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Patent Trend Analysis of Amore Pacific and LG Household & Health Care



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1. Analysis Background and Method

- There has been an increase of demand and interest in Korean cosmetics due to recent Korean pop stream
 - The demand for Korean cosmetics has increased drastically within Asian market among countries that are at the center of Korean stream such as China, Hong Kong, Japan, Taiwan, and Thailand.
 - The country that Korean cosmetics were exported the most last year was China with \$533.6 million, followed by Hong Kong (\$452.53 million), Japan (\$187.66 million), U.S. (\$124.42 million), Taiwan (\$168.9 million), and Thailand (\$77.81 million).¹
- Korean brands have been successful in the international market, raising their brand awareness by launching products such as BB cream, CC cream, sleeping pack, and Air Cushion.
 - For example, Amore Pacific's Cushion Foundations hit² 14 million in sales within 5 years of its launching, hitting the record annual sales profit of 900 billion won with 25 million sales in 2014³.
 - The company also signed an MOU with leading cosmetic brand, Christian Dior, in July, 2015, to transfer their Cushion Foundation's manufacturing technology.
- To examine the technology trend, we will examine the leading Korean cosmetic brands, Amore Pacific and LG Household & Health Care, by analyzing their patent trends.

¹ Seoul Finance, Korean Stream bring 40% ↑ in cosmetics... Sales record reaching 9 trillion, 2015.05.07

² MK News, Amore Pacific Cushion Foundation, Selected for the world's leading product, 2013.12.20

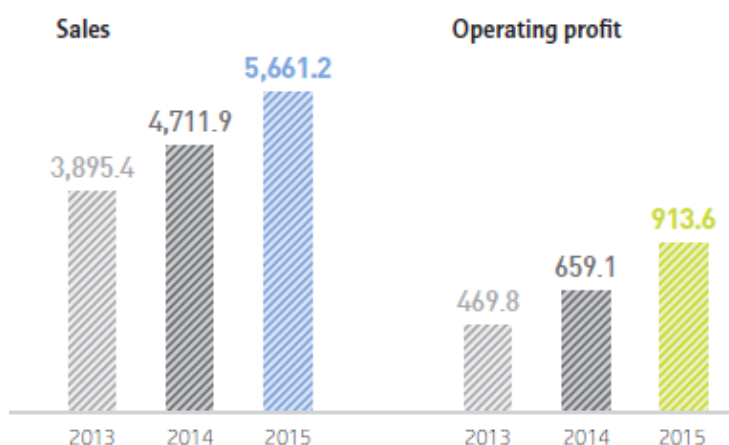
³ Korea Economics, "original cushion" IOPE, Advancing to China... Amore Pacific Cushion's globalization "begins", 2015.05.13

- The patent analysis will be carried out by first gathering IPC codes and number of applicants, then by removing unrelated noise documents.
- WIPS Global is used as a search DB to examine the patent application trend by year, patent family status, and technology based on the search results of each company's patent applications from 2000 to 2015.
- Their patent trend in trend in China will also be examined as both companies are putting great efforts to advance into the Chinese market.

2. Company's Current Status

(1) Amore Pacific⁴

- The company, first established in 1945 as Pacific Chemical Industry, is Korea's leading cosmetic company that manufactures cosmetic products, household products (toothpaste, shampoo, and etc.), health products, and green tea products, possessing subsidiary companies such as *Innisfree*, *Etude House*, *Amos Professional*, *Aestura*, and *Jangwon*.
- Amore Pacific's sales record shows 5.771.2 trillion won with 21% increase and business profit of 913.6 billion won with 38.6% increase.
 - Domestically, an increase of Chinese tourists has substantially expanded their duty free businesses, which pulled the growth of the entire company.

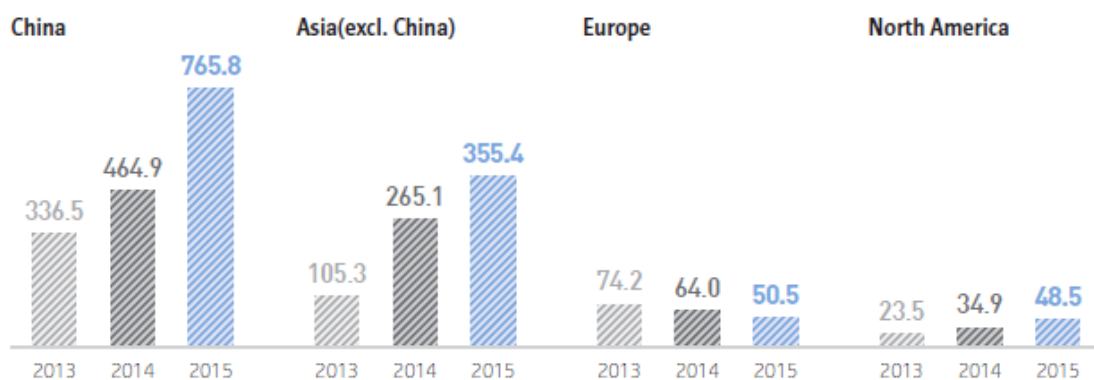


Reference: 2015 Amore Pacific Sustainability Report
[Amore Pacific Group Sales Status]

- Foreign businesses have shown a tremendous growth within the top 5 global champion brands: *Sulwhasoo*, *Laneige*, *Mamonde*, *Etude*, and *Innisfree*. It reached the sales amount of 1,220.1 billion won, a 47.2% increase compared to the previous year, which corresponds to 21.6% of Amore Pacific Group's total sales.

⁴ Created using 2015 Amore Pacific Group Sustainability Report

- China's business sales increased 60% with 765.8 billion won compared to the previous year, which corresponds to a half of the entire foreign sales.



Reference: 2015 Amore Pacific Sustainability Report
[Amore Pacific Group Foreign Regional Status]

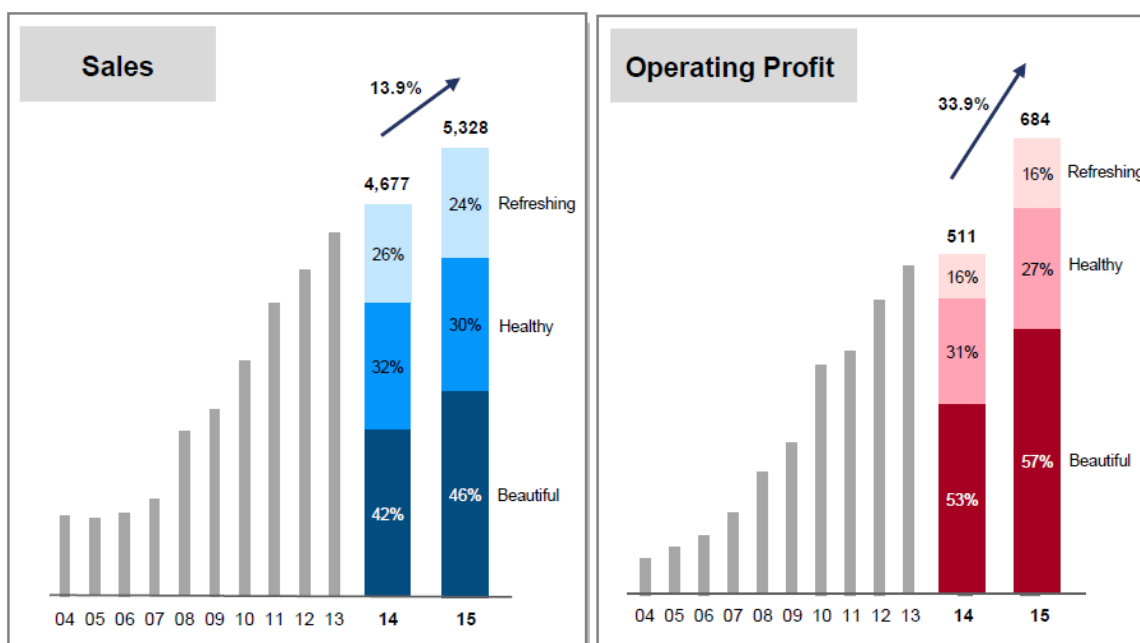
- Amore Pacific Group's 2015 R&D investments take up about 2.28% of their sales with 108,506 billion won, showing a slight increase compared to the previous year.
- In 1954, Amore Pacific Group established the first cosmetics research lab in Korea. The company focused on carrying out researches combining Asia's natural resources and cutting edge bio technology. It also established research labs in foreign countries such as China, Singapore, and France and carry out various research projects.

(2) LG Household & Health Care⁵

- LG Household & Health Care was established in 1947, introducing cosmetics and tooth paste for the first time in Korea. Currently, the company is carrying forward with cosmetics, household items, and beverage businesses, and has been strengthening their competition in cosmetics business through M&A.
- After the first cosmetics brand, *Lucky Cream*, in 1947, LG Household & Health Care kicked off their business with the second brand, *DeBon*, in 1984, showing tremendous growth in annual sales with the increase of more than 40%.

⁵ Created using 2015 LG Household & Health Care's CSR Report and 2015 performance report

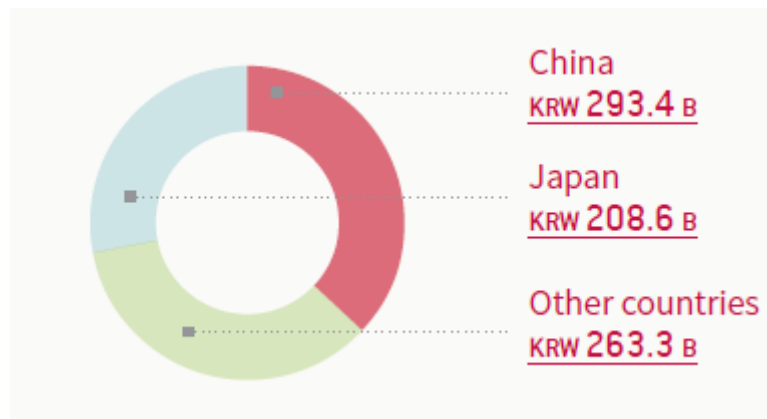
- The company is currently strengthening their product portfolio with *Ohui*, the stem cell based product, *Whoa*, the differentiated oriental medicine based product, and *Sum*, the pure natural fermentation technology based product.
 - LG Household & Health Care acquired The Face Shop in 2010, *Vov* in 2012, and a Canadian body product manufacturing company called *Fruits & Passion* through The Face Shop. That same year, the company also acquired Japan's Inner beauty's third ranking company, *Everlife*, and the second ranking health functional food, R&Y, which diversified the business into Beauty & Health, establishing the grounds for the expansion into the foreign market.
- LG Household & Health Care established its business profit of 684 billion won and 13.9% increase in sales with 5.328 trillion won by strengthening their number one rank in naturalism cosmetics, an increase of market shares in department stores, and strengthening the market dominating power in households.
- Cosmetics take up about 46% of the sales, healthy, and refreshing sales percentages are 30% and 24% respectively.



Reference: LG Household & Health Care, 2015 performance report, 2016.01

[15 LG Household & Health Care Sales Status]

- The 2014 total overseas sales take up 14.4% of their entire sales with 765.3 billion won, and among these, 293.4 billion won were from the Chinese market.
- Especially, the company has been increasing their market share in Chinese market by strengthening a royal oriental medicine's premium image with '*Who*', a cosmetic brand based on an empress concept and a design favored by the Chinese.



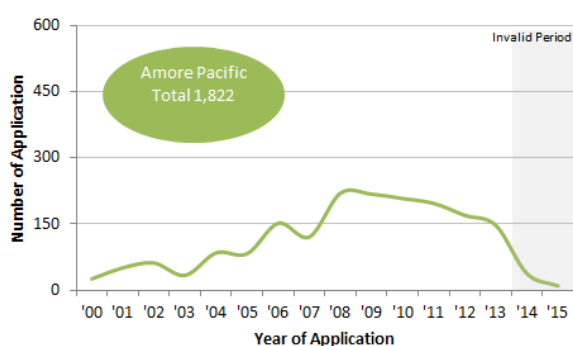
Reference: LG Household & Health Care CSR Report, 2016.06
 ['15 LG Household & Health Care Sales Status]

- LG Household & Health Care's 2014 R&D investment amount takes up 2.4% of their sales with 73.265 billion won, showing a slight decrease compared to the previous year.
- After their establishment of cosmetics research lab in 1984, LG Household & Health Care have recently been concentrating on research and development related to cutting edge bio technology such as cell culture technology, applied genetic, as well as organic, scientification of oriental medicine, and applied fermentation technology.

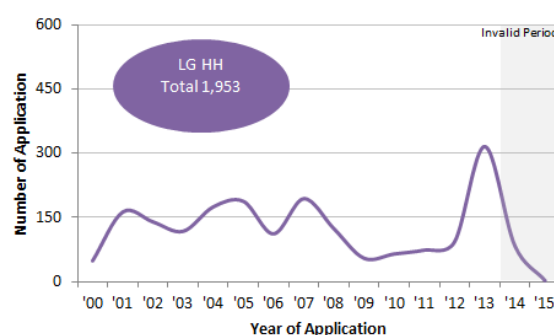
3. Patent Trend Analysis

(1) Patent Status in Korea

- Since 2000, Amore Pacific has filed the total of 1,822 patents and LG Household & Health Care has filed the total of 1,953 patents
 - Amore Pacific became particularly active after 2006, whereas LG Household & Health Care showed less activity later in the year, and then a sudden increase of activity in 2013.

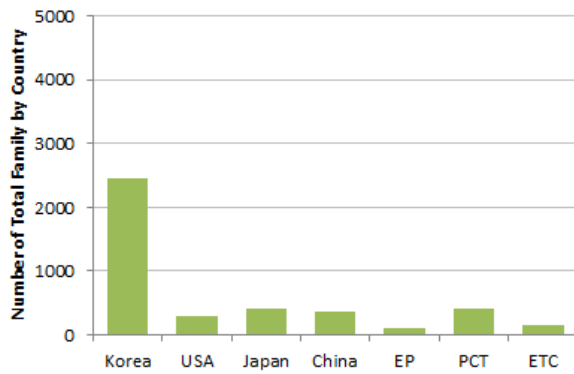


[Amore Pacific's Patent Trend]

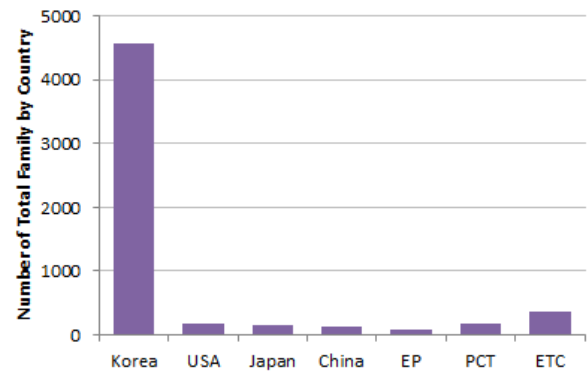


[LG Household & Health Care's Patent Trend]

- Examining the number of family documents which indicates the degree of global market advancement, there weren't much difference in the number of family documents that the two companies hold, but LG Household & Health Care showed far more number of Korean family patents than Amore Pacific.
 - Amore Pacific's family patents take up 28% of their entire patents, and LG Household & Health Care's patents take up only 8%, but their numbers were similar.
 - Amore Pacific's Korean family patents take up 50% of their entire families, whereas LG Household & Health Care's take up 80%.
 - Other than Korea, both companies hold a number of families from Japan, U.S., and China, Amore Pacific holding families from Japan, China, and U.S., and LG Household & Health Care holding families from U.S., Japan, and China, respectively.

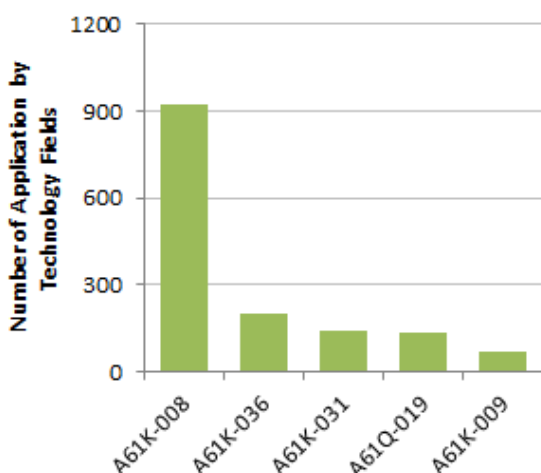


[Amore Pacific's Family Status by Country]

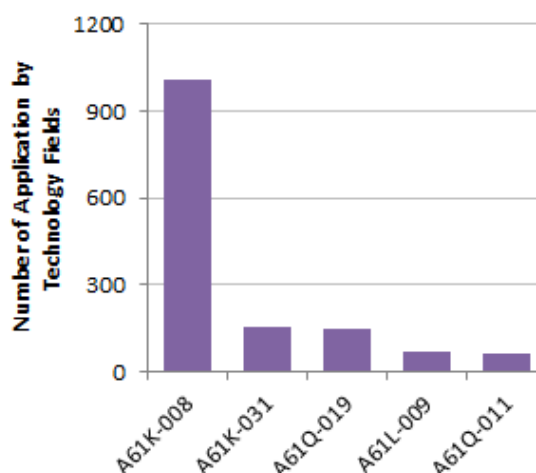


[LG Household & Health Care Family Status by Country]

- Examining filed patents by technology field, both companies have been filing a number of patents related to Cosmetics or similar cosmetic preparations (A61K-008).
 - Besides that, Amore Pacific filed a numerous patents related to medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof (A61K-036), medicinal preparations containing organic active ingredients (A61-031), and preparations for care of the skin (A61Q-019)
 - LG Household & Health Care filed a numerous patents related to medicinal preparations containing organic active ingredients (A61-031), preparations for care of the skin (A61Q-019), and disinfection, sterilization or deodorization of air (A61L-009).



[Amore Pacific's Major Technology Fields]

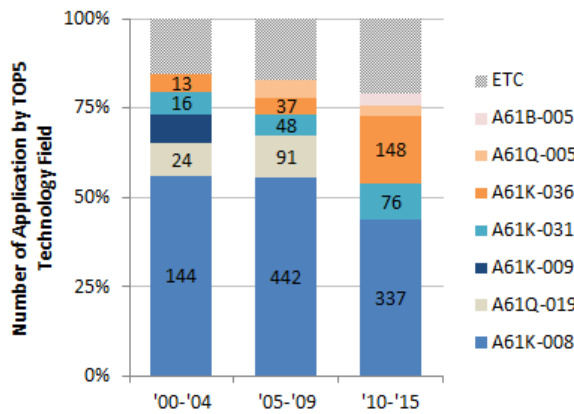


[LG Household & Health Care's Major Technology Fields]

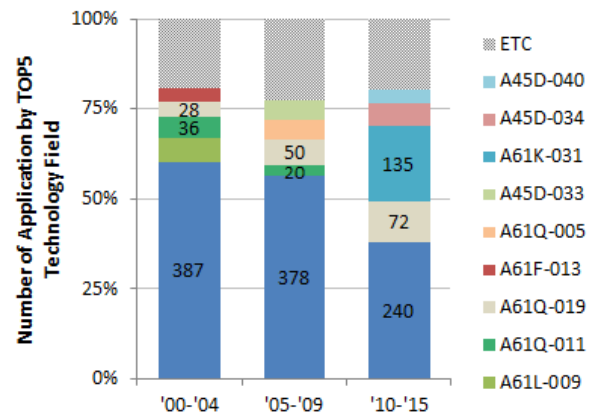
- A61K-008: Cosmetics or similar cosmetic preparations
- A61K-036: Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof
- A61K-031: Medicinal preparations containing organic active ingredients
- A61Q-019: Preparations for care of the skin (Especially, anti-ageing preparations)
- A61K-009: Medicinal preparations characterized by special physical form
- A61Q-011: Preparations for care of the teeth, of the oral cavity or of dentures

□ To examine the flux of technology development, the application was divided into three sets of periods. Both companies showed a great increase in patents related to medicinal preparations containing organic active ingredient, which may have resulted due to recent focus on cosmeceutical as a new growth power within cosmetics industry.

- For Amore Pacific, the percentage of patents related to medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, and medicinal preparations containing organic active ingredients have increased tremendously between '10-'15.
- For LG Household & Health Care also showed a tremendous increase in medicinal preparations containing organic active ingredients between '10-'15, as well as preparations for care of the skin (especially, anti-ageing preparation).



[Amore Pacific's Major Technology Field by Time Period]



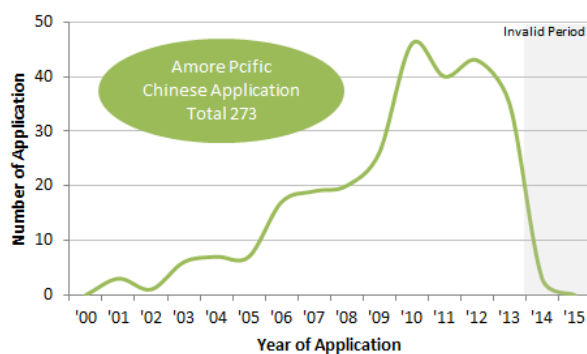
[LG Household & Health Care's Major Technology Field by Time Period]

- A45D-034: Containers or accessories specially adapted for handling liquid toilet or cosmetic substances
- A61F-013: Bandages or dressings, absorbent pads
- A61K-008: Cosmetics or similar toilet preparations
- A61K-009: Medicinal preparations characterized by special physical form
- A61K-031: Medicinal preparations containing organic active ingredients
- A61K-036: Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof
- A61Q-005: Preparations for care of the hair
- A61Q-011: Preparations for care of the teeth, of the oral cavity or of dentures
- A61Q-019: Preparations for care of the skin (Especially, anti-ageing preparations)

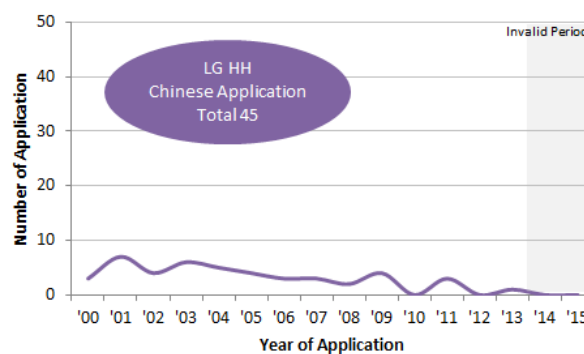
(2) Patent Status in China

□ After 2000, Amore Pacific filed 273 patents, and LG Household & Health Care filed 45 patents in China.

- The number of patents for Amore Pacific increased rapidly since late 2000, which reflects the company's determination to advance into Chinese market.



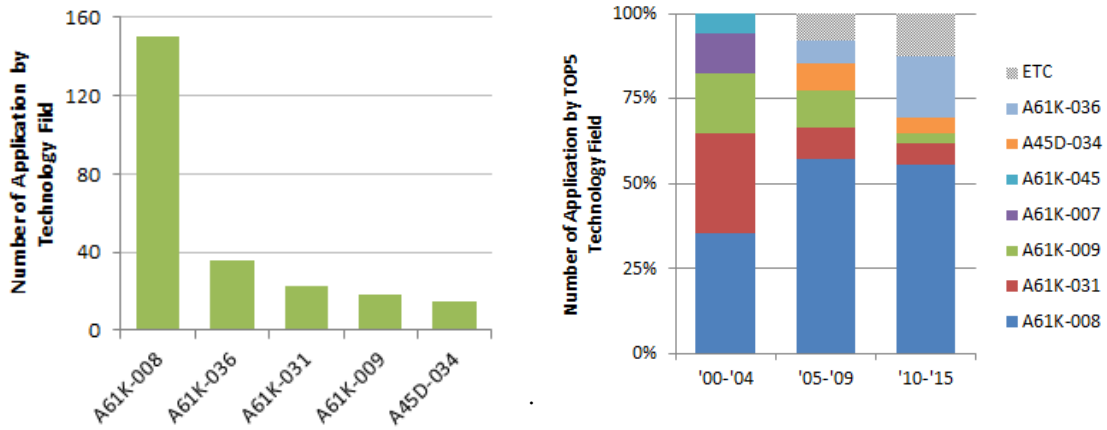
[Amore Pacific's Patent Status in China]



[LG Household & Health Care's Patent Status in China]

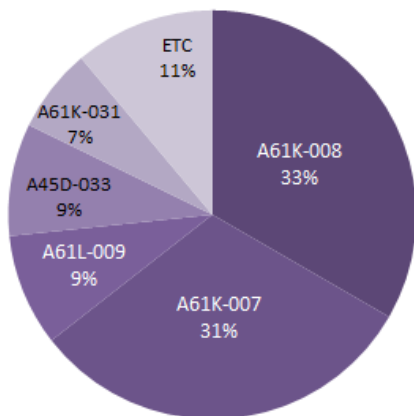
□ Both companies' most frequently applied technology field is Medicinal preparations containing organic active ingredients (A61K-008), not so different than their patent status in Korea.

- Besides that, Amore Pacific most frequently filed patents related to medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof (A61K-036), and medicinal preparations containing organic active ingredients (A61K-031) in China. Also, the trend shows higher number of patents related to medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof (A61K-036) after 2010 compared to the late 2000.
- LG Household & Health Care showed the highest number of patents in the field related to cosmetics or similar toilet preparations (A61K-007), and Medicinal preparations characterized by special physical form.



[Amore Pacific's Patent Status in China by Technology Field]

- A45D-033: Containers or accessories specially adapted for handling toilet or cosmetic powder
- A45D-034: Containers or accessories specially adapted for handling liquid toilet or cosmetic substances
- A61K-007: Cosmetics or similar toilet preparations
- A61K-008: Cosmetics or similar cosmetic preparations
- A61K-036: Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof
- A61K-031: Medicinal preparations containing organic active ingredients
- A61K-009: Medicinal preparations characterized by special physical form
- A61L-009: Disinfection, sterilization or deodorization of air



- A61K-008: cosmetics or similar toilet preparations
- A61K-007: Cosmetics or similar preparations
- A61L-009: Disinfection, sterilization or deodorization of air
- A45D-033: Containers or accessories specially adapted for handling toilet or cosmetic powder
- A61K-031: Medicinal preparations containing organic active ingredients

[LG Household & Health Care's Patent Status by Technology Field]

3. Summary

- Since 2000, Amore Pacific has filed a total of 1,822 patents and LG Household & Health Care has filed the total of 1,953 patents.
- When examining the number of family documents to measure the level of global market advancement, the two companies did not show much difference in their total numbers but LG Household & Health Care showed a higher number of Korean family patents than Amore Pacific.
 - The percentage of foreign family patents possession among the total number of patents was 25% for Amore Pacific and 8% for LG Household and Health Care, but the total number of family patents remains similar for both companies.
 - Both companies possess numerous patents from Japan, U.S., China, and etc. aside from Korea.
- Examining patents by technology field, both companies filed a large number of patents related to cosmetics or similar toilet preparations (A61K-008).
- To examine the flux of technology development, the application was divided into three sets of periods. Both companies showed a great increase in patents related to medicinal preparations containing organic active ingredient, which may have resulted due to recent focus on cosmeceutical as a new growth power within cosmetics industry.
- After 2000, Amore Pacific filed 273 patents, and LG Household & Health Care filed 45 patents in China.
 - The number of patents for Amore Pacific increased rapidly since late 2000, which reflects the company's determination to advance into Chinese market.
- As Korea's leading cosmetic companies, the two companies are showing a steady quantitative results through patent applications. However, in order for Korean cosmetic industry to cultivate a consistent growth through innovative technologies, they must put in great efforts to secure rights and strengthen technology protection not only in Korea but overseas as well.