Alstom Transport valid the REGIOLIS embedded software with MaTeLo

Alstom Group is an international company, with 93500 employees (including about 9000 in France) in 100 countries for a turnover of 21 billion euros in 2009/2010.

Sales in the Transport sector amounted to 5.6 billion euros, whose main activities are: rolling stock, signaling, infrastructure and services. In addition, Alstom Transport is number one for high and very high speed trains and continues to invest in high-tech activities.

Regarding the rolling stock activity, Alstom Transport offers a wide range of products and services, from tram to the very high speed. **REGIOLIS is a new generation of train**, very flexible (capacities, interiors, drive modes…)

TCMS (Train Control & Monitoring System) is the brain and the nerve center of the train. It interfaces with all sub-electrical and electronic systems, and monitors and controls connected devices.

Challenges:

- To switch from a manual process to an automated process
- To trace the requirement from the FDD to the test reports
- To formalize the gap from FDD to the test sequences
- To increase the test coverage
- To improve the maintenance of test sheets
- To validate development processes done in parallel

Alstom Transport has chosen **MaTeLo tool for the REGIOLIS TCMS validation**. This system consists of two embedded software: one in the main processor, the other in driver display units. For hardware, REGIOLIS drives a lot of networks (MVB, Ethernet …), a driving display unit, remote inputs/outputs, communication between multiple units coupled together.
From specification sheets, models are created, and then test cases are automatically generated. NI TestStand executes/interfaces with test sequences on a test bench, as host or target mode.

Validations sheets are automatically created and integrated:

- generated MaTeLo test cases
- requirements covered by MaTeLo test cases
- the TestStand generated test sequence

Finally, the user accesses the validation report including the TestStand execution report, with the status of each requirement test of the function.

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MaTeLo answered to Alstom challenges. Indeed, **100% of the project is tested from MaTeLo models**, developed by a dozen engineers become self-efficient in the use of the tool.

For more information, you can download the complete presentation on www.all4tec.net , click on Download on the top.

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