

Global Study

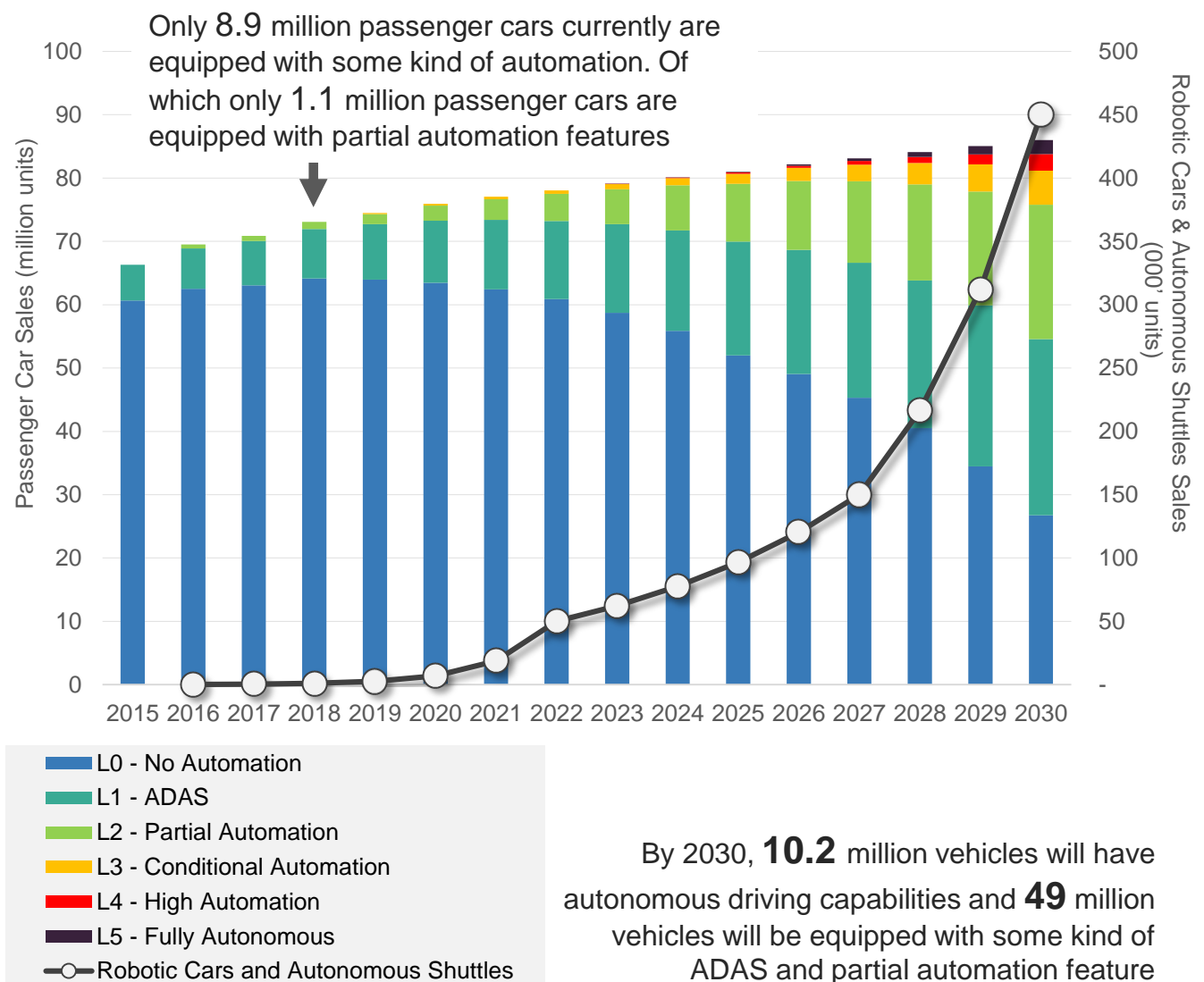
Autonomous Driving LiDAR Market

2018 - 2030

The research study exhaustively speaks about the expected timeline of mechanical scanning, MEMS solid-state, OPA, flash, and other emerging LiDAR technologies to be commercialized and witness high volumes. It focuses on LiDAR technology building approach followed by different players across the ecosystem to develop low-cost solutions. It analyzes the different partnership combinations of OEMs, robotaxi companies, autonomous shuttle players, Tier 1s/2s, LiDAR supplier, and LiDAR component providers and which combination will be the first to hit mass deployment.

The research also discusses about the number of LiDARs (short and long range) required to achieve 360 degree surround view. Besides, the report also talks about the target cost of LiDARs to achieve high volumes.

Key Insights



The level 3 and above cars will be on the roads of the United State, Japan, and countries in Western Europe by 2019, whereas, highly autonomous solutions of Level 4/5 will see deployment from 2022.

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RESEARCH SCOPE

LiDAR Technologies

- Mechanical scanning (pulsed macro-mechanical and other mechanical scanning)
- Non-mechanical scanning (MEMS solid-state, OPA solid-state, 2D/3D flash) (FMCW and Pulsed)
- Image Grade LiDAR and Spectrum Scan LiDAR

Top Markets

- United States
- China
- Japan
- Western Europe

Levels of Automation

- Level 3 OEM PCs
- Level 4 and 5 OEM PCs
- Robotaxis and Autonomous Shuttles

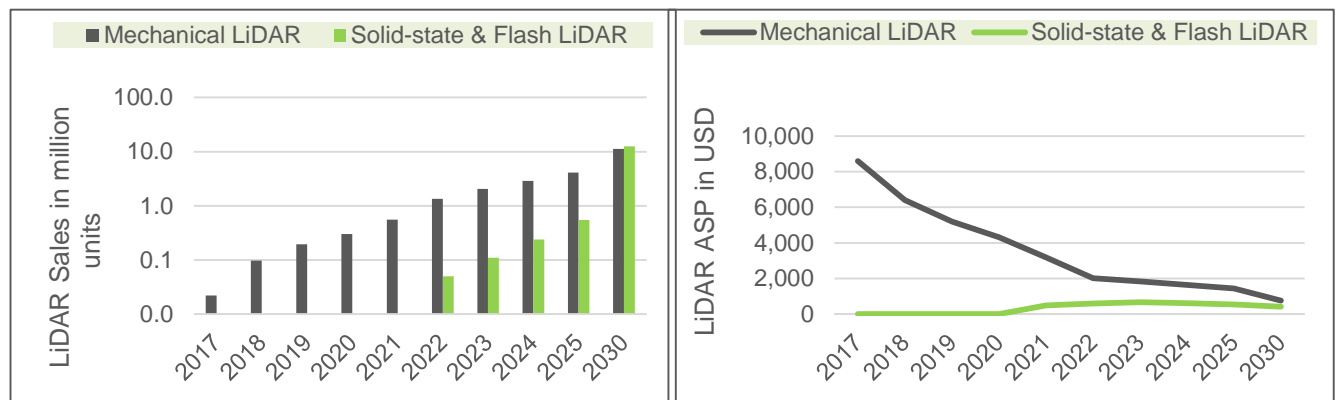
LiDAR Ecosystem

- LiDAR System Integrators/Manufacturer
- Photodetector Providers (APD, SiPM, Pin)
- Laser Illumination Providers (VCSEL, EEL)
- Optical Elements (Optical Filters, Optical Systems, MEMS)
- Tier 1s / 2s
- Autonomous Driving Technology Providers
- OEMs
- Autonomous Shuttle Companies
- Robotaxi Companies
- Shared Mobility Service Providers

Companies

- 100+ companies analyzed
- 20+ OEMs/Robotaxis Companies
- 30+ LiDAR solution providers

- First LiDAR commercialization – Ibeo + Valeo ScaLa LiDAR for Audi A8 (a level 3 vehicle) is expected in 2019
- Mechanical LiDAR sensors will witness high volumes starting from 2019



- Solid-state (MEMS & OPA), flash, and other smaller and cheaper LiDAR technologies expected to witness high volumes post 2025
- The total LiDAR sales expected to cross 24 million by 2030
- LiDAR market is expected to reach \$14 billion by 2030
- Mechanical scanning LiDARs will have larger penetration in the robotaxis and autonomous shuttles
- Whereas, solid-state and other cheaper options will be the first choice of the OEMs to be used in level 3 and above consumer passenger cars
- Velodyne LiDAR, Ibeo Automotive System, LeddarTech, Quanergy, and Innoviz are in the forefront
- Velodyne LiDAR and Ibeo are the current leaders in terms of number of partnerships and sales
- Chinese market will have the largest demand in coming years and local LiDAR companies such as RoboSense, LeiShen Intelligent Systems, Hesai Photonics, and SureStar are few of the top contenders in the market
- Pricing of the LiDAR will be the deciding factor for the mass production and deployment of the technology in autonomous vehicles
- Number of LiDARs depends on cost and complexity of the autonomous systems
- Currently, a combination of 360 degree view LiDARs and lesser resolution LiDARs are used to enable full automation

Key Questions Answered

1. What is the status of vehicle automation in 2017 and 2018? And how will it change over the period of next 10 years?
2. How is the emerging trend of robotaxis and autonomous shuttles disrupting the conventional automotive supply chain? And how LiDAR as a market will grow with this trend?
3. Many LiDAR technologies – But which ones will lead and be ready for mass deployment?
4. Which are the few combinations of OEMs with Tier 1s and LiDAR technology provider or OEMs with Shared Mobility Service providers and LiDAR technology providers will be the first to achieve mass deployment?
5. What will be the target cost of LiDAR at high volumes?
6. When and which LiDAR technologies will hit high volume production?
7. Who will be the leaders in the automotive LiDAR market?
8. When will solid-state and other cheaper LiDAR options witness high volume deployment?
9. What is the requirement of number of LiDARs to achieve 360 degree surround view of the vehicle – for OEMs, Robotaxis, and Autonomous Shuttles?
10. How many cheaper LiDARs (below \$500) will be needed to achieve surround view for full autonomy?

To know more about the quality, in-depth analysis, and exhaustive coverage of this research study – please contact – sales@m14intelligence.com or visit product page [here](#)