

Eaton has always been a restless enterprise — probing, testing, extending the frontiers of technology. Today, restlessness has become revolution.

Investments in research and development, which totaled \$227 million in 1995, are generating new products and enriching virtually all of the company's current stable of more than 40,000 products. Electronics, especially, are transforming our product lines. From smart heavy-duty transmissions to smart vehicle steering systems, from smart circuit breakers to smart power tools and electric and gas ranges, electronics are enabling Eaton to provide customers increased value and product differentiation.

Making Products "Smart" "Smart" or "intelligent" products have several features in common, including the ability to sense their environment, analyze the sensed information, act or react based on the analysis and communicate and act with other products as a sys-

tem. Beyond this, smart products can be programmed to "think through" and choose the best response to sensed information, and even to "learn" or adapt to changing events.

Sensing the Environment Eaton makes thousands of vehicle sensors, from knock sensors that help control engine firing for optimal fuel economy to a variety of air conditioning sensors to optimize comfort in the cab. For aerospace, we make pressure transducers and temperature sensors critical to jet engine operation. In schools, offices and airports, Eaton photoelectric sensors automatically turn the water on and off when you wash your hands. In the lab, Eaton torque sensors are used for testing designs of airplanes, autos, pumps, and motors. On factory production lines, inductive proximity sensors detect the presence and positioning of a metallic object being manufactured and, similarly, capacitive sensors detect non-metallic objects.

IMPROVING VEHICLE SAFETY, COMFORT AND PERFORMANCE

Eaton supplies vehicle components to 70 of the world's passenger car and truck manufacturers. An electronic module (lower left — other products are identified continuing toward upper right) is an essential part of the multiplexed system that Eaton manufactures to control numerous functions in the Jeep Grand Cherokee through a single twisted pair of wires. The new Viscronic is an electronically controlled viscous fan drive that senses engine coolant temperatures and adjusts fan speed for greater efficiency and fuel economy. Eaton has also developed a new technology that joins the components of the plastic fan and fan drive into one integrated assembly, increasing manufacturing efficiency for customers. A leading manufacturer of automotive engine valves, Eaton is developing lightweight valves and electronically controlled variable valve timing systems. Eaton automotive controls include the steering column switch (upper right) for Ford's world cars, called the Mondeo in Europe, and the Ford Contour and Mercury Mystique in the U.S.