



ENGINEER
NEXT

VIP2017

The logo features the text "ENGINEER" in a smaller, white, sans-serif font above the word "NEXT" in a larger, bold, white, sans-serif font. A yellow graphic element, resembling a stylized 'X' or a folded ribbon, is positioned between the two words. To the left of "NEXT" is a white rectangular box containing the text "VIP2017" in a white, sans-serif font. The entire logo is set against a blue background with diagonal stripes in various shades of blue, orange, and green.



ENGINEER
NEXT

VIP2017

The logo features the words "ENGINEER" and "NEXT" in a bold, white, sans-serif font, stacked vertically. A stylized yellow "X" shape, composed of three parallel lines, is positioned between the two words. To the left of the text is a white rectangular badge with a thin border, containing the text "VIP2017" in a white, sans-serif font. The entire logo is set against a blue background with diagonal stripes in various shades of blue, orange, and green.



Bridging the Gap – NI SLSC, die modulare Signalkonditionierungsplattform

SET GmbH

Regional Sales Manager

Bernhard Rennhofer



SET GmbH

Foundation: 2001

CEO: Frank Heidemann

Number of employees: 100 in 2 companies

Headquarter: Wangen/Allgäu

Offices: Dusseldorf, Munich

Subsidiary: SET Power Systems GmbH

Certifications: EN 9100, ISO 9001, Certified
LabVIEW & TestStand developers & architects



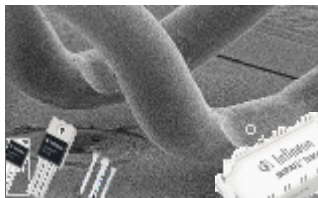


SET GmbH

AEROSPACE



SEMICONDUCTOR



AUTOMOTIVE



POWER ELECTRONICS



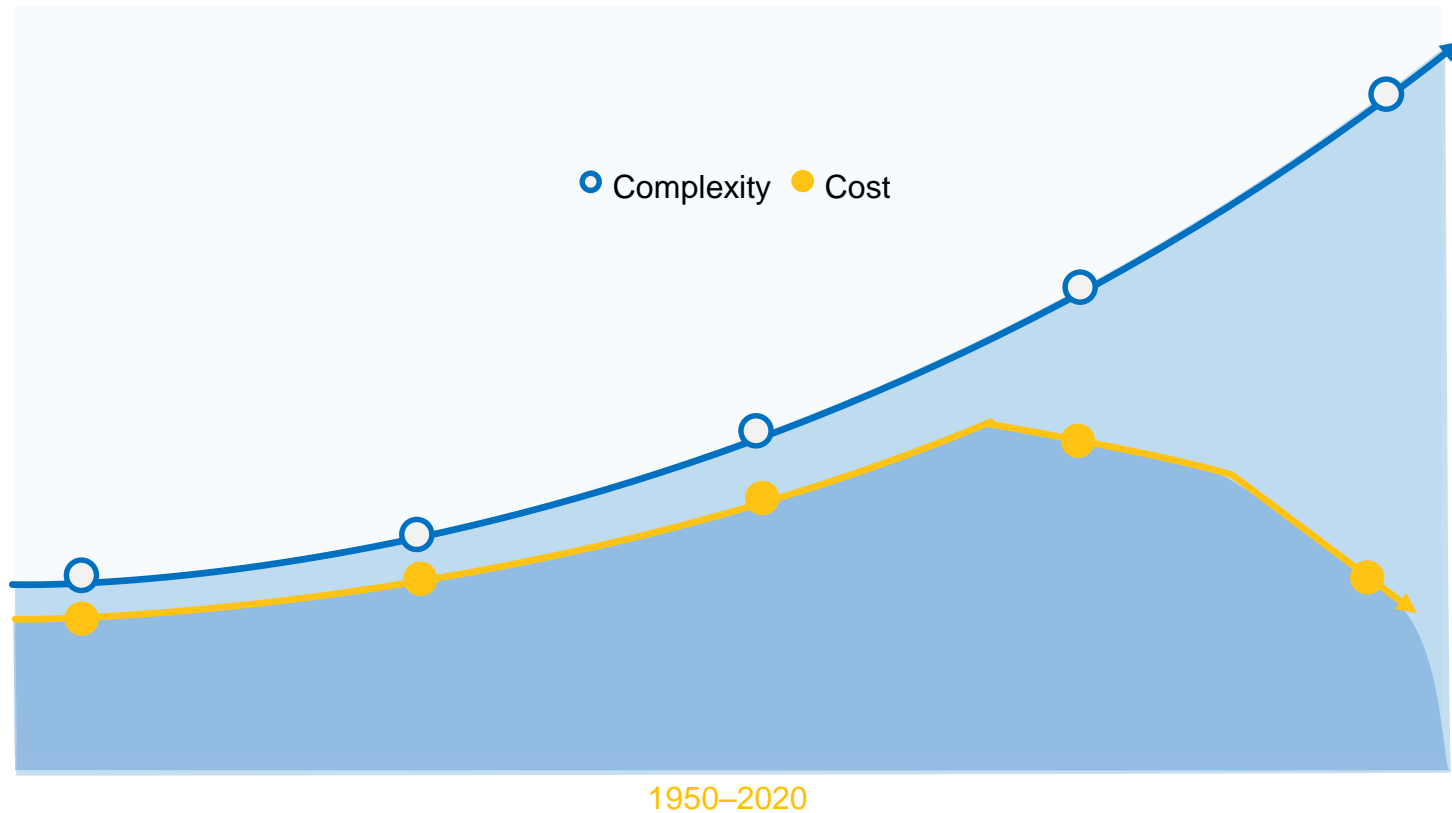
Design, Development, Production, Application, Training, Consulting & Support



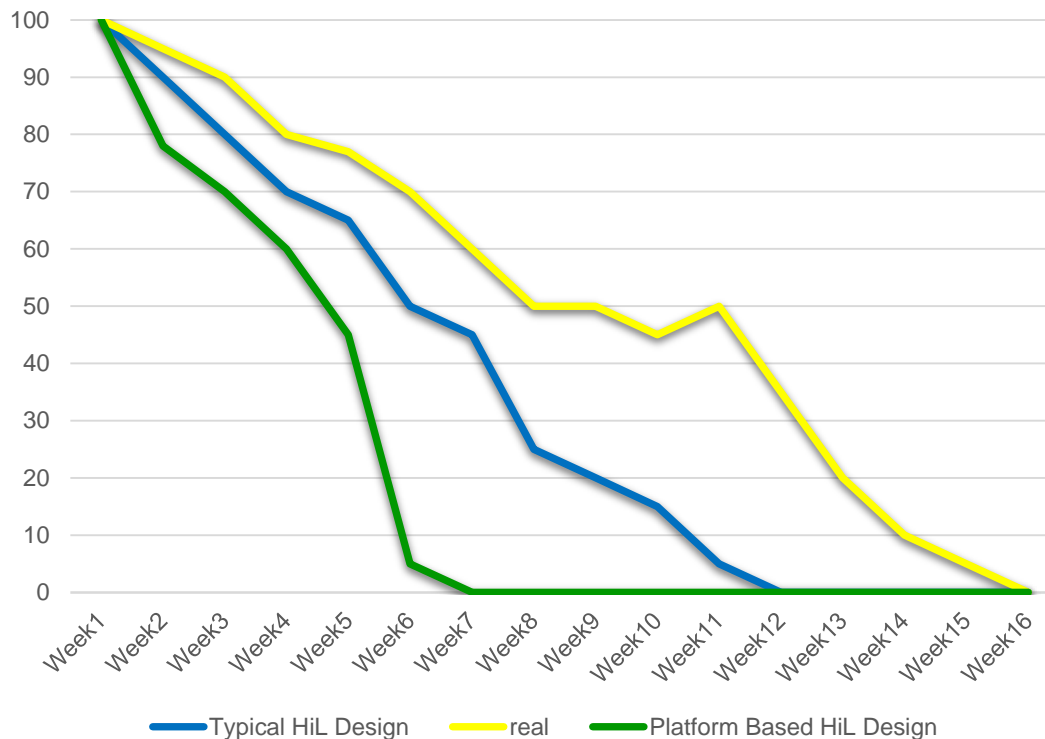
Challenges

- Increasing complexity of test systems
- Standardization of test systems
- Break the cost curve of test systems (TCoT)
- Be faster and more flexible
- Reliability

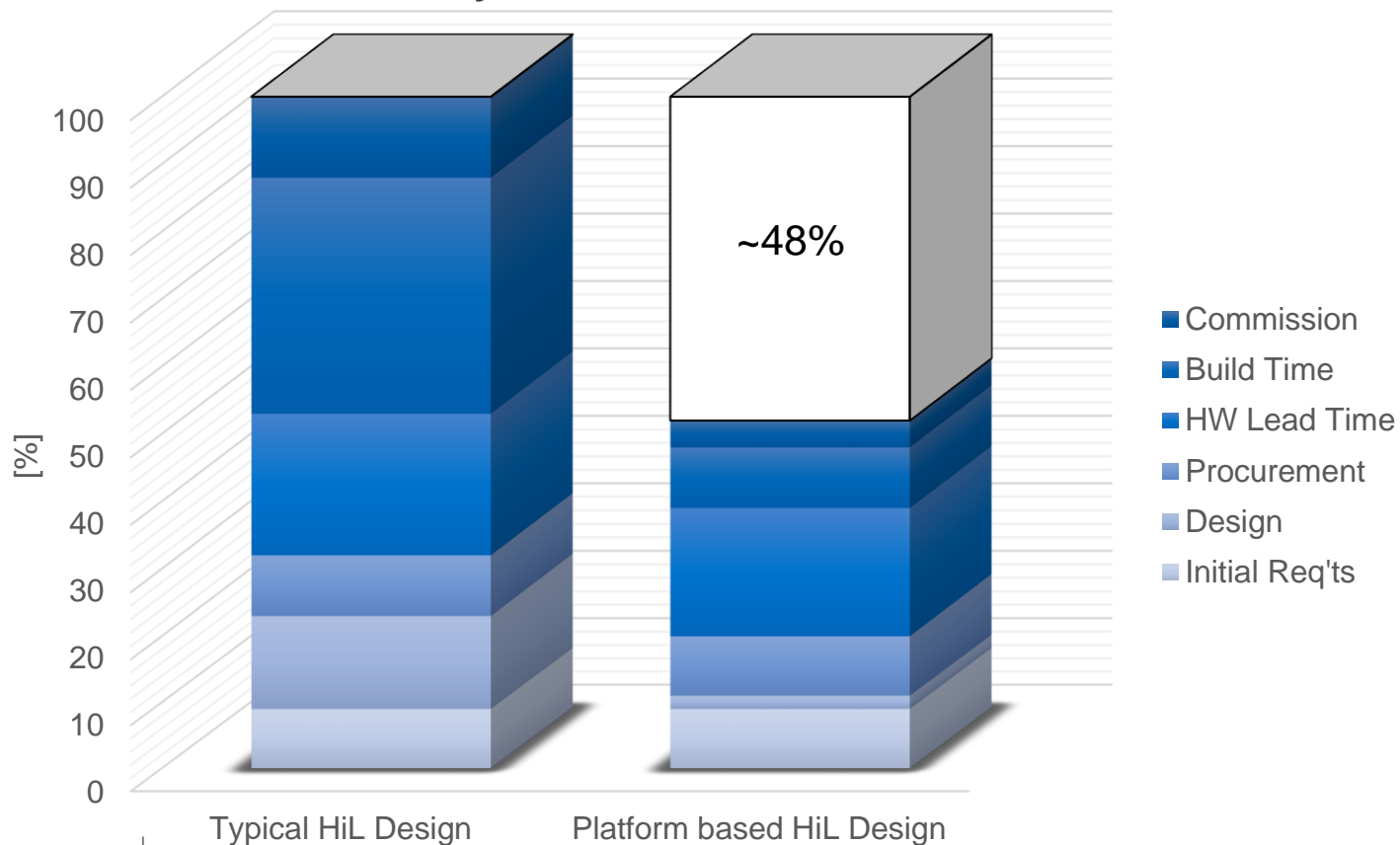
Challenges



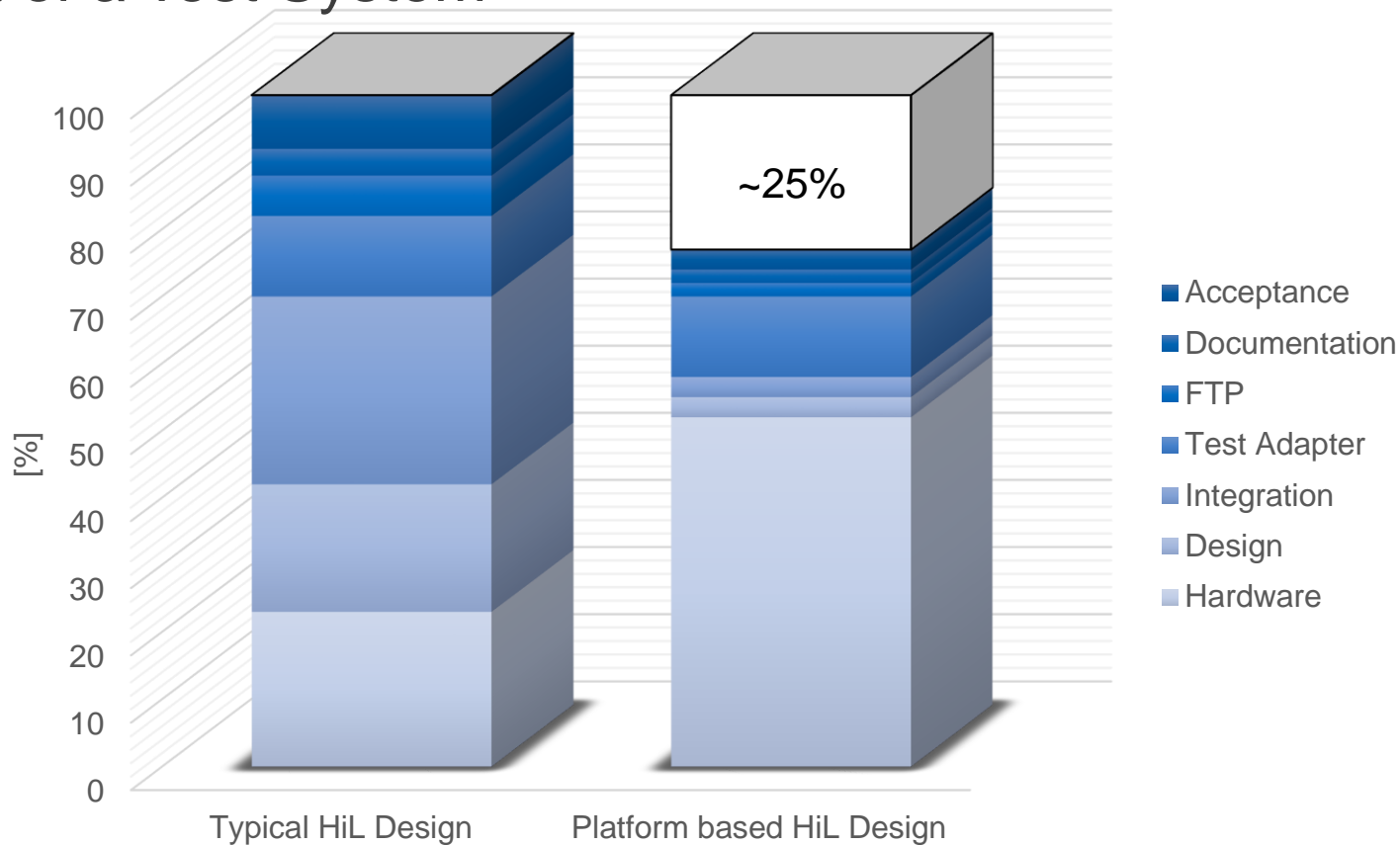
Burn Down Diagram – Build a Test System



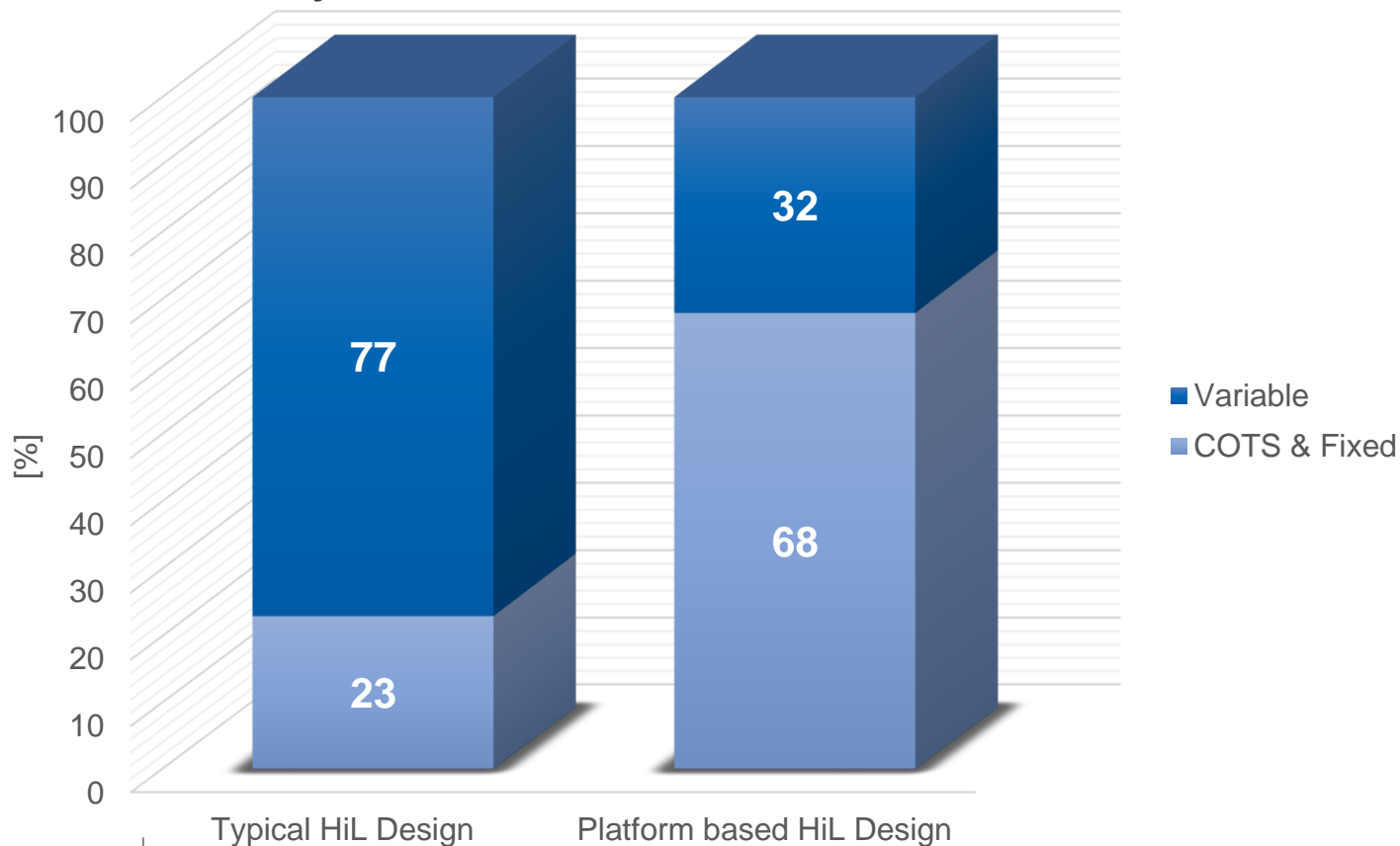
Schedule for a Test System



Cost of a Test System



Risk of a Test System





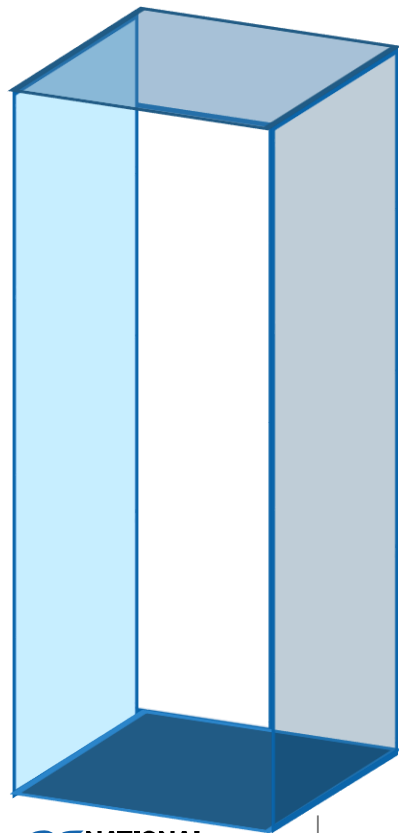
NI SLSC

The new NI signal conditioning platform

Bridging the Gap – NI SLSC

- The SLSC (Switch Load Signal Conditioning) platform fills the last gap in the signal chain to a Device Under Test (DUT)
- All components from the interface to the measurement systems, including all cables, are components of the shelf (COTS)
- The standardized and open platform with more than 130 modules provides a path for every industry specific signal
- As part of the National Instruments product palette offers the SLSC platform seamless integration in NI Products like VeriStand, TestStand and LabVIEW

Build a standardized Test System



PSU- Power

Load Box



1. PDU - Power Distribution Unit
2. iPC - Industrial Personal Computer
3. BoP - Break out Panel
4. PXI Measurement System
5. SLSC Signal Conditioning
6. Interface

Plug & Play

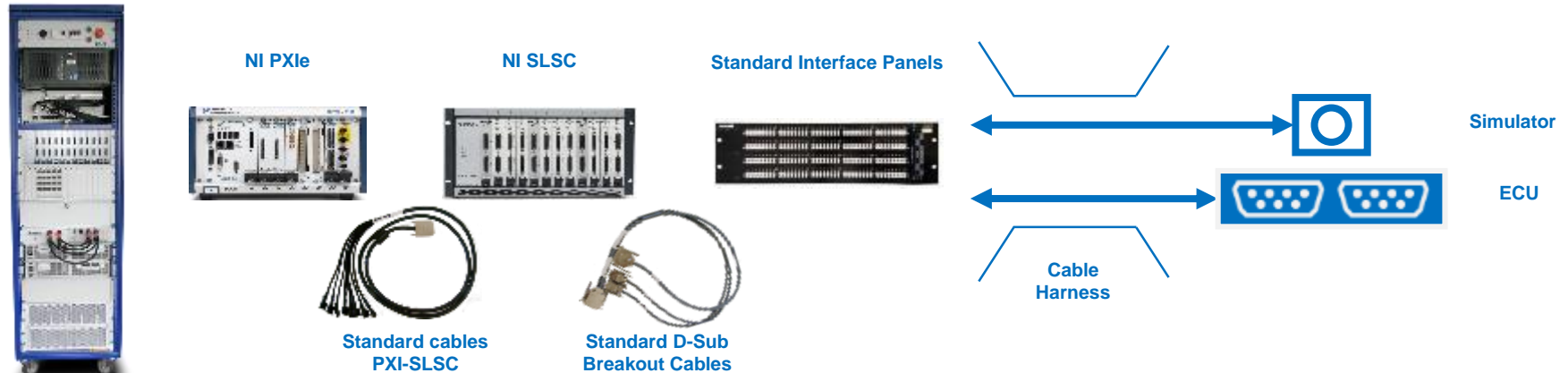
NI SLSC – Platform based HiL Design

Front and Rear View:



NI SLSC – Platform based HiL Design

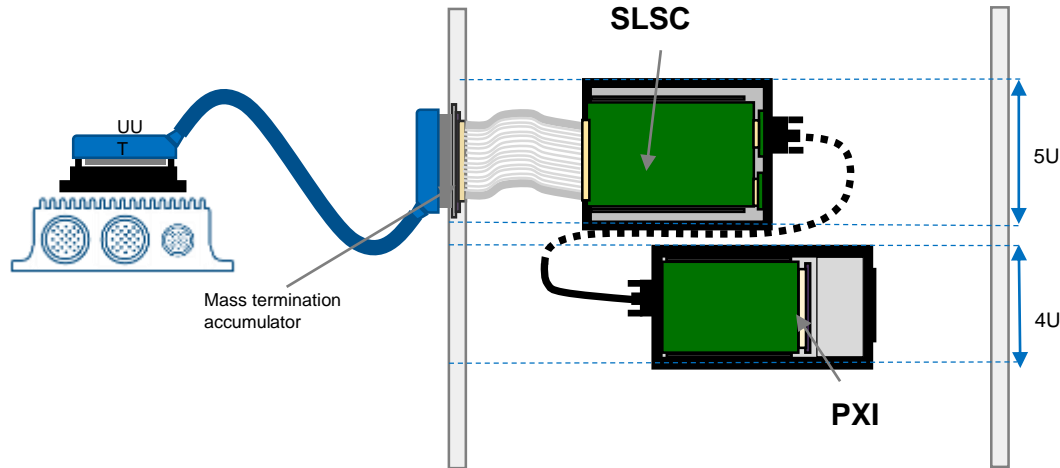
Example Setup:



NI SLSC – Platform based HiL Design

NI SLSC - Switch Load Signal Conditioning:

- Open platform
- 5U chassis, 4U modules
- Forced ventilation for thermal loads
- Integrated error bus and measurement & calibration bus



NI SLSC Modules

NI SLSC – Switch Load Signal Conditioning:

- Module Power:
 - 24V DC, 2A
 - 3.3V DC, 400mA
- Module Communication:
 - 4 instrumentation channels
 - 4 power or fault channels
 - 64 Ch single ended or 32 Ch Diff.
 - 2 triggers
 - SPI with 1 MHz (parallel) internal
 - Ethernet interface for system control

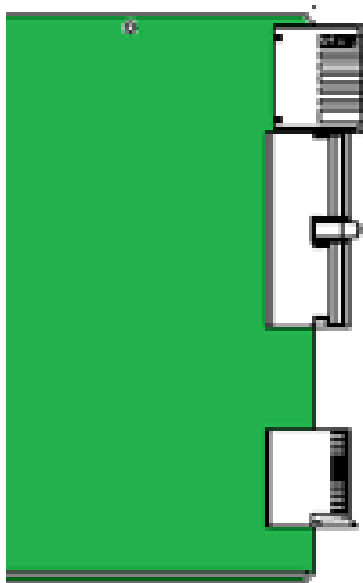


NI SLSC – Rear Transition Interfaces (RTIs)

NI SLSC



NI PXI / NI cRIO



Available Devices

Name	Description
SET-1310 Isolated Input	32 ch isolated input SLSC card, constant current
SET-1320 Isolated Output	32 ch isolated output card, output enable
SET-1317 Modular Card - 8 slot input	8 slot modular AEROspice carrier card
SET-1315 Modular Card - 8 slot output	8 slot modular AEROspice carrier card
SET-1210 Resistor Simulation	16 ch isolated resistance simulation 1W
SET-1211 Resistor Simulation	16 ch isolated resistance simulation 5W
SET-1220 Capacitive Sensor Simulation	8 ch galvanic isolated, analog controlled
SET-2010 Routing Base Card	64 ch routing base
SET-2210 Instrument Card	Instrument connect module for SLSC 2010 routing card



SAAB

14,600 Employees

\$3.1B Revenue in 2015

Founded in 1937





SAAB



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“We chose an NI HIL test system because it is built on open, standard platforms that allowed us to reduce the overall cost of test and the long-term maintenance and ownership of our hardware. It also allowed us to customize the system to our exact needs, increasing the speed at which we could find and fix embedded software defects while integration testing LRUs for our Gripen fighter.”

—Anders Tunströmer, Technical Manager, Saab Aeronautics

NI SLSC – Benefits

- Lower design and build time of the overall HiL test system
- Lower potential places for failure and reduction of the overall risk
- Standardized Component Of The Shelf (COTS) platform
- Standardized cabling
- Scalable & flexible platform
- Many standard modules & Rear Transition Interfaces (RTI)
- Open platform to integrate own custom modules
- Global availability through NI sales channel
- ..more modules to come :-)





Questions?

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