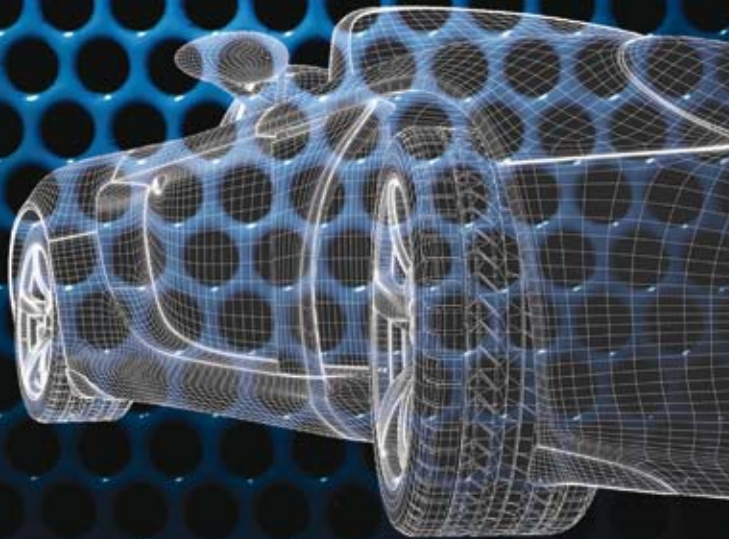




The Israel Export & International Cooperation Institute

ISRAEL Inspired by *innovation* Automotive Industry





Major manufacturing source

With the world increasingly challenged by congested roads and polluted air, Israel's ground-breaking automotive technologies are in the forefront of improving performance, efficiency, safety and air quality.

While Israel does not engage in large scale vehicle manufacturing, about 150 Israeli manufacturers supply systems, parts, modules and tooling to original equipment manufacturers and the aftermarket. Israeli companies have successfully adapted military solutions for civilian use and made Israel a notable technology destination for the international automotive industry.

Israel exports about \$800 million of automotive parts and systems annually, many of which are purchased by leading OEM manufacturers, including Daimler, BMW, VW, MAN, Renault-Nissan, PSA Peugeot Citroen, GM, Ford/Mazda, Navistar, Volvo Trucks and Jaguar. Such Tier 1 suppliers as Delphi, Bosch, Valeo, Autoliv, Faurecia, Johnson Controls, ZF, Getrag and Magna Steyr also source components from Israel. MAN, Ford/Mazda, Navistar and Hyundai maintain local purchasing offices, while Volvo Bus jointly owns bus manufacturer Merkavim Transportation Technologies with an Israeli company. Tomcar, a local company, manufactures rugged yet agile, military-proven off-road vehicles that have won wide acceptance.

Israel's skilled workforce, strict compliance with international quality standards, computerized logistics and advanced R&D capabilities position the country as a prime destination for outsourcing and development of new products. In recent years Israel has developed a number of breakthrough technologies, including specialized materials, advanced electronics, communication systems, driver awareness systems, automotive IT and security. As electronics become an increasingly significant aspect of every vehicle, having recently risen from 15 percent to 35 percent of total car cost, Israel is well placed to become a leader in this market segment.



General Motors in Israel

GM's Advanced Technical Center-Israel, in Herzliya, just north of Tel Aviv, was established to create a world-class R&D organization that guides creative thinking into unique innovations in areas of strategic importance to the automotive industry. Fostering creativity and innovation, the center pursues research opportunities to build a leading global Center of Excellence, while consistently responding to GM's technological challenges. Lab groups at the center include smart sensing and vision systems; human machine interface; prognostics and diagnostics; wireless technologies; and manufacturing.

Innovative materials

Israel's application of innovative materials for automotive use combines light weight and increased safety with superior comfort. Breakthroughs include TexoPlast's tough, lightweight fabric with a soft, luxurious-to-the-touch material on one side and a hard plastic shell on the other, and Raviv's carbon fabric heated seat pads that offer energy-efficient, uniform seat temperatures. BGN Technologies, the technology transfer company of Ben-Gurion University, offers innovative materials including light weight, high strength boron-carbide armor; consolidated light alloys with nano/sub-micron structure – light materials based on aluminum, magnesium and titanium; and cellular magnesium foam for special energy absorbing applications.

Advanced electronics and automation technologies

Israeli companies offer electronic systems, equipment and products that improve the accuracy and efficiency of vehicle production. They also lead in driver vision systems, biometric-based security and integrative communications systems, including night vision systems, on-board driver assistance systems, telematics, navigation and control systems, sensors, voice processing solutions, and testing and measurement solutions.

Many Israeli software companies have developed products for automotive applications. These



include software for digital broadcast radio, robust embedded security solutions, and process-oriented software linking product engineering with all manufacturing disciplines.

New Israeli "vehicle to environment" communications systems including satellite TV reception may change the entire driving experience. Performance improvement features include engine control modules, an electronic voltage regulator, and a system to monitor fluid quality and temperature using microwave transmission.



Clean-tech initiatives

Limited by scarce natural resources, Israel's pioneering status in environmentally friendly technologies has been carried over to its automotive industry. BGN Technologies partnered with Exxon Mobil Corporation to commercialize an on-vehicle hydrogen production system for use in fuel cell-powered lift trucks.

ETV Motors Ltd. is a start-up developing electric vehicle propulsion technology based on a high-efficiency, dual-power micro-turbine and a proprietary high voltage lithium-ion battery. Integration of these optimized components will result in a greatly extended range for electric vehicles. The system has been demonstrated on a Toyota Prius.

Israeli entrepreneur Shai Agassi's Project Better Place opened the company's first demonstration center in Israel and has selected the country for its first national rollout.



Winner's circle

MobilEye Vision Technologies offers its Advanced Warning System, a camera-based driver assistance system for accident prevention and mitigation. Customers include BMW, Volvo and GM. MobilEye received the Red Herring Top 100 Innovators Award and the Frost & Sullivan 2006 Entrepreneurial Company of the Year Award in the Automotive Industry.

CogniTens provides comprehensive 3D measurement solutions focused on improving engineering and manufacturing processes that significantly improve product quality, shorten development cycles, and cut manufacturing costs. In 2006 the company was awarded the Automotive News PACE Award honoring innovative automotive suppliers as well as Frost & Sullivan's Technology Innovation of the Year Award. Among others, customers include Daimler, Ford, GM, Honda, Magna International, Mazda and Toyota.

Raval Ltd. develops and produces fuel tank venting systems in response to new international environmental and safety regulations. Customers include, among others, Porsche, Audi, VW, Daimler, GM, Hyundai, Mazda, Bentley and PSA Peugeot Citroen.

Nextec Technologies specializes in high precision, non-contact 3D laser scanning for geometry inspection, quality control and reverse engineering applications. The technology is now incorporated into the vehicles manufactured by VW, Audi, Mitsubishi and Rolls Royce.

ApNano Materials in collaboration with the Weizmann Institute of Technology has developed NanoLub, the world's first synthetic lubricant to be based on

spherical inorganic nano-particles. The company was selected by Red Herring magazine as one of the top innovators driving global markets in 2005.

PrimeSense developed a revolutionary low cost 3D sensing and recognition technology with several automotive applications, including driver attention monitor; and easy and reliable operation of car systems with hand or head gestures. The company is cooperating with a large Japanese vehicle manufacturer to develop a unique and innovative infotainment system.

Tadir-Gan Group, incorporating Tadir-Gan Precision Products and Ortal Diecasting, supplies high-pressure die-cast magnesium, aluminum and zinc products to GM, Ford, VW/Audi, MAN, Porsche, PSA Peugeot Citroen, Jaguar, TRW, Valeo, Autoliv, Draexlmaier and ZF Lenksysteme. Tadir-Gan Precision Products twice won GM's worldwide Supplier of the Year award for its achievements in quality, service, technology and price. Ortal Diecasting won the ZF Lenksysteme Best Supplier award.

The Israeli Advantage

Israel's vigorous R&D programs, its expertise in advanced technologies, its renowned spirit of design and innovation, and its strengths in computer-aided design and manufacture have been adopted by its automotive industry.

Compliance to standards

All Israeli automotive manufacturers meet required TS 16949 and similar automotive industry standards. In addition, most bear ISO 14001 and OHSAS 18001, attesting to Israeli companies' commitment to universally-accepted management and environmental quality standards.





Volume and specialty production

The Israeli automotive industry serves both volume manufacturers and specialty markets. Israeli companies work closely with OEM buyers to meet JIT, packaging and logistics requirements, while specialty manufacturers often custom-design products for limited runs.

Free trade agreements

Free trade agreements ensure that Israeli products enter the United States, Canada, Mexico, the European Union, EFTA, Mercosur, Turkey and Jordan free of import duties. Most other countries have granted Israel MFN status.

Export development

Israel's modern economy, a tradition of innovation and government R&D funding result in sophisticated, competitive and technologically-advanced automotive products used by manufacturers around the world.

Shipping

Israel's two Mediterranean ports at Haifa and Ashdod offer fast container service to Europe, the Americas and beyond. The port at Eilat, on the Red Sea, provides a convenient route to Asia. High value products can be shipped by air, with most major cities in Europe served by at least twice-daily flights and often more.

About the Israel Export & International Cooperation Institute

The Israel Export & International Cooperation Institute, a non-profit organization supported by the government of Israel and the private sector, facilitates business ties, joint ventures and strategic alliances between overseas and Israeli companies. Charged with promoting Israel's business community in foreign markets, it provides comprehensive, professional trade information, advice, contacts and promotional activities to Israeli companies, and complementary services to business people, commercial groups, and business delegations from abroad.

The Israel Export & International Cooperation Institute is committed to bringing together vehicle manufacturers and OEM suppliers with Israeli manufacturers that suit their needs, ensuring that people throughout the world benefit from the innovation and quality of Israel's automotive industry.



For further information

-  Mr Uri Pachter, Director, International Projects,
Tenders & Automotive Department
-  The Israel Export & International Cooperation Institute
29 Hamered St., Tel Aviv 68125, Israel
-  +972 3 514 2811
-  +972 3 514 2881
-  +972 54 457 8616
-  urip@export.gov.il
-  www.export.gov.il

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