

# Nicolas cranes

## Speed monitoring of radio controlled vehicles with Pluto

Segment: Cranes and transportation  
 Application: Speed monitoring  
 Customer: NICOLAS Industrie S.A.S



### Customer and application description

NICOLAS is the global market leader in construction of specialized vehicles for transport and heavy lifting. Among its range of vehicles, NICOLAS designs radio controlled cable drum transporters that can support a weight of up to 500 tons.

### Problem and requirements

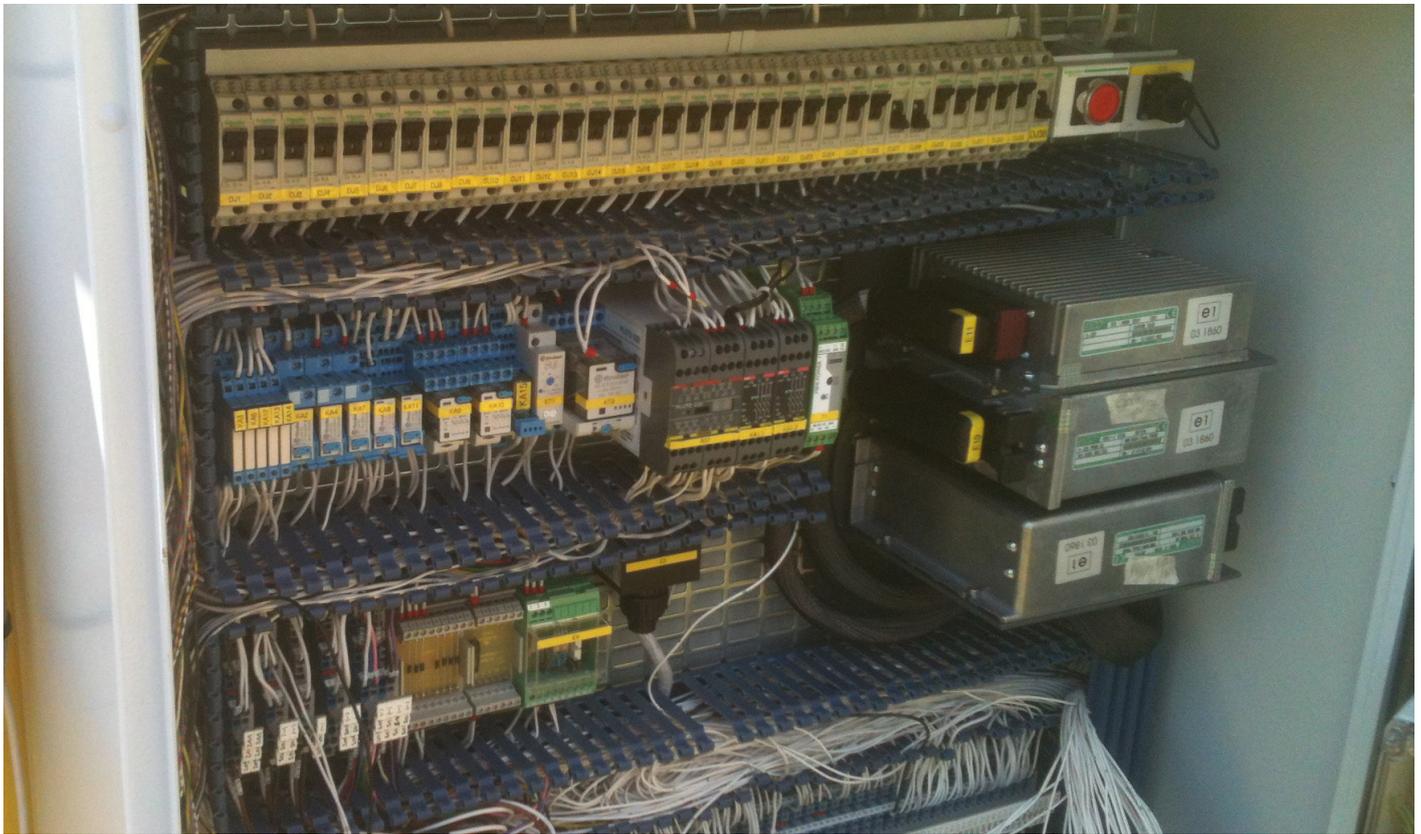
One of the requirements for radio control of such vehicles is that the speed must be monitored with SIL 3 according to IEC 62061 and in case of a signal loss the machine must stop. In order for the machine to safely stop, the brakes must be activated, the motor stopped and the hydraulic steering deactivated.

### Solution

The radio control transmits a SIL 3 rated signal to the vehicle. A Pluto D20 is placed on the vehicle to compare the analog output signal of the radio receiver and the analogue sensors measuring the actual speed of the vehicle. If they don't match, the emergency stop function is activated. BT51 expansion relays are used in order to increase the number of safe outputs so that the brakes can be applied, the engine shut off and the hydraulic steering deactivated.

### Products used

Type	Order code	Quantity
Pluto D20	2TLA020070R6400	1
BT51 24DC	2TLA010033R2000	2



### Safety and protection

Pluto makes it easy to comply with the SIL 3 requirements of IEC 62061



### Easy to install

The solution saves installation time, since several relays used in the old solution were deleted and the compact size of Pluto simplifies the wiring in the control cabinet of the vehicle



### Cost effective solution

Pluto offers advanced functionality to an affordable price which makes it a cost effective solution

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### Conclusion

“The expertise of ABB has fully satisfied our requirements, and this solution has been implemented in all our cable drum transporters” says Mr Potron from NICOLAS.

### Note

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