most environment friendly of planes, the fruit of innovation by Slovenian light aircraft maker Pipistrel, had its maiden flight in late September. From the HY4 prototype, the company is now developing a four-seater version with a Hypstair hybrid propulsion system.

Pipistrel's best-sellers are the various versions of its double NASA challenge winner Virus SW, while its unique electrically-powered Alpha Electro two-seater trainer, which generates electrical energy during landing, is today the subject of huge market interest.

Photo: Unior

Components for Audi in the Value of 30 Million Euros

This year Unior concluded a five-year contract with its biggest customer, ZahnradFabrik Friedrichshafen AG for the supply of tie rod ends for Audi. This thirty million euro agreement is the largest in its history. As one of Slovenia's three major manufacturers of cast and forged elements for the automotive sector, Unior produces thirty million chassis and steering components annually, and over sixteen million connecting rods for petrol and diesel engines.

Unior produces over sixteen million connecting rods for petrol and diesel engines per year.

Unior supplies automobile parts for such brands as Volkswagen, Audi, Škoda, Porsche, Bentley, BMW, Ferrari, Renault, Dacia, Hyundai, Kia, Jaguar, Land Rover and Volvo. The company is also a major supplier of control system components to Zahnrad-Fabrik Friedrichshafen, Robert Bosch, Japan's THK RHYTHM Co. and the JTEKT Corporation, as well as SEAC France.

Unior is also a globally recognised manufacturer of dedicated CNC machine tools for the serial working of cast aluminum and forged elements, currently a three-million per annum business. The company is also recognised as a special purpose machinery and technology provider for deep drilling.

Trim and Leather for Luxury Vehicles

Novem Car Interior Design provides luxury vehicles – such as those made by Audi, BMW, Chrysler and Daimler – with decorative trim strips. The company is currently developing interior elements for the Range Rover JLR L405 upgrade project as well as preparing for the development of the Audi C8, due to be launched in October 2017. Novem Car Interior Design manufactures are built into BMW 7 series (G11), C Class Mercedes models, as well as the Audi A6 and A7, whose veneers and carbon surfaces are technically demanding.

Johnson Controls Slovenj Gradec supplies interior fittings for General Motors, BMW, Porsche, Land Rover, Volkswagen, Toyota, Peugeot and Citroën vehicles; namely, headrests, upholstery, interior side panels, seats and polyurethane foam backrests. The company's specialty are demanding leather products.

Photo: Novem Car

Photo: GKN Driveline

Shafts, Joints, Tripods, Powertrains, Turbochargers, Flywheels, Brakes...

GKN Driveline is currently developing shafts for Jaguar Land Rover and Ford, as well as constant velocity joints for Mercedes. The company's half-shafts and tripod joints, which transfer power from the vehicle's engine to its wheels, are integrated into vehicles made by BMW, Renault, Fiat, Suzuki and Dacia.

Cimos' turbo housings, powertrain systems (flywheels, engine mountings and accessory brackets, handles, brake drums and discs) as well as its pedal systems, handbrakes and various hinges, are built into cars made by Audi, BMW, Porsche, Volkswagen, Ford, Opel, Citroën, Peugeot and Renault. Cimos currently generates almost half of its total sales revenues from its turbo compressor housings, and is currently developing lighter-weight parts for vehicles, which, in addition to improving overall fuel efficiency shall also enhance product functionality.

New Twingo is Made in Slovenia

Revoz, owned by the French Group Renault, is the only car manufacturer in Slovenia and the only European plant manufacturing the New Twingo (3rd generation). Besides the New Twingo, the new Smart ForFour is also produced in Novo mesto.

Photo: Renault