

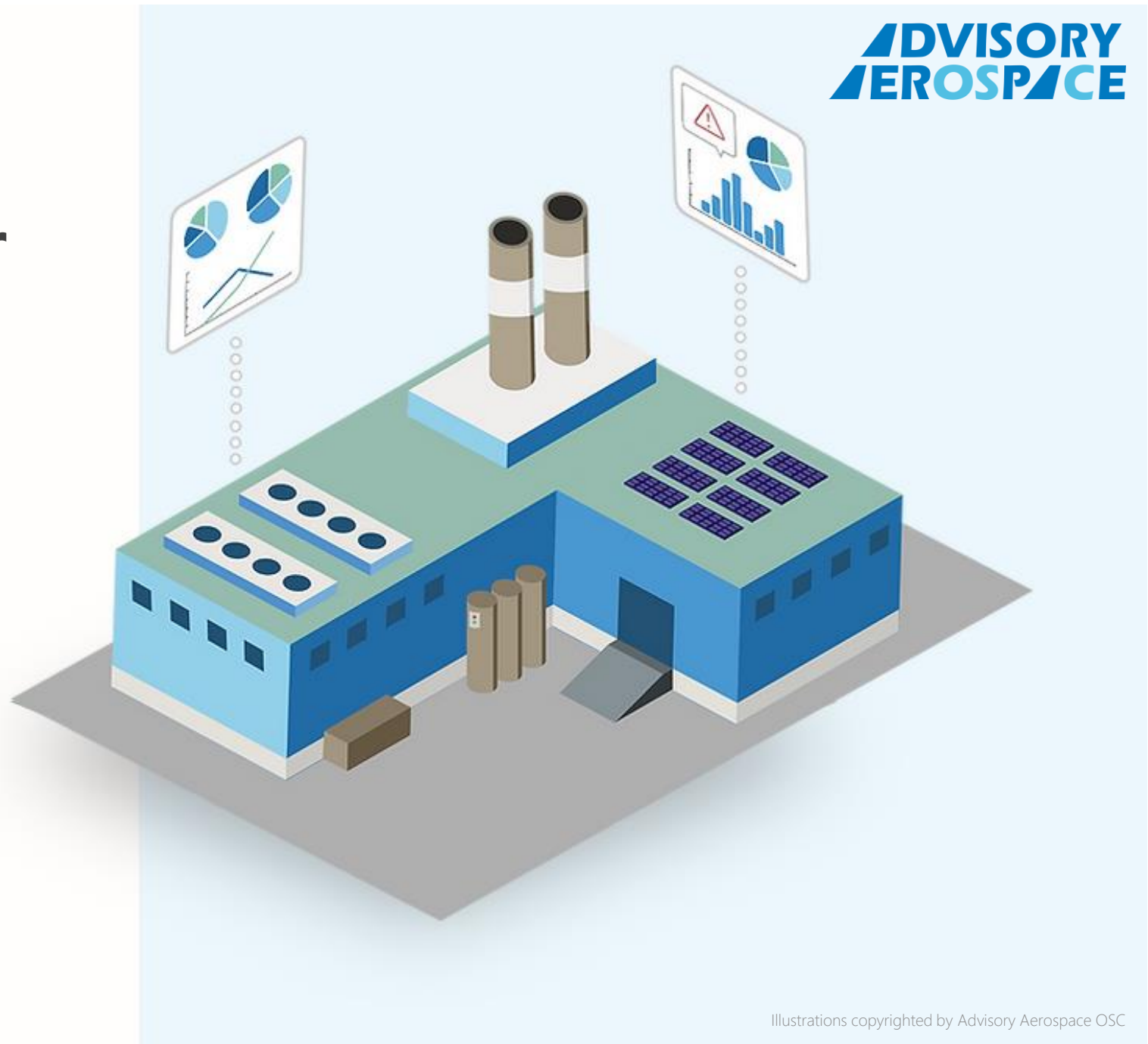
Your Factory Data Is Your Superpower

Are You Using It To Grow
Profitably?

Vivek Saxena, PhD
Founder & Managing Director
Advisory Aerospace OSC

5/16/22

A&D Manufacturing Conference
Greensboro, NC **AVIATION WEEK**
NETWORK



AdvisoryAero's Innovative Products & Services focus on Operations and Supply Chain (OSC)



Operations & Supply Chain Digitalization



Double Digit Shop Metric Improvement



Transaction Support & Operations Due Diligence



Post-Acquisition Value Creation



Product Cost Reduction



Program Management Support



Small Business Innovation Research (SBIR) Awardee

**ADVISORY
AEROSPACE**

TM

for OptimizerAero - A shop optimizer for complex operations with any or no ERP / MES system.

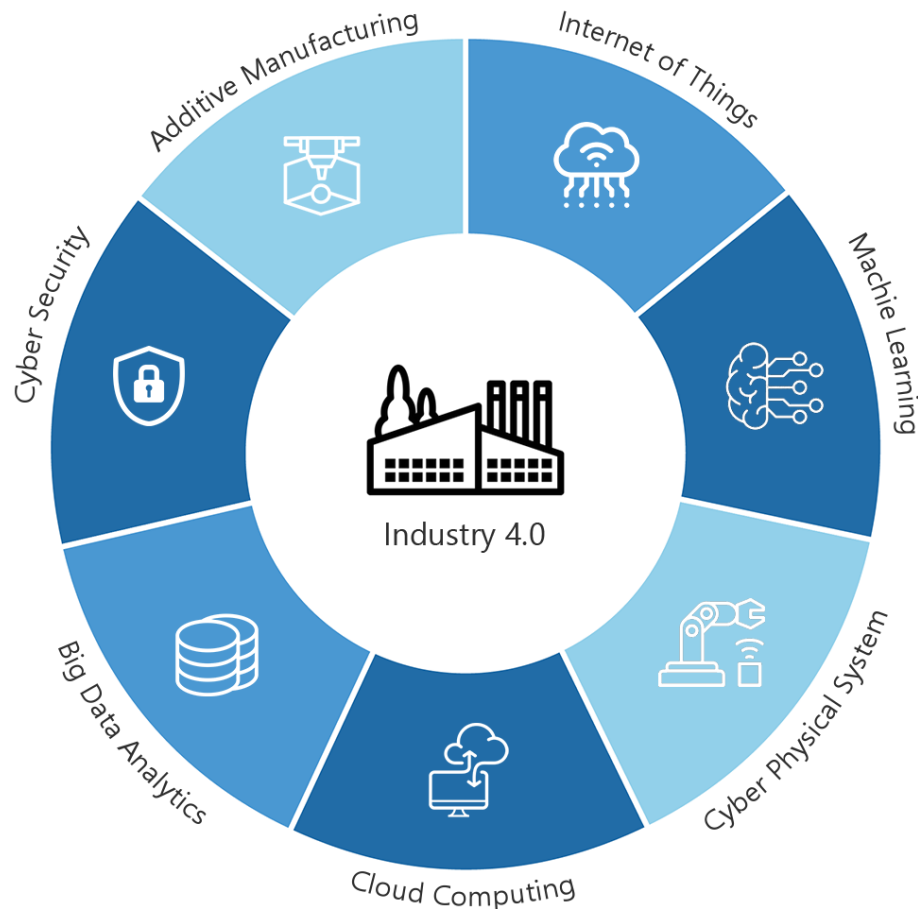
AdvisoryAero Software Suite FactoryTwin™ & Expertise deployed across the Aerospace value chain

From Fasteners to ...

.....Full Aircraft Systems



Slow and patchy 4IR adoption in Aerospace manufacturing



+

Unrealized opportunities
from Industry 3.0
in automation,
data analytics and
computing

ERP / MES / MOM, Robotics,
Model Based Systems Engineering,
Shop Optimization

INDUSTRY 4.0

INDUSTRY 3.0

Aerospace Factories 'eat complexity' for lunch everyday

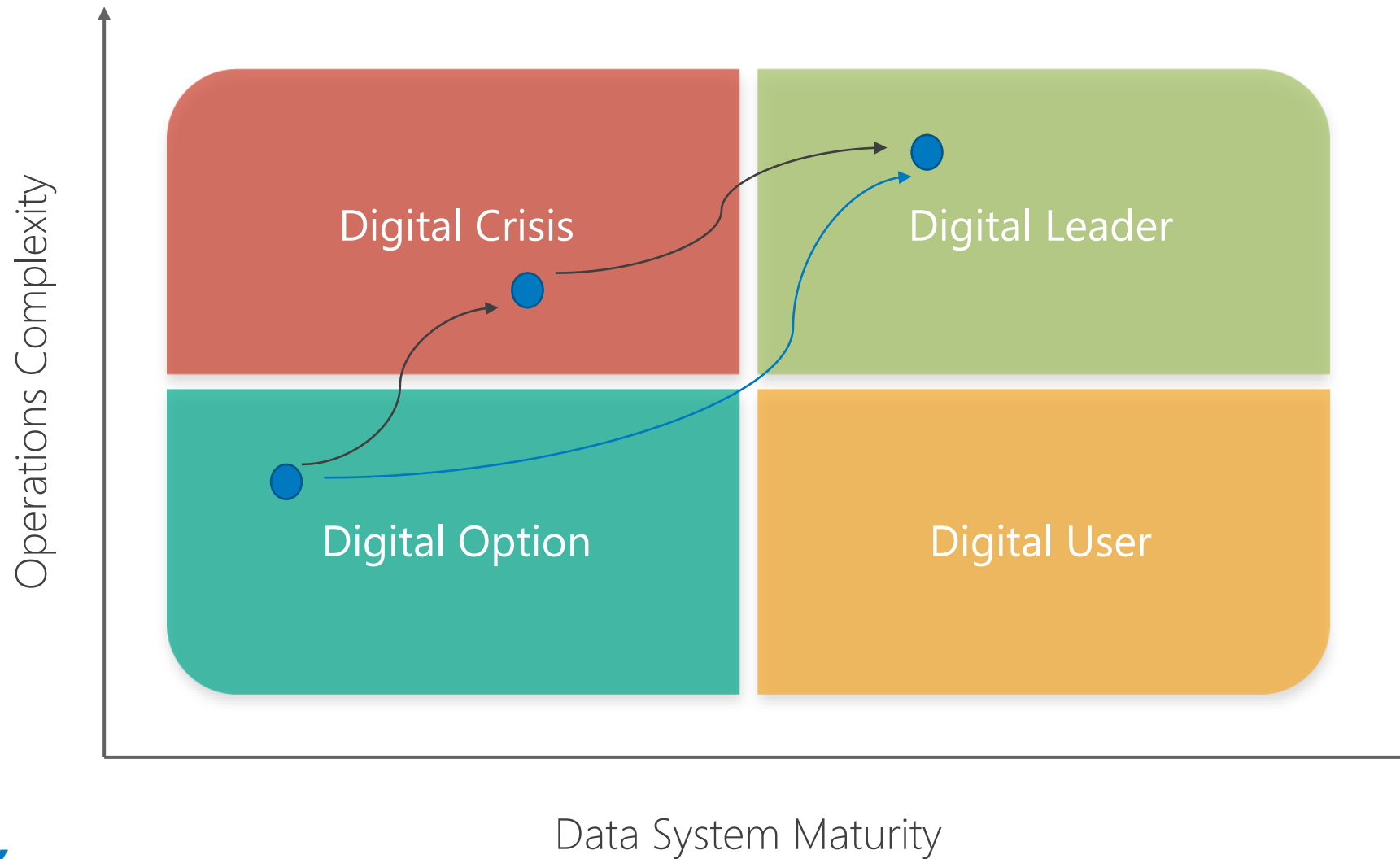
Aerospace Manufacturing is more complex than other industrial manufacturing

OEMs to SMEs, all have been slow to adopt modern manufacturing technologies

Leadership culture is dominated by a preference for "brute-force"



Are you a "Digital Leader" or in "Digital Crisis"?



Aerospace factory data is often under-utilized, fragmented and mis-trusted

Only ~10% of factory data is utilized

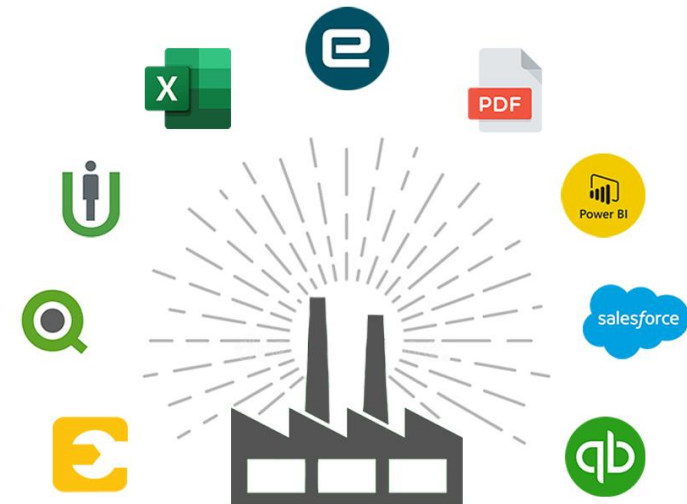
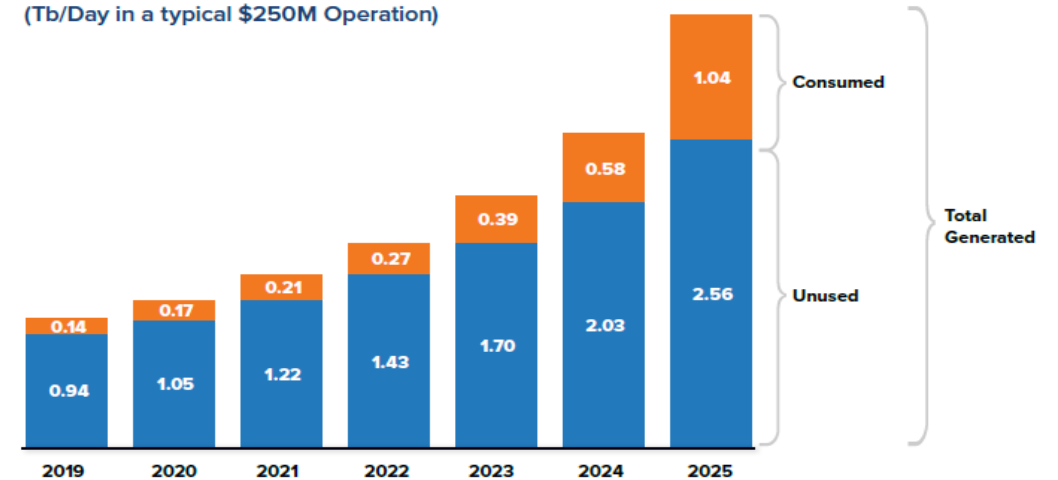
(IDC Report)

Data sources are fragmented, lacking single source of truth

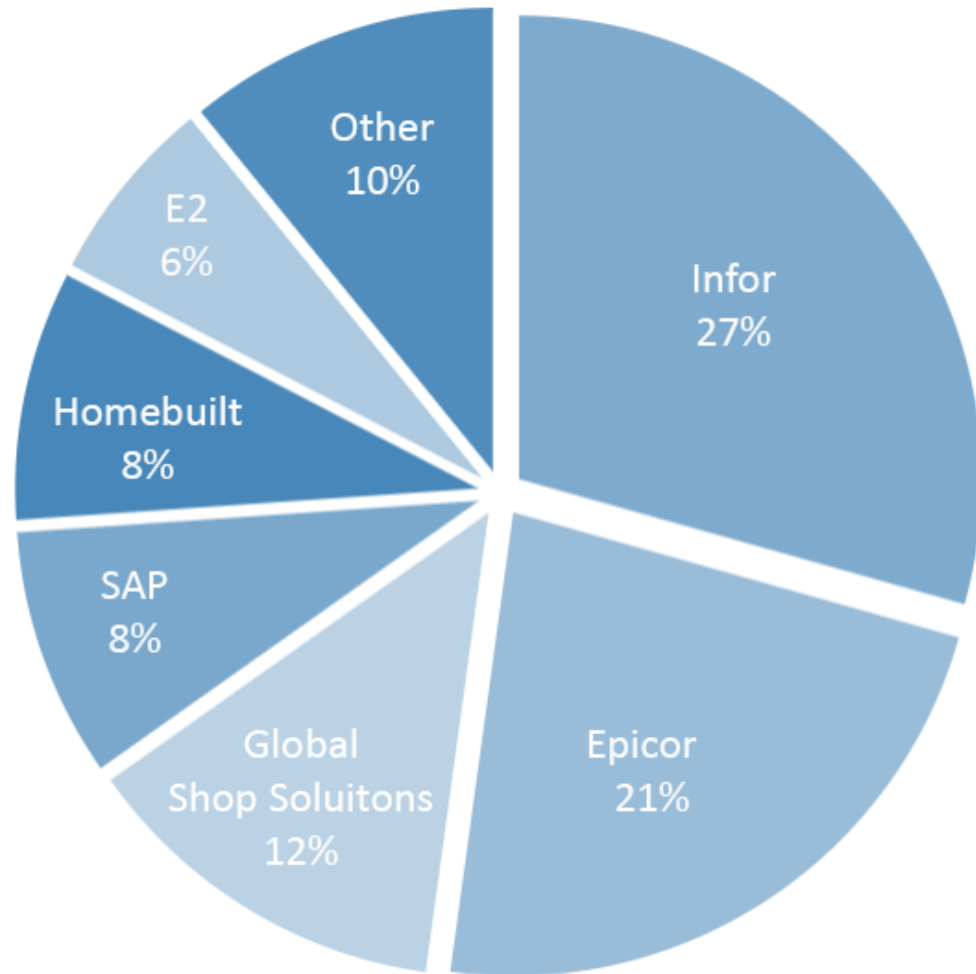
Low level of satisfaction with ERP Systems

Data Generation and Consumption in Industrial Operations

(Tb/Day in a typical \$250M Operation)



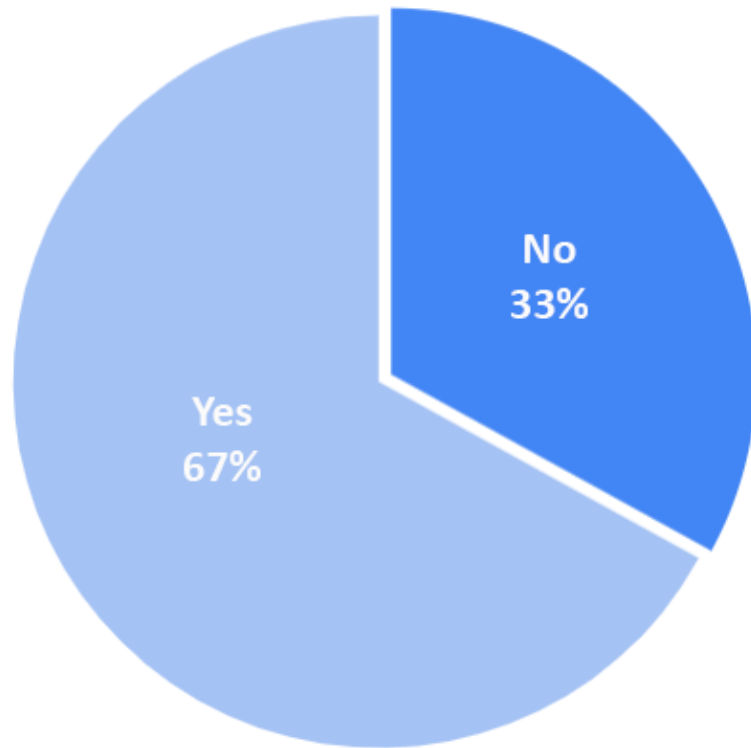
Aerospace SMEs' mixed experience with their data systems



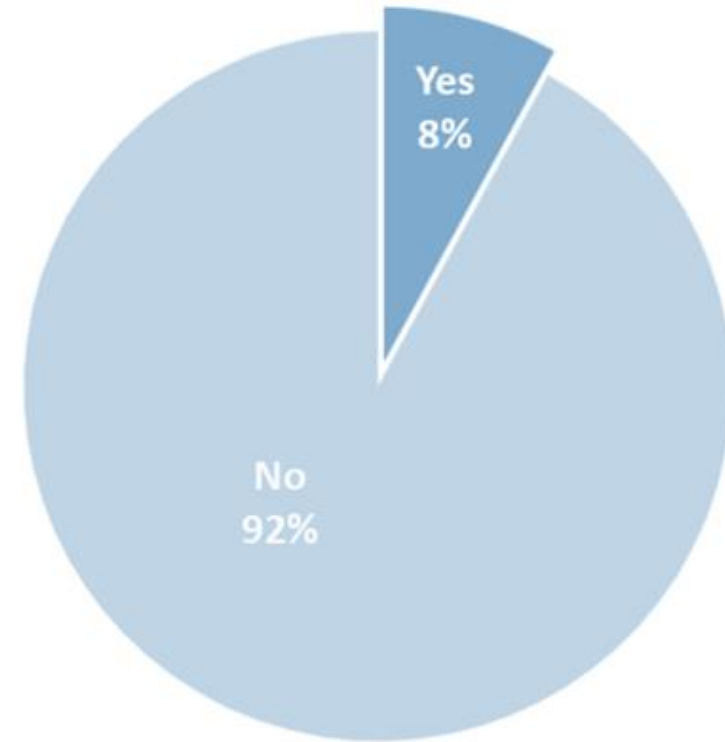
Small & Medium Enterprises (SME)
Revenue < \$250M

Shops do not use ERP to improve operations

“What If?” Analysis Available in ERP



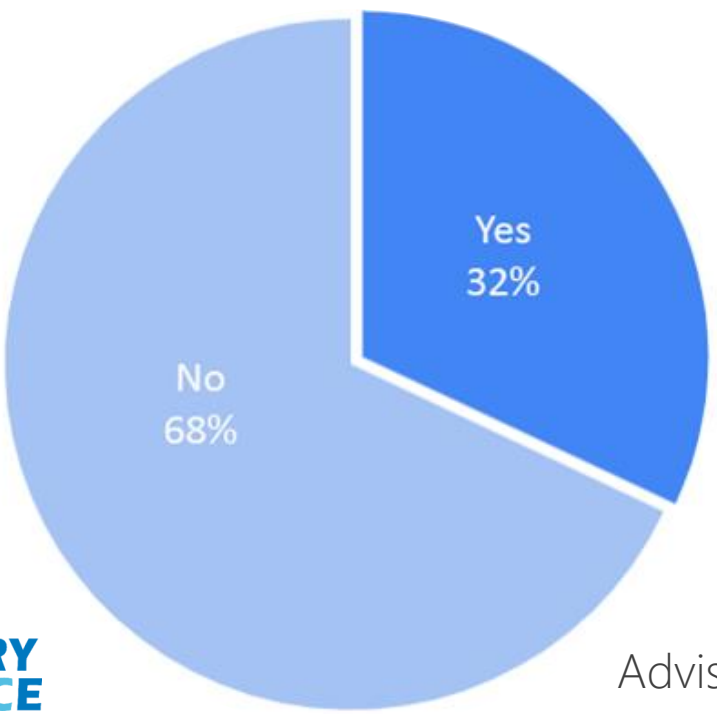
“What If?” Analysis Used to Improve



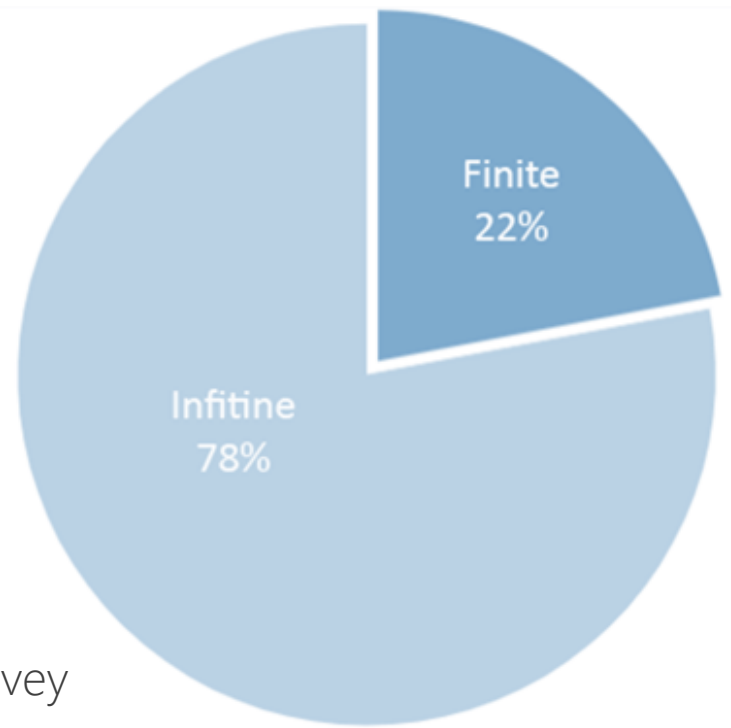
Shops 'too busy' to indulge in pro-active planning



SIOP Process



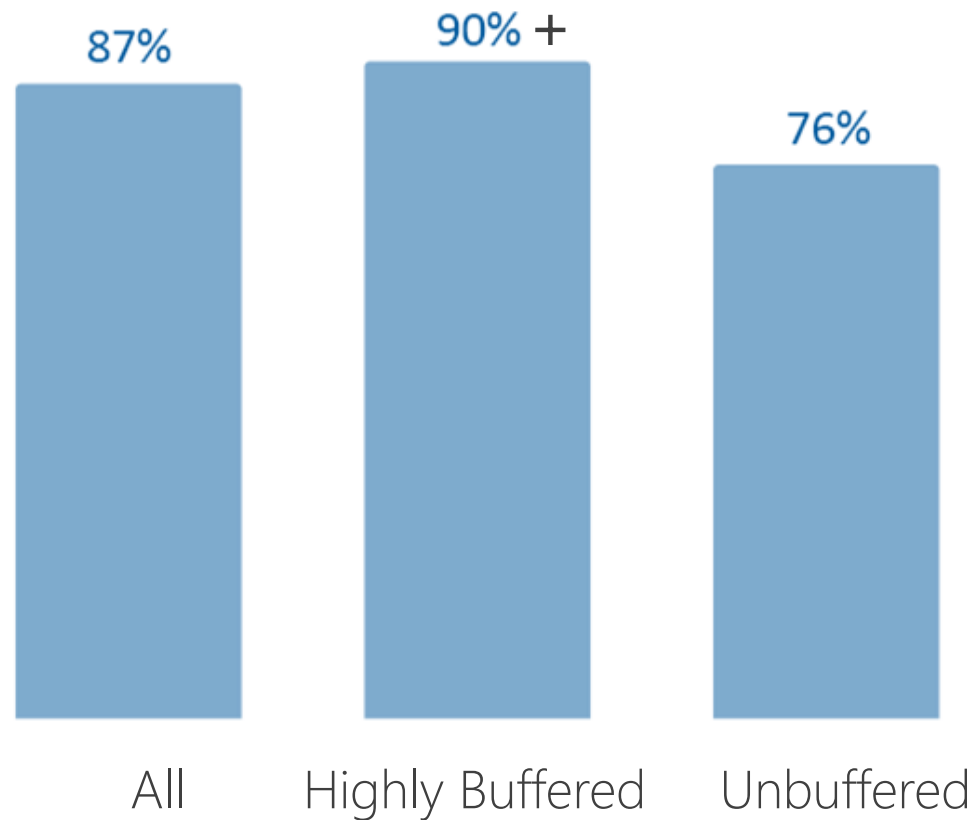
Capacity Planning



AdvisoryAero industry survey

Brute Force – Thou art my savior!

On-Time Delivery for Surveyed Tier 2 / 3 Suppliers



Schedule Buffer
Inventory Buffer
Resource Buffer

Delivery prioritized over Profitability and Cash Flow

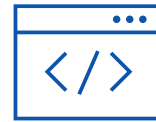
How To Achieve Digitalization



Phase 1: Identify, evaluate and prioritize existing data systems. Train employees in systems that are not utilized



Phase 2: Define unaddressed business objectives or metrics. Standardize data input and archival.



Phase 3: Apply targeted technologies. Train staff, use, and quantify benefits. For example – S&OP Planning Tool



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FactoryTwin™ for quick & easy digital insights

Ops & Supply Chain Data Integration

Site A



Offline Sources
- Spreadsheets



Factory Data (IoT)



Database
(ERP/MRP/MES)

Site B



Offline Sources
- Spreadsheets



Factory Data (IoT)



Database
(ERP/MRP/MES)

FactoryTwin™



Server Application
(cloud/on-prem)

Advanced Analytics



Descriptive, predictive
& prescriptive
AI/ML algorithms

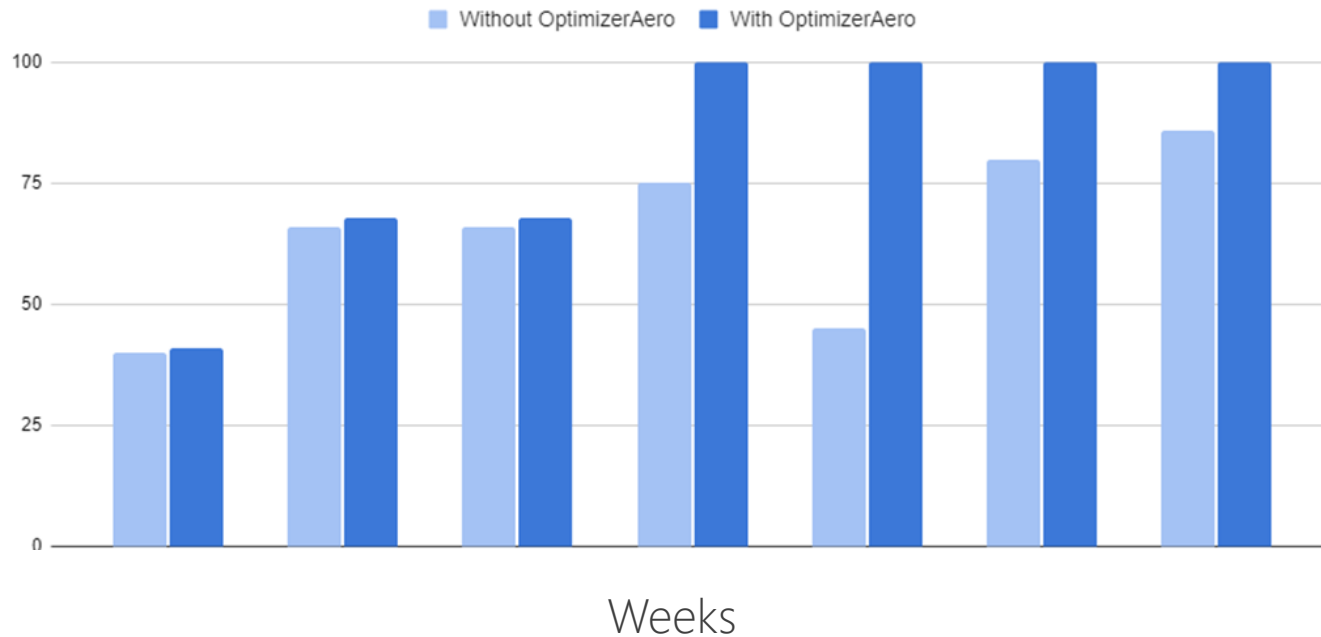
Insights & Actions



Actionable Insights
Data Visualization

Case Study: FactoryTwin™ Optimizer for OTD Recovery

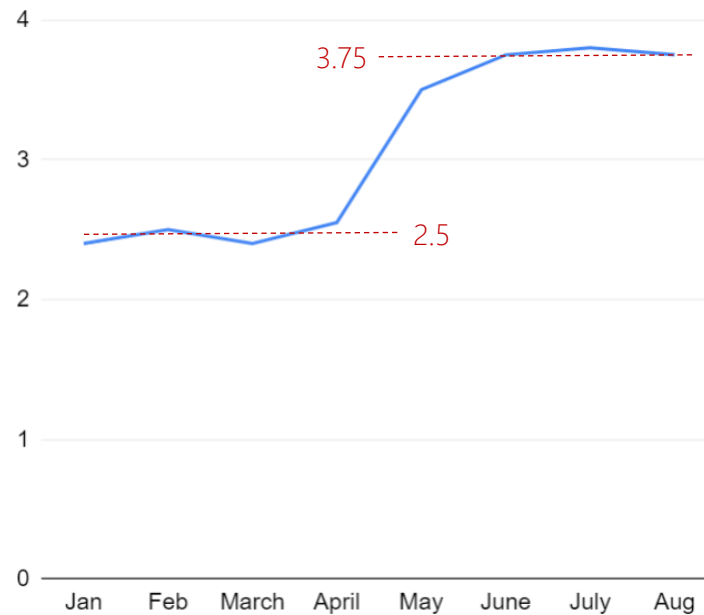
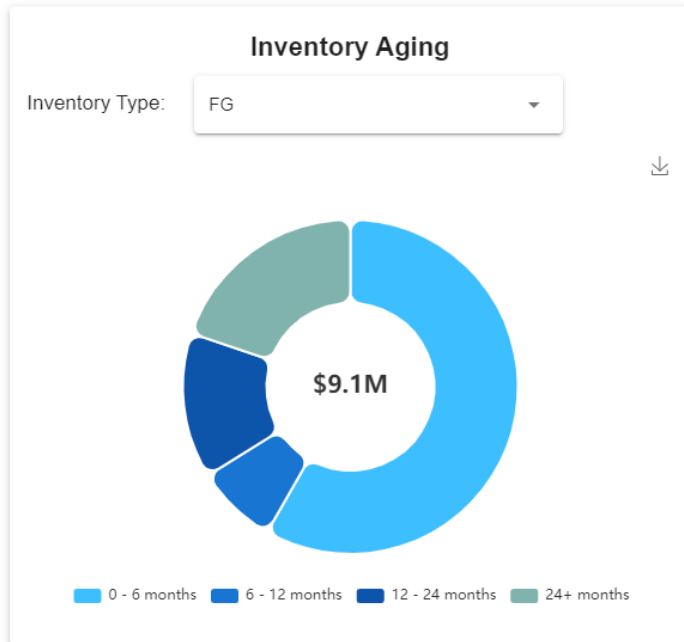
On-Time Delivery Improvement



“AdvisoryAero’s optimizer software played a major role in our recovery from 40% to 80% on time delivery. The intuitive interface and actionable insights made it easy to use for everyone from shop supervisor to planner to C-level executives”

Case Study: 50% Cash Flow Increase with FactoryTwin™

Inventory Turns



“AdvisoryAero team built a simulation of our shop including manual and inherently variable operations in a few weeks. The results was a clear inflection point in our cash flow. Inventory turns jumped from 2.5 to 3.75 in 6 months.”



THANK YOU!

Vivek Saxena, PhD

Founder & Managing Director

Advisory Aerospace OSC

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