UPDATE ON MALAYSIA AUTOMOTIVE DEVELOPMENT:

NATIONAL AUTOMOTIVE POLICY (NAP) 2020
# BACKGROUND OF NAP

## POLICY DRIVEN

**Supply Chain Integration**
- **NAP 2006** (2006-2009)

**Investments Promotion**
- **NAP 2009** (2009-2014)

**Green and Sustainability**
- **NAP 2014** (2014-2020)

**Connected Mobility**
- **NAP 2020** (2020-2030)

<table>
<thead>
<tr>
<th>ADOPTED POLICY</th>
<th>REVIEWED</th>
<th>FOCUSED</th>
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<tr>
<td>Introduced to transform the domestic automotive industry and integrating it into the increasingly competitive regional and global industry network.</td>
<td>Reviewed to enhance the capability and competitiveness of the domestic automotive industry.</td>
<td>Focused on developing Malaysia as the hub for Energy Efficient Vehicle (EEV)</td>
<td>Enhance Malaysia’s automotive industry in the era of digital industrial transformation.</td>
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NAP 2020 FRAMEWORK

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<th>STRATEGIES AND DIRECTION</th>
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<td><strong>DIRECTION</strong></td>
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<tr>
<td>Technology &amp; Engineering</td>
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<td>To expand the EEV technology and engineering of the automotive sector to NxGV, MaaS and IR4.0 in unison.</td>
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**NEW ELEMENTS OF NAP 2020**

- **Next Generation Vehicle (NxGV)**
  - Energy efficient powertrains
  - Advanced driving capabilities
  - Connected Vehicles

- **Mobility as a Service (MaaS)**
  - Transportation that is consumed as a service
  - Preparing for new ownership models

- **Industrial Revolution 4.0 (IR4.0)**
  - Smarter and leaner manufacturing
  - Businesses that are future-proof
  - Competitive in global markets

**INTEGRATION OF SERVICES AND ELECTRIC & ELECTRONIC (E&E) SECTOR IN THE AUTOMOTIVE SECTOR**

**NAP 2020**

- Connectivity
- Mobility
- Energy Efficient
- Carbon Emission Reduction
- Safety
- Lifestyle
STANDARDS TO BE DEVELOPED

- Autonomous, Automated and Connected Vehicles (AACV) Development
  - Establishment of AACV in specifying its safety requirements for AACV tested
  - Covering few vehicle categories in Malaysia with regards to the intelligent mobility and automation level features

- Electric Vehicle Interoperability Centre (EVIC)
  - EV Charging Protocol
  - Energy management system for EV ecosystem
  - Safety usage of the critical components

- Energy Efficient Vehicle (EEV) and Next Generation Vehicle (NxGV) specifications
  - Revise definition of EEV and NxGV for wider scope - all vehicle categories
    i) Passenger Vehicle
    ii) Commercial Vehicle
    iii) Motorcycle

NEXT GENERATION VEHICLE (NxGV)

LEVEL 05
COMPLETE AUTOMATION
You never have to drive anywhere unless you want to.

LEVEL 04
HIGH AUTOMATION
Full automation but only in pre-determined conditions.

LEVEL 03
CONDITIONAL AUTOMATION
Automation of driving tasks but driver must respond promptly when alerted.

LEVEL 02
PARTIAL AUTOMATION
Basic driving tasks carried out by vehicle but requires human driver to supervise.

LEVEL 01
DRIVER ASSISTANCE
Vehicle can provide either steering or braking assist but not at the same time.

Source:
ECE/TRANS/WP.29/2018
Society of Automotive Engineer - SAE J3016
MOBILITY AS A SERVICE (MaaS)

MaaS - concept of integrating various types of transport services to centralized mobility services.
Use of IR 4.0-related technology applications especially AI, Big Data Analytics (BDA) and IoT will enable the implementation of NxGV and MaaS.

INDUSTRIAL REVOLUTION 4.0 (IR 4.0)

1. BIOTECHNOLOGY
2. NANOTECHNOLOGY
3. QUANTUM COMPUTING
4. GOVERNANCE
5. ETC.

ENABLING TECHNOLOGIES
The digitalization of the production-based industries are driven by these technological drivers.
KEY TAKEAWAYS

1. WP 29 has given significant impact to NAP 2020 formulation especially in the area of Safety Regulations and Administration enhancement in Malaysia;

2. NAP 2020 is aiming to transform the Malaysia Automotive Industry moving towards Connected Mobility Ecosystem by year 2030;

3. Malaysia would like to give full support in the development of UN Regulations especially in the area of Automated, Autonomous and Connected Vehicles (GRVA).