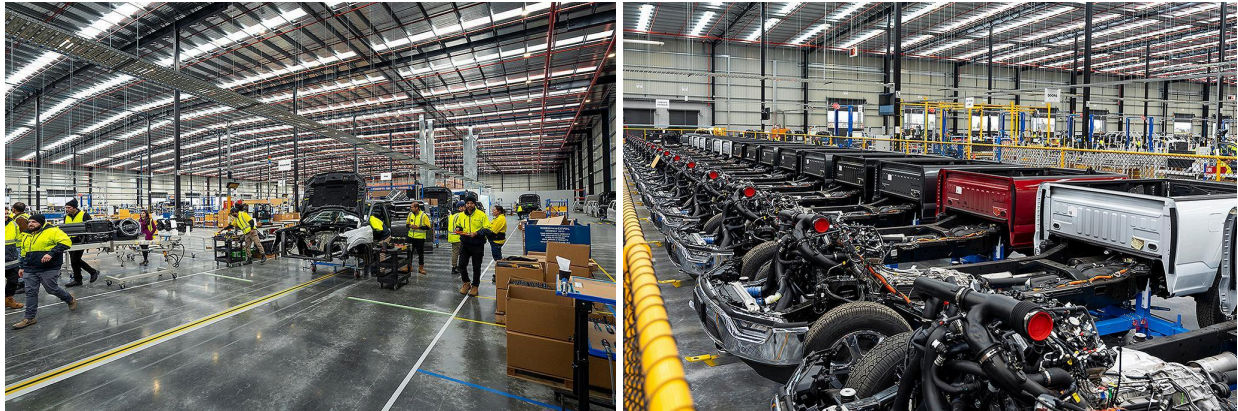


MyCANIC-IOT Product Spotlight #1

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The MyCANIC-IOT is used in a number of different ways, from standalone reprogramming and diagnostics to integrated simulation and validation systems. The article below shows how the MyCANIC-IOT is being used by RMA Group in Australia to convert Ford F150 vehicles from left-hand drive (LHD) to right-hand drive (RHD).



RMA Group Facility in Melbourne Australia for F150 RHD Conversion

RMA Group is a large company that provides a number of services to their automotive customers for creating specialty vehicles. When we at EEPod first heard about this project, we were a little surprised as we could not imagine how much design effort and work it would take to convert a brand new LHD F150 production vehicle to RHD. It turned out that RMA Group had already been doing this for a while, but they were looking for a faster and more robust way to re-program and re-configure all the electronics (ECUs) in the vehicle for RHD.



MyCANIC-IOT

With the MyCANIC-IOT, we were able to take a process that involved many hours of complicated updates using laptops, Ford engineering software and vehicle interfaces (that were designed for engineering and not manufacturing) and put it all in a robust handheld tool. Using our EEPod FSCRIPT language, we were able to re-program and re-configure up to 23 ECUs on the vehicles, while handling several configurations (e.g. Lariat and XLT, long and short wheelbase, etc.) in about an hour with full logging of all sequences and results that can then be collected via our EEPod Cloud Server.

In addition to the significant improvements to timing and robustness of the operation, using the FSCRIPT approach also eliminated all human errors that could occur with the previous approach using engineering tools as well as improving the accuracy of logging all vehicle changes and updates.

While EEPod developed the initial version of this complicated script, it was then taken over by Eren Dikkaya, the Senior PVT Process Engineer at RMA. Eren has continued to improve and add to the script in order to “lower cycle times and increase reliability” of the entire process. Handing off large projects like this to our customers allows them all the flexibility required to tailor the solution to their exact needs. This is also beneficial to EEPod as customers like Eren provide valuable feedback and ideas on how to improve and add features to the FSCRIPT language in future releases.

One of the valuable feedback items from this project was concerning the reconfiguration process as it usually involves a lot of bit-level manipulation of bits/bytes in a DID (Data Identifier). Doing this process manually requires precise attention to detail and programming these modifications can be very tedious. Below is an FSCRIPT example of the boolean logic required to update a value in DID DE09 in bits 5 and 6 of the 14th byte. The first is a boolean AND operation to clear out bits 5 and 6 of byte 14 and the second is a boolean OR operation to set the bits of the value as required.

```
DID MODIFY 0xDE09 14 1 & 0x9F  
DID MODIFY 0xDE09 14 1 | 0x40
```

For those not well-versed in performing boolean operations on bits and bytes, our Lead Software Engineer at EEPod, Kishan Prajapati, developed an application that would allow users to create a spreadsheet in Excel that has an English description of the DID updates required (e.g. set bits 5 and 6 of byte 14 in the example above to a value of 2) and then the application will create the boolean logic FSCRIPT code that you see above. This application will be a valuable time-saving asset in future projects like the F150 RHD conversion. For more information about this application, take a look at Kishan’s LinkedIn post:

https://www.linkedin.com/posts/eepod-llc_automotive-vehiclediagnosics-activity-7241900888825421824-m68t?utm_source=share&utm_medium=member_desktop