

# 3M Commercializes Lane Awareness System for Worldwide Market

After years of product development and testing on roads in Minnesota and elsewhere, 3M has moved forward aggressively to commercialize its magnetic lane tracking system. The new product is called the **3M™ Lane Awareness System**.

In an unusual move designed to solve the “chicken and egg” problem, 3M is providing *both* magnetic highway marking tape and the vehicle sensing system as a package to its customers. “We are offering a total system. While magnetic tape is a primary component, we invested a significant amount of resources in the human factors design and evaluation of the companion vehicle system,” says **Dr. Heinrich Bantli** of 3M’s Intelligent Transportation Systems Division.

## Keeping Plows Out of the Ditch

The 3M system is focused on snow removal operations for

its initial market. The system provides an indication of the lane edge to snowplow and snowblower operators when heavy snowfall or blowing snow degrades visibility to near zero.

The system helps keep snowplows on the road and out of the ditch, as well as prevent damage to guardrails and other roadside hardware. Some states require major summer repairs to guardrails damaged during the winter, costing hundreds of thousands of dollars.

3M’s package consists of

the magnetic pavement marking tape, sensing electronics -- which are installed at an appropriate location on the vehicle chassis -- and an operator interface.

In addition to the extensive testing 3M has done in partnership with **Minnesota Department of Transportation (MnDOT)**, further testing is being conducted under one of the **USDOT** Intelligent Vehicle Initiative (IVI) operational tests. 3M also provided funding to the **University of Iowa** for extensive human factors design and evaluation which resulted in an



Components of 3M’s Lane Awareness System: Sensor Bar, Driver Interface, and Magnetic Pavement Marking Tape

intuitive operator interface that does not distract excessively from driving. In addition to a visual display that indicates the vehicle's position relative to the lane edge, the driver also may be alerted by peripheral lights or vibrators embedded in the seat.

#### **Deployments In the Works**

Thanks to university research, USDOT's IVI program, and 3M presentations/demonstrations, the applications of magnetic tape guidance are becoming increasingly well known, particularly in the winter maintenance industry. It is expected that as many as 8 to 10 sites nationwide will be equipped with magnetic guidance by the end of 2001.

3M is also very interested in implementing magnetic guidance for transit applications and is in discussion with several agencies.

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*Dr. Heinrich Bantli, 3M*

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