

English Summary

**Feasibility Survey with the Private Sector
for Utilizing Japanese Technologies
in ODA Projects**

**“Feasibility Survey for the
Japanese Packaging Technology for
Logistics of Automobile Parts for
Strengthening Industrial Infrastructure”**

Mexico

December 2017

Chapter 1 Concerned Development Issues

Mexico is the 15th largest economy in the world. It has geographical advantages of access to North America and South American markets, relatively good and low cost for labor force as well as free trade agreements (FTA) network with countries around the world. Thus, the importance of Mexico as automobile production base has been increasing more and more in recent years.

Japanese companies entering Mexico are steadily increasing in recent years, especially automobile related companies. Thus, strengthening the base industry for automotive industry in the country is expected not only to enhance local companies and the country's economy but also to Japanese companies based in Mexico. It is an important policy issue for both the Mexican government and the Japanese government.

For Mexico's automobile industry, access to the North American and South American markets is an advantage, but on the other hand it is also concerned with its heavy reliance especially to the United States. 86% of the exporting countries of the Mexican automobile industry are the United States, and for imports as well, automobile parts are imported 37% of the entire automotive parts from the United States. which is exceeding Mexico's value content.

Currently, the automobile industry is keen on finding out the details of renegotiating the North American Free Trade Agreement (NAFTA) that began in August 2017. Especially regards on whether renegotiation of alternating includes provisions on the "Regional Value Content(RVC)" which has specific rules of origin for automobiles and tariffs.

In order for a product to receive NAFTA status or duty-free treatment, OEM manufacturers in Mexico, need to calculate "Regional Value Content" for auto-parts and materials and has to satisfy the rules of origin stipulated by NAFTA (approximately 60%~62.5%) depending on material.

Yet, there are little contribution to "Regional Value Content" from Mexico in regard to base industry such as materials and raw materials. As in Mexico, it is not as matured, especially in terms of meeting the Japanese companies' standard on delivery date and quality.

In fact, the industrial structure of the automotive parts industry in Mexico is an inverted pyramid (the number of companies with Tier 3 is the smallest), which is the

opposite in other countries. Hence, the Mexico's own contributing to "Regional Value Content" calculation is overwhelmingly small. Even when compared to other countries, such as Thailand and other automobile industries cluster.

These situation is no exception in the relation to packaging industry. Mexico 's packaging industry accounts for 1.7% of GDP, which is expected to grow by 5% in 2017. Yet due to the lack of packaging material manufacturing technology that can be handled within Mexico, some packaging materials depends on imports. Since the packaging industry for the automobile industry has not developed sufficiently, the total import value of packing materials for automotive parts reached 480 million USD (54.1 billion yen). Hence, it also contributes to little advancement of packaging materials related to the automobile industry.

Thus, one of the factors that is impeding the development of the automobile industry is that the packaging industry for the automobile industry is not as mature compared to other countries. Since automobile related manufacturers are unable to acquire good quality packaging materials locally, it relies on expensive imported packaging materials, or face transporting damages when using local materials that are not qualified enough. Therefore, not only it is and lowering market competitiveness, but also hinders some of the automotive parts industry from entering Mexico market. This situation for packaging industry is party degraded by the lack of social infrastructure, such as lack of human resource development and packing material testing machines. It also leads to low recognition of advanced packaging material technology in the automobile industry.

Chapter 2 Technology and Products

Kanepackage Co., Ltd. (hereinafter, "Kanepackage") is a company that develops "shock-absorbing packaging materials" which hold products and ease shock and vibration of numerous conditions. The proposed products are tailor-made packaging materials for automobile parts that meet individual customer needs. Based on the database and knowledge that accumulated by Kanepackage over the past 40 years, the Kanepackage can design the optimum packing for each packing item. Especially, it has strengths in designing "shock-absorbing packaging materials" and technology. As one of an example of their capabilities, is that Kanepackage had design cardboard made "shock-absorbing packaging materials" for eggs that can be dropped from 200

meters above the ground and still not break. In terms of designing, Kanepackage is an expert at calculating and designing the loading, packing, and distribution efficiency. It has its expertise on reducing the time and transportation costs required for packaging. Since Kanepackage does not manufacture the base material, it is possible to select and design materials matching the characteristics of the packaged products. For that reason, the field of products handling packaging ranges from automobile to medical industry.



Figure 1 Photo of packaging material of raw egg

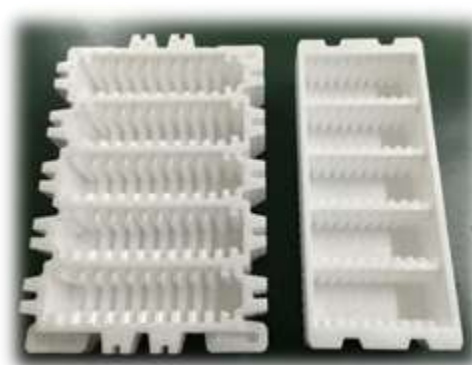


Figure 2 Conventional packaging on the left,
Kanepackage packaging material on the right

Chapter 3 Proposed ODA Projects and Expected Impact

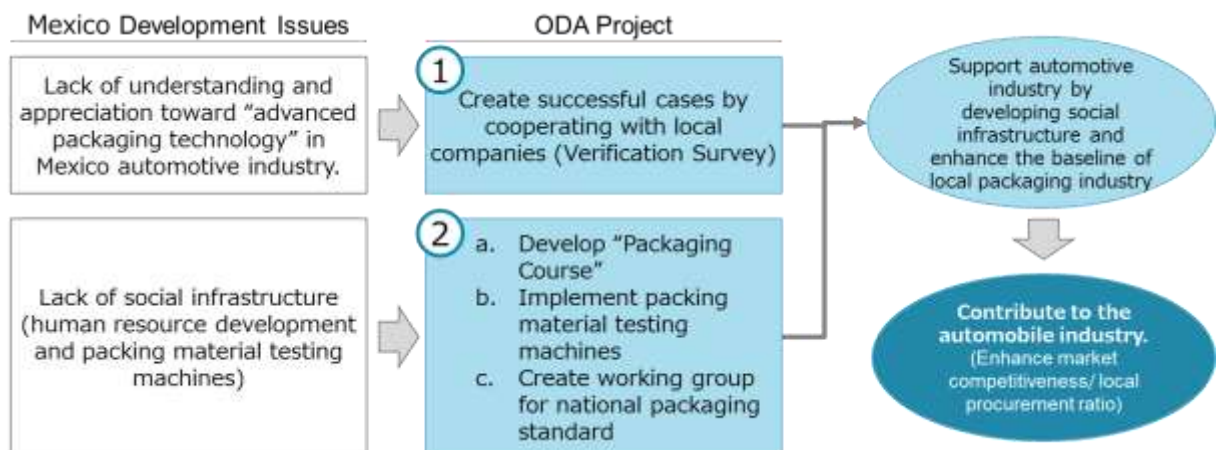
It aims to use JICA scheme called Official Development Assistance (ODA) project with the Private Sector for Disseminating Japanese Technologies (here in after “ODA project”).

In this regards for the ODA project, it plans to have as counterparts as Guanajuato State Secretary of Economy which is “Secretaria de Desarrollo Economico Sustentable” (hereinafter, “SDES”) and the industrial training center under SDES called

“Coordinador Académico de Manufactura Avanzada Instituto Estatal de Capacitación” (hereinafter, “IECA”).

With the collaboration with the counterparts, it aims to enhance the social infrastructure. Thus, under the ODA project, it plans to introduce packaging technology course and packing material testing machines. By doing so, it hopes to bring up the technology level of automotive base industry and increase recognition of advanced packaging material technology in the automobile industry.

Under the ODA project, it plans to firstly create successful cases by cooperating with local companies using Kanepackage technology and secondly build stronger social infrastructure for advance packaging material technology for automotive industry. By doing so, it aims to support Automotive industry by developing social infrastructure for packaging and enhance the baseline of local packaging industry. Eventually, it can contribute to the automobile industry by enhancing market competitiveness and NAFTA local procurement ratio.



Chapter 4 Intended Business Development

The strength and core technology for Kanepackage is “advanced packaging process and designing technology” which can be “soft-side” or intangible aspects such as downsizing and designing shock-absorbing packaging materials.

With the research conducted under the JICA feasibility survey, the current state of Mexico’s local packaging market has immense potential to grow. In fact, there are little or no packaging manufacturers that has same strategy and capability as Kanepackage for the automotive industry. Therefore, Kanepackage has great potentials to offer its own unique position in the Mexican market.

Consequently, as stated earlier, Mexico automotive industry lacks understanding

and appreciation toward “advanced packaging technology”. Majority of manufacturers tend to emphasize price rather than the quality of packaging.

This is thought to be the fact that the cost reduction impact (such as a decrease in the damage rate) and importance of improving the quality is not sufficiently recognized in the market.

Under these circumstances, the most important factor for market entry for Kanepackge with the automotive industry manufacturer is to improve awareness of importance for advanced packaging technology and building relationships of trust through "exchange of engineers".

By sending engineers of Kanepackage to the department in charge of packing design within the manufacturer and exchange design proposals, it can increase the reliance and understanding of its advanced technology of Kanepackage.

The detail of business arrporach and taget industry will not be presented on this open to public version of the report.

Feasibility Survey for the Japanese Packaging Technology for Logistics of Automobile Parts for Strengthening Industrial Infrastructure in Mexico

Appendix 2-4

Company/Site Overview

- Participating Company: Kanepackage Co., Ltd.
- Company Location: Iruma City, Saitama Prefecture
- Site, C/P Institutions: Querétaro State, Aguascalientes State, San Luis Potosí State, Mexico City / Secretariat of Economic Development, Guanajuato State



Target Development Issues

- The lack of understanding and application of "advanced packaging technology"
- Lack of social infrastructure for packaging industry. Hence local auto parts manufacturers have difficulty in locally sourcing good quality packing materials. The surplus costs have become a major inhibitor to the industry's competitiveness.

SME's Technology/Product

- The proposed technology designs packaging materials tailored to each product. Drawing from a database with 40 years worth of design data, the technology can design the optimum packaging for different types of products.

ODA Project and Anticipated Impact on Target Development Issues

- Packaging testing machines will be sent from Japan to Guanajuato State's Secretariat of Economic Development to be used in evaluating packaging materials. Evaluation standards will be formulated and package strength testing, etc., carried out and certified with technical guidance from cooperating organizations in Japan.
- it aims to support Automotive industry by developing social infrastructure for packaging and enhance the baseline of local packaging industry. Eventually, it can contribute to the automobile industry by enhancing market competitiveness and NAFTA local procurement ratio.

Business Expansion of Japan's SMEs

- By partnering with local manufacturers, production of packaging material for auto parts and other products such as precision equipment, etc., is the main business area expected to undergo growth.