Lawn mowing robots go overseas: The road to overseas lawn mowing is long

Other international markets, North American Market | Author: Peng Ying | 2023-01-09 11:03

Unlike other types of robot overseas expansion, this is a "pure" overseas expansion business.



There was once an interesting question : What is the biggest difference between the middle classes in China and the United States? The answer is: whether there is a lawn.

Anyone who has been to the United States will have this feeling: all you see are cars moving, but no lawns. In many small and medium-sized cities in the United States, especially in suburban towns, there is almost no bare land. There are patches of green grass on the roadsides, in front of houses and behind houses, and the small lawns in front of most residents' houses are kept clean and tidy.

For developed regions such as Europe and the United States , gardening has become a part of daily life for many families.

In developed countries such as Europe and the United States, lawn culture is prevalent due to the relatively abundant land resources, high living standards of residents, and the influence of the humanistic environment and family concepts that are keen on taking care of lawns. According to the prospectus of Daye Co., Ltd., more than 43% and 87% of households in Germany and the United Kingdom have private gardens, respectively. The number of gardening enthusiasts in the United States, Germany, and the United Kingdom exceeds 40%, 60%, and 49% of the total adult population in their countries, respectively. In addition, due to the high labor costs in Europe and the United States, lawn maintenance in Europe and the United States is almost entirely done by families themselves.

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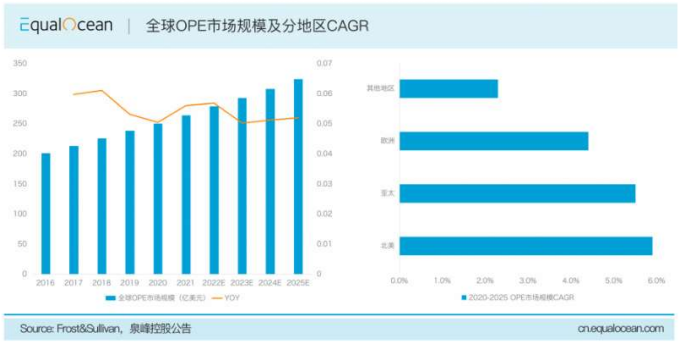
In addition , Europe and the United States have introduced relevant laws and regulations on lawn maintenance, and set requirements for lawn care behaviors such as mowing. "Each person mows the grass in front of his own door" and "each person sweeps the snow in front of his own door" are described as selfish in Chinese culture, but in the United States this is a responsible and law-abiding behavior.



Beautiful houses and neatly trimmed lawns are standard features of middle-class life, and even a symbol of the American dream. However, maintaining a lawn is not an easy task. During the peak season when grass grows fast, you need to mow the lawn 2-3 times a month, which is time-consuming and expensive. There is a lot of work before and after the whole process, such as blowing leaves and watering before mowing, trimming and pruning after mowing, etc. It may take six or seven hours to complete one time .

Based on this type of scenario , the OPE (outdoor power equipment) industry has continued to develop in recent years . OPE products are mostly used for lawn, garden or courtyard maintenance, and the most important ones are garden machinery tools. According to the type of use, they can be divided into step-by-step, handheld, riding and smart types. OPE products have a wide range of application scenarios. They can not only be used for mowing, weeding and leaf blowing in lawns and gardens, but also for snow sweeping, plowing and sowing.

From 2016 to 2020, the global outdoor power equipment market size has steadily grown from approximately US$20.1 billion to US$25 billion, and is expected to reach US$32.4 billion in 2025, with a compound annual growth rate of 5.4%. In terms of regions, North America will have the fastest compound annual growth rate of 5.9% in the OPE market size from 2020 to 2025, followed by Asia Pacific and Europe.



Although the lawn mower was invented by British engineer Edwin Beard Budding as early as 1830, it has not developed as smoothly as the robot vacuum cleaner, and it is even difficult to be regarded as a real robot. So after the rise of the robot vacuum cleaner, especially after the robot vacuum cleaner was gradually accepted by Europe and the United States, people began to think, when can the lawn mower develop into a highly automated robot like the robot vacuum cleaner?

In fact, the first commercial fully automatic lawn mower robot was born in 1995, two years earlier than the appearance of the sweeping robot, and was developed by the Swedish company Husqvarna. At that time, this turtle-shaped lawn mower equipped with solar panels opened the era of lawn mower automation. Today, the lawn mower robot market is still growing. According to data, the global lawn mower robot market size will reach US$700 million (equivalent to about RMB 5 billion) in 2021. It is estimated that the global lawn mower robot market size will reach US$3.5 billion in 2026, with a compound growth rate expected to reach 12%.

At present , lawn mower robots are mainly sold in the European market . According to the announcement of Husqvarna, in the lawn mower robot market, the penetration rate in Europe (except the UK) far exceeds that in North America. Specifically, the penetration rate in the European market, except the UK, remains above 15%. The robot penetration rate in the northwest is the highest, reaching 50%-60%, while the penetration rate in the UK and the US is still 5% or below, and the industry is in its infancy.

EqualOcean believes that the high penetration rate of lawn mower robots in the European market is mainly based on the following reasons : First , the current performance of lawn mower robots is more suitable for European lawn areas . The average lawn area in Europe is 300-400 square meters, and the average area in the United States is 600-1000 square meters. However, due to the development limitations of lithium battery technology , the running time of lawn mower robots is relatively short , resulting in a relatively small lawn area that can be covered . Therefore, they are more suitable for small and medium-sized lawns in Europe ; second , compared with other countries and regions , Europe implemented strict environmental protection policies earlier , and these policies also promoted the market's elimination of traditional fuel lawn mowers; third , compared with the United States, Europe has a lower labor participation rate, which means higher labor costs and a greater need for unmanned household products to reduce household expenses.

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For the US market , although the penetration rate is far lower than that of the European market, the US market has a larger demand scale than the European market in terms of the global OPE market size and demand for garden machinery. Therefore , the North American market has great potential and broad room for future growth. According to statistics, although the annual per capita lawn expenditure in the United States has been increasing year by year since 2007, from US$107 in 2007 to US$171 in 2020, the US market is still in its infancy, and multiple factors are favorable for development, and the stock is large :

First , the implementation of environmental protection policies in the United States has promoted the application of lawn mower robots. California has stepped up the implementation of stricter environmental protection policies since 2020, setting an example for other states. In the future, traditional fuel lawn mowers will gradually be replaced by lawn mower robots; second , technological breakthroughs have driven the diversification of application scenarios of lawn mower robots in the North American market.

Household lawn mower robots are still the mainstream application scenario , accounting for 70%. In the future, it is expected that lawn mower robots will be included in more professional application scenarios, such as golf course maintenance. For the United States, as the country with the largest number of golf courses in the world, assuming that the penetration rate reaches 100%, professional application scenarios can bring a market space of tens of billions of dollars.

In summary, the lawn mower robot market is currently dominated by the European market and has a very high penetration rate. Although the North American market is in its infancy and faces many pain points, such as the lawn mower robots on the market are not able to mow enough areas to cover North American lawns , companies are actively working to solve the problem and have achieved initial results, with huge room for future growth.

The current lawn mower robot market is highly concentrated in terms of brand awareness, but the market has a large stock, and many companies have flocked in. According to statistics, there are two obvious giants in the market - Husqvarna and Positec. The products of these two companies account for 90% of the global market share, and the market brand awareness is highly concentrated. However, since the North American market penetration rate is less than 5%, it is in its infancy and there is still a large stock space, so companies from various countries have flocked to this track.

Faced with the vast global market space , lawn mowing robots have become a new outlet for Chinese companies to go overseas, and lawn mowing robot brands have begun to emerge like mushrooms after a rain .

The current entrants may have experience in robot and autonomous driving R&D, traditional lawn mower production, or rich overseas experience, and each has its own characteristics and highlights: Navimow, an intelligent lawn mower robot released by Ninebot's holding subsidiary Weilan Mainland, has been implemented and mass-delivered in 11 countries and regions overseas; KUMAR, a lawn mower robot released by Songling Robot's Kuma Power, is divided into two versions: intelligent navigation and remote control, suitable for large-area commercial lawn scenes; the new generation of AI lawn mower robots exhibited by Shenlan Technology are divided into multiple models, which can meet the lawn mowing and maintenance work in multiple scenes such as home courtyards, hotels, and football fields; GOAT G1, an intelligent lawn mower robot launched by Ecovacs, uses robot vision solutions as its core technology breakthrough, which better ensures the safety of animals and children on the lawn, and can even undertake garden security work.

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公司名称	简介	割草机器人名称	主要优势技术
宝时得	中国电动工具制造商和出口商	威克士（Worx)割草机器人	AIA导航技术
喜世华	全球户外动力设备龙头企业	AUTOMOWER系列割草机器人	GPS技术防盗；超声波传感；智能互联
九号公司	中国专注于智能短交通和服务类机器人领域的创新企业	赛格威（Navimow)智能割草机器人	EFLS融合卫星定位技术
科沃斯	中国清洁电器龙头企业	GOAT G1割草机器人	TrueMapping四重融合定位技术；AIVI 3D 解决方案
松灵机器人	全球领先的移动机器人底盘制造商；移动机器人系统解决方案提供商	KUMAR割草机器人	GPS-RTK定位；通用型移动地盘技术
深兰科技	以自动驾驶、机器人为主的人工智能独角兽企业	AI割草机器人	融合CV、RTK、INS、VIO等多模态感知定位技术
锐驰智慧	中国智能割草机器人公司	HonyMow割草机器人	激光雷达+视觉+GPS
河森堡	AI智慧庭院方案解决商	智能割草机器人	L3级别自动驾驶技术；视觉融合感知算法

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Faced with the increasingly hot lawn mowing robot market , more and more companies and manufacturers have begun to participate in the competition and go overseas to seize the market . But in a market with such high concentration , do all new companies and new products have great opportunities ?

In fact, the lawn mowing robot product looks simple, but it is actually complicated. The overseas market is huge, but it is not easy to win.

First of all , unlike the sweeping robots we are familiar with , the time cycle from research and development to the implementation of lawn mower robots is about 2-3 years , while most sweeping robots only take 1 year , so lawn mower robots need to go through a long period before they are put on the market . The reason for this situation is that the outdoor environment of the lawn robot is more complicated. Affected by various factors such as grass quality, humidity, and light, lawn mower robots need to accumulate a large amount of real test data at the algorithm level. At the same time, when the product is tested outdoors, it also needs to be matched with suitable technical solutions.

Secondly, from the overall market situation , the stage of smart lawn mower robots is similar to the stage of sweeping robots when they first appeared ten years ago . There are too many uncertainties in the market. The sales logic of OPE products is to first supply them to local dealers in Europe and the United States on a small scale, and then ship them on a large scale after market verification.

Moreover , from the perspective of overseas channels , European and American consumers currently prefer offline channels when purchasing lawn mower robots because of their high unit prices, with some products costing up to US$2,000. Consumers can only buy with confidence after touching the real thing. Therefore, for lawn mower robots, foreign brands such as Bosch, which have entered large retail channels, may be more competitive in the early stages. Bosch has entered many large retail channels overseas , such as Lowe's, OBI, and B&Q, and has a mature sales system. Some start-up brands that take the online crowdfunding route are easy to gain popularity, but will face channel and profit problems.

In addition, unlike mobile phones and mobile power banks, lawn mowing robots are larger in size and weight, and the difficulty and cost of overseas sales, warehousing and logistics will be greater. These are also hurdles that entrants will need to overcome in the future.

Finally , for the new category of smart lawn mowing robots, there will inevitably be various after-sales problems in the early stages . Therefore , the brand must be prepared for localized after-sales services and smart upgrade services. This can be done by cooperating with agents, etc.

In recent years, with the continuous advancement of global environmental protection policies, lawn mower robots have gradually replaced fuel lawn mowers and become the fastest growing area in the lawn mower market due to their high efficiency, energy saving, safety, reliability, and high degree of automation. However, at present, the lawn mower robot market has been developed for a relatively short time, and the market penetration rate still has a lot of room for improvement. In the future, it is expected to continue to develop in the direction of high efficiency, low emissions, and high intelligence. For Chinese lawn mower robot companies going overseas , they need to continue to increase their R&D efforts, continuously improve the technical level and value of their products, and achieve large-scale mass production , so that they can seize a vast market overseas . Maybe , they can create another "DJI".

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