



How to Improve In-Car Conversations and Road Safety

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Imagine taking your large family on holiday with your three-seat row van. Family road trips are often where some of the best conversations happen, so it wouldn't be unusual for the driver to be speaking to someone in the back seat – or the way back seat. In larger cars like the big family van, it could well be that people in the last row have a hard time hearing and understanding the people in the front. The typical solution? Shouting – which will grow tiresome if you are spending a few hours in the car – or, even worse, leaning back or possibly even turning your head to let people better hear what you are saying. But while driving, this is clearly not a good idea, as these tendencies can cause fatigue or distraction and clearly compromise safety.

From a technical standpoint, the acoustic loss between the ear of the person in the back seat and the mouth of the driver could be up to 15 decibels. That means that what starts in the front seat as speaking in a normal volume arrives to the back seat only as a whisper. So, communication can easily be blocked or distorted, which is hard for a driver who mainly needs to focus on the road ahead.

To overcome such tricky situations, Cerence has created [In-Car Communication \(ICC\)](#). ICC picks up speech from people in the front row and plays back the audio via the car's speakers for the rear seats, or vice versa from back to front. ICC also uses Cerence's signal processing technique to filter out noise, ensuring a clear signal and eliminating echo. All of this with extremely low latency – AKA high speed – a critical feature of such a system.

Driving vehicles equipped with ICC, such as the Mercedes V-Class or the new 2021 Cadillac Escalade, greatly enhances the user experience by helping to improve communication between passengers within the vehicle and minimizing distraction for the driver. While technically complex, the end result of ICC is so subtle that people don't even realize its presence – and we think that's just how great technology in the car should be.