



TestConX™

Archive

DoubleTree by Hilton
Mesa, Arizona
March 3-6, 2024

Test Socket-Pin Tracker

Advanced Socket-Pin Qualification and Performance Monitoring
with Big Data Analytics

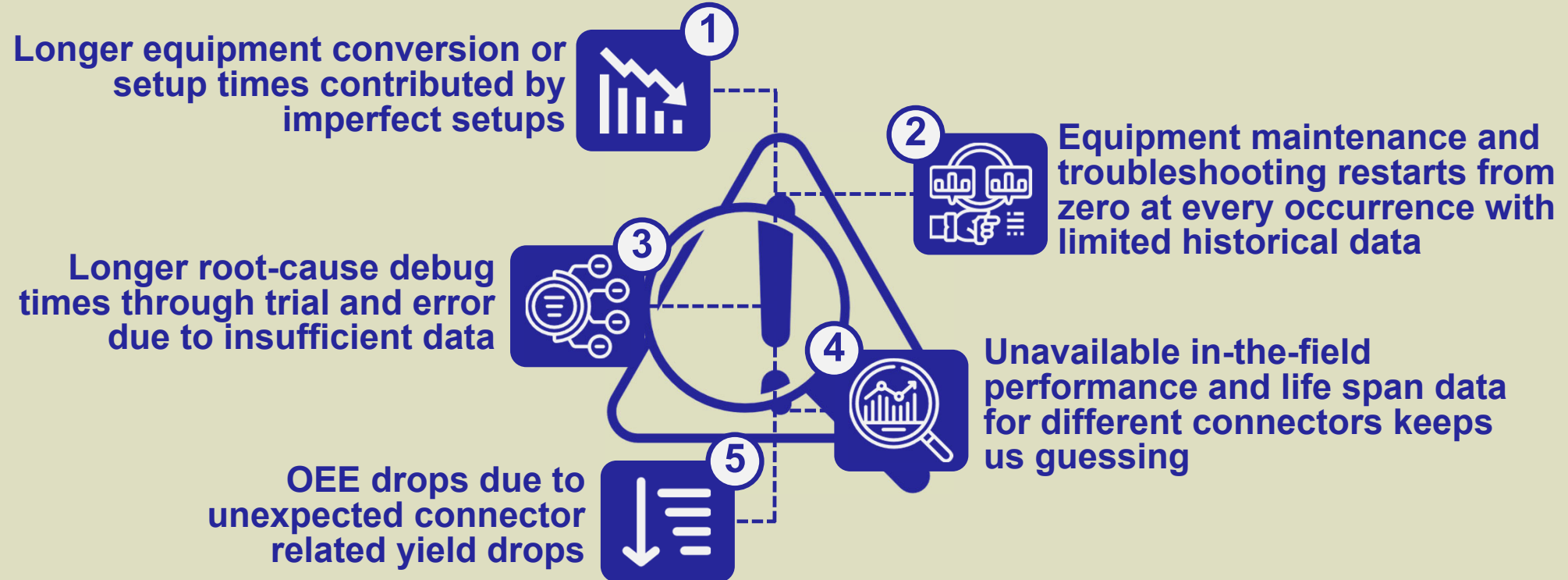
Eugene Khoo, Charlotte Wai, Jiawei Lin, Seow Woon Ho
Experior Inc.



Mesa, Arizona • March 3–6, 2024



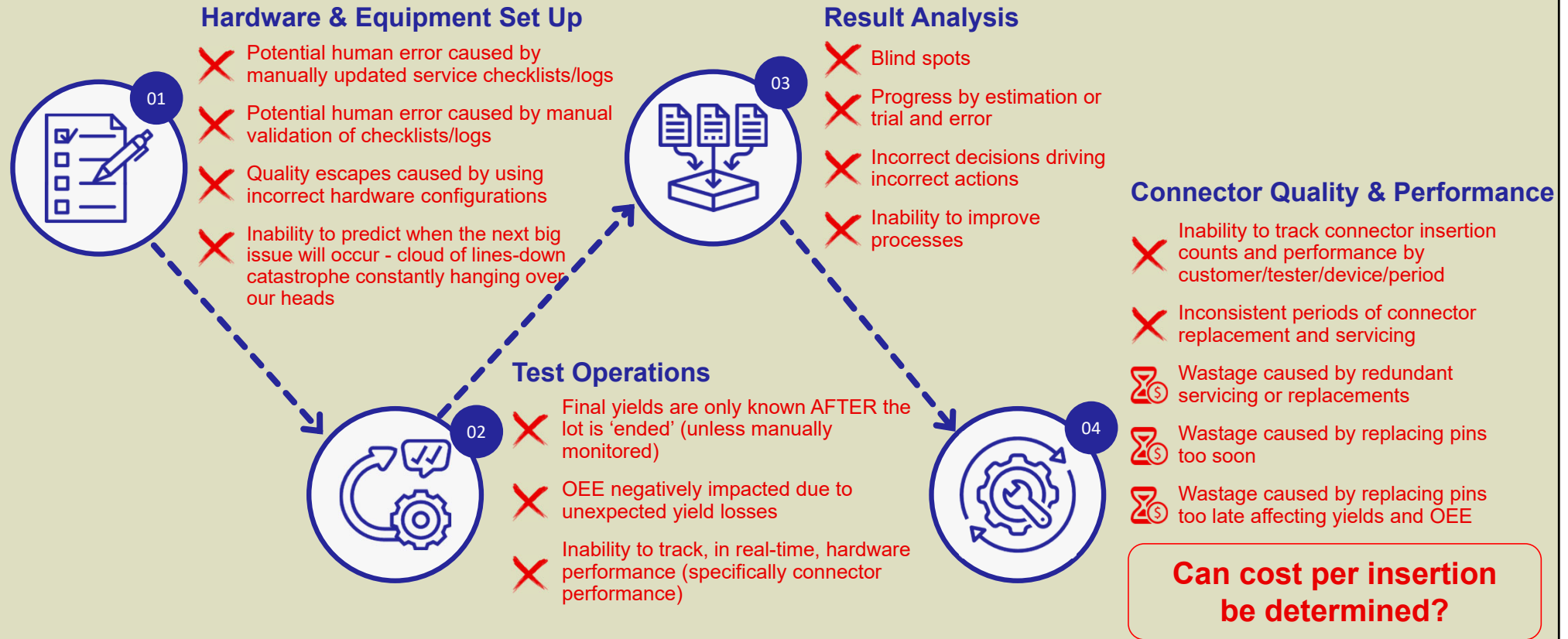
OUR PROBLEM STATEMENTS



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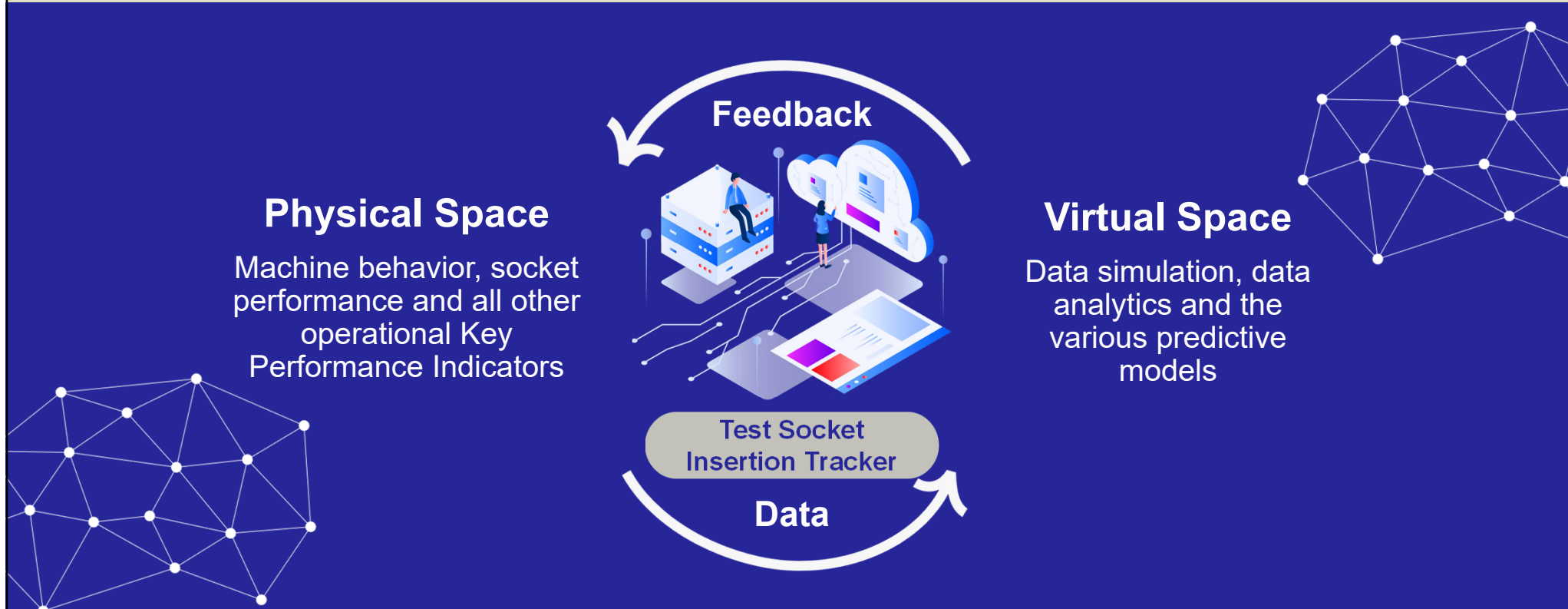
THE THINGS THAT KEEP US AWAKE AT NIGHT



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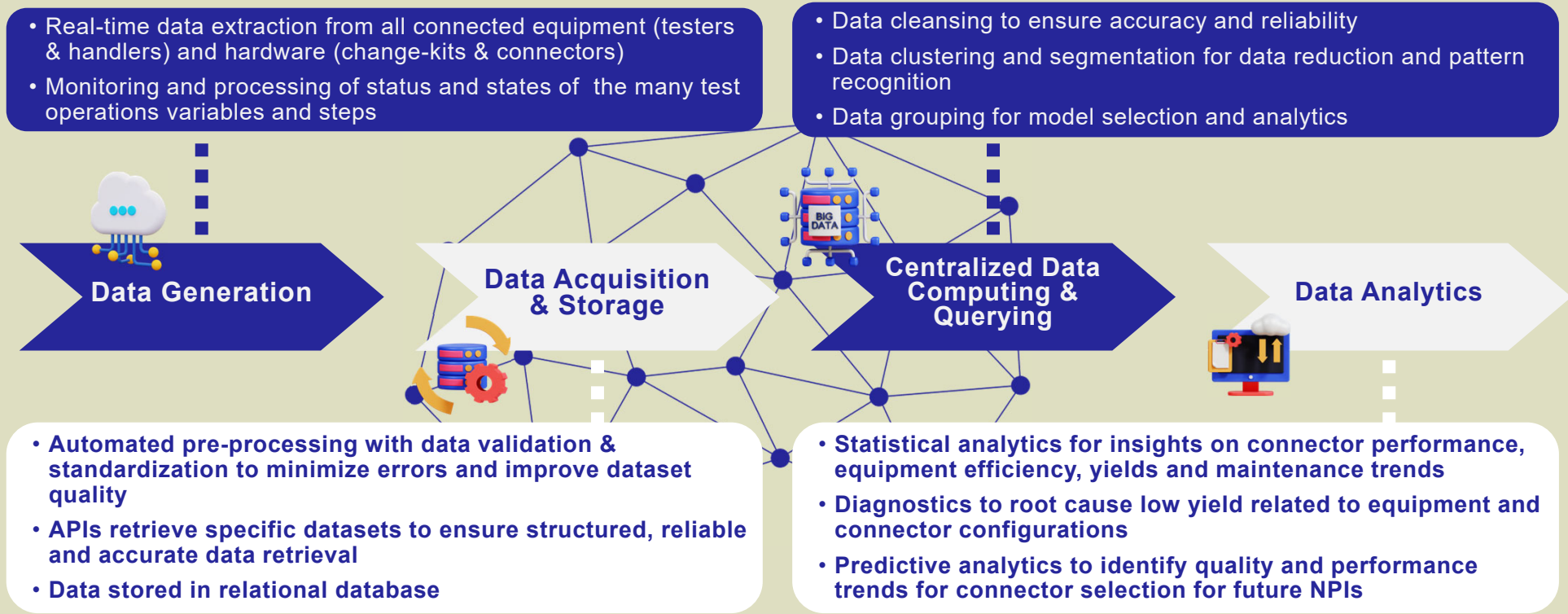
DIGITAL TWIN WITH BIG DATA ANALYTICS



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BIG DATA ANALYTICS FRAMEWORK



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TEST SOCKET-PIN TRACKER ELEMENTS



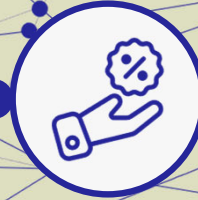
Big Data Analytics

Advanced big data analytics to enable a comprehensive evaluation of all the semiconductor testing processes, identifying inefficiencies and bottlenecks to enhance overall productivity



Real-Time Tracking of Connector Insertions

Real-time inspection and predictive capabilities for connector insertions, ensuring immediate and proactive detection of any irregularities or disruptions in the testing process



Digitized Service Record Tracking

Digitalized technician reports to retain tribal knowledge and to speed up effective debug and maintenance



Connector Performance Verification

A robust data repository to track the performance of connectors and utilize these data to empirically assess the quality of the connector products from different companies for users and customers

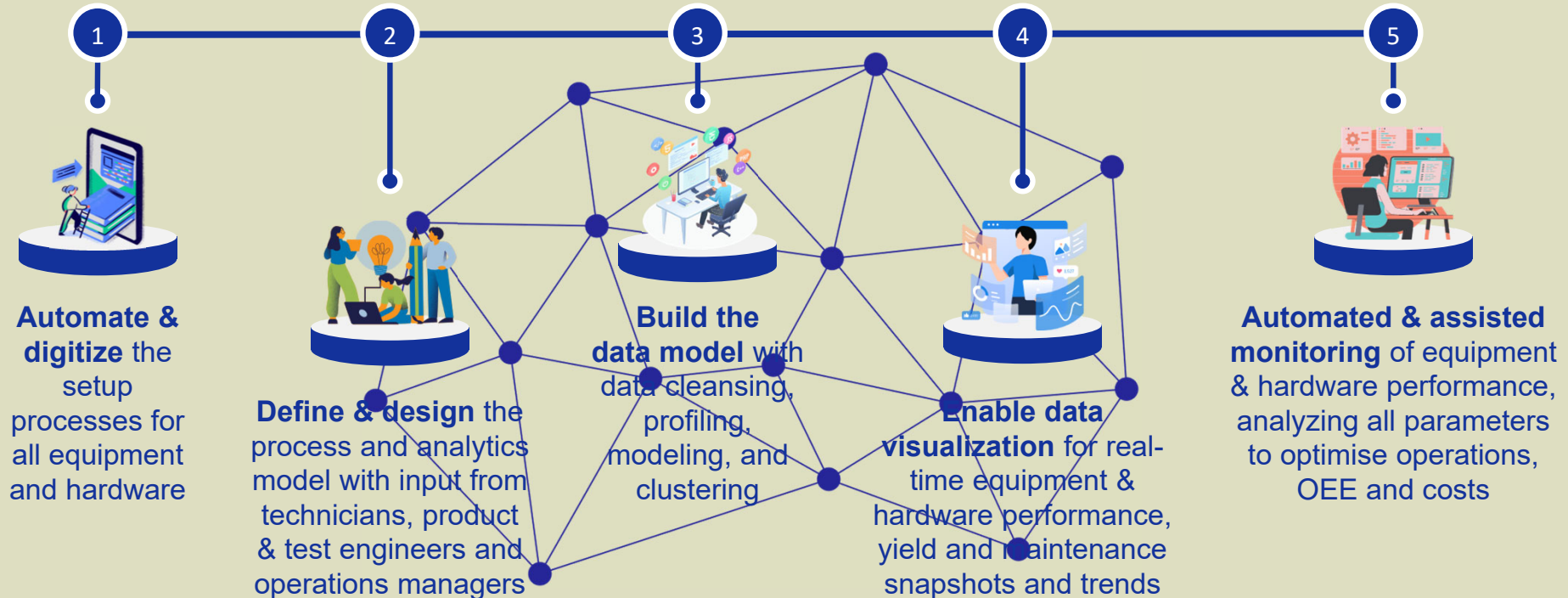


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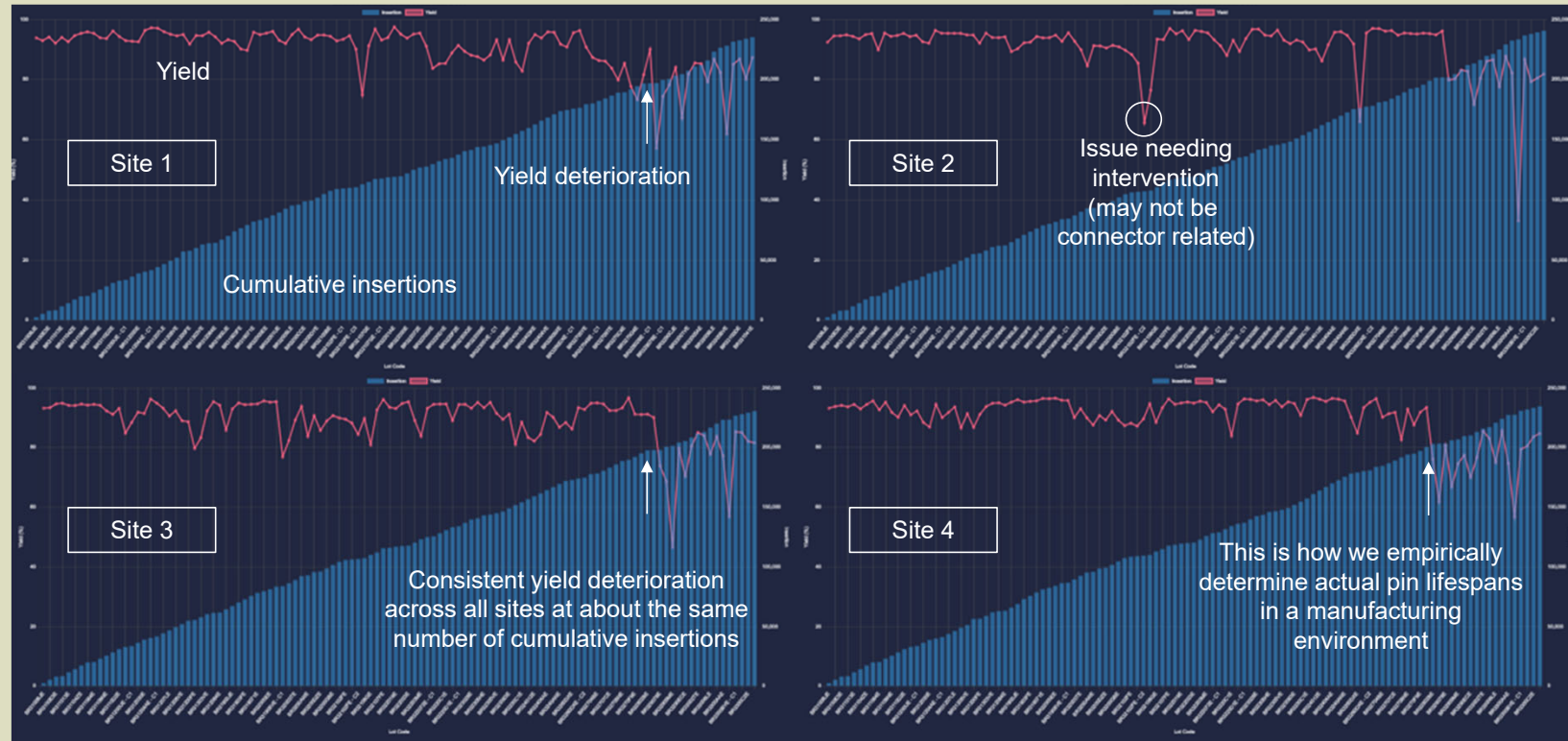
TEST SOCKET-PIN TRACKER DEVELOPMENT FLOW



Test Socket-Pin Tracker : Advanced Socket-Pin Qualification and Performance Monitoring with Big Data Analytics



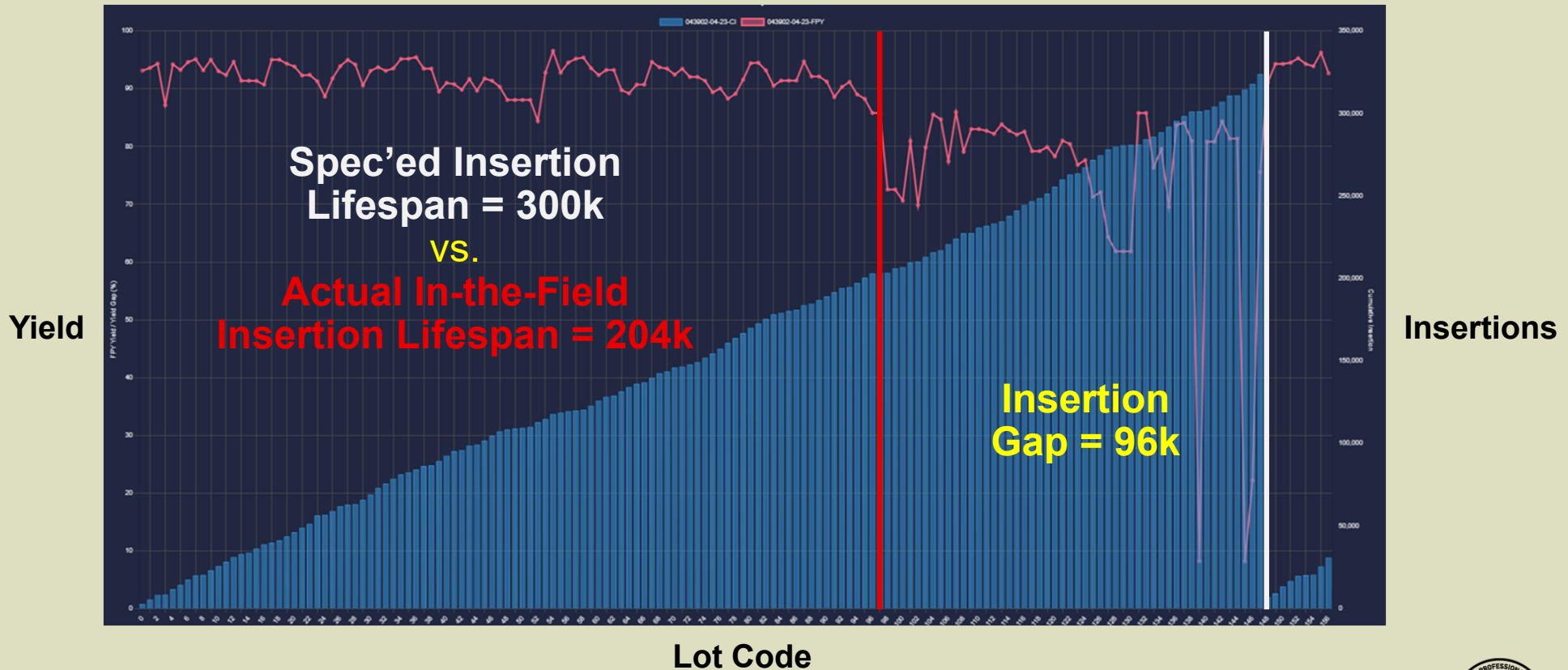
CASE STUDY: MULTI-SITE TESTING DATA



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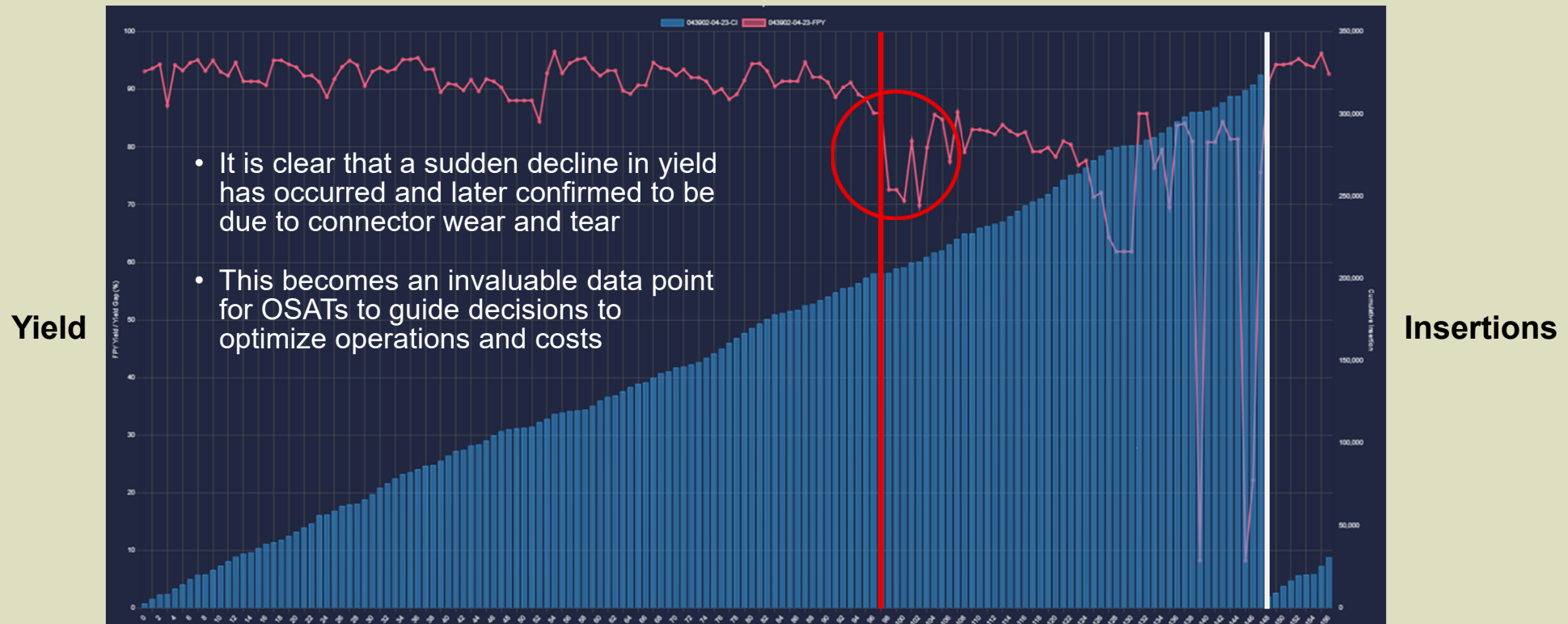
REAL IN-THE-FIELD CONNECTOR PERFORMANCE



Test Socket-Pin Tracker : Advanced Socket-Pin Qualification and Performance Monitoring with Big Data Analytics



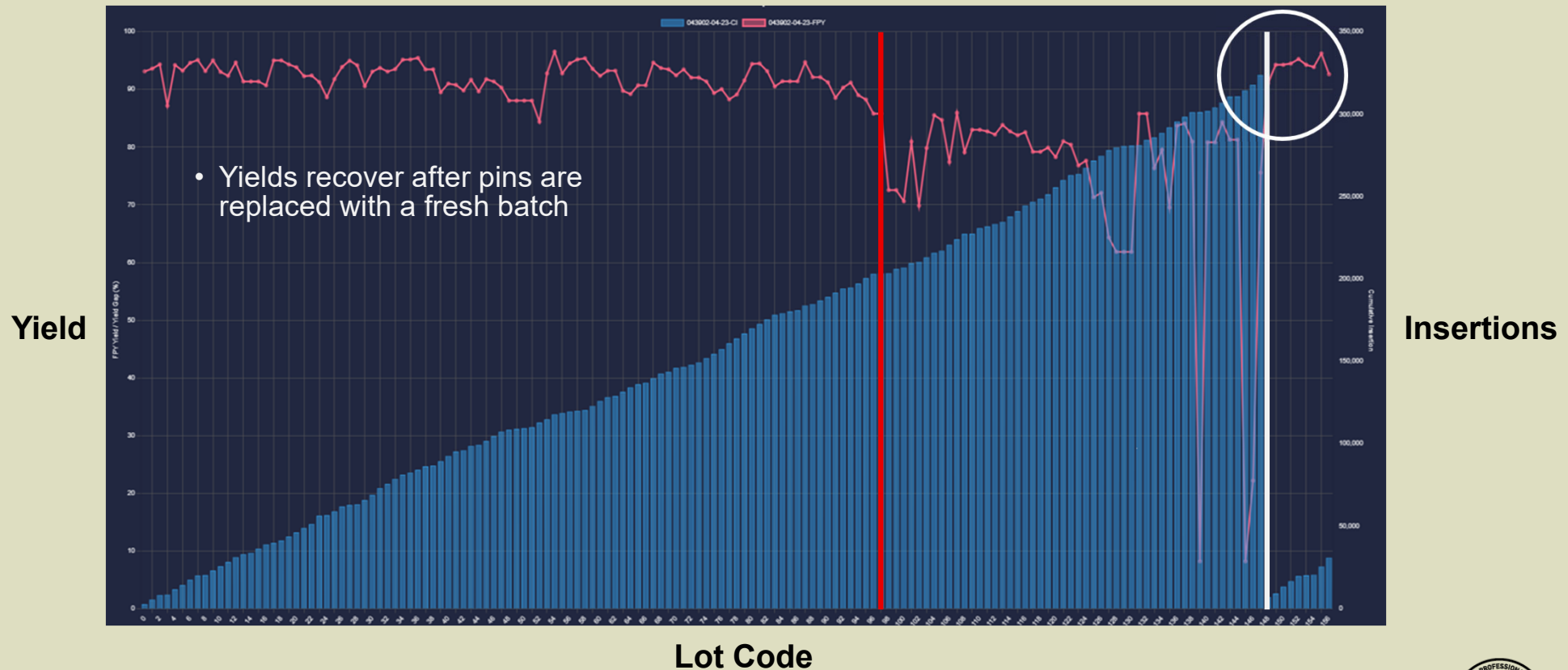
REAL IN-THE-FIELD CONNECTOR PERFORMANCE



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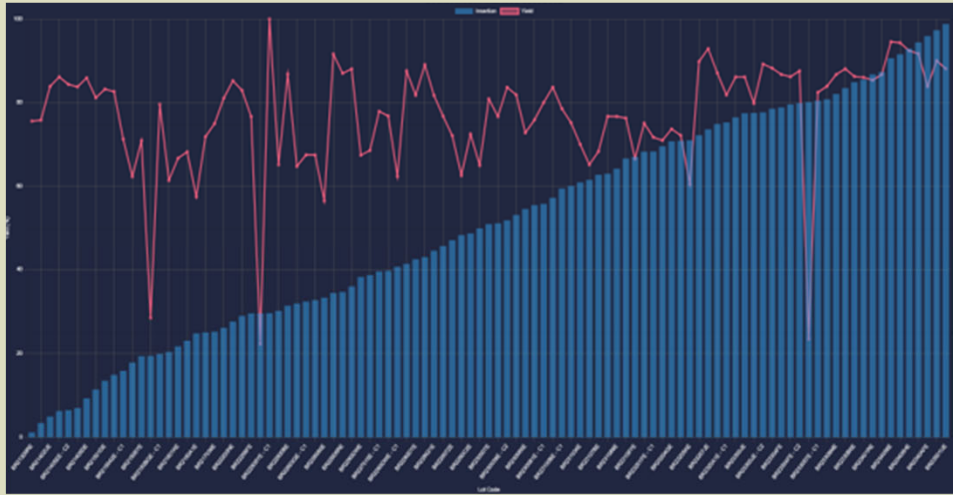
REAL IN-THE-FIELD CONNECTOR PERFORMANCE



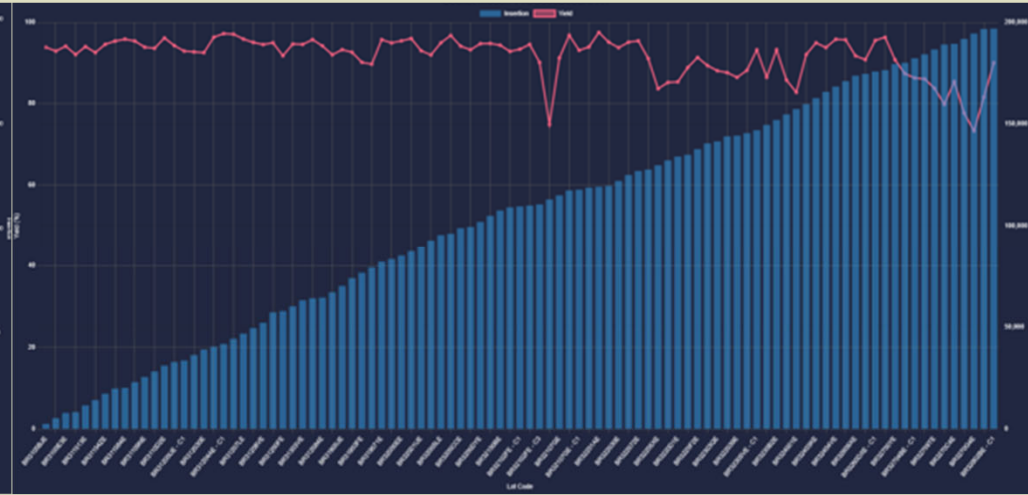
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CASE STUDY 1: DEVICE A POOR VS. BETTER



**NPI Sockets/Pins
- not manufacturable**



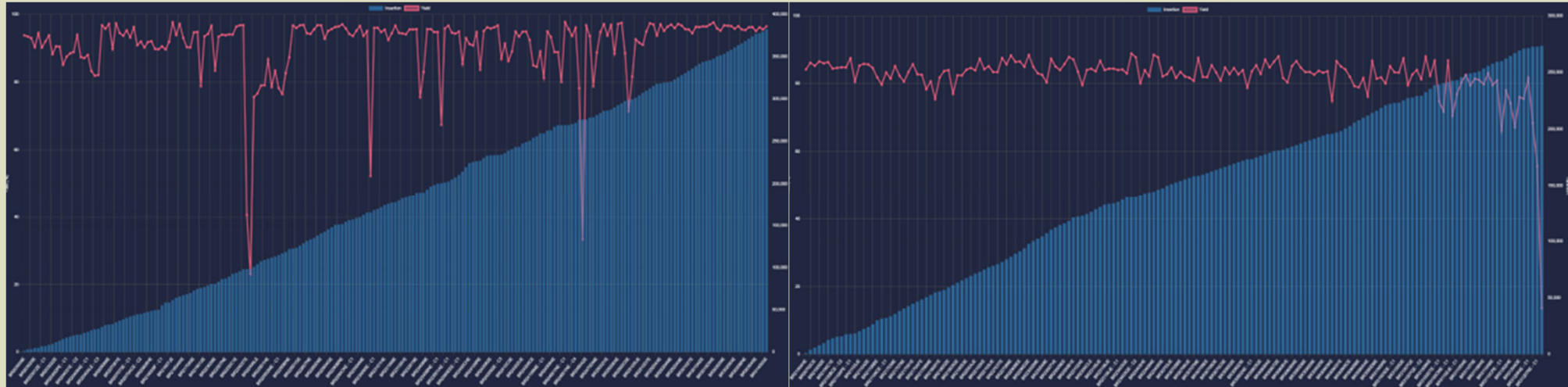
**Replaced with alternate solution that is
manufacturing friendly**



Test Socket-Pin Tracker : Advanced Socket-Pin Qualification and Performance Monitoring with Big Data Analytics



CASE STUDY 2: DEVICE B POOR VS. BETTER



**NPI Sockets/Pins
- not manufacturable**

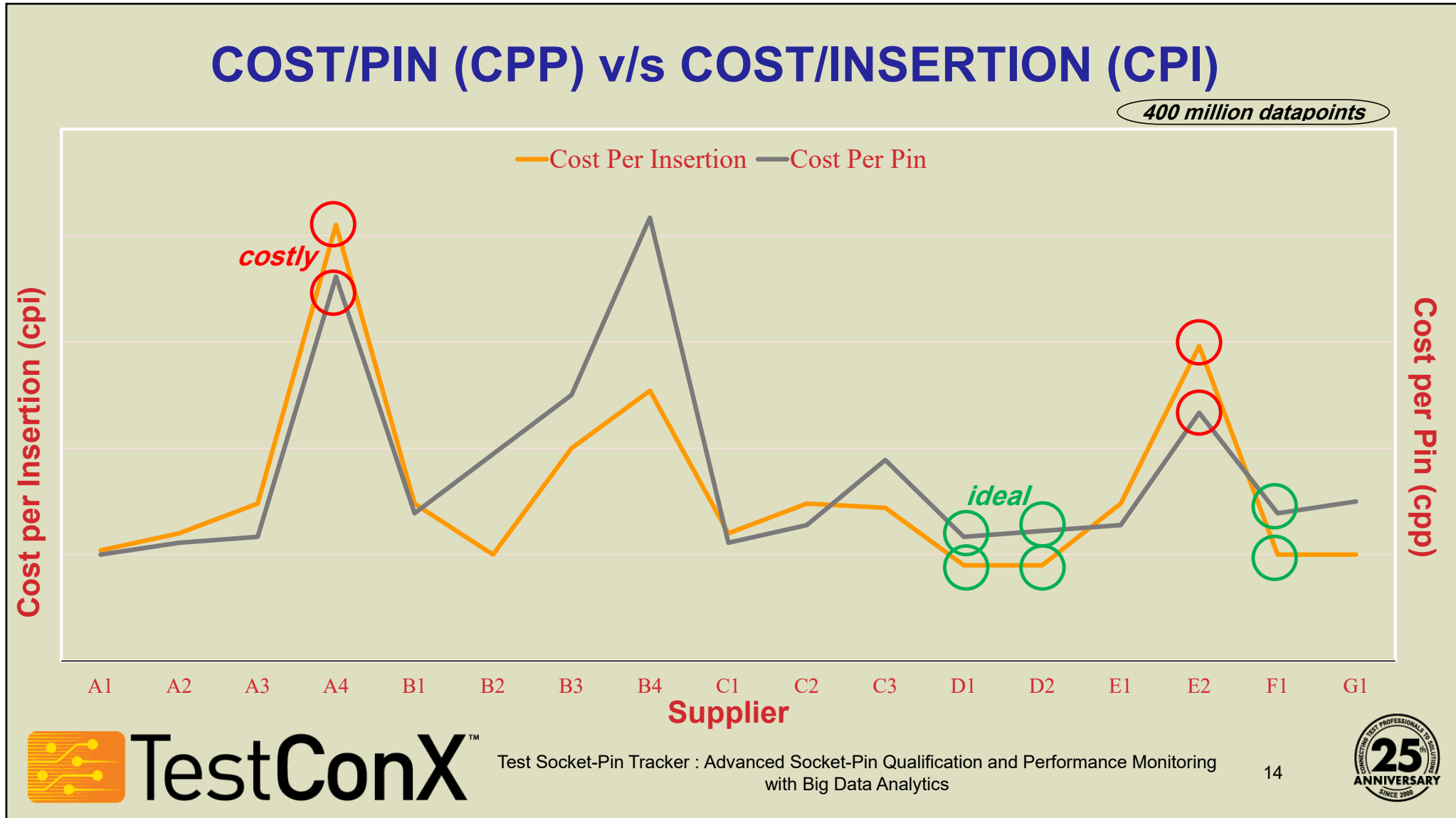
**Replaced with alternate solution that is
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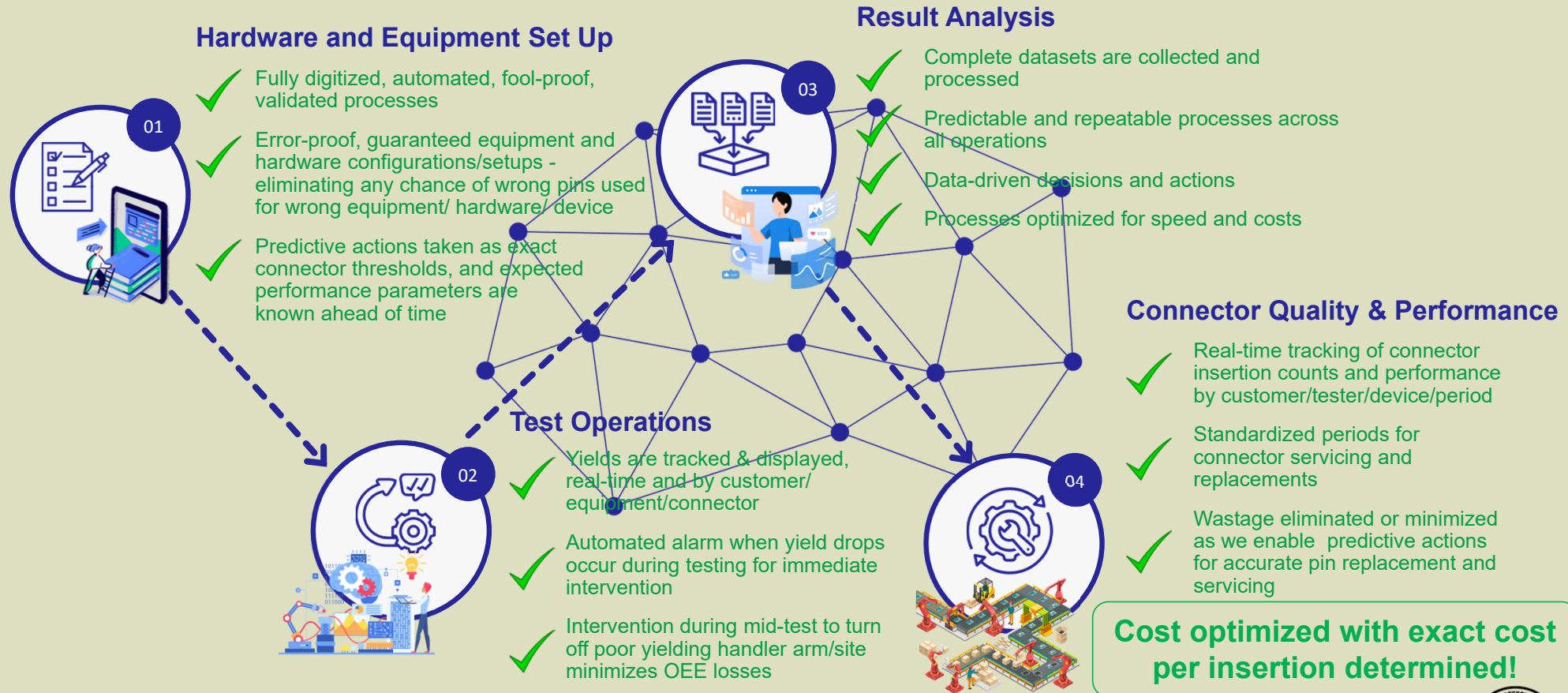
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13





THE REASONS WHY WE SLEEP BETTER NOWADAYS





Test Socket-Pin Tracker : Advanced Socket-Pin Qualification and Performance Monitoring with Big Data Analytics





BENEFITS AND OUTCOMES



 **PROVEN RESULTS**

 **70%** increase in connector performance

 **30%** cost reduction

 **0** additional hardware needed



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