

# xtlogix

Hardware-In-the-Loop and Model-In-the-Loop  
real-time testing and validation system



Compatible with

-  NI VeriStand
-  TestStand™
-  LabVIEW

 bylogix



ISO 9001:2008 Certified Company

xtlogix can have several configurations, according to I/O and network interfaces requirements (type, number, characteristics).

- **Dimension** Rack 19" from 6 U to 12 U (483 x 540 x 300 ÷ 566 mm)
- **Processor** From Celeron 2.2 GHz to i7 QuadCore 2.3 GHz
- **Connection** 2 Gigabit Ethernet ports  
2 USB 3.0 ports & 4 USB 2.0 ports  
RS232 & parallel port
- **Hard-drive** From 250 GB
- **OS** RT OS (PharLap, VxWorks or Linux RT) or Win7

### CONTROL PANEL

- **Network interfaces** Automotive (CAN, LIN, FlexRay)  
Industrial (CAN Open, Device Net, RS485)  
*...ask us for others*



- **Scope** Up to 5 channels  
From  $\pm 10$  nV to 1000 VDC (700 VAC)  
From  $10 \mu\Omega$  to  $5 G\Omega$   
Up to 26 bit  
Up to 12.5 GS/s  
*...ask us for others*



- **Miscellaneous** Image acquisition  
Motor controller  
Controlled power supply  
*...ask us for others*



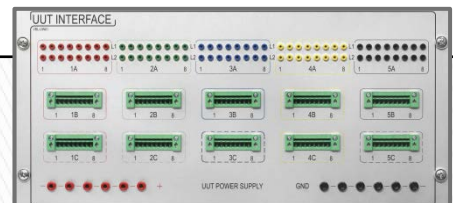
Compatible with the following modeling and simulation software:



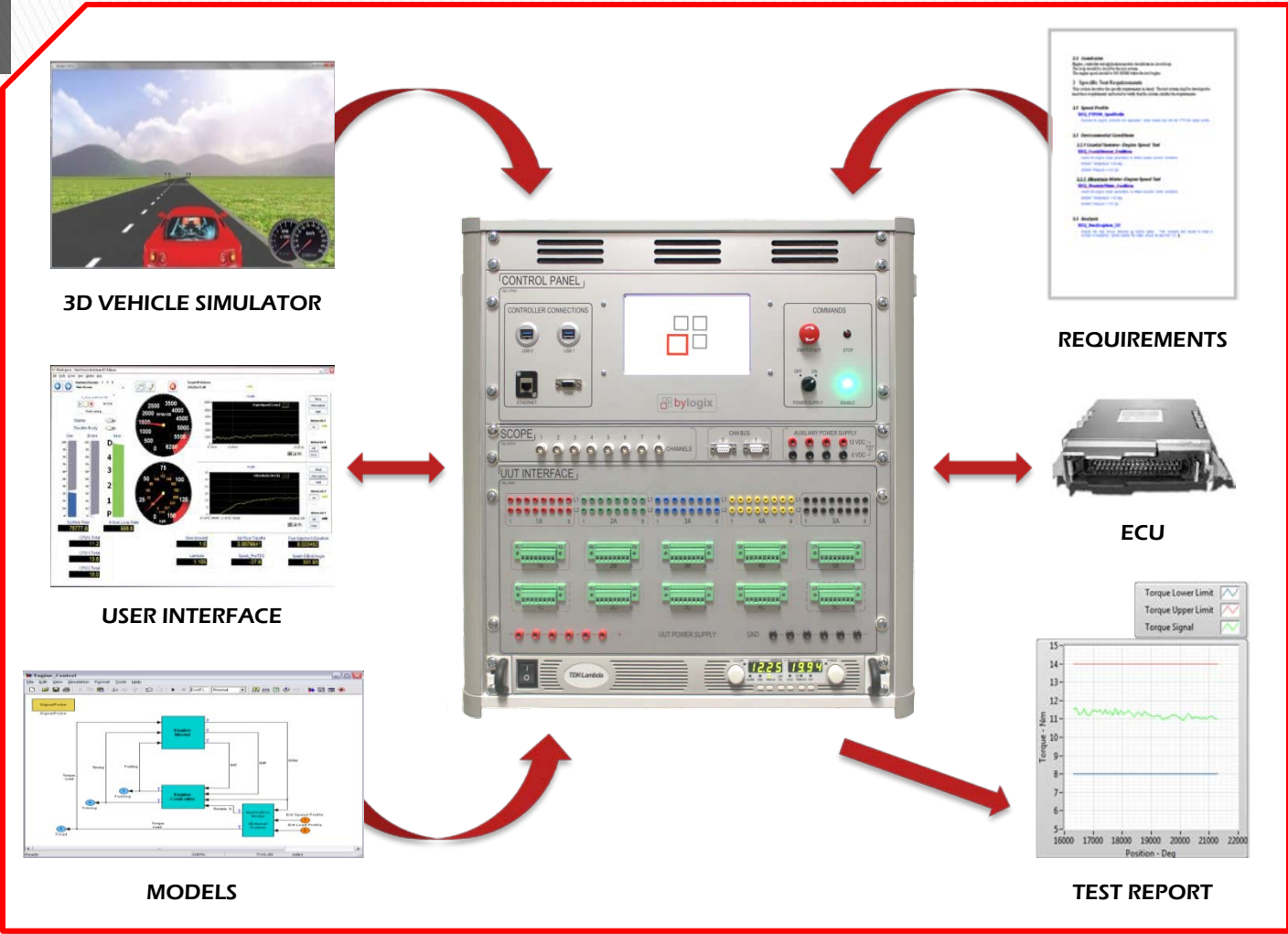
and many others!

### UUT INTERFACE

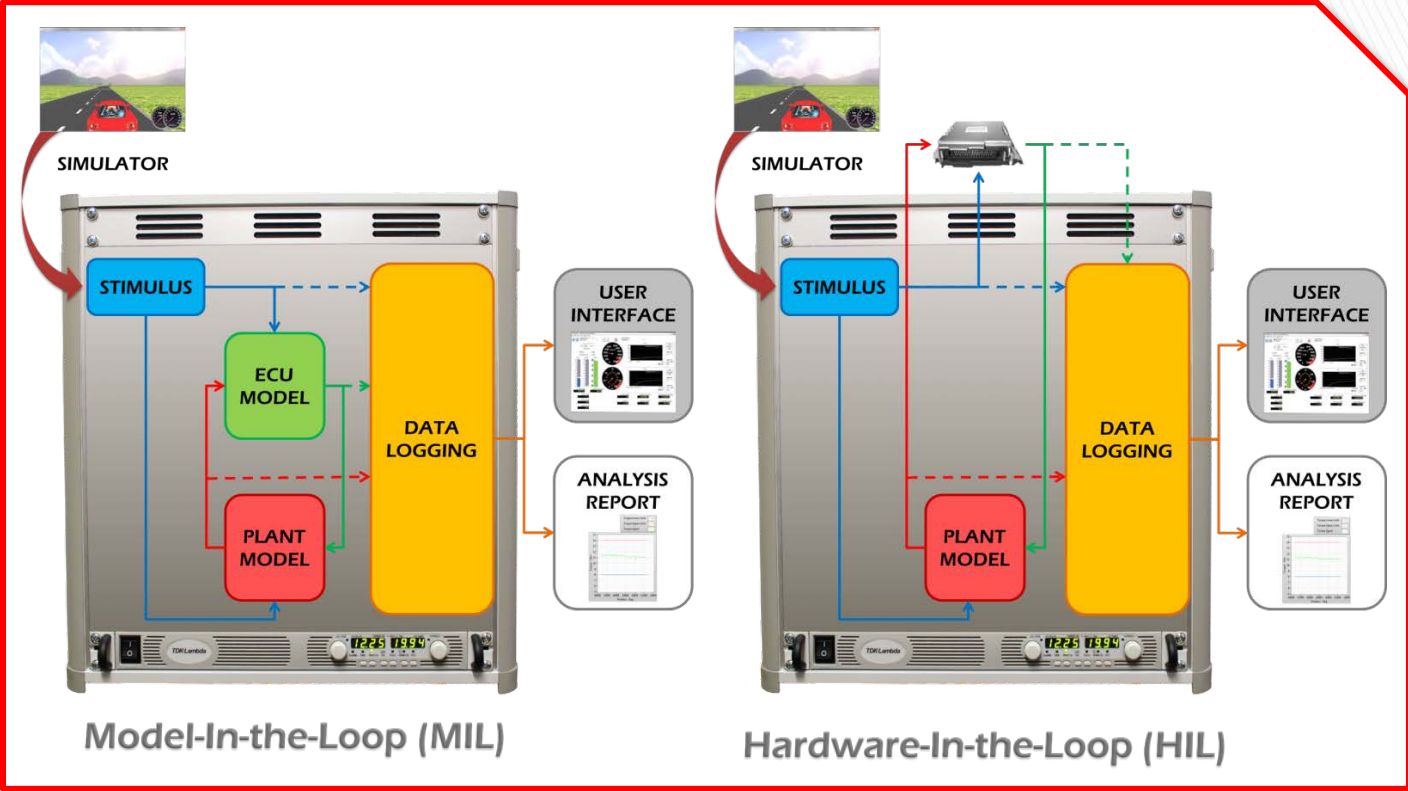
- **Data acquisition** Up to 200 single channels @ 1 MHz (16 bit)  
Up to 100 differential channels @ 1 MHz (16 bit)  
Up to 4 differential @ 10 MHz  
Counters for incremental encoders (A, B, Z)  
*...ask us for others*
- **Analog output** Up to 8 isolated  
Up to 32 single ended  
Up to 1 MHz, 16 bit  
 $\pm 16$  V,  $\pm 20$  mA  
*...ask us for others*
- **Digital I/O** Up to 96 Digital I/O  
Up to  $\pm 60$  VDC IN  
Up to 100 MHz  
Output @ 5 V, 3.2 V, 2.5 V, 1.8 V  
Relay outputs  
*...ask us for others*



# Testing flow



# Testing typologies



## What's xtlogix ?

- A modular and scalable system
- Highly customizable and suitable for different testing purposes
- Typical configuration:
  - touch screen/LCD display + jog switch
  - control panel with USB ports, RJ45 Ethernet port, control buttons, scope module and a signal interface
- Connectable to a PC and manageable through a user interface
- Provided with an integrated interface to be used autonomously
- HIL and MIL testing tool
- Controller and data acquisition system in complex test benches

### Validation and testing

- Test profiles generation
- Test cycles development
- Test data acquisition
- Simulation
- Configurable via models
- Requirements management and traceability
- V&V according to international safety standards (e.g. IEC61508, ISO26262, ISO25119, etc.)

### Support

bylogix can support the customer in:

- bench hardware design, development and configuration
- plant model in Matlab, Amesim or other tools
- identification of plant models' parameters
- design and implementation of control strategies in the  $\mu\text{C}$
- code verification and validation
- definition of test pattern and test plan for the application validation
- performing and reporting validation tests
- assessment of the system performances

### Customization

Adaptable to your testing & validation needs.

Virtual sensors models and vehicle dynamics models, which can be integrated in the simulation environment, are available, together with specific HW interfaces for your applications.

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