

Digital Transformation for Smart Manufacturing



Fram Akiki

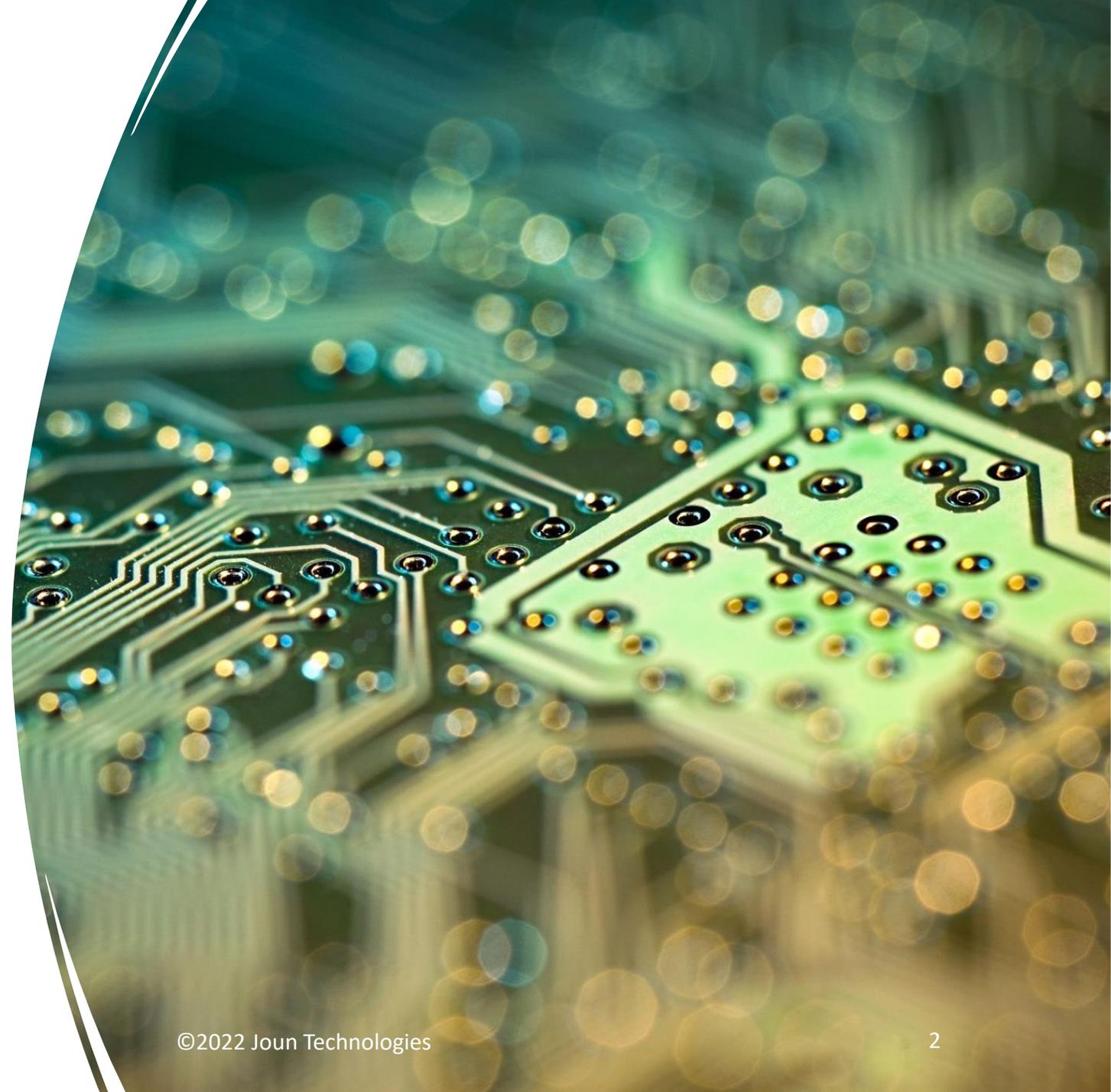
President
Joun Technologies, Inc

Semiconductors – The Opportunity

Diversity of Demand

Infrastructure Build-out

Continued Innovation



Semiconductors – The Challenge

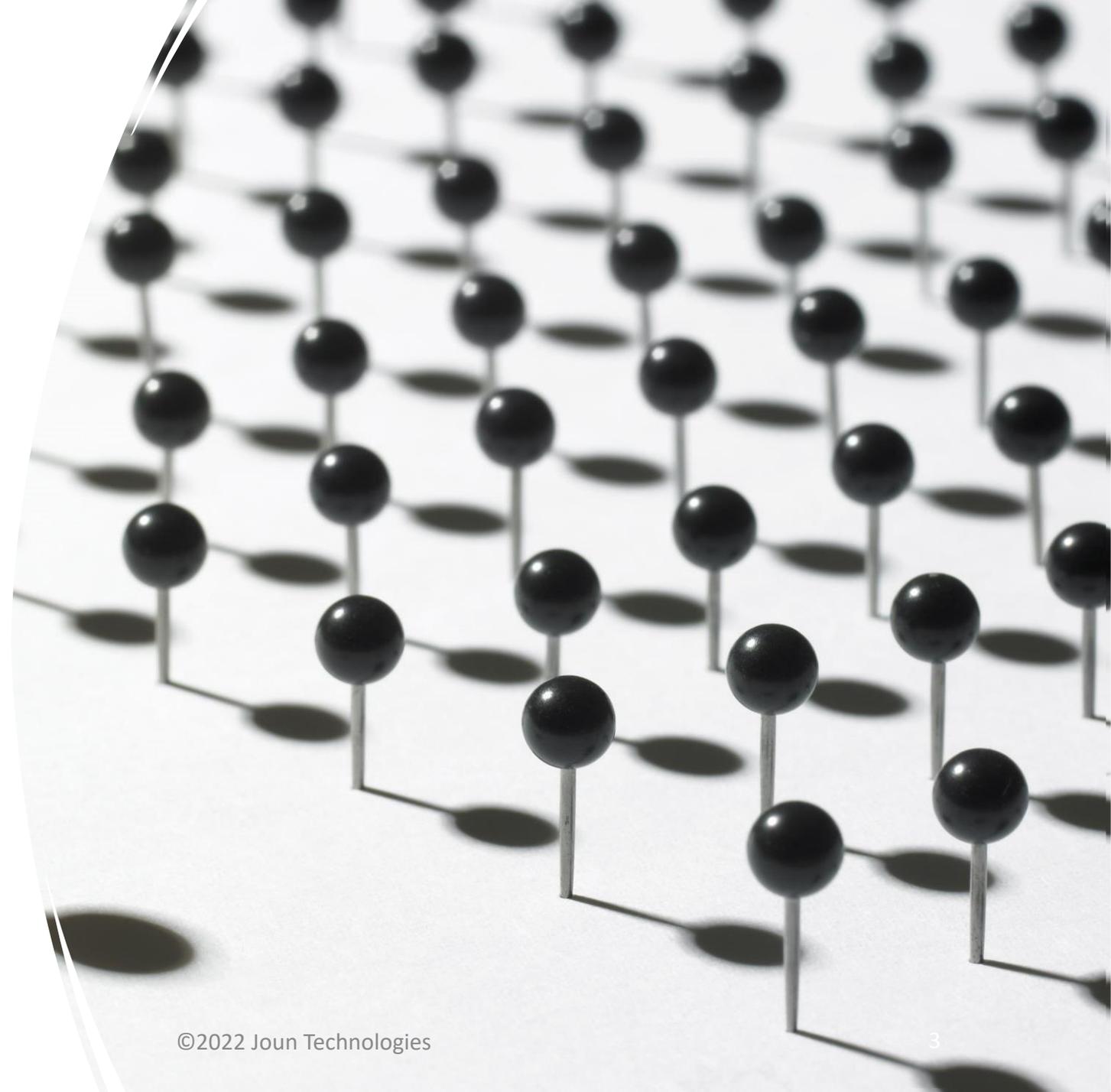
Complexity

Market

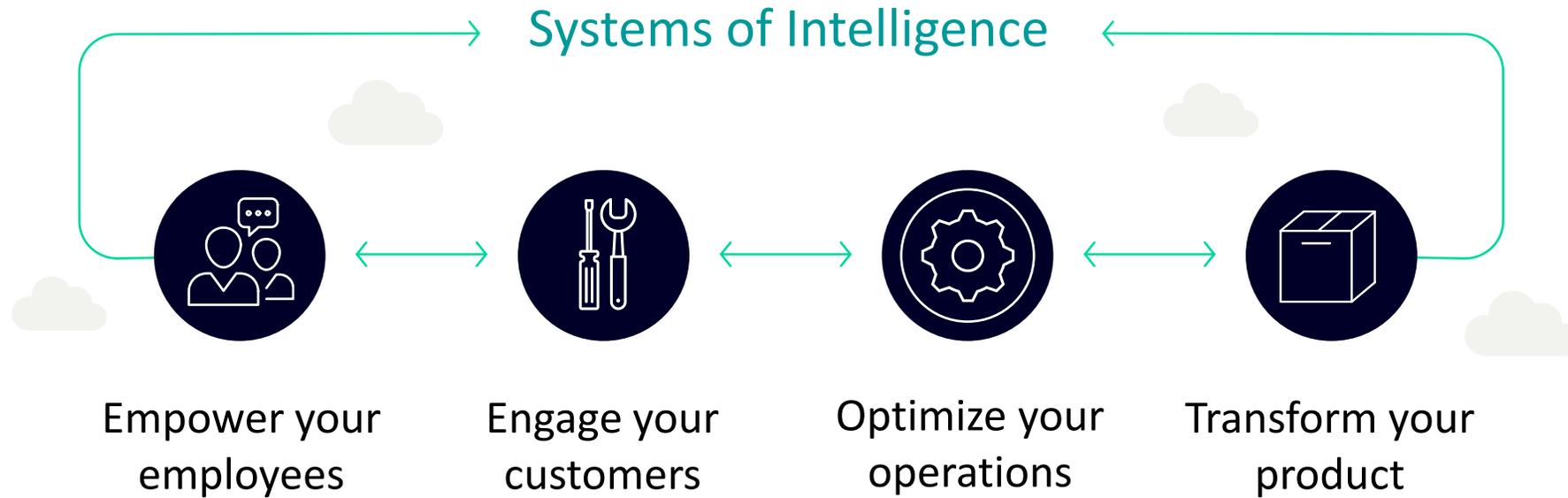
Products

Supply Chain

Time to Market



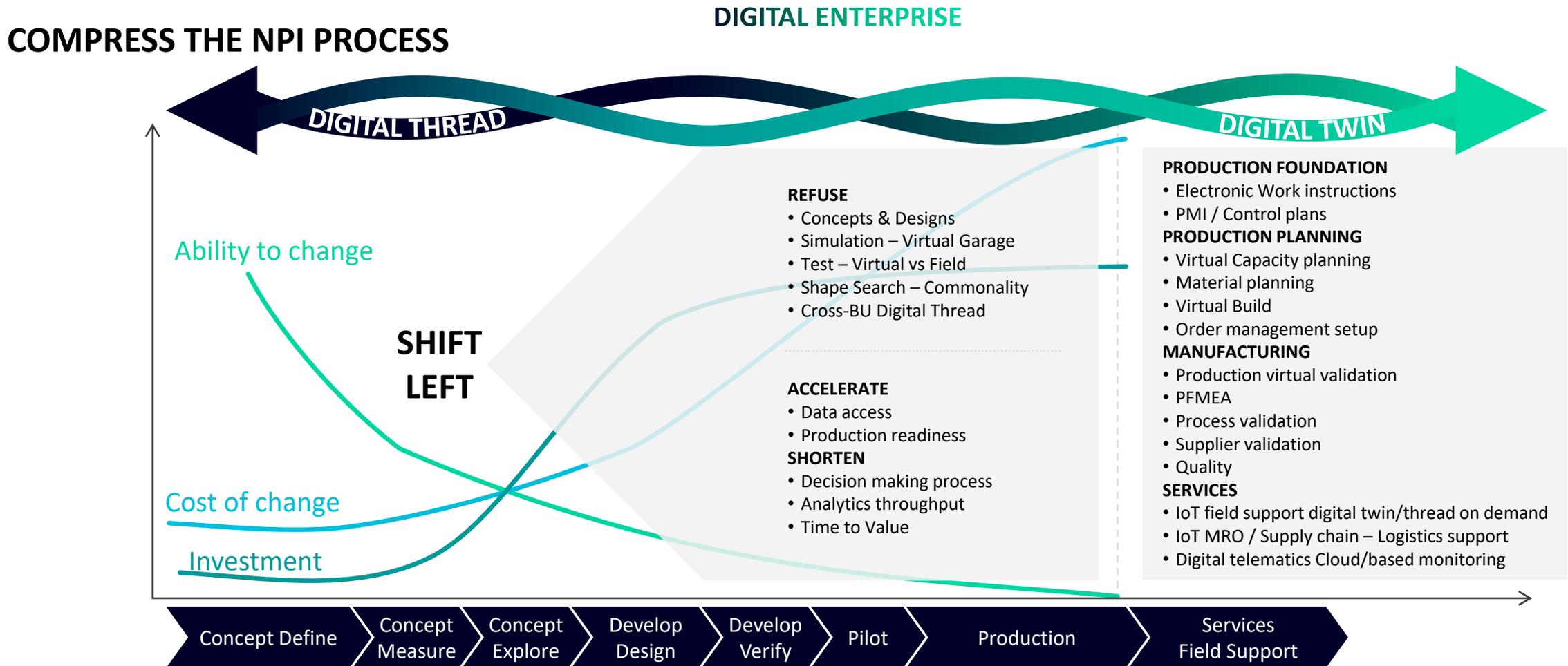
Digital Transformation



Albert Einstein

“We cannot solve our problems with the same thinking we used when we created them”

Digital Twins, Digital Threads, & Shift Left



Why is Manufacturing a great place to start DT ?

Rally the team!

Deliver Bottom Line results



DT in Semi Mfg - Planning, Scheduling, & Simulation

**What, When, How & How
Much, Where**

Managing Change

- Materials & Resources
- Priorities & conflicts
- Deployment



DT in Semi Mfg – Execution

Automation

- Out of the box
- Future extensions
- Flexibility

Quality and Reliability

- Single Device Tracking
- Traceability



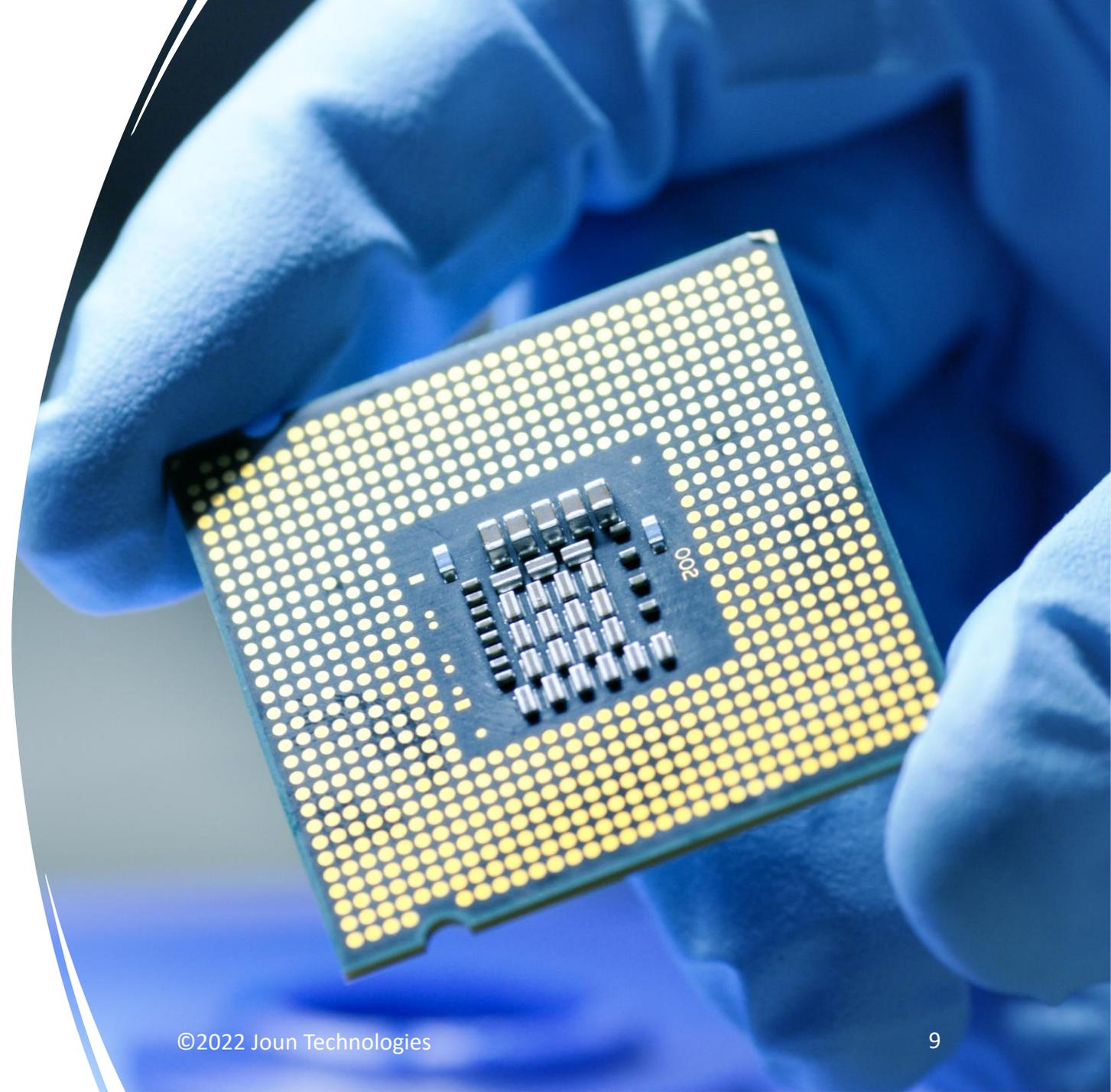
DT in Semi Mfg – Execution (Part II)

Back End Integration

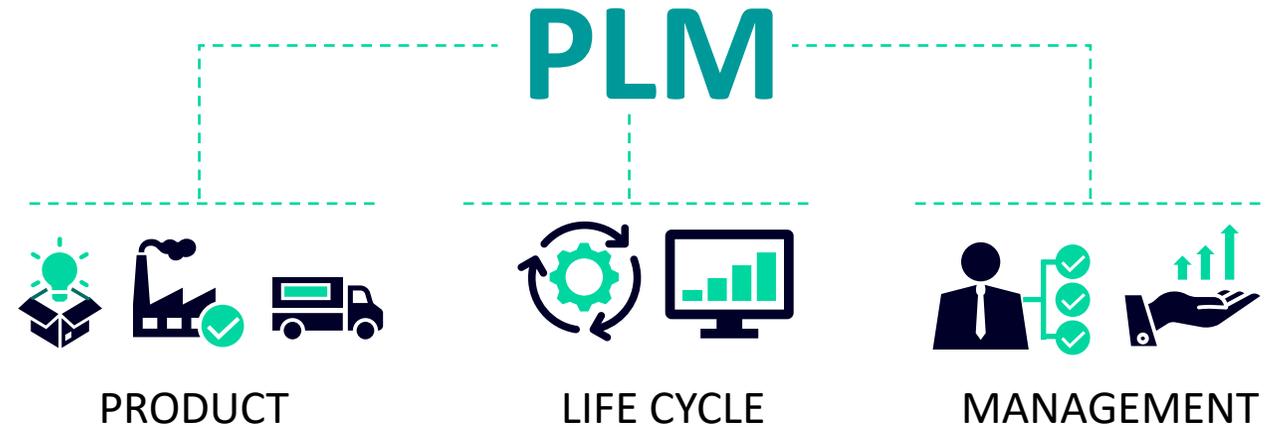
- TSV (Through Silicon Via)
- Wafer level fanout
- Hybrid bonding

Advanced Analytics

- Descriptive
- Predictive
- Prescriptive



Key Takeaways



Lagging Edge Fabs

Packaging & Test

Connect across

- Enterprise
- Supply Chain



THANK YOU!

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Smart Manufacturing Pavilion

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