

# INDUSTRY COLLABORATION PROGRAM (ICP): EMPOWERING TECHNOLOGY DEVELOPMENT FOR NATIONAL ECONOMIC GROWTH

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**ABSTRACT:** Malaysia is currently aiming to become a developed nation by year 2020. In doing so, Malaysia leverages on many platforms/programs to achieve the goals. Malaysia needs to be aggressive in moving forward in particular in the area of technology and economy development to stay as a competitive economy globally. The New Economic Model (NEM) introduced aims to create high income society, sustainability and inclusiveness which lead to high quality of life. Therefore, Malaysia needs to further develop the required capability and capacity in particular related to technology as a catalyst to leap-frog the nation to become a knowledge-based economy. Apart of having long term development plans such as the New Economic Model, Industrial Master Plan, the Five-Year-Plan and Science & Technology Policy, the Government is currently exploring another platform namely the Industrial Collaboration Program (ICP). It is envisaged that the ICP platform is able to create 'value for money' in forms of economic returns based on the procurement made by the Government. It is capitalized to further enhance national local technology capacity and capability development activities by ensuring participation of local resources in high technology sectors, such as transportation and security; with the aim to create employment, skills enhancement and technology development capability within the local firms.

**KEYWORDS:** *Industrial Collaboration Program; Industry Participation Program; Countertrade, Offset, Industrial Participation*

## **1.0 INTRODUCTION**

Industrial Collaboration Program (ICP) is a new term coined by the Government of Malaysia to expand the horizon of activities traditionally understood globally as countertrade or offset programme. It is supported by [1] mentioning that Taiwan has been using terms other than countertrade for similar activities alongside Malaysia. The reason behind the use of the term ICP is to connote a more positive perception on countertrade arrangement to ensure smooth implementation in particular during deals development with the industry players globally. In order to ensure continuity, [2] in the policy published has established that the term ICP in Malaysian context could be interchangeably used with other terms such as offset, countertrade, business participation and others.

ICP, is a program in Malaysia developed based on activities around countertrade and offsets programmes. Similar to other countries, ICP is used as a platform to support Malaysian Government's aspiration to develop a competitive nation and high-income society. In a nutshell, ICP is an integral part of Government's procurement program designed to help procuring agencies in Malaysia obtain the desired 'wish-list'. It is an approach implemented by the Government to ensure 'value for money' on public procurements made, supported by a procurement policy published by the Government of Malaysia [2]. In compliance with the policy, any ICP arrangement shall undertake the processes as stipulated in the procurement policy and be transformed into binding contracts. According to [3], contracts that are developed through this approach require some form of economic activities between the seller and the buyer, which could be used as a condition for the sale of goods and/or services.

Currently, this approach is getting popular as platform in acquiring new capability and capacity in support of their local economies especially for developing countries. As such, the ICP implementation in Malaysia could be designed, structured and rolled out as a tool to effectively support the national development agenda, which has been proven by countries such as Japan, South Korea, Turkey and UAE.

The Bureau of Industry and Security [4] has reported that in the United States, the top three transaction categories that triggered offset reported by U.S. Department of Commerce Bureau of Industry and Security for 2010 were purchases, subcontracting, and technology transfer. It is further supported by [5] that in European Union block, it was observed that strong emphasis were given on workshare, direct offset (e.g., ongoing MRO) and R&D activities. In Turkey, [6] said that the offset program has been manifested to become part of the Strategic Plan of 2012-2016 to sustain the defense industry, achieve maturity in program management, develop technological competence and employee who create value and receive recognition.

In strategic mega-procurement programs such as the defence, transport, capital equipment, and tele-communications industries, as discussed by [7], there always an imperfectly competitive markets, nevertheless need to be carried out to cater for national strategic development requirements. Further, it was observed that, despite of global economic downturns, [8] said that the offset program is still active to create the balance mainly in the military market segment fuelled by significant defence procurement programmes in APAC and Middle East countries.

In order to support that imperfectly competitive market, countertrade and offset programs are made contractually legal to varying degrees to add value and increase the attractiveness of the package offered (in particular in defence contracts). Therefore, procurement policies include these mechanisms as strategies to ensure benefits to the procuring government in forms of value add on the procured goods. In the case of Malaysia, the Government has ensured a platform in forms of Malaysian ICP Management Framework is readily available to ensure good value for money and returns of the procurements using public money [2]. As established in [7], it was observed through his analysis that the demand side of strategic assets procurements and transactions found that offset programs approach in many forms are attractive for a variety of perceived and real benefits.

## **2.0 CURRENT GLOBAL PRACTICE**

The current practice of ICP or other similar activities is centred around countertrade and offset program. [9] mentioned that for a commercial background related to international trade, the term “countertrade” stands for a trading method that differs from standard trading methods, that usually have the function of creating an added value for the economy of the countries involved in the transaction, basically in its final deliverable forms. It is an undertaking of commitments normally in forms of cooperation between the parties which involve not a “pure” exchange of goods for price; but undertake additional (countertrade) obligations such as market access and business positioning [10].

The countertrade approach has evolved and the trend currently has changed where some governments have initiated expansion of the activity in their interest by implementing offset programs in non-defence public procurement. In tandem, members of international associations such as Global Offset and Countertrade Association (G.O.C.A) currently is promoting terms such as Industrial Participation, Global Sourcing, Industrial Collaboration etc. to replace traditional terms such as offset and counter trade [11].

The followings are some definitions of the terms used.

### **2.1 Countertrade**

The term countertrade was used prior to other terms commonly used to describe this type of activity discussed above. Countertrade is a platform established for traders to carry out their transactions without involving full cash as payment terms. Referring to [12] explained that countertrade programs could be carried out in at least in three forms that are barter, counter purchase and buyback.

- i. In barter trade (BT) scheme, goods and/or services are exchanged by the parties against other goods and/or services of equivalent value, and no money changes hands between the buyer and seller [13].

- ii. In counter purchase (CP) scheme, the seller undertakes to buy goods from the asset buyer or from a company nominated by the buyer, or agrees to arrange for their purchase by a third party. The value of the CP goods is an agreed percentage between the asset seller and asset buyer of the price of the goods originally exported (by the asset buyer) [14].
- iii. In the buy-back scheme, an exporter which supplies equipment/solution agrees to buy the products produced by the procured equipment/solution by the government. However, the products must be produced through a program (buy back) which was agreed during the negotiations of the procurement deal [12].

## **2.2 Offset Program**

The term 'offset program' is used to describe activities in 'countertrade' category however it involves more activities related to technology transfer and industry capability development. This term was used widely in 1990's, where most of developing countries were focusing on technology as their core strategy for their national economic development. By definition, offset program is commonly divided into two categories that are 'direct offset' and 'indirect offset'.

- i. Direct Offset are activities those directly related to the product being procured. It includes activities such as licensed production, co-production, sub-contracting, MRO (Maintenance, Repair and Overhaul).
- ii. Indirect Offset are activities that are implemented for the purpose of offset obligations relief, however are not directly related or not related at all to the product being procured. The procuring country normally will use the indirect offset to complement the direct offset or to capture business opportunities in support of the local economic development scenario. It includes activities such as technology transfer, joint ventures / partnership, or any other programs agreed by the procuring party.

### 3.0 DISCUSSION

#### 3.1 ICP in Malaysia

Offset program arrangement was initially practiced in defence related deals and its implementation was known as early as in 1950's [1]. Based on the success and favourable outcomes, more countries demand offset as part of their deals and currently there are organizations specifically dedicated for offset programs practitioners such as Global Offset and Counter Association (G.O.C.A) and European Club for Countertrade and Offset (ECCO). The trends globally in managing offset programs are to move away from low-value added participation / counter-trade approaches to a higher value projects, create systematically codified / structured frameworks to ensure all requirements such as local capacity and capability development requirements are complied [15].

Malaysia has been practising offset program since 1987 leveraging on defence assets procurement. Since then, offset program was taken as part of public procurement processes and has evolved to become Industrial Collaboration Program (ICP) which currently leveraged as one of national economic development tools.



Figure 1: Offset policy objectives

Currently, ICP implementation in Malaysia is planned and managed by the Technology Depository Agency [16] under the auspices of the Ministry of Finance. The management is guided by a policy titled ‘Policy and Guidelines on Industrial Collaboration Program (ICP) in Government Procurement’ published the Ministry of Finance.

The policy has specified six (6) objectives spelled out in the current ICP policy as shown in Figure 1 and to be fulfilled by the suppliers [2]. It is part of the OEM compliances to propose ICP programs in line with the ICP policy to enable them to participate in Government tenders.

### 3.2 Data Collection

As shown in Table 2, a list of offset programs that complies to the objectives set out in the policy were extracted from a database of current programs carried out by the Government of Malaysia (information extracted from reports, articles produced by TDA, and interviews with the management of TDA).

Table 2: List of offset programs under TDA

No	Program	No of Projects	Direct	Indirect	EEP
1	80 Units of Single Deck and 40 units of double Deck buses	3	1	2	0
2	Air Traffic Control	11	4	6	1
3	AW139	6	0	6	0
4	Clean Coal Fired Power Plant Track 3A	3	3	0	0
5	Clean Coal Fired Power Plant Track 3B	3	1	2	0
6	Colt M4 5.56 Carbine	5	5	0	0
7	Electric Train Set (ETS1)	5	2	3	0
8	Integrated Control Centre	4	1	3	0
9	Kelana Jaya Additional Vehicle	8	3	5	0
10	Lease of Secure Satellite Communication Channel	5	4	1	0
11	KVDT	3	1	2	0
12	30 Sets LRV Ampang	5	1	4	0
13	Littoral Combatant Ship (LCS)	25	22	3	0
14	Mid-Life Refurbishment Kelana Jaya Line	7	4	3	0
15	MRT – P1 Electric Train	6	4	2	0
16	MRT – P2 Signalling and Train Control Systems	5	5	0	0
17	MRT – P3 Power Supply and Distribution Systems	8	8	0	0
18	MRT – P4 Track Work	9	6	3	0
19	MRT – P5 Automated Fare Collection Systems	3	3	0	0

20	MRT – P6 Tunnelling and Underground Works	6	6	0	0
21	MRT – SSP-UGW	9	2	7	0
22	MRT SSP-V201 (Viaduct)	3	2	1	0
23	MRT SSP-V202 (Viaduct)	4	3	1	0
24	MRT 150 Feeder Bus (Scania)	4	2	2	0
25	MRT 150 Feeder Bus (Volvo)	3	1	2	0
26	New On-Track Machineries	5	1	4	0
27	SBU (ICT) JPN	4	2	1	1
28	Pilatus PC7-MK2	4	3	1	0
29	Prasarana 300 Diesel Bus	8	1	7	0
30	Jabatan Penjara Malaysia	4	2	2	0
31	Refurbishment 75 Passenger Coaches	5	4	1	0
32	Six Coastal Patrol Vessel (APMM)	30	28	2	0
33	Traction Power Sub Stations	6	3	3	0
34	Trent 900 Engine	6	0	6	0
<b>TOTAL</b>		<b>222</b>	<b>137</b>	<b>89</b>	<b>1</b>

The programs implementation above could be divided into several implementation approaches as follows.

- **Licensed Production**

Licensed production is where the supplier establishes (or helps to establish) via a licensing agreement in the purchasing country a complete manufacturing facility dedicated to support or complement the manufacturing capacity of the original product for domestic use [16].

- **Co – Production**

Co-production is where the supplier will establish (or helps to establish) a complete manufacturing facility dedicated to replicating the original product in the purchasing country. The supplier will typically transfer the manufacturing know-how to a partnership company (joint venture (JV) or consortium in the purchasing country [16].

- **Sub-contracting**

Sub-contracting is implemented through an arrangement where the supplier award or allocate some work packages to the local industry via subcontracting arrangement [16].



- **Maintenance, repair and overhaul (MRO)**

This approach is carried out to enhance the domestic capability for the purpose of maintaining the availability of the asset during its operation. This approach normally will be focusing on local capacity and capability development in the area of maintenance for the asset being procured [16].

- **Investment**

This approach is done by putting investment in forms either to setup a joint venture company (between the supplier and a local company) or direct investment to an identified local company. For a direct investment, the obligor sets up or takes a stake in a local industry to provide both a cash infusion and future business stream into that company [16].

- **Technology Transfer**

Technology Transfer or Knowledge Transfer is structured to enhance the competency of the industrial capacity and capability through training programs on required skill development and IPR creation [16].

Based on the data collected as shown in Table 2, there are 34 programs registered consist of 222 projects, managed by TDA. The programs which were agreed for implementation consist of direct offset (61%) and indirect offset and EEP (39%). The procurement value registered is circa RM45 billion, thus the economic value to be created from these programs is in circa RM45 billion [16]. This is based on the policy which requires the supplier to provide ICP which shall generate economic value at the minimum equivalent to the procurement value.

From the 34 ICP programs registered, it is worth to note that one program (Trent900 offset program) was successfully closed (March 2015). This offset program was leveraged on engine procurement for A380 aircraft by the Government in Malaysia in 2005 [16]. The offset program was delivered in a form of 6 indirect offset projects and has registered an economic return of circa RM4 billion against the procurement value of circa RM1 billion (400% Return of Investment).

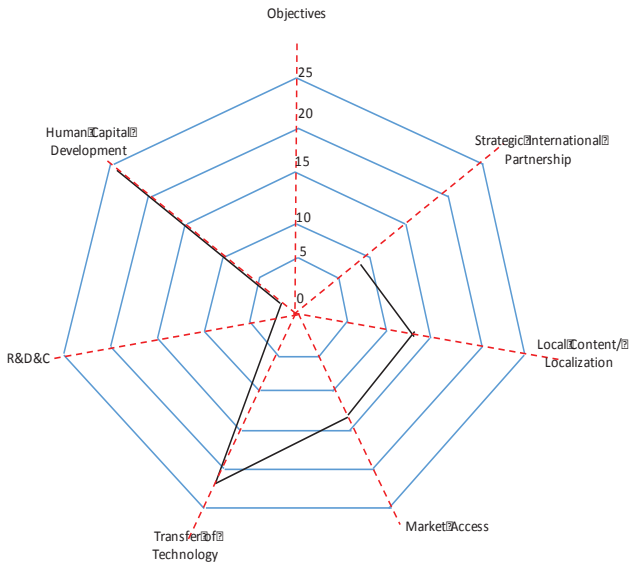


Figure 2: Offset programs against the objectives

Figure 2 shows the distribution of the project impacts against the objectives set by the offset policy. The analysis shows that from the 34 programs identified, 24 programs identified served Objectives 6 (Knowledge Transfer and Knowhow Trainings) and 22 programs served Objective 4 (Human Capacity Development and investment), which is more in comparison to other objectives. Nevertheless, there are 13 programs structured to serve Objectives 2 (Local Content) and 14 programs structured to serve Objective 3 (Market Access). Both objectives (2 and 3) are aimed to position local products into the global market.

#### 4.0 ANALYSIS

Based on the global current practice discussed in Section 2 and the findings in Section 3.2 above, there are still many opportunities leveraging on Government procurement programs that could be developed to support local industry development in Malaysia. Those opportunities shall be translated into economic benefits through structured ICP programs to effectively support the economic growth in Malaysia. The implementation shall explore into opportunities that contribute to R&D&C activities in support of local industry capacity

and capability development. Further, based on the recent 11<sup>th</sup> Malaysian Plan, there are other sectors that could be considered and leveraged through ICP implementation to enable fair benefits distribution to other selected strategic economic areas.

Currently, based on the data collected, the suppliers are still keen to carry out direct offset programs in comparison to indirect offset programs. The direct offset projects implemented focus mainly on activities to address human capital development and transfer of knowledge. This is due to the fact that these types of activities are normally within the control of the supplier's business domain and expected to incur less costs. However, based on Trent900 ICP program that was closed successfully [17], it was observed that indirect offset approach offers a bigger potential to provide more economic impact in forms of Return of Investment to the country in comparison to direct offset projects.

Therefore, TDA as the ICP implementer on behalf of the Government of Malaysia [2] shall chart out ICP strategic plans focusing on indirect ICP implementation and become over-arching strategies for ICP project implementation in various sectors. These overarching strategies in particular those are related to technology development must be in line with the Government current economic plans to ensure the cohesiveness to magnify the impact. Further, the strategies shall take into account the current gaps in local industry in terms of technology capacity and capability as well as ensure program's sustainability in a long term to provide continuity and Return of Investment to the country.

The current findings of ICP implementation in Malaysia suggest that the ICP mechanism has been leveraged to drive the technology transfer, human capital development and R&D in support of the national economy growth. It is in line with the ICP objectives however, there are still opportunities to maximize the current platform to give a bigger impact to the economics and technology development.

## **5.0 CONCLUSION**

Countertrade and offset programmes were previously initiated by military related deals which were structured for the purpose of a government acquiring military assets from suppliers and paid by other means not in forms of conventional monies. Based on its significant support to defence capacity and technology development contributing to economic growth, many governments have transformed it to adapt more systemised and effective mechanisms.

In Malaysia, the program above is coined as ICP, and used as a platform to create 'value for money', which is one of procurement principles practised by most government in strategic asset acquisitions. In ensuring that ICP supports the intent, it must be backed up by a 'suitable' strategy at the national level, strong policy and monitored by the Government. For countries that are seriously considering ICP as platform for development, a considerable evaluation weightage on ICP during tender evaluation process shall be allocated. As such, the proposed ICP programs will become determining factors for a supplier to win a bid apart of competitive pricing and attractive technical packages.

Based on reports by TDA and engagement with stakeholders and ICP practitioners, it is concluded that ICP, offsets or other activities similar shall be leveraged to its fullest potential as a platform to support the local industry capacity and capability development.

Apart of the strategy that matches the current national requirements, the success of ICP implementation in a country depends on the effectiveness of the monitoring systems. A structured framework outlining the monitoring/auditing activities shall be developed and imposed to ensure compliance to the processes. The compliance check shall be carried out by a governing body (or the ICP Authority) to ensure that the businesses platform provided by the Government through ICP will give good and sustainable economic returns.

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