

## TESLA INC : Portfolio Report

### Introduction

Tesla Inc. (formerly Tesla Motors) designs and manufactures fully electric vehicles (EVs) and battery-based energy storage systems. More recently it has forayed into solar energy generation and storage products. Tesla was incorporated in 2003. The company and its charismatic founder and CEO, Elon Musk, are never too far away from the business headlines. <sup>[1]</sup>

Most recently, Tesla surpassed incumbents like Ford and General Motors in market capitalization, briefly capturing the #1 slot as the most valuable auto company. Its stock value has since decreased, dropping it to #2 behind GM. <sup>[2]</sup>

In 2014, Elon Musk announced that Tesla would not initiate lawsuits against other EV manufacturers, if they chose to utilize its technology. Earlier in 2006 Tesla captured the public's imagination by introducing the Roadster - a plug-in electric sports car, powered by Li-ion batteries, with a range of over 200 miles per charge and an acceleration of 0-60 miles per hour in under 4 seconds. This spurred the large automakers to reboot their EV programs. <sup>[1]</sup>

Currently, the large automakers are hedging their bets between plug-in EVs and electric or fuel cell hybrids. In contrast, Tesla's focus is on plug-in EVs alone, with an emphasis on a range of technologies related to batteries and charging. Despite a smaller portfolio in comparison to the larger players, Tesla has significant IP related to battery technology (Li-ion), and charging (fast charging). <sup>[3]</sup>

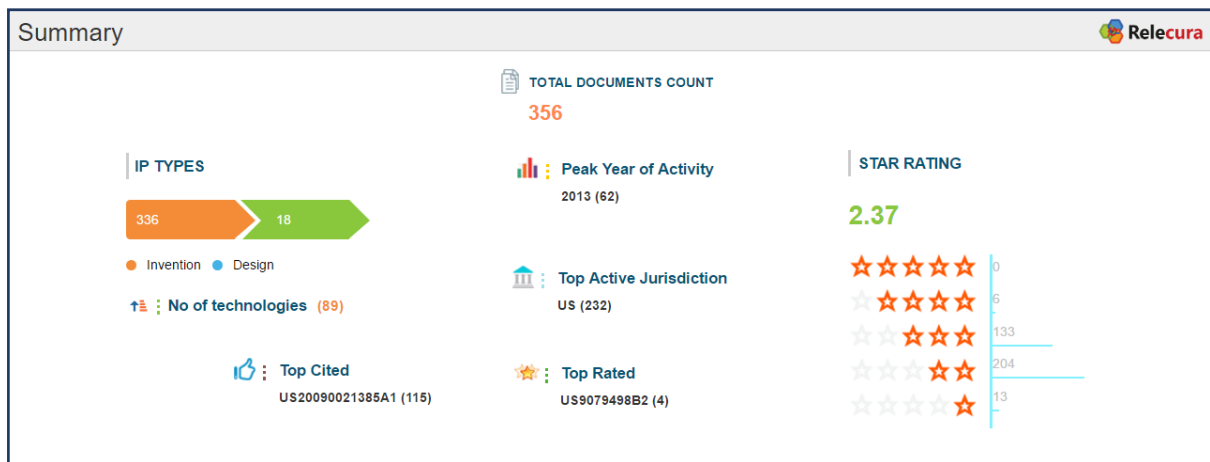
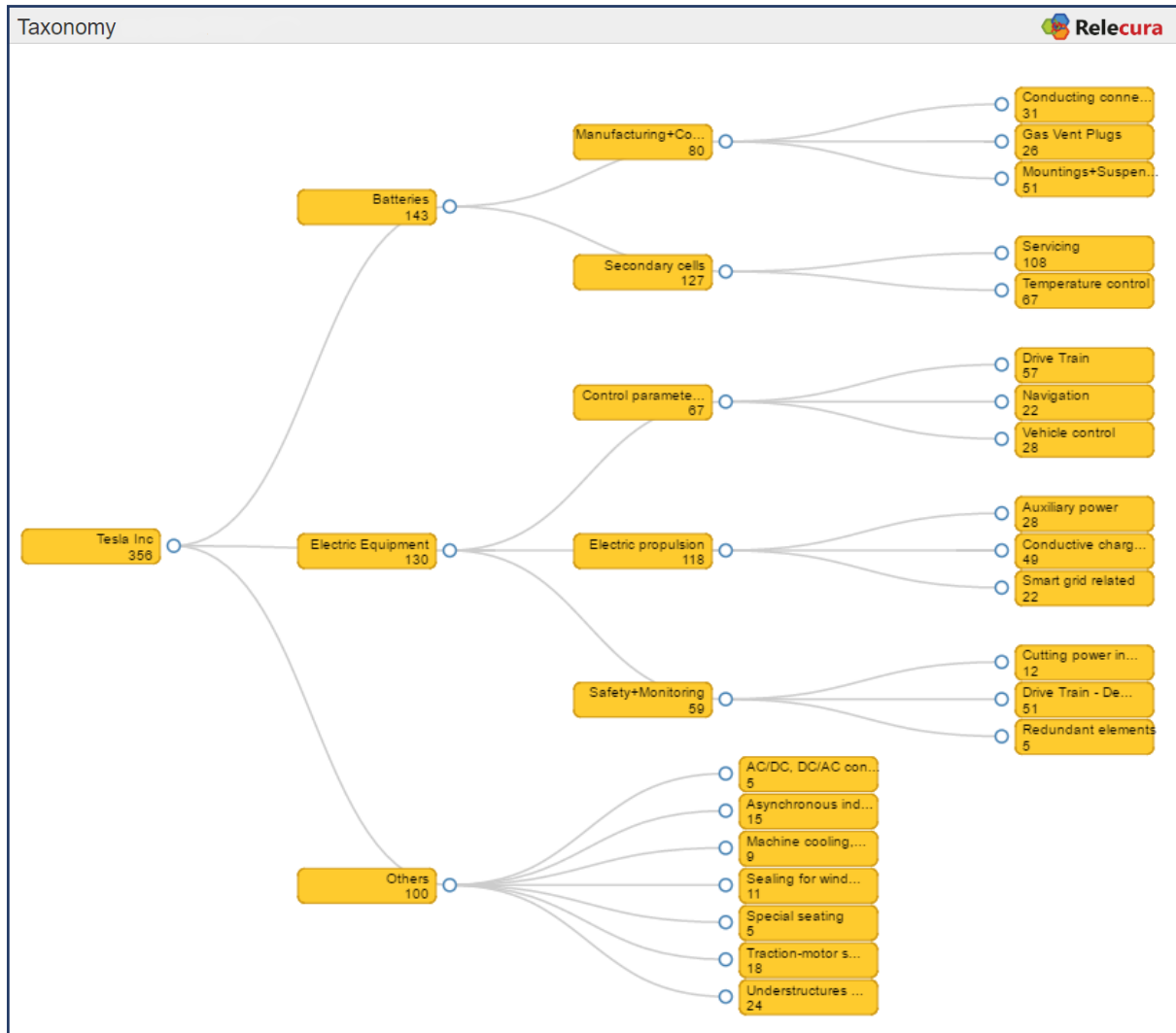
The results reported here are after grouping Tesla's published patent documents by patent equivalents. Such a grouping typically gives one document per unique invention or design.

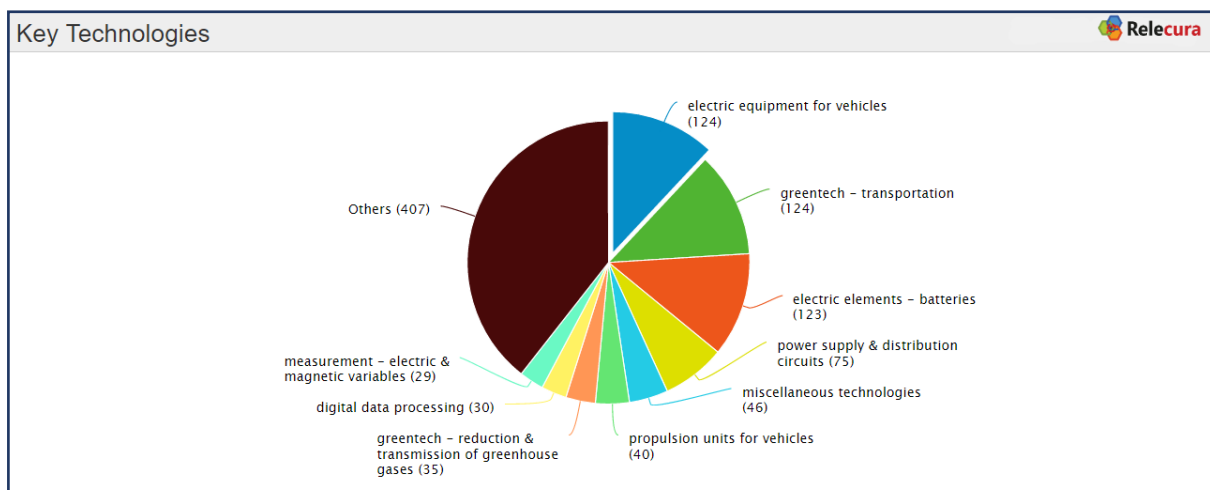
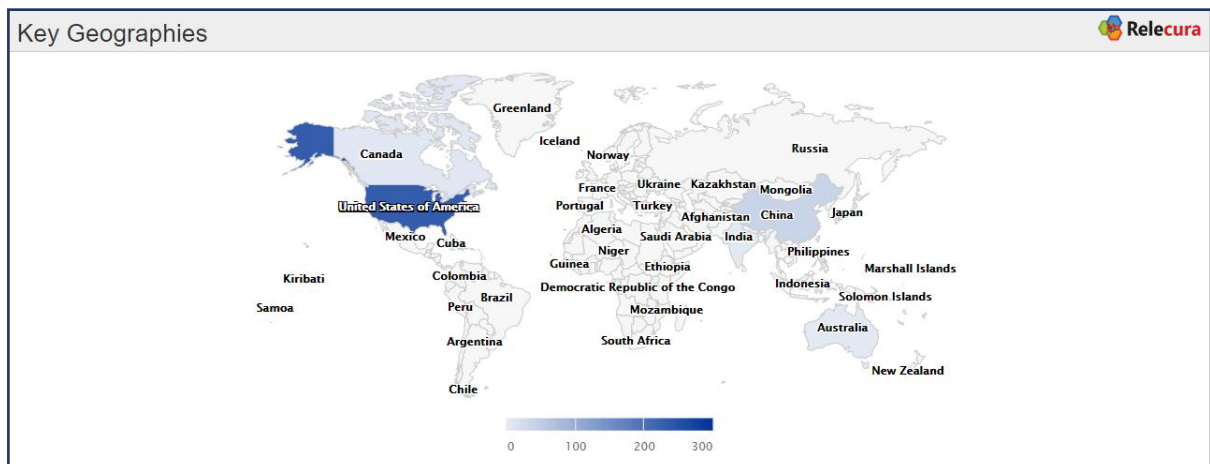
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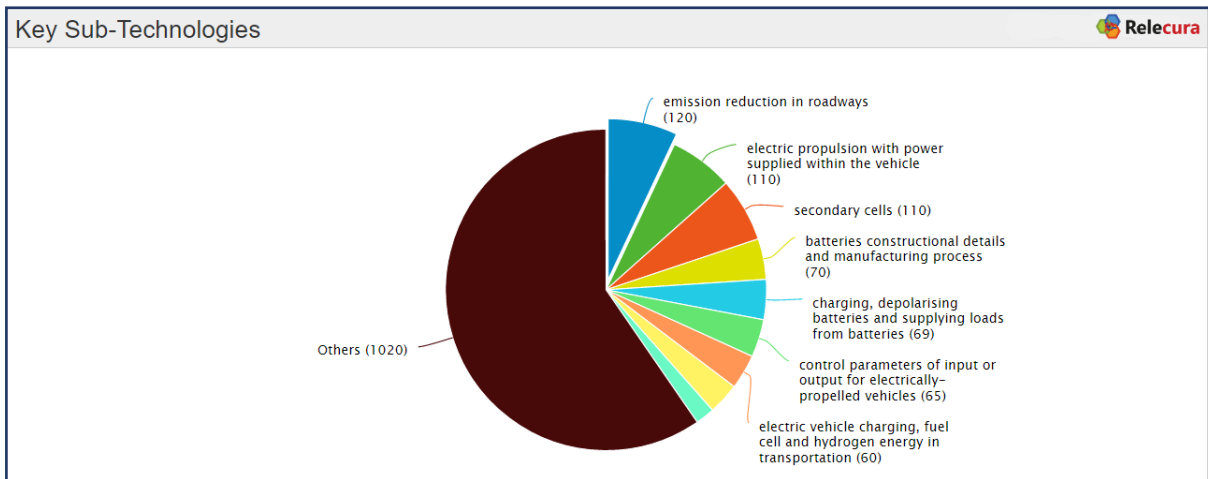
### Sources

- [1. Tesla Inc – Company Overview \(Reuters\)](#)
- [2. Tesla Inc – 10-K Annual Report \(1 Mar 2017\)](#)
- [3. EV Tech Patents: Tesla vs. The Rest - Batteries and Charging \(Relecura IP Intelligence Report\)](#)

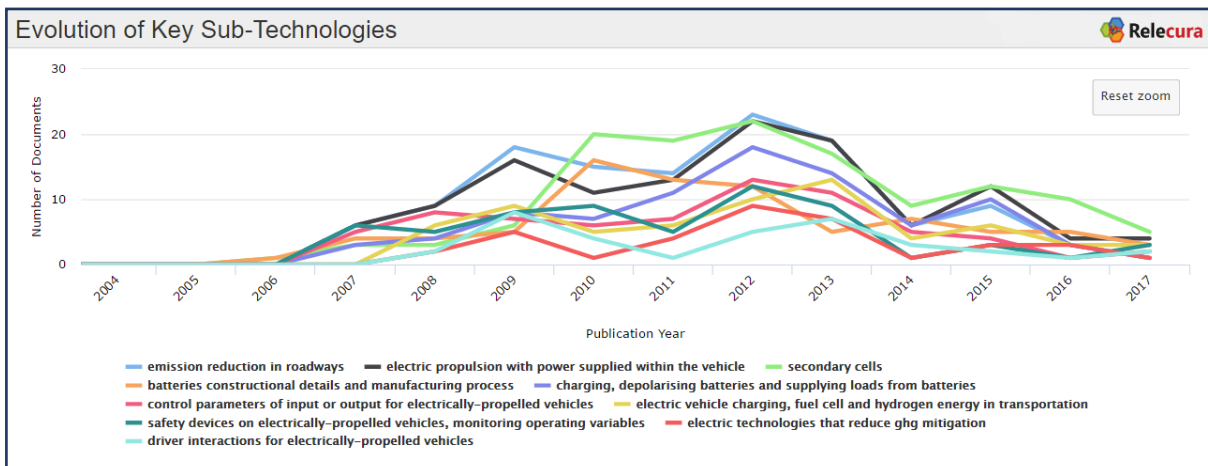
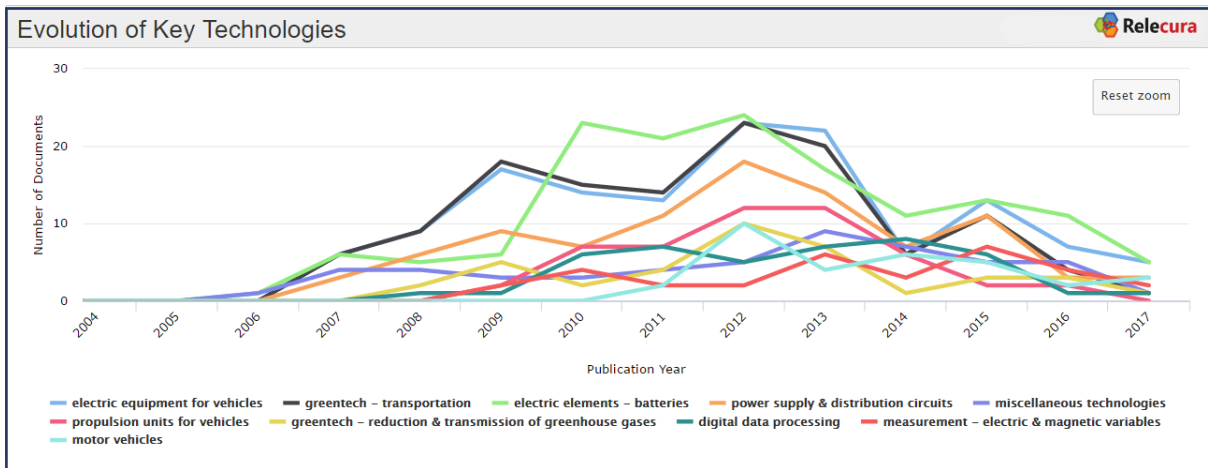
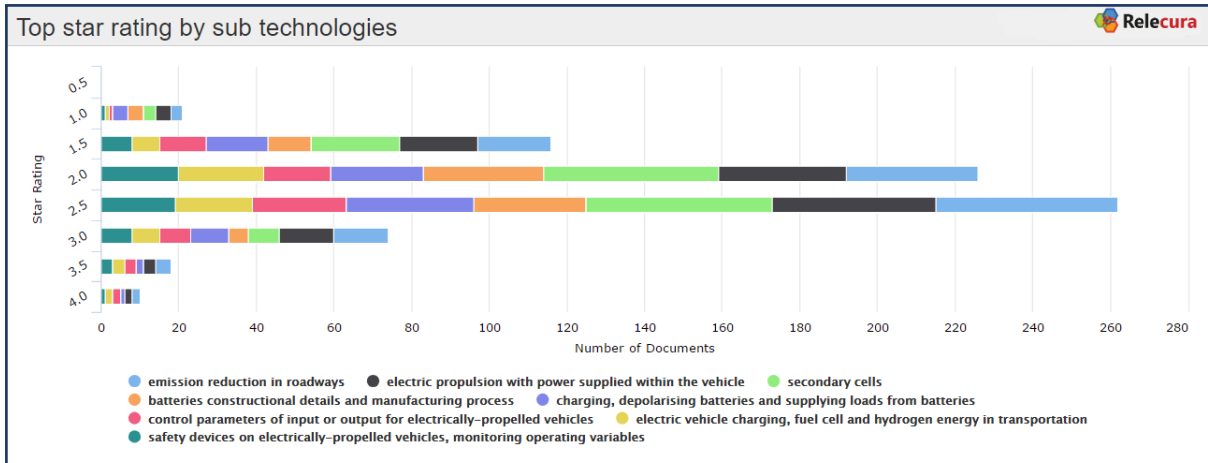


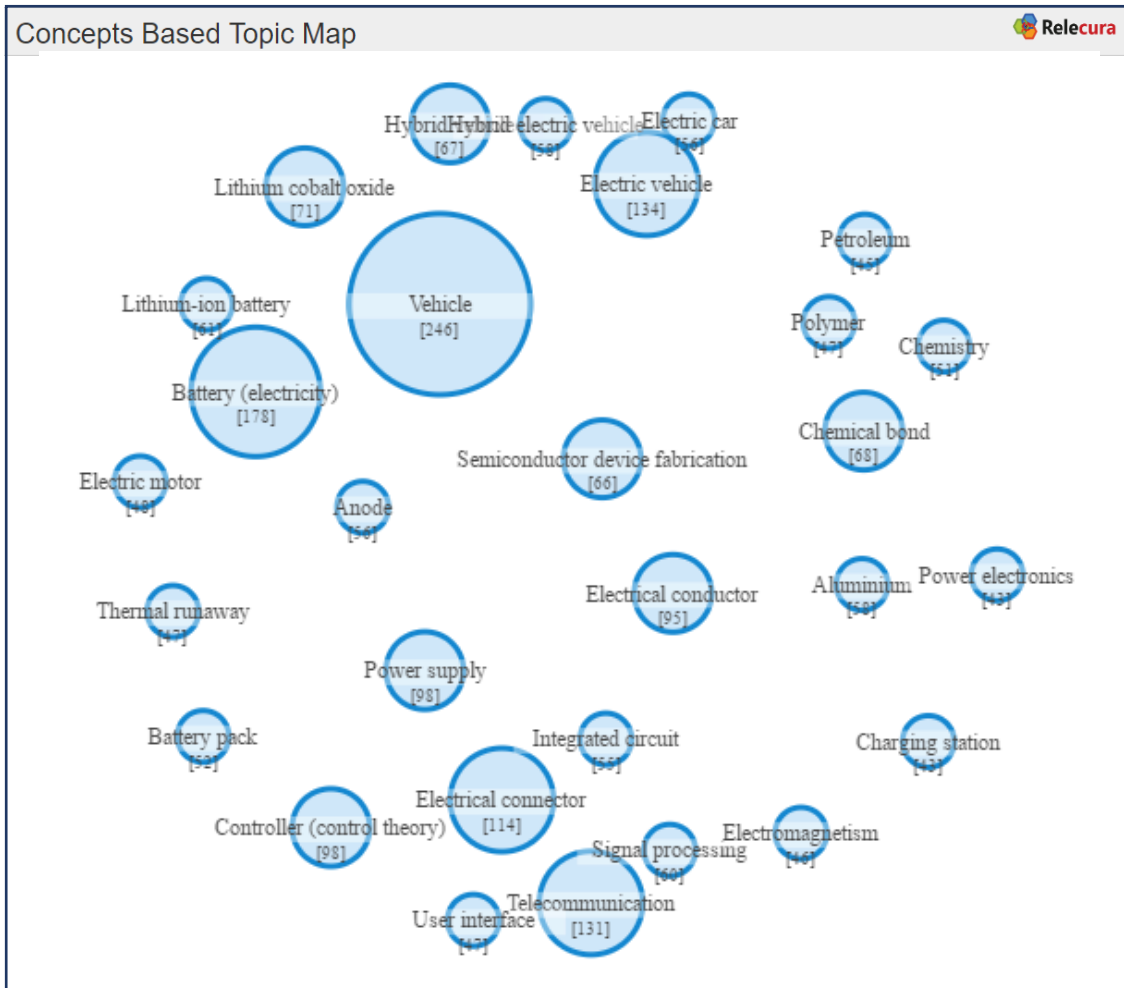


Analysis of Key Technologies				Relecura
Technologies	Applications	Grants	Sub Technologies	Geographies
electric equipment for vehicles	124	6	electric propulsion with power supplied within the vehicle (115) , emission reduction in roadways (113) , control parameters of input or output for electrically-propelled vehicles (66) , electric vehicle charging, fuel cell and hydrogen energy in transportation (61) , safety devices on electrically-propelled vehicles, monitoring operating variables (56)	US (82) , EP (20) , CN (11) , WO (9) , CA (3)
greentech - transportation	120	7	emission reduction in roadways (123) , electric propulsion with power supplied within the vehicle (105) , control parameters of input or output for electrically-propelled vehicles (64) , electric vehicle charging, fuel cell and hydrogen energy in transportation (61) , charging, depolarising batteries and supplying loads from batteries (53)	US (85) , EP (21) , CN (7) , WO (7) , CA (3)
electric elements - batteries	127	16	secondary cells (126) , batteries constructional details and manufacturing process (74) , emission reduction in roadways (61) , electric propulsion with power supplied within the vehicle (54) , charging, depolarising batteries and supplying loads from batteries (46)	US (92) , EP (15) , JP (13) , CN (10) , WO (5)
power supply & distribution circuits	83	9	charging, depolarising batteries and supplying loads from batteries (85) , emission reduction in roadways (65) , electric propulsion with power supplied within the vehicle (61) , electric vehicle charging, fuel cell and hydrogen energy in transportation (40) , secondary cells (38)	US (56) , EP (12) , CN (11) , JP (5) , WO (5)
miscellaneous technologies	47		metal working (32) , batteries constructional details and manufacturing process (18) , secondary cells (16) , asynchronous induction motors or generators (8) , electric propulsion with power supplied within the vehicle (8)	US (32) , CN (6) , EP (5) , CA (2) , WO (2)



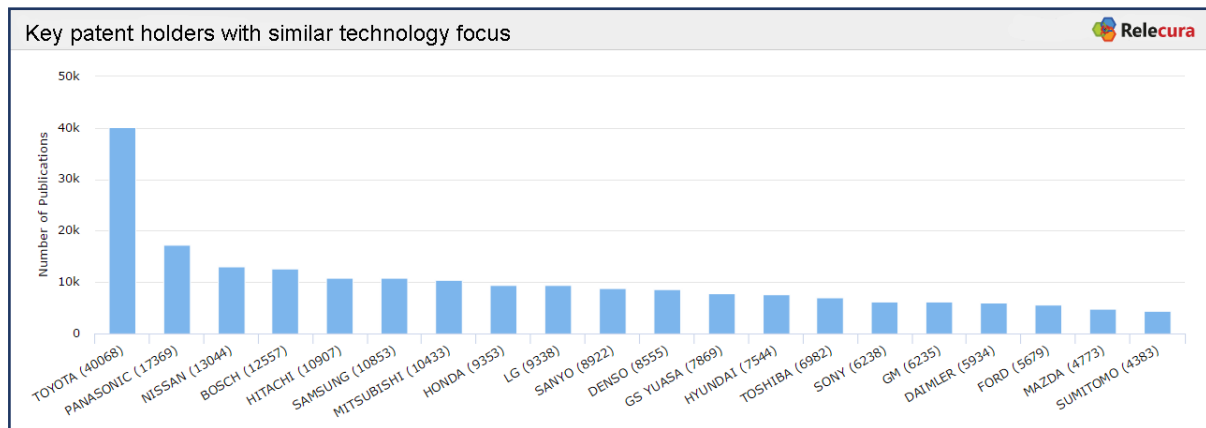
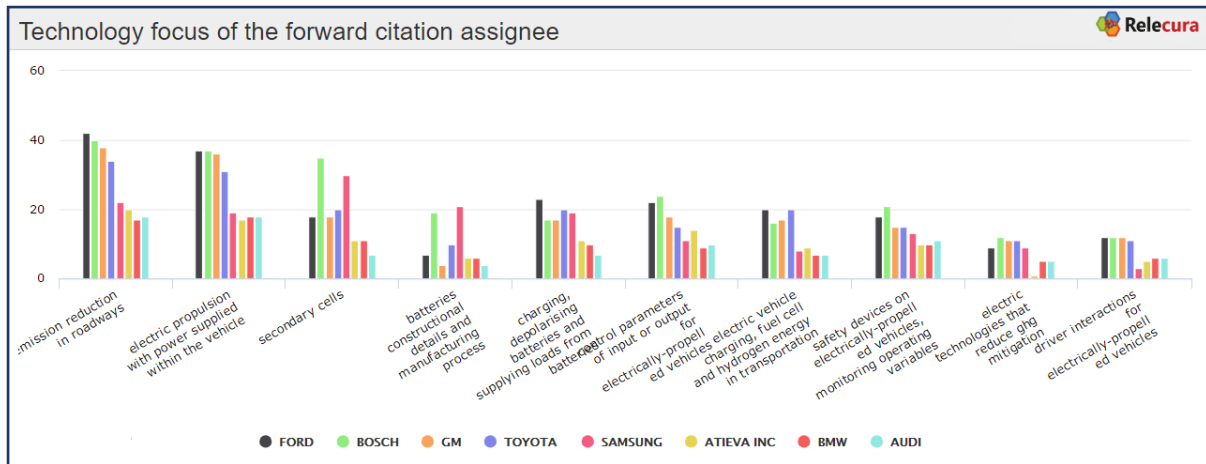
Key Patents in portfolio							Relecura
Publicaton No.	Title	Inventor	Filing Date	Star Rating	#Fwd Citations		
US7698078B2	Electric vehicle communication interface	Kurt Kelty, Marc Tarpenning, Scott Kohn	2007-07-18	4.0	115		
US20080312782A1	Electric vehicle communication interface	Gene Berdichevsky, Kurt Kelty, Jeffrey Brian Straubel, Marc Tarpenning, Colin Kenneth Campbell	2007-06-15	4.0	96		
US8054038B2	System for optimizing battery pack cut-off voltage	Kurt Russell Kelty, Scott Ira Kohn	2009-01-29	4.0	65		
US9079498B2	Morphing vehicle user interface	Evan Small, Vincent George Johnston	2010-03-16	4.0	49		
US20080251235A1	Electric vehicle thermal management system	Peng Zhou	2007-04-11	3.5	72		





Top Forward Relecura

Assignee	Number of documents
FORD	51
BOSCH	48
GM	43
TOYOTA	39
SAMSUNG	34
ATIEVA INC	31
BMW	25
AUDI	24



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