

## An impressive track record

### **Sharp decline in the number of serious and fatal injuries**

### **Airbags have saved more than 14,200 human lives in the USA**

Motoring was more dangerous than ever when development of the airbag commenced. By the mid-sixties, the number of road accidents was soaring, with the human death toll reaching some 51,000 in the USA, 66,000 in Europe and around 16,000 in Germany. "We can no longer tolerate unsafe automobiles", said the then US President Lyndon B. Johnson, making car safety a matter for decision at the top level. One of the first pieces of legislation to be proposed by the National Highway Traffic Safety Administration (NHTSA), formed in 1970, was the installation of an airbag in all new cars produced after January 1, 1973.

However, the Americans would later shelve this ambitious timetable, favouring other protection systems instead of air cushions, which ultimately left Mercedes-Benz as the only car manufacturer willing to pursue the development of the airbag. In October 1971, the safety engineers in Sindelfingen submitted a patent application for their airbag which went into production for the very first time in December 1980.

Right from the start, the Mercedes experts designed the airbag to work in tandem with the seat belt, hence the term Supplemental Restraint System (SRS) which appears on the steering wheel's impact absorber. In the event of a frontal impact, maximum occupant protection can only be assured if all the safety systems work in unison.

Today the merits of this approach are undisputed, and the airbag has been universally acknowledged as a safety-enhancing innovation. Thanks to seat belts, belt tensioners, airbags and other safety measures, the number of car occupants fatally injured in road accidents in Germany has fallen by more than half since 1970 whilst, during the same period, the number of vehicles on the road has more than doubled.

### **Effective interaction between the airbag, seat belt and other protective systems**

The Mercedes accident research team, which has been regularly simulating and analysing serious road accidents since 1969, can confirm this trend and its causes. Ever since the eighties, when the seat belt tensioner and the airbag made their debuts in

Mercedes passenger cars, the number of Mercedes drivers seriously or fatally injured in frontal collisions has been falling constantly. Aside from a small number of catastrophic accidents – so severe that no protective measures would have been effective in any case – the safety experts have not recorded any instances of serious or fatal injuries to Mercedes drivers involved in frontal collisions since the nineties.

Based on these and other findings, the accident researchers at Mercedes-Benz have estimated that the airbag alone has saved the lives of more than 2,500 car occupants involved in road accidents in Germany since 1990.

### **Airbags save the lives of one in six car occupants involved in road accidents**

American safety experts are now also convinced of the airbag's effectiveness. Airbags have been a legal requirement for all new passenger cars in the USA since September 1993. After evaluating all the serious traffic accidents which occurred between 1987 and 2003, the US accident researchers at the NHTSA calculated that the airbag had prevented over 14,200 fatal injuries to car occupants involved in collisions. During this period, the airbag prevented serious injury to one in three drivers or front passengers involved in road accidents and saved the lives of one in six.

Seat belts and airbags together have prevented fatal injuries to a total of more than 180,000 car occupants in the USA to date.