

As our customer, you can ensure that your competitive, high-quality products reach the market fast, and you can focus on developing your core business.



Production testing integration to system testing
Processes, Services and Applications

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ESPOTEL
Advanced Embedded Solutions

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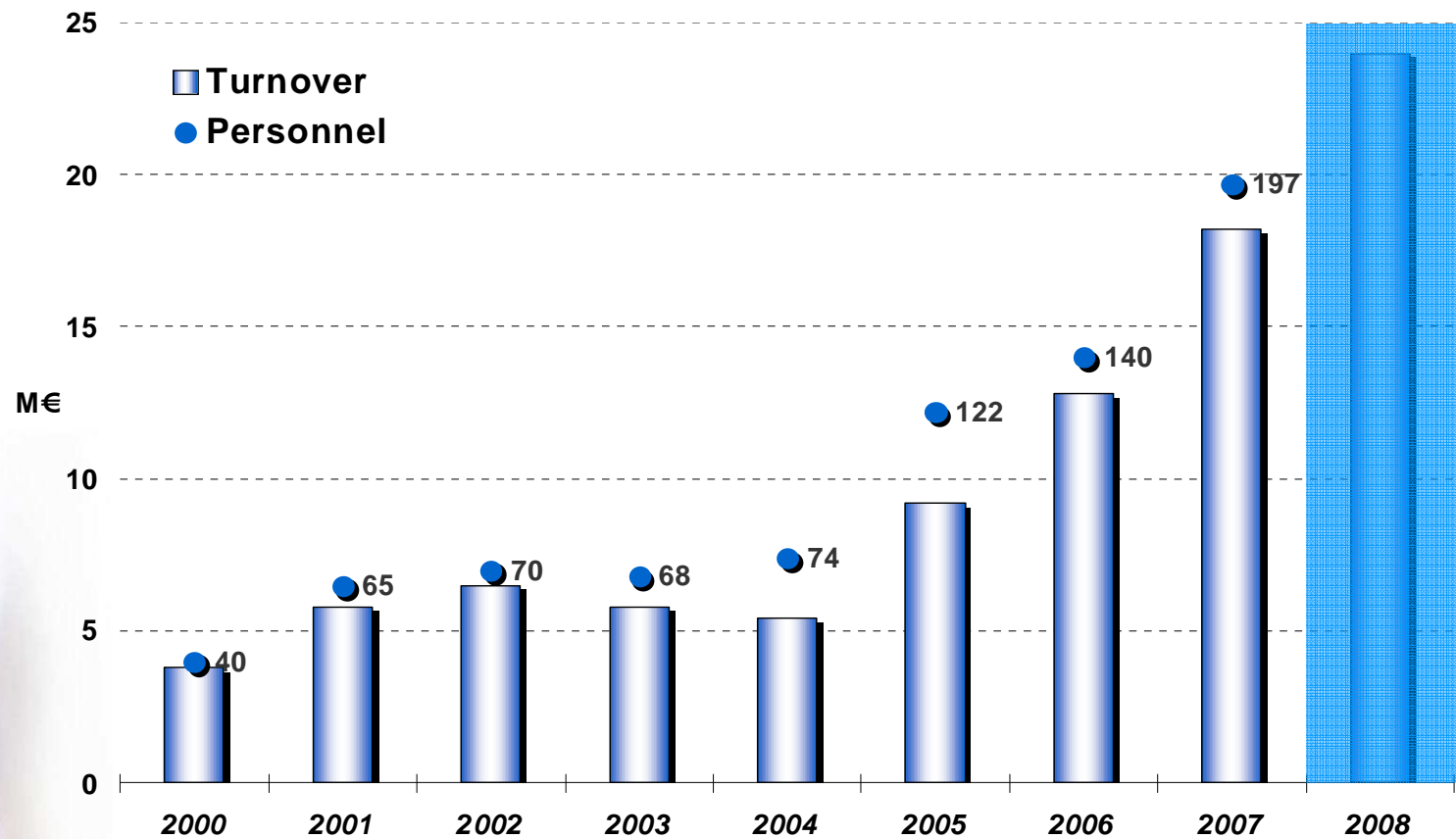
COMPANY



- Over twenty years of embedded design services
- Annual sales 21.2 M€ (2008)
- 230 employees at 7 locations in Finland
- Leading Finnish R&D services company in the field of embedded systems.
- Full-service design house, delivers system design, electronics design, mechanics design, embedded software design, industrial design and production test systems to its customers.
- Develops products for demanding industrial environments and applications with long product-life cycles and maintenance commitments.

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COMPANY



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SERVICES

Project Management

Experienced Project Managers:

- Strong Technical & Process know-how
- Cost & Risk management

Software

- Embedded SW
 - Real-Time OS
 - DSP
 - Linux
 - UI
- PC-Software

Automation

- Application SW
- Control Systems
- User Interface design

Complete Solution

"All aspects of embedded systems"

Electronics

- HW design
- RF design
- VHDL design
- Layout design

Tester Development

- LabVIEW & TestStand
- JTAG Test Development
- Statistical Analysis of test systems
- Design For Testing (DFT)

Mechanics and industrial design

- 3D modeling
- Engineering
- Tool design
- Thermal design
- Mechanical testing



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PROCKET



Develop

Test



Integrated

Develop & Test

In R&D Phase:

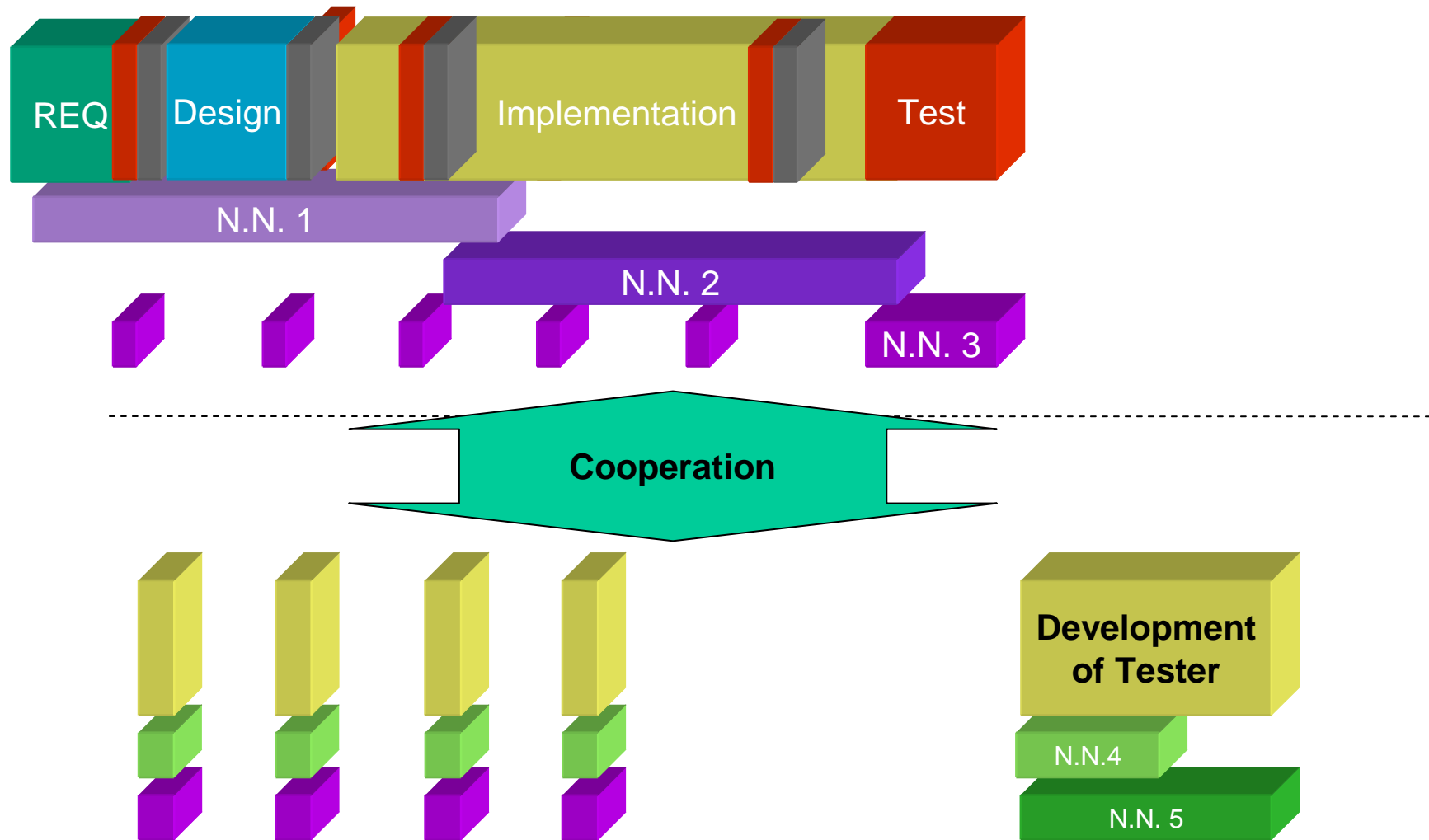
- ## In New Product Introduction Phase:

- ## In Production Phase:

- To monitor and maintain manufacturing and testing processes
- To control change management and verify changes
- To provide feedback to R&D

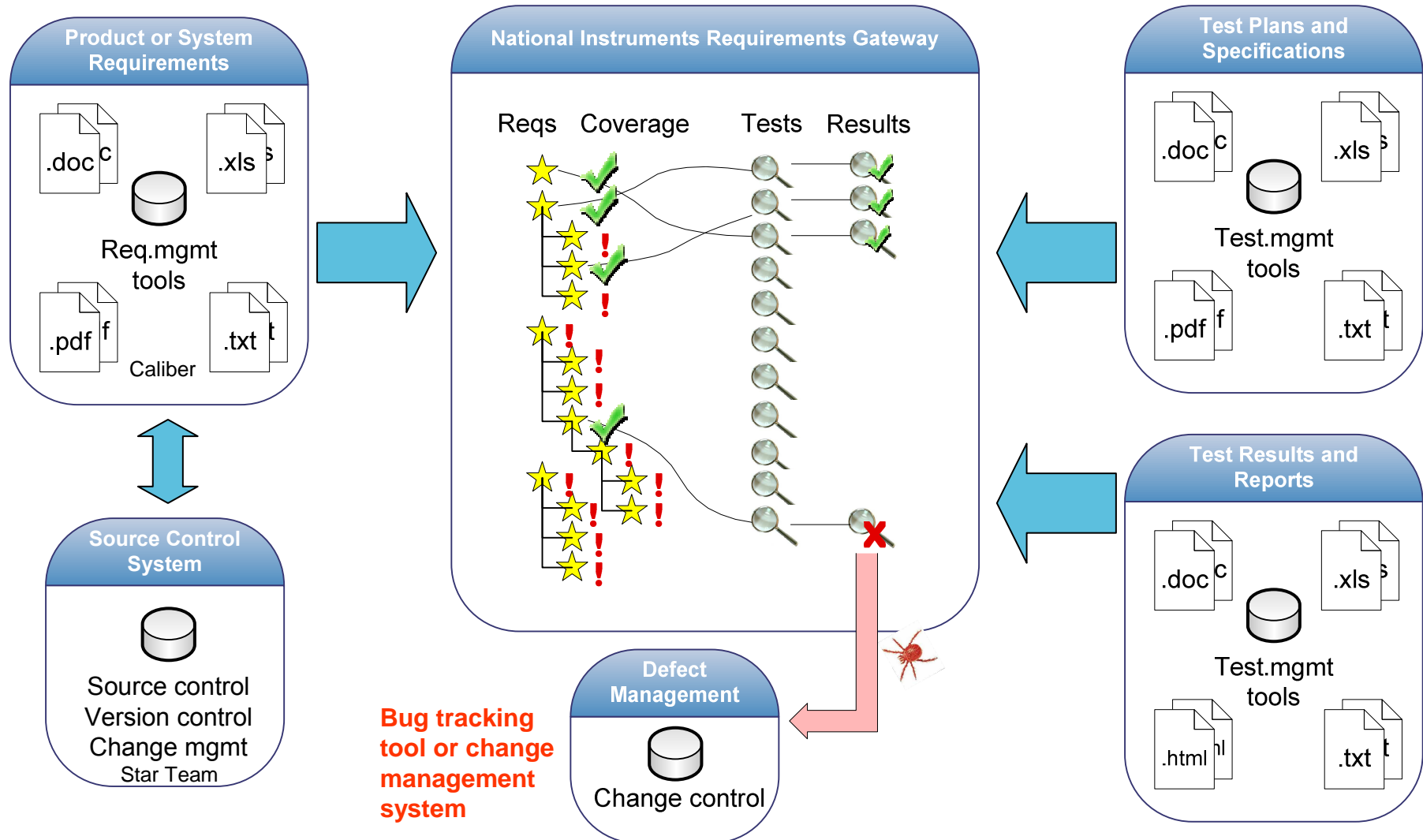
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The Solution to the Late-Testing-Problem



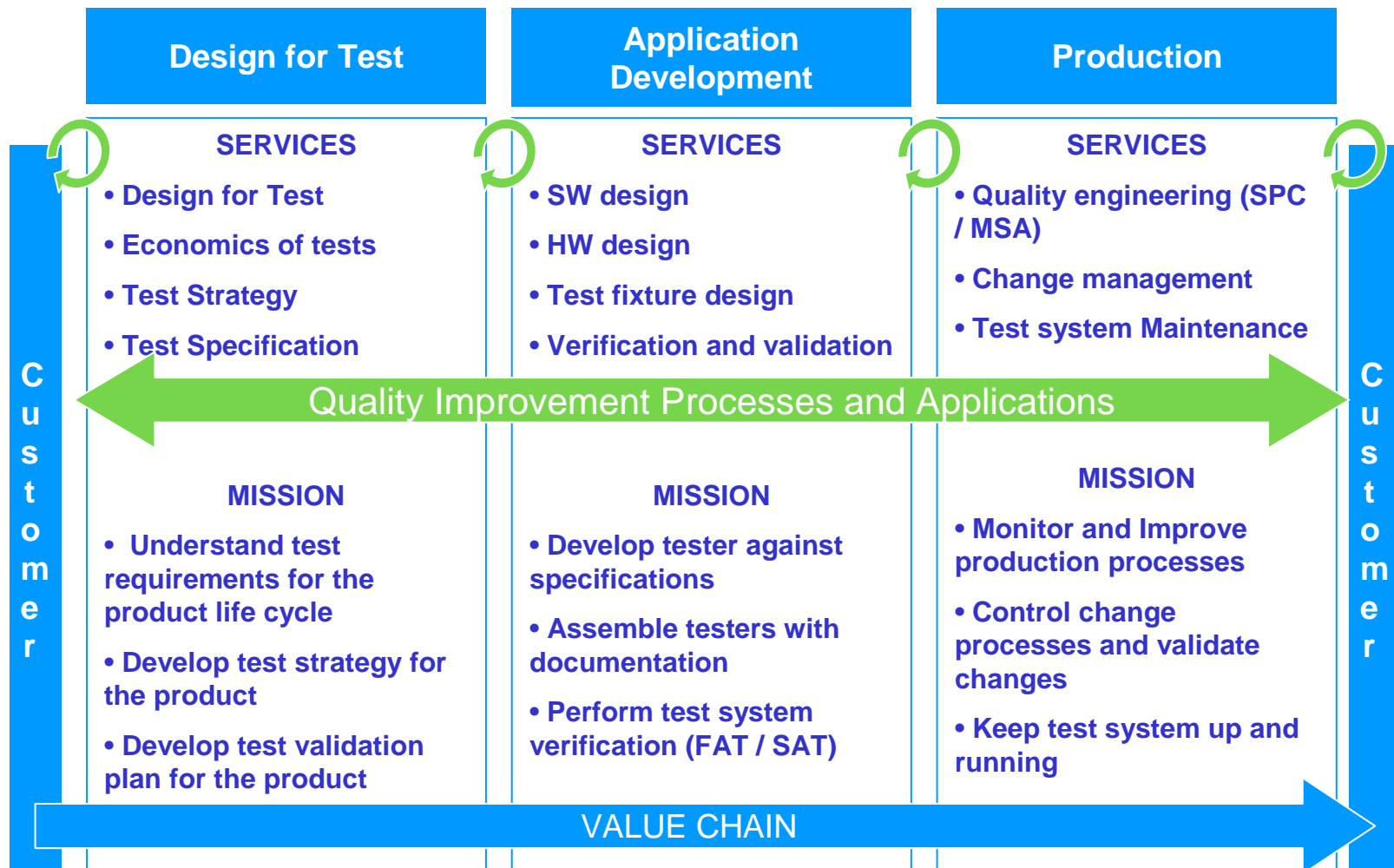
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Requirement, version and testing management





Services to Production Testing



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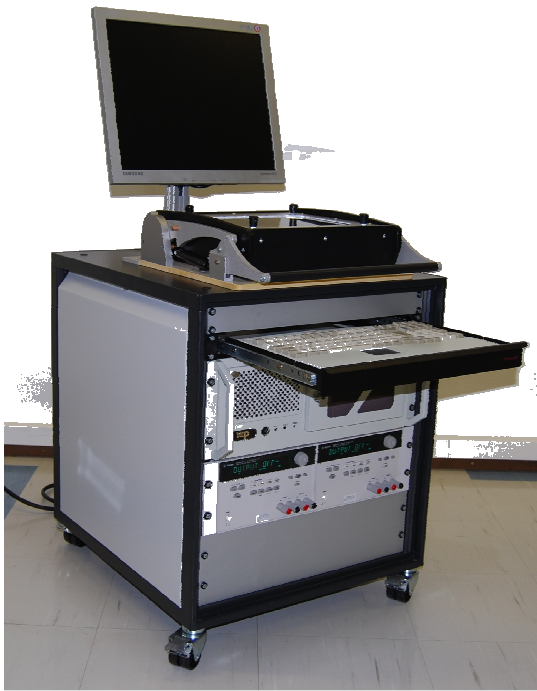
Procket FLEX Platform



- Changeable adapter case with test fixture and electronics
- Medium to high volume production
- Medium to high product mix
- Medium to high complexity UUT
- Contacting to UUT with pin bed, cables or connectors
- Pneumatics option
- PXI based measurement system
- Safety features for high voltage UUTs
- Excellent RF support
- Most Flexible and Expandable Procket Platform

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Procket COMPACT Platform



- Fixed test fixture and electronics, just one UUT per Test Station
- Suitable for all production volumes
- Low (zero) product mix
- Low to medium complexity UUT
- Contacting to UUT with pin bed, cables or connectors
- PXI or rack-PC based measurement system
- Small size
- Moderate flexibility
- Low cost

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Procket LIGHT Platform

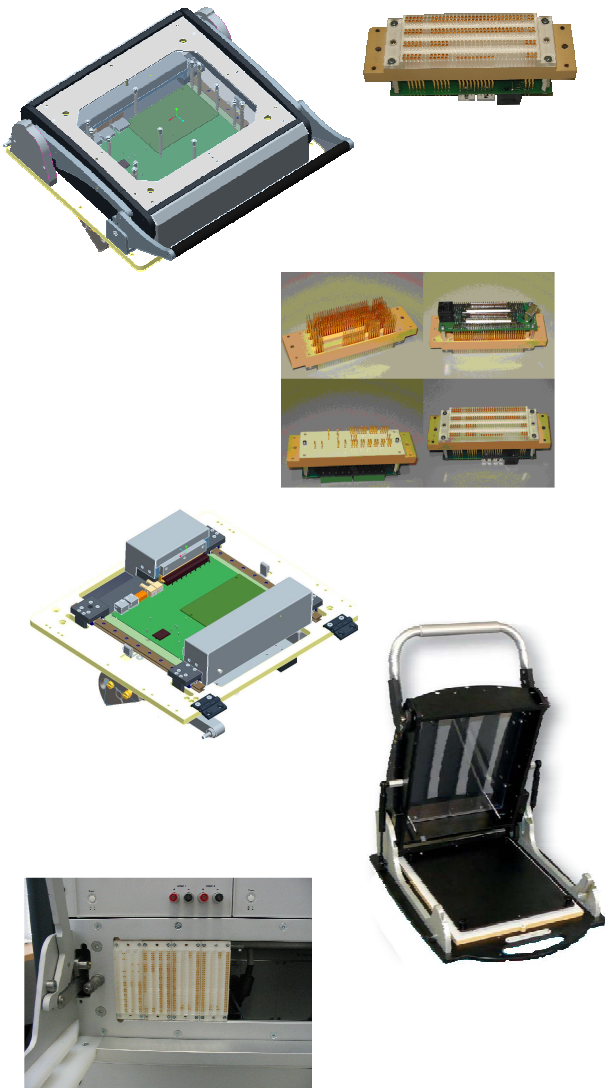


- Fixed test adapter frame with changeable pin bed cassette
- Both tall and small rack cabinets are available
- Suitable for all production volume levels
- Medium to high product mix
- Low to medium UUT complexity
- One side (bottom) contacting with pin bed
- Lowest variable cost per product
- Fast and effective to add new products
- Moderate flexibility



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Common Features of Procket Platform



- Fast and efficient tester development
- Enables extremely fast product launches
- Repetable design and manufacturing processes
- Proven tools and processes for DfT, application design, verification, FAT/SAT and SPC
- Comprehensive documentation
- Training courses and material available
- Ready made LabVIEW and TestStand SW components -> High reuse rate of SW
- Off-the-shelf measurement equipment and instrumentation
- Modular and scalable
- Robust, reliable and stable Test System
- Integration and synergy to R&D validation

Testing Services and Processes



- Design For Testing (DFT) consultancy
- Test Specifications
- R&D Test Automation & Testing services
- Boundary Scan Test Development
- LabVIEW and TestStand Programming
- Tester HW Design and Manufacturing
- Measurement System Analysis (MSA)
- Tester Hardware Component supplier
- Support for New Product Introduction (NPI) and Ramp-up
- Test System Maintenance
- Tools for Statistical Process Control (SPC) and Six-Sigma know-how

Espotel's testing services

- ~50 Testing professionals
- From staffing services to turn-key projects
- SW designers, HW designers, Mech designers and Project managers
- Certified developers for National Instruments LabVIEW and TestStand
- Procket platform is used as basis for both R&D and production test systems
- JTAG Boundary Scan development tools and know-how
- SPC/MSA services with MiniTab



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