Segmenting the Autonomous Vehicle Value Chain: A Look at Who is in the "Driverless" Seat

Vision Systems Intelligence (VSI) releases infographic with a complete examination of all the major players in the autonomous vehicle value chain -- from tech giants to robotics start-ups.

Minneapolis, MN (PRWEB) June 08, 2016 -- Vehicle automation for the passenger car segment is a multidisciplinary field of perception, processing, machine learning, motion planning, connectivity, and more. The value chain includes hundreds of companies and thousands of products ranging from components, modules, or systems, to complete vehicles. The composition of companies ranges from the tech heavyweights to robotics-related start-ups, to traditional automotive and their tier-one suppliers.

"No one company owns all the expertise necessary to build an autonomous vehicle. From low-level component suppliers to modules or systems, each domain is a highly complex field in itself," say Phil Magney, founder and principal of Vision Systems Intelligence, LLC. Building an autonomous vehicle requires so many disciplines that most companies have no choice but to source IP from numerous players.

As a result, there is a lot of M&A activity as companies examine their portfolio. In some cases, what was once positioned for advanced driver assistance systems (ADAS) is now being positioned for autonomy. "This is how the tier-one suppliers are generally approaching it. However, going from Level 1 applications to Level 3 or 4 is a huge leap," says Magney. "Tier-ones have a unique position in the value chain because they represent the mechatronics side of automation where the mechanical world meets the digital world."

The featured Infographic represents leading suppliers in the race to design, develop or integrate autonomous solutions. There are about 125 companies represented in the infographic out of a total field of 600+ according to research firm Vision Systems Intelligence. The companies selected for the infographic are leaders in their space for the clarity in their value proposition, diversity of product, or market presence.

Many of the companies and products in the value chain are software assets. The development tool chain, for example, is largely made of up software used for simulation and block sets for the integration of functions, while other tools are for algorithm development, timing analysis, or production code validation.

There are also a number of companies that offer or supply "mapping" assets used for localization and motion planning. The mapping landscape includes a diverse number of companies offering solutions used for crowd sourcing local object content for safety applications, or driver behavior for network training. There are other tools for handling the massive data sets used for machine learning or object labeling.

Autonomous Solutions (AV) are those systems that operate as a development platform or a test mule. Many of the traditional OEMs have autonomous solutions consisting of an integration of many of the building blocks mentioned above. Some OEMs offer production Level 2 systems already while simultaneously developing Level 4 or Level 5 applications as well.

Some of the suppliers of automotive processing logic offer AV development kits which integrate many of their processing nodes into a semi-complete kit for developing L2-L4 solutions. Typically, these solutions consolidate sensor fusion and/or control logic for major blocks in the value chain.

Who is VSI:

VSI is a research company that specializes in examining the technologies associated with designing, developing, or building autonomous solutions. VSI tracks all companies, products and technologies and assesses their solutions and position in the value chain. VSI also examines the technology issues relevant for the future of autonomy.

For companies developing autonomous solutions, VSI offers the Autonomous Solutions Portal – a research portal that offers insight and perspective on companies, products, technologies and issues associated with bringing autonomous solutions to the market.

VSI's Autonomous Solutions Portal is an invaluable tool for your competitive analysis, market position and competitor assessment. The VSI Autonomous Solutions portal is your best research for understanding who is doing what and why are they doing it. For more information about VSI visit www.visionsystemsintelligence.com or call +1-952-215-1797.

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