

THE ROLE OF STRAND IN MALAYSIA'S INDUSTRIAL TRANSFORMATION

STRAND

COVID-19 = INDUSTRY 4.0 FAST FORWARD

INDUSTRY40



Data-Driven Manufacturing



Remote / Virtual Workforce



Online Retail & Delivery

Disruption

- Reduce logistics
- Simplify supply chain
- Tailor made not mass produced

- Reduced dependence on travel for business
- Access to global talent
- Virtual workforce no office

No need for retail space

function of middle men)

Robotized point-to-point logistics

Producer to Consumer (reduced

COVID19



GLOBALIZATION 4.0 – THE CONTEXT FOR TRANSFORMATION



Percent change in industry size, 2007 to 2011



IMPACT OF THE FOURTH INDUSTRIAL REVOLUTION

MATURING INDUSTRIAL ECOSYSTEMS

Maturity Level 4

Collection of autonomous companies connected on a digital network/platform

Maturity Level 3

SMEs filling the gaps to complete an ecosystem able to deliver a complete product

Maturity Level 2

Small companies grown into large anchor companies filling up a greater part of the ecosystem

Maturity Level 1

Small companies are small and siloed with many gaps in the ecosystem.



CHALLENGES IN MALAYSIAN MANUFACTURING COMPETITIVENESS

Cost Items	Challenges	Causes		
Design, Process & Tool Optimization	 Services are not optimized Low value-add making the quote uncompetitive 	 No engineering capability No technology development capability No ERP, PLM and MES capability Costly equipment 		
Machine Hours	 Quoted hours are not competitive Machine hour price(s) uncompetitive 	 Low average years of experience not aligned to Industry 4.0 standards Uncompetitive financing 		
Man Hours	 Quoted hours are not competitive High man / (process & machine) ratio 	Low average years of experience not aligned to Industry 4.0 standards		
Material Cost	Purchase rates are not optimizedInefficient recycling	Low purchase volumesMaterial net shape supply not available		
Utilities	Purchase rates are not optimizedNot energy efficient	 Small scale consumption among individual companies Lack of know how among small companies 		
Logistics	Inefficient costingEnd-to-end costing not available	 Lack of Industry 4.0 logistics capability Lack of value-adding services Lack of flexible multimodal services 		
Treatment	Unavailability of certain servicesInefficient pricing	 Lack of 3rd party providers In-house treatment facility is not fully utilized 		
Consumables	Purchase rates are not optimizedNot energy efficient	 Small scale consumption among individual companies Lack of know how among small companies 		
Technology	Not leanTechnology disruption	No access to world-class standardsLack of R&D capability		

TRANSFORMATION GOVERNANCE : STRATIFIED INVESTMENT MODEL

				RETURNS	
ENABLERS	INVESTORS	VALUE	ASSETS	FINANCIAL	NON-FINANCIAL
Policy, Governance, Grants/Funding, Loans, Partnerships, Collaborative frameworks	Federal govt, State govt, Venture capitalists, Financial institutions/Banks, P.E.	Technology	 Intellectual property, Data, Research centers and Centers of excellence 	Product/IP/Data revenue, Services revenue, Cross industry application, Company/cluster valuation, Tax	Competitive differentiation, Global networks
Policy, Governance, Scholarships, Loans, Training/Edu content, Apprenticeships, Bridging programs,	Federal govt, State govt, Venture capitalists, Financial institutions/Banks, P.E.	Human Capital	•Skilled labor, Expertise, Training and Education Institutions,	Student loan repayments, Local and repatriated incomes, Income tax	Skilled labor, Know- how, Global networks, Reputation/Advocacy
GtoG/B engagements, Policy, Governance, Grants, Competitive financing, Cluster synergy, R&D access, Global network and connectivity, Collaborative frameworks	Federal govt, State govt, Venture capitalists, P.E., ECA, Financial institutions/Banks	Industrial ecosystem	•Companies, Clusters, Equipment, Institutions	Company dividends/valuation, Cluster valuation - industrial investment trusts/insurance, Corporation Tax, Value capture	Competitive capability and capacity, Employment, Technology industrialization, Brand value
GtoG/B engagements, Policy, Governance, Grants, Competitive financing, world class infrastructure, Global marketing, Collaborative frameworks	Developers, REITS, P.E., Federal govt, State govt, ECA, Financial institutions/Banks	Development	•Factories, Housing, Commercial, Laboratories and COE's, Education facilities, Incubator/co-working spaces	Valuations, Taxes, Transaction revenues, Rent, Services revenue, Value capture	Competitive capability and capacity, Brand value, Placemaking
GtoG/B engagements, Policy, Governance, Grants, Competitive financing, World class infrastructure, Global marketing, Collaborative frameworks	Developers, Land banks, REITS, Federal govt, State govt, ECA, Financial institutions/Banks	Land	 Land, Infrastructure, Private utilities companies, Public services (Bomba, TNB etc) 	Valuations, Taxes, Transaction revenues, Rent, Services revenue, Value capture	Geographical centering/hubbing, Brand value

Technology

SIM TECHNOLOGY: R&D PLATFORM MANAGEMENT

STRAND

- Conduct a needs analysis and identify the pain points of the companies
- Put together a strategy for the development with an achievable timeline
- Manage the integration of the technology into the company's process line



Human Capital

Rolls-Royce

BAE SYSTEMS

MBDA

AIRBUS

SIM HUMAN CAPITAL: TAILORED PROGRAMS



Ensuring Employability Programme (EEP): A Collaboration with MARA

The Ensuring Employability Programme (EEP) trains and develop graduates to be 'industry ready' to perform engineering work upon completion. The programme ensures top talents are recruited through an apprentice-like curriculum focusing on technical knowledge as well as communication and leadership skills to enhance employability.

With its worldwide partnerships with top universities, the EEP provides a holistic learning approach for engineers and is one of the distinguishing factors in providing a sustainable human capital for the aerospace industry.



University of South Wales Prifysgol De Cymru









Industrial ecosystem

SIM INDUSTRIAL ECOSYSTEM: SUPPLY CHAIN DEVELOPMENT



Toulouse Accelerator Programme (TAP): A Collaboration with Air Business Academy & SME Corp

STRAND was contracted by SMECORP to deliver the "Aerospace Immersion Programme for EPP8 Companies" that catapults local SMEs into the global aerospace manufacturing supply chain by making them competitive, innovative and profitable.

Such an initiative would attract higher value work packages into Malaysia and enable the country to achieve its aspiration to become the hub for aerospace manufacturing in South East Asia.



- 1. Company gap analysis using Airbus tools and criteria
- 2. Company transformation roadmap
- CEO and top management training on how to become a successful aerospace supplier
- 4. Company industrial immersion: Air Shows, Trade Fairs and Industrial visits



SIM DEVELOPMENT & LAND: AEROSPACE PARK DEVELOPMENT



REROPOLIS

KLIA Aeropolis, Sepang

STRAND in collaboration with it's partners has demonstrated how future aerospace opportunities could be positioned at the KLIA Aeropolis Aerospace Park through a detailed business model which will be built in parallel with a detailed master plan needed to validate the business model.

STRAND functions as the project lead playing a key role in the business case development and government syndication.





KLIA Aeropolis Aerospace Park boasts ample space dedicated to OEM/Tier 1 offshore manufacturing activities within a bigger KLIA cluster comprising of the airport, aeronautical support zones, MRO hangars, logistics hub and commercial zones.



SIM DEVELOPMENT & LAND: AEROSPACE PARK DEVELOPMENT



Asia Aerospace City, Subang Nexus

STRAND was involved in the transformation of the site into a leading international Aerospace and Engineering Business Hub, that links education with the industry using the 'Edu-Biz Park' concept.

Each design stage is specifically tailored to offer connectivity, enabling seamless integration for key aviation industry players.





Building Information Modelling (BIM)

Strand act as a technology enabler with the adoption of BIM in the delivery of the Asia Aerospace City (AAC) Development. Knowledge and experience from the aerospace industry was applied in developing a collaborative platform for effective data management within the development's scope.



