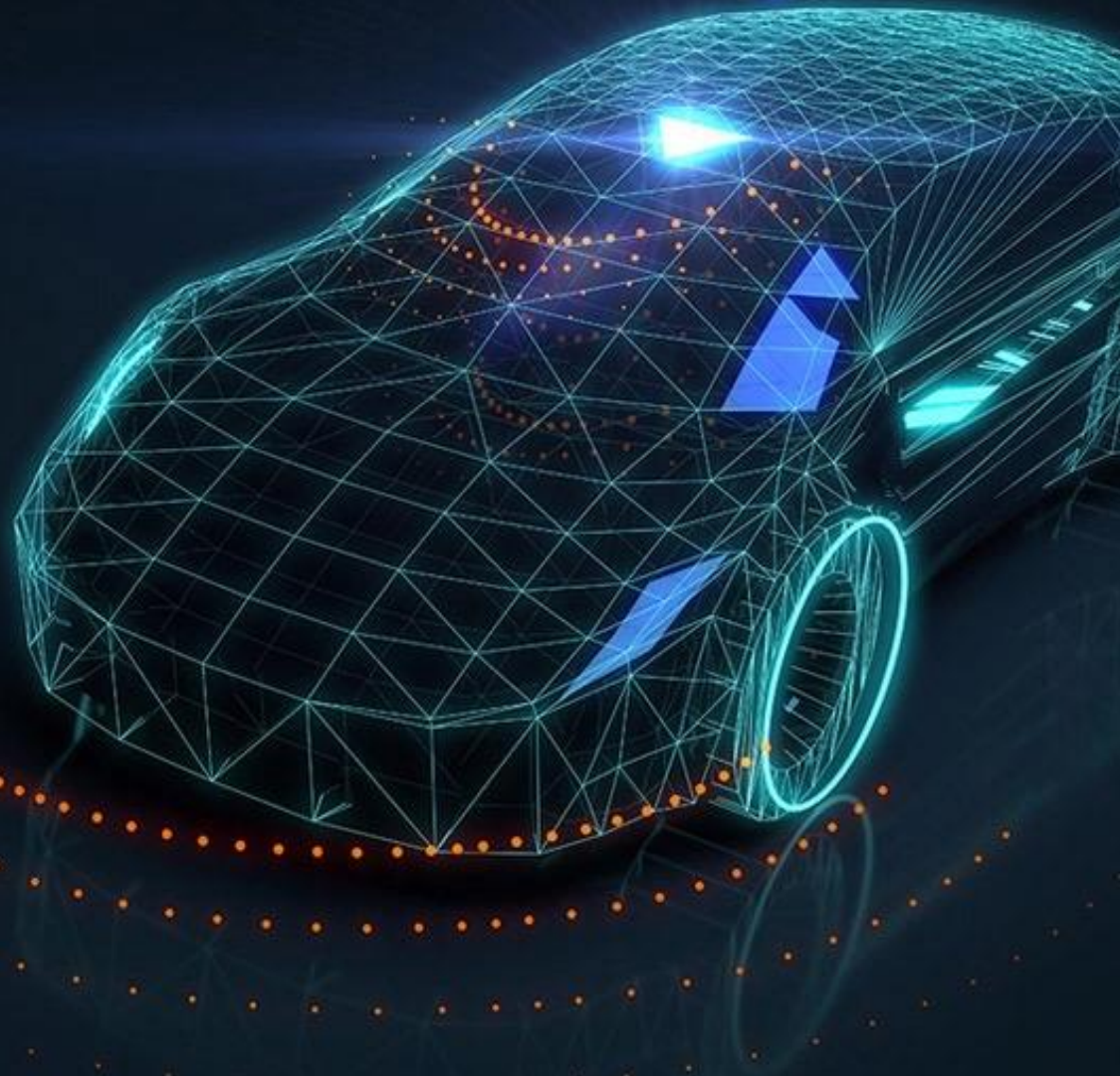




MINISTRY
OF INTERNATIONAL TRADE
AND INDUSTRY



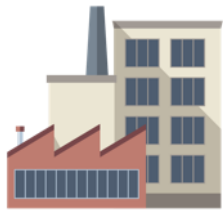
UPDATE ON MALAYSIA AUTOMOTIVE DEVELOPMENT :

NATIONAL AUTOMOTIVE POLICY (NAP) 2020

BACKGROUND OF NAP

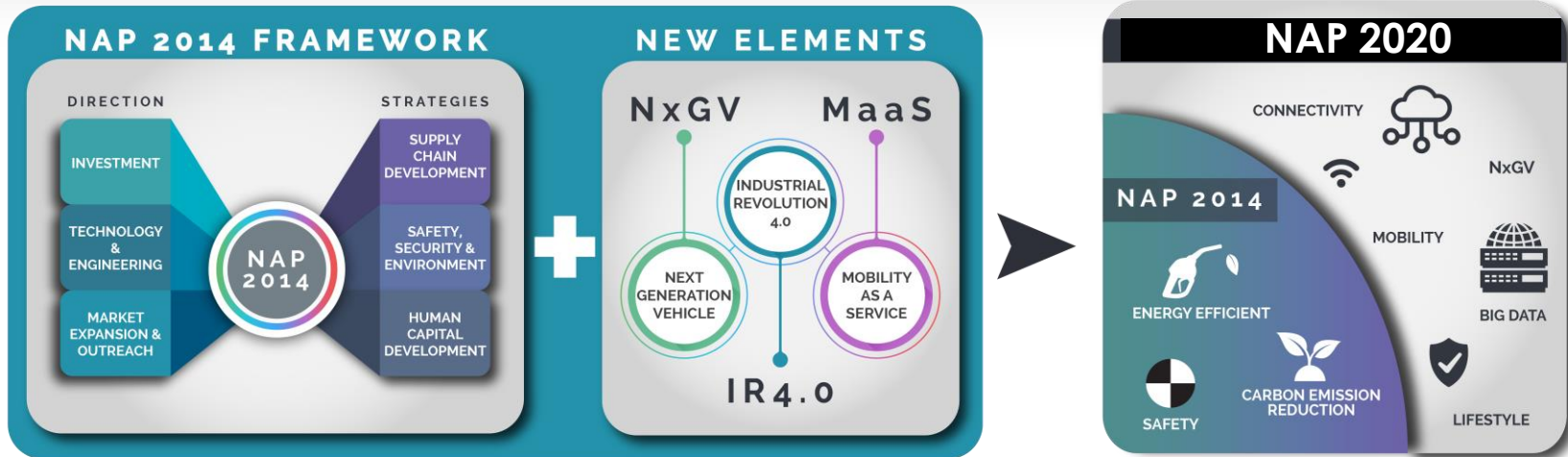
POLICY DRIVEN

VISION DRIVES
POLICY



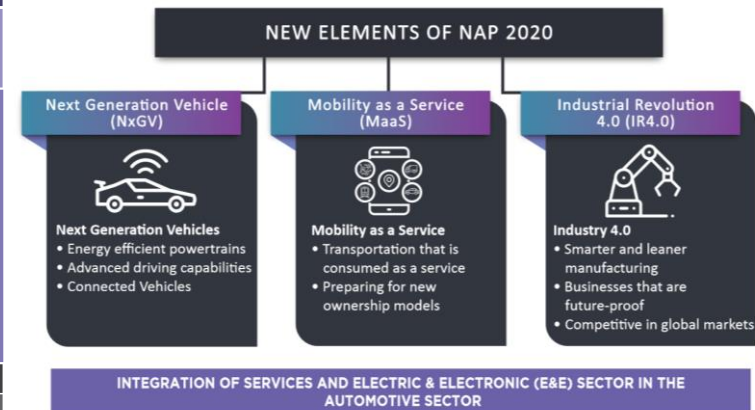
SUPPLY CHAIN INTEGRATION	INVESTMENTS PROMOTION	GREEN AND SUSTAINABILITY	CONNECTED MOBILITY
NAP 2006 (2006-2009)	NAP 2009 (2009-2014)	NAP 2014 (2014-2020)	NAP 2020 (2020-2030)
ADOPTED POLICY	REVIEWED	FOCUSED	ENHANCED
Introduced to transform the domestic automotive industry and integrating it into the increasingly competitive regional and global industry network.	Reviewed to enhance the capability and competitiveness of the domestic automotive industry.	Focused on developing Malaysia as the hub for Energy Efficient Vehicle (EEV)	Enhance Malaysia's automotive industry in the era of digital industrial transformation.

NAP 2020 FRAMEWORK



STRATEGIES AND DIRECTION

DIRECTION			STRATEGIES		
Technology & Engineering	Investment	Market Expansion	Value Chain Development	Human Capital Development	Safety, Environment and Consumerism
To expand the EEV technology and engineering of the automotive sector to NxGV, MaaS and IR4.0 in unison.	To introduce initiatives that can attract strategic investments and high technology adaptations in line with NAP 2020's technology thrust to ensure the sustainability of the automotive industry's competitiveness in tandem with the development of global technology.	To focus the market expansion of local automotive industry including companies in the aftersales and service sector.	To enhance supply chain competitiveness and become more competitive in the pursuit of high quality products that meet the standards of vehicle manufacturer and consumer needs.	To develop human capital in tandem with the development of current and future automotive technology.	To promote the adoption of a new, more environmental friendly elements of technologies that will address the issue of pollution. To emphasise on the safety of vehicles and consumers. To include consumerism element to protect consumer rights.
Next Generation Vehicle			Mobility as a Services		
Industrial Revolution (IR) 4.0					



STANDARDS TO BE DEVELOPED

Autonomous, Automated and Connected Vehicles (AACV) Development

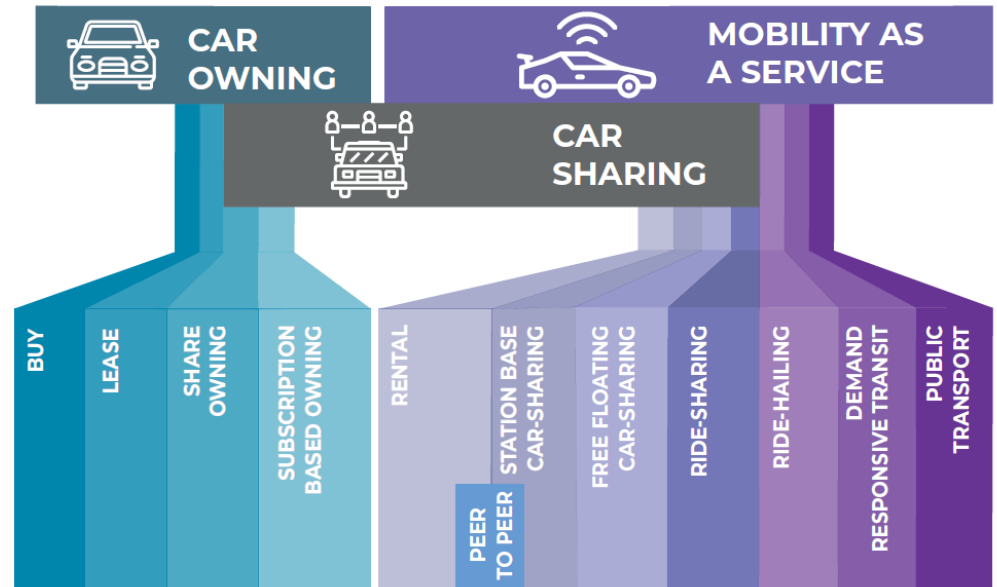
- Establishment of AACV in specifying its safety requirements for AACV testbed
- Covering few vehicle categories in Malaysia with regards to the intelligent mobility and automation level features

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



FROM OWNING TO USING

NEXT GENERATION VEHICLE (NxGV)

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

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

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

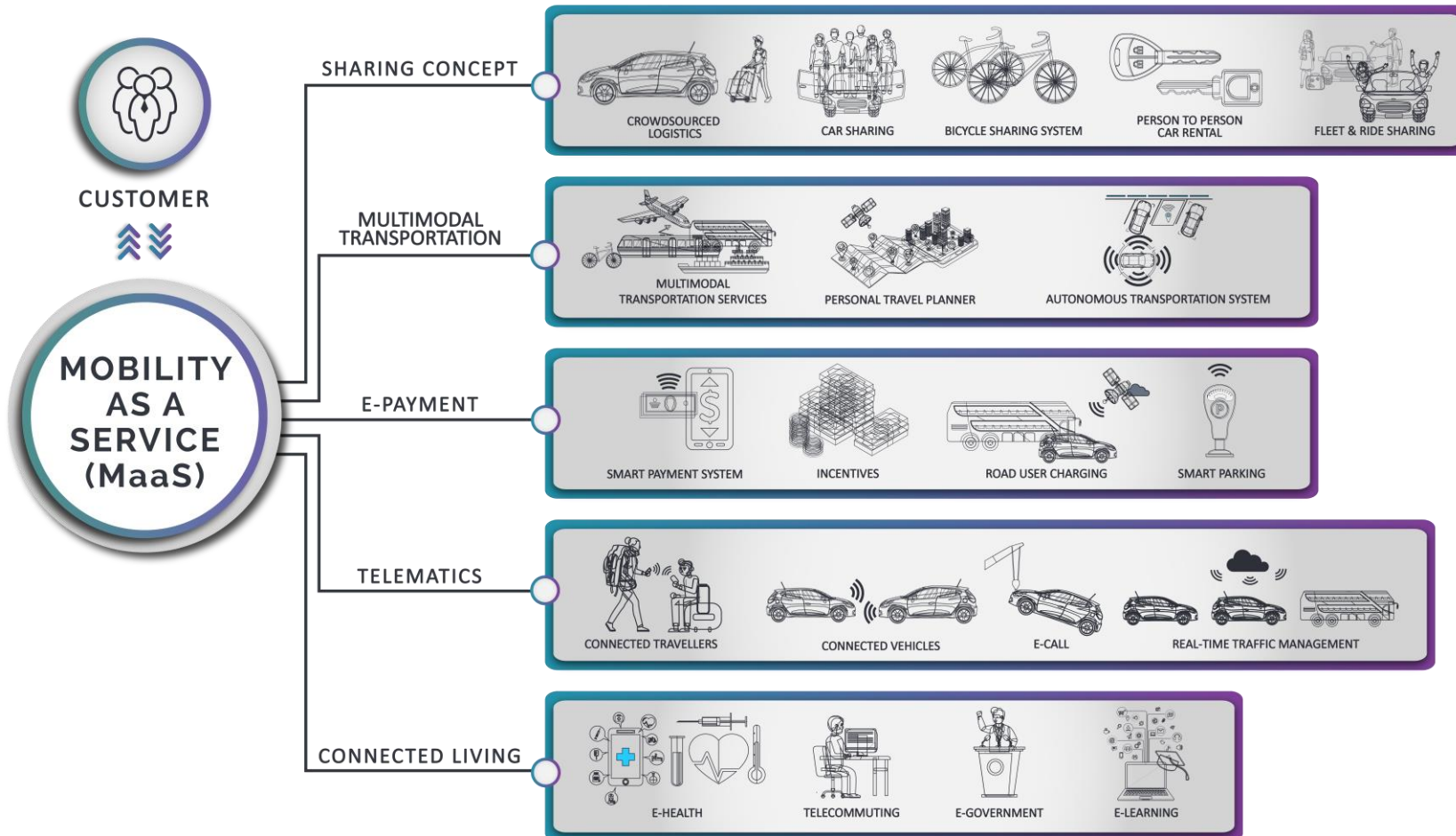
LEVEL 02 **PARTIAL AUTOMATION**
 HANDS OFF
 Basic driving tasks carried out by vehicle but requires human driver to supervise.

LEVEL 01 **DRIVER ASSISTANCE**
 FEET OFF
 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)

INDUSTRIAL REVOLUTION 4.0 (IR4.0)

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

TECHNOLOGIES
ADVANCEMENT
AND
CONVERGENCE

BIG DATA
ANALYTICS

CYBERSECURITY

SIMULATION

ADVANCE
MATERIAL

ARTIFICIAL
INTELLIGENCE

AUGMENTED
REALITY

ADDITIVE
MANUFACTURING

SYSTEM
INTEGRATION

AUTONOMOUS
ROBOT

**ENABLING
TECHNOLOGIES**

INTERNET OF
THINGS (IoT)

CLOUD
COMPUTING

The digitalization of the production -
based industries are driven by these
technological drivers

Industry4WRD

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).