



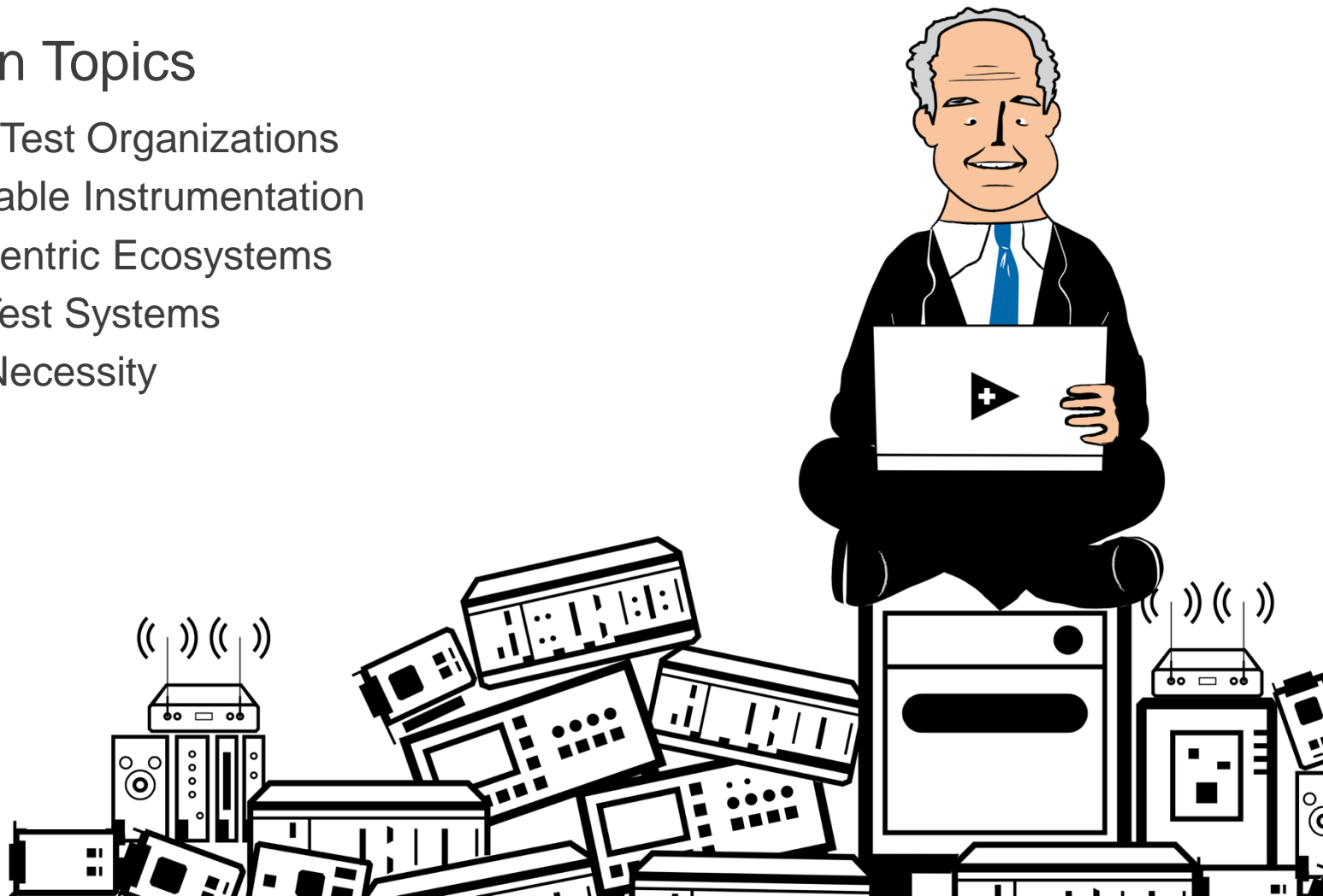
Automated Test Outlook 2017

A Special Issue Guest-Edited by Dr. James Truchard

Christian Gindorf
Manager Business Development

Discussion Topics

- Optimizing Test Organizations
- Reconfigurable Instrumentation
- Software-Centric Ecosystems
- Managed Test Systems
- Driven by Necessity



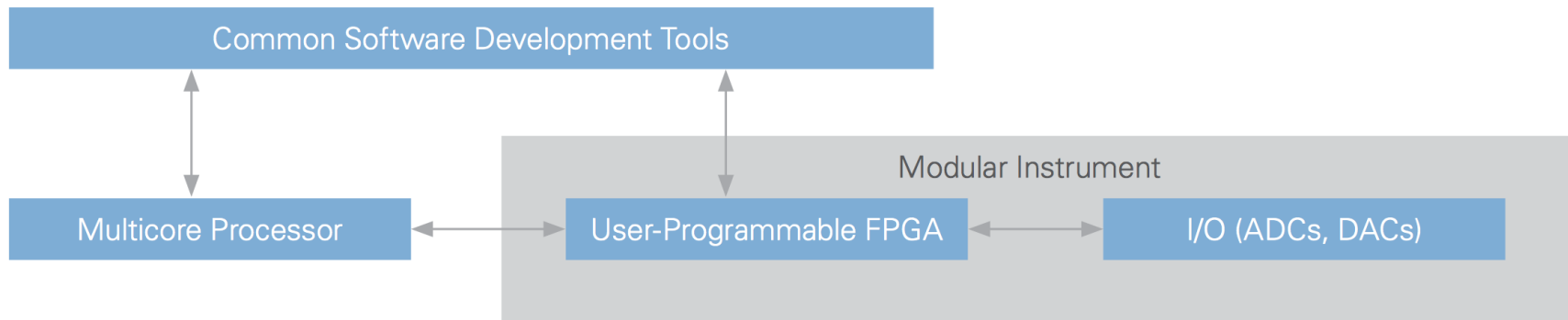
Optimizing Test Organizations

- Shift from being a cost center to a valued, strategic asset
- Modeling total cost of ownership for business-level decision-making
- Strategic alignment between design and test



Reconfigurable Instrumentation

- Full access to instrument firmware
- Ability to add in-line signal processing algorithms and sophisticated timing and synchronization
- Ability to load IP packages from vendors, partners, and colleagues



Qualcomm Reduces Characterization Test Times

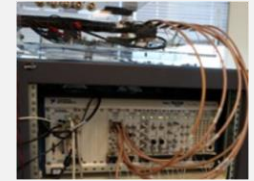
TRADITIONAL RACK AND STACK
Testing 802.11 a/b/g

T E S T T I M E



NI PXI RF AND LabVIEW
Testing 802.11 a/b/g and n

10X FASTER



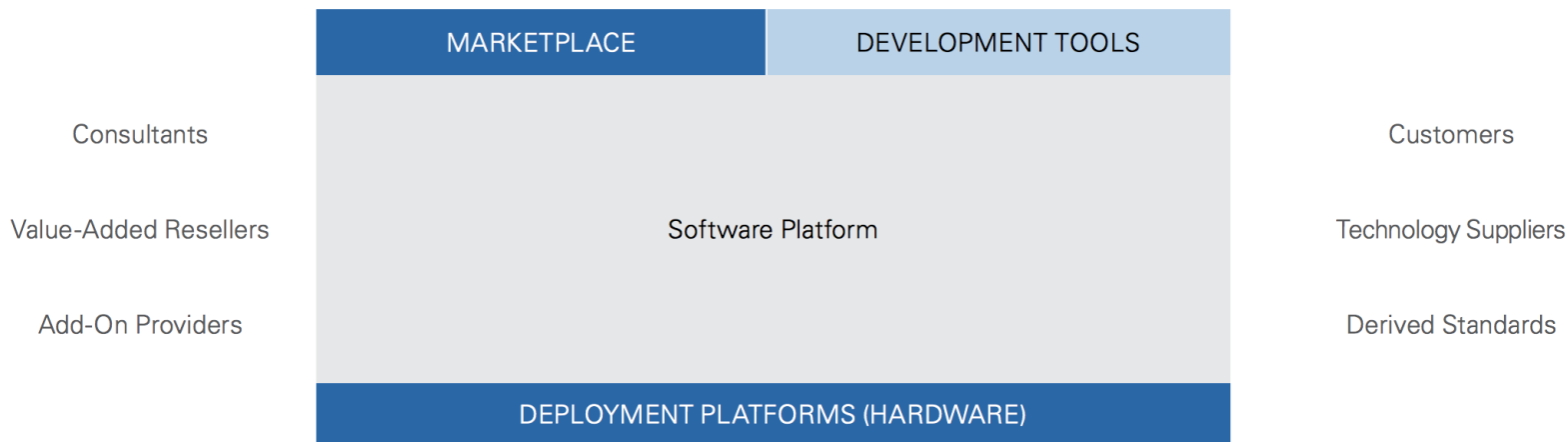
NI VST, LABVIEW, AND LabVIEW FPGA
Testing 802.11 a/b/g, n, and ac

200X FASTER



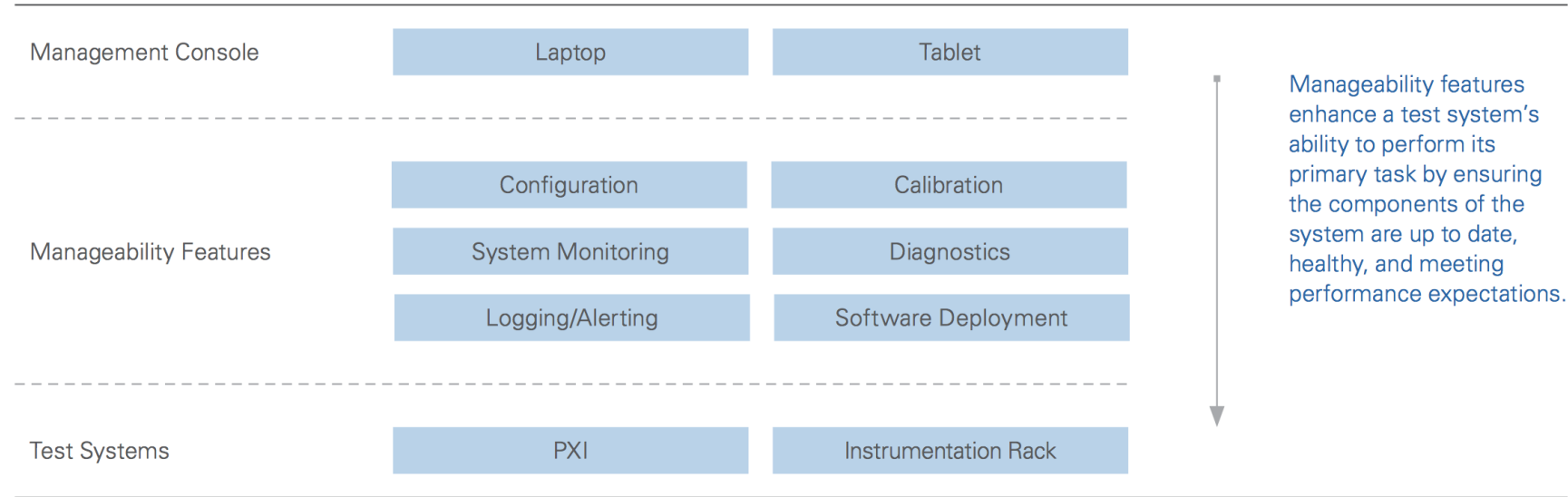
Software-Centric Ecosystems

- Expectations of engineering software delivery evolving due to shifts in market of consumer software
- Ability to package, license, and serve COTS software apps



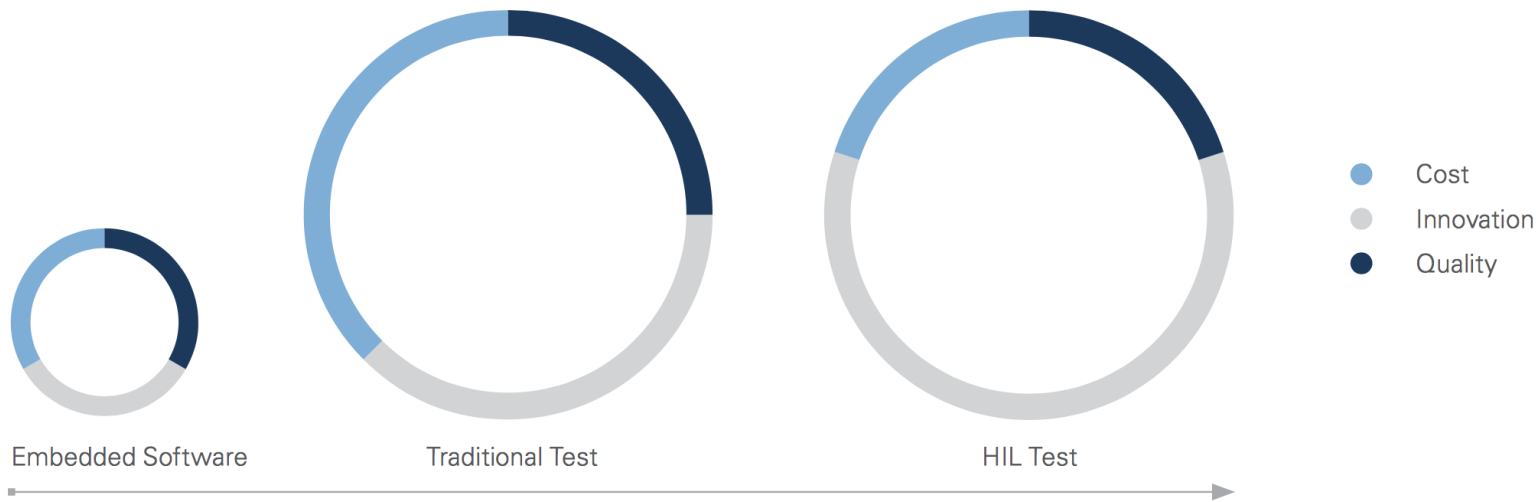
Managed Test Systems

- Increasing number of options for systems management
- Preventative and scheduled maintenance
- Software patches and updates



Driven by Necessity

- Safety regulations and software (common in regulated industries such as automotive and aerospace) are creating new challenges for test
- Increasing complexity due to sensor fusion and technology convergence





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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

Download Full Automated Test Outlook 2017 Today

- **Optimizing Test Organizations**

Transforming a test organization into a strategic asset requires commitment to a long-term phased approach, from creating standard test platforms to building a data infrastructure to improve decision making.

- **Reconfigurable Instrumentation**

Test systems are reconfigured for endless reasons, from adapting to new test requirements to accommodating instrument substitutions during calibration and repair cycles.

- **Software-Centric Ecosystems**

The software-centric nature of technology can transform the capability of automated test systems to drive increased levels of productivity and collaboration.

- **Managed Test Systems**

As Moore's law continues to influence the performance of test systems, new data and communication technologies help test managers optimize their test systems to lower the cost of test.

- **Driven by Necessity**

Safety regulations and software are pushing hardware-in-the-loop test to the forefront of transportation manufacturing in an increasingly software- driven world.



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