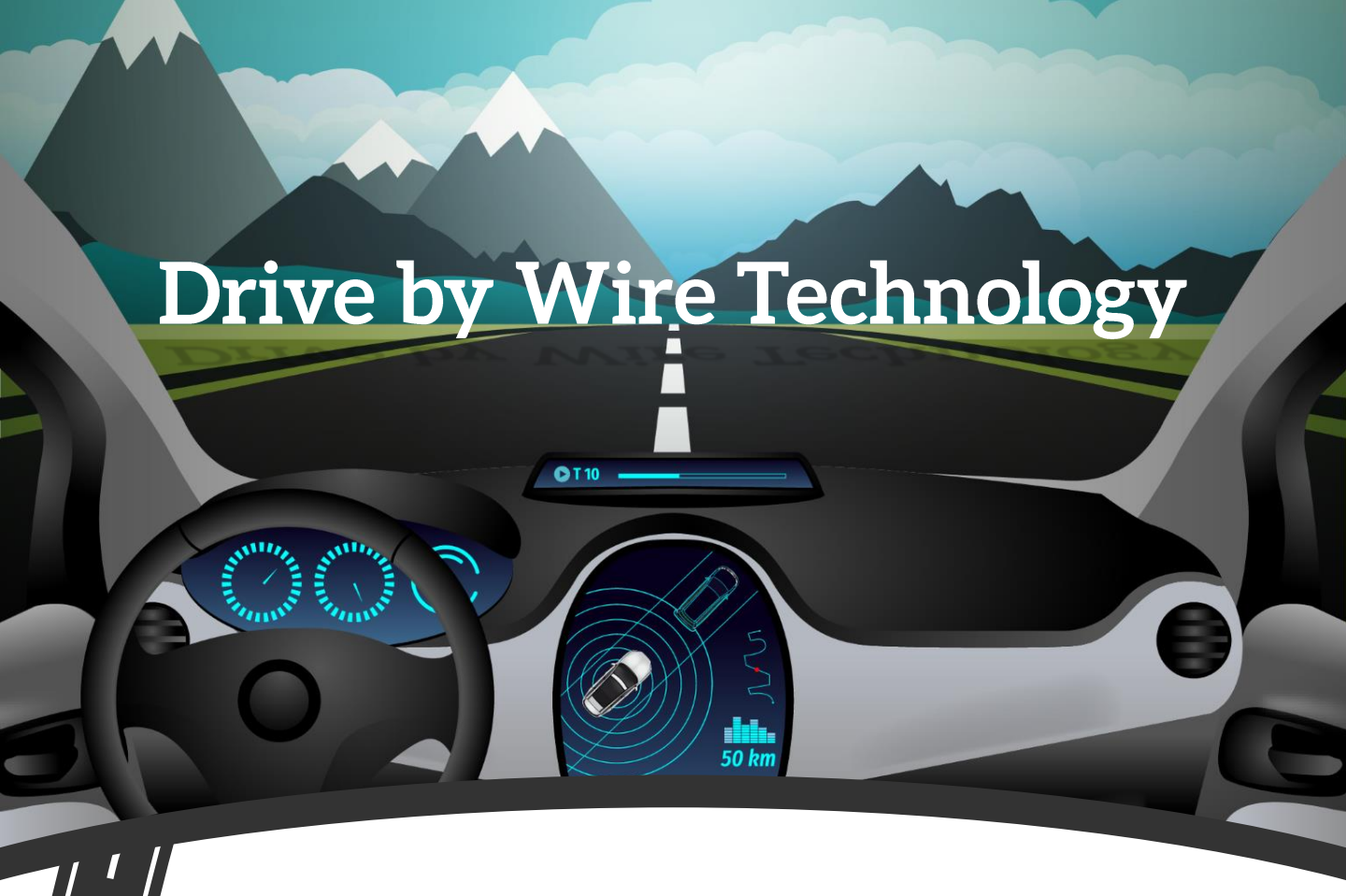

Drive by Wire Technology

Drive by Wire also known as x-by-wire technology uses electronic controls instead of mechanical and hydraulic control for acceleration, brake and steering

THROTTLE BY WIRE

Throttle by wire includes a pedal which uses sensors to measure the movement of accelerator, which is further sent to the engine that determines the fuel requirement

- Reduce emissions and improve fuel economy
- Eliminates the binding problems in mechanical linkages as well emission of hazardous hydraulic fluids

BRAKE BY WIRE

Brake by wire uses a pressure transducer to sense the pedal movement and then apply the brakes accordingly using an electrical system

- Simplifies the design of car interiors by replacing the conventional mechanical and hydraulic components
- Compact design reducing space utilization

STEER BY WIRE

In steer by wire system the wheels of a car are run using electrically controlled motors to change the direction of the wheels

- Elimination of voice and vibration
- Flexible configuration (left/right hand driver)

DRIVERS

- Demand for automation in automobiles like driverless cars
- Increasing demand for fuel efficient cars (these system are majorly used in EV)
- Low maintenance as components (shafts, pumps, fluids, etc.) can be eliminated

INHIBITORS

- High incremental cost for updating the system from traditional to drive-by-wire
- Risk of failure in electronics or software
- Lack of public acceptance due to absence of mechanical support

Asia Pacific is expected to lead the global drive-by-wire market in the coming years, owing to growing automotive industry and high demand for electric vehicles in the region

KEY DEVELOPMENTS

Nexteer (a leader in intuitive motion control)

Nexteer, with some unnamed OEMs, is evaluating its steer-by-wire system with as it moves to a production date for the technology by 2022-23

Mercedes-Benz

Mercedes Benz had introduced Sensotronic Brake Control (SBC) technology, which is similar to brake-by-wire on R230 SL-class model

INFINITI

Infiniti is the market's first player to launch 'steer-by-wire' model Q50. It will result in no mechanical connection between the wheel in driver hands and the wheels on the street

NISSAN

Nissan is replacing conventional mechanical linkages with by-wire technology, steering and braking systems in Murano EA2 Concept system

PLAYERS IN THE MARKET FOR X-BY-WIRE TECHNOLOGY

FICOSA	ZF	JTEKT
KONGSBERG	HITACHI	Continental
LORD	KSR INTERNATIONAL CO.	BOSCH

KEY INSIGHTS

- In the global Drive by wire market, key players are leveraging various strategies such as acquisitions, partnerships, and investments to stay ahead of the competition
- In drive-by-wire systems, the most commonly accepted one is brake-by-wire system, which is expected to become a 'strong trend' over the next decade as it provides more precise tuning for a variety of driving attributes
- Compared to other systems, steer-by-wire is relatively new as people have not completely accepted the idea of steer less driving experience and entire reliability on electronic system. However, the scenario is expected to change in the coming decades and steer-by-wire technology is anticipated to dominate the market

e: marketing@datamaticsbpm.com w: www.datamaticsbpm.com