



Study Tour: Malaysia (November 2019)

Learnings for the SA automotive component sector

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Purpose

- To observe **best practice of KAIZEN and human resource development** in Malaysia and to initiate the transfer of these techniques to South African automotive sector

Why Malaysia?

- Malaysia was selected as it has a similar **economic and demographic profile** to South Africa and is a world class hub for automotive manufacturing.
- Malaysia's automotive sector is characterised by **sophisticated coordination and cooperation** between government ministries; public institutions; industry associations and private manufacturing companies/entities.

Itinerary

- MARii Academy of Technology
- APM Plastics (Tier 1 – moulded plastic – seats, HVAC, body systems)
- PDKM (Tier 1 – moulded plastic – dashboard, bumper, interior trim)
- AISB (Tier 1 – metal fabrication – clutch, braking, engine, door panel, structural pillars)
- Perodua (OEM)

Participants

- 1 Government representative (Ms. Thandi Pele – the dtic)
- 1 Industry representative (Ms. Shivani Singh – NAACAM)
- 2 JICA experts (Mr Kazunori Hayashi and Mr Michiharu Suzuki)
- 2 JICA SA staff (Mr Kazuhiko Amagai and Mr Mpho Pekane)



INSIGHTS OF THE AUTOMOTIVE INDUSTRY AND TECHNOLOGY ADOPTION IN 2019



FORECAST OF THE AUTOMOTIVE INDUSTRY 2019

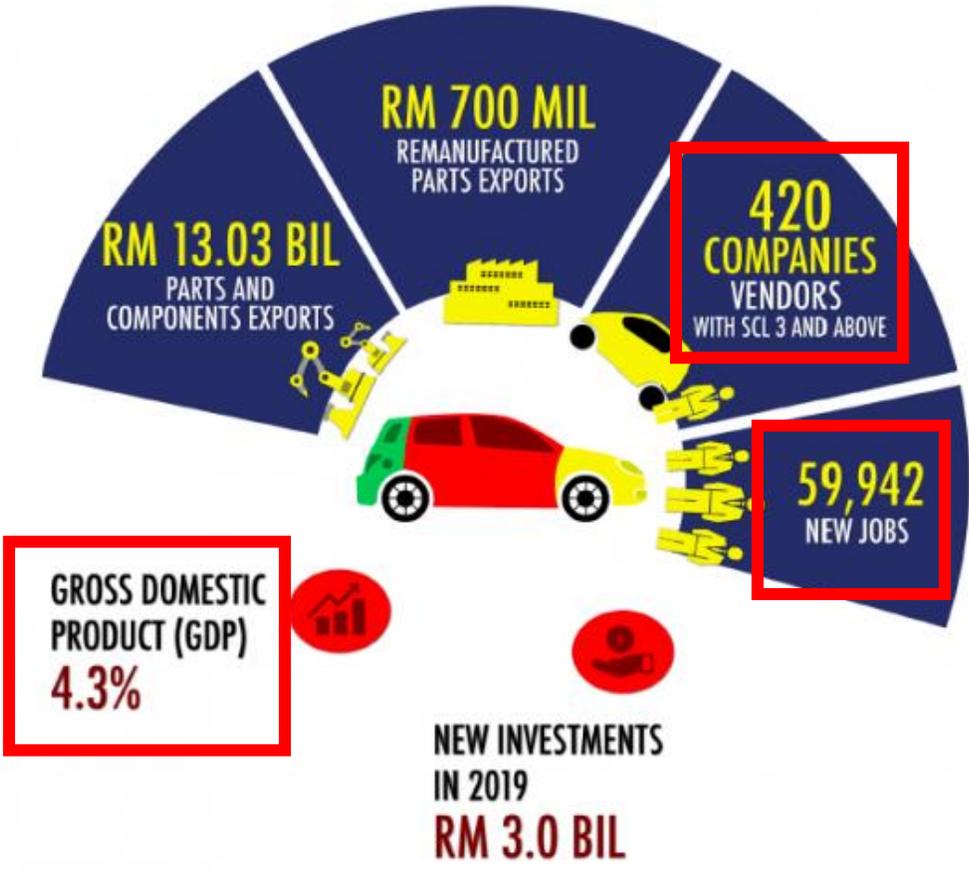
TOTAL PRODUCTION VOLUME
575,603 UNITS
1.0% GROWTH

TOTAL INDUSTRY VOLUME
605,898 UNITS
1.0% GROWTH

COMMITTED LOCALISATION IN 2019
RM 12.23 BIL

EEV PENETRATION TARGET
70%

CBU EXPORTS
RM 2.5 BIL



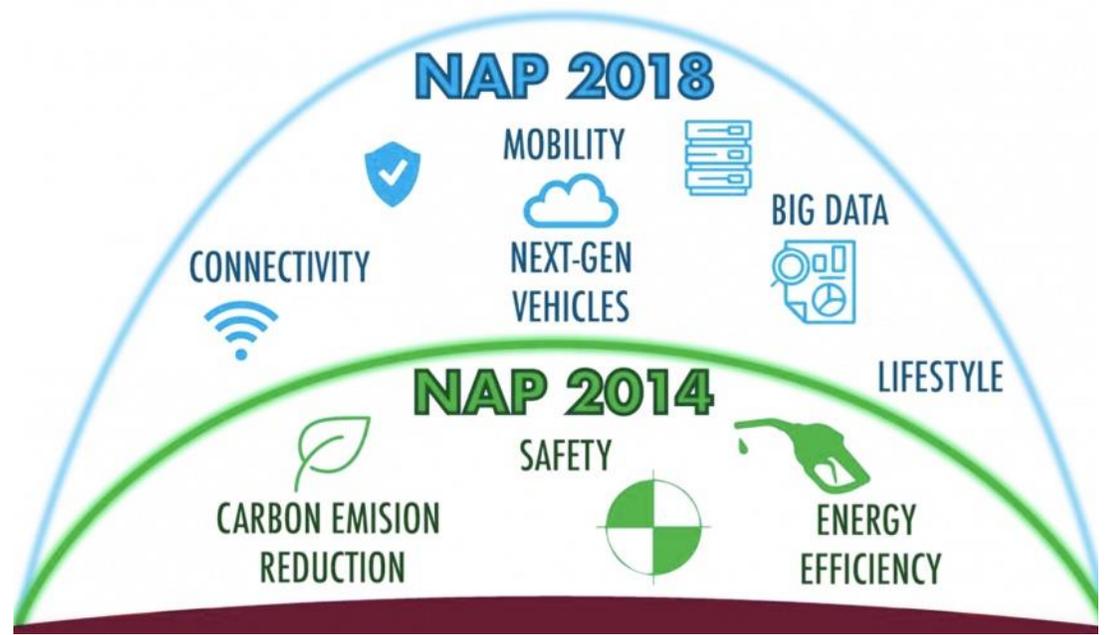
- Very **young workforce**, many with limited tertiary education training
- Relatively sophisticated public **buy-in and awareness on future mobility, energy efficiency and vehicle safety**
- No indigenous **raw materials** → **cost competitiveness stems entirely from strict adoption of Kaizen**
- Concerted effort by all government agencies to ensure **skills transfer from highly skilled foreigners to locals (“Bumiputera”)** → 70 000 of 220 000 people working in the automotive sector are foreign nationals. Since 2014, **32 000 have been replaced by Malaysians**



- **Two state-owned OEMs (Proton and Perodua)** – both have particularly deep local value chains with **unique Tier 1** suppliers. Tier 1 suppliers often manufacture **various systems** (e.g. seats, engines, braking systems in 1 plant)
- Other MNC OEM presence, supported by Malaysian companies which **manufacture under license** for domestic consumption
- OEMs (particularly Proton and Perodua) often invest **extensively in ownership of Tier 1 companies** → Thus Tier 1s do not face the same challenges SA firms experience in terms of **accessing technology licenses and funding tooling requirements**

1967 → 2006

- First auto policy launched in 1967 → **Import Substitution Policy**
 - ✓ Govt objective was only to reduce imported auto components
 - ✓ Policy progressed to further assist component manufacturers → **localisation policies**; mandatory deleted items (MDI); **local material content policy** (LMCP)
 - ✓ By 1990s policy interventions proved effective and **increased local content** of production and **increased participation of Bumiputera vendors**

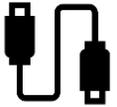


Under the Third Industrial Masterplan (2006 → 2020), the Malaysian Government launched the **National Automotive Policy (NAP)**, with 6 key objectives:

1. To promote a **competitive and sustainable domestic automotive industry** especially the **national car manufacturers**;
2. To develop Malaysia as a **regional automotive hub**;
3. To increase value-added activities in a **sustainable** way while **developing domestic capabilities**;
4. To increase **exports** of vehicles and automotive components;
5. To promote **Bumiputera participation in the total value chain of the domestic automotive industry**; and
6. To safeguard consumer interests by offering **safer and better-quality products at competitive prices**.



Investment Strategy - Issuance of new manufacturing license for motor vehicles in the category of EEV and **exemption of import tax and excise duty for an assembly of Completely Knocked Down (CKD) hybrid and electric vehicles** are some of the efforts to empower car industry.



Technology and Engineering Strategy - Provision of **soft loan to develop EV infrastructure** such as Plug-In-Hybrid-Vehicle charging station and pre-commercialisation activities; and produce the facilities for charging station in order to promote the use of EV in Malaysia.



Market Expansion Strategy - Establishment of Distribution Infrastructure Network (DIN) and Automotive Parts & Components For Market Expansion (APCIMEX) to **drive export sales**. This is a **non-financial incentive** used by the government to **enhance the competitiveness of the vendors through networking**.



Human Capital Development Strategy - Human capital development programs such as MAJAICO and Malaysia Automotive Institute (MAI) - non-financial incentives to **promote skills transfer from Japan to Malaysia (“look East”)**.



Supply Chain Development Strategy - Provision of **soft loans to develop new tooling for tool, dies and mould manufacturers**. The soft loan provided amounted to **R 20 million per year** for the vendors to **purchase and install high technology machines**.



Safety, Security and Environment Strategy - Introduction of **voluntary vehicle inspection program (VVIP)** to ensure roadworthiness of vehicle. Adoption of **3R (Reduce, Reuse, Recycle)** standard as Malaysian standards in the automotive components.

'UNUSUAL' POLICY ELEMENTS

STANDARDS & SPECIFICATION	STRATEGIC COLLABORATION
<ul style="list-style-type: none">Review EEV specifications.Establish standards for:<ul style="list-style-type: none">NxGVEEV motorcycle over 250 c.c. including interim standardsEEV for Commercial vehiclesEVMAFV test bedFlying vehicle	<ul style="list-style-type: none">Universities & Centre of Excellence (local & Intl)GovernmentTechnology supplierTrade partner



Malaysian observations

- Nearly all vehicles purchased by government departments are **Proton or Perodua** models (sourced through third-party fleet management companies) → estimated size of government fleet is **15 000 vehicles**
- Government employees earning above a certain salary threshold qualify for a **state-loan to purchase a vehicle** → again preference for Proton and Perodua
- All **aftermarket components** for these vehicle categories are sourced from domestic suppliers

Relevance in SA context

- In 2017, national and provincial government departments purchased nearly **5000 imported vehicles at R 2,6 billion** (mostly passenger vehicles) and about **13 000 locally manufactured vehicles at R 6 billion** (mostly LCV)
- Rossouw and Weyer (2019) estimate that in 2017, if all government (**national and provincial government only**) procurement of vehicles were sourced from local OEMs, the anticipated economic impact would have been:
 - Increase in GDP of R 36,8 billion
 - Increase in GDP growth of 1,18% (once-off in first year)
 - Improvement in trade balance of 1,35%
 - Increase in VAT revenue of R 3,13 billion

Recommendations

- Study to be undertaken of **total government vehicle purchase volume and purchase pattern** (national, provincial, municipal and SOE)
- Study to be undertaken to understand **aftermarket, 'spares' and general vehicle maintenance requirements** of across national, provincial, municipal and SOE vehicle fleets
- Study to be undertaken to investigate **total quantum of government employee vehicle allowance, and ascertain local vehicle spend**

→ **Pursue multi-stakeholder project to designate govt fleet purchases**

Malaysian observations

- Malaysian Automotive Robotics and IoT Institute (MARii) is a government-funded **policy think tank and strategic projects implementation agency**.
- MARii was actively involved in the development of NAP and holds a **monitoring and evaluation role** for policy implementation
- Key programmes delivered for **youth** include: **Kaizen and safety dojos; industry 4.0 upskilling programmes; and apprenticeship training**
- Key programmes for **automotive suppliers** include: **industrial design and production optimisation for the local automotive sector**
- Most skills programmes are **not accredited** and target school leavers with no prior work experience. All skills programmes are **fully funded by OEMs and Tier 1s**, who source MARii graduates to fill their vacancies

Relevance in SA context

- **No clear 'think tank'** in domestic automotive sector. ASCCI intended to fill this role through its Strategic Insights programme – no clear outcomes
- Several training centres exist in all major automotive hubs, however **limited coherence between the curricula and the requirements of the automotive sector**
- **No clear Industry 4.0 framework for automotive sector** – so it is unlikely that appropriate training interventions may be developed

Recommendations

- **Merseta** has recently constituted a chamber for component manufacturers → NAACAM currently sourcing representatives. This chamber must ensure **alignment** between current and future industry needs and accredited qualifications
- Multi stakeholder research project to understand **key challenges and opportunities associated with Industry 4.0 adaptation** in the sector and delegation of implementation to relevant training institutions
- **AIDC** should pursue introduction of **Kaizen and safety dojos**

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