



Technology Landscape Report

Autonomous Driving Sensors

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Technology Landscape Executive Summary - Autonomous Driving Sensors

❖ GENERAL:

*Large Numbers Of Patents In #Report Title Area With Medium And Small Companies
Relatively Less Patenting Activity Among Universities And Government Entities*

❖ Keyword Searches Yielded Over 2,900 Issued And Published Pending Patents Specifically In The #Report Title

❖ We Found Specific PTO Classes Of Relevance:

G05D1/0088 - Characterized by the autonomous decision making process, e.g. artificial intelligence, predefined behaviors

B64C39/024 - Of the remote controlled vehicle type, i.e. rpv

G05D1/0274 - Using mapping information stored in a memory device

B60W30/00 - Purposes of road vehicle drive control systems not related to the control of a particular sub-unit, e.g. of systems using conjoint control of vehicle sub-units, or advanced driver assistance systems for ensuring comfort, stability and safety Or drive control systems for propelling or retarding the vehicle

A01D34/008 - For automated or remotely controlled operation

❖ Large Number Of Companies With Small To Medium Sized Portfolios In This Area Show Significant Potential For Licensing Or Partnering With:

iRobot

Given Imaging

F Robotics Acquisitions

Murata Machinery

Causam Energy

❖ Large Companies Appear To Dominate The IP In This Area Including: Google; GM Global Technology Operations; Ford Global Technologies; Boeing; Honeywell International; Deere; Lockheed Martin; Toyota Jidosha Kabushiki Kasiha; Samsung Electronics; Siemens; .

IPVision Technology Landscape Analysis – Autonomous Driving Sensors

Step 1: Define Inputs and Step 2: Assemble DBS

1. Group of Keywords

- **Keyword List** (autonomous OR "self-driving" AND sensor)
 - ❖ [1,767 Issued Patents](#)
 - ❖ [1,175 Pending Patents](#)
- **TL DB1** ([2,942 Issued and Pending](#))

2. US Class and Class Pairs

- **US Class Tree Analysis**
 - ❖ <#issued_class>
 - ❖ <#pending_class>
- **TL DB2** (<#issued_pending_class>)

3. Seed Patents

- **Seed Patent List (#Issued; #Pending)**
 - ❖ Inventor and Same Assignee Expansion
 - ❖ # Issued; # Pending Expand from Citation/Cousin/Class Hierarchy
- **TL DB3** (# Issued; # Pending)

4. Company Names

- **Company Names from Industry**
 - ❖ <#Issued_company>
 - ❖ <#pending_company>
- **Company Names from Client**
 - ❖ # of Issued; # of Pending
- **TL DB4** (<#issued_pending_company>)

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Step 3: Master DB Breakdown and Map Highlighting

1. Master DB ([2942 Issued and Pending](#))

- All Patents: [1767 Issued Patents](#)
- Corporations with Large Patent Portfolio: [918 Issued and Pending Patents](#)
- Corporations with Medium Patent Portfolio: [564 Issued and Pending Patents](#)
- Corporations with Small Patent Portfolio: [812 Issued and Pending Patents](#)
- Government Patents: [37 Issued and Pending Patents](#)
- Labs/Research/Univ. Patents: [222 Issued and Pending Patents](#)
- Others and Individuals Patents: [436 Issued and Pending Patents](#)

2. Selected Categories Portfolio Map

- Map of Corporations with Large Patent Portfolio: [918 Patents](#)
- Map of Corporations with Medium Patent Portfolios: [564 Patents](#)
- Map of Corporations with Small Patent Portfolios: [812 Patents](#)
- Map of Labs/Research/Univ.: [222 Patents](#)
- Map of Government: [37 Patents](#)
- Map Others and Individuals: [436 Patents](#)

Results delivered with Expert Analysis
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Step 4: Selected Category Detailed Analysis

a. Corporations with Large Portfolios

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

b. Corporations with Medium Portfolios

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

c. Corporations with Small Portfolios

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

d. Government Entities

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

e. Lab/Research/University

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

f. Others and Individuals

- ❖ [Assignee Analysis](#)
- ❖ [CPC Group Analysis](#)
- ❖ [CPC Class Tree Analysis](#)

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