Automotive connectivity

And the potential from dynamic spectrum access to TV White Spaces

We expect to be connected wherever we are

- High penetration of smart mobile devices and growing use of online services for a wide range of applications

- Travel can be more enjoyable and productive

- Even when there are inevitable delays, stress can be reduced by timely access to reliable information on the cause of the problem, likely extent of the delay – and alternative travel options
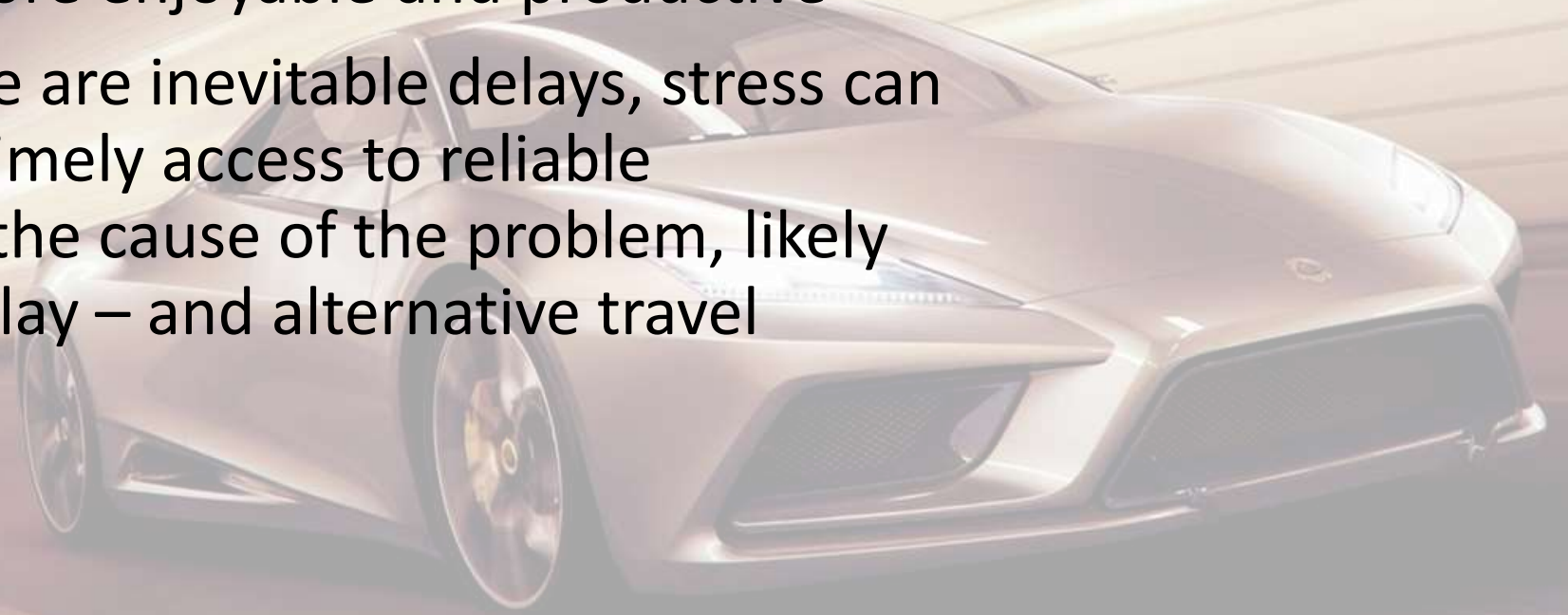
Full range of connection applications

- Internet access

- Personal communications

- Cloud-based vehicle management

- Vehicle to vehicle
  - Collision avoidance etc.
  - Mesh networking – to extend coverage

- Vehicle to infrastructure
  - Traffic updates, local services, news, downloads ….
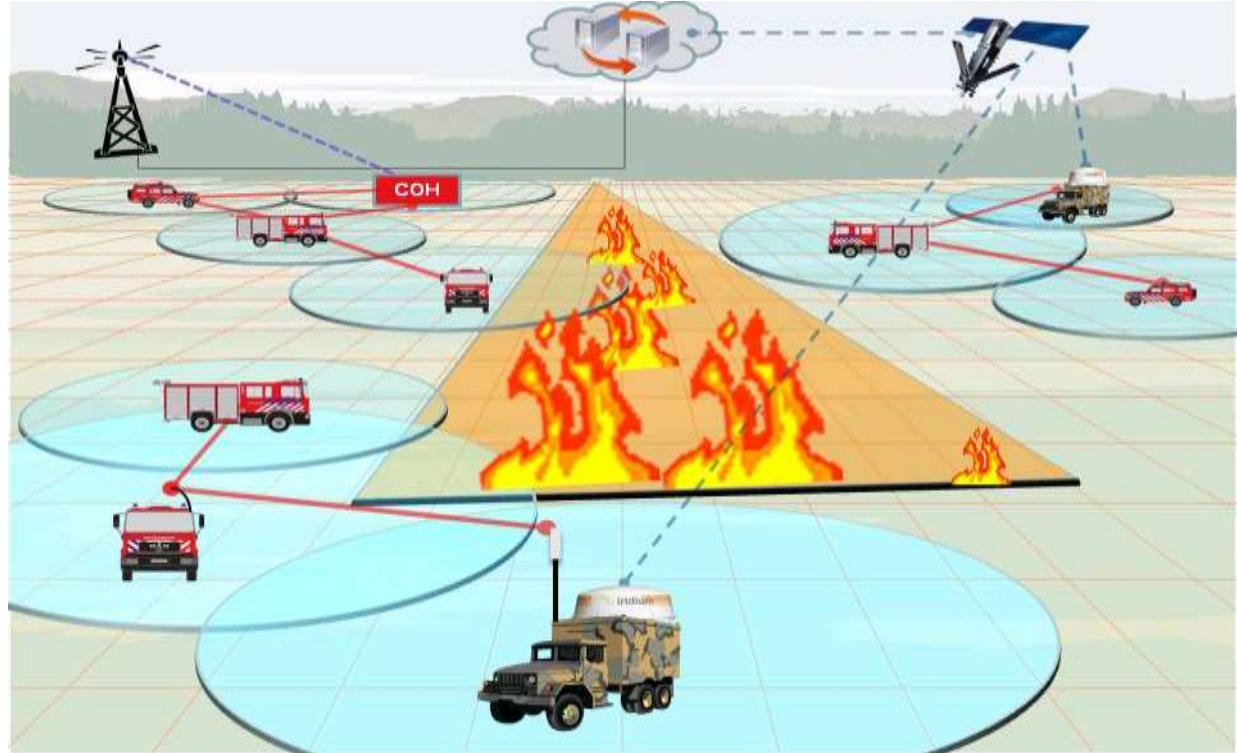 - Access to Internet services

Not everywhere enjoys good connectivity

Source: BMW-routes.com

Forest Fire Fighting example

- Ad-hoc networking is an essential tool

- Efficient operation under a range of conditions

- Sharing available backhaul

Mobile ad-hoc networking delivers effective and resilient crisis communications

Vehicle as info hub during a disaster

Intelligent Transportation Systems World Congress 2013 Demo

O. Altintas et.al., "Vehicles as Information Hubs During Disasters: Glueing Wi-Fi to TV White Space to Cellular Networks," IEEE ITS Magazine, Spring 2014