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Optimized Water and Energy Use in Pools

Operators of swimming pools can now enjoy tremendous savings — thanks to a new automation concept from Siemens. The system — EWO Pool — uses a new approach to optimize water and energy consumption by providing centralized coordination and control of all sub-processes in a pool. For pool operators, this results in a realistic value of €25,000 to €30,000 per year in savings.

Costs for heating, electricity, water supply and waste water handling account for about 30 percent of a pool's operating costs. Overall costs can vary considerably, however, because they depend on the number of pools involved, the age of a pool, and the filtration and cleaning technology used. That's why the Siemens experts have created a questionnaire for pool operators. Based on the information submitted, the experts can determine which modernization measures are appropriate for an individual operator. The components of EWO Pool focus on control systems, energy technology, membrane filtration and UV technology for disinfection. The subsystem Depolox Pool, for example, controls the addition of disinfectants and flocculants in accordance with how dirty a pool basin has become. On this basis, the Econ Pool unit controls the output of the circulating pump, which continually replaces used water with fresh water. This involves the use of frequency converters that adapt the power output of a motor to the output actually needed, which can reduce energy consumption by as much as 50 percent. In addition, the system can lower the output of the circulating pump at night if no one is using the pool and the water isn't being dirtied. This reduction likewise saves energy.

Another component of EWO Pool recycles the rinsing water: Several times per week, the pool technology cleanses the filters, where hair, dirt, bacteria and viruses accumulate. The filters are rinsed clean with large quantities of water, and the warm water used for this purpose is drawn from the pool. EWO Pool collects this rinsing water and disinfects it using membrane filters. These ultrathin membranes block even viruses, and the water can then be used for swimming once again. The result is less waste water. What's more, the pool requires less fresh water and cuts heating costs, because the recycled water doesn't have to be warmed up. (IN 2006.10.3)

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Onboard Camera Automatically Recognizes Traffic Signs

In the future, a system from Siemens that automatically recognizes speed limits on traffic signs will make driving even more comfortable — and help motorists to avoid speeding tickets. The system works with a camera in the car that scans the scene in front of the car for traffic signs and forwards the information to an onboard computer. With the help of the cruise control, the system then keeps the car within the speed limit. The risk of unintentionally driving too fast is particularly high when motorists are in unfamiliar surroundings or faced with road construction sites.

Part of a comprehensive network of driver assistance systems called pro-pilot being developed by the automotive supplier Siemens VDO, the traffic sign recognition system is scheduled to go into series production in about two years. Experts from Siemens have installed the system in a luxury class car, along with a host of additional assistance devices, including a lane recognition system, a night vision system and a parking guidance system. Several automakers have already tried out the test vehicle and expressed strong interest in the recognition system.

The system uses a CMOS camera installed near the rear-view mirror to continuously scan the road for traffic signs. The images are then compared with patterns of speed limit signs stored in the system's memory. If the software discovers a speed limit, the system notifies the driver of this fact by showing the value in the speedometer or in a head-up display. If the cruise control is switched on, the car automatically decelerates to stay within the speed limit. The system also uses data supplied by a navigation system to determine if the vehicle is being driven on a highway or in a town or city. And because the navigation system also contains information on special traffic signs — including those that impose speed limits only at certain times — the recognition system can also react to such situations. The traffic sign recognition system so far is designed for use in new vehicles; its many components' complicated networking today makes retrofitting too expensive. (IN 2006.10.4)

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