

Insights: Litigation Trends (Top 10 Global Suppliers)

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). This applies not only to manufacturers but also to other parts of the supply chain.

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

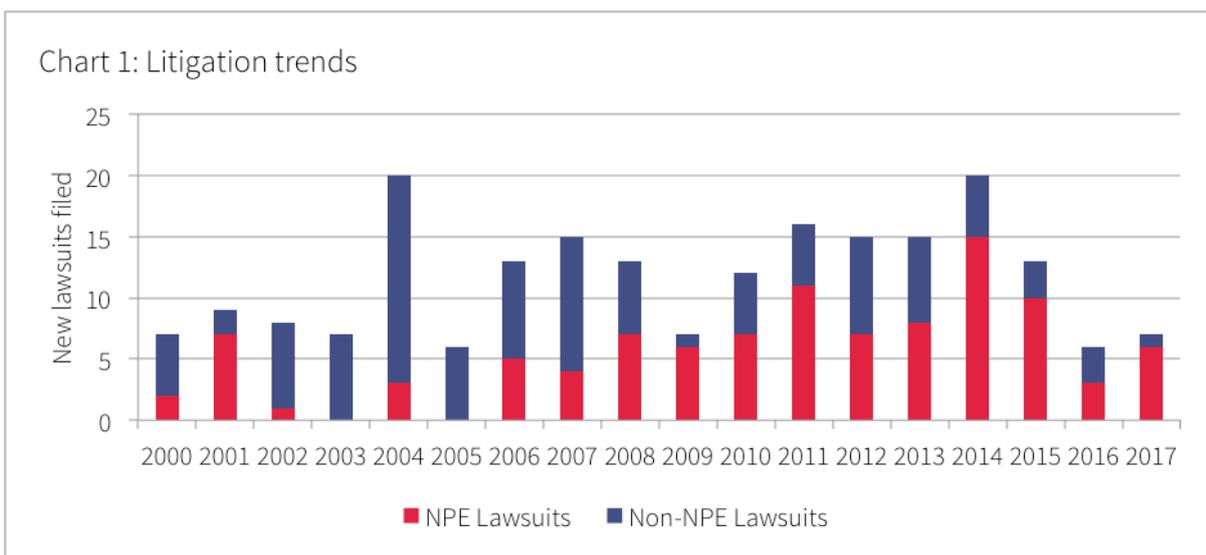
Companies covered in this report: Bosch, Johnson Controls, Magna, Continental, Denso, ZF, Lear, Hyundai Mobis, Aisin Seiki and Faurecia.

Executive Summary

- Litigation activity driven by NPEs and now declining
- Bosch hit with the most lawsuits
- Remote control and entry, Powertrain and Airbag systems are the most litigated technologies
- NPEs account for lion's share of the activity
- Most of the heavily litigated patents have now expired

US litigation activity – the rise and fall of NPEs

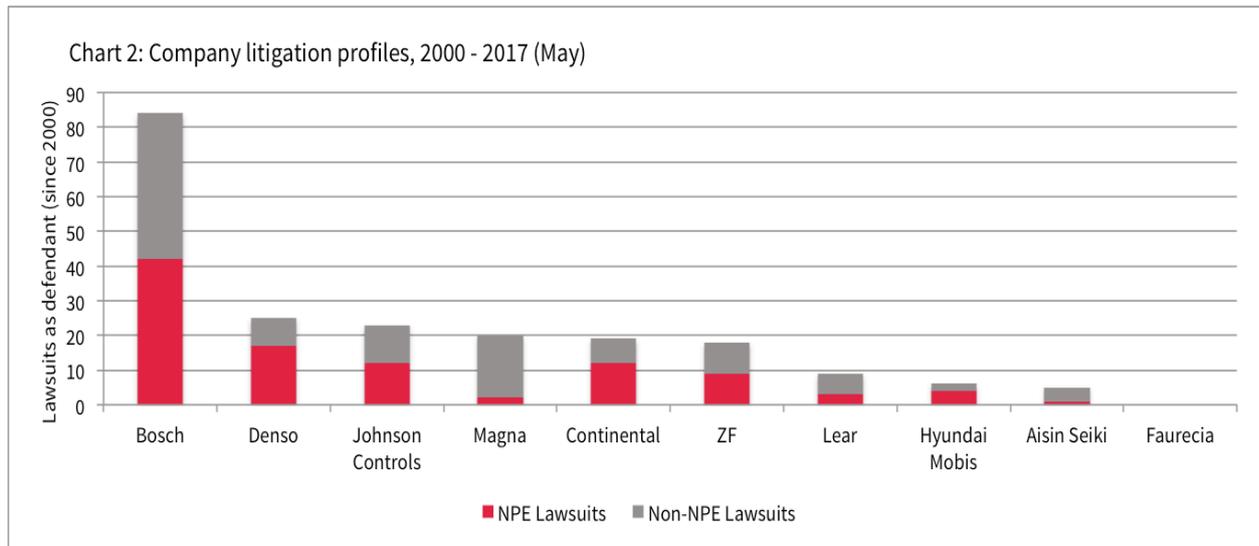
Chart 1 represents the litigation against the suppliers, broken down by the nature of the plaintiff. This follows a familiar pattern, with the rise and now decline of NPE activity.



Litigation targets – Bosch hit the most

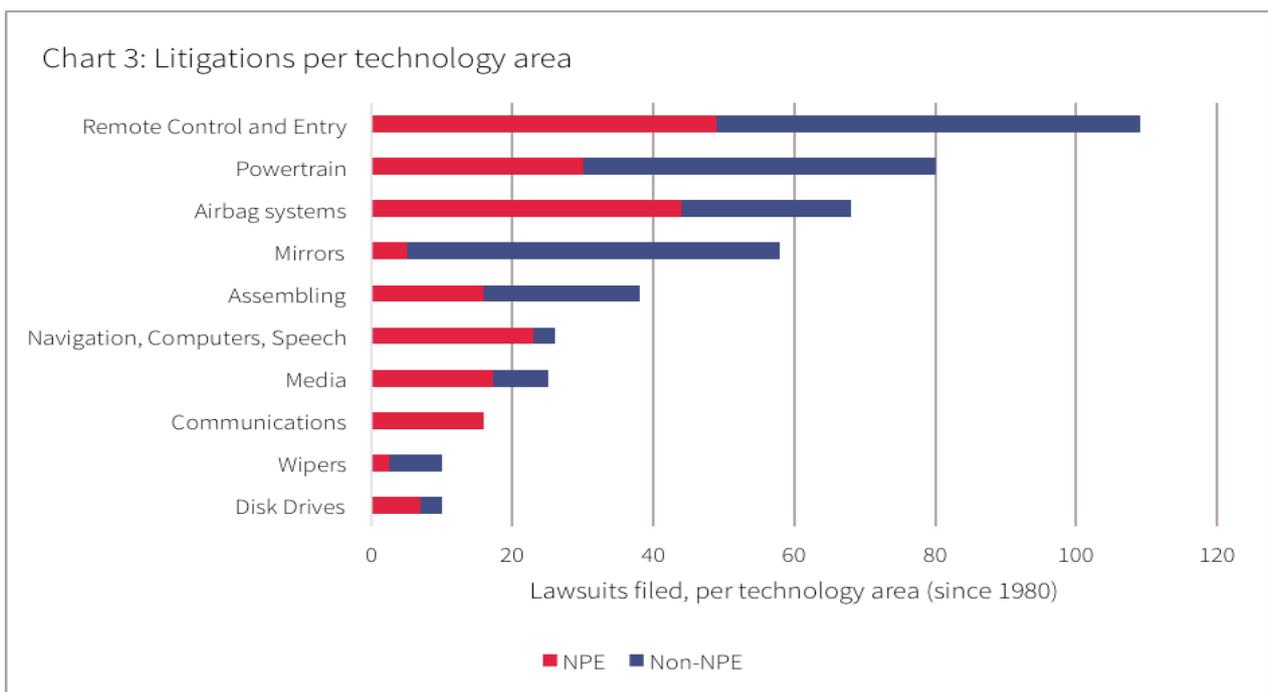
Bosch has been hit with most patent litigation since 2000. Chart 2 reviews the number of actions against each company. Hyundai and Denso have seen the highest proportion of NPE lawsuits, 68% and 67% respectively. The proportion of NPE actions against Bosch, ZF and Johnson Controls are 42%, 50% and 52%. Faurecia has had no actions at all.

Magna has seen the lowest proportion of NPE lawsuits, at only 10%.



Litigated technologies – Remote Control and Entry, Powertrain and Airbag systems

Chart 3 analyses the technologies that have been the subject of the dispute: Remote Control and Entry are the most litigated technologies, followed by Powertrain, Airbag systems and Mirrors. NPEs have tended to focus on high tech areas such as Navigation, Computers, Communication and Media.



Most litigious – NPEs account for the lion’s share

The majority of the litigants are NPEs. There are a wide variety of NPEs and Chart 4 analyses the 10 most litigious organisations. In this list are Automotive Technologies International and Wacoh who have only pursued the automotive suppliers. In contrast, Pragmatius Telecom and Symbology Innovations have asserted their patents mostly outside this group (3 of 88 actions and 2 of 91 actions respectively).

Chart 4: Overview of most litigious companies

Plaintiffs		Litigations		US patents		Case outcome			
Name	NPE	Against Top 10	Total	Asserted	Total	Won	Settled	Lost	Other
Automotive Technologies International	Yes	10	13	27	743	0%	44%	22%	33%
Wacoh Company	No	10	10	5	36	0%	100%	0%	0%
Gentex Corporation	No	4	5	1	587	0%	0%	0%	100%
Pragmatius Telecom LLC	Yes	3	88	7	7	19%	78%	0%	3%
Katz	No	3	26	1	1	0%	0%	0%	100%
Memsmart Semiconductor	Yes	3	6	4	6	0%	100%	0%	0%
Fred Bassali	No	3	3	16	16	0%	0%	0%	100%
Magna Electronics Inc.	No	3	3	10	3,822	33%	67%	0%	0%
Symbology Innovations, LLC	Yes	2	91	5	5	0%	100%	0%	0%
Affinity Labs of Texas, LLC	Yes	2	44	21	21	0%	60%	0%	40%

Automotive Technologies have also only asserted a small part of their portfolio unlike Symbology who have asserted all the patents they own. Looking at the outcomes, NPEs settle most of their cases and only a small percentage ever go to court.

Chart 5: Lawsuit landscape - who's suing who

	Bosch	Denso	Magna Int	Continental	ZF	Johnson Controls	Lear
Automotive Technologies International Incorporated	1	2	0	3	4	0	0
Wacoh Company	7	0	0	3	0	0	0
Gentex Corporation	0	0	4	0	0	0	0
Pragmatius Telecom LLC	3	0	0	0	0	0	0
Katz	0	0	0	0	0	0	3
Memsmart Semiconductor Corporation	3	0	0	0	0	0	0
Fred Bassali	0	0	0	0	0	3	0
Magna Electronics Inc.	0	0	0	0	3	0	0
Symbology Innovations, LLC	0	0	0	2	0	0	0
Affinity Labs of Texas, LLC	1	1	0	0	0	0	0

Number of lawsuits filed by plaintiffs against automotive players

Chart 5 analyses who sues who. Automotive Technologies has asserted patents against Bosch, Denso, Continental and ZF. Bosch has been sued by 5 of the 10 most litigious companies.

Most litigated patents – mainly old and relate to sensors and controls

The most litigated patents have only been used a few times belong to a handful of companies; Wacoh Company and Johnson Controls. Chart 6 provides further detail. While Wacoh is a small Japanese company, Johnson Controls is a large operating company. The patents all relate to sensor technologies, communication or remote control and all have now expired.

Chart 6: Most litigated patents

US Patent	Plaintiff	Litigation count	Technology area	Patent description	Status
US6865943	Wacoh Company	4	Communication	Multi-axial angular velocity sensor used in industrial machine, automotive vehicle, oscillates oscillator in respective coordinate axial directions and detects displacement of oscillator in respective axial direction	Expired
US6282956	Wacoh Company	4	Communication	Multi-axial angular velocity sensor e.g. for vehicle, has flexible substrate holding weight oscillator which is excited along X direction	Expired
US5614885	Johnson Controls	4	Remote control and Entry	Vehicle trainable transmitter for actuating garage door mechanism varies frequency of output reference signal unit circuit detects that frequency is equal to control signal from remote control	Expired
US5614891	Johnson Controls	4	Remote control and Entry	Trainable transmitter for sending radio signals to actuate remote device includes attenuator for adjusting level of output signal as function of pulse width and frequency of output signal, and receiver which is disabled when transmitter is transmitting	Expired
US5583485	Johnson Controls	4	Mirrors	Rear-view mirror assembly containing vehicle options electrical control system has rear-view mirror including display system with reflector and display source conveying to driver information from vehicle-mounted sensors e.g. heading sensors, thermometer etc.	Expired
US5708415	Johnson Controls	4	Remote control and Entry	Electronic control system for vehicle accessories e.g trainable transmitter for actuating garage door mechanism comprises circuit which is trained by receiving and storing control signal from remote transmitter, which generates control signal for remotely activating garage door mechanism	Expired
US6512364	Wacoh Company	3	Communication	Physical quantity sensor that can be tested has signal processor cancelling interference in different directions in which force is exerted	Expired
US5442340	Johnson Controls	3	Remote control and Entry	Trainable transmitter for sending radio signals to actuate remote device includes attenuator for adjusting level of output signal as function of pulse width and frequency of output signal, and receiver which is disabled when transmitter is transmitting	Expired
US5479155	Johnson Controls	3	Remote control and Entry	Trainable transmitter for sending radio signals to actuate remote device includes attenuator for adjusting level of output signal as function of pulse width and frequency of output signal, and receiver which is disabled when transmitter is transmitting	Expired
US5619190	Fred Bassali	3	Remote control and Entry	Trainable transceiver system for vehicle has output circuit generating radio frequency signals for actuating device controlled by remote control	Expired

Automotive Suppliers - rarely sue each other

Automotive suppliers have been engaged in litigation. 125 lawsuits have been filed since 1986, including some suits filed outside the automotive space (a number of the technologies provided by the suppliers have non-automotive applications).

Only a few of these actions have been brought against other top-10 suppliers e.g. Magna v Hyundai, 2012 and Johnson Controls v Lear, 2007). Most of the lawsuits have been against smaller automotive suppliers. A small portion of the lawsuits have also been filed for defensive measures, for example declaratory judgements.

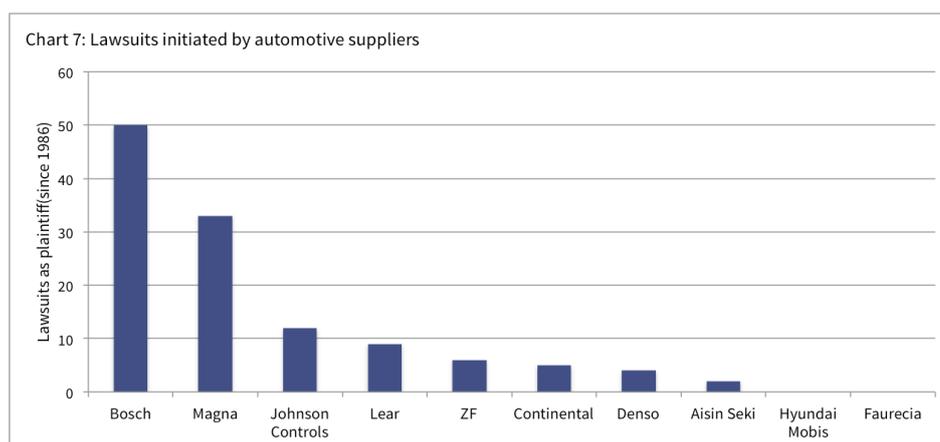


Chart 8 details the technical areas, within the automotive space, where the top-10 automotive suppliers have initiated lawsuits. Mirror technology accounts for the largest share, followed by electronics, wipers and tire related technologies.

Chart 8: Technology overview – where do automotive suppliers sue?

Technology	Number of patents used in lawsuits
Mirror and vision systems	54
Electronics and signal processing	25
Wipers	16
Tire and pressure monitoring	13
Windows and glass	12
Navigation	12
Seats	9
Brake systems	7
Components	4
Pump and fluid systems	2
Doors	2