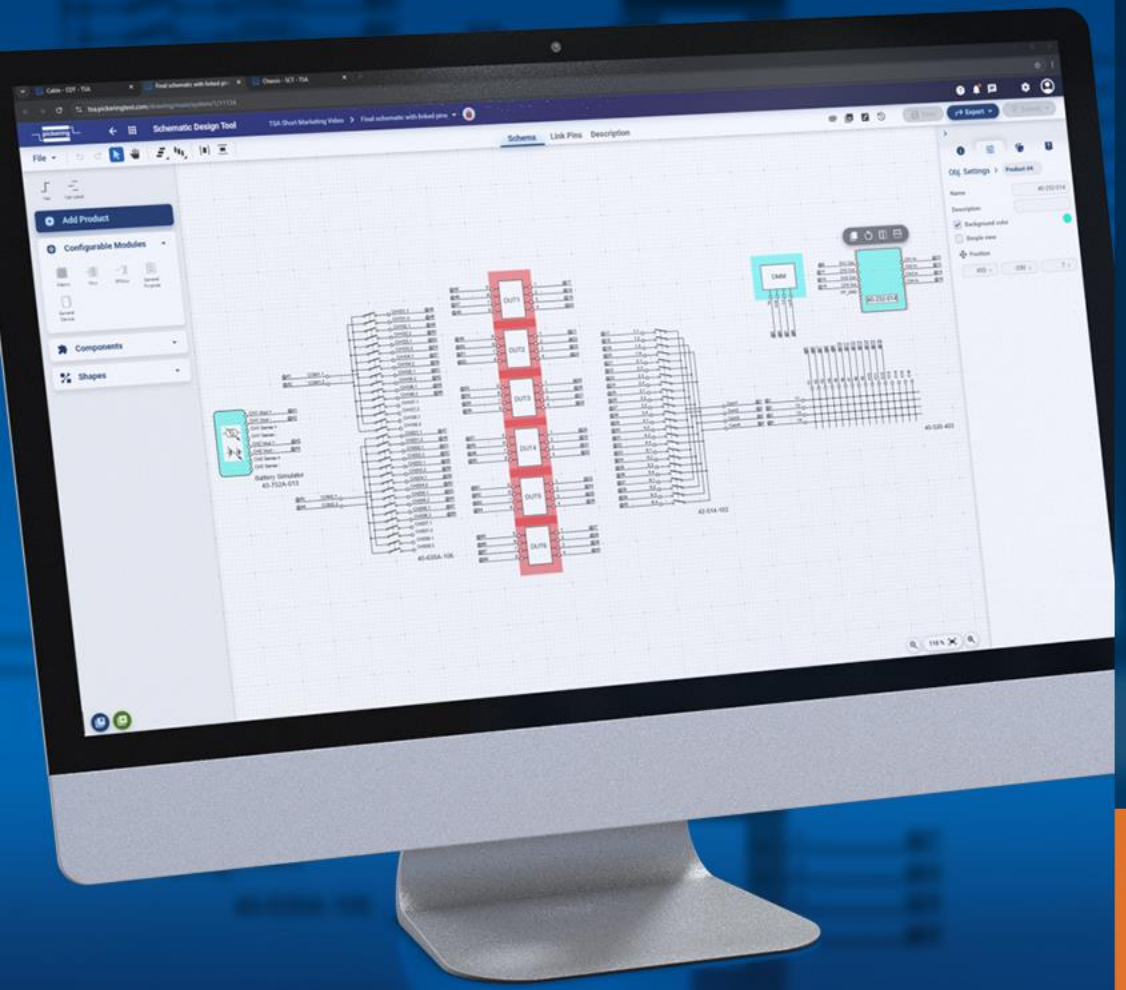


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Introducing

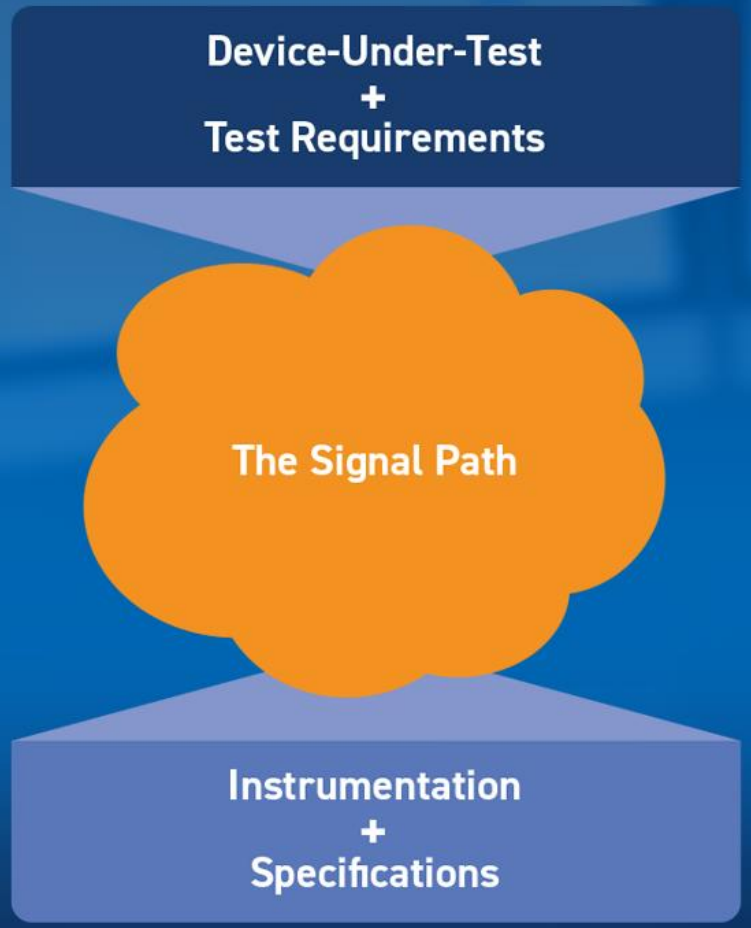
# Pickering Test System Architect

The world's first freely-available toolset for designing ATE signal paths and connectivity

**Kyle Voosen**
Product Marketing

**Jan Lipowski**
TSA R&D

# System Accuracy Requires a Reliable Signal Path




- The signal path is the heart of every ATE
- **25%** of the ATE development time and is spent on signal path design/integration
- When neglected, it undermines **schedules**, **margins**, and **trust**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# Typical Functional Test System

- **Multi-DUT (Device-Under-Test) System**
  - Four high-value PCBAs tested in parallel with manual load and unload by an operator
- **Resources shared across all four DUTs**
  - Modular PXI-based instrumentation
  - Traditional boxed instuments
- **Integration-heavy system build**
  - Fixture, hardware, and software are developed largely in parallel and final system behavior is validated late in the project

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# Signal Path Inefficiencies in the ATE Workflow

Define System Intent

- Focus is on test points, not signal integrity
- The scope lives in emails, meetings, and people's heads

"Let's adjust requirements as we go"



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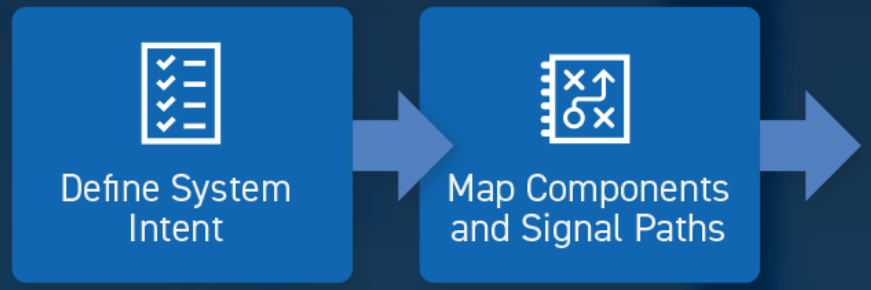
# Signal Path Inefficiencies in the ATE Workflow




| | |
|---|---|
| • Focus is on test points, not signal integrity<br>• The scope lives in emails, meetings, and people's heads | • Incompatable switch selection<br>• Manual pin-mapping errors |
| "Let's adjust requirements as we go" | "Our signal paths are spreadsheets" |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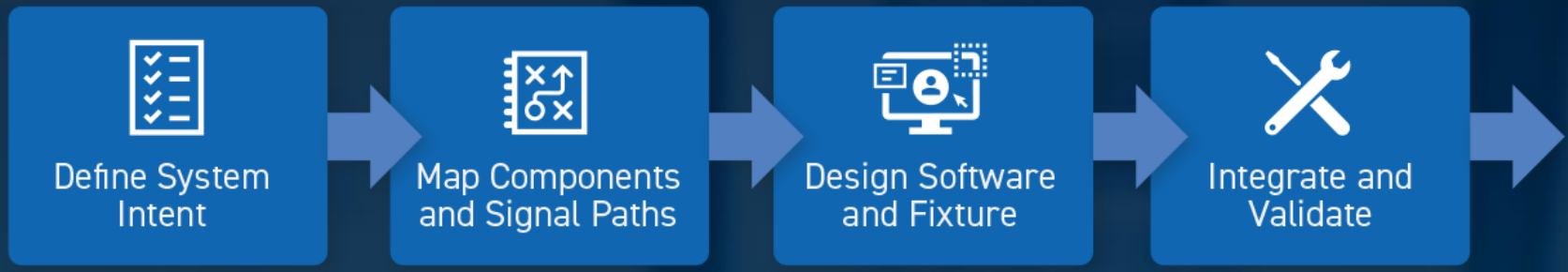


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# Signal Path Inefficiencies in the ATE Workflow


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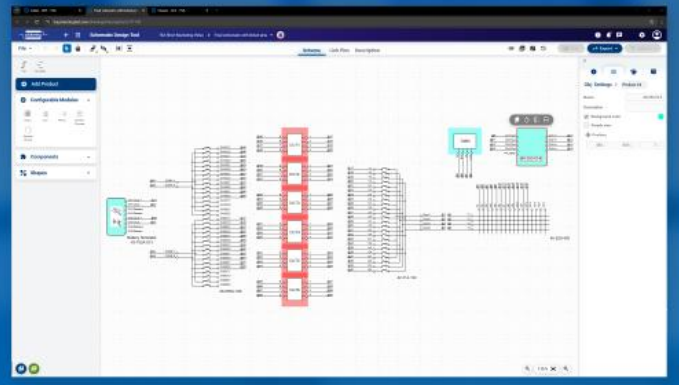
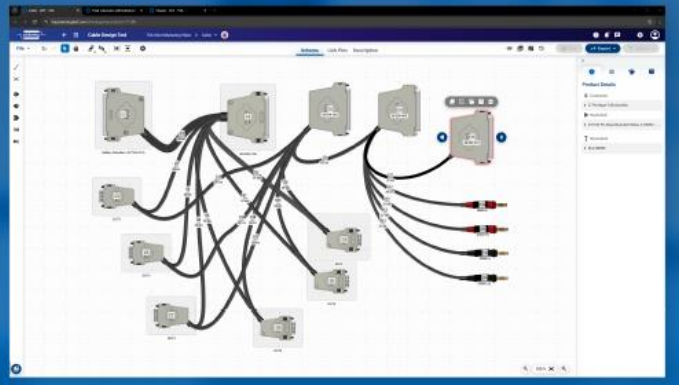
# Test System Architect (TSA)

The world's first freely-available toolset for designing ATE signal paths and connectivity





## System Configuration

Define the end-points of your signals from DUTs to instrumentation.

Define sub-systems for complex rack configurations.

## Schematic Design

Configure DUT specifications and signal requirements

Auto-connect components and map signal paths based on signal types and routing requirements

## Cable Design

Design complete cable assemblies

Auto-generate cabling datasheet

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# Signal Path Inefficiencies in the ATE Workflow

| Define System Intent | Map Components and Signal Paths | Design Software and Fixture | Integrate and Validate | Deploy and Freeze |
|---|---|---|---|---|
| • Focus is on test points, not signal integrity<br>• The scope lives in emails, meetings, and people's heads | • Incompatable switch selection<br>• Manual pin-mapping errors | • Last-minute hardware additions<br>• Signal path lengths and locations not considered | • Unclear signal paths complicate debugging<br>• Faulty cable harness or wiring | • High variance by test site<br>• False yield losses |
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***Test System Architect eliminates inefficiencies at each stage***

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# Signal Path Inefficiencies in the ATE Workflow


| | | | | |
|---|---|---|---|---|
| Single project available for all stakeholders to collaborate and share | Instrumentation, DUTs, and signal path are all represented together | Cable and harness designs are included up front | Pin-to-pin diagrams for technicians are an output of the process | Product documentation and source kept safe and centralised for next time |

*Test System Architect* ***eliminates inefficiencies at each stage***

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# In Conclusion

- **Test System Architect** is the world's first dedicated, graphical design toolset for signal switching and cabeling systems
- **Securely hosted** from Pickering's private cloud
- **Freely available** to anyone, anywhere

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