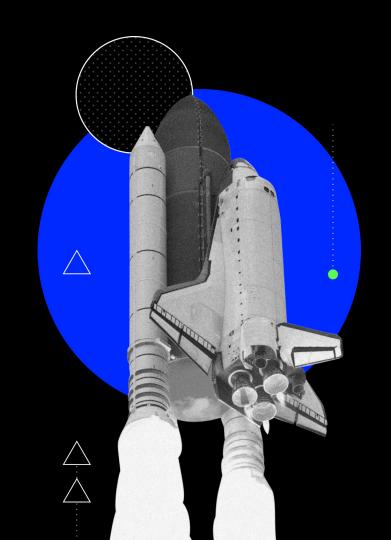


Order To Cash Case Study

Case Study on SAP ERP Data

Joyline Rencita Dsouza 30/10/2024



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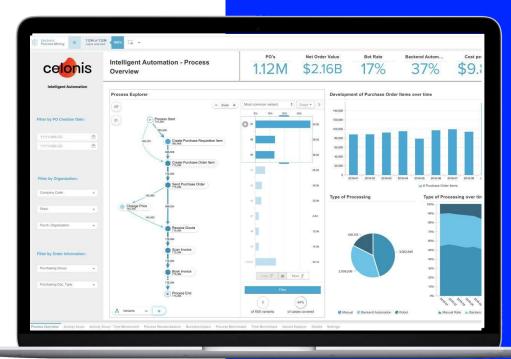
Introduction to Celonis Platform

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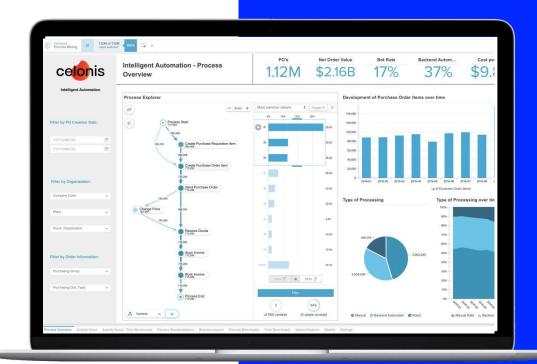
- Analyzes event logs to understand real-world process execution.
- Identifies bottlenecks, inefficiencies, and compliance risks.
- Provides data-driven insights for process optimization and improvement.
- Empowers organizations to achieve operational excellence and cost savings.



Introduction

c

- Process Explorer, Variant Explorer
- Conformance Checking
- Simulates changes to processes to predict their impact on performance and identify potential risks.
- Performance Analysis
- Conducts root cause analysis by Identifying deviations, Analyzing variants, Correlating data



Ideal Process Flow

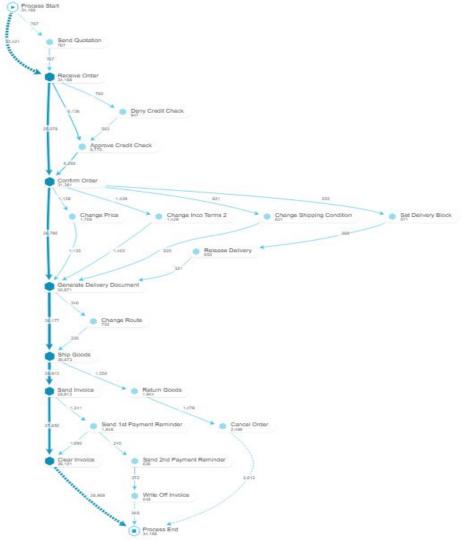
- Ideal case represents the most optimal or desired pathway that a process should follow to achieve the best possible outcome.
- It serves as a reference model for the process, showing the ideal sequence of activities and the expected flow from start to finish.
- It involves promptly receiving and confirming orders, generating accurate delivery documents, shipping goods on time, sending invoices promptly, and ensuring timely invoice clearance.

Here process follows a predefined, clear, and optimized flow with minimal or no deviations.



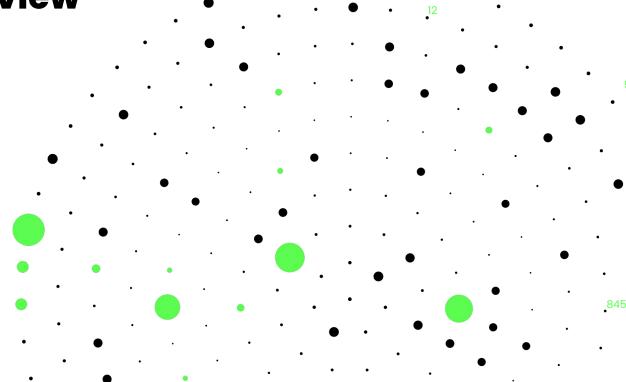
Deviation Analysis

- In reality, deviations from the ideal case are common and can occur due to various factors such as human errors, system glitches, and unforeseen events.
- These deviations can lead to inefficiencies, delays, errors, and increased costs.
- Addressing these deviations allows businesses to move closer to the ideal case, ensuring better process performance and enhanced customer satisfaction.



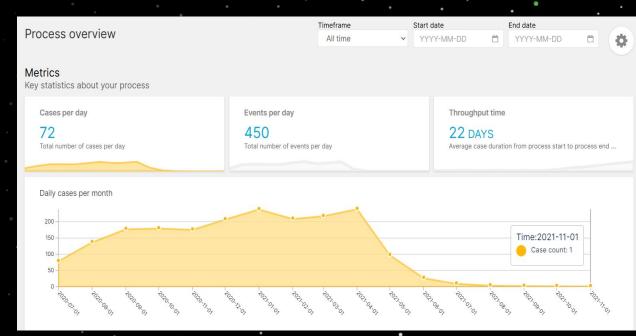


Process Overview



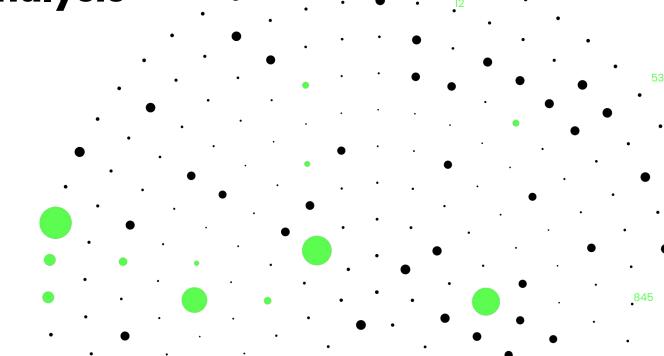
Process Overview

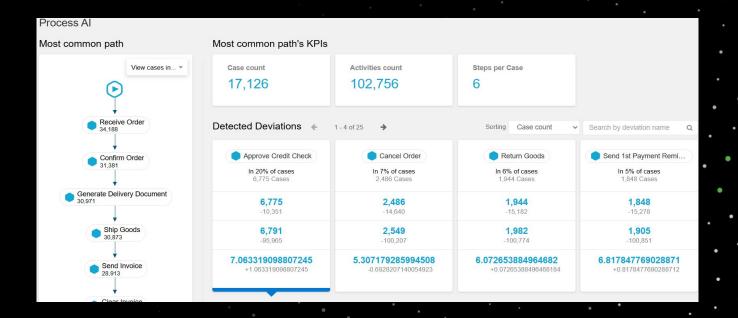
- Our order-to-cash process handles about 72 cases daily
- We see seasonal peaks in case volume during January and April
- Our goal is to reduce the average processing time





Deviation Analysis

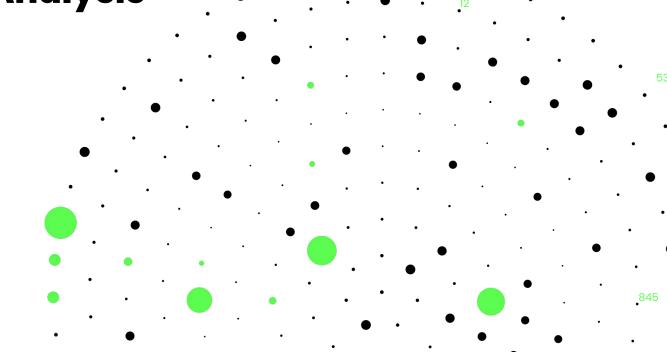




- This visualization shows the most common path in our order-to-cash process, with a total of 17,126 cases.
- The process involves 6 steps on average, with "Receive Order" and "Confirm Order" being the most frequent starting points.
- Along the way, there are potential deviations like "Approve Credit Check," "Cancel Order," and "Return Goods."

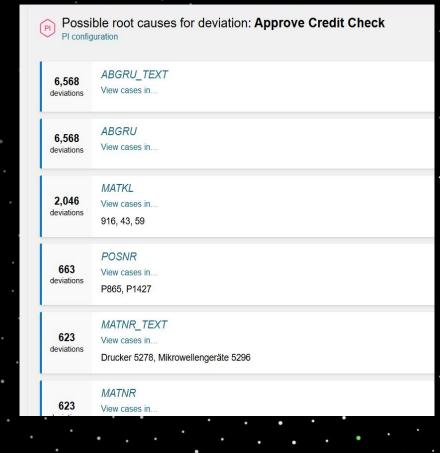


Root Cause Analysis

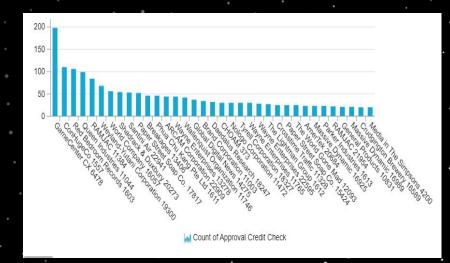


Approve Credit Check

- This visualization shows the distribution of "Approve Credit Checks" across different customers.
- First field represents "cancellation reasons"
 associated with cases requiring credit check
 approvals, indicating specific reasons
- Second field represents material groups, showing that certain product categories tend to have higher occurrences of credit check approvals (916,43,59,)
- Position numbers within sales orders that require credit check approvals, possibly due to specific items or quantities in those positions that present higher credit risk.



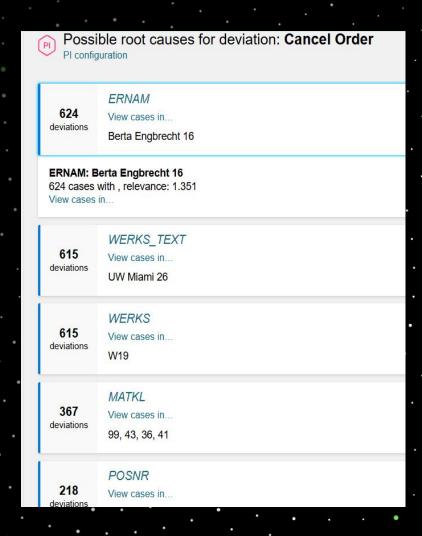
- MATNR_TEXT lists specific product names with frequent credit check approvals, helping identify which products are more likely to need credit checks. i.e Printer and Microwave Oven.
- NETWR_CONVERTED: Higher-value orders are more often subject to credit checks, likely due to the increased financial risk.



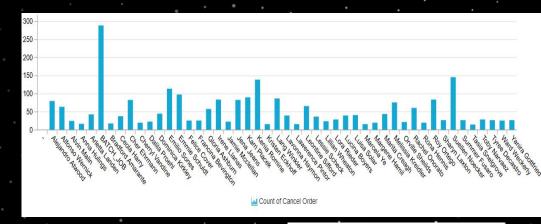


Cancel Orders

- "Berta Engbrecht" appears in 624 deviations, indicating that this user might be a common factor in order cancellations.
- Deviations show plants like "UW Miami 26,"
 belongs to W19 suggesting a location-based factor.
- Shows specific material groups such as "99, 43, 36, 41," suggesting that certain types of materials may be associated with the cancellations.
- Deviations with certain Item numbers ("P865,"
 "P51") might indicate that these specific items in orders tend to get canceled more frequently.



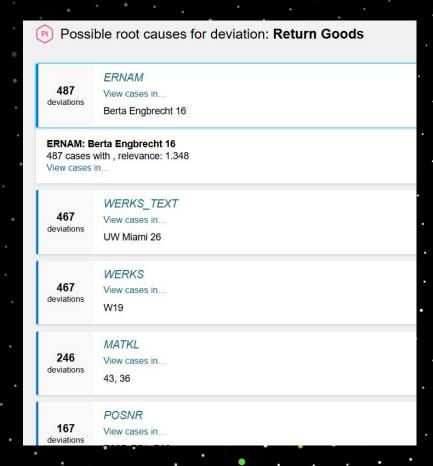
- Net Order Value may suggest that orders with specific value thresholds are more likely to be canceled, perhaps due to financial or logistical constraints.
- Chart represents the name of the users who has cancelled the orders.





Return Goods

- A specific user (e.g., "Berta Engbrecht") is linked to many returns, suggesting potential handling or quality issues related to certain order creators.
- Locations, like "UW Miami" and plant "W19," show high return rates, indicating issues possibly tied to specific facilities.
- Certain material groups (e.g., 43, 36) have higher returns, possibly due to quality or suitability issues in these product categories.
- Specific order Item Num (e.g., "P865," "P51") see frequent returns, potentially highlighting issues with certain items in these positions.



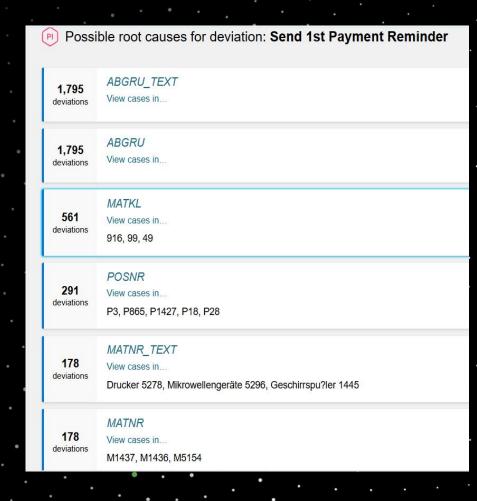
- Certain order values (e.g., "37") are associated with higher returns, which may reflect price or quality expectations at certain price points.
- Specific products, like "Dishwasher 1445" or code "Microwave Oven M5154," are returned often, suggesting these items may have quality or satisfaction issues.



Review on Return Goods									
User Name	Plant Id	Plant Description	Material	Material Desc	Return Count	ŢĒ			
Kenia Romine	W19	UW Miami 26	36	Geschirrspu?ler 1445		8			
Karri Ptacek	W19	UW Miami 26	36	Geschirrspu?ler 1445					
Suellen Noecker	W19	UW Miami 26	36	Geschirrspu?ler 1445					
Leontine Sifford	W19	UW Miami 26	36	Geschirrspu?ler 1445					
Emilio Sones	W1	NW Eindhoven 1	916	Drucker 5278					
Melissia Kreidler	W1	NW Eindhoven 1	49	Entladungslampe 9047		6			
Rachel Onorato	W19	UW Miami 26	36	Geschirrspu?ler 1445		6			
Jena Jeans	W19	UW Miami 26	36	Geschirrspu?ler 1445		6			
Gloria Ashburn	W1	NW Eindhoven 1	916	Mikrowellengeräte 5296		5			
Karri Ptacek	W1	NW Eindhoven 1	916	Drucker 5278		5			
Emilio Sones	W19	UW Miami 26	36	Geschirrspu?ler 1445		5			

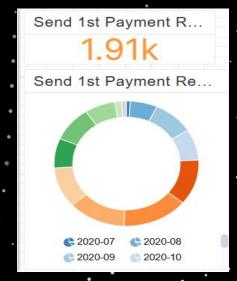
Send 1st Payment Reminder

- Rejection reasons linked to payment reminders indicate that specific rejection codes may lead to delayed payments requiring reminders.
- Certain material groups (e.g., codes 916, 99, 49) show a high occurrence of payment reminders, suggesting possible payment delays for specific product categories.
- Specific order positions (e.g., "P3," "P865")
 are frequently associated with
 reminders, possibly due to items in these
 positions having payment delays.



Product descriptions (e.g., "Printer 5278,"
 "Microwave Ovens 5296") show frequent reminders, pointing to specific products with delayed payments.

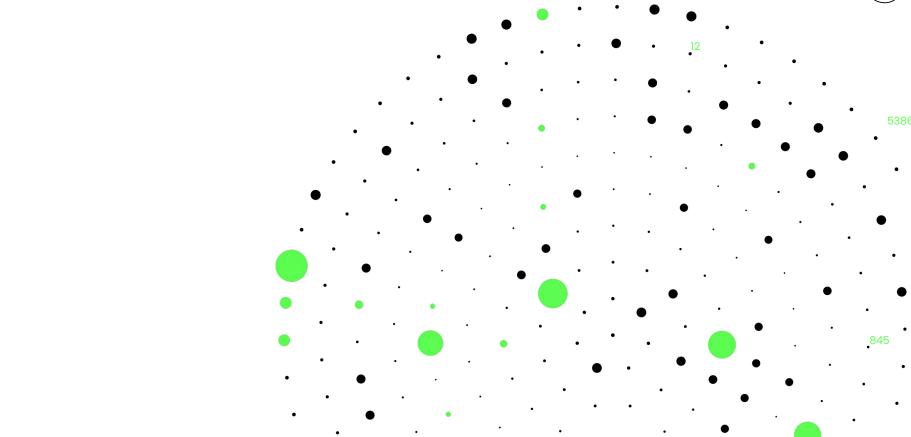
Certain order values (e.g., "37") are associated with payment delays, suggesting that orders of specific values may often require payment reminders.

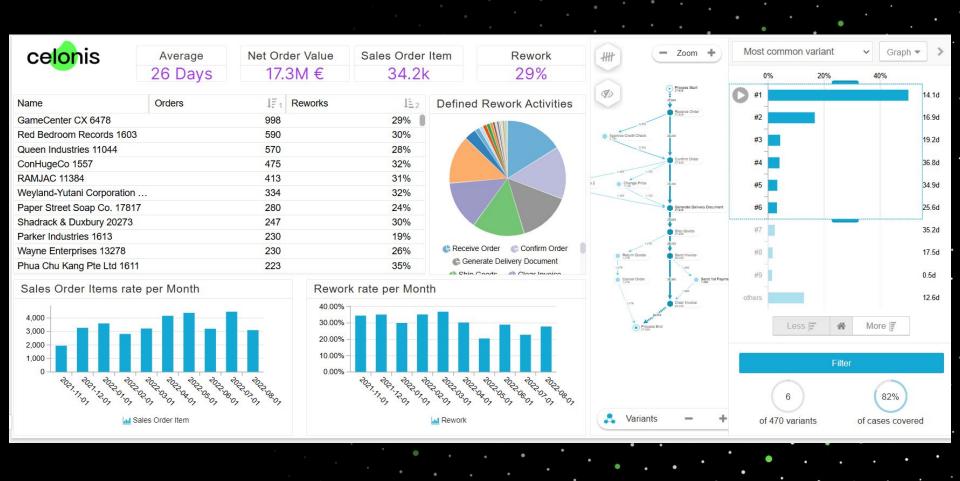




Rework



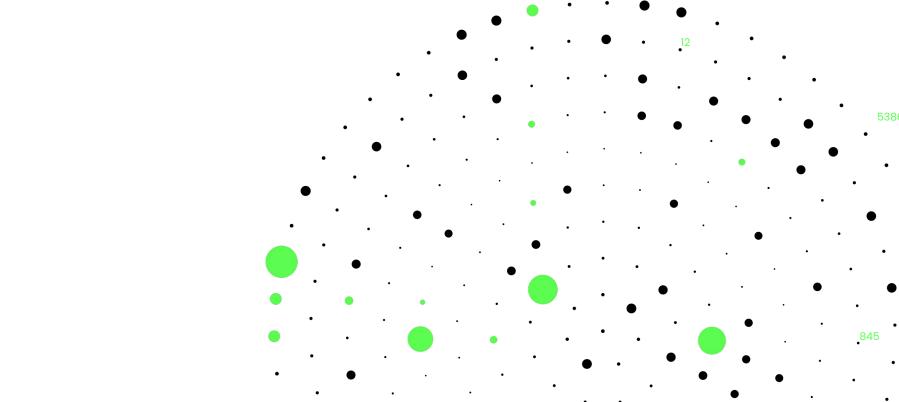


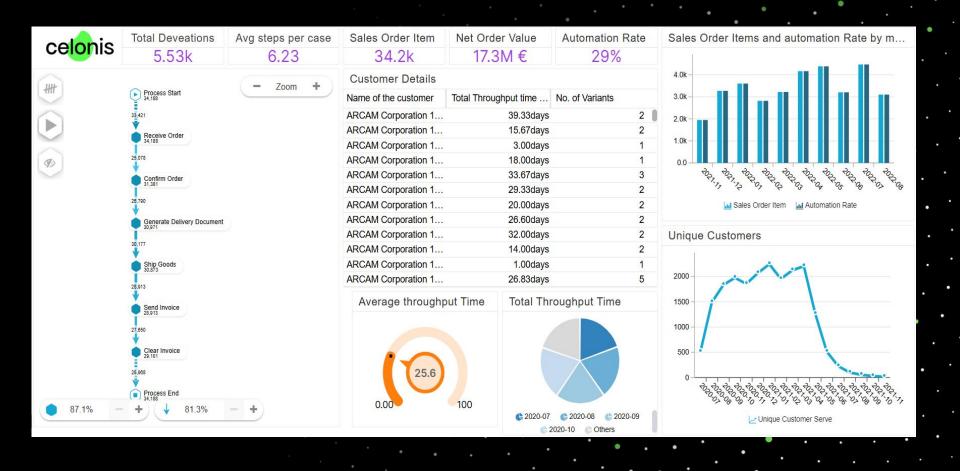


- "Rework" refers to the activities within a business process that need to be repeated or corrected after the initial attempt. Rework is typically undesirable as it indicates inefficiencies, potential quality issues, or delays. By analyzing rework activities, organizations can identify areas where improvements are needed to enhance efficiency, reduce cycle time, and improve overall process quality.
- Rework Rate (29%): Indicates the percentage of orders requiring rework. A high rework rate suggests inefficiencies, quality issues, or complex processes that may need to be optimized.
- Top Customers Table: Shows the customers with the most orders and rework percentages.
 This table can help identify key customers who may be causing inefficiencies or need additional support.
- The **pie chart** in this dashboard provides a breakdown of the different types of rework activities occurring in the process.
- Receive Order: This rework reflects issues in order intake, such as data entry errors, incomplete information, or unclear requests that need follow-up. High levels here suggest inefficiencies in the initial order handling process.
- Confirm Order: Rework here indicates the need to revalidate orders due to discrepancies or unclear details. Frequent rework suggests communication gaps or inconsistencies in order specifications.

Customers Overview



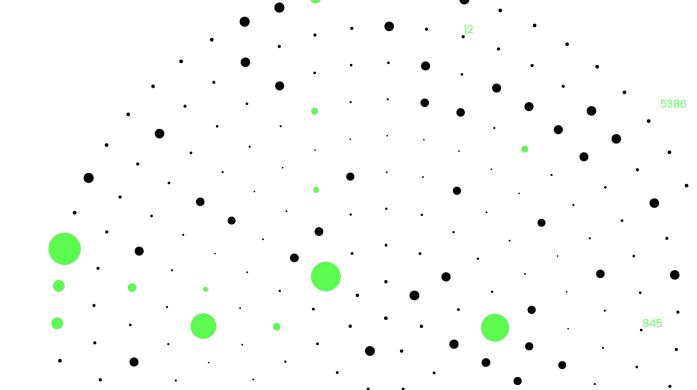




- Throughput Time: Measures the total time taken to complete an order.
- Total Deviations: Indicates the number of instances where the process deviated from the standard path.
- Steps per Case: Shows the average number of steps required to process an order.
- Automation Rate: Reduces manual intervention, leading to faster processing times.
 Minimizes human error, ensuring data accuracy and Improves customer satisfaction through faster order processing.
- The column chart illustrates the distribution of automation rates across different sales order items. A higher automation rate indicates a more efficient and streamlined process. The chart can be used to identify areas where automation can be further implemented to improve overall O2C performance.

Company and Product Analysis





Product Ana	lysis									
Client Doc Num	Sales Group	Sales Group	Sales Org	Sales Org De	Plant Code	Plant Location	Distribution C	Product NO.	Prod name	
V10017	-	-	V2	Vertimode Ne	W31	DW Siegen 5	V1	M2336	LED-Lamp	
V1002	V6	Gruppe F3 Hr	V1	Vertimode Ge	W6	NW Rotterda	V1	M5163	Schweiß- u	
V10024	-	-	V2	Vertimode Ne	W31	DW Siegen 5	V1	M2338	Bohrmasch	
V10126	-	-	V2	Vertimode Ne	W33	NW Amersfo	V1	M2338	Bohrmasch	
V10145	V4	Gruppe F1 Fr	V1	Vertimode Ge	W5	NW Nijmegen 6	V1	M1423	Haarschnei	
V10145	V4	Gruppe F1 Fr	V1	Vertimode Ge	W5	NW Nijmegen 6	V1	M1422	Heizkissen	
V10145	V4	Gruppe F1 Fr	V1	Vertimode Ge	W5	NW Nijmegen 6	V1	M7582	ölgefu?llte	
V10205	V4	Gruppe F1 Fr	V1	Vertimode Ge	W5	NW Nijmegen 6	V1	M2386	Leuchten 360	
V1021239	-	-	V1	Vertimode Ge	W19	UW Miami 26	V1	M231	Heizkissen	
V1021242	ă.	<u>=</u>	V2	Vertimode Ne	W35	NW Arnhem 31	V1	M7565	elektrische	
V1021242	-	-	V2	Vertimode Ne	W35	NW Arnhem 31	V1	M7577	Laptop 7518	
V1021261	V5	Gruppe F2 Hr	V1	Vertimode Ge	W19	UW Miami 26	V1	M1476	elektronisc	
Customer Ar	nalysis									
Sales Document Number User Name			Customer Name		Location		Product			
V10017 BATCH_JOE		BATCH_JOB	Paper Street So		ap Co. 2525	Belgien 11		LED-Lampen 145		
V10017 Alejandro Atwoo		d	Paper Street Soap Co. 2525		Belgien 11		LED-Lampen 145			
V10017 BATCH_JOB		BATCH_JOB		Paper Street Soa		Belgien 11		LED-Lampen 145		
V10017 BATCH_JOB			Paper Street Soap Co. 2525		Belgien 11		LED-Lampen 145			
V10017 BATCH_JOB		Paper Street Soa		ap Co. 2525	Belgien 11		LED-Lampen 145			
V10017 Lillian Wheato		Lillian Wheaton	Paper Street So		ap Co. 2525	Belgien 11		LED-Lampen 145		
V10017 Lavonna Haymo		n	Paper Street Soap Co. 2525		Belgien 11		LED-Lampen 145			
V10024 Jena Je		Jena Jeans	Jena Jeans		Stark Industries 11968		Belgien 11		Bohrmaschinen 151	
V10024		Tasia Snelgrove		Stark Industries	11968	68 Belgien 11		Bohrmaschinen 151		
E V 100 000 000 000 000 000 000 000 000 0									UNIT (1999)	

Stark Industries 11968

Belgien 11

Bohrmaschinen 151

V10024

Lavonna Haymon

Company and Product Analysis



Manufacturing Plant	Material Group	Product Name	Sales Group	Sales Group Location	Customer Name	Customer Location	Reason
UW Miami W19	43	Televisions	Group D1	NW Utrecht, Netherlands	The Lightman Group	Brazil	High Return Rate
UW Miami W19	99	Oil-Filled Radiators	Group D1	NW Utrecht, Netherlands	GothCorp	Brazil	High Cancellation
UW Miami W19	36	LED Lamps	Group D2	NW Zaanstad, Netherlands	U.S. Robots and Mechanical	Brazil	High Return Rate
UW Miami W19	41	Printers	Group D1	NW Utrecht, Netherlands	Vertimode Germany	Netherlands	High Cancellation
UW Miami W19	43	Televisions	Group D2	NW Zaanstad, Netherlands	The Lightman Group	Brazil	High Return Rate
UW Miami W19	99	Oil-Filled Radiators	Group D1 ↓	NW Utrecht, Netherlands	U.S. Robots and	Netherlands	High Cancellation

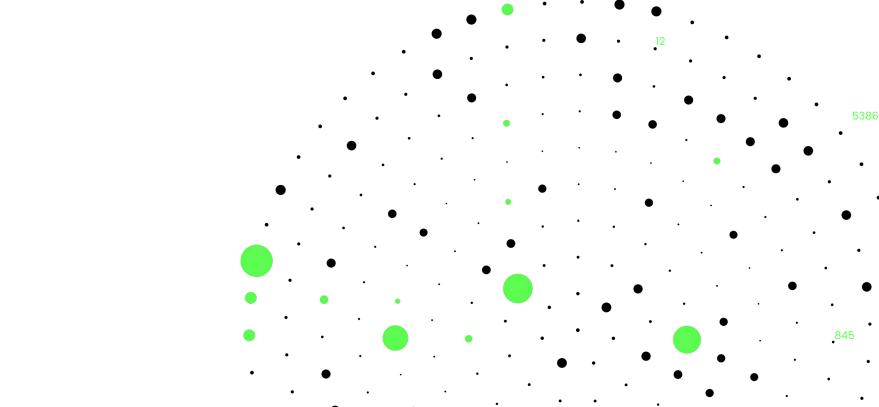
- The high return and cancellation rates from the UW Miami W19 plant stem from quality control issues and logistical delays in delivering products, particularly in electronics and household items. Products in material groups 43 (Televisions), 36 (LED Lamps), and 99 (Oil-Filled Radiators) have shown recurring dissatisfaction among customers,
- Additionally, the geographical challenges of fulfilling orders from different locations exacerbate these issues.

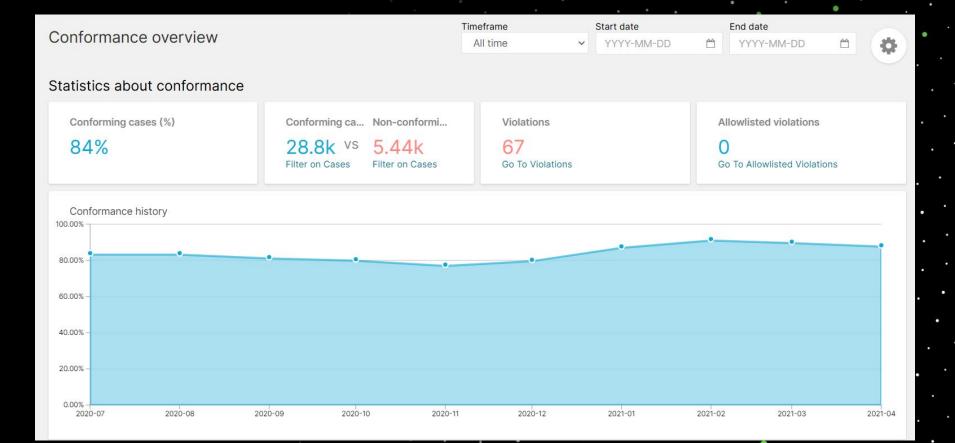
leading to returns.

 These factors contribute to misalignment between customer expectations and product performance, driving up return rates.

Conformance Checks







- conformance analysis is a powerful technique to assess how well your actual process execution aligns with your ideal process model.
- In the image, 84% of cases were conforming, which means they adhered to the defined process.
- Conforming vs. Non-Conforming Cases: This section provides a breakdown of the number of
 cases that were conforming and non-conforming. It helps you visualize the extent of
 deviations from the ideal process.
- **Violations:** This metric shows the number of specific violations detected in the process. These violations represent instances where the actual process deviated from the expected flow.
- Allowlisted Violations: These are violations that have been intentionally allowed or are considered acceptable deviations from the standard process.

KPIs for violating vs. conforming cases

Throughput time

15.1 vs 26.5 Days

Violations decreased throughput time by 11.5 Days

Steps per case

5.2 vs 6.4

Violations decreased steps per case by

Violating cases

 Conforming cases

1 - 50 of 65

Violations

2%

2%

650

of cases

Change Route is an undesired activity 2% Add to allowlist View cases in...

5 Days shorter

750 Effect on throughput time Effect on steps per case of cases

Receive Order is followed by Cancel Order Add to allowlist View cases in...

726 Effect on throughput time
Effect on steps per case of cases 22 Days shorter - 3.1 Steps per case

> Release Delivery is an undesired activity Add to allowlist View cases in...

+ 0.2 Steps per case

Effect on throughput time
Effect on steps per case 5 Days shorter + 0.8 Steps per case

- **Throughput Time:** Conforming cases have more steps per case (6.4) than violating cases (5.2). This indicates that deviations might involve fewer steps, possibly due to shortcuts or workarounds.
- **Steps per Case:** Conforming cases have more steps per case (6.4) than violating cases (5.2). This indicates that deviations might involve fewer steps, possibly due to shortcuts or workarounds.

Violations:-

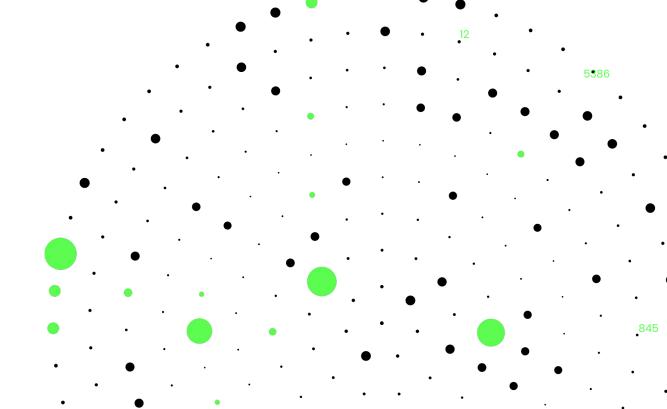
Change Route: This undesired activity occurs in 2% of cases and can lead to a 5-day reduction in throughput time and a slight increase in steps per case.

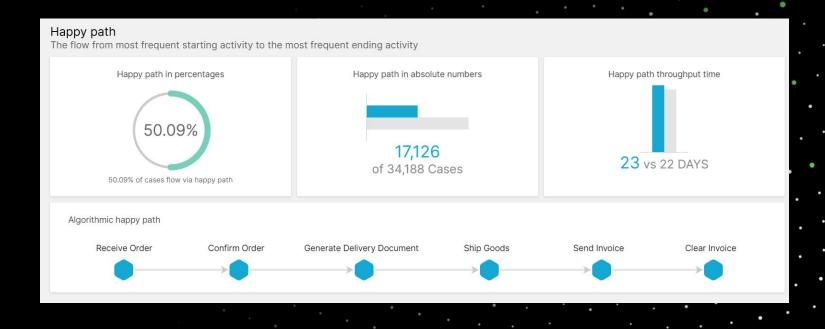
Receive Order Followed by Cancel Order: This violation also occurs in 2% of cases and significantly reduces throughput time by 22 days while also reducing the number of steps per case.

Release Delivery: This undesired activity happens in 2% of cases and can lead to a 5-day reduction in throughput time but a slight increase in steps per case.

Results and Conclusions







Conclusions Drawn

- Ensure proper handling of the *Approve Credit Check* step to reduce delays
- Consider adding more distribution channels to reduce delays and potential issues.
- Inspect materials with high cancellation or return rates to improve quality. Plant:
 W19, operating from 3 locations UW Miami, NW Zaanstad, NW Utrecht needs to be inspected very well and their quality has to be checked for materials like Printers,
 LED Lamps, Televisions, Oil-Filled Radiators, Dishwashers, Televisions.
- Gather customer opinions before shipping to avoid unnecessary shipping costs.



Thank you.