



Autonomous Driving (ADAS)

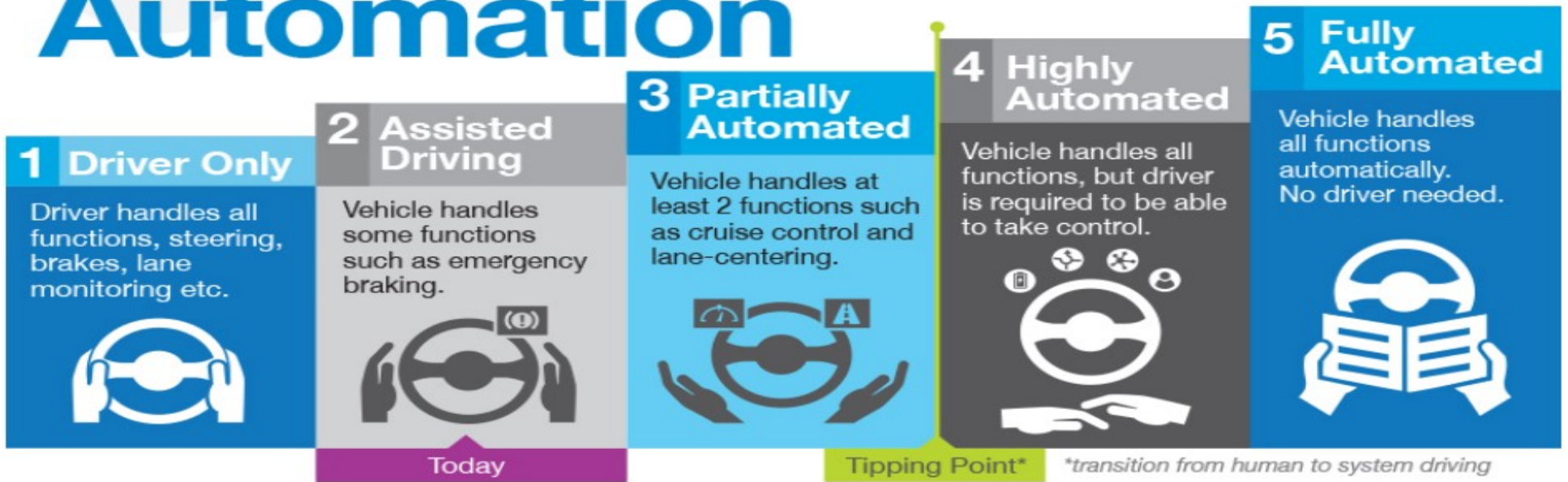
PLANS, STANDARDS, INTEROPERABILITY AND INTELLECTUAL PROPERTY

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The Path to Autonomous Driving

5 Stages of Automation



"Everything On"

"Feet Off"

"Hands Off"

"Eyes Off"

"Mind Off"

ADAS - Key Issues for IP*

- The R&D is very expensive and involves radical departures for the industry – not always clear how to use IP to protect the investment.
 - (Alex Partners - \$85 billion US by 2025)
- Technology is evolving and in many cases will be owned by the new entrants to the industry.
- Collaboration and interoperability are going to be the keys to success between partners and across the industry – will most certainly require some form of industry standards and/or FRAND licensing

Other IP Considerations* – Autonomous Driving

There will be more and more patent owners and vehicle OEMS will build cars that rely patents central to vehicle development that they do not own.

“Cars are already here and do not have a connectivity technology of their own. Patent owners want a reasonable royalty, but car companies are used to their suppliers taking care of IP issues”.

Much of the technology driving autonomous vehicles is owned by IT, telecoms and software companies.

Much of it is likely to relate to how cars communicate and share data ... and become essential to standards for communication, safety

Interim results* – ADAS IP

The European Commission, the US Government and Japan Patent Office have issued guidance on FRAND licensing and enforcement.

Development of consortiums for key patent holders, like **Avanci** are developing – “Patent Clearinghouse for the Internet of Things” (35 members - Ericsson, Qualcomm, ZTE, BT, Vodafone, NEC, Sisvel, Sony, Philips, Acer, HP, China Mobile, Blackberry and many others)

The industry (& new entrants) are holding IP in the form of software held as a trade secret – key competitive technologies (unlimited life for secrets in the form of software source code for key innovations).