

# Insight: Litigation Trends (Top 10 Global Manufacturers)

The automotive industry, for a long time, saw very little patent litigation. But as cars get increasingly technological and connected, the sector has attracted more attention, especially from Non Practising Entities (NPEs). The identity of the party bringing the action is one of strategic significance. Equally significant is the technology targeted.

This report analyses the US patent litigation landscape for the 10 largest automotive manufacturers.

**Companies covered in this report:** Toyota, Volkswagen, General Motors, Hyundai, Ford, Nissan, Fiat Chrysler, Honda, Suzuki and Renault.

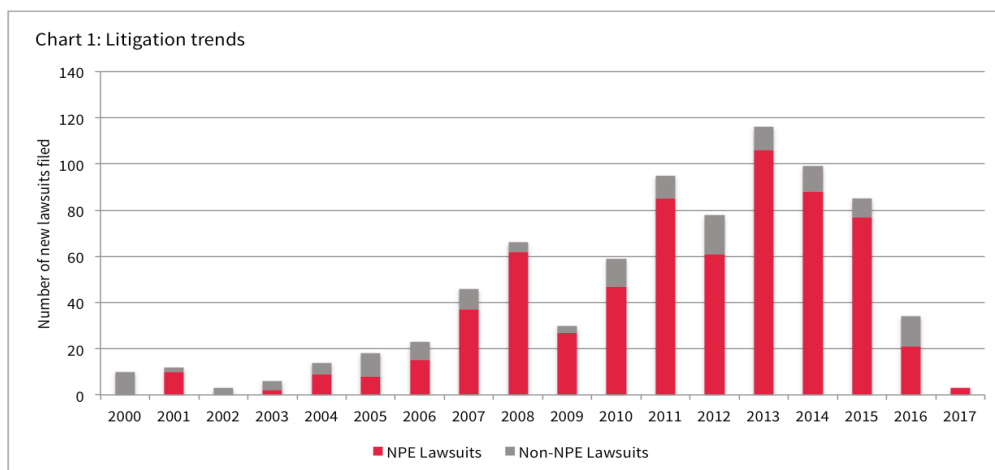
## Executive Summary

- Steady increase in litigation activity until 2013, significant drop since
- Ford and Toyota hit with the most litigation
- Control and communication systems most targeted technologies
- NPEs are active in the sector, but have different technology focus
- Most asserted patents are typically old and relate to navigation and communications
- Automotive manufacturers rarely file lawsuits

## Litigation activity – Steady increase until 2013, then a significant drop

There was a steady increase in new patent actions filed between 2000 and 2013, with the exception of 2009. Since 2013, there has been a very significant drop in new lawsuits filed with 2016 only seeing 34 new lawsuits, compared with a peak of 116 only 3 years earlier.

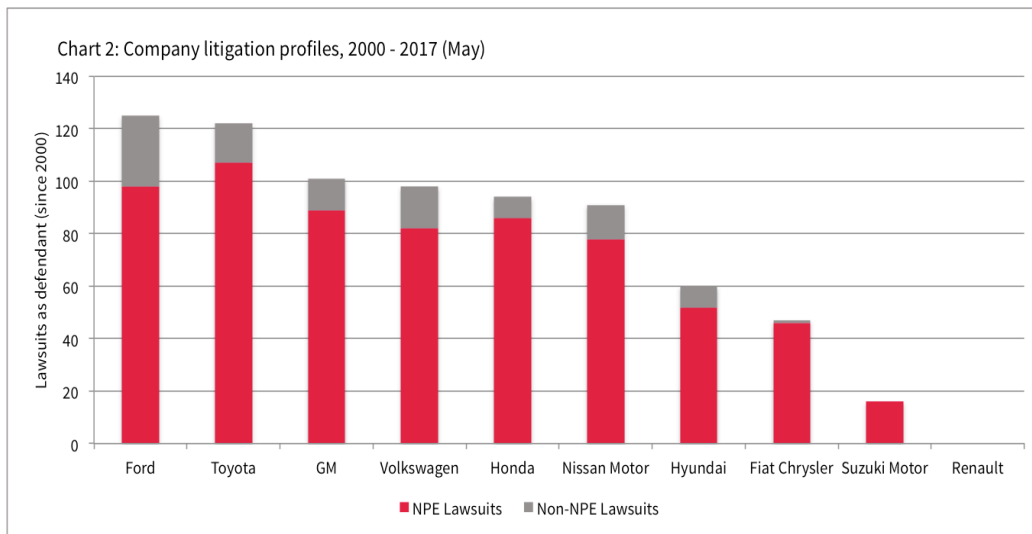
The number of NPE lawsuits has typically been very high - more than 80% of lawsuits filed between 2007 and 2015 were initiated by NPEs. Since then, the number of NPE lawsuits has decreased dramatically (21 new lawsuits in 2016 compared to 77 in 2015). Equally interesting is the increase in competitor/operating company litigation with 13 new disputes. Chart 1 presents the underlying data.



## Litigation targets – Ford and Toyota hit the most

Chart 2 breaks down the patent litigation against the Top 10 since 2000. Ford has been hit with most patent lawsuits, followed by Toyota. The next 4 companies have seen roughly the same number of lawsuits. Ford has seen the highest proportion of non-NPE lawsuits, 22%, whereas Suzuki has seen only NPE lawsuits.

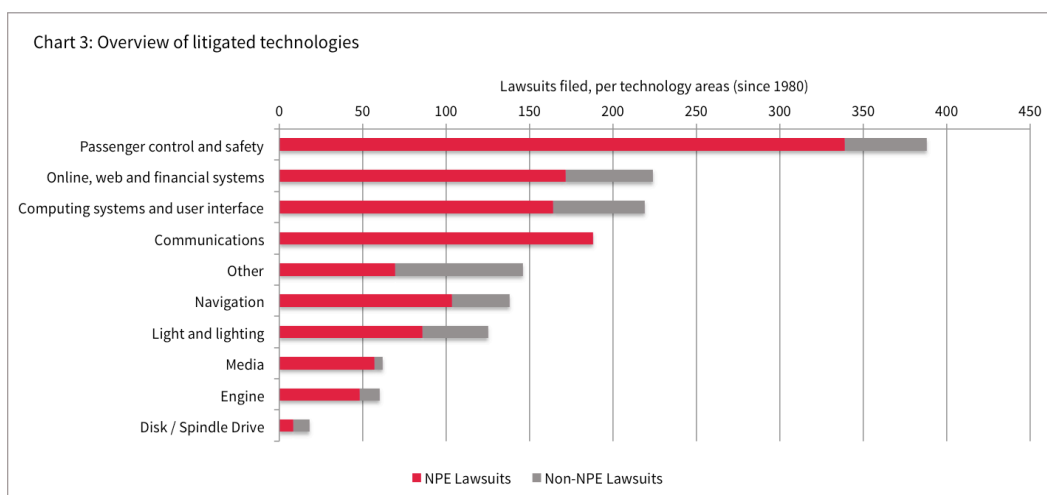
In general, the number of lawsuits is related to the level of sales, with Ford, Toyota and GM having 15.7%, 13.9% and 16.7% market share in 2016 respectively. However, Volkswagen (across all brands) only accounts for a small portion of the US market but still experience a significant number of incoming patent actions.



## Litigated technologies – mainly within control and communication systems

Chart 3 breaks down litigated patents into technology areas. Passenger control and safety technologies are by far the most litigated areas, and regularly involve NPEs. The only distinct technology area where there are more non-NPE patents is Disk Drives (47% of patents used in NPE lawsuits). Interestingly, disk drive related litigation has come from major consumer electronics companies (LG and Funai) around 10-12 years ago, and now in 2017 from Intellectual Ventures filing lawsuits against Toyota and Honda, claiming that their power steering motors infringe disk drive / spindle motor technologies

Chart 3 also shows that NPEs are very active also within “traditional” automotive technologies, such as Engines and Lights.



There are also large variations regarding which companies that are hit in which technical areas with lawsuits. Chart 4 looks at who gets sued for what. All companies have been sued in the 5 main technology areas. Asian manufacturers appear to see the highest proportion of lawsuits relating to passenger control and safety, whilst the US manufacturers are most often attacked in the communications field.

Chart 4: Litigation breakdown by technology

	Toyota	Volkswagen	GM	Hyundai	Ford	Nissan	Fiat Chrysler	Honda	Suzuki
Passenger control and safety	21%	20%	22%	36%	16%	25%	18%	40%	31%
Online, web and financial systems	16%	14%	7%	20%	15%	16%	19%	10%	8%
Computing systems and user interface	25%	10%	11%	16%	15%	6%	12%	13%	8%
Communications	7%	10%	32%	3%	21%	8%	6%	6%	4%
Navigation	5%	15%	6%	6%	6%	10%	14%	8%	50%
Light and lighting	9%	9%	7%	4%	7%	14%	1%	11%	0%
Media	2%	6%	3%	5%	2%	7%	3%	5%	0%
Engine	3%	5%	4%	4%	9%	0%	8%	0%	0%
Disk/Spindle Drives	2%	0%	3%	0%	0%	1%	1%	3%	0%
Other	10%	11%	6%	8%	9%	14%	18%	5%	0%

Percentage of defendant lawsuits per technology area

### Most litigious entities – NPEs, but with different technical focus

The most active litigants in recent times are NPEs. However, not all NPEs are the same. They own very different portfolios and sometimes focus on the automotive sector but often have broader interests.

Chart 5 shows the most active NPEs in the automotive sector. In the list are 2 Acacia entities; American Vehicular Sciences and Innovative Display Technologies. Both have asserted large portfolios in the automotive sector (29 and 20 patents respectively). However, the Acacia subsidiaries are also the only companies in this list that have not asserted all the patents they own.

This analysis also illustrates that NPEs typically file more than one lawsuit against the Top 10, to catch different products, subsidiaries, or brands. Looking at the outcomes, the vast majority of lawsuits settle (or with no public resolution). Only a small percentages ever go to court.

Chart 5: Most litigious companies

Plaintiff	Litigations		US patents		Case outcomes			
	Against Top 10 Automotive	Total	Asserted	Total Portfolio	Won	Settled	Lost	Other
American Vehicular Sciences LLC	29	57	29	743	3%	74%	0%	23%
Affinity Labs of Texas, LLC	25	44	21	21	0%	60%	0%	40%
Beacon Navigation GmbH	24	77	8	8	25%	63%	0%	13%
Voxathon LLC	19	13	2	2	0%	100%	0%	0%
Automotive Technologies International Incorporated	16	13	27	743	0%	44%	22%	33%
LPL Licensing, LLC	14	100	13	13	2%	97%	0%	2%
Innovative Display Technologies LLC	14	42	20	743	45%	52%	0%	3%
MHL Tek LLC	13	5	3	3	20%	60%	0%	20%
Joao Control and Monitoring Systems LLC	11	50	9	9	16%	84%	0%	0%
Stragent, LLC	11	26	19	19	4%	91%	4%	0%

Chart 6 analyses who sues who. Beacon Navigation is the only NPE that has asserted patents against all of the Top 10. Most others have sued the majority, with Suzuki being the exception and seeing far fewer NPE actions.

Chart 6: Litigation landscape – who’s suing who

	Toyota	Volkswagen	GM	Hyundai	Ford	Nissan	Fiat Chrysler	Honda	Suzuki
American Vehicular Sciences LLC	14	0	0	8	0	2	0	5	0
Affinity Labs of Texas, LLC	3	6	2	5	2	4	0	3	0
Beacon Navigation GmbH	2	6	2	2	2	2	2	2	4
Voxathon LLC	3	2	2	2	2	3	3	2	0
Automotive Technologies International Incorporated	1	1	3	4	2	3	0	2	0
Innovative Display Technologies LLC	3	2	1	1	1	3	0	3	0
LPL Licensing, LLC	2	1	1	2	3	2	1	2	0
Phoenix Licensing, LLC	2	1	1	2	3	2	1	2	0
MHL Tek LLC	0	4	1	2	1	2	1	1	1
Joao Control and Monitoring Systems LLC	2	1	0	0	2	2	1	3	0
Stragent, LLC	1	3	0	0	1	3	2	1	0

Number of lawsuits per company and plaintiff

## Most litigated patents – mainly old and relate to navigation and communications

The most litigated patents belong to a small number of NPEs; Beacon Navigation, Wyncomm, Voxathin and LPL Licensing. All these patents have been deployed at least 9 times each. The patented technologies are software and computing related.

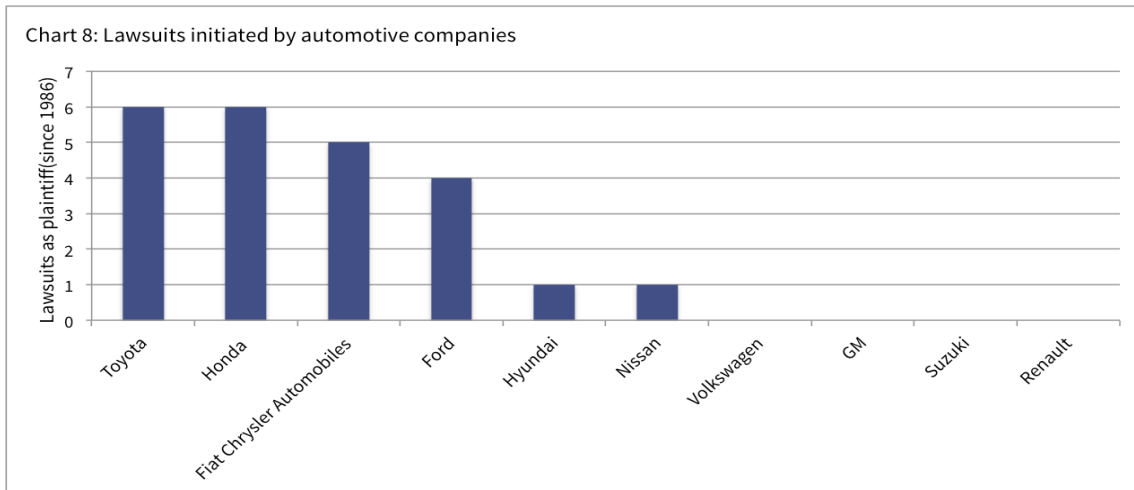
Chart 7 is a table of the 10 most litigated patents. 6 of these patents have now expired and the remainder will expire before the end of 2020. This is a discernable trend - 61% of all patents that have been asserted against the Top 10 have already expired.

Chart 7: Most litigated patents

Patent	Plaintiff	Litigation count	Technology	Title	Current Status
US6029111	Beacon Navigation GmbH	12	Navigation	Vehicle navigation system with GPS receiver propagates previous position to current position using GPS receiver to give GPS velocity data, and determines east and north displacements from velocity data	Expired
US6374180	Beacon Navigation GmbH	12	Navigation	Desired destination finding method for vehicle navigation system, involves displaying organized hit list having points of interest having character string with reference to vehicle travel information	Granted
US6178380	Beacon Navigation GmbH	11	Navigation	Vehicle location display for navigation system, displays name of associated road segment adjacent to current road segment, when variable scale is below threshold scale	Granted
US5878368	Beacon Navigation GmbH	11	Navigation	Navigation system in vehicle enables user to avoid congested or unsafe road segments	Expired
US6360167	Beacon Navigation GmbH	11	Navigation	Information communication method in vehicle navigation system, involves selecting and displaying ad from several ads based on vehicle position determined	Granted
US5506866	Wyncomm LLC	9	Communications	Transmitting side channel information in simultaneous analogue and digital communications system adding voice signal to signal points of symbol block along with control information which may be from second source or concern succeeding block	Expired
US6442261	Voxathon LLC	9	Communications	Telephone calls recovery method for attendant telephone set, involves automatically redialing telephone number assigned to call appearance button, upon button selection	Granted
US5642379	Wyncomm LLC	9	Computing systems and user interface	Orthogonal signals modulating method for data communication system involves modulating each orthogonal signal in set of orthogonal signals with corresponding one of first component signals at certain times	Expired
US8352317	LPL Licensing, LLC	9	Online, web and financial systems	Method for facilitating production of set of offer communications for marketing e.g. life insurance products, involves generating electronic communication data that define set of human-readable communications	Expired
US5987434	LPL Licensing, LLC	9	Online, web and financial systems	Marketing and sales transacting apparatus for financial products such as life insurance product	Expired

## Automotive companies' assertions – almost never happens

It is very rare for automotive manufacturers to assert patents, but it does happen. The vast majority of lawsuits initiated by automotive companies are defensive measures, such as countersuits or declaratory judgements. Only 3 lawsuits have been filed against other automotive manufacturers over the last 30 years (Toyota v. Hyundai in 2007, Nissan v. Volkswagen in 2005 and Honda v. Mazda in 1991) and only a handful more against suppliers.



Toyota and Honda have filed most lawsuits, followed by Fiat Chrysler and Ford, 4 of the Top 10 have never started a patent infringement action.