

The Promotion of High Value-added Petrochemical Industry in Taiwan

ITRI-IEK

Wei-Tsung Chen

Given that more and more countries and companies have sped up their steps to develop petrochemical industry both domestically and abroad for a long time, Taiwan, a tech-intensive island, has designed several strategies to maintain its competition as well, especially the most important one, “High Value-added Petrochemical Industry”. The description and explanation of its functions will be elaborated in detail as follows.

I.Introduction of High Value-added Petrochemical Industry

In the view of promoting the petrochemical industry toward high value-added development, Taiwan’s government held "Enhance Product Value for the Petrochemical Industry Strategy Review Board (SRB) Meeting” in Taiwan at June, 2011, to find out the most suitable strategy for Taiwan to develop by discussing with national venerated and professional experts.

After dedicating to enforcing the plan for several months, the Ministry of Economic Affairs established PIPO (Petrochemical Industry Promotion Office) in December, 2011. The main goal and core value of PIPO are to help petrochemical companies develop and push forward the high value-added products as possible as they can.

The functions for PIPO to work are demonstrated below; PIPO is acting the role to:

1. Propel strategic alliances.
2. Offer the platform of industrial information.
3. Access the cooperation internationally.
4. Introduce technologies and human resources.
5. Help businesses access the materials easily.
6. Reinforce the social responsibility of enterprises.

7. Offer consultation services for government policies of promoting high value-added petrochemical development.

Though there are still several aspects not mentioned above should also be put emphasis on, PIPO has been sparing no effort on promoting high value-added industry project unintermittently. Therefore, PIPO will continually take as many tasks as possible while having settled these missions well.

II. Strategic Alliances promoted by PIPO

PIPO was launched in December, 2011 by Ministry of Economic Affairs. It has been propelling industrial strategic alliances related to petrochemical industry, such as:

1. Taiwan Rubber & Elastomer Industries Association
2. Green Polymer Material Alliance
3. High Performance Plastics Union
4. 5-Carbon Alliance
5. Biomass Material Association
6. Electronic Chemicals Alliance

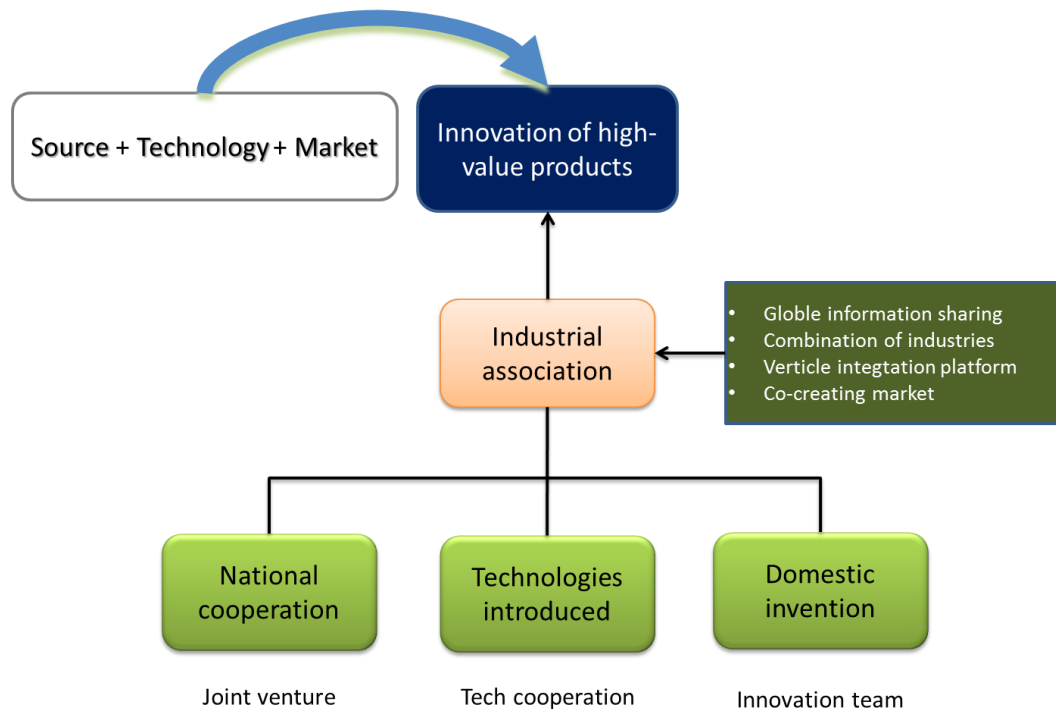
Since these unions are still at the developing stage, a lot of effort, force, and resource are needed to impose on them currently.

Moreover, by cooperating with the academic institutes, the strategic alliances can not only reach the goal of producing High Value-added products but create the maximum profit as well. Therefore, more than billion NT dollars per year of net revenue can be expected without doubt.

III. The Procedure of Executing High Value-added

Petrochemical Process

While the motivation and the aim of high value-added petrochemical industry have been pointed out conspicuously, the process of it gives account in this part, too. Figure 1 shows the basic structure of high value-added petrochemical industry as it works.



Source: PIPO, ITRI IEK (2014/4)

Fig1.The structure of propelling high value-added petrochemical industry

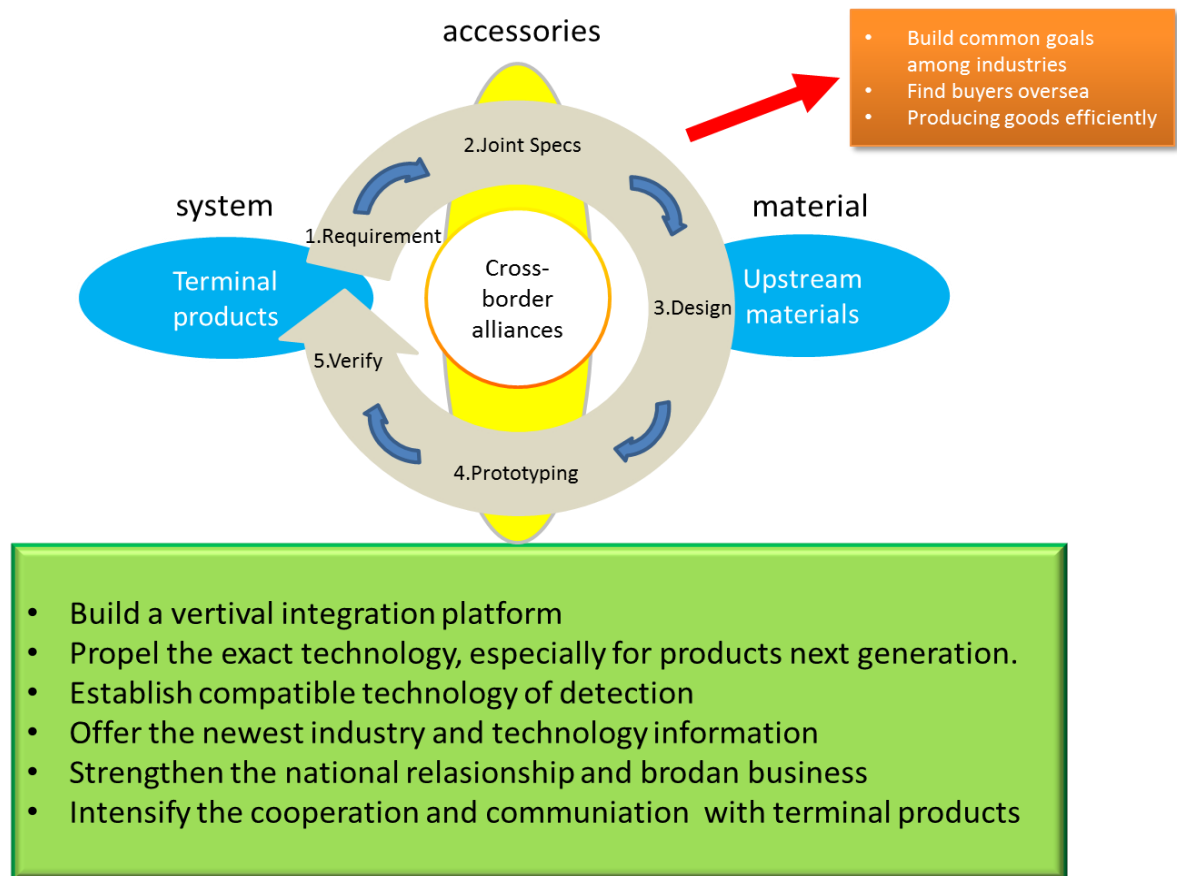
First of all, the basic materials, practicable technologies, and the information of target markets are necessary to make the process workable.

Secondly, the industrial associations are necessary to require the cooperation with other countries, technologies provided from outside, and inventions raised by domestic teams.

Furthermore, integrating great amount of data is must-have to the industrial association, too. For example, international information, cooperation of different markets or industries, and so on.

In the end, industrial association is full-equipped with manifold pieces of information, thus all of them can be imposed on the process of innovating the high value-added products effectively and efficiently.

As demonstrated in Figure 1, the importance of industrial association is indispensable within the process in every particular. Figure 2 states the process of running an industrial association—strategic alliance. The processes are presented below.



Source: PIPO, ITRI IEK (2014/4)

Fig2. The process of industrial alliances

As illustrated in Fig2, the main motivations and destinations of running strategic alliances are:

1. To broaden the petrochemical market by aiming companies in Taiwan as well as global enterprises everywhere.
2. To integrate resources from upstream to downstream in order to optimize the revenue and profit.
3. To cooperate technologies between several similar petrochemical firms to make the products more innovative and manifold, additionally, cutting off the cost simultaneously.
4. To communicate with divergent industries better in every particular.

As far as I'm concerned, the promotion of high value-added strategy has been playing a great role in Taiwan's domestic petrochemical industry.

IV. The current situation of High Value-added

Petrochemical Industry

The government in Taiwan has been cooperating with domestic petrochemical companies by sparing no effort to reach the goal of high value-added process. Unfortunately, the increment of revenue made by high value-added process can't be measured easily by now, however, no one can deny the contribution given by it. It means that Taiwan is unquestionably going on the right way since we have limited land but well-developed technology.

As a result, the high value-added petrochemical project is not so much a pragmatic, necessary, and practicable policy as a reliable, innovative, and international strategy, after all.