



Mobile Systems Integration

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Machine Autonomy: What is right for you?



Machine autonomy....what does that mean, and does it apply to your machine? Let's start with the automotive industry, as that market has been driving autonomous technology.

The 5 recognized levels of vehicle automation

There are 5 recognized levels of vehicle automation that have become the standards for the automotive industry. They are as follows:

- **Level 0** – No automation
- **Level 01** – No automation, but the vehicle can assist with providing driver warnings. This is what most current consumer vehicles come equipped with. An example would be a visual or audio alarm for “emergency braking – collision warning”.
- **Level 02** – Partial automation includes more driving assistance such as adaptive cruise control, lane departure steering, and autonomous emergency braking. At this level, the driver continues to remain in control of the vehicle. Most 2020 consumer vehicles are incorporating this level of autonomy.
- **Level 03** – Conditional automation controls primary functions of the vehicle such as steering and braking, but driver intervention may still be required. Under certain hazardous traffic and weather conditions, the driver must take control.
- **Level 04** – High automation requires no assistance from the driver, but driver intervention may still be required. Usually, this level of automation is restricted to specific conditions and geographical areas.
- **Level 05** – Complete automation requires no driver at all. Control elements such as the steering wheel and pedals are not required or needed. The goal is for the vehicle to drive as well, or theoretically, better than a human.

So, how does this apply to off-road vehicles? This same technology and complexity is making its way to the off-road market. This includes machinery in various sectors such as the [agricultural market](#), ground support equipment, construction, terminal tractor market, [municipal vehicles](#), and more.

[Continue reading](#) to learn about off-road machine autonomy and determining what level of automation is right for you. Or better yet, start a conversation with one of the experts at our Mobile Systems Integration group!

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