

Machinery & Equipment Productivity Nexus

Malaysia Mobile Crane Owners Association Strategy & Productivity Session

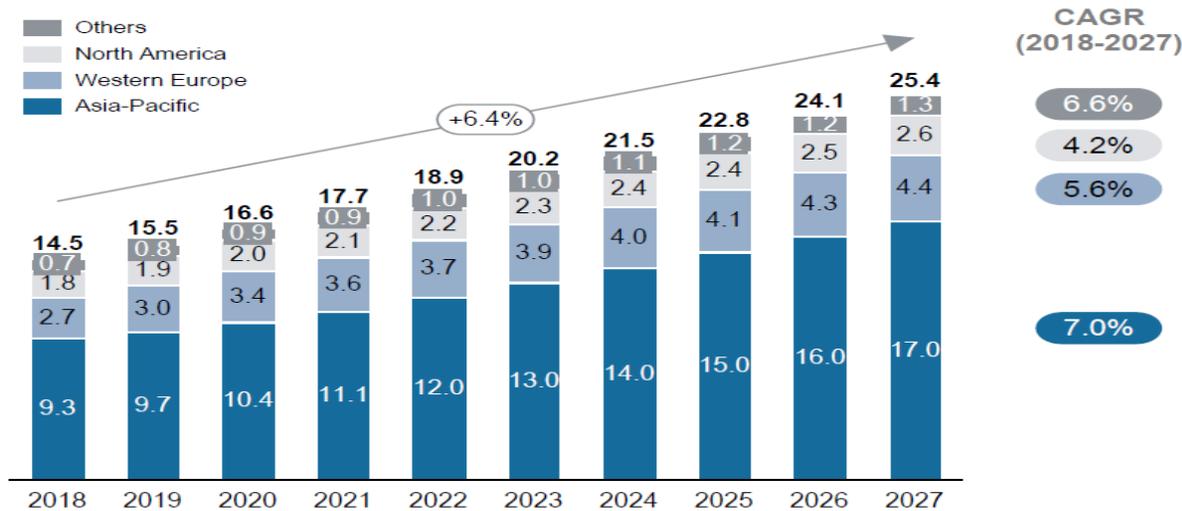
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Global M&E Overview

- Machinery & Equipment (M&E) is a fundamental enabler in industrial development
- Forecasted global outlook for M&E (2018 – 2027)*
 - Total market value worth RM 25.3 trillion (CAGR 6.4% over 10 years)
 - By 2027, Asia Pacific is forecasted to be the largest market, accounting for ~67% of the global M&E market; worth about RM 17 trillion
 - In the past few years, Asia Pacific M&E market registered an average CARG rate circa 7%; the highest in the world

Figure 2: Outlook of global M&E industry (1/2)

Forecasted market size of global M&E industry¹⁾ [2018-2027, RM trn]



*Source –Berger IHS

Asia Pacific M&E Industry Landscape

- Globally, M&E sector is forecasted to grow at CAGR > 6% per year
- Asia Pacific region is the fastest growing market for M&E in the world, with an CAGR >7%
- Japan, Taiwan and Korea are early leaders in M&E, including machine tools and metalworking machinery
- In recent years, China and India also became active M&E players, both as consumers and suppliers
- Historically, regional M&E players relied heavily on licensing and technology transfer from “traditional” sources, from Europe and the US
- Leading M&E players in the region already possess own IPR and are active both in the domestic and export market

Malaysia M&E Industry Landscape

- Malaysia has the largest M&E market within ASEAN
- Over the last 5 years, importation of M&E consistently exceeds export (roughly in the ratio of 2:1)
- In 2016, Malaysia M&E sector recorded : -
 - Import value amounting to RM 65.1 billion (CAGR ~ 5.3% P.A. over 5 years)
 - Export value amounting to RM 37.7 billion (CAGR ~ 10.5% P.A. over 5 years)
 - Specialized Machinery & Equipment for Specific Industries, together with General Machinery & Equipment, Components and Parts accounts for the bulk of importation (~72% of total import valued at ~RM 65 billion)

Global Mega Trends for M&E

Heterogeneous Market (Total Solutions)

- Market increasingly demand Total Solution
- Offering to include product/hardware, support, parts, tooling and integration

Rapid Digitization

- Integration of machines with automation (IoT, Industrial 4.0, Artificial Intelligence)
- Sensors and connected devices, remote monitoring

Globalized Production

- Companies are shifting their production base to lower cost areas
- Closer proximity to customers with improved response time

Global Mega Trends for M&E

Outsourcing & Supply Chain rationalization

- Corporations are increasingly relying on outsourcing to minimize capital deployed
- Focused only on what they do best
- Outsourcing “non-core” business activities to specialists

Shift towards Green solutions

- Shift towards more energy efficient solutions
- Alternative power or energy solutions
- Safety, ergonomics for operators, reduced environment impacts

Malaysia M&E S.W.O.T.

Strengths

- Malaysia has the largest M&E presence in ASEAN
- Strong legacy producing specialised and general M&E for primary produce, raw materials, O&G processing, medical equipment
- Successful track record in absorbing technologies from abroad, supporting MNCs
- Leader in M&E for specialised M&E for the Electronics and Electrical manufacturing sector (especially in Penang)
- Strong entrepreneur spirit and large SME base

Opportunities

- Asia Pacific is the most active market, both for supply and demand for M&E in the world
- Increasing integration of technology, automation in equipment
- M&A opportunities with established industrial players, looking to relocate to Asia Pacific region, supporting a diversified product/service portfolio
- Opening up of O&G sectors in developing countries, EOR and brown field developments (equipment supply, services and service management)
- Industrial project aimed at Reduction of Carbon Footprint – potential for participation in green technology, waste recycling, energy efficiencies businesses, providing opportunities for M&E

Weaknesses

- Many SME are not ready (motivated?) to go beyond domestic market
- Heavy dependent on cheap, foreign labour
- Low investments in R&D, ownership of IPR
- Over emphasis on short term goals & planning, instead of long term vision
- Gaps and small talent pool, especially technician level
- Ineffective, poorly coordinated government initiatives
- Challenging sustainability

Threats

- Over reliance on cheap foreign labour, in lieu of productivity improvements
- Failure to bridge talent gaps, needed to effectively execute technology enabled solutions
- Disintermediation/disruption of dealer for equipment and parts sales
- New competition from low-cost Chinese manufacturers, capable of offering products with good performance and increasing sophistication
- Under investment in R&D and acquisition of IPR could further exacerbate competitiveness

Mobile Cranes

Mobile Cranes

- Mobile cranes & operators fulfill a crucial role; providing safe and efficient lifting services across all industrial sectors: -
 - Building & Construction
 - Power generation & distribution
 - Land, sea and air transportation
 - Oil & Gas
 - Fabrication & manufacturing
 - Infrastructure development
 - General & specialized material handling needs

Mobile Crane Industry

- Mobile crane operators fulfill a crucial role to support many industrial sectors, including: -
 - Construction
 - Transportation
 - Oil & Gas
 - Manufacturing
 - Long & short term hire, where lifting services are required

Mobile Crane Industry

- Mobile crane industry in Malaysia evolved in tandem with the industrial development in the country
- Until recently, used mobile cranes are sourced from Japan, Europe and the US (especially large capacity crawler cranes)
- Over the last few years, China emerged as source for new cranes (truck mounted, crawler and tower cranes)
- Some challenges faced by mobile crane operators include: -
 - Competition from Foreign Crane Operators
 - Scarcity of skilled talents (operator, technicians)
 - Maintenance of cranes and related assets
 - Safety issues related to crane operation and inspection
 - Lack of common industrial standards for mobile crane operation, safety and inspection certification

Global Mega Trends for Cranes

Market moving
to
Total Solutions

- Market increasingly demand Total Solution
- Require services to offer complete plan including job planning, provide crane, manpower & ancillary equipment to executive “lifts”, safety for people and goods

Rapid Digitization

- Integration of machines with automation (IoT, Industrial 4.0, Artificial Intelligence)
- Sensors and connected devices, remote monitoring
- Active and passive safety devices

Globalized
Operation

- Companies are following their clients beyond “home market”
- Global operators are able to offer “one-stop” service e.g. Mammoet

Global Mega Trends for Cranes

Outsourcing & Supply Chain rationalization

- Corporations are increasingly relying on outsourcing to minimize capital deployed
- Focused only on what they do best
- Outsourcing “non-core” business activities to specialists

Shift towards Safety & Green solutions

- Safety as a prerequisite with corporate clients
- Increasing legislative pressure to be safe and green
- Equipment is getting more sophisticated with sensors, interlocks, “smart” electro-hydraulic components; require higher level of technical competencies to support

Strategic Imperatives

Imperatives (pre-requisite enablers) that must be addressed, in order to pursue strategy and improve productivity: -

1. Effective and consistent talent & skill development pipeline
2. Stakeholders commitment to enhance productivity & efficiency
3. Embrace a safety culture and mindset
4. SME Development
5. Create an enabling ecosystem to operate, maintain and repair equipment to conform with required standards
6. Reduce bureaucratic red tapes and duplications

Status quo is NOT an option

- Sole dependence on competitive rates is not sustainable
- With globalization, industry must improve or risk being substituted by foreign, global players
- Social & legislative pressure to improve safety will increase; industry must be able to meet these challenges, to survive
- Industry must improve productivity and invest in innovation to maintain competitiveness

Recommendations – Way Forward

Nexus Governing Committee, supported by members of MEIF to propose work plans, to address the Strategic Imperatives

- Work Group 1 – Plan to develop & enhance Talent Pool
- Work Group 2 – Enhancing Productivity & Efficiency
- Work Group 3 – SME Development
- Work Group 4 – Establish an enabling eco-system and environment

M&E Strategic Imperatives

Propose to set up “project teams” within M&E Nexus to draw up work plan on: -

Work Group 1 - Develop & Enhance Talent pool

- Identify talent gaps
- Propose intervention program to nurture talents, especially at technician & vocational level
- Enhance effectiveness of government - private sector collaboration
- Revamp training syllabus to include digitization deployment

Work Group 2 - Enhancing productivity & efficiency

- Build awareness & educate on productivity, especially amongst SME
- Identify productivity gaps and put in place interventions needed
- Ongoing monitoring and “handholding” to build confidence
- Build and share case studies

M&E Strategic Imperatives

Propose to set up “project teams” within M&E Nexus to draw up work plan on: -

Work Group 3 - SME Development

- Refine database of SMEs and identify promising candidates
- Embark on Vendor Development program with established M&E players
- Training and awareness program (mindset change)
- Match making and internship program

Work Group 4 - Enabling environment

- Propose harmonization, streamline government policies and procedures (enhance effectiveness and minimize “red tape”)
- Coordinate export agencies e.g. Matrade, EXIM bank initiatives to facilitate export
- Identify and implement M&E Eco-system