

Next-Generation Supply Chain Planning: Accelerating Performance through Digital Transformation

American Manufacturing Summit

The 'Never Normal' Context

Advanced Planning Transformation
Journey: Automate, Anticipate, Accelerate

Practical Case Study Examples

Key learnings and success factors

J&J IM Supply Chain and the 'Never Normal' Context



J&J Innovative Medicines = Increasingly Complex Supply Chain Environment



Orchestrating Planning Cycle with **dozens of** International Brands



Managing Master Plans across **dozens of** Internal and of External Mfg Locations



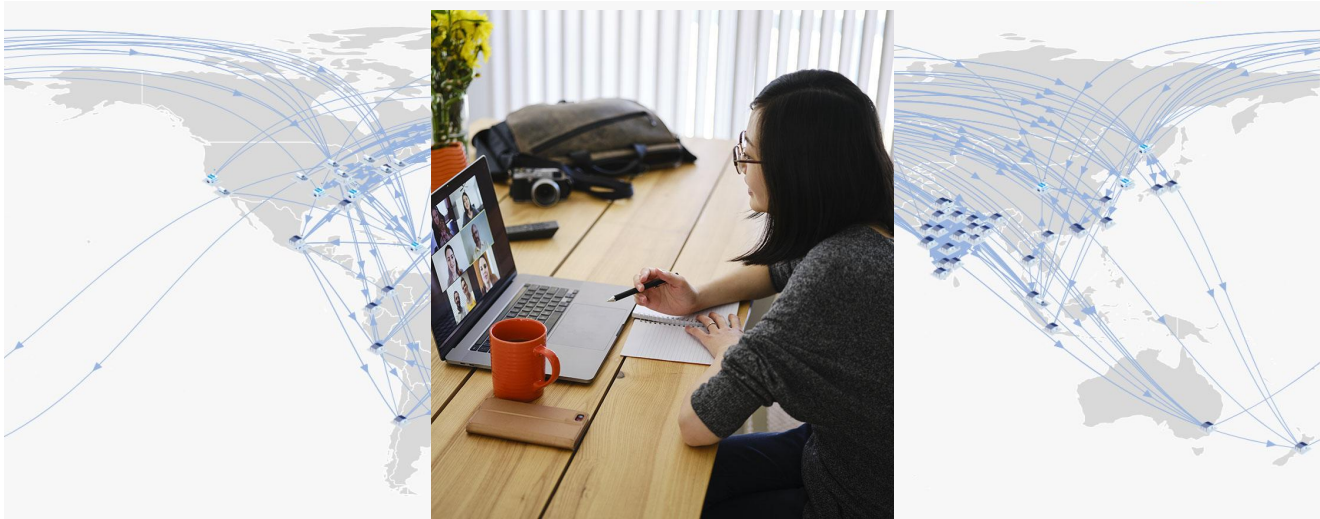
Thousands of SKUs Planned



Hundreds of New Launches/Year



150+ Countries Served



Hundreds of Planners & Schedulers



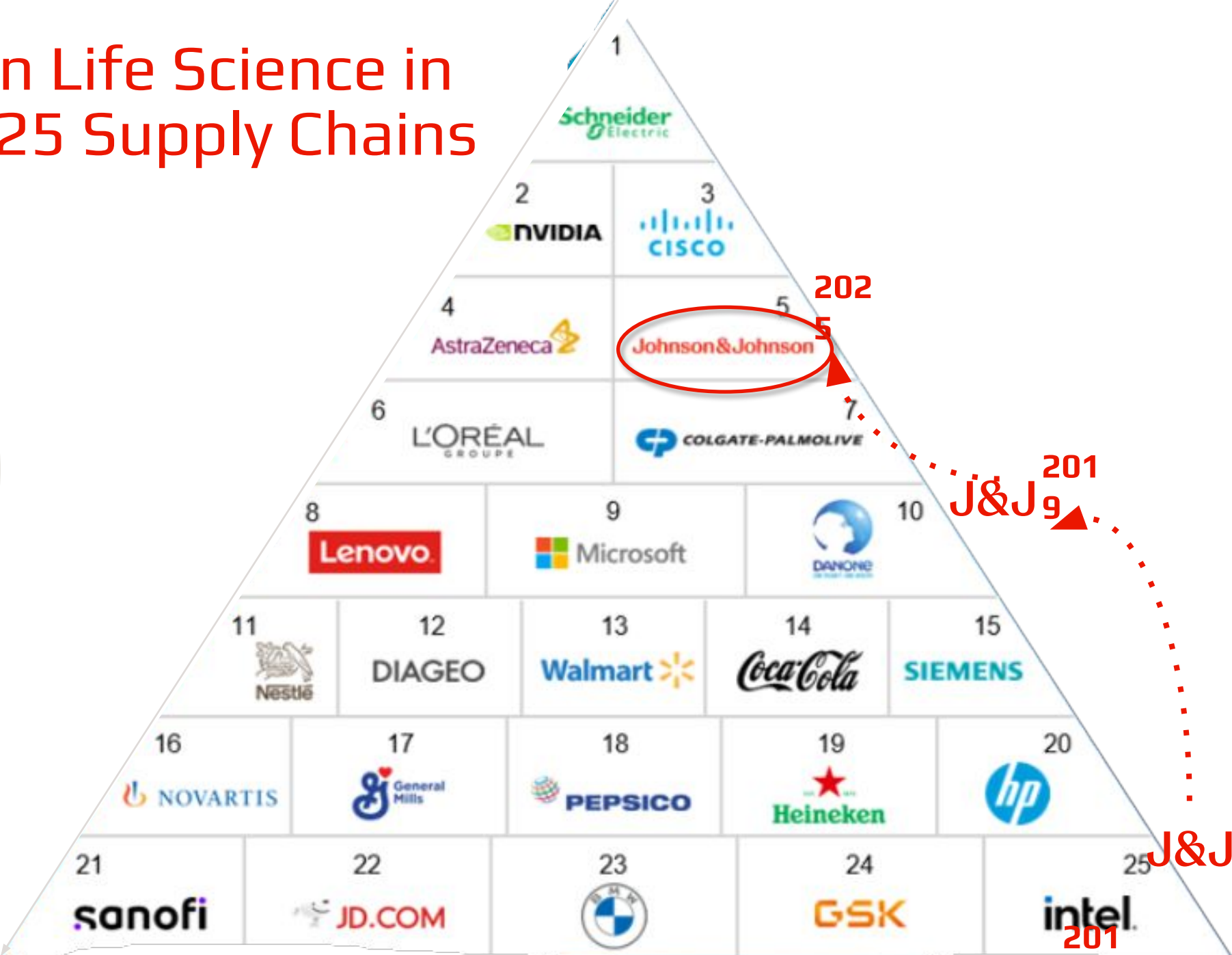
Scheduling of **Thousands of** Equipment in the Mfg Network



Connected with **dozens of** Network and Customer DCs

Industry Leader in Life Science in the Gartner Top 25 Supply Chains

#5
overall
|



J&J Innovative Medicine

© 2025 Johnson & Johnson Services, Inc. All rights reserved. Any further distribution of this material without specific permission of Johnson & Johnson Services, Inc. is strictly prohibited.

VUCA


Volatility


Uncertainty


Complexity


Ambiguity

Planning challenges today and in the future require solves in a concerted fashion

Present ...



Demand Volatility,
Competitive Outages



Material Supplier
Constraints



Rich Launch Pipeline,
Product Life-Cycle



P&L and Cash
Pressure



Continuous Planning
for Base Operations



Long Lead Times,
Capacity Shortages

Future ...



New Go-To-Market
Models



Increasing Global
Risks



Planning Nuances for
New Modalities



Government
Procurement
Influence



Increasing Product &
Network Complexity

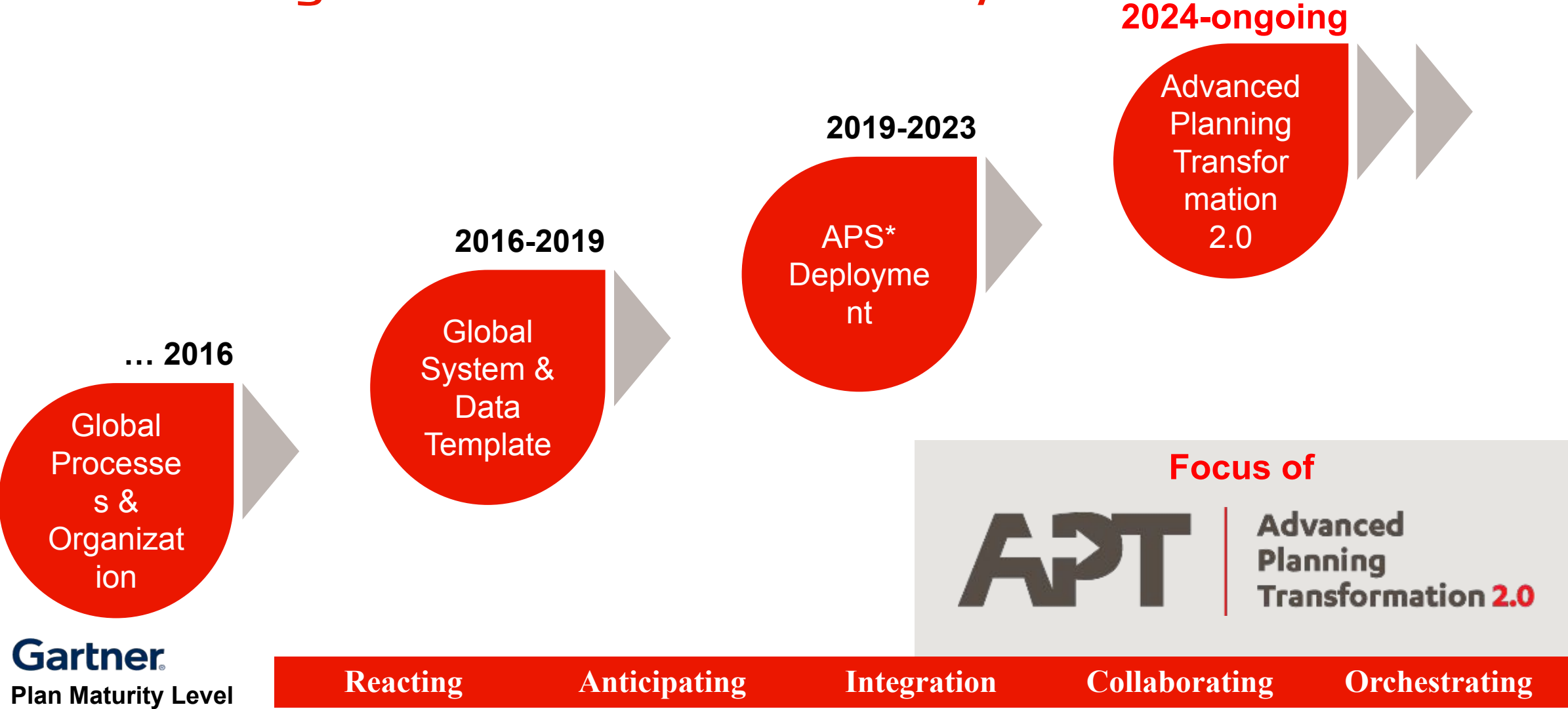


Planner of the Future
Utilizing Digital & Data

Advanced Planning Transformation Journey: Automate, Anticipate, Accelerate



Our Planning Transformation Journey



* APS: Advanced Planning System foundations

OUR VISION

APT

**Advanced
Planning
Transformation 2.0**

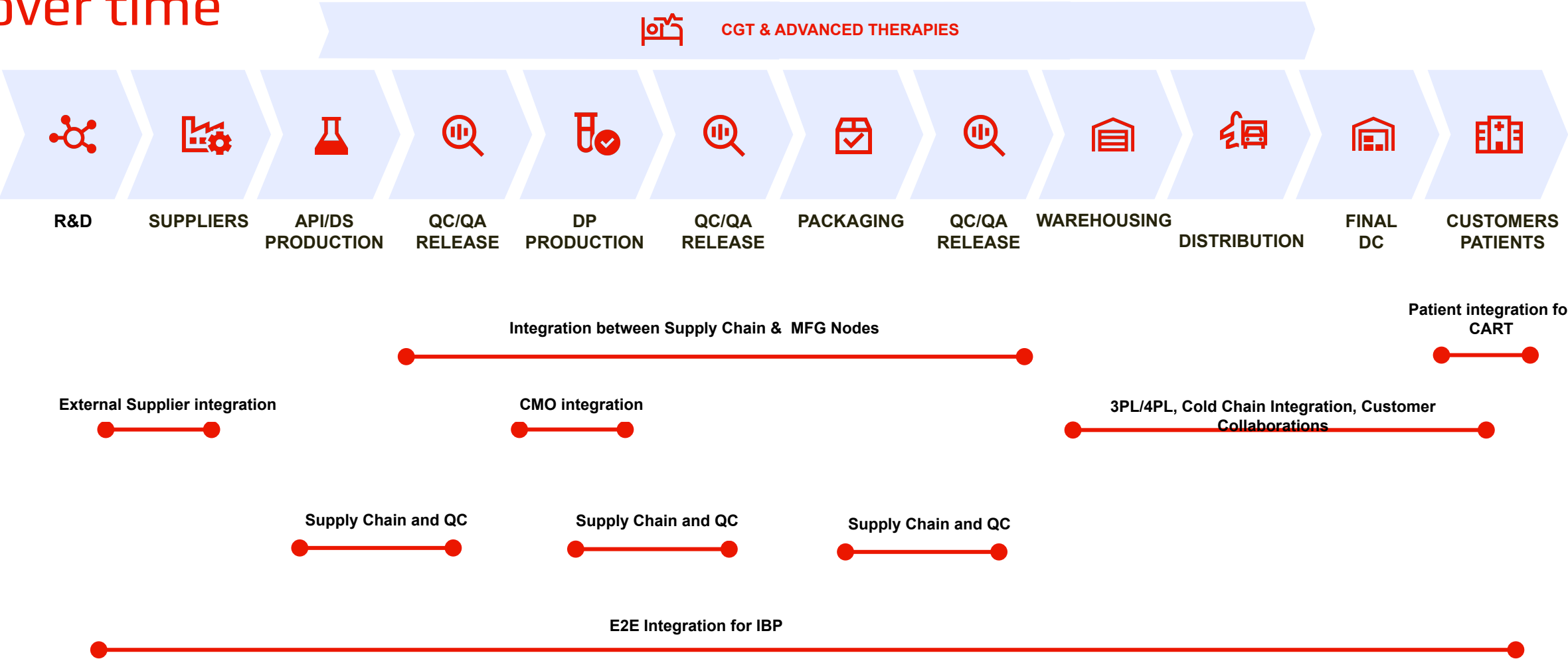
*Automated
Execution*

*Anticipating
Goal-Driven*

*E2E-Focused
Accelerated*

Imagine the Planner of the Future - Orchestrate Data-Driven Biz Decisions

Across the complex Pharma value chains, you can create multiple layers of Collaboration and End to End Integration over time



APT in Action: Case Study Examples



APT 2.0 redesigns the role of the Planner



Advanced Planning Systems (APS), Supplier Integration, dashboards and visualization tools.

Decision made by human(s), based on functional and domain knowledge.

INTEGRATE & ENHANCE
(established platforms)



APS and AI solution to identify patterns and generate alerts, perform simulations and develop recommendations and options.

Human analyzes the recommendations and approves or rejects proposed options.

ADOPT & SCALE
(cutting-edge optimization products)



Autonomous insights-, parameter change- and planning decision-generation by leveraging advanced algorithms, ML and AI.

Final output- / decision-acceptance or takeover for exceptions.

DESIGN & DEPLOY
(future-ready, innovative solutions)

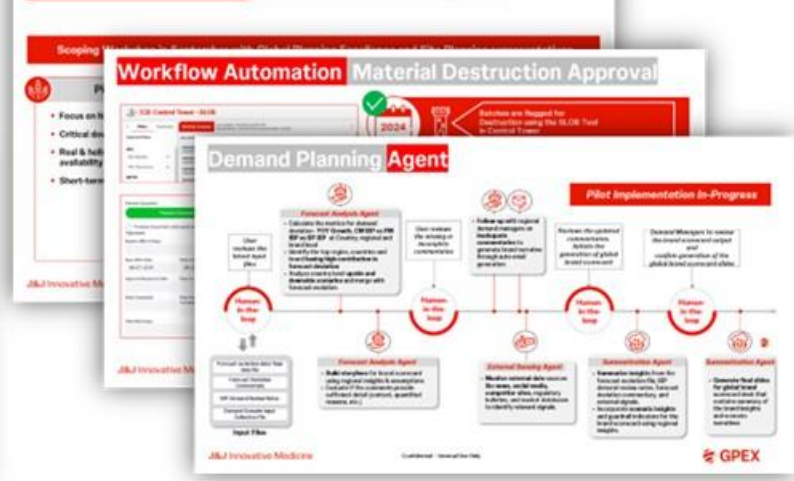
Advanced Planning System Foundations (simplified)



Inventory Entitlement & Optimization Planning

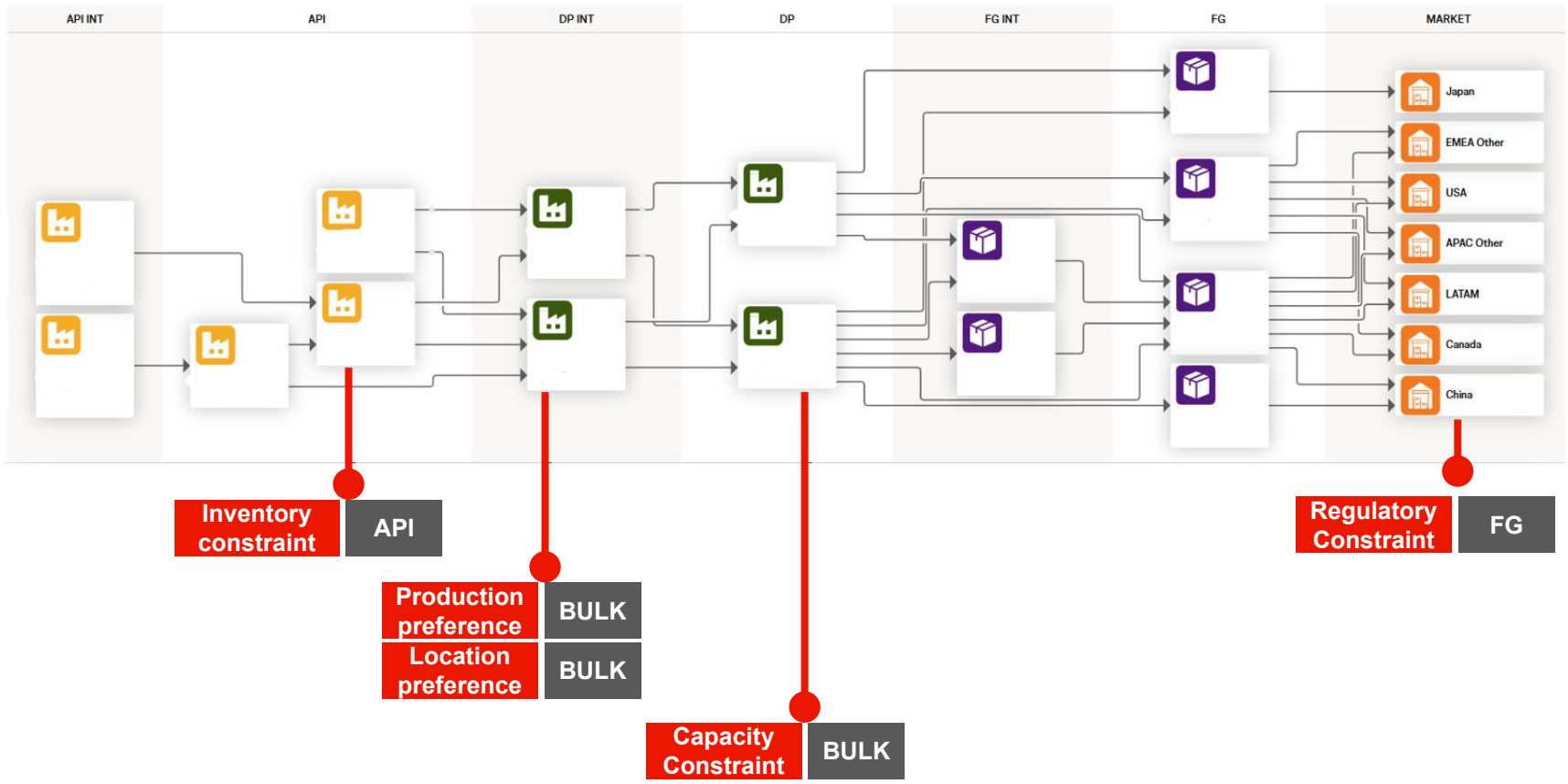


Autonomous Planning Detailed Scheduling Pilot



E2E Scenario Planning and Optimization

Enhanced OMP Solver generating an optimal plan balancing complex set of constraints and preferences



Example of bulk capacity constraint **before** OMP solver run

Non-aggregated planning view	Aggregated planning view	Process constraints report	
BucketStartDate	BucketEndDate	MaximumQuantity	PlannedQuantity
11/24/2025 12:00:00	12/29/2025 12:00:00	13,260.00	19,707.37
12/29/2025 12:00:00	1/26/2026 12:00:00	13,260.00	804.16
1/26/2026 12:00:00	2/23/2026 12:00:00	13,260.00	3,226.81
2/23/2026 12:00:00	3/30/2026 12:00:00	13,260.00	5,933.12
3/30/2026 12:00:00	4/27/2026 12:00:00	13,260.00	7,216.02
4/27/2026 12:00:00	5/25/2026 12:00:00	13,260.00	4,820.45
5/25/2026 12:00:00	6/29/2026 12:00:00	13,260.00	4,753.13
6/29/2026 12:00:00	7/27/2026 12:00:00	13,260.00	6,841.23
7/27/2026 12:00:00	8/24/2026 12:00:00	13,260.00	14,259.84
8/24/2026 12:00:00	9/28/2026 12:00:00	13,260.00	5,330.75
9/28/2026 12:00:00	10/26/2026 12:00:00	13,260.00	3,812.65
10/26/2026 12:00:00	11/23/2026 12:00:00	13,260.00	672.66
11/23/2026 12:00:00	1/4/2027 12:00:00	13,260.00	9,230.34
1/4/2027 12:00:00	2/1/2027 12:00:00	13,260.00	9,564.59
2/1/2027 12:00:00	3/1/2027 12:00:00	13,260.00	4,777.44
3/1/2027 12:00:00	4/5/2027 12:00:00	13,260.00	13,260.00
4/5/2027 12:00:00	5/3/2027 12:00:00	13,260.00	8,345.78
5/3/2027 12:00:00	5/31/2027 12:00:00	13,260.00	7,953.31
5/31/2027 12:00:00	7/5/2027 12:00:00	13,260.00	1,206.60
7/5/2027 12:00:00	8/2/2027 12:00:00	13,260.00	3,603.57
8/2/2027 12:00:00	8/30/2027 12:00:00	13,260.00	3,982.13

Example of bulk capacity constraint **after** OMP solver run

Non-aggregated planning view	Aggregated planning view	Process constraints report	
BucketStartDate	BucketEndDate	MaximumQuantity	PlannedQuantity
11/24/2025 12:00:00	12/29/2025 12:00:00	13,260.00	5,143.37
12/29/2025 12:00:00	1/26/2026 12:00:00	13,260.00	804.16
1/26/2026 12:00:00	2/23/2026 12:00:00	13,260.00	3,226.81
2/23/2026 12:00:00	3/30/2026 12:00:00	13,260.00	5,933.12
3/30/2026 12:00:00	4/27/2026 12:00:00	13,260.00	7,216.02
4/27/2026 12:00:00	5/25/2026 12:00:00	13,260.00	4,820.45
5/25/2026 12:00:00	6/29/2026 12:00:00	13,260.00	4,753.13
6/29/2026 12:00:00	7/27/2026 12:00:00	13,260.00	6,841.23
7/27/2026 12:00:00	8/24/2026 12:00:00	13,260.00	13,260.00
8/24/2026 12:00:00	9/28/2026 12:00:00	13,260.00	5,330.75
9/28/2026 12:00:00	10/26/2026 12:00:00	13,260.00	3,812.65
10/26/2026 12:00:00	11/23/2026 12:00:00	13,260.00	672.66
11/23/2026 12:00:00	1/4/2027 12:00:00	13,260.00	9,230.34
1/4/2027 12:00:00	2/1/2027 12:00:00	13,260.00	7,260.59
2/1/2027 12:00:00	3/1/2027 12:00:00	13,260.00	4,777.44
3/1/2027 12:00:00	4/5/2027 12:00:00	13,260.00	13,260.00
4/5/2027 12:00:00	5/3/2027 12:00:00	13,260.00	8,345.78
5/3/2027 12:00:00	5/31/2027 12:00:00	13,260.00	7,953.31
5/31/2027 12:00:00	7/5/2027 12:00:00	13,260.00	1,206.60
7/5/2027 12:00:00	8/2/2027 12:00:00	13,260.00	3,603.57
8/2/2027 12:00:00	8/30/2027 12:00:00	13,260.00	3,982.13

Automated Forecast to RM Suppliers

Process Efficiency



Standard and centralized workflow deployed to reduce inefficiencies and optimize processes



Challenges / Pain Points

- **Manual, repetitive activities** in monthly raw material forecast sharing.
- **Risks of errors** from manual data extraction/exchange.
- **Extra workload** on planners, challenging with tight S&OP review timelines.



Solution / Next Steps

- ✓ **Monthly/Bi-Weekly** forecast data generation from SAP, automated for 5 ERPs
- ✓ Automated **E-Mail** sharing with suppliers (BOT)
- ✓ Automated **Forecast comparison** with previous cycle
- ✓ Automated **Comments** on forecast changes vs previous cycle
- 🔄 Automation of Forecast Generation for Non BOM materials
- 🔄 Closely engage w/ S4 program on future-proofing the solution

Building Bridges: Connecting Data & People in External Manufacturing



Bridge Program: Building a Collaborative Ecosystem

Challenges

- Fragmented data across CMOs limiting visibility
- Manual, time-consuming communication
- Delayed decisions due to lack of real-time collaboration
- Inconsistent data increasing Supply Chain risk

Solution

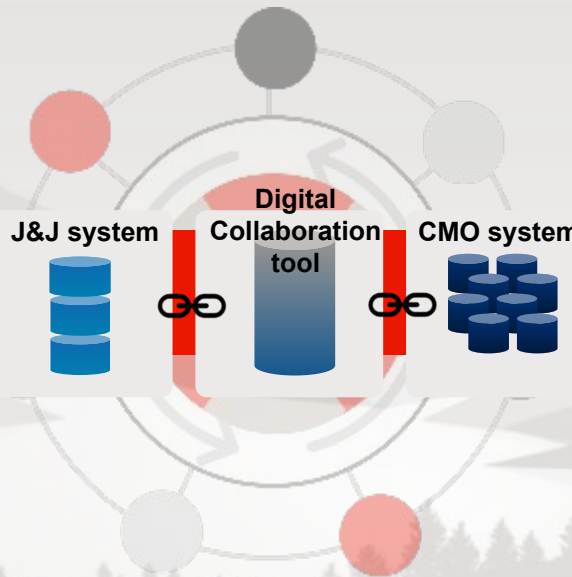
- Digital Collaboration Platform as single source of truth
- Platform connecting key SC and collaboration processes
- Real-time data sharing for transparency & agility
- Cross Functional multi-node connectivity

Impact

Productivity Gains

Broad scale Sites & Functionalities

Large scale coverage of Purchase Orders and End-Users

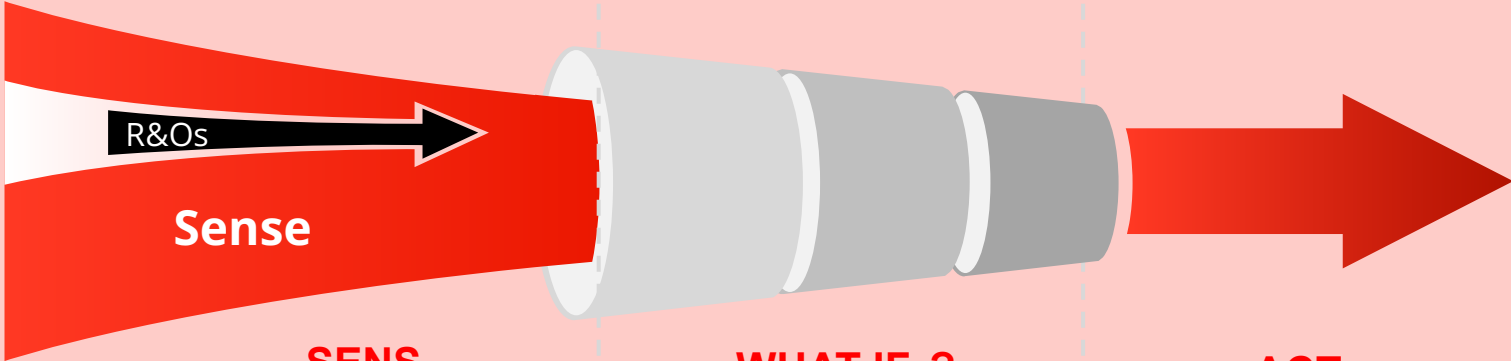


- Business continuity
- Harmonized workflows
- Transactional visibility
- Historical analysis
- Single source of truth
- Exception based collaboration
- Consistent data reporting

Enabling SC Response to IBP Risks & Opportunities

Enabling SC response through:

- IBP by exception: **Key brand R&Os, thresholds, materiality**
- System capabilities: **OMP, Anaplan, Digital & AI**
- Process **Governance**: Integrated to **Monthly Planning Cycle (MPC)** and part of **IBP forums decisions**



SENS
E
Quick assessment:
Can we support with our current inventory and capacity?


WHAT IF..?
Simulation in OMP:
What can we do to support if constrained?

ACT
Decisions through IBP:
Communicate, align and decide.


2024/2025

2026


2026/2027+



- ▣ **R&Rs alignment & process map**
- ▣ **Digital capabilities pilot**
- ▣ **OMP R&O solution live** (for digital tool)
- ▣ Change Management & Training strategy



- ▣ **Process training & deployment**
- ▣ Maximize current capabilities to advance response **in MPC cycle**: Test & Learn
- ▣ Value capture to evolve simulation **from OPR to SOP layer**



- ▣ Maximize use of **SOP layer/ scenario planning** for R&O response
- ▣ Minimized workload and agile insights through **AI technology**

Material Destruction Approval via E2E Control Tower

E2E Control Tower - SLOB

Filters Bookmarks Monthly Analysis Last Updated: 05/20/2025, 10:00:00 PM (Demand Month: 2025-08-4W01, Inventory Week: 2025-3D)

Selected Filters	SKU #/Description	Pre-SLOB Value	SLOB Status	Site	Batch
SKU	[Redacted]	[Redacted]	Open	[Redacted]	[Redacted]
SKU Number	[Redacted]	[Redacted]	Open	[Redacted]	[Redacted]
SKU Description	[Redacted]	[Redacted]	Open	[Redacted]	[Redacted]
BATCH	[Redacted]	[Redacted]	No SLOB	[Redacted]	[Redacted]



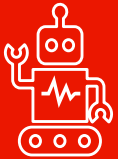
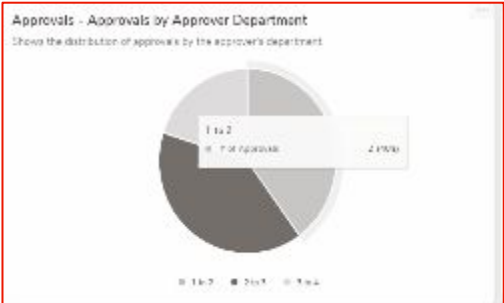
Batches are flagged for Destruction using the SLOB Tool in Control Tower

Preview Document

Finalize Document and send via DocuSign for Signature

Expires After N Days

New MDA Date	Date Created
08-07-2025	08-12-2025 04:37 PM
Approval Response Date	Days to Approval
Date Completed	Days from Approved to Complete
Total MDA Days	



The BOT determines, sorts and filters which batches need an MDA based on DC, value, brand and generates basic MDA approval list



QuickBase will generate dedicated PDF forms, that will be approved directly in Quick base. DCs and Sites will be informed that forms are ready to be used








Quickbase will store, report and monitor all the forms based on their status and generate measures for each site/brand on process performance (from approval to actual destruction)

Key learnings and success factors



Key Learnings and Success Factors

-  Secure ongoing **leadership support** for the long-term vision and strategy
-  **Value chain collaboration is key**, both cross-functional & beyond company borders
-  **Data, Data, Data** as our new currency and foundation for digital transformation
-  Prepare for **Planner of the Future** through Education, Experience and Exposure
-  Keep the system/digital roadmap in sync with **business process requirements**

Imagine the Planner of the Future - Orchestrate Data-Driven Biz Decisions

Thank you

The logo for Advanced Planning Transformation 2.0, featuring the letters 'A', 'P', and 'T' in a bold, white, sans-serif font. The 'P' is stylized with a white arrow pointing to the right, integrated into its vertical stem.

**Advanced
Planning
Transformation 2.0**

Johnson&Johnson

If you have more questions, please contact:
Jagy Patel
VP Demand & Supply Americas