

# CAN Newsletter Online

CONTROLLER AREA NETWORK

## Happy Birthday

On February 25, 1986, Bosch presented the CAN protocol in Detroit (USA) at an SAE conference. Five years later, Mercedes launched the W140 model of its luxury S-class cars implementing five CAN-connectable ECUs (electronic control unit).



(Source: Adobe Stock)

It was a so-called Full-CAN controller, meaning that it stored received data and remote frames in dedicated buffers, depending on the results of the acceptance filtering. The second CAN stand-alone controller was the 82C200 from Philips. It was a so-called Basic-CAN controller, meaning that it stored received data and remote frames in a FIFO (first-in, first-out) memory.

### First cars with CAN

Five years after CAN was launched, Mercedes exhibited in March 1991 the W140 model (S-class) in Geneva (Switzerland). It was equipped with five ECUs providing CAN interfaces. The German carmaker produced about 430 000 cars of this model. In 1995, BMW also implemented a CAN network in its 750 models. The CAN tree topology connected five ECUs.

Today, nearly all passenger cars use multiple CAN networks connecting 50 to 200 ECUs depending on the vehicle's features. The installed CAN networks are often linked by means of gateways.



The W140 was the first car using one CAN in-vehicle network (Source: Mercedes)

Beginning of the 80ties, Bosch started the development of a serial network technology for automotive applications. The results were presented at an SAE conference, in 1986. This was the starting point of a success story. One year later, Intel introduced the i82566 CAN stand-alone controller comprising 30 000 transistors in a 44-pin package with a size of 20 mm<sup>2</sup>.

### BOSCH AND INTEL JOIN IN DEVELOPMENT OF AUTOMOBILE ELECTRONICS NETWORK

DETROIT, Mich., Feb. 25, 1986 -- Robert Bosch GmbH and Intel Corp. today announced that the companies are jointly developing a high-speed communication link for interconnecting electronic control units within automobiles.

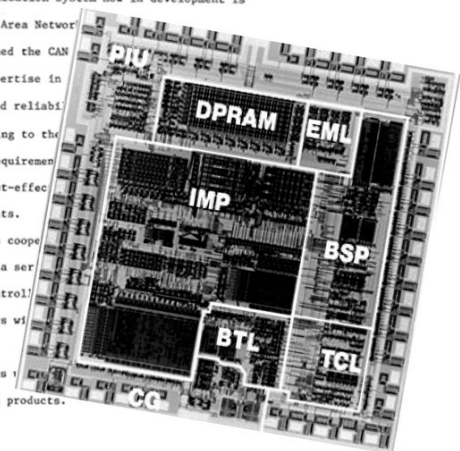
This serial communication system now in development is called the "Controller Area Network".

Robert Bosch defined the CAN is contributing its expertise in engineering, quality and reliability.

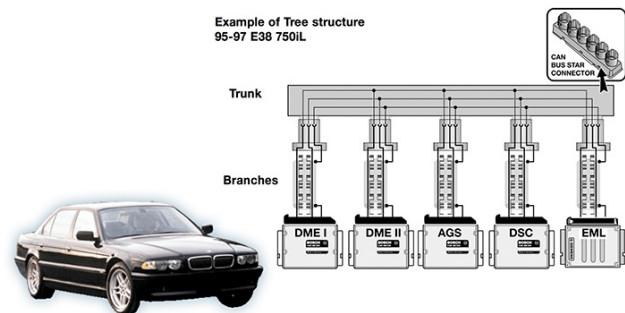
Intel is contributing to the of automotive market requirements of high-reliability, cost-effective integrated (VLSI) products.

The outcome of this cooperation line of Intel products: a series between various microcontrollers; bus; and microcontrollers within a single chip.

These Intel products marketplace as standard products.



The original joint press release by Bosch and Intel introducing CAN (Source: CiA)



The BMW iL740 was produced from 1995 to 1997 (Source: CiA)

### User organization since 1992

The nonprofit CiA (CAN in Automation) association for users and manufacturers was originally established to support CAN applications in non-automotive markets from elevator control to medical devices. In the beginning, machine embedded control was another important application. Today, the association with about 700 member companies develops the third CAN data link layer generation – also known as CAN XL. It was established in March 1992, just one year after the introduction of the first car with a CAN network.

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