

SOLUTIONS

For high-end servo applications, which need to cover a rich feature set, the BOM list tends to be long and costly. The most effective way to counter this is by integrating all required functions into a single chip solution like the new Renesas RZ/T2M servo motor control device. Beyond a significantly shorter BOM list, this integrated solution comes with many more advantages:

- Scalable hardware platform allowing application software reuse
- Powerful Cortex R52 ARM CPU core with Tightly Coupled Memory (TCM) supporting hard real-time processing

- Trigonometric Function Unit (TFU) to accelerate complex mathematical algorithms
- Matured, feature-rich set of peripheral IP for PWM generation, Delta-Sigma I/F, SAR-ADC, digital encoder I/F etc.
- 3-port multi-protocol Ethernet network including Time Sensitive Networking (TSN) support
- Software ecosystem consisting of matured peripheral drivers, software stacks and application samples
- Pre-certified functional safety platform software
- Pre-certified industrial network stacks
- Embedded security for anti-counterfeiting and secure network communication
- Configurable absolute encoder interfaces for future prove encoder support
- Sample applications and demo boards to start evaluating out of the box
- Long term availability as part of the PLP program

The more extensive the feature set of the silicon device, the more likely it can cover today's and future requirements.

For efficient developments with low schedule risk, the completeness of the development environment is crucial. The Renesas RZ/T2M device comes with a rich set of tools and software solutions (see Fig. 2), helping application developers in all aspects of his project.



Figure 2: Development environment

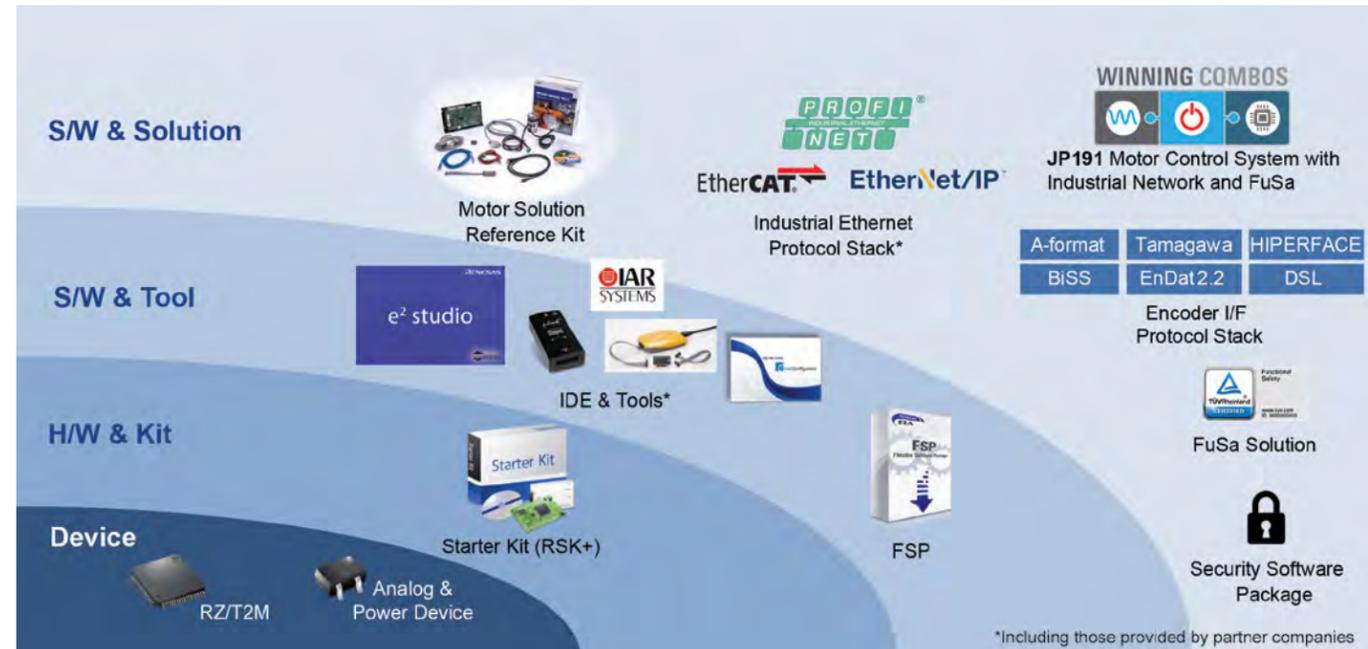


Figure 3: Servo motor control reference application with functional safety

As every solution has its pros and cons, a thorough evaluation of different offers is the key for successful and sustainable product developments with minimized risk. Availability of hardware and software as sample applications is essential to swiftly compare different solutions, confirm their suitability, and feature coverage.

As implementation concepts and detailed feature sets differ, there is no single reference for a complex application like a servo drive. However, a feature rich sample application (see Figure 3) can provide coverage of today's and future requirements and, when used as a template for companies' own developments, minimizing their risk and schedule.

FURTHER READING

To learn more about Renesas Motor Control System with Industrial Network and Functional Safety Solutions,

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