

Global Patent Portfolios of the Top 25 Well-Funded AV Companies

Article By:

Chethan K. Srinivasa

Obtaining patent protection on a global scale can be costly. As each country is a sovereign jurisdiction, they have their own Patent Office, requiring a patent application to be filed and examined in the respective Patent Office in order to receive patent protection in that jurisdiction. While the same patent application can be filed in multiple countries for the same invention, the Patent Office lifetime fees for obtaining patent protection for a single invention in the 50+ major countries combined can [cost over \\$500,000!](#) For example, the Patent Office fees for the 20-year lifespan of one patent asset can accumulate to around \$8,000 for a [small entity in the United States](#), and \$17,500 in China. As such, it is simply not practical to indiscriminately pursue international patent protection in all major jurisdictions. So, which countries should you consider for international protection of your invention?

The following table illustrates the global patent portfolios of the top 25 well-funded autonomous vehicle (AV) companies ([according to CrunchBase, updated on May 9, 2020](#)). The number of applications filed per country is listed below for each company based on publicly available databases. It should be noted that patent applications typically do not publish for 18 months after their filing date, so the number of patent assets listed here represents a snapshot of the number of patent assets owned by the company as of 18 months ago.

Rank based on CB Score	Companies	Year Founded	HQ	Office Locations	Application s Filed per Country	Total Appli cations Filed
1	Brain Corp	2009	San Diego, California	USA, The Netherlands, Japan	US (240); EP (12); CN (11); CA (7); KR (7); JP (6); TW (2); SG (1); IN (1); WO (44)	331
2	Waymo	2009	Mountain	USA	US (603); CN	1438

			View, California		(132); KR (125); EP (115); JP (106); AU (53); CA (52); SG (37); IL (12); HK (5); MX (2); ES (1); DK (1); DE (1); WO (193)	
3	Otonomo	2015	Herzliya, Tel Aviv, Israel	Israel, USA, Germany	US (1); EP (1); WO (4)	6
4	Tesla	2003	Palo Alto, California	USA, Netherlands, Germany, Australia, China, Hong Kong, Japan, South Korea, Taiwan	US (693); EP (130); CN (104); JP (92); KR (35); CA (22); DE (21); HK (11); IN (4); AU (4); AT (3); GB (3); MX (3); TW (3); WO (146)	1274
5	Bolt Technology	2013	Tallinn, Harjumaa, Estonia	Click here	-	-
6	Nexar	2015	Tel Aviv, Israel	Israel	US (3); WO (2)	5
7	Mobileye, An Intel Company	1999	Jerusalem, Israel	Israel, Cyprus	US (255); EP (91); CN (49); KR (20); JP (19); CA (7); AU (7); IL (6); DE (5); IN (4); AT (4); BR (2); GB (2); SE (1); ES (1); WO (63)	536
8	Luminar	2012	Orlando, Florida	USA	US (120); EP (7); CN (7); JP (2); WO (14)	150
9	TuSimple	2015	San Diego, California	USA, China	CN (213); US (129); EP (3); AU (2); WO (52)	399
10	Seegrid	2003	Pittsburgh, Pennsylvania	USA	US (21); EP (14); HK (7); JP (6); KR (5);	77

						CN (5); CA (5); ES (1); WO (13)	
11	Cruise	2013	San Francisco, California	USA		US (9)	9
12	Argo AI	2016	Pittsburgh, Pennsylvania	USA		US (42); DE (3); GB (1)	46
13	Cobalt	2016	San Mateo, California	USA		US (17); WO (2)	19
14	Nauto	2015	Pal Alto, California	USA, Ireland, Japan		US (24); EP (6); JP (5); CN (1); BR (1); WO (13)	50
15	Momenta	2016	Beijing, China	China, Germany		CN (75); US (3); WO (6)	84
16	Embark Trucks	2016	San Francisco, California	USA		-	-
17	Arrival	2015	London, England	Germany, Netherlands, Israel, Russia, USA		GB (37); CN (5); WO (6)	48
18	AirMap	2014	Santa Monica, California	USA, Germany, Switzerland, France, Singapore		US (2); EP (1); KR (1); JP (1); CN (1); AU (1); WO (1)	8
19	Quanergy Systems	2012	Sunnyvale, California	USA, Canada, China, Germany, Japan, UK, UAE		US (16); CN (4); KR (4); EP (4); JP (4); SG (4); TW (4); WO (8)	49
20	Applied Intuition	2017	Sunnyvale, California	USA, Germany, Japan		-	-
21	Xiaopeng Motors	2014	Guangzhou, Guangdong, China	China, USA		CN (1074); WO (20)	1094
22	Precision Hawk	2010	Raleigh, North Carolina	USA, Canada		US (6); CA (3); WO (3)	12
23	Innoviz Technologies	2016	Tel Aviv, Israel	Israel		US (25); EP (3); CN (3); KR (1); WO (10)	42
24	Ike	2018	San Francisco, California	USA		-	-
25	Wheels	2018	Los Angeles, California	USA		-	-

Among the top well-funded AV companies, Brain Corporation, Waymo, Tesla, Mobileye, and TuSimple are ones that hold the largest number of patent assets. Their patent portfolios include applications filed across the globe. The top chosen countries by these companies are as follows:

- Brain Corporation - US (240), EP (12), CN (11), CA (7), KR (7), JP (6);
- Waymo - US (603), CN (132), KR (125), EP (115), JP (106), AU (53), CA (52);
- Tesla - US (693), EP (130), CN (104), JP (92), KR (35), CA (22);
- Mobileye - US (255), EP (91), CN (49), KR (20), JP (19), CA (7), AU (7); and
- TuSimple - CN (213), US (129), EP (3), AU (2).

From the information above, United States (2004), China (509), Europe (351), Japan (223), Korea (187), Canada (87), and Australia (62) appear to be the most popular patent filing jurisdictions for the top five well-funded AV companies. The total number of applications these five companies filed in these countries accounts for about 86% (3423) of the sum of applications filed by the companies. This may reveal that competition in the AV space is a common theme in these countries. Some companies allocate most of their filings in countries where their offices are located (e.g., Tesla – located and filed applications in US, EP, CN, DE, AU, JP, HK, KR, and TW), while some companies pursue patent protection in foreign jurisdictions based on other factors (e.g., Nexar – located in Israel, filed applications in US without any Israeli filings; and Mobileye – located in Israel and Cyprus, filed applications in US, EP, CN, KR, JP, CA, AU, etc.).

Emerging startups also pursue foreign patent protection, albeit to a lesser extent than more established companies. For example, Momenta with 84 total assets and its headquarter in China, pursued some patent protection in the United States in addition to China; Argo AI with 46 total assets and its headquarter in the US, pursued some patent protection Germany and the United Kingdom in addition to the US; and Innoviz Technologies with its headquarter in Israel pursued patent protection in the US, Europe, China and Korea without filing any patents in Israel.

AV companies looking to develop international patent protection for their innovations can leverage the international strategies employed by the top five well-funded AV companies. While an emerging upstart may not ultimately pursue all five of the most common jurisdictions (i.e., United States, China, Europe, Japan, Korea, Canada, and Australia) due to cost or other considerations, these five countries may provide a defensible starting point from which to choose jurisdictions for patent protection. AV companies can then consider factors such as the technical and legal infrastructure of each country, market adoption, potential competitors, potential investors, and the significance of the invention (foundational vs. niche) to ultimately select countries for patent protection.

© 2024 Foley & Lardner LLP

National Law Review, Volumess X, Number 149

Source URL: <https://natlawreview.com/article/global-patent-portfolios-top-25-well-funded-av-companies>

