

How to Use Production Reporting and Analytics to Improve Service Levels and Revenue Enablement

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SAPinsider
Las Vegas

2023

SAPinsider

In This Session....

We will discuss how to leverage the Production Planning toolkit available to us to enable revenue through improved throughput.

We will discuss:

- The value opportunity derived from standard SAP reports
- The prerequisites to effectively utilizing standard analysis tools
- How to utilize reports and analytics to hone-in on manufacturing inefficiencies and exceptions to promote continuous flow



What We'll Cover

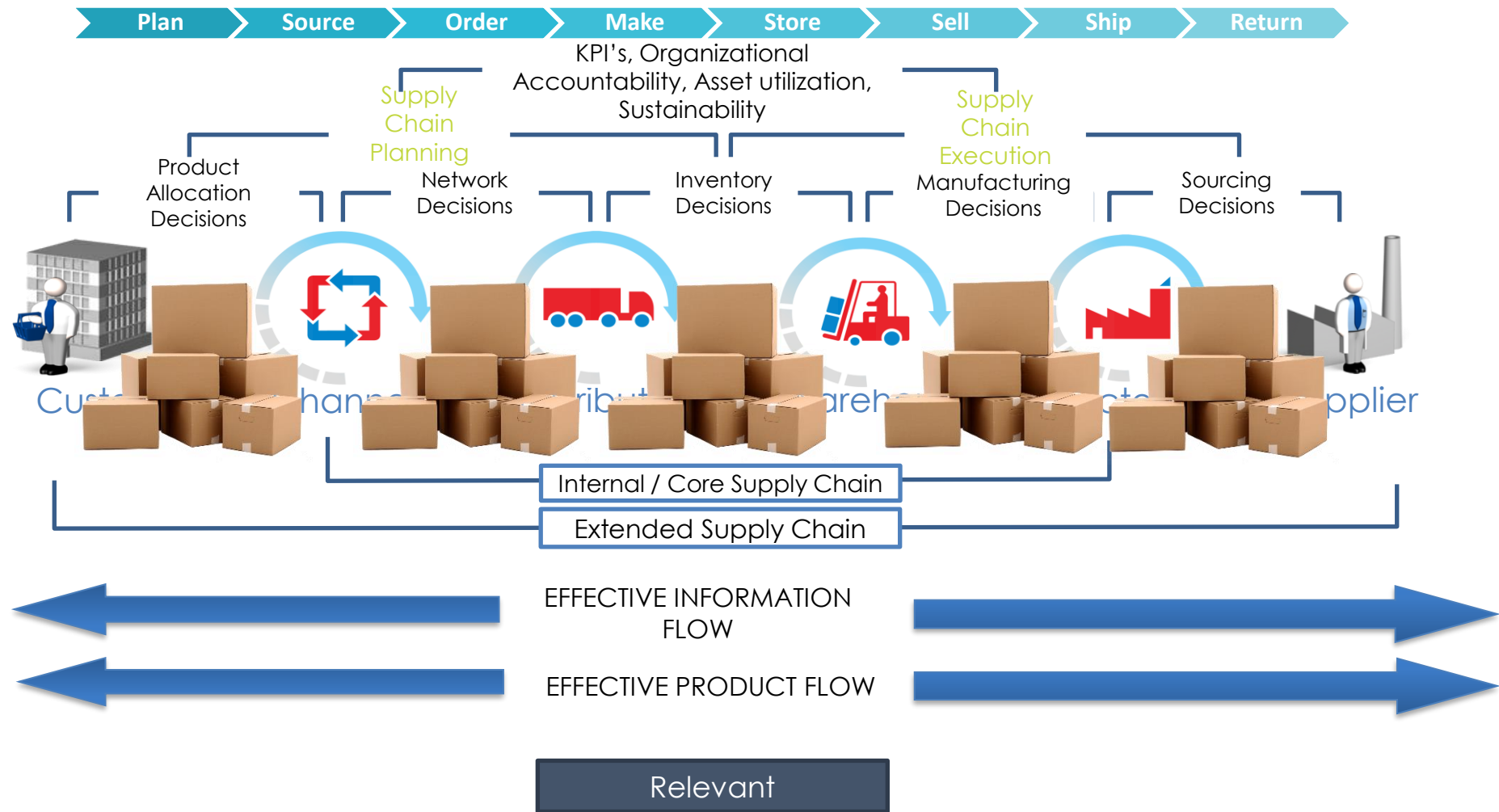
- Describe the relationship between visibility and proactive exception/alert management
- Explore the capacity planning and scheduling functionality available in standard SAP
- Discuss data requirements for quality reporting and analytics
- Highlight some of the reports that enable us to hone in on efficiencies



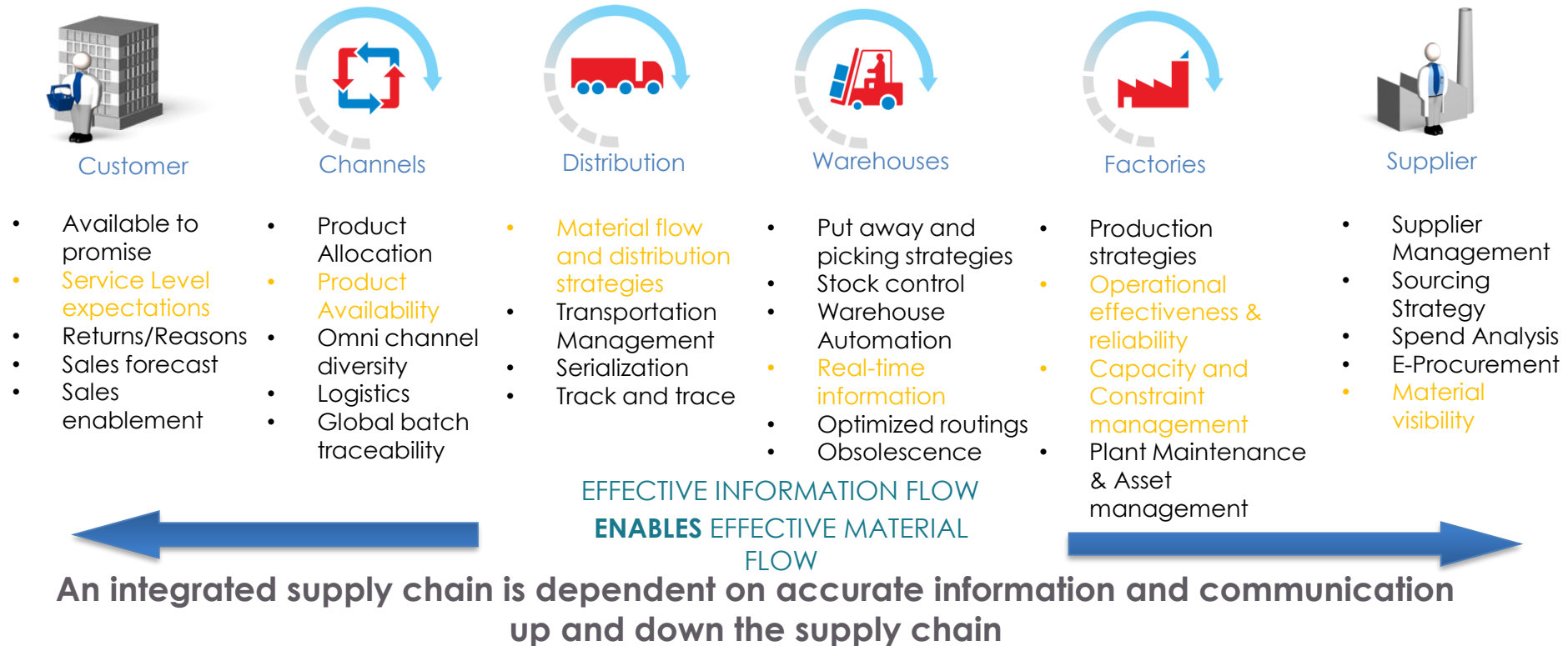
Topic 1

Describe the relationship
between visibility and
proactive exception/alert
management

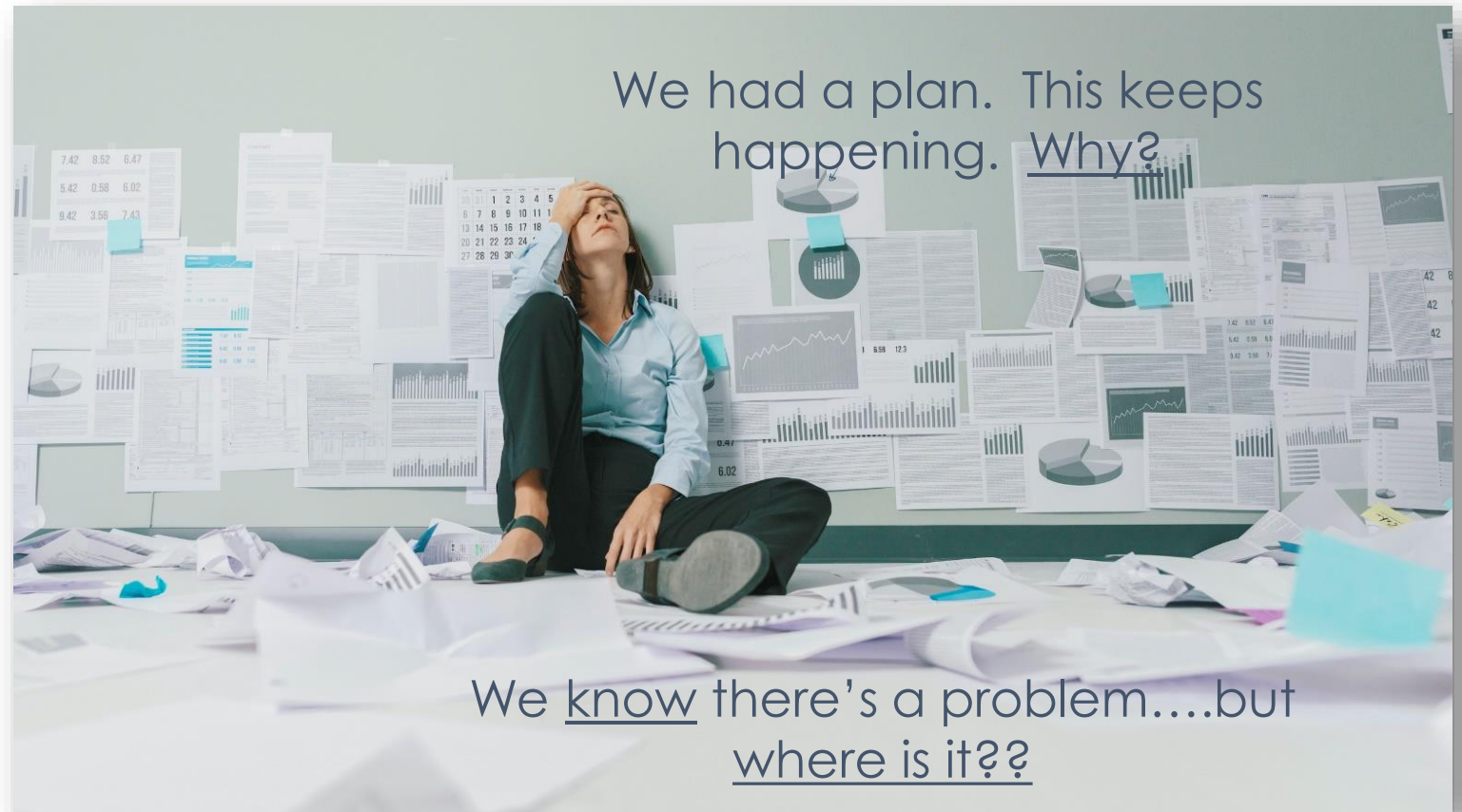
Modern Supply Chain: It's all about flow!



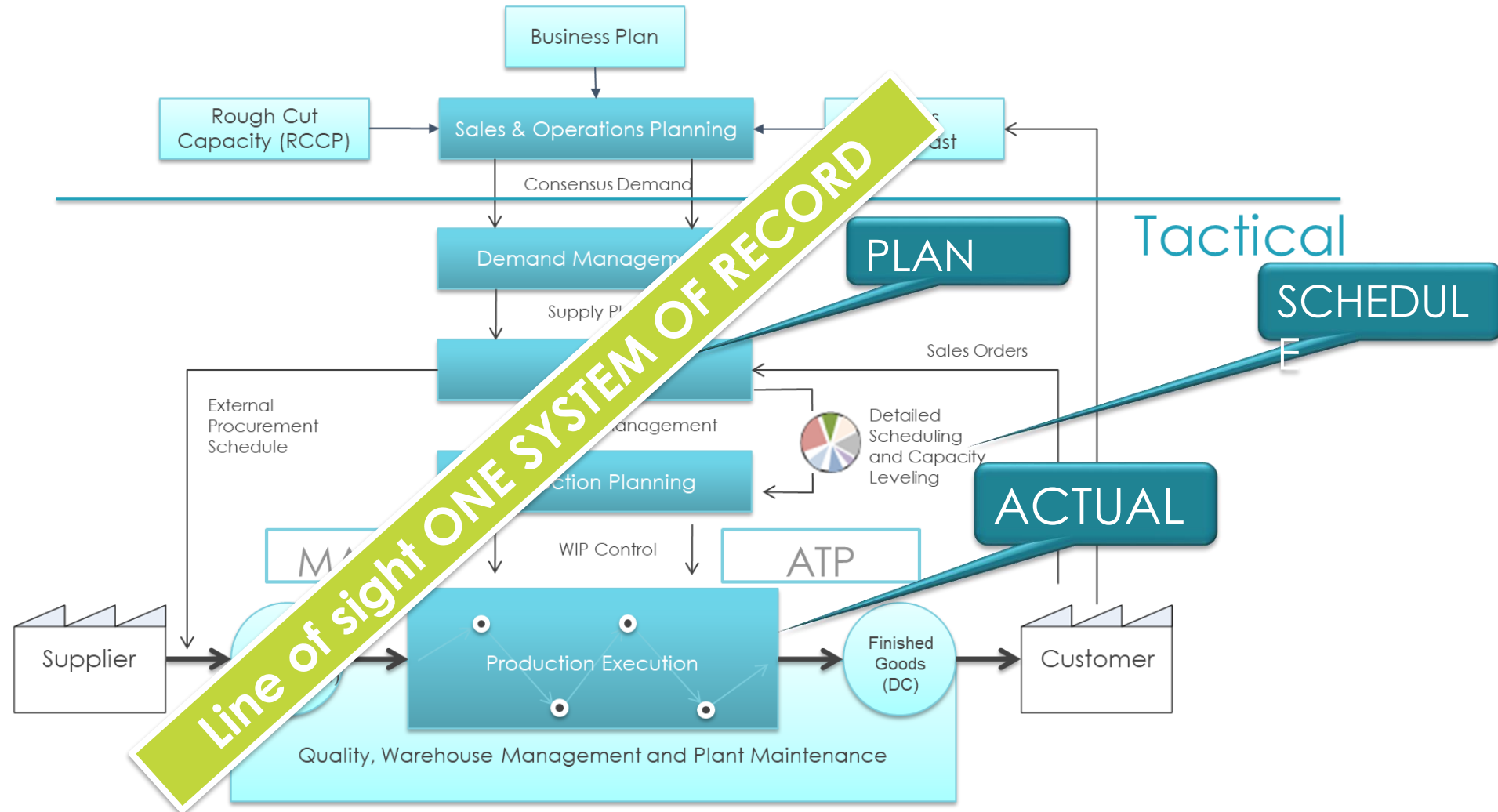
Integrated Information Flow Impacts the Quality of Decision Making



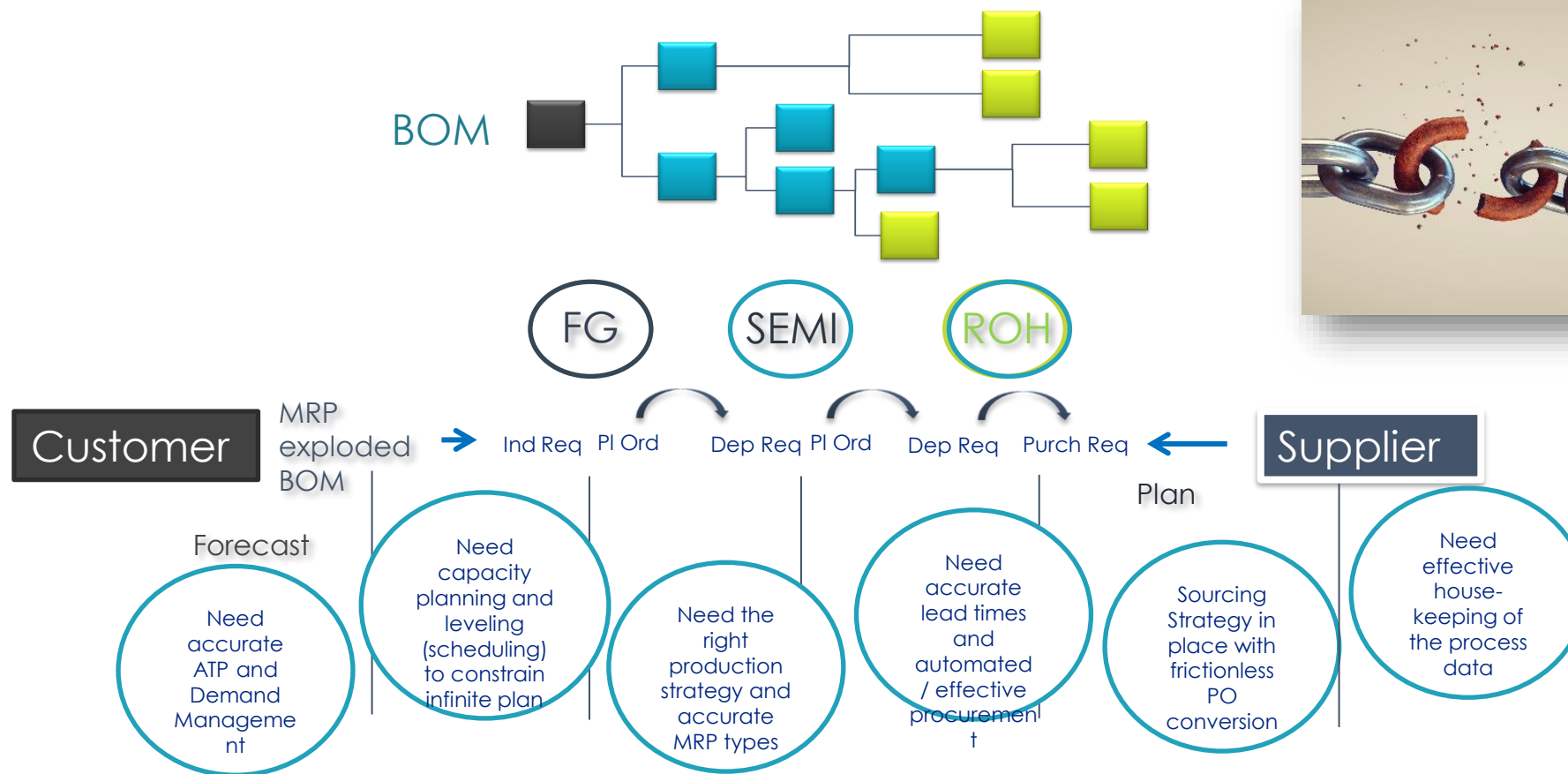
Harmonized Work - Disrupted...



Setting Our Intention, Aligning Actions



Understand the Integration Requirements



Topic 2

Explore the capacity
planning and
scheduling
functionality available
in standard SAP

The Struggle is Real:

Many of us are still in the throes of a non-recovery recovery

- Labor and Material Shortages
- Curtailed production
- Non bottleneck resources are the new bottlenecks
- Increased production inefficiencies
- Increased manufacturing lead-times and throughput time

Capacity Planning – Why do I need visibility?

- **Purpose:**

- Maintain a balance between Supply and Demand
- Provide vision and information across the supply chain
 - Provide realistic order ship/availability dates to customers
 - Improve decision making based on actual work center information
- Determine the best economic use of resources
 - Long term simulations for optimal use of labor and equipment
 - Capacity Plan feeds MRP
 - Procurement schedule derived from the Capacity Plan

- **Capacity Evaluation:**

- Available capacity and capacity requirements (load) are determined and compared with each other in lists or graphics.

- **Capacity Levelling (detailed scheduling):**

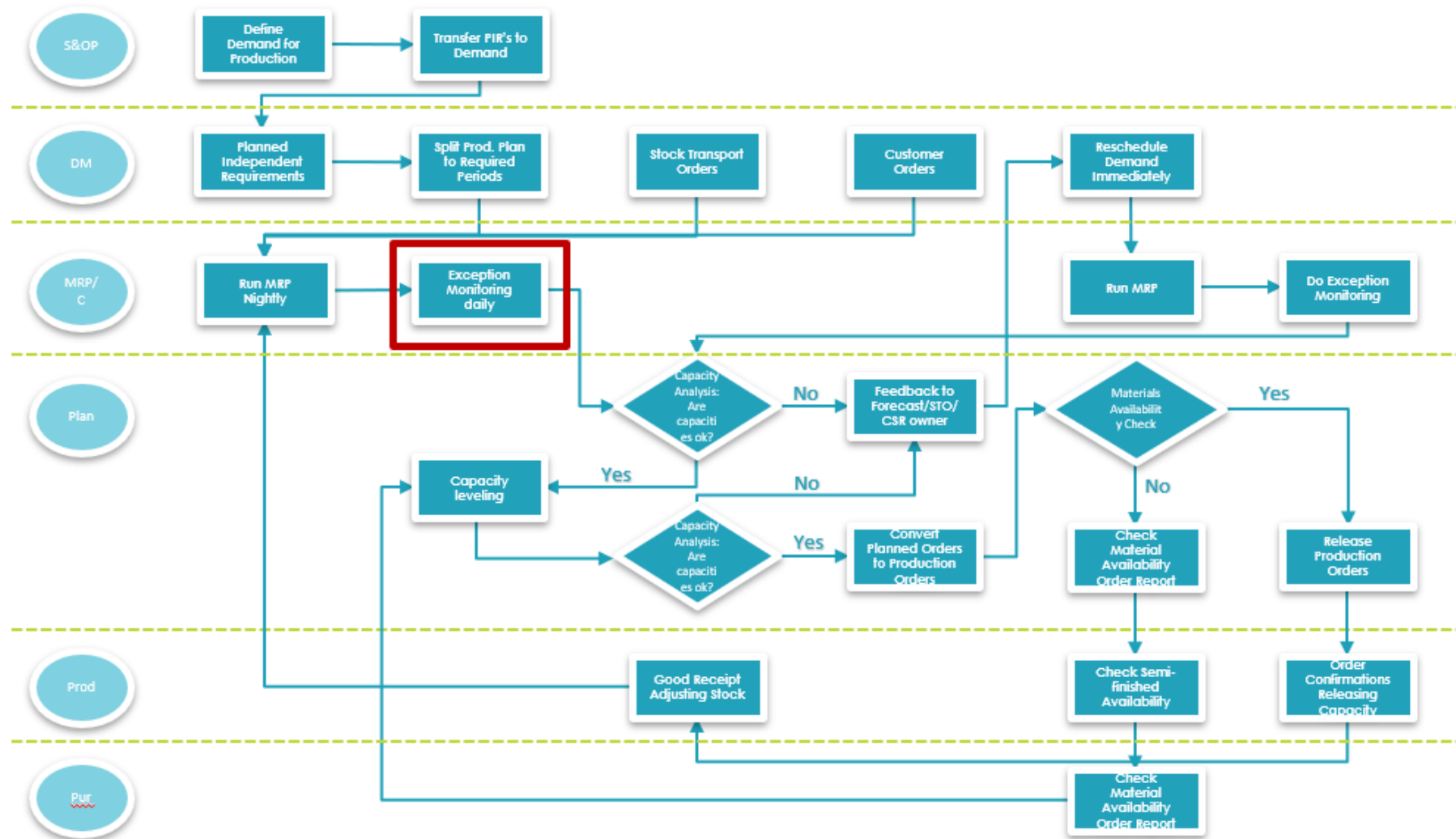
- Optimal capacity commitment via Finite Scheduling.
- Selection of appropriate resources.
- Interactive graphical detailed scheduling / dispatching.

- **Integration:**

- Capacity planning is integrated in the following applications:
 - Production Planning and Control
 - Sales & Operations Planning
 - RCCP
 - Long-term Planning
 - Shop Floor Control
 - REM, Discrete and Process manufacturing flows
 - Plant Maintenance



Supply Chain Process: Planning



Capacity Analysis

work center SOWING
Capacity cat.: 008

Plant USA4

Daily View

Day	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
07/07/2020	360.00	11.75	999 %	348.25	H
07/08/2020	0.00	11.75	0 %	11.75	H
07/09/2020	0.00	11.75	0 %	11.75	H
07/10/2020	0.00	11.75	0 %	11.75	H
07/11/2020	0.00	0.00	0 %	0.00	H
07/12/2020	0.00	0.00	0 %	0.00	H
07/13/2020	0.00	11.75	0 %	11.75	H
07/14/2020	0.00	11.75	0 %	11.75	H
07/15/2020	0.00	11.75	0 %	11.75	H
07/16/2020	0.00	11.75	0 %	11.75	H
07/17/2020	0.00	11.75	0 %	11.75	H
07/18/2020	0.00	0.00	0 %	0.00	H
07/19/2020	0.00	0.00	0 %	0.00	H
07/20/2020	2,304.00	11.75	999 %	2,292.25	H
07/21/2020	2,304.00	11.75	999 %	2,292.25	H
Total >>>	4,968.00	129.25	999 %	4,838.75	H

work center YLDEST
Capacity cat.: 008

Plant USA4

Overload Report

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
28/2020	360.00	47.00	766 %	313.00	H
30/2020	11,520.00	58.75	999 %	11,461.25	H

work center YLDEST
Capacity cat.: 008

YIELD_USA4
Processing unit

Plant USA4

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
34/2020	216.00	58.75	368 %	157.25	H

work center
Capacity cat.:

Plant USA4

Long Term View

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
28/2020	360.00	47.00	766 %	313.00	H
29/2020	0.00	58.75	0 %	58.75	H
30/2020	11,520.00	58.75	999 %	11,461.25	H
31/2020	0.00	58.75	0 %	58.75	H
32/2020	0.00	58.75	0 %	58.75	H
33/2020	0.00	58.75	0 %	58.75	H
34/2020	0.00	58.75	0 %	58.75	H
35/2020	0.00	58.75	0 %	58.75	H
36/2020	0.00	58.75	0 %	58.75	H
37/2020	0.00	47.00	0 %	47.00	H
38/2020	0.00	58.75	0 %	58.75	H
39/2020	0.00	58.75	0 %	58.75	H
40/2020	0.00	58.75	0 %	58.75	H
41/2020	0.00	58.75	0 %	58.75	H
42/2020	0.00	47.00	0 %	47.00	H
43/2020	0.00	58.75	0 %	58.75	H
44/2020	0.00	58.75	0 %	58.75	H
45/2020	0.00	58.75	0 %	58.75	H
46/2020	0.00	47.00	0 %	47.00	H
47/2020	0.00	58.75	0 %	58.75	H
48/2020	0.00	35.25	0 %	35.25	H
49/2020	0.00	58.75	0 %	58.75	H
50/2020	0.00	58.75	0 %	58.75	H
51/2020	0.00	58.75	0 %	58.75	H
52/2020	0.00	47.00	0 %	47.00	H
53/2020	0.00	47.00	0 %	47.00	H
Total >>>	11,880.00	1,433.50	829 %	10,446.50	H

work center
Capacity cat.:

Plant USA4

Lead time View

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
28/2020	360.00	47.00	766 %	313.00	H
29/2020	360.00	105.75	340 %	254.25	H
30/2020	11,880.00	164.50	999 %	11,715.50	H
31/2020	11,880.00	223.25	999 %	11,656.75	H
32/2020	11,880.00	282.00	999 %	11,598.00	H
33/2020	11,880.00	340.75	999 %	11,539.25	H
34/2020	11,880.00	399.50	999 %	11,480.50	H
35/2020	11,880.00	458.25	999 %	11,421.75	H
36/2020	11,880.00	517.00	999 %	11,363.00	H
37/2020	11,880.00	564.00	999 %	11,316.00	H
38/2020	11,880.00	622.75	999 %	11,257.25	H
39/2020	11,880.00	681.50	999 %	11,198.50	H
40/2020	11,880.00	740.25	999 %	11,139.75	H
41/2020	11,880.00	799.00	999 %	11,081.00	H
42/2020	11,880.00	846.00	999 %	11,034.00	H
43/2020	11,880.00	904.75	999 %	10,975.25	H
44/2020	11,880.00	963.50	999 %	10,916.50	H
45/2020	11,880.00	1,022.25	999 %	10,857.75	H
46/2020	11,880.00	1,069.25	999 %	10,810.75	H
47/2020	11,880.00	1,128.00	999 %	10,752.00	H
48/2020	11,880.00	1,163.25	999 %	10,716.75	H
49/2020	11,880.00	1,222.00	972 %	10,658.00	H
50/2020	11,880.00	1,280.75	928 %	10,599.25	H
51/2020	11,880.00	1,339.50	887 %	10,540.50	H
52/2020	11,880.00	1,386.50	857 %	10,493.50	H
53/2020	11,880.00	1,433.50	829 %	10,446.50	H
Total >>>	11,880.00	1,433.50	829 %	10,446.50	H

S/4HANA

Capacity Availability

Order X00000000001 Cat. PP10 Plant 1105
Material 25
MRP controller 101
System status REL MSPT MANC SETC

Operation 0010
Capacity confirmed
Work center TURB01 Turbine Work Center 1
Capacity category 001 Machine Load threshold 105 %

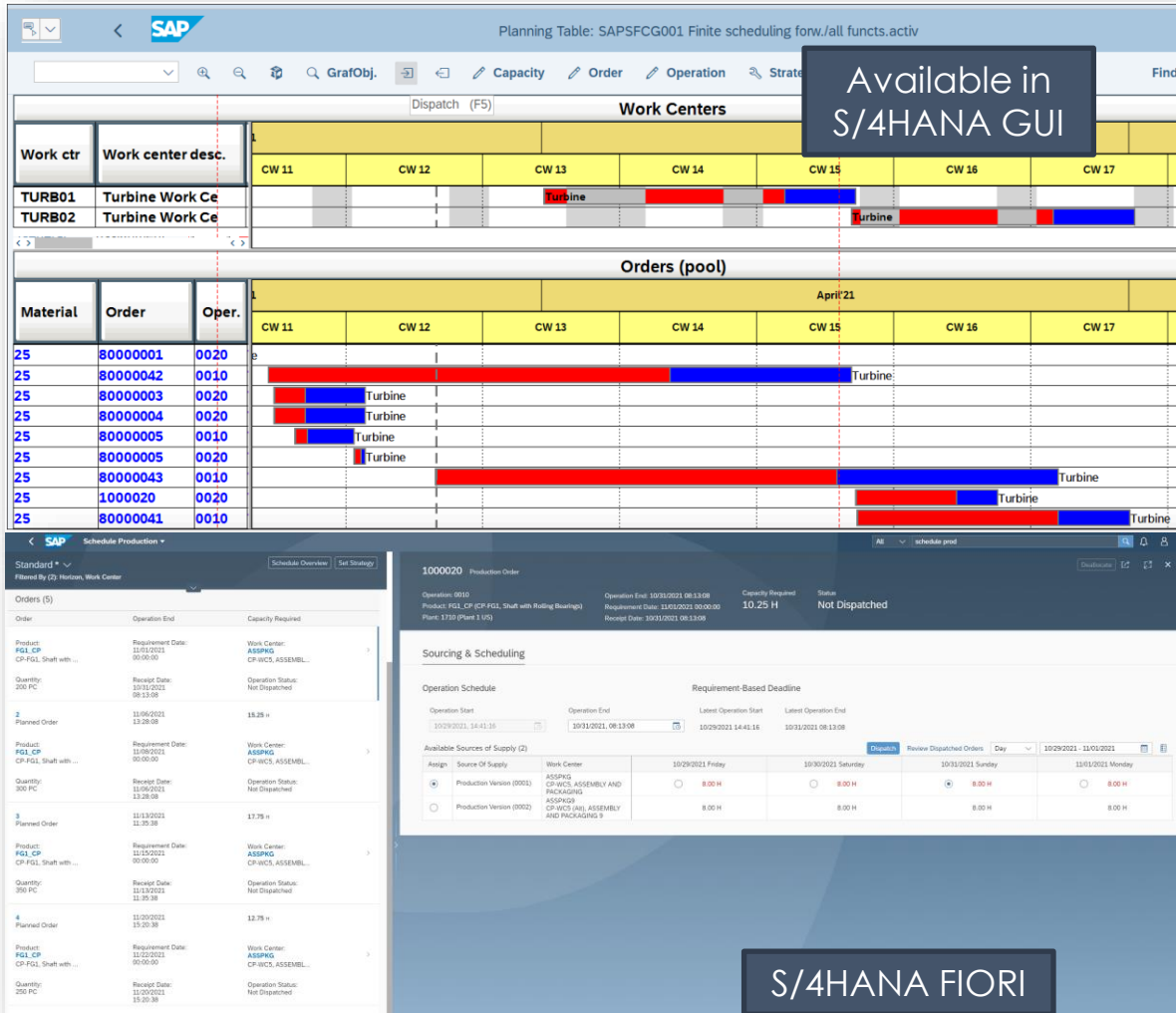
Period	Availability	Requirements	Rqmts.order	CapLoad	Un.
11.2021	120.00	140.18	47.55	116.8 %	HR
12.2021	120.00	131.00	118.88	109.2 %	HR
13.2021	96.00	95.10	95.10	99.1 %	HR
14.2021	96.00	95.10	95.10	99.1 %	HR
15.2021	120.00	118.88	118.88	99.1 %	HR

Operation 0020
Capacity confirmed
Work center TURB02 Turbine Work Center 2
Capacity category 001 Machine Load threshold 105 %

Period	Availability	Requirements	Rqmts.order	CapLoad	Un.
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Adopt Confirm All Confirm None All Fin. Scheduling Application Help

Scheduling and Shop Floor Execution



- The objectives of capacity leveling include:
 - Leveling overloads and underloads at work centers
 - Achieving optimum commitment of machines and production lines
 - Selection of appropriate resources
- The benefits of production scheduling include:
 - Accurate Material Availability Checking**
 - Accurate Sales order ATP**
 - Accurate delivery date quotes**
 - Process change-over reduction
 - Inventory reduction, leveling
 - Increased production efficiency
 - Labor load leveling
 - Real-time information
 - Staged material availability to the shop floor

Missing Parts Report

Missing Parts Information System shows a collective view per plant

Material	Plant	M.	ReqmtDate	Reqmts qty	Committed quantity	BU	StLc	Order	Reservation	Item
10122712	USA4	A40	07/20/2020	158.760	90.720	KG	0040	150349570	30155396	5
10122712				158.760	90.720	KG				
10122952	USA4	A40	07/20/2020	317.520	204.120	KG	0040	150349555	30155381	5
10122952				317.520	204.120	KG				
10403903	USA4	A40	07/20/2020	703.080	521.640	KG	0040	150350827	30235702	4
10403903				703.080	521.640	KG				
10403904	USA4	A40	07/20/2020	294.840	158.760	KG	0040	150344598	29097970	4
10403904				294.840	158.760	KG				
10404713	USA4	A40	07/20/2020	294.840	272.160	KG	0040	150349535	30155361	5
10404713				294.840	272.160	KG				
10404726	USA4	A40	07/20/2020	272.160	204.120	KG	0040	150349562	30155388	1
10404726				272.160	204.120	KG				
10409539	USA4	A40	07/20/2020	521.640	408.240	KG	0040	150350827	30235702	6
10409539				521.640	408.240	KG				
10409619	USA4	A40	07/20/2020	362.880	340.200	KG	0040	150349549	30155374	5
10409619				362.880	340.200	KG				
10410450	USA4	A40	07/20/2020	453.600	408.240	KG	0040	150344614	29098586	4
10410450				453.600	408.240	KG				
10410538	USA4	A40	07/20/2020	430.920	204.120	KG	0040	150349529	30155294	6
10410538				430.920	204.120	KG				
10410659	USA4	A40	07/20/2020	907.200	884.520	KG	0040	150349527	30155292	4
10410659				907.200	884.520	KG				
10451681	USA4	A40	07/20/2020	453.600	317.520	KG	0040	150349560	30155386	6
10451681				453.600	317.520	KG				
10460792	USA4	A40	07/20/2020	90.720	68.040	KG	0040	150344574	29097966	5
10460792				90.720	68.040	KG				
10463425	USA4	A40	07/20/2020	317.520	294.840	KG	0040	150349527	30155292	5
10463425				317.520	294.840	KG				
10470261	USA4	A40	07/20/2020	181.440	68.040	KG	0040	150344604	29097976	4

Collective Availability Check: Order View												
Order Missing parts Order Order												
A	Plnd order	RC	CFc	%	DDf	Order quantity	Committed quantity	Unit	Order start	Order finish	Commitment	TAC Material
	2010474109	02	75	%	999	110,472.600	82,478.778	KG	02/22/2021	02/27/2021	99/99/9999	2 1 5181162
	2009935346	01	10	%	0	2,880.726	2,880.726	KG		03/03/2021	03/03/2021	3 1 5106610
	2010474106	02	0	%	999	2,539.600	0.000	KG		02/23/2021	99/99/9999	1 1 5181162
	2010474110	02	0	%	999	78,727.600	0.000	KG		02/26/2021	99/99/9999	1 1 5181162
	2010474098	01	10	%	0	325,703.700	325,703.700	KG		02/22/2021	02/22/2021	3 1 5181149
	2010474099	01	10	%	0	1,632.600	1,632.600	KG		02/22/2021	02/22/2021	3 1 5181149
	2010474100	01	10	%	0	816.300	816.300	KG		02/22/2021	02/22/2021	3 1 5181149
	2010474105	02	0	%	999	76,822.900	0.000	KG		02/26/2021	99/99/9999	1 1 5181162
	2010474107	02	0	%	999	34,919.800	0.000	KG		02/24/2021	99/99/9999	1 1 5181162
	2010474102	02	0	%	999	3,544,086.50	0.000	KG		07/14/2021	99/99/9999	1 1 5181162
	2009562402	01	10	%	0	4,050.000	4,050.000	KG		02/22/2021	02/22/2021	3 1 5173923
	2010300298	02	0	%	999	498.952						
	10463425											
	USA4	A40	07/20/2020									

MDVP Allows for Proactive Material Evaluation AND Reallocation of Material to Priority Orders

Topic 3

Discuss data
requirements for quality
reporting and analytics

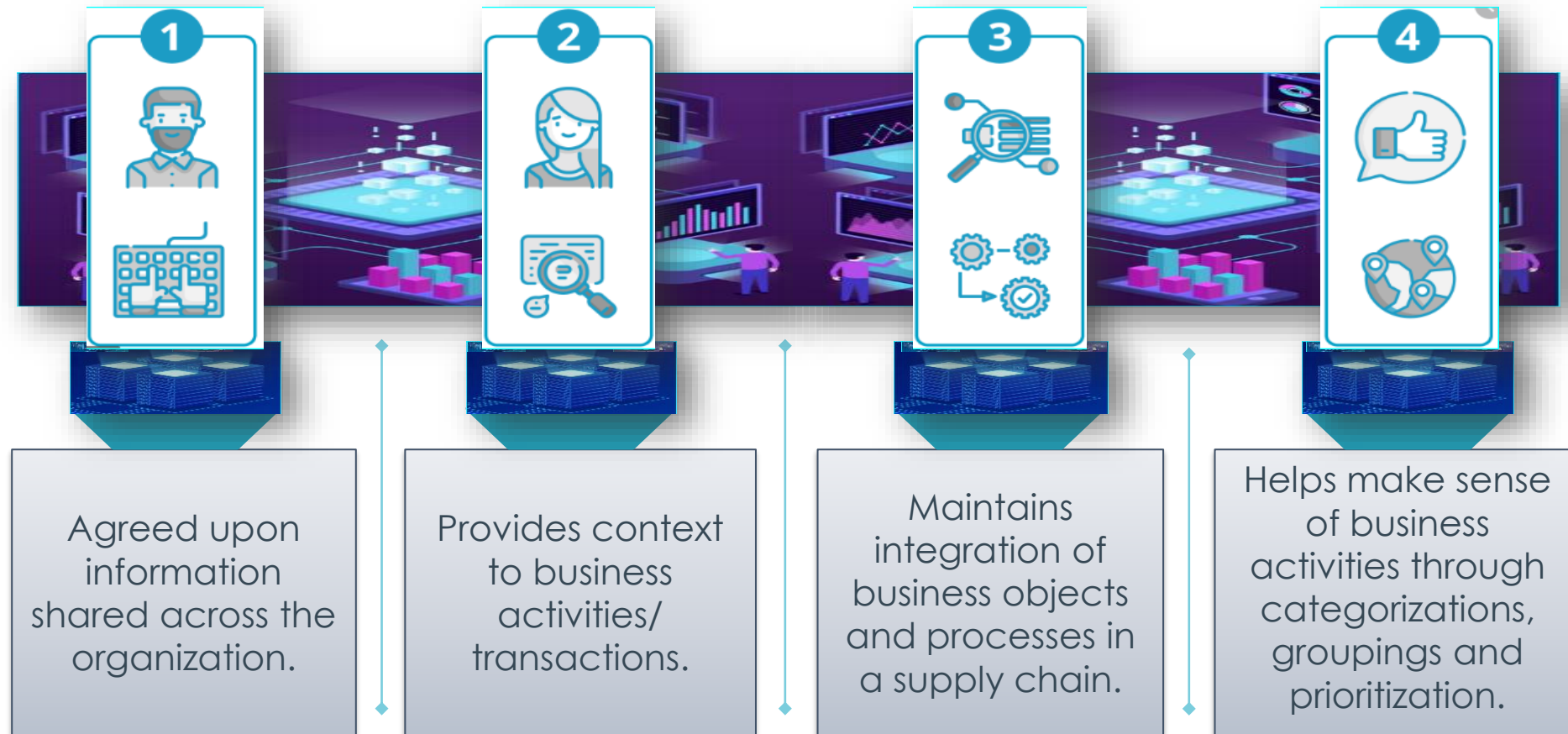


Year	Population	Population	Population	Population	Population
2000	100	100	100	100	100
2001	100	100	100	100	100
2002	100	100	100	100	100
2003	100	100	100	100	100
2004	100	100	100	100	100
2005	100	100	100	100	100
2006	100	100	100	100	100
2007	100	100	100	100	100
2008	100	100	100	100	100
2009	100	100	100	100	100
2010	100	100	100	100	100
2011	100	100	100	100	100
2012	100	100	100	100	100
2013	100	100	100	100	100
2014	100	100	100	100	100
2015	100	100	100	100	100
2016	100	100	100	100	100
2017	100	100	100	100	100
2018	100	100	100	100	100
2019	100	100	100	100	100
2020	100	100	100	100	100

[illegible]

Must accurately play its role in an end-to-end supply chain

Quality Master Data



Success Factors in PP Master Data

- **Impact of Accuracy:** Inaccurate data leads to a lack of purpose and becomes unused or unusable.
- **Impact of Validity:** Invalid data and you lose an important planning and decision-making tool. Validity must be derived from the process and not its outcome. Fix the process and the outcome is guaranteed!!
- **Impact of Relevance:** Data that is not relevant loses its importance.
- **Impact of Consistency:** Inconsistent data invariably leads to misaligned results. Accuracy standards must always be maintained.



- **Impact of Timeliness:** Data not received at the right time can't be used efficiently and becomes an inadequate source of information.
- **Impact of Completeness:** Missing or incomplete processes result in work-arounds. Development of unnecessary enhancements, negatively impacts understandability etc.
- **Impact of Reliability:** Robust data is predictable, insightful, powerful and a potential candidate for automation.

It is virtually impossible to manage any process that you cannot measure. The quality of what you measure is the key to a successful outcome.

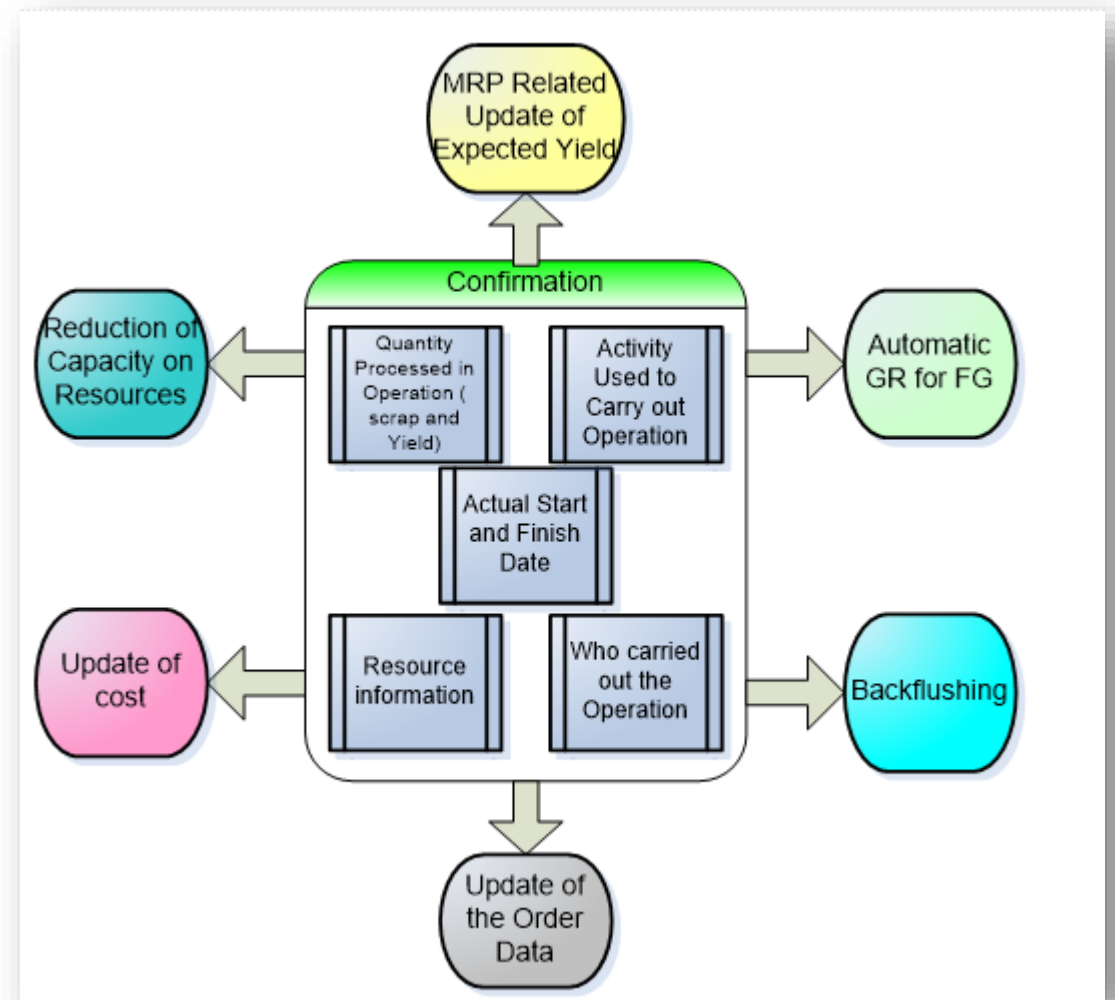
Shop Floor Control

Planning attends to the following functions:

- Planned orders
- Conversion of planned orders to process/production orders
- Production and process order scheduling
- Capacity requirements planning
- Material availability assessment
- Release of production/process orders

Shop floor control attends to the following functions:

- Material withdrawals
- Order confirmations
- Goods receipt documentation
- Order settlement/reconciliation



Work Center Capacity with Real Time Reporting

Work center		CPC0701		Rack CPC0701		Pl	
Capacity cat.: 001				MACHINE			
Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit		
<input type="checkbox"/> 39	1,953.65	1,919.98	102 %	33.67-	H		
<input type="checkbox"/> 40	3,523.14	4,799.94	73 %	1,276.81	H		
<input type="checkbox"/> 41	3,714.06	4,799.94	77 %	1,085.89	H		
<input type="checkbox"/> 42	6,112.54	4,799.94	127 %	1,312.60-	H		
<input type="checkbox"/> 43	973.93	4,799.94	20 %	3,826.02	H		
<input type="checkbox"/> 44	2,439.45	4,799.94	51 %	2,360.49	H		
<input type="checkbox"/> 45	1,196.54	4,799.94	25 %	3,603.41	H		
<input type="checkbox"/> 46	2,105.53	4,799.94	44 %	2,694.41	H		
<input type="checkbox"/> 47	3,469.03	4,799.94	72 %	1,330.92	H		
<input type="checkbox"/> 48	1,780.89	2,879.97	62 %	1,099.07	H		
Total >>>	27,268.75	43,199.50	63 %	15,930.75	H		

Week	P	LatestStrt	LtStExec	Material	Material description	MRP	Order	PgRqmtQty	Conf. qty	Scrap	Stat	Overall order status
Total									1,429 EA	0 EA		
39		09/21	00:12:00	138988BRB	SPOUT, BRB	S90	100091828	99 EA	0 EA	0 EA	CRTD	CRTD MSPT PRC SETC
39		09/21	11:34:00	138988SRS	SPOUT SRS	S98	100091615	840 EA	832 EA	0 EA	REL	REL PRT PCNF PRC
39		09/22	00:37:00	138988SRS	SPOUT SRS	S98	100091861	899 EA	573 EA	0 EA	REL	REL PRT PCNF PRC
39		09/23	23:16:10	176627NMBL	TRANS SPT BODY, SOAP DISP NM BL	S91	100092227	25 EA	24 EA	0 EA	REL	REL PRT PCNF PRC
39		09/24	04:43:24	138988SRS	SPOUT SRS	S98	100092478	899 EA	0 EA	0 EA	REL	REL PRT PRC MACM
39		09/24	18:16:31	138988BRB	SPOUT, BRB	S90		337 EA		0 EA	X	
39		09/24	21:57:28	169931BZ	SPOUT BODY, TRADITIONAL SOAP	SA2		25 EA		0 EA		
39		09/25	12:43:01	138988BRB	SPOUT, BRB	S90		840 EA		0 EA	X	
39		09/25	15:48:39	138988SRS	SPOUT SRS	S98		899 EA		0 EA	X	
39		09/25	21:40:44	176631BZ	TRAD SPT BODY, SOAP DISP BZ	S75		192 EA		0 EA	X	

The Future with Fiori

Master Data issues

SAP Display MRP Master Data Issues

Standard *
No Filter

Issues (44)

Material	Plant	MRP Area	Issue	Category	Source	MRP Controller	Accepted	Accepted By	Date/Time Accepted
Cable high current 10 kV	Demo Manufacturing Plant	Manufacturing 1105	No valid production version found; order explosion not possible	BOM Explosion Issue (B)	MRP Live on MRPVA (H)	Discrete Industry (00)	No		
Cable high current 10 kV	Demo Manufacturing Plant	Manufacturing 1105	No valid BOM for top-level material	BOM Explosion Issue (B)	MRP Live on MRPVA (H)	Discrete Industry (00)	No		
Water Turbine	Demo Manufacturing Plant	Manufacturing 1105	Scheduling error occurred, check master data of plan	Scheduling Issue (T)	Classic MRP (A)	Discrete Industry (00)	No		
Water Turbine	Demo Manufacturing Plant	Manufacturing 1105	Successfully planned	Information (I)	Classic MRP (A)	Discrete Industry (00)	No		

Material Coverage

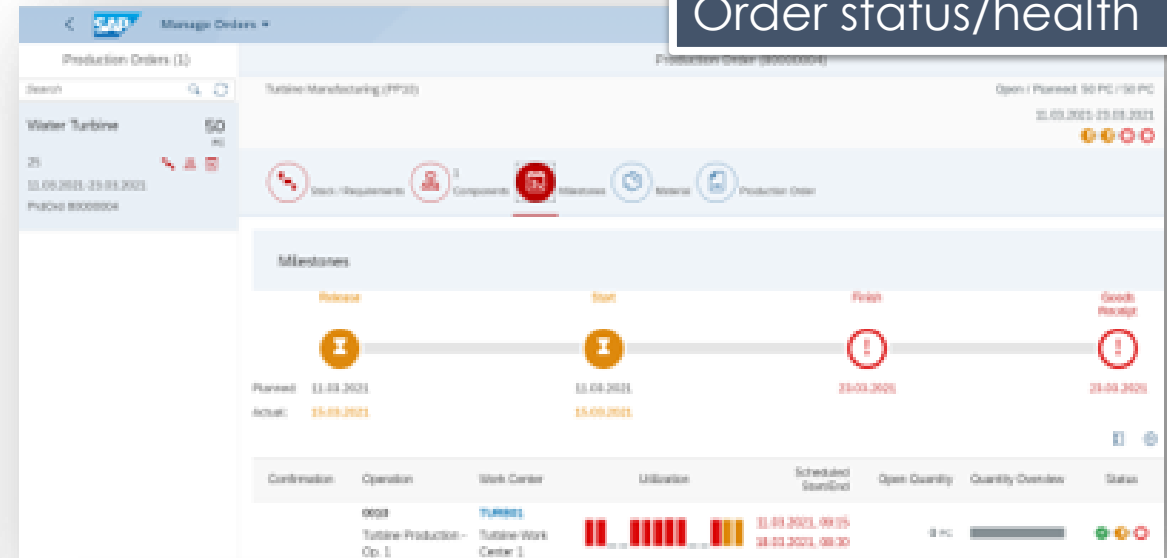
SAP Monitor Material Coverage

Standard *
MRP Standard

Materials (25)

Material Number	Material Description	Vendor Name	Vendor	Planned Shortage On	Shortage Quantity	Stock Availability
25	Water Turbine			25.01.2021	895 PC	Green
34	Cable high current 10 kV			01.01.2021	8,288 m	Green
35	Control unit (jack)			24.03.2021	481 PC	Green
38	Generator			26.03.2021	3,613 m	Red
321	PP05_Material_Planning			01.04.2021	188 (A)	Red
328	Steam Turbine			01.04.2021	40 PC	Red
502	Karbon RM	ABC	9000100000	06.04.2021	3,345 m	Red
20	Lubrication unit			06.04.2021	21 PC	Green
504	Raw Material_Vocofiber	ABC	9000100000	10.04.2021	890 m	Red

Order status/health



Operation status

SAP Manage Production Operations

Standard *

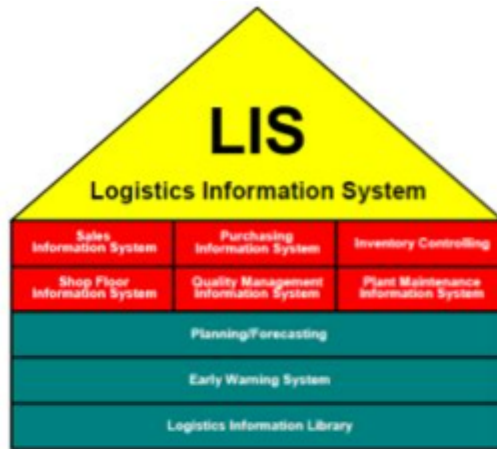
Operations (8)

Order	Material	Work Center	Operation/Progress	Status	Start	End	Issues
80000004	25	TUR001	Mechanics work centre (0010)	Partially Confirmed	Sat, Apr 10, 2021 00:00	Sat, Apr 10, 2021 08:00	
800000	25	TUR001	Mechanics work centre (0010)	Partially Confirmed	Tue, Dec 31, 2020 02:02	Tue, Dec 31, 2020 02:02	
80000187	113	PP00C	Production Eng. & Operations Work Cn.	Released	Tue, Jun 22, 2021 07:00	Wed, Jun 23, 2021 00:00	
80000002	26	TUR003	Turb03 (0000)	Released	Wed, May 26, 2021 17:00	Tue, Jul 13, 2021 00:00	
80000002	26	TUR002	Turb02 (0000)	Released	Tue, Apr 26, 2021 15:00	Wed, May 26, 2021 17:00	
80000002	25	TUR001	Mechanics work centre (0010)	Released	Mon, Apr 12, 2021 08:00	Tue, Apr 20, 2021 15:00	

Topic 4

- Highlight some of the reports that enable us to hone in on efficiencies

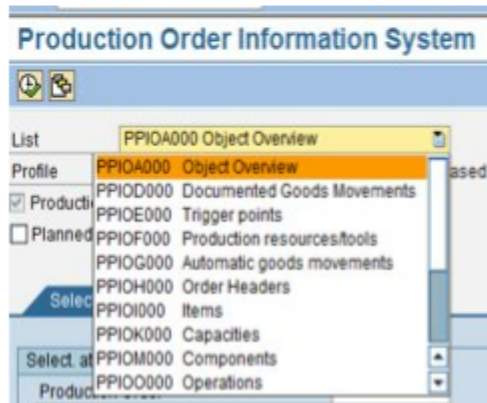
Different Types of Reporting



The LIS Reports contain summarized historical data that has been populated into “info structures” containing:

- Characteristics
- Key Figures
- Time unit

LIS Reports on historical production orders






COOIS reports at the field level of Production Orders. Any object within the Production Order can be reported on:

- Order Header
- Order Operations
- Confirmations
- Goods Movements

COOIS reports on historical and current production orders



Discrete Work Centers Plan Vs Actual

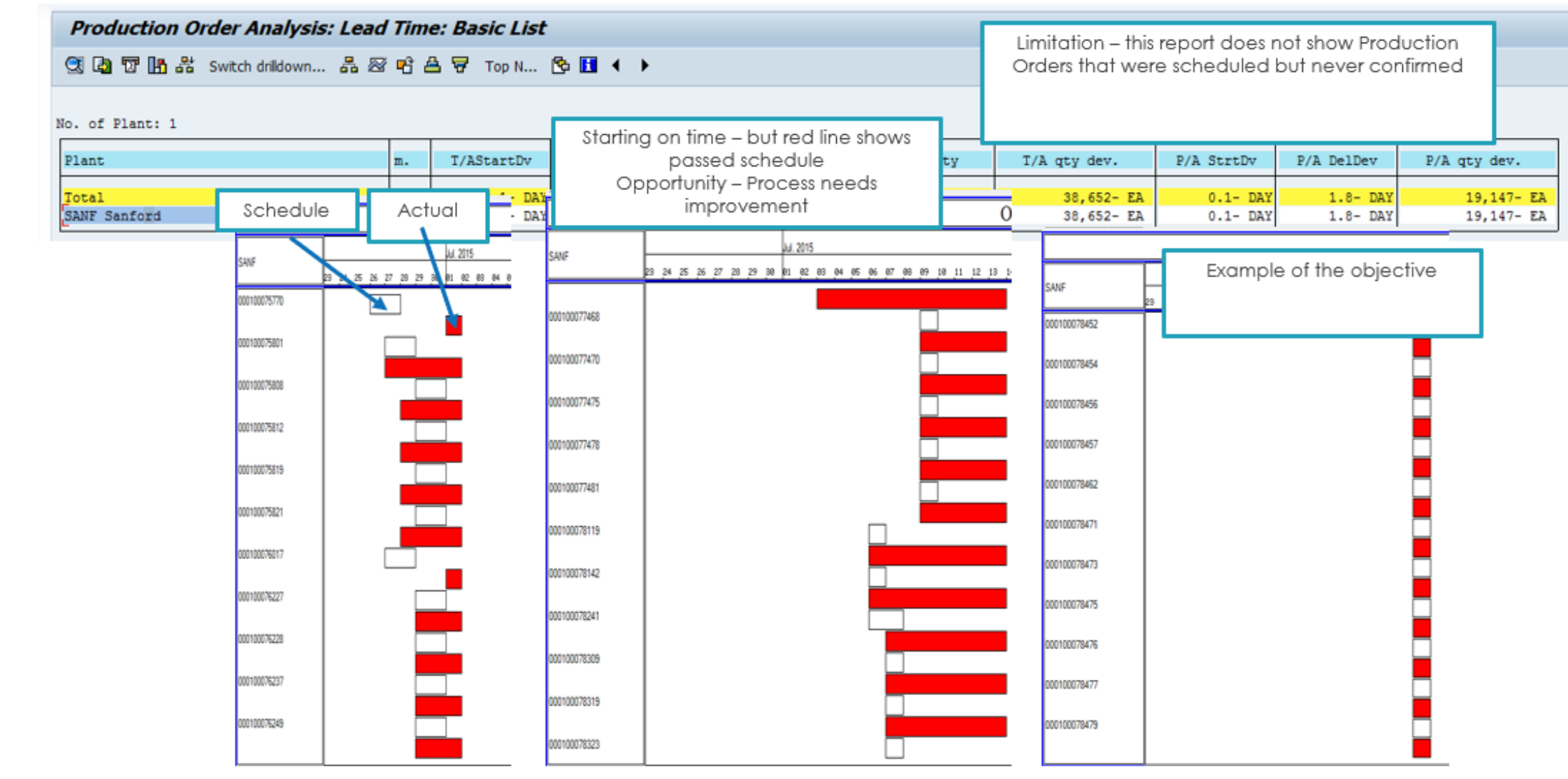
Production Order Analysis: Lead Time: Drilldown										
 Switch drilldown...  Top N... 										
No. of Date: 50										
Date	TgtLeadTm.	ActLeadTm.	T/A StartDv	T/A DelDev	Item quantity	GR quantity	T/A qty dev.	P/A StrtDv	P/A DelDev	P/A qty dev.
Total	1 DAY	1.1 DAY	0.2- DAY	0.3- DAY	122,918 EA	121,882 EA	1,036- EA	0.2- DAY	0.3- DAY	1,085- EA
07/13	1 DAY	1 DAY			2,590 EA	2,466 EA	124- EA	0 DAY	0.1 DAY	124- EA
07/14	1 DAY	1 DAY			2,149 EA	2,147 EA	2- EA	0.2- DAY	0.2- DAY	2- EA
07/15	1.1 DAY	1.2 DAY			2,633 EA	2,627 EA	6- EA	0.4- DAY	0.4- DAY	6- EA
07/16	1.2 DAY	1.1 DAY			2,037 EA	2,016 EA	21- EA	0.1- DAY	0 DAY	21- EA
07/17	1.2 DAY	1.1 DAY			2,361 EA	2,332 EA	29- EA	0.3- DAY	0.1- DAY	29- EA
07/18	1 DAY	1 DAY			156 EA	156 EA	0 EA	1- DAY	1- DAY	0 EA
07/20	1 DAY	1 DAY	0.1 DAY	0.2 DAY	2,079 EA	2,079 EA	0 EA	0.2- DAY	0.2 DAY	0 EA
07/21	1.1 DAY	1.1 DAY	0.3 DAY	0.2 DAY	2,651 EA	2,651 EA	0 EA	0.1- DAY	0.2 DAY	0 EA
07/22	1 DAY	1.1 DAY	0 DAY	0 DAY	2,382 EA	2,382 EA	0 EA	0.1- DAY	0 DAY	0 EA
07/23	1 DAY	1 DAY	0.1- DAY	0.2- DAY	2,001 EA	2,001 EA	0 EA	0.1- DAY	0.2- DAY	0 EA
07/24	1 DAY	1 DAY	0.1- DAY	0.2- DAY	3,198 EA	3,167 EA	31- EA	0.1- DAY	0.2- DAY	31- EA
07/25		1.2 DAY	0.8- DAY	1- DAY	555 EA	540 EA	6- EA	0.8- DAY	1- DAY	6- EA
07/27		1.1 DAY	0.1- DAY	0.2- DAY			0 EA	0.1- DAY	0.2- DAY	0 EA
07/28		1.1 DAY	0.1- DAY	0.2- DAY			3- EA	0.1- DAY	0.2- DAY	3- EA
07/29		1.1 DAY	0.1- DAY	0.2- DAY			3- EA	0.1- DAY	0.2- DAY	3- EA
07/30		1 DAY	0 DAY	0.1- DAY			33- EA	0 DAY	0.1- DAY	33- EA
07/31	1 DAY	1.1 DAY	0.1- DAY	0.2- DAY			7- EA	0.1- DAY	0.2- DAY	7- EA
08/01	1 DAY	1.2 DAY	0.2- DAY	0.4- DAY	3,270 EA	3,252 EA	18- EA	0.2- DAY	0.4- DAY	18- EA
08/03	1 DAY	1.1 DAY	0.4- DAY	0.5- DAY	2,297 EA	2,231 EA	66- EA	0.4- DAY	0.5- DAY	66- EA
08/04	1 DAY	1 DAY	0.9- DAY	0.9- DAY	1,905 EA	1,854 EA	51- EA	0.9- DAY	0.9- DAY	51- EA
08/05	1 DAY	1.1 DAY	0.7- DAY	0.8- DAY	2,058 EA	1,992 EA	66- EA	0.7- DAY	0.8- DAY	69- EA
08/06	1 DAY	1 DAY	0.3- DAY	0.3- DAY	2,400 EA	2,205 EA	195- EA	0.3- DAY	0.3- DAY	195- EA
08/07	1 DAY	1 DAY	0.2- DAY	0.3- DAY	2,208 EA	2,205 EA	3- EA	0.2- DAY	0.3- DAY	3- EA
08/08	1 DAY	1.3 DAY	0.7- DAY	1- DAY	516 EA	516 EA	0 EA	0.7- DAY	1- DAY	0 EA
08/10	1 DAY	1 DAY	0.2- DAY	0.2- DAY	2,223 EA	2,123 EA	100- EA	0.2- DAY	0.2- DAY	100- EA
08/11	1 DAY	1 DAY	0 DAY	0 DAY	2,115 EA	2,115 EA	0 EA	0 DAY	0 DAY	0 EA
08/12	1 DAY	1 DAY	0.2- DAY	0.2- DAY	2,186 EA	2,185 EA	1- EA	0.2- DAY	0.2- DAY	1- EA

On-Time
information

Lead time
information

Quantity
information

Reporting Schedule Attainment



Target vs Actual Delivery / Lead Times / Quantities

TgtExectm.	TgtQueueTm	TgtLeadTm.	ActExectm.	ActQueueTm	ActLeadTm.	P/A DelDev	P/A LdtmDv	P/A qty dev.	T/A DelDev	T/A LdtmDv	T/A qty dev.
1 DAY	1.3 DAY	1.4 DAY	4.2 DAY	1.5- DAY	2.7 DAY	0.7- DAY	0.8- DAY	6,144.602 ***	1.1- DAY	1.3- DAY	1,451.928- **
1 DAY	0.9 DAY	1 DAY	7.1 DAY	0.2 DAY	7.3 DAY	8.7- DAY	272- DAY	9.5- DAY	5.6- DAY	2,506- EA	
1 DAY	0.9 DAY	1 DAY	11.2 DAY	6.7- DAY	4.5 DAY	3.2- DAY	2.7- DAY	319 EA	4- DAY	3.5- DAY	319 EA
7 DAY	4 DAY	4.7 DAY	4.9 DAY	3.9- DAY	1 DAY	11 DAY	4.1 DAY	4,441.322 ***	10.6 DAY	3.7 DAY	170.208- **
1 DAY	0.9 DAY	1 DAY	5.1 DAY	4.3- DAY	0.9 DAY	0.2 DAY	1 DAY	2,167.000 ***	0.6- DAY	0.1 DAY	1,238.000 **
1 DAY	0.9 DAY	1 DAY	0 DAY	0.9 DAY	0.9 DAY	1 DAY	0.1 DAY	342.720- ****	1 DAY	0.1 DAY	84.720- **
0 DAY	1 DAY	1 DAY	2.7 DAY	1.3- DAY	1.5 DAY	6.3- DAY	0 DAY	39- EA	6.8- DAY	0.5- DAY	119- EA
0 DAY	1 DAY	1 DAY	0 DAY	1 DAY	1 DAY	1.6 DAY	0 DAY	129- EA	1.6 DAY	0 DAY	129- EA

[illegible]

Negative Queue times are often caused by misalignment in calendars

Operations Analysis

Operation Analysis: Quantities: Basic List

No. of Plant: 7

Plant	TgtLeadTm.	TgtExecTm.	TgtQueueTm	ActLeadTm.	ActExecTm.	ActQueueTm	RelSchDev	Input dev.	Output dev	Setup time	Proc. time
Total	11.9 DAY	1.7 DAY	10.2 DAY	19.1 DAY	26.5 DAY	7.4 DAY	17.3 DAY	0.8 DAY	5.4 DAY	0.0 H	27.7 H
	12.1 DAY	3.8 DAY	8.3 DAY	33.2 DAY	46.8 DAY	13.6 DAY	30.1 DAY	2.7 DAY	17 DAY	0.0 H	58.8 H
	17.2 DAY	1.3 DAY	15.9 DAY	26.1 DAY	36.8 DAY	10.8 DAY	25.2 DAY	0.2 DAY	20.7 DAY	0.0 H	21.7 H
	11.9 DAY	1 DAY	11 DAY	9.3 DAY	12 DAY	2.7 DAY	8 DAY	4.2 DAY	17.8 DAY	0.0 H	15.9 H
	17.5 DAY	1.3 DAY	16.1 DAY	17.2 DAY	23.8 DAY	6.6 DAY	16.3 DAY	1.6 DAY	10.8 DAY	0.0 H	22.0 H
	1.7 DAY	0.1 DAY	1.6 DAY	1 DAY	0 DAY	1 DAY	0.7 DAY	0.9 DAY	1.6 DAY	0.0 H	0.6 H
	17.4 DAY	0.4 DAY	16.9 DAY	8.6 DAY	14.1 DAY	5.6 DAY	6.2 DAY	7 DAY	18.6 DAY	0.0 H	7.2 H
	1.1 DAY	0 DAY	1.1 DAY	1 DAY	0 DAY	1 DAY	0.1 DAY	1.5 DAY	1.5 DAY	0.0 H	0.8 H

Target Vs Actual Lead-times

Deviations may be symptomatic of manufacturing inefficiencies or master data issues

Significant deviations

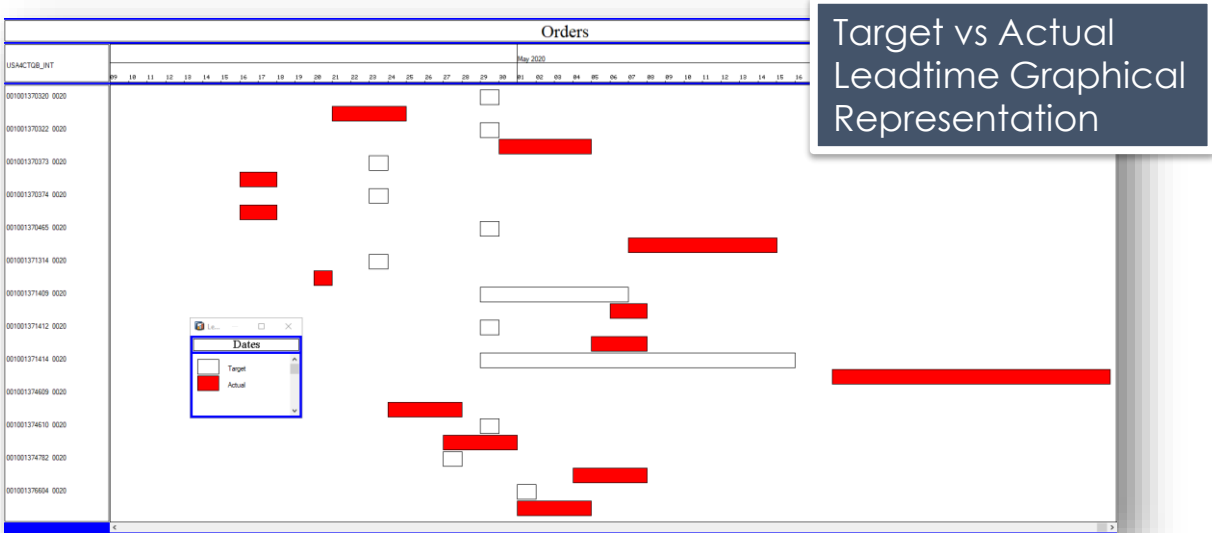
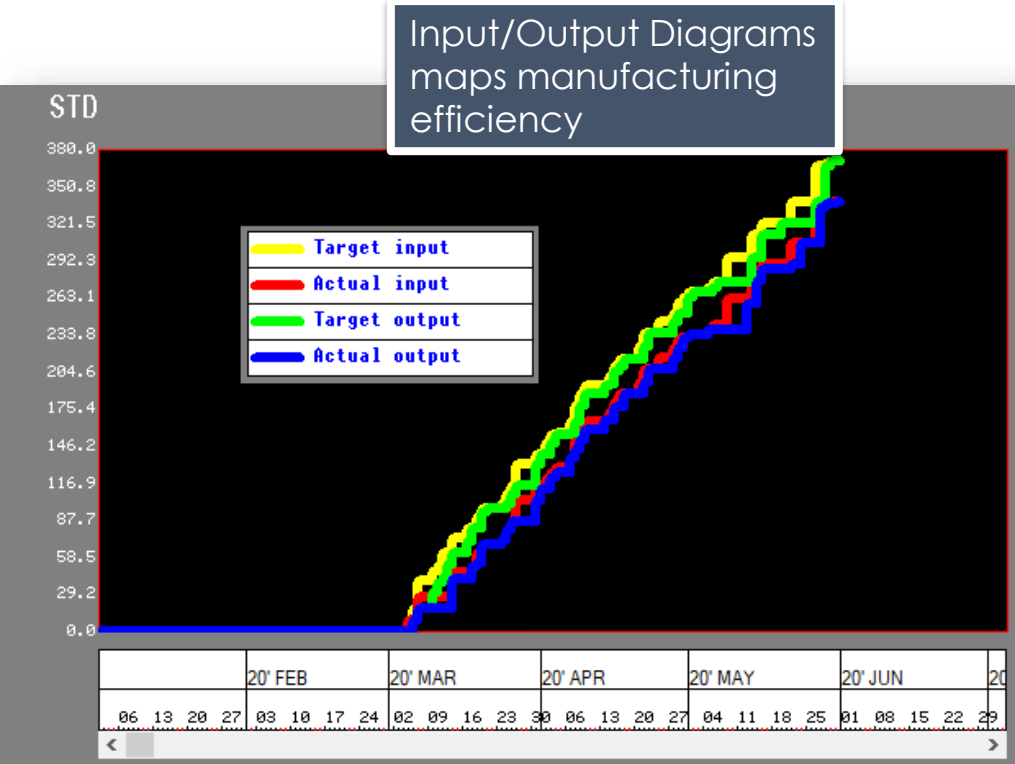
Plant

No. of work :

work center	TgtLeadTm.	TgtExecTm.	TgtQueueTm	ActLeadTm.	ActExecTm.	ActQueueTm	RelSchDev	Input dev.	Output dev	Setup time	Proc. time
Total	12.1 DAY	3.8 DAY	8.3 DAY	33.2 DAY	46.8 DAY	13.6 DAY	30.1 DAY	2.7 DAY	17 DAY	0.0 H	58.8 H
	1.1 DAY	0 DAY	1.1 DAY	9.5 DAY	0 DAY	9.5 DAY	8.4 DAY	11.4 DAY	19.7 DAY	0.0 H	0.0 H
	5.6 DAY	7.2 DAY	1.6 DAY	70.4 DAY	101.7 DAY	31.3 DAY	64.9 DAY	4.3 DAY	60.6 DAY	0.0 H	107.7 H
	4.9 DAY	7 DAY	2 DAY	73.5 DAY	106.2 DAY	32.7 DAY	68.6 DAY	7.3 DAY	61.3 DAY	0.0 H	113.6 H
	1 DAY	0 DAY	1 DAY	32 DAY	45.5 DAY	13.5 DAY	31 DAY	71 DAY	102 DAY	0.0 H	0.8 H
	1 DAY	0.1 DAY	0.9 DAY	68.3 DAY	98.9 DAY	30.6 DAY	67.3 DAY	32.7 DAY	100 DAY	0.0 H	0.8 H
	2.4 DAY	0.1 DAY	2.4 DAY	6.9 DAY	8.7 DAY	1.8 DAY	4.5 DAY	16.1 DAY	20.5 DAY	0.0 H	0.8 H
	0.6 DAY	0 DAY	0.6 DAY	1 DAY	0 DAY	1 DAY	0.4 DAY	4.9 DAY	5.3 DAY	0.0 H	0.8 H
	1.1 DAY	0.1 DAY	1 DAY	1 DAY	0 DAY	1 DAY	0.1 DAY	17.6 DAY	17.6 DAY	0.0 H	0.8 H
	38 DAY	2.9 DAY	35.1 DAY	1 DAY	0 DAY	1 DAY	0 DAY	0 DAY	64.9 DAY	0.0 H	48.0 H

Drill down by Plant

Making It Visual



Wrap-up

“If you fail to plan, you are planning to fail!”



Plan so you address the ‘what’ and ‘how’ of your data and production process(es).

“Planning reduces delays during jobs”



Schedule so you address the ‘who’ and ‘when’ governed by your process capability.

“Scheduling reduces delays between jobs”

*Close the loop with real time reporting and analytics.
Using SAP as a Single Source of Truth Promotes Flow.*

Where to Find More Information

- www.revealvalue.com/white-papers/maximizing-production-throughput
 - White paper on maximizing production throughput through to improve market share
- Goldratt, Eliyahu M. Theory of Constraints. North Rivers Press, 1990.
- www.revealvalue.com/white-papers/exception-monitoring-leads-improvement
 - White paper on 4 ways exception monitoring leads to continuous improvement

Key Points to Take Home

- The efficient flow of relevant data enables the efficient flow of materials
- SAP supports improved throughput and de-bottlenecking of resources natively
- We control the quality and impact of that reporting and analytics with the quality of our data
- Integration is key
- Align Plan->Schedule->Actual to bring the supply chain into harmony

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Thank you!
Any Questions?

Please remember to complete your session evaluation.



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