

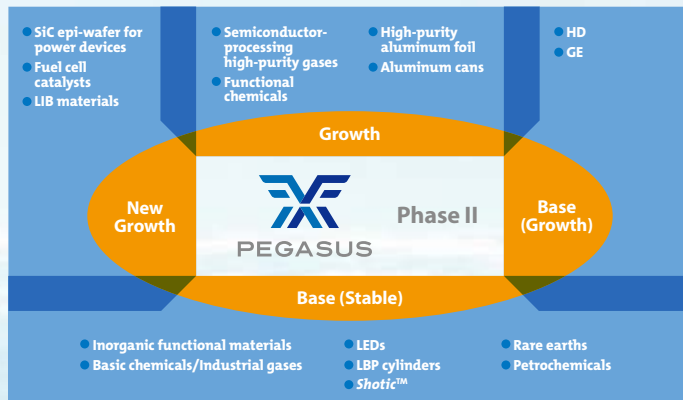
Achievements of Medium-Term Business Plan: “PEGASUS Phase II” (2014–2015)

We are pursuing our strategy to promote growth and strengthen respective businesses under “PEGASUS Phase II” for the 2014–2015 period, the latter part of our five-year consolidated business plan that began in 2011. In view of the drastic changes in the business environment and significant structural changes in the world economy, we are accelerating our growth strategy, promoting structural reforms, and consolidating R&D themes.

In order to improve profitability of each business and the Showa Denko Group as a whole, we are continuing to review our business portfolio to cope with the changes in the business environment and clarify the positions of respective businesses. We are carefully selecting capital investment items, putting emphasis on businesses in the “Growth” category. As to R&D investments, we are concentrating resources on promising projects classified in the “New Growth” category, aiming to speedily realize good results.

Business portfolio

Following the implementation of structural reforms under “PEGASUS Phase I,” we are strengthening our business portfolio in the Phase II period in an effort to return to a growth track. Specifically, we have classified four businesses in the “Growth” category, in which we can utilize our proprietary technologies and take part in the rapidly growing Asian market. We are accelerating growth in these business areas through aggressive capital investments and M&A efforts.



Base (Growth)

We are taking measures to strengthen the competitive power of the HD media and graphite electrode (GE) businesses, which continue serving as “Wings,” so that we can speedily return to a growth track.

Growth

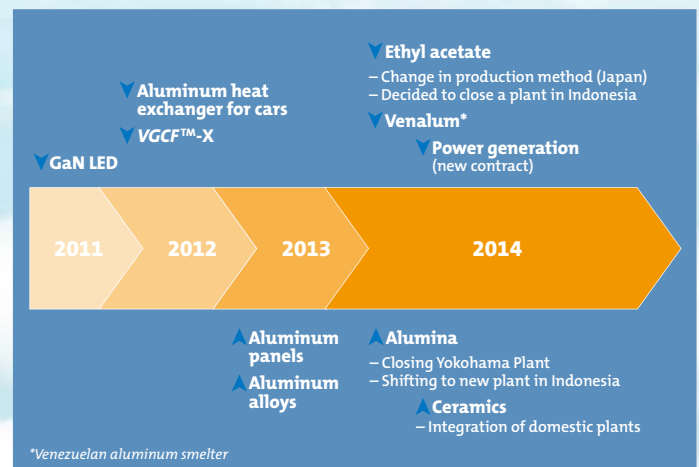
The “Growth” category consists of four business areas, namely, aluminum cans, high-purity aluminum foil, semiconductor-processing high-purity gases, and functional chemicals. In all of these areas, we have unique strengths in terms of technologies and materials, and expect to capture opportunities in the rapidly growing Asian market. We are preferentially allocating resources to these businesses during the Phase II period, accelerating their growth in overseas markets.

New Growth

In this category, we expect that big markets will appear within several years for silicon carbide (SiC) epitaxial wafers for power devices, fuel cell catalysts, and lithium-ion battery (LIB) materials. We will develop such new businesses by promoting R&D and allocating resources, aiming to establish them as next key businesses of ours.

Structural reforms

While promoting growth strategies under PEGASUS, we have carried out structural reforms, mainly in the Base (Stable) category. As for businesses with deteriorating profitability, reflecting changes in the market and competitive conditions, and judged that we will not be able to regain a strong presence in the future, we have taken measures to either reduce the scale of operations or withdraw from such businesses. In particular, we transferred our aluminum automotive heat exchanger business to Keihin Corporation, and shifted our chemical alumina production site to Indonesia. Meanwhile, we decided to terminate ethyl acetate production in Indonesia.





“PEGASUS Phase II”
Four “Growth”
businesses

Accelerating growth strategies and penetrating into overseas markets, centering on Asia

The Showa Denko Group is accelerating its penetration into overseas markets, focusing its efforts on expanding the scale of the four “Growth” businesses in the growing Asian market.



China

(High-purity aluminum foil, Semiconductor-processing high-purity gases, GE)

Taiwan

(Semiconductor-processing high-purity gases)

Korea

(Semiconductor-processing high-purity gases)

U.S.A.

(GE)



Vietnam

(Rare earths, Aluminum cans)



Malaysia

(SHOTIC™)

Indonesia

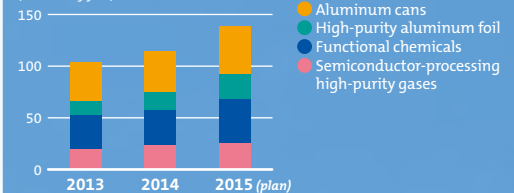
(Ceramics)



Sales in four “Growth” businesses

Accelerate business expansion centering on Asia

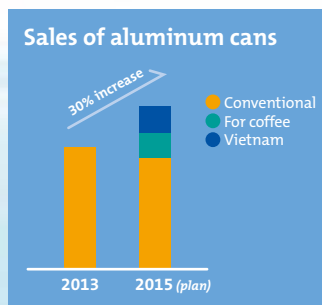
(Billions of yen)



Four “Growth” businesses

1 Aluminum cans

As a pioneer in this area, the Group has established a strong presence in the Japanese market. To penetrate into the growing Asian market based on its high productivity and advanced printing technology, the Group acquired Hanacans, of Vietnam, in May 2014. The volume of beer production in Vietnam is growing in line with the economic growth in that country, and is expected to surpass that of Japan in several years’ time. We will meet the growing demand for aluminum cans and steadily increase our market share in Vietnam.



2 High-purity aluminum foil

High-purity aluminum foil is a major material for electrolytic capacitors, which are used in wide areas such as electric appliances (LCD TVs and air conditioners), IT devices (PCs), electric vehicles, and new energy (wind and solar power). In particular, electrolytic capacitors are increasingly used in the Chinese market, mainly for such high-end applications as air conditioners. As a result, the importance of our high-purity aluminum foil is increasing. We expanded our capacity at the “mother plant” in Sakai, Japan, in March 2014. Furthermore, we expanded the production capacity at our subsidiary Showa Denko Aluminum (Nantong) Co., Ltd., in Nantong, China, to meet rapidly growing demand in that country. The expanded facility started operations in March 2015. We will continue providing capacitor-grade high-purity aluminum foil to many customers inside and outside Japan, fully utilizing our position as a leading company with a proprietary process technology for refining aluminum metal.



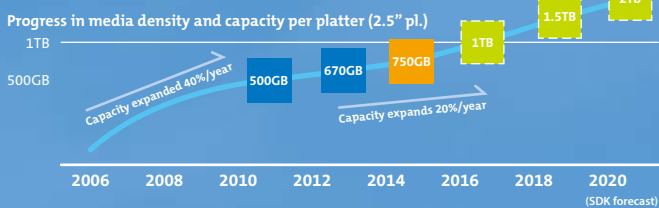
**“PEGASUS Phase II”
Base (Growth):
Wings**

HD

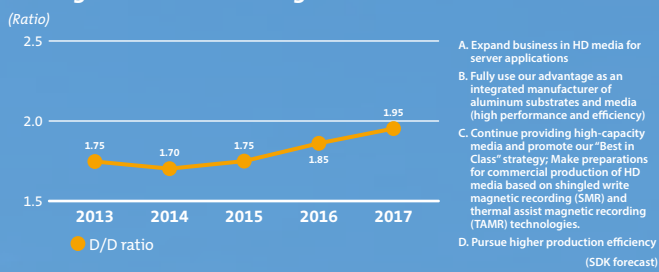
There is an ongoing shift of HDD applications from PCs to servers. HDD shipments in 2014 totaled 565 million units, representing the first increase in volume in four years. Due to increased investments in data centers, HDD demand is expected to grow rapidly for applications in nearline servers for cloud computing, an area with higher disk per drive (D/D) ratios. As a result, HD media shipments are also expected to grow. In March 2015, we became the world’s first to place on the market 2.5-inch, 750GB/platter HD media based on the eighth-generation perpendicular magnetic recording (PMR) technology. We will continue developing 1TB/platter HD media to meet the market demand for products with higher storage capacity.

SDK continues displaying technology leadership

2.5” Marketed 8th generation media (750GB/pl.) with PMR technology
—Accelerate technology development to realize 1TB/pl.
3.5” Started commercial production of 1.1-1.3TB/pl. media



Strategies for HD business growth



GE

As another “Wing” of PEGASUS, the graphite electrode business will be strengthened during the Phase II period. We will work to improve the profitability of the business in preparation for growth in the Post-PEGASUS period.

Demand for electric steel is improving in the United States, and signs of recovery are seen in Japan, centering on automotive applications. However, China’s overproduction of steel is still affecting the ASEAN market, and it will take some time before the significant supply-demand imbalances are corrected. In 2015, our subsidiary Showa Denko Carbon, Inc. (SDKC) will complete its expansion project, and gradually increase its operating rate in response to the growing demand in the U.S. market. SDKC will aim to increase shipment volumes, centering on high-end, large-diameter electrodes. At our plant in Omachi, Japan, we will renovate production facilities step by step, thereby improving productivity.



Graphite electrodes being used in an electric arc furnace

3 Semiconductor-processing high-purity gases

Production of semiconductor devices and small LCDs in East Asia is expected to continue increasing. We are expanding our business in semiconductor-processing high-purity gases, taking advantage of our strengths in the area of ammonia (NH₃), hydrogen bromide (HBr), nitrous oxide (N₂O), and chlorine (Cl₂). To meet growing demand in East Asia, we are promoting local production and extending the delivery network. In March 2015, we started production of high-purity N₂O in South Korea. We will aim to speedily achieve the effect of our acquisition of a high-purity Cl₂ business in Taiwan and continue to strengthen our operations, including the supply chain system in China.

Accelerate growth through matrix strategy

	NH ₃	N ₂ O	HBr	Cl ₂	Other gases	Infra-structure
Application	Material gas		Etching			
Japan		Increase (2015)	Increase (2015)		New/Increase (2015)	
China	Increase (2015)				New/Increase (2015)	New site (2015)
Taiwan	Increase (2015)			Acquisition (2014)		Expansion (2014)
Korea		Increase (2015)				
Singapore						Expansion (2014)

4 Functional chemicals

In this field, we are expanding operations in the growing market in China and ASEAN countries, centering on the area of automotive parts. We are meeting growing demand for our bulk molding compound (BMC) products for use in automotive lamp reflectors and motor sealing materials for hybrid cars. As BMC sales have been growing at an annual rate of 15% on the average since 2007, we have decided to build a new plant in Zhuhai, China, in addition to our existing site in Shanghai. Meanwhile, the biodegradable plastic market is being built up on a full scale, reflecting the tightening environmental regulations in Europe and China. Our biodegradable plastic *Bionolle*TM has been used by our customers in foreign countries, including Italy and China, since 2014 due to its high biodegradability. The volumes of production and sales of *Bionolle*TM started to grow in 2014. Demand is also growing for our vinyl ester and emulsions for use in homes and plant facilities. We will continue strengthening our supply chains, aiming to expand the functional chemicals business in overseas markets.



“PEGASUS Phase II”

Our business models

The Showa Denko Group’s 11,000 employees are working around the world to increase the corporate value, fully utilizing available resources and using the Group’s proprietary technologies as the driving force.

Contribution to society

We aim to contribute toward creating a society where affluence and sustainability are harmonized. All members of the Group are united in pursuing the goal, aiming to increase the Group’s corporate value.

Our strengths

Interconnection of inorganic/aluminum and organic chemical technologies.

The source of our value creation is our technical strengths. We concentrate on R&D activities, creating a rich stock of unique and superior technologies and materials through interconnection of inorganic/aluminum and organic chemical technologies. Based on that, we have accumulated a number of world-leading products in the area of advanced technologies.

Technological background

Showa Denko K.K. was established in 1939 through the merger of Showa Fertilizers K.K. (the first to produce ammonia in Japan by a domestically developed process) and Nihon Electrical Industries K.K. (the first in Japan to commercially produce aluminum). Our technical development began with focused attention on the potential of electrochemistry, in view of the abundant hydropower resources in Japan.

Starting from electrochemistry, our Group has continued to develop technologies in the areas of inorganic/organic chemicals and metallic materials. At present, we have various advanced materials and components for IT and automotive industries as well as wide-ranging products necessary for daily life. Our product portfolio includes HD media, semiconductor-processing high-purity gases, and LIB materials for the IT industry; BMC and aluminum components for the automotive industry; and cosmetic raw materials and aluminum beverage cans useful for daily life.

