

Did you know that ...

- the recovery of brake energy is a way to save fuel that has hardly been exploited? This is now being employed in **hybrid cars** whose semiconductors are worth between \$400 and \$600, more than twice as much as those in gasoline-driven cars.
- U.S. law stipulates that all light vehicles must be equipped with **tire-pressure monitoring sensors** starting September 2007?
- if PCs had **more efficient power supply units** it would save the energy produced by four power plants in the U.S. alone?
- **20 billion** kilowatt-hours are consumed in Germany each year just by equipment in stand-by mode? This costs some €2 billion, and corresponds to the output of two power plants.
- by 2005, more than 40 European and Asian states had decided to introduce an identification card with a **security chip**? This will affect over two billion people.

Cutting energy use, securing growth

The Asian economy is growing and so is its energy use. As the standard of living increases, cars, air conditioners, washing machines, and consumer electronics enter Asian households. Now this region, along with the rest of the world, is confronted with the difficult task of keeping its energy use as low as possible. But this can only be achieved by reducing the loss of energy through heat dissipation, caused by inefficient energy conversion of electric devices. This is where power semiconductors can contribute by enabling higher-efficiency power supply units.

Cars fascinate not least because of their mostly invisible electronics. Semiconductors are nowadays integrated in almost all elements of an automobile. New driver assistance systems process data from the road and surroundings of the vehicle, warn drivers of dangerous situations, or, in emergencies, even actively intervene in the driving of the car. Here, for example, sensors based on radar technology are used to identify objects near and far.

Sophisticated power train electronics based on Infineon components already contribute to lower fuel consumption today. With crude oil prices rising rapidly, energy-saving hybrid motor technology – combining internal combustion and electric motors – has attracted public attention. In such systems, depending upon the driving situation, power semiconductors either switch on the electric motor or charge a special high-voltage battery with any excess energy produced.

Whatever the impact of economic growth is on consumers' behavior, Infineon's products offer ways to save energy.