Patent Analysis: Nanotechnology in Home Appliance Industry

2015-10-26

A patent analysis has been prepared at the request of Iran Nanotechnology Initiative Council (INIC), which studies the position and amount of the application of nanotechnology by the top 20 leading enterprises in the production of home appliance products except for flat monitors.

StatNano- Giant producers of home appliance across the world use new technologies and innovation in their products every day to persuade people to buy their new products.

Smart appliances, consumption reduction and application of IT are among the latest technologies used by producers of home appliances to increase the quality of their products.

What is the share of nanotechnology in innovation?

A patent analysis has been prepared at the request of Iran Nanotechnology Initiative Council (INIC), which studies the position and amount of the application of nanotechnology by the top 20 leading enterprises in the production of home appliance products except for flat monitors.

This patent analysis reviews the patents published by the top 20 enterprises in the world which are related to the application of nanotechnology in home appliance, including air conditioners, dishwashers, fridges, vacuum cleaners, cooking devices (including all equipment such as microwaves, ovens, etc.), washing machines, domestic water purification devices as well as the general application of nanotechnology in home appliance. Table 1 lists the number of patents published by each enterprise. A sum total of 320 patents have directly mentioned the application of nanotechnology in home appliance industry. Figure 1 demonstrates the timeline of patents.

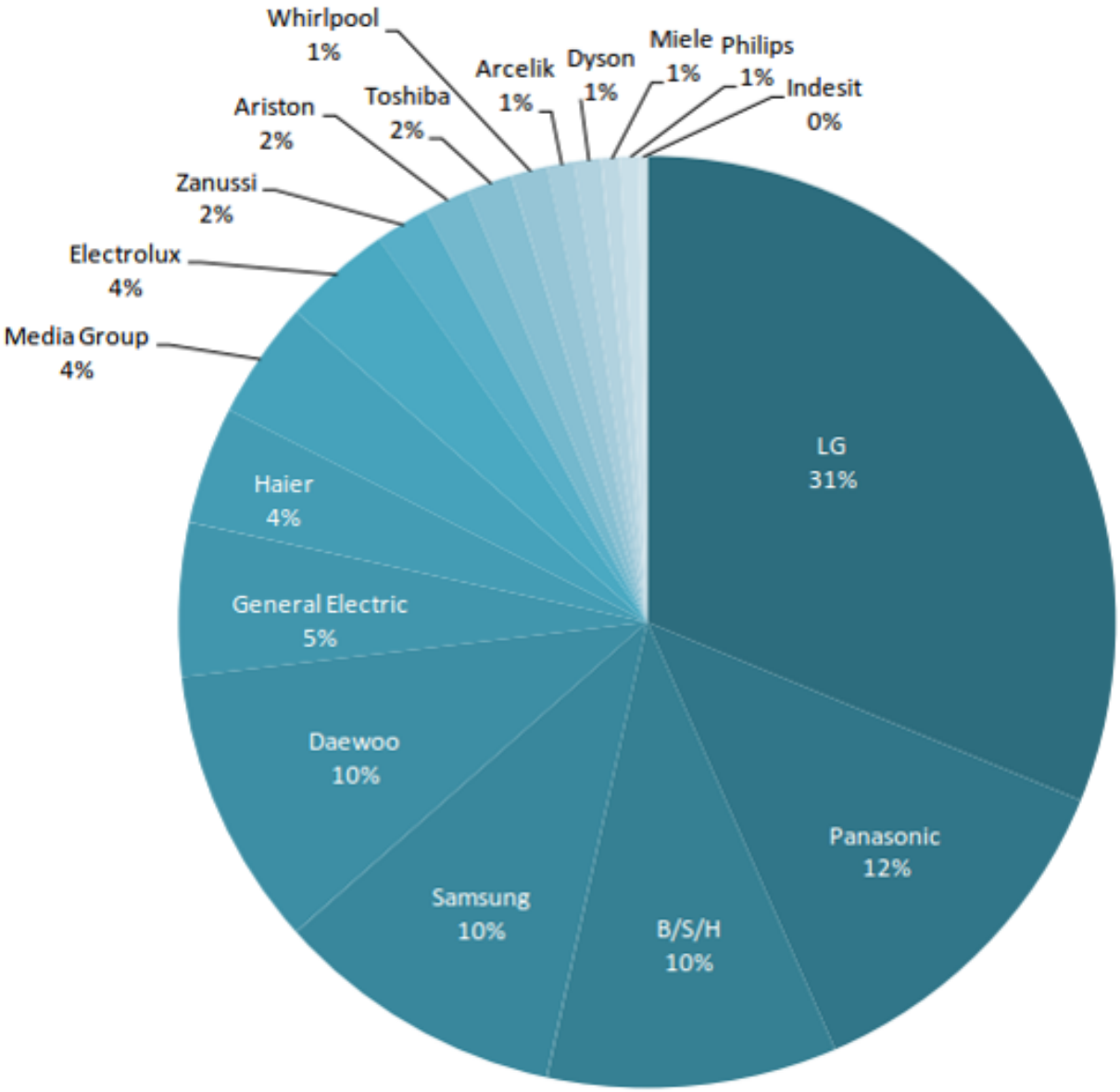

Fig. 1: Number of Patents Published by Each Enterprise in the Field of Nanotechnology Applications in Home Appliance Industry

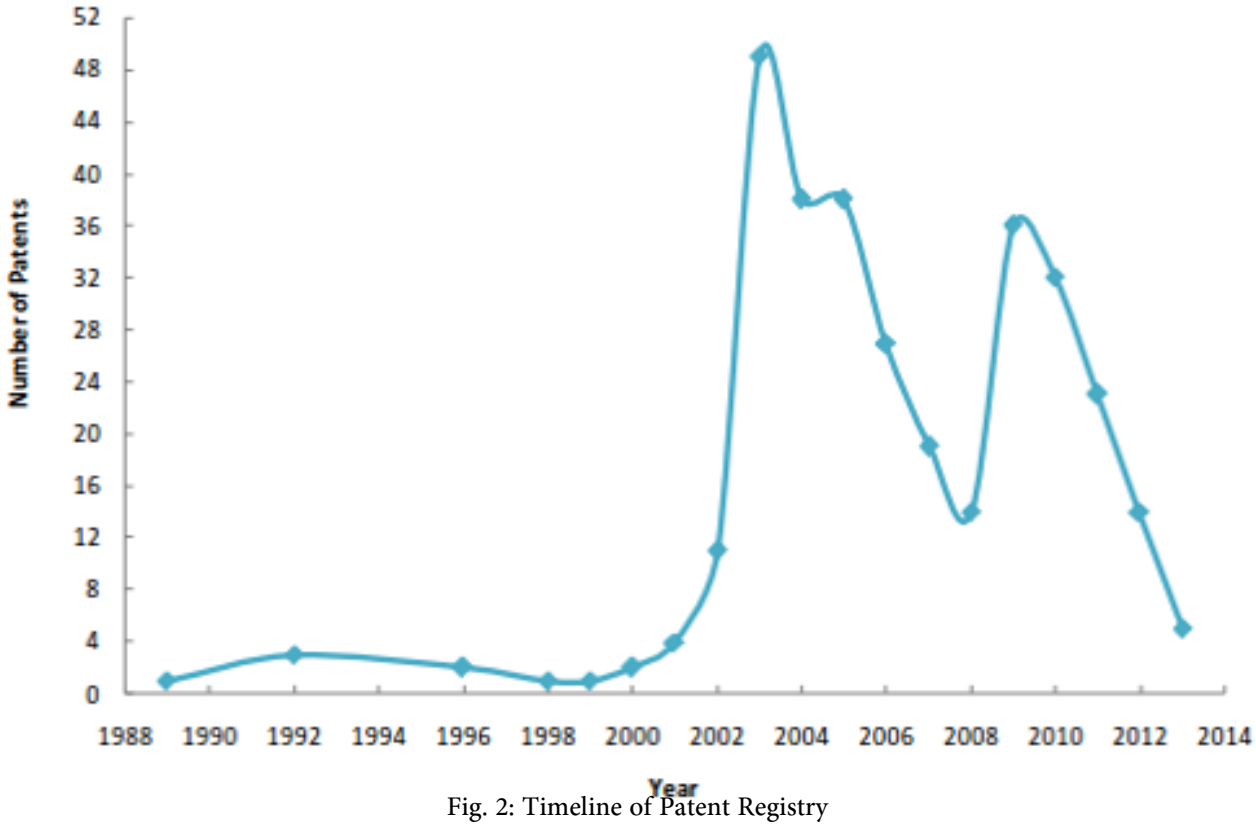

Fig. 2: Timeline of Patent Registry

Figure 3 shows the share of nanotechnology application in each product. As is seen in this figure, nanotechnology has a share of 62% in air conditioners, fridges and washing machines.

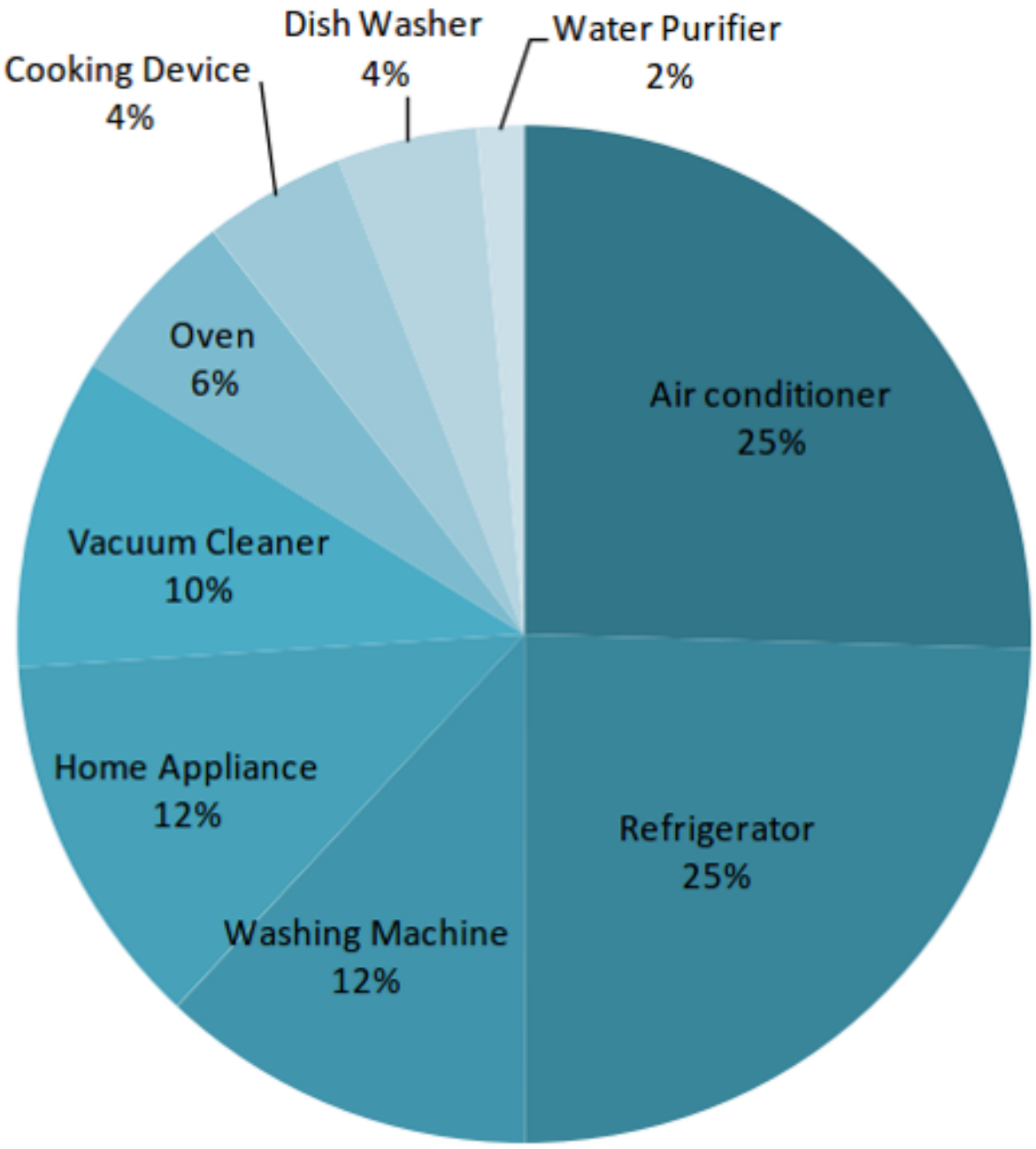

Fig. 3: Share of Nanotechnology Application in Each Product

This report also studies the application of nanomaterials in the four sections of body and mechanical pieces, sensor and electronic devices, filters and coatings in various types of home appliance products. Figure 4 demonstrates the share of nanotechnology application in each of the sections.

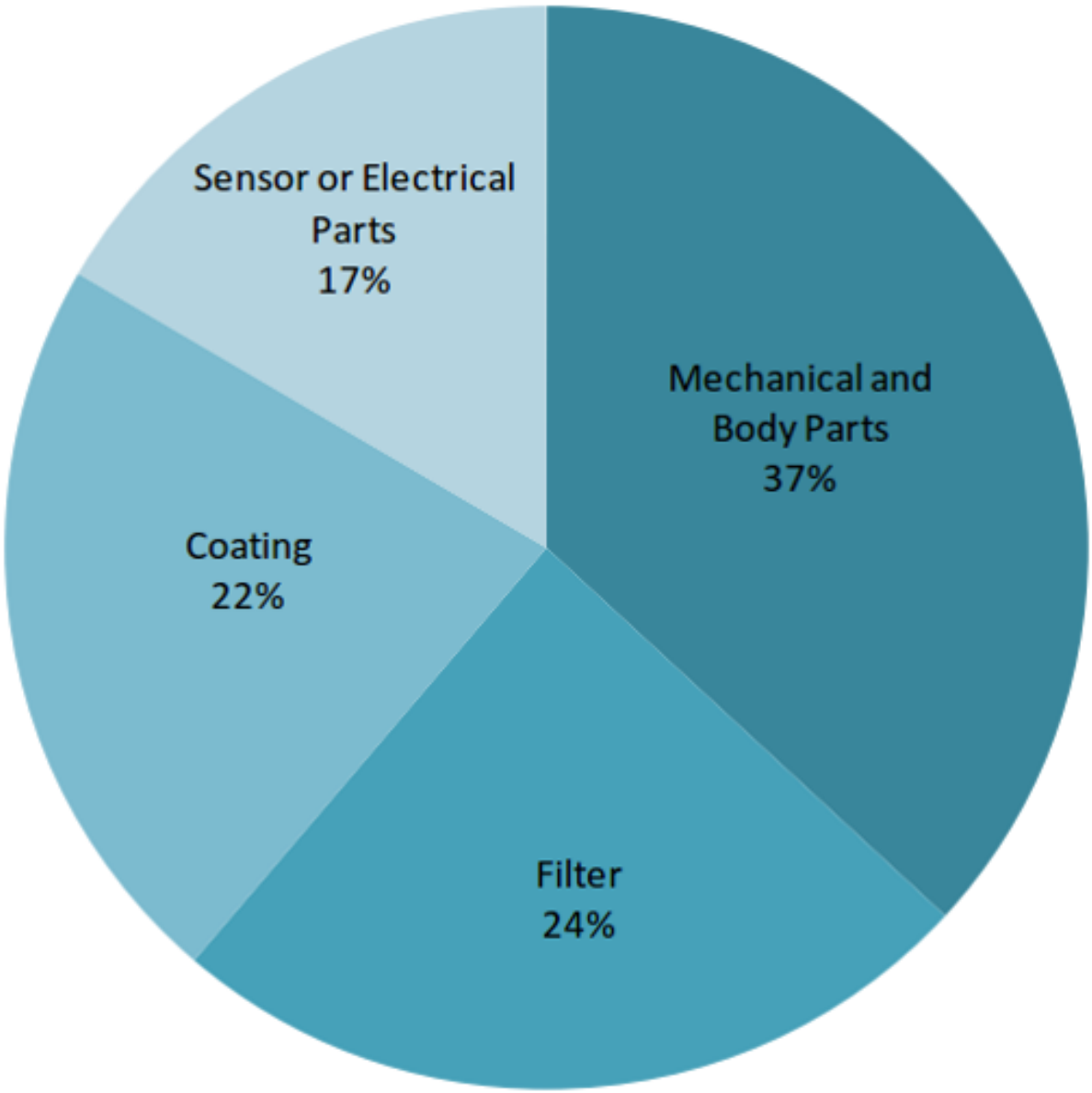

Fig. 4: Share of Nanotechnology Application in Each of Technical Sections

This report investigates many indicators, including legal information of patents, countries where patents have been registered, high-cited patents and patents with the highest amount of family patents, the focus of each enterprise on the type of devices, determination of nanotechnology application in various parts of the device and the leading enterprises in the production of home appliance by using nanotechnology.

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