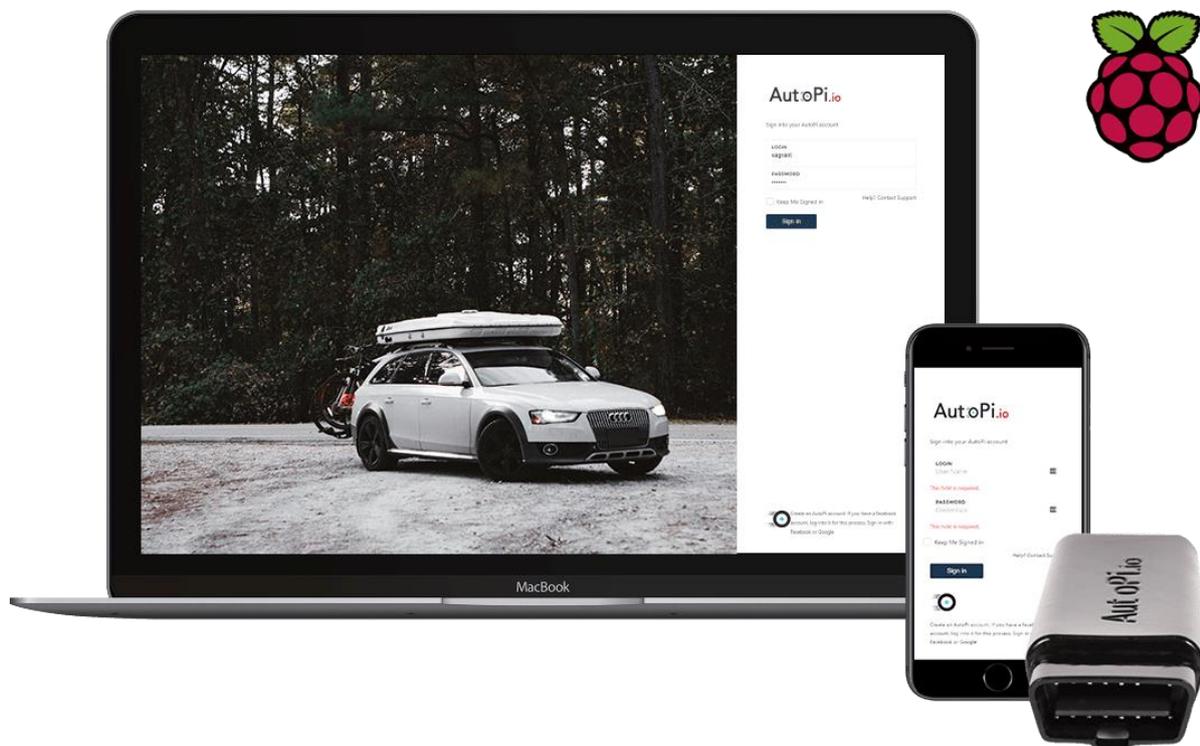# What is AutoPi?

The AutoPi dongle is a revolutionary device, based on the Raspberry Pi Zero Wireless. It is the first extendable Internet-of-Things device for your car. Together with the AutoPi Cloud, it forms a Platform for thinkers, hobbyists, makers and developers of vehicle IoT projects.

Simply put, AutoPi makes your car more intelligent by automatically performing certain functions, sending you alerts when a particular event occurs, and recording and presenting vital information on your car's performance to tell you how it's being used.

AutoPi is a solution based on Raspberry Pi, but it also uses a number of other key technologies that grant users access to a wide list of functions.

Essentially, it is an Internet of Things platform for your car.

How Does AutoPi Work?

AutoPi is a small device that plugs into the OBD-II port of your car. Provided that your car was manufactured at some point after the mid-1990s, it should have an OBD-II port.

OBD stands for on-board diagnostics and it is the port your mechanic plugs into when diagnosing a problem with your car or clearing an error message.

Once connected, the AutoPi device will automatically start working. It has 4G LTE connectivity (using a 4G Cat 1 modem), so it can connect to the Internet. You can also connect to through WiFi or via Bluetooth.

AutoPi hardware features:

- A speaker for voice output
- Two USB ports to connect external devices
- An HDMI port to connect external screen
- GPIO pins to connect external devices
- An internal accelerometer to give you g-force information
- GPS functionality for tracking your car's position
- 4G LTE Cat 1 modem
- Bluetooth
- WiFi

The AutoPi connects to an online dashboard that you can log into from any device – your phone, tablet, computer etc. This gives you access to the AutoPi's settings, as well as any data that it's capturing.
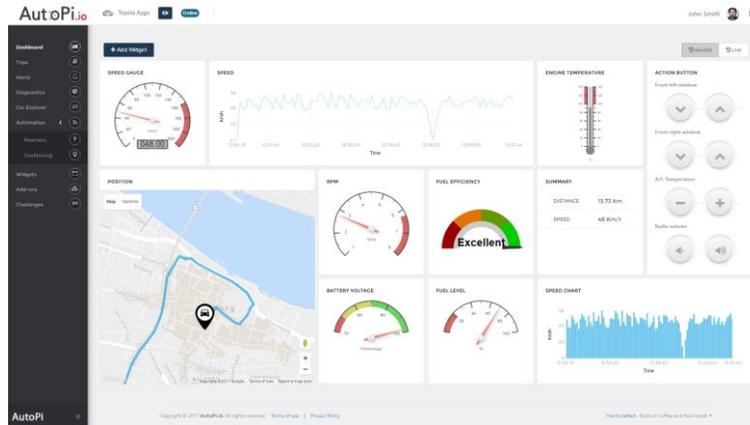
This dashboard is customizable with widgets, so you can set the display to only show what you really need.

What AutoPi Can Do

You can also set triggers within your dashboard, which is where the functionality of the AutoPi really starts to come though. Triggers are based on the well-known principle of "If This, Then That", i.e., in the event of something happening, you should take a particular action.

For example, if you're a parent, you could set triggers that activate whenever one of your children is driving your car. An example of such a trigger would be programming AutoPi to send you an SMS message every time your car goes faster than a speed that you've pre-set. You can also set the AutoPi to sound a warning in the car so the driver knows that they should slow down.
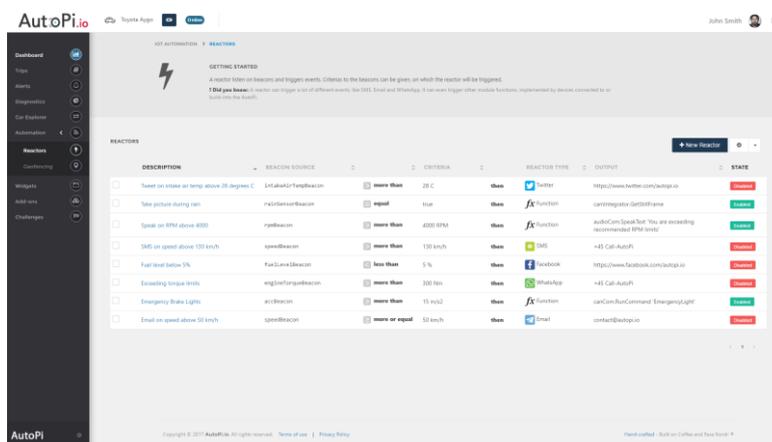

Triggers are not just about getting notifications, however, as they can also perform critical actions in the car's function. For example, you can set a trigger that activates when the AutoPi detects a situation where you brake heavily. This trigger could activate an action that automatically turns on your hazard lights to warn tailing drivers that you've stopped abruptly, helping to prevent anyone from rear-ending you.

The AutoPi delivers this functionality by connecting to the functions already in your car, as well as connecting to third-party devices and add-ons. Examples of this include cameras or a touchscreen.

A New Way of Thinking

The AutoPi represents a unique approach to accessing Internet of Things capabilities and technology in your car, since it's an open system that is extendable and easy to extend. More specifically, the platform is open so that developers and the AutoPi community can create new extensions, features, and add-ons for the AutoPi.

This means that the feature set and potential uses of AutoPi will rapidly expand as more people use it. If you know Python programming language, for example, you can make your AutoPi do something completely new and then make that functionality available to the rest of the AutoPi community.
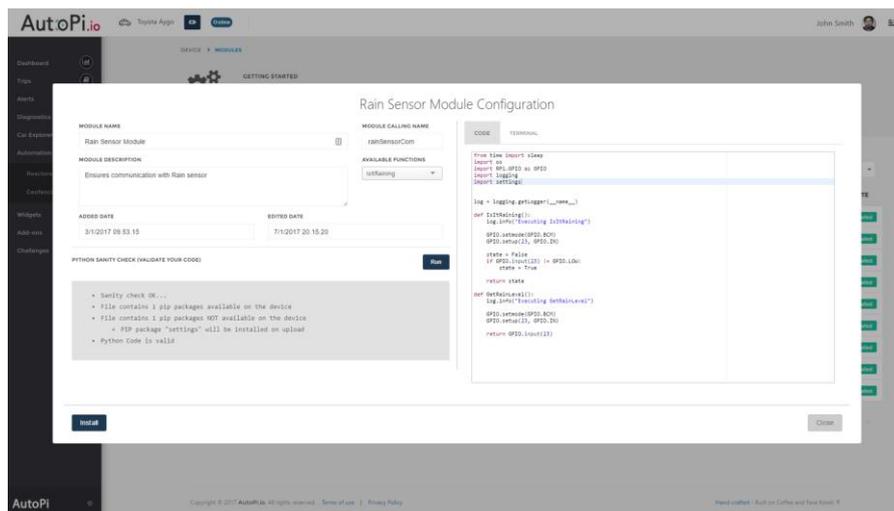
It's an intelligent way to make cars more intelligent.

Examples of Things You Can Develop with AutoPi

Some of the practical uses of AutoPi have already been mentioned, particularly in relation to parental controls, but here are some of the other things AutoPi can do:

–   **Protect your car against theft** - you can set your AutoPi to deliver a notification every time your car starts. This could give you early warning that your car is being stolen. The AutoPi can also track the car's movements and location, even if the car is not running.

–   **Voice commands** - you can easily connect a microphone to your AutoPi and then customize it to accept voice commands.

–   **Connect an external camera** - you can even connect an external camera to your AutoPi. In fact, this is one of the things that you can control through voice commands if you also have a microphone attached. You can set the camera to automatically take a photo or start recording when a particular event occurs. In addition, you could set the camera to monitor things like road signs, where the AutoPi gives you voice commands or sounds alarms according to your settings.

–   **Remote start** - in some cars, you can set the AutoPi to remotely start the vehicle when you're within a certain proximity to the car. You can also set up AutoPi to start the car when you click or tap a button on the dashboard.

- **Remote safety monitoring** - you can set the AutoPi, for example, to send you a message when your car is being driven, but the seatbelts are not being used. You can set this notification so that it only triggers when you are not driving the car. You can also set geofences, which will deliver notifications when the car is being driven in a particular location, or to warn you of erratic driving behavior. These triggers can also be set to sound warnings inside the car using AutoPi's built-in speaker.

- **Eco driving alerts** - you can set the AutoPi to monitor how the car is being driven, enabling you to change your driving behaviour to a more economical style, which saves you money.

- **Crash protection and notifications** - if your car doesn't already have crash prevention assistance, you can access this functionality with AutoPi. You will need an external proximity sensor that is then connected to the AutoPi. Following that, you can set it to sound an alarm when it detects an imminent collision. Furthermore, you can set the AutoPi to send you a notification if it detects that your car has been in a crash. This is definitely useful when other people drive your car.

The above examples are just some of the incredible things you can do with AutoPi. With this cutting-edge technology, *everything* is possible.

For further information about the AutoPi platform, please don't hessitate to contact us on hello@autopi.io