Thailand Automotive Industry Situation and Master Plan

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Thai Automotive Industry

Current Situation and Structure
Thailand GDP manufacturing of automotive industry

Source: NESDB latest data 2014, Analyzed by Automotive Intelligence Unit, Thailand Automotive Institute
Thai automotive industry structure by ownership

Total 525,000 employees

Auto Assembler 18 companies

1st Tier Supplier 462 companies

2nd and 3rd Tier Supplier 1,137 companies

Source: Analyzed by Thailand Automotive Institute, Automotive Intelligence Unit (AIU)
World motor vehicle production

Source: International Organization of Motor Vehicle Manufacturers (OICA) (update 3/03/2016)
World motor vehicle production ranking in 2015

EVs remain only a small portion of the total market (0.15%)

There were 91 million vehicles production worldwide in 2015.

Global EV sales totaled roughly 1.26 million units in 2015.
II. Thailand Automotive Industry Overview

International car production base

- Mitsubishi
- Nissan
- Toyota
- NISSAN
- Yamaha
- HINO
- Honda
- UD
- Kawasaki
- Isuzu
- Triumph
- Ducati
- MINI
- BMW
- Mercedes-Benz
- Ford
- Chevrolet
- Ford
- MINI
- BMW
- Mercedes-Benz
- MINI
- BMW
- Mercedes-Benz
Thai Automotive Industry Development

Master Plan 2017-2021 and Vision 2027
## I. Automotive Industry Perspective

### Final Automotive Product

<table>
<thead>
<tr>
<th>Motorcycle</th>
<th>Passenger Car, Eco car</th>
<th>Truck &amp; Bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One toned Pickup Truck</td>
<td></td>
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<tr>
<th>Semi Products</th>
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<td>Complete Build Units (CBU)</td>
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<td>Replacement Equipment Manufacturing (REM)</td>
<td>Quality and Testing</td>
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**ICE**
## I. Automotive Industry Perspective

### Next Generation Vehicles

<table>
<thead>
<tr>
<th>Motor Driven</th>
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<tbody>
<tr>
<td>Hybrid</td>
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Thailand is a Global Green Automotive R&D base which create high value added base economy.

**Thailand Automotive Industry Development Master Plan 2017-2021 and Vision 2027**

**1. Technology R&D Innovation**
- ICE (Gasoline, Diesel)
  - Global Standard
  - Light weight
  - Emission Reduction (CO2)
  - Engine Efficiency
  - Productivity
  - Next Generation Vehicles
  - Engine & Motor Efficiency
  - New/Advance Technology
  - Waste & Green
  - Software Application
  - Battery Pack, Charging Station

**2. HRD 4.0**
- High skill enhancement
- Knowledge Creation and Diffusion Society
- R&D, Innovation Capability

**3. Academic**
- Education for new and advance technology
- Education for new management system for Industry 4.0
- Academic Alliance

**4. Market**
- Global Linkage Management System with Digital system
- Global Business Service Solution

**5. Suppliers**
- Technology Transformation
- R&D, Design Capability
- Automation
- SMEs Start up / Spring up

**6. Logistics/Management Center**
- IT intelligence
- Big data management
- Financial

**Thailand 4.0**
**Industry 4.0**
**Next Generation Vehicles**

**Institution for Policy and Development Driven Systematic**

**Government Policy & Support**

**Global Partnership & Linkage**
Stan Shih’s Smiling Curve

Value added

R&D
Innovation
Product Dev
Manufacturing

Branding
Distribution Channel
Marketing

Manufacturing

R&D Manufacturing Market Distribution
Branding
Distribution Channel
Marketing

Edited Graph by Rachanida N., Thailand Automotive Institute
Automotive Technology Roadmap for Thailand

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Automotive/Engine System</td>
<td></td>
<td>ICE Hybrid &amp; Plug-in hybrid Fuel cell</td>
<td></td>
</tr>
<tr>
<td>Exterior</td>
<td></td>
<td>Light weight</td>
<td></td>
</tr>
<tr>
<td>Interior</td>
<td></td>
<td>Auto electronics</td>
<td></td>
</tr>
<tr>
<td>Brake&amp;Suspension</td>
<td></td>
<td></td>
<td>Modified Personalized atmosphere</td>
</tr>
<tr>
<td>Electronic</td>
<td>Integrated software</td>
<td>EMC Motor Driven</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>QCDEE</td>
<td>Part design</td>
<td>System design</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Focus (Safety, energy, environment) /Localize</td>
<td>User comfort Reverse engineering Battery, Motor</td>
<td>Bio material</td>
</tr>
<tr>
<td>Knowledge/Infra/Interconnection</td>
<td>R&amp;D Centers</td>
<td>Centers of Excellence</td>
<td>Knowledge/info sharing center</td>
</tr>
<tr>
<td>Policy &amp; Standard</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: MTEC, NSTDA, and Thailand Automotive Institute
- Environmental Friendly
  - CO2
  - Hazardous and VOC
  - Waste disposal

- Ecological
  - Fuel consumption (Liters / Km.)

- Safety
  - Active Safety
  - Passive Safety

- Intelligence
  - Autonomous system
  - Smart car
  - Smart mobility

- Logic:
  - Light weight
  - Hazardous and VOC
  - Engine efficiency
  - Embedded system

- Technology Foresight

- Electronic control
  - Etc.
Production by type of vehicles 2016

- Passenger Car: 38%
- Double-Cab: 33%
- Pickup 1 ton: 23%
- PPV: 12%
- Bus/Truck: 1%

Source: AIC, analyzed by Thailand Automotive Institute
Thailand vehicle registration by type (As of December 2016)

- Motocycle: 20,475,269 (55%)
- Motor vehicle (excluding motorcycle): 16,862,870 (45%)
- Pick up: 6,277,527 (37%)
- Passenger <7: 8,197,012 (49%)
- Passenger >7: 422,221 (2%)
- Truck: 1,055,717 (6%)
- Agricultural: 623,553 (4%)
- Taxi & Tourist: 108,652 (1%)
- Bus: 157,799 (1%)
- Motortricycle Taxi: 20,389 (0%)

Source: Department of land transport (update 21 Apr 2017)
Thailand vehicle registration by fuel (As of December 2016)

- **Motor vehicle (excluding motorcycle)**
  - Gasoline: 5,046,694 (30%)
  - Diesel: 9,887,129 (59%)
  - LPG: 1,197,528 (7%)
  - CNG: 404,495 (2%)
  - Hybrid: 79,657 (1%)
  - EV: 88 (0%)
  - Non fuel: 199,727 (1%)
  - Other: 47,508 (0%)

- **Motocycle**
  - 20,475,269 (55%)

Source: Department of land transport (update 21 Apr 2017)
Thailand Vehicle Registration in Thailand

as of December 2016

Thailand vehicle registration by fuel

<table>
<thead>
<tr>
<th>Fuel</th>
<th>2015 (Total 16 mil.units)</th>
<th>2016 (Total 16.8 mil.units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline</td>
<td>475 (38%)</td>
<td>505 (30%)</td>
</tr>
<tr>
<td>Diesel</td>
<td>951 (62%)</td>
<td>989 (60%)</td>
</tr>
<tr>
<td>LPG</td>
<td>125 (8%)</td>
<td>120 (7%)</td>
</tr>
<tr>
<td>CNG</td>
<td>42 (3%)</td>
<td>40 (2%)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>7 (0.7%)</td>
<td>8 (0.8%)</td>
</tr>
<tr>
<td>EV</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Department of land transport (update 21 Apr 2017)
Production Capacity 2014-2015

Motor Vehicle Production Capacity 2014-2015

Source: TAI
Thank You

Thailand Automotive Institute

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