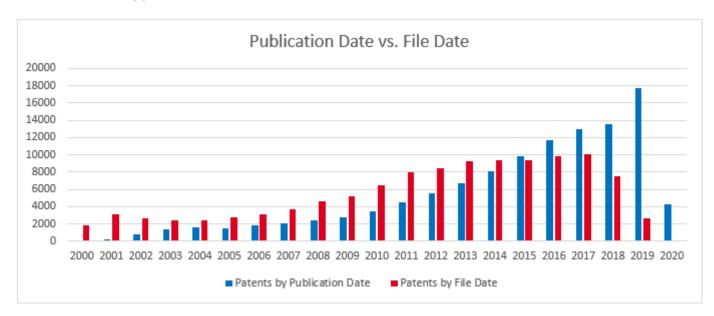




Patent analysis shows just how much Bosch has its sights set on IoT

German company Robert Bosch was the tenth largest applicant at the EPO in 2019, filing for 1,498 patents - an increase of 16.5% on 2018's numbers. The engineering giant generally keeps a low-profile in the patent community, but analysis shows that its portfolio has grown significantly over the past decade in alignment with innovation efforts. Bosch owns 112,829 active patents and its portfolio has been ranked as the fifth most valuable in the world by ClearAccessIP (see more information on its algorithm here).

Bosch's global application output has been steadily increasing since 2006. This has led to an uptick in the number of grants it has received (see graph below). The true extent of its filings is better appreciated by looking at the hard numbers. Of its 112,829 active patents, 52,645 are grants and 60,184 are applications.

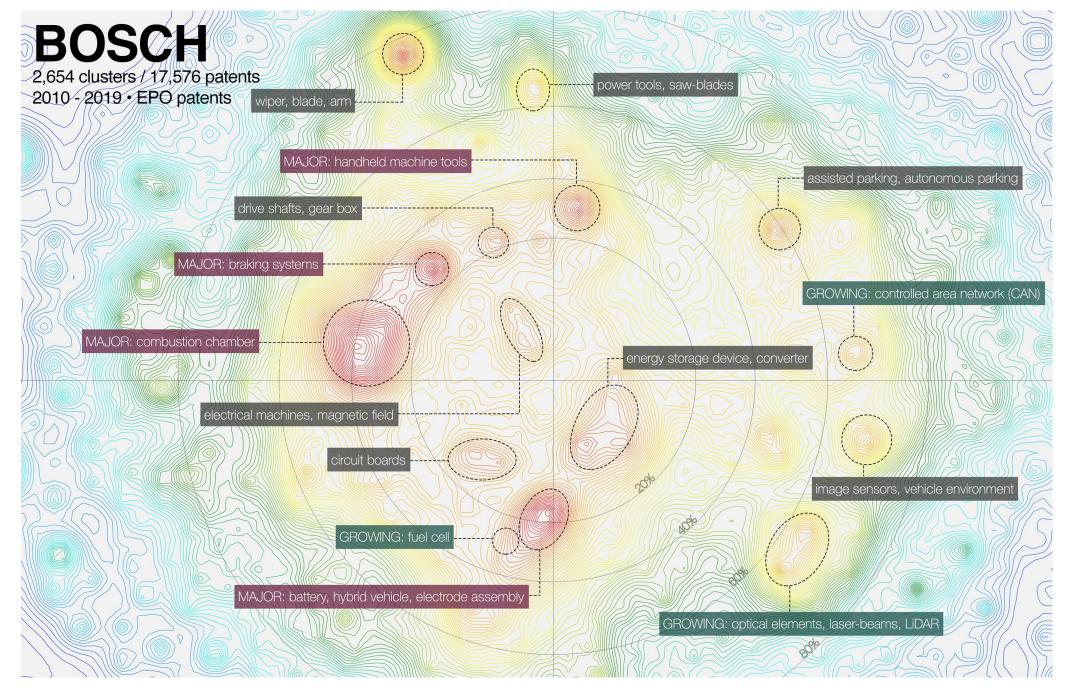


Source: Anaqua's AcclaimIP

Although Bosch has ramped up patent output, it has been consistent in its R&D approach with growth occurring evenly across its portfolio (see image below). This makes sense given that Bosch's <u>long-term business strategy</u> is to integrate new-age technologies and software into its existing products.

Thus, in the landscape below we can see that Bosch has continued to strengthen its traditional technologies, while simultaneously pushing into related – but more modern – areas such as LIDAR and fuel cells. It is worth noting that the company's goal is to become a leader in the mobility of the future as well as the IoT.

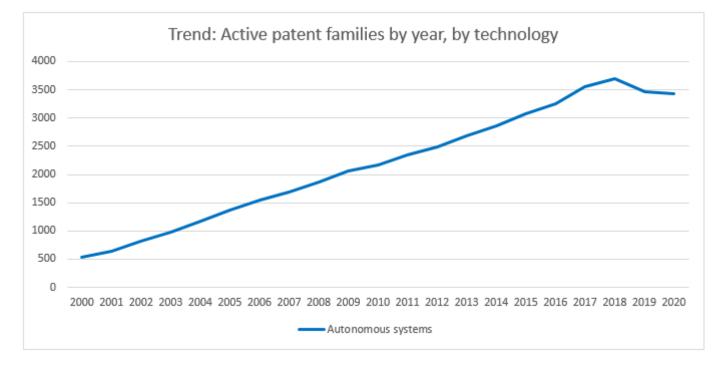
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Source: <u>VALUENEX</u>, see full size image <u>here</u>

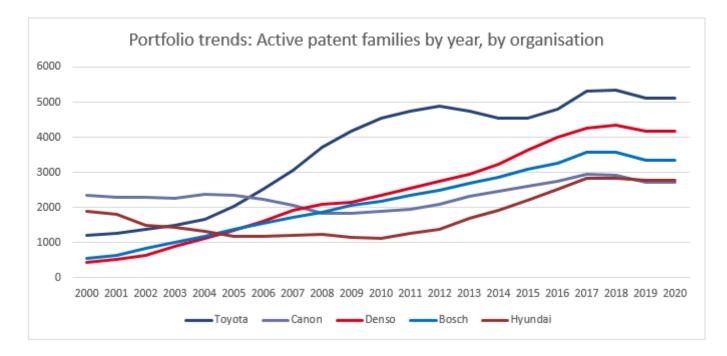
For Bosch to build its credentials as a major player in the future of connectivity it has placed a high priority on the development of autonomous technologies. In 2018 the company's mobility solutions division <u>accounted for</u> 75% of R&D spending, with upfront investments in areas such as electrification, sensors, driver assistance systems and automated driving.

Autonomous technologies have been a major focus for the better part of the past decade as seen in the relevant patent activity (see graph below). Bosch now owns 3,427 patents relating to autonomous systems.



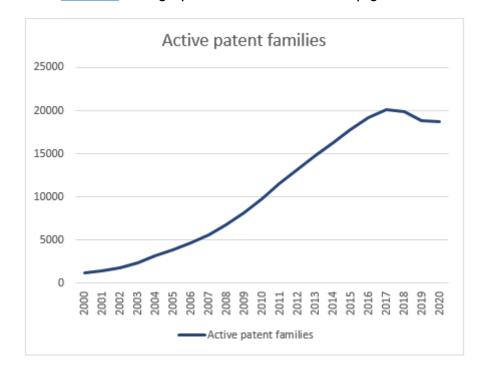
Source: Cipher Strategic Patent Intelligence: Data is accurate as of 31 March 2020.

Bosch's stockpile of patents relating to autonomous driving is impressive when compared to competitors. The company's filing levels surpassed Hyundai's in 2004 and Canon's in 2010. It owns the third largest portfolio, ranking behind Toyota and Denso.



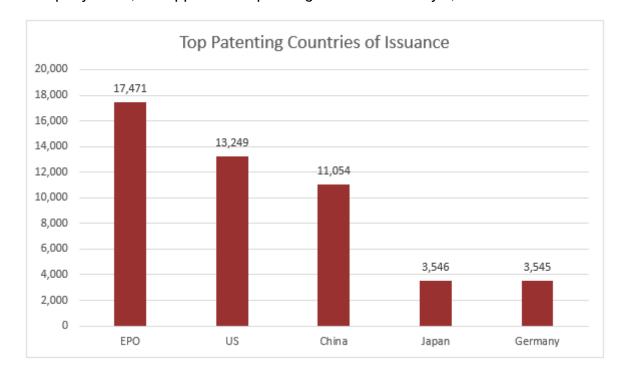
Source: Cipher Strategic Patent Intelligence; Data is accurate as of 15 January 2020.

Modernisation of existing technologies has been just one aspect of Bosch's strategy. Another is globalisation. Early on, the company expanded its footprint into south-east Asia, as well as India and Japan, but was waiting for the opportunity to enter China's highly lucrative market. This came in 1994. The graph below shows the steep growth in the number of active patent families protected in China since the start of this century.



Source: Cipher Strategic Patent Intelligence; Data is accurate as of 31 March 2020.

China is now Bosch's third top patenting country of issuance, accounting for 11,054 active grants, according to Anaqua's AcclaimIP Analytics Software. It sits behind the US, with 13,249 active grants, as well as patents filed via the EPO, of which Bosch has 17,471. As it stands, the company has 6,970 applications pending in China and only 2,498 in the US.



Source: Anaqua's AcclaimIP

IAM says:

The ability to link R&D to strategic business planning is not something that every business excels at. Bosch has been transparent about its objectives and how it intends to achieve them. It is in a strong position to be an IoT leader given that it has such a broad foundation of four key business segments: mobility solutions, industrial technology, consumer goods, and energy and building technology.

Bosch knows what it's good at, what it can accomplish and how. Then it enacts the game plan. It's simple, but effective. While the company's current focus is on modernising its mobility solutions portfolio, it can be expected that the new technologies it develops will be integrated into its other products and divisions.