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Business development manager

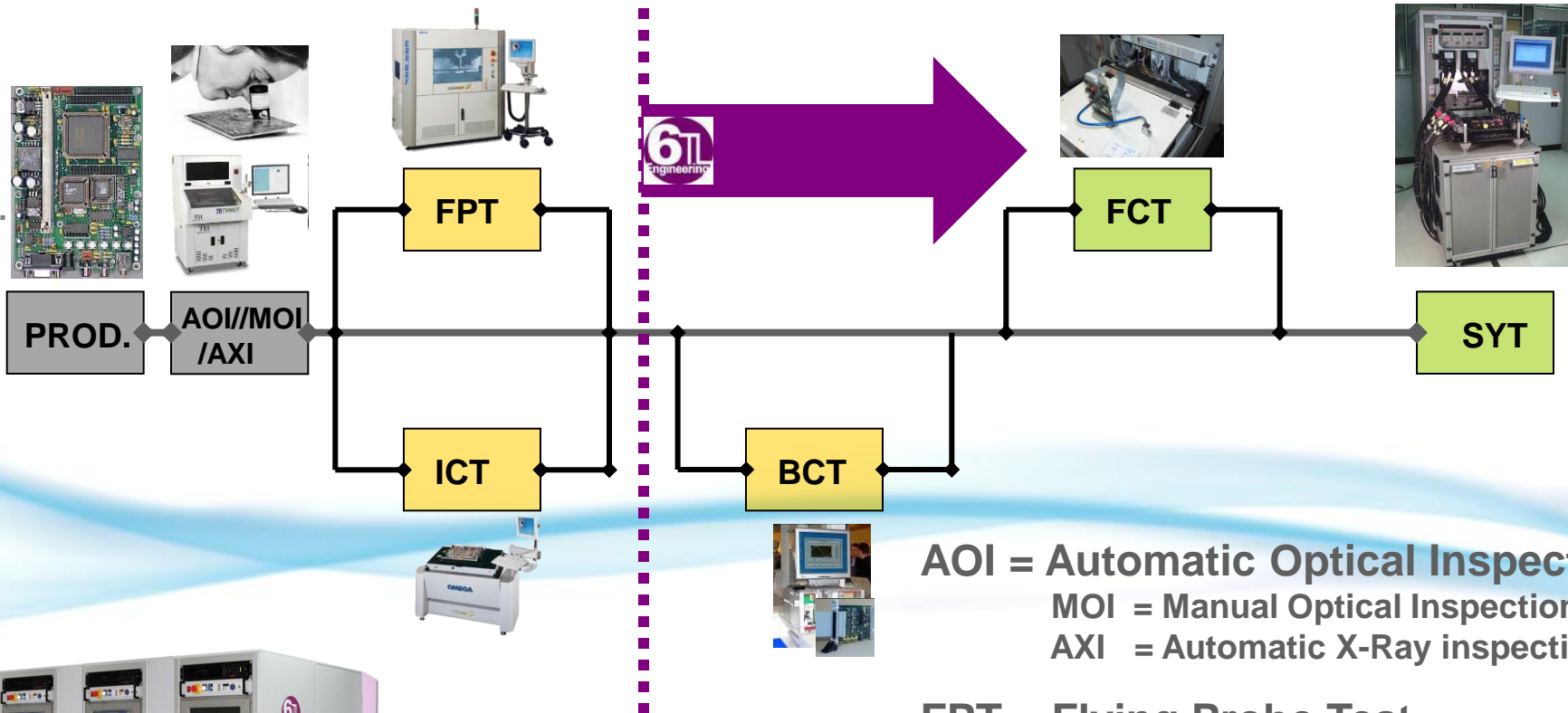
6TL Engineering

**Building a Reliable, Re-usable and
Flexible Functional Test System
out off a Catalogue,
With Standard Building blocks from 6TL,
Mass Interconnect from VPC and
Additional Instrumentation and software from NI**

- Who is 6TL engineering.
- Testing Methods.
- What challenges do we all face in Test.
- Standard building blocks (advantages).
- Why use Mass Interconnect as the tester interface.
- Advantages of the Mass Interconnect concept.
- Minimize wiring saving time and money.
- Introducing the YAV board Technology.
- Combining YAV Technology with Mass Interconnect Receivers
- Advantages of the modular tester concept with 6TL Building blocks
- Summary

- 6TL engineering is a division of the Sistel Group located in Sabadell, Barcelona, Spain. (100 People)
- 6TL is specialized in developing and building modules for functional or combinational test
- 6TL has global presence, manufacturing & support
- 6TL has over 25 years of experience, providing Test solutions for different industries
 - Automotive, Consumer Electronics, Aerospace, Telecom, etc.
- Our philosophy is to provide standard platform solutions, with below in mind;
 - Minimize engineering effort and cost.
 - Short integr.
 - Open j
 - S





AOI = Automatic Optical Inspection
MOI = Manual Optical Inspection
AXI = Automatic X-Ray inspection

FPT = Flying Probe Test

ICT = In-Circuit Test

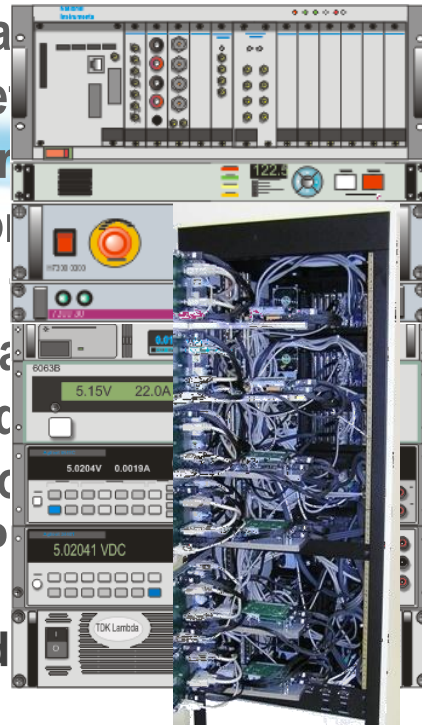
BST = Boundary Scan Test

FCT = Functional Test

SYT = System Test



- How can I keep the cost down, (minimize development and engineering cost!)
- Time to Market - R&D focus, manufacturability, testability, design for test.
 - Will my system perform now and in the future?
 - Will there be room to Expand my system and can I use all available resources?
 - Standard, re-usable, flexible test software architecture with modular building blocks
 - Standard expandable and reliable tester interface, (Mass Interconnect)
 - Use as many standard building blocks as possible.
 - Test equipment assembled anywhere, country, continent, world.
 - Prepare wiring diagrams and manuals
 - Training for operators
 - Cost-effective, long-term maintenance availability and support.



OUTPUT



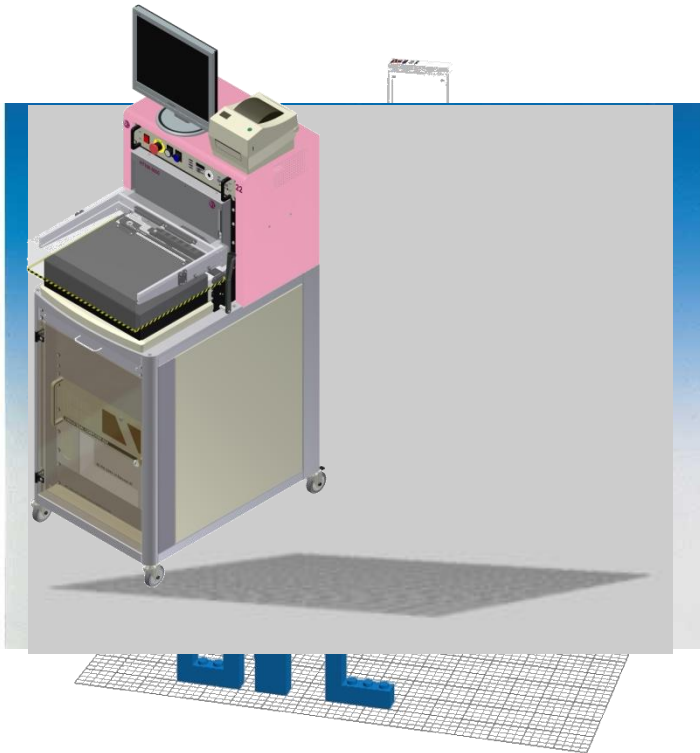
NATIONAL INSTRUMENTS



VPC Virginia Panel Corporation

High standard building blocks for Test.

What has LEGO to do with building test systems?



- LEGO is modular
- LEGO is re-usable
- LEGO re-configurable
- LEGO has standard building blocks
- LEGO has support all over the world.

So why not use the LEGO principle to build a computer or even a complete test system.



- A typical housing 19" Rack.
- A controller / Industrial computer.
- A Man-Machine interface.
- Additional Test instrumentation.
 - SCXI, PXI, VXI, LXI, VME, Rack & Stack, Etc.
- Standard VPC Interface.
- Standard wiring. (Assemblies)
- A manual pusher system
- An automatic pusher system
- ITA's or test fixtures



**Final result is a
Standard Test system**

Maximize the ROI for Test Assets

- By Preventing Damage to Valuable Test Instrumentation

Test Instrument Card

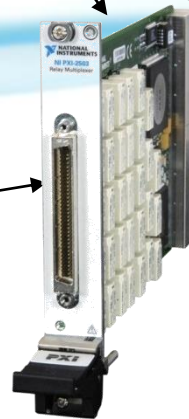
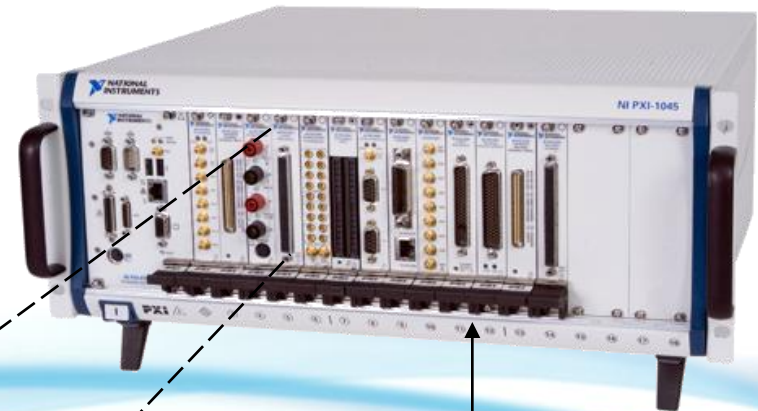
(Valuable Test Instrumentation)

Delicate Commercial Connector

Life cycle: +/-200 cycles

Connector bad, instrument bad, Tester down

Mass Interconnect Systems are designed for 20,000 mating & un-mating cycles. They protect Valuable test Instrumentation



- It provides company-wide standardization,
- High reliability, 20.000 error free connection cycles.
- One connection for all tester Inputs and Outputs,
- Signal, Power, Coax, Air, Optical, and HF contacts.
- Reducing possible connector pin damage dramatically.
- Less down time with as a result higher productivity
- Additional system flexibility,
- It is Modular and can provide Scalable solutions,
- With COTS cable assemblies, PCB adapters and Patch cords, faster and easier wiring.

Improved throughput!!



- Discrete wiring

NOT Preferred.

- Use of cables

- Connect with cables

- Connect direct with the channels

- Connect using direct PCB Connections NO WIRING NEEDED !!

If there is a disadvantage to Mass Interconnect it is the additional wiring, it adds to the total system cost



Reducing this additional wiring, saves cost.

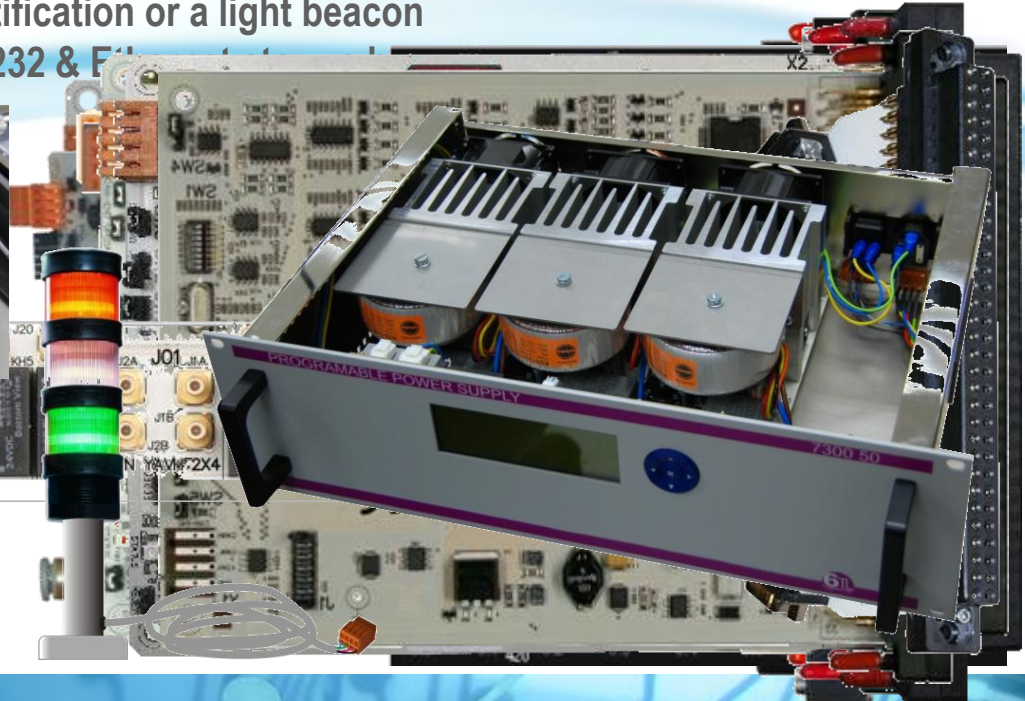


- Wiring is labor intensive & needs to be minimized
 - This leads to shorter assembly times
 - better signal quality and integrity
 - Higher reliability of the entire system
 - Simplifies wiring diagrams
 - Provides easier serviceability
 - And leads to lower cost
- In each tester the **Base instrumentation** is always needed,
 - DVM, Digital Analog I/O, Switching, Power supplies, etc.
- For basic test applications 6TL developed their YAV Range.
 - It has a Mass Interconnect interface on board
 - It can be mounted directly into the Interface Receiver
 - No wiring between YAV instrument and receiver needed
 - Provides an easy access for calibration or repair
 - Provides a better signal integrity
 - This saves money



- **Base instrumentation from 6TL, no wiring needed.**

- If you need pneumatic actuators, there is the YAV90PNEU
- If you need to test LED's Color & Brightness, there is the YAV90CLR
- If you need to test up to 3000V, there is the YAV90HVT
- If you need High Density Switching, there is the YAV90128
- If you need to switch power and loads, there is the YAV90PIN
- If you want to add In-Circuit Test, there is the YAV90096
- If you need Audio & Video switching, there is the YAV91616
- If you need to test Electronic Car Components, there is the YAV90832 (Multi-function)
- If you need Loads, Power supplies, identification or a light beacon
- Switch Coaxial, Active probes, route RS232 & F



- Select an appropriate VPC Interface.
 - The G6, 6 module positions.
- Select the needed YAV Configuration
 - You created your basic Test system.
- Add some additional Building blocks
 - And you have a complete Tester.

Cable Tester Bench Functionality using VPC G6.



9025TR



- YAV series instrument & switching boards, cover most of your testing needs
- No wiring needed connect the boards directly to the Interface. (Cost Saving)
- Short signal pads, provide better signal integrity.
- More space in the Test-rack, Smaller, cheaper Test chassis needed. (Cost saving)
- Friendly price, as not always a need for a high switch-count.
- Simple and fast integration, no wiring needed.
- Use of a real Mass interconnect interface connector
- Interface compatible with all VPC 90 series Mass Int
- CAN Bus controlled, simple and fast wiring.
- Labview or Teststand integration with available drivers.
- Each instrument has its own virtual instrument panel.
- Separate VPC Interface modules available for:

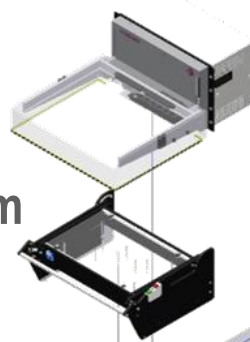


Signal 3-10Amp, Pneumatic, POF, Fiber
etc. etc.
Modularization & Reliability

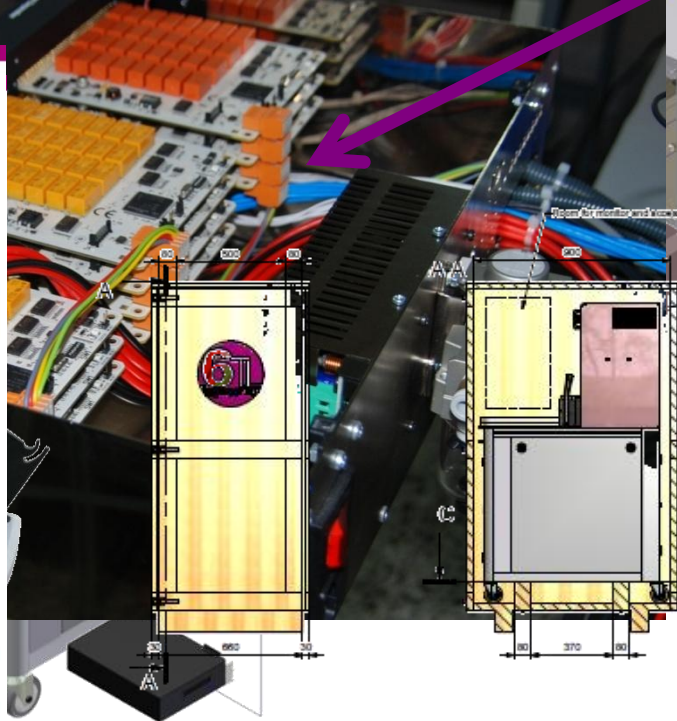
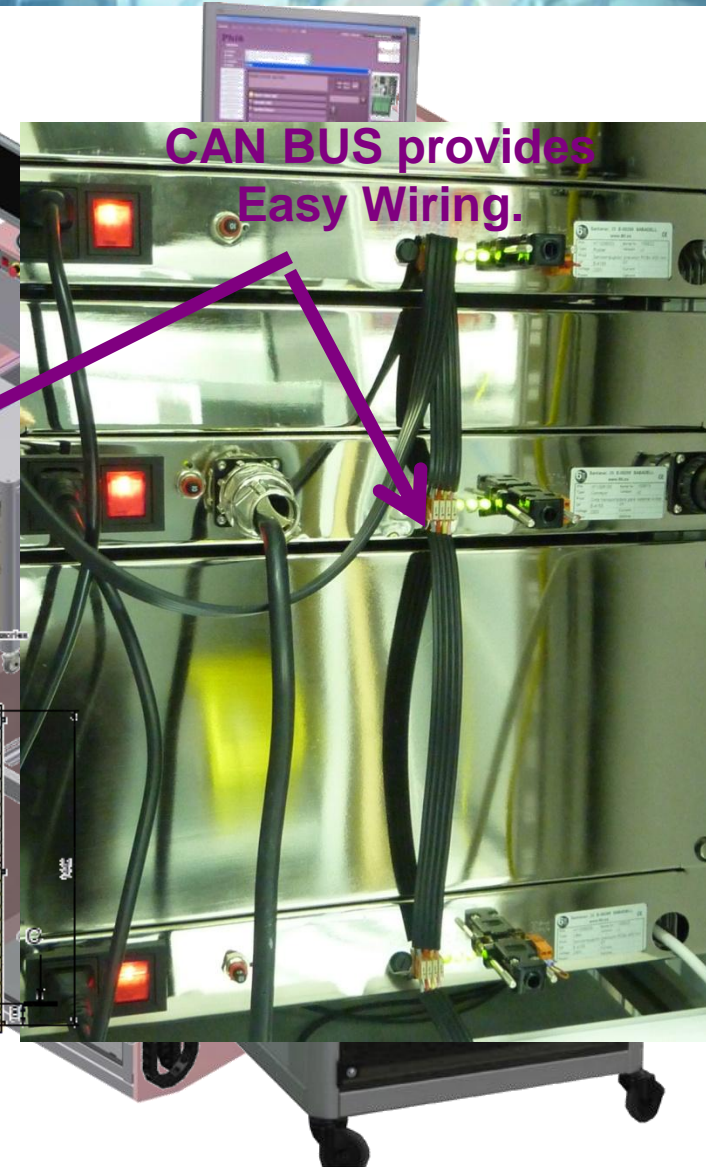


• The 6TL Solution

- Pick an appropriate platform
- Select the parts from our catalogue
- 6TL can wire and assemble your system
- And send you the finished product
- Including wiring harness



**CAN BUS provides
Easy Wiring.**



8.2 Automatic Trimming 7260.02

- Features:**
- Auto-wiring automatic trimming system
 - Self-adjusting Height
 - Ceramic Tip
 - Minimum pitch between trimming system (2 mm)
 - Trimming resolution < 10°
 - Floating motor from the screwdriver axis

Applications:

- Automatic trimming



While in the non-operating position (1), the DUT moves into right trimming position for the automatic trimming operation. The trimming system, fixed onto the carrier plate, comes down with the plate until the tip is introduced inside the potentiometer's groove (2).

Potential trimming system misalignments, due to soldering positioning errors, are compensated through the tip orientation ability (3).

The trimming operation is controlled through the test system PC controller, by comparison of the measured value against the reference value (comparing the measured value and reference value).

ORDERING INFORMATION	Part No.
MotORIZED Screwdriver, Delrin, serrated self transmission	H7260-0250
MotORIZED Screwdriver, Delrin, serrated self transmission	H7260-0201
Ceramic tip for automatic trimming, regular tip	00321621

- Let us provide the pieces of the puzzle.
- So you can fully concentrate on the application
 - If Table Top
 - Rack Mount
 - or in-line
- We provide off the shelf, reusable modular Test platform solutions for any test application.



6TL Engineering

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In-Circuit (ICT) Test Systems and Test Management Software.

ICT Test Services, on a Flying Prober or Bed of Nails Tester

True Modular Base Test Platforms, Functional (FCT) (FCT+ICT)

Special boards, LED color Detection & Pneumatic Switching

Mass Interconnect interface systems (VPC Interface)

Test Fixture Solutions, Fixture kits or Turn-Key (Mech. & Vac)

Test Probes, other Test Tools and consumables

Focused-IR BGA Repair Station and Soldering Tools

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