

TECH SCAN

AI IN AUTOMOBILES





The automotive industry has witnessed a transformative impact from Artificial Intelligence (AI) over the past decade. Major manufacturers and tech companies, including Tesla and Waymo, have led the integration of AI in vehicles, revolutionizing design, operation, and user experience. AI applications range from advanced driver assistance systems (ADAS) to fully autonomous vehicles. The genesis of AI in automobiles began in the early 21st century, with a focus on safety, efficiency, and innovation.

Patents play a crucial role in protecting AI-related technologies, fostering a culture of innovation. The current AI landscape in automobiles encompasses diverse concepts, from machine learning for fuel efficiency to natural language processing in virtual assistants, reflecting a commitment to safety, sustainability, and connectivity. The evolving patent environment provides insights into the industry's innovation trajectory and potential for intelligent transportation. As AI continues to advance, it is poised to redefine the automotive sector, creating a synergy between technology and transportation needs.



INNOVATION TIMELINE

2000

Early intelligent systems debut, emphasizing vehicle safety and efficiency

2003

Sensor tech advances, early AI for adaptive cruise, parking assistance

2008

AI integration grows; industry explores safety and user experience

2010

Major automakers show interest; ADAS development progresses in AI

2014

Waymo logs 2 million miles, advancing autonomous driving technology significantly

2017

ADAS (advanced driver assistance systems) develops traditional-auto tech collaboration increases

2019

AI refines ADAS, boosts autonomous driving, advances collaboration in automotive

2021

AI innovations in predictive maintenance, connectivity, and autonomous driving emerge

Emergence of AI in vehicles for safety, efficiency, driver assistance

2002

Continued growth, research in AI for enhanced driver assistance

2004

Early AI systems focus on safety, sensor tech advancements

2009

AI in vehicles advances for safety and user experience enhancements

2012

Tesla unveils Autopilot, marking AI strides in semi-autonomous driving

2016

AI investment grows emphasis on autonomous driving in automotive.

2018

Rapid AI R&D for safety, connectivity, and autonomous driving.

2020

AI improves safety, V2X communication, and in-car virtual assistants

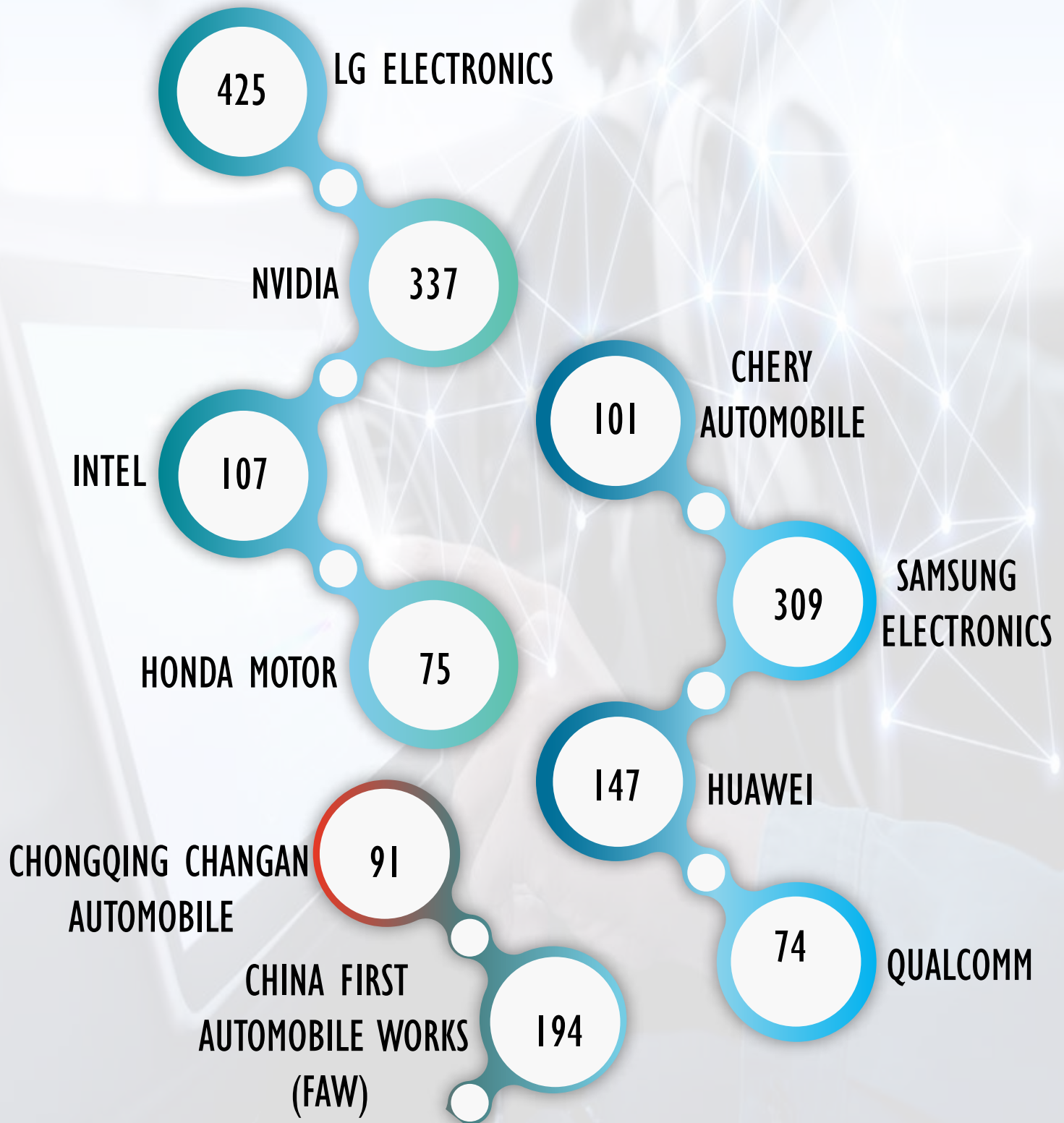
2022

PATENTABLE ASPECTS



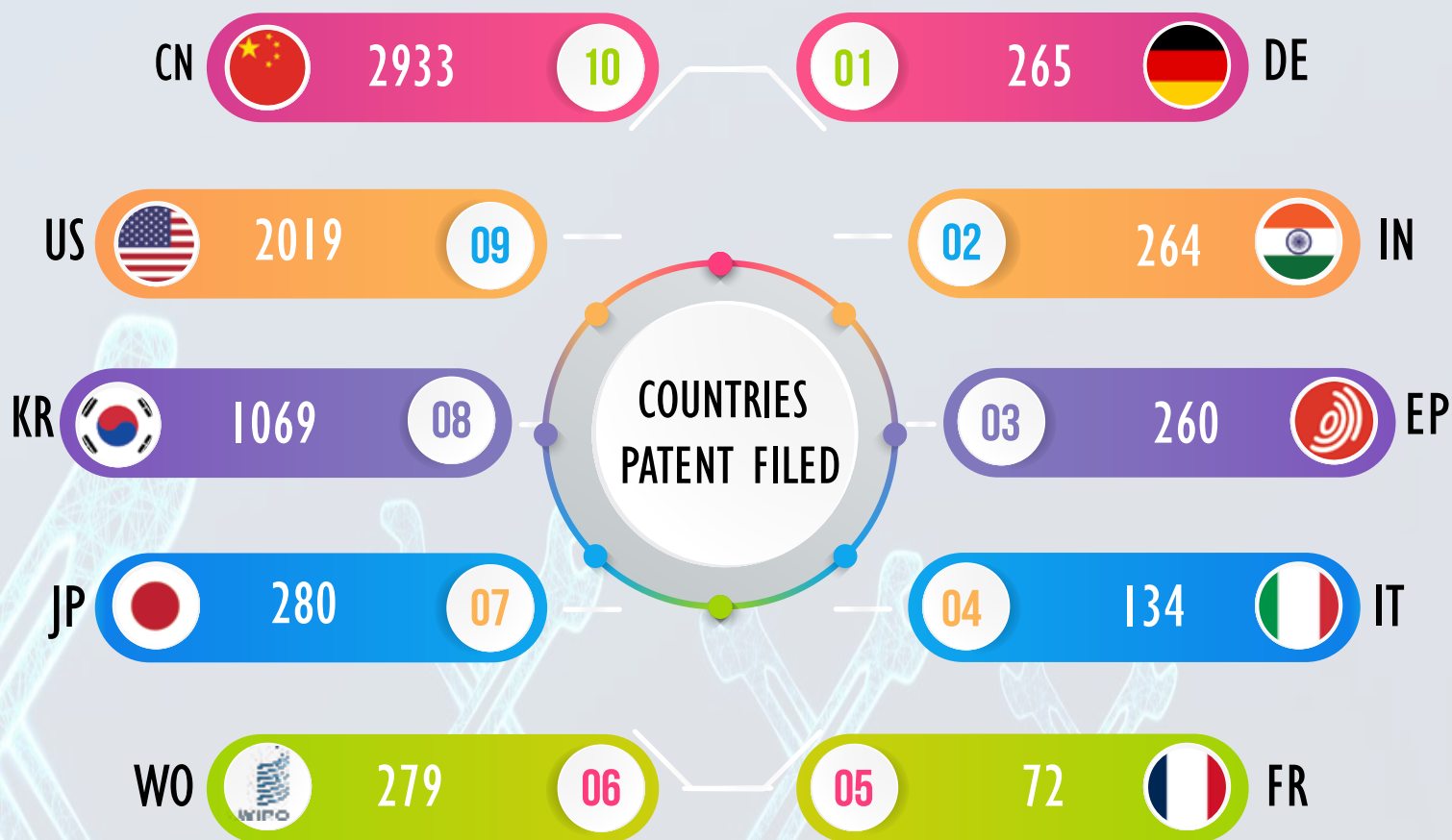
PATENT STATISTICS

TOP APPLICANTS



Database: Questel Orbit

PATENT LANDSCAPE



Patents Filed In Last Five Years



Database: Questel Orbit

Data Range: 01/01/2019 - 31/12/2023

May 2024 | 6

NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Assignee
US20210174187	Jun 7, 2019	AI Apparatus And Method For Managing Operation Of Artificial Intelligence System	LG Electronics
US20190324458	Jun 28, 2019	Methods And Apparatus To Adjust Autonomous Vehicle Driving Software Using Machine Programming	Intel
US20200042823	Sep 19, 2019	Artificial Intelligence Apparatus Using Sound Signal Classification And Method For The Same	LG Electronics
US20190265703	Feb 26, 2018	Systems And Methods For Computer-Assisted Shuttles, Buses, Robo-Taxis, Ride-Sharing And On-Demand Vehicles With Situational Awareness	Nvidia Corp
EP3623712	Sep 12, 2018	Artificial Intelligence Device And Artificial Intelligence System For Managing Indoor Air Condition	LG Electronics
W02020131225	Dec 18, 2018	Steering Command Limiting For Safe Autonomous Automobile Operation	Qualcomm
W02019237068	Jun 8, 2018	Protecting Vehicle Buses From Cyber-Attacks	Nvidia
US20200311306	Jan 5, 2018	Electronic Device For Obfuscating And Decoding Data And Method For Controlling Same	Samsung Electronics
US20210279482	Mar 5, 2020	Processors Configured To Detect Objects And Methods Of Detecting Objects	Samsung Electronics
US20230354002	Apr 27, 2022	Optimized Vehicle-To-Everything (V2x) Messaging	Qualcomm

WHITESPACES

AI-based Approach Analyzes The Impact of Vehicle Emissions on Air Quality

AI-based System Standardizing Images Detecting Defects in Vehicle Body Parts

AI and IoT Based Automatic Accident Detection System

Urban Mobility Solutions

Vehicle Everything
(V2X) Communication

AI for Inclusive Transportation

AI for Sustainable Transportation

Real Time AI Detects Threats using Cameras and Sensors



Database: Questel Orbit

If you would like to learn more about any of these areas or have specific questions, we're here to provide further information and insights. Our team is dedicated to driving progress and staying at the forefront of AI in Automobiles.

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