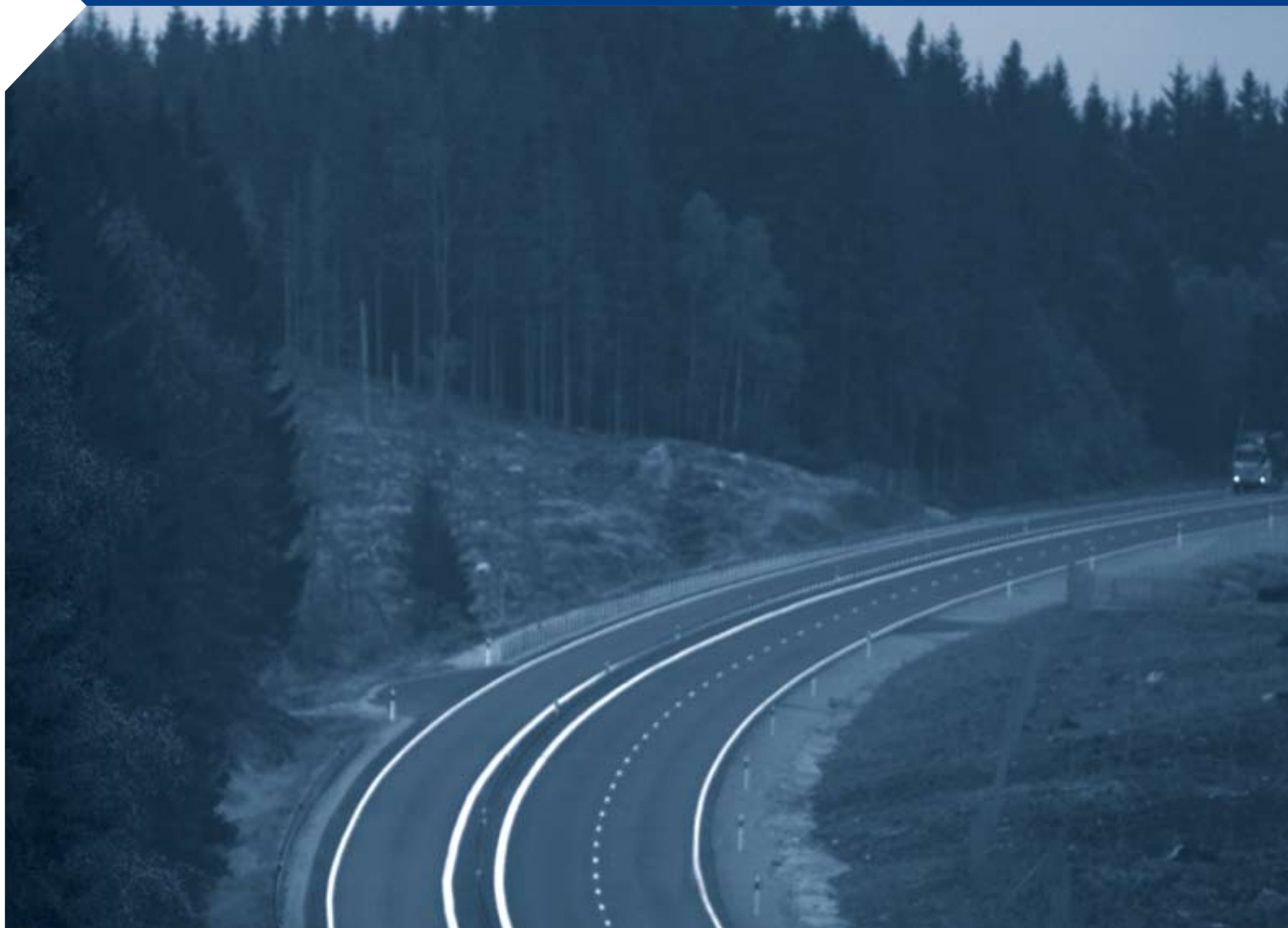




KONGSBERG
AUTOMOTIVE

Changing Expectations

Manual and Electronic Gear Shifters



Advantages:

- Development partner for both mechanical and electronic gear shift systems, with over 40 years of market and product knowledge
- Fully developed, tooled and tested modern product range allowing low capital and design investment
- A comprehensive range of features to meet OEM requirements and add value to their products
- Short launch and modification lead-times
- Full in-house test and validation capabilities
- Highly experienced globally located engineering team, with extensive research, development and testing capabilities
- Global manufacturing, supply and distribution capabilities

EXPERIENCE AND EXPERTISE

Kongsberg Automotive is one of the world's leading manufacturers of manual and electronic gear shifters, with systems fitted to over six million vehicles each year across Europe, North America, South America and Asia. Kongsberg Automotive has been designing, developing and supplying transmission shift controls for commercial vehicles for more than 40 years and our products are in use today with many of the world's leading manufacturers of trucks, buses and off-highway vehicles.

Kongsberg Automotive is a unique partner for the development and supply of industrial vehicle driver controls. We have the ability to supply mechanical control linkages and systems to market leading specification and performance as well as an impressive track record and a proven competence in electronic control interfaces. Kongsberg Automotive is your development partner for both mechanical or electronic gear changers.



SERVICE AND COMMITMENT

Kongsberg Automotive has been designing and manufacturing premium transmission shifter systems for Industrial Vehicles for more than 40 years, supplying some of the most successful and innovative bus, truck and off-highway vehicle manufacturers in the world.

Our Gear Shifting Systems are designed and developed at our Engineering Centres of Excellence in Europe and USA. Application engineering and manufacturing is provided at Kongsberg Automotive locations in Europe, Asia, North America and South America.

Kongsberg Automotive has the capability and resources to support our key global customers wherever and whenever required, providing the gear shift solutions that maximize the performance of the vehicle.





MECHANICAL SHIFTERS

Over the last twenty years Kongsberg Automotive has pioneered the use of mechanical cable shifters in industrial vehicles. Replacing traditional rod and linkage or hydraulic systems with Kongsberg Automotive cable shifter technology has provided significant performance, reliability and commercial benefits to our customers, as well as reducing driver compartment NVH, making installation of the gear shifter easier and minimizing the effect of climatic conditions on gear shifting. As a result, our systems are fast becoming the bench mark for truck and bus manufacturers across Europe and America.

Our new CS1400 Series is a breakthrough design with an innovative central spindle bearing, which offers best-in-class shift feeling and, in combination with our new SILVER LINE™ transmission cables, superb efficiency with minimized backlash.

The shifter series utilizes a set of common validated core components in order to minimize engineering, testing and tooling costs, optimize production costs and reduce time to market.

ELECTRONIC SHIFTERS

The new Kongsberg Automotive ES3000 is an innovative, high specification electronic shifter offering best-in-class performance and functionality, utilizing our revolutionary non-contact Hall effect sensor.

The patented Kongsberg Automotive design of the vSENSE™ sensor seals out contaminants to provide enhanced reliability in all environments. With no moving parts to wear over time, the sensor sets a new standard for accuracy and durability.

Features:

Mechanical Shifters with SILVER LINE™ cables:

- Innovative designs providing smooth, durable and cost effective system solutions:
 - Best-in-class shift feeling
 - Consistent shift performance throughout product life
 - Maximum efficiency
 - Minimum backlash
- Modular product range easily installed into vehicle cabin and adaptable to a range of differing packaging and positional requirements

Electronic Shifters:

- High specification designs for robust, durable and consistent performance in even the most hostile working environments.
- Fully programmable, fully tested and fully sealed (IP67 dynamic) non-contact sensor.



Photo by MAN AG



KONGSBERG AUTOMOTIVE

Kongsberg Automotive is a global provider of engineering, design, and manufacturing for seat comfort, driver and motion control systems, fluid assemblies, and industrial driver interface products. We are focused on automotive, commercial vehicle and industrial markets. Headquartered in Kongsberg, Norway, Kongsberg Automotive has nearly 50 facilities in 19 countries. With revenues of MEUR 623 (2009) and about 9,000 employees, Kongsberg Automotive provides system solutions to vehicle makers around the world.



DRIVELINE

Our vision is to be our customers' preferred choice for driver controls in the global light vehicle automotive market. A Tier 1 global supplier of custom-engineered cable controls and complete shift systems, we are world leaders in both control cables and shifter systems for our customers around the world. Our global resources ensure timely innovative product development and high quality manufacturing.



INTERIOR

Kongsberg Automotive is a global leader in the design, development and manufacture of mechanical and electromechanical light-duty motion comfort and seat comfort systems to Tier 1 and Tier 2 customers. Our product portfolio includes seat adjusters, seat recline, side bolsters and lumbar support (pneumatic/mechanical), cables, seat heating, ventilation and massage systems, arm rest and head restraints, as well as other interior actuation systems.



POWER PRODUCTS

Kongsberg Automotive Power Products is a global leader in the design, manufacture and supply of vehicle control systems, providing quality engineered pedal and steering systems, electronic displays, cable and hand controls that set the standard for the world's foremost manufacturers of commercial, industrial, agricultural and construction vehicles. We offer a product range that is unmatched in the market.



ACTUATION & CHASSIS

A global developer and manufacturer of operator control systems for industrial vehicle markets, Kongsberg Automotive offers a robust product portfolio with products that range from traditional mechanical linkages to servo-assisted hydraulic systems and manual and electronic cable shift systems. These modular systems enhance flexibility and ensure cost-effective adaptation to customers' needs.

FLUID TRANSFER

Kongsberg Automotive fluid handling systems serve a wide range of fluid assembly customers in the light duty, industrial and commercial vehicle markets. Products include pipe/hose assemblies for turbo chargers, brake and fuel systems, and air system couplings.



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