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Computer chips are on a roll

Rising use in cars boon to chipmakers

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Even more than they do now, vehicles of the future will sense and react to unsafe situations, calculate ways to save gas, and entertain passengers just as if they were at home.

And it all will be thanks to the automotive industry's ever-increasing use of computer chips.

"The growth is not just for features or creature comfort," said Paul Grimme, general manager of Freescale Semiconductor Inc.'s Transportation & Standard Products Group. Chips will give vehicles more functions, ranging from safety to entertainment, and a car's systems will interact in more complex networks, he said.

The forecasts came at the Semico Summit 2005, an industry conference presented this week by semiconductor research firm Semico Research Corp. of Phoenix.

The automotive market is a bright, predictable spot for the industry. The computer-chip content in automobiles increases 8 percent a year, a trend that is expected to continue, Freescale Chief Executive Officer Michel Mayer told the group.

That would be good news for chipmakers, because this year's cars are expected to contain an average of $230 worth of chips, compared with the $10 worth of chips in the average cellphone.

Safety will be one of the main areas for increased chip use in cars, executives agreed.

Vehicle stability control, becoming more commonplace in cars, will detect when a vehicle becomes unstable and allow it to correct itself safely, Grimme said. Sensors also will detect when a vehicle drifts across lanes and alert the driver, or help the driver determine when it is safe to change lanes.

Offering entertainment and information in the car is another hot growth area.

"We see a world where people feel at home in their car," said Bill Galione, vice president and general manager of Philips Semiconductors. As consumers demand the same experience in their cars as they have at home or in the office, he said, the company sees autos becoming four-wheeled entertainment systems, offering audio, video and the ability to download content to hard drives.

But serious challenges are ahead, too, in the race to put more chips in cars.

Striking a balance between what the vehicle controls and what the driver controls is still tricky, executives said. Projects are under way to determine how vehicles should alert drivers to dangers.

The chip industry also must wrestle with design cycles that take years in automobiles but just months in consumer electronics products. Reliability will also be important in automotive chips, because of safety issues, but harder to achieve because of the extreme temperatures and longer lives of cars.