

NEMO Release Letter

Version 2023-01-20



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Summary

As of January 20, 2023, proALPHA has released NEMO version 2023-01-20.

NEMO – standing for Natural Enterprise Management Optimizer – is a new breed of AaaS – Analytics-as-a-Service – offering from proALPHA. NEMO analyzes all sorts of event data. In particular NEMO analyzes business processes as performed with proALPHA ERP. The objective of NEMO is to enable better daily decisions by relating operational activities (input factors) with financial results (output factors).

NEMO 2023-01-20 introduces:

- Panels (NEW)
 - For the first time ever, dashboards are totally dynamic now
- Production (NEW)
 - Production data make the cash-to-cash process chain complete now
 - 207 additional exported columns
- Performance Boost (NEW)
 - By exchanging the underlying database technology, we have observed five to ten times performance improvements
- Focus (NEW and IMPROVED)
 - Coupling of Attributes (NEW)
 - Hiding Attributes in Defined Columns Infoscape (IMPROVED)

In addition, NEMO 2023-01-20 features various error corrections and performance improvements. Also, various housekeeping improvements have been implemented.

Application Signature Features

Natural Performance Index (NPI)

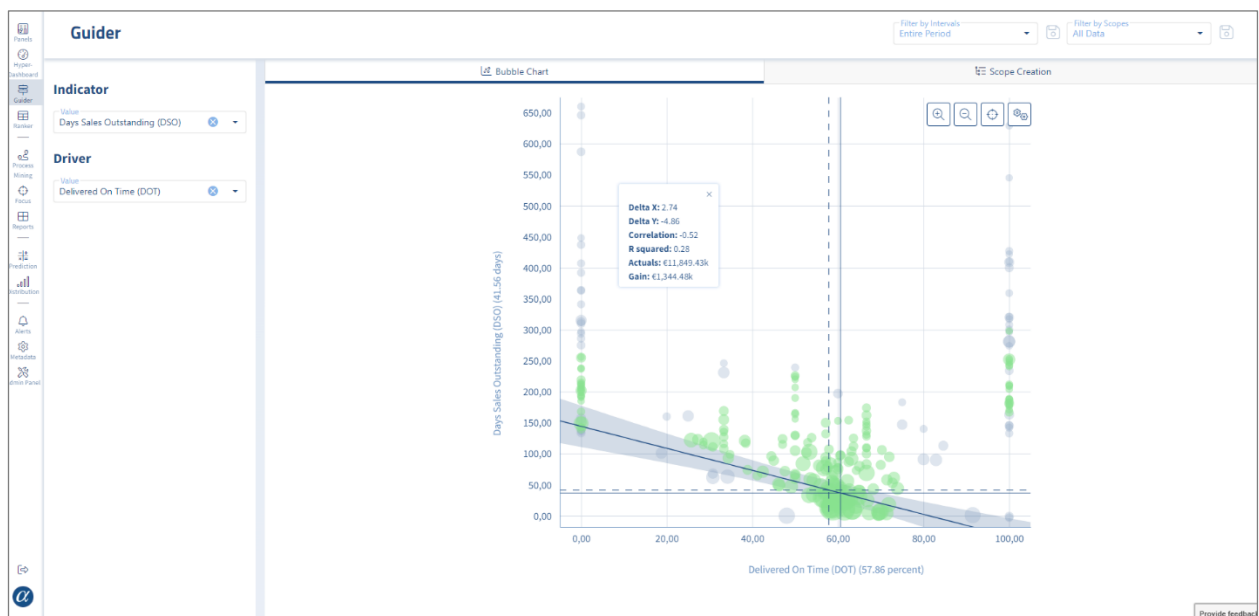
The NPI measures and ranks the fitness of a business. High NPIs indicate a significant improvement potential which is likely to be achieved. They help the user find and decide between the available optimization opportunities and are key to the daily decision support provided by NEMO.

Natural Leverage Index (NLI)

The NLI measures and ranks the degree of efficiency (“Wirkungsgrad”) of a certain operational measure. High NLIs indicate a significant leverage which is likely to be achieved. They help the user find and decide between the available opportunities and as such facilitate the daily decision support provided by NEMO.

Unsupervised Learning

Since there is no optimum for business process optimization typical machine learning approaches don’t apply. Hence NEMO leverages robust advanced statistics out of the so-called space of unsupervised learning algorithms.



Meta-data Driven

NEMO is not only data- but also metadata-driven. This means that virtually all metrics and scopes can be formed – either manually or automatically.

The screenshot shows the 'Metadata' configuration page for 'Days Inventory Outstanding (DIO)'. On the left is a navigation menu with categories like Alert Conditions, Attribute Groups, Exported Columns, Defined Columns, Derived Columns, and Metrics. The 'Days Inventory Outstanding (DIO)' metric is selected. The main area shows configuration options: Conflict State (NoConflict), Display Name (Days Inventory Outstanding (DIO)), Internal Name (d_i_o), and a detailed description. Below this, there are sections for 'Column definition and first aggregation' and 'Second aggregation', each with a table of columns and aggregation types.

Column	Aggregation
d_i_o_days	Aggregation maximum
d_i_o_days_weighted	Aggregation maximum
mvmt_average_costs_total_corp_cur	Aggregation maximum
part_i_d	Aggregation maximum

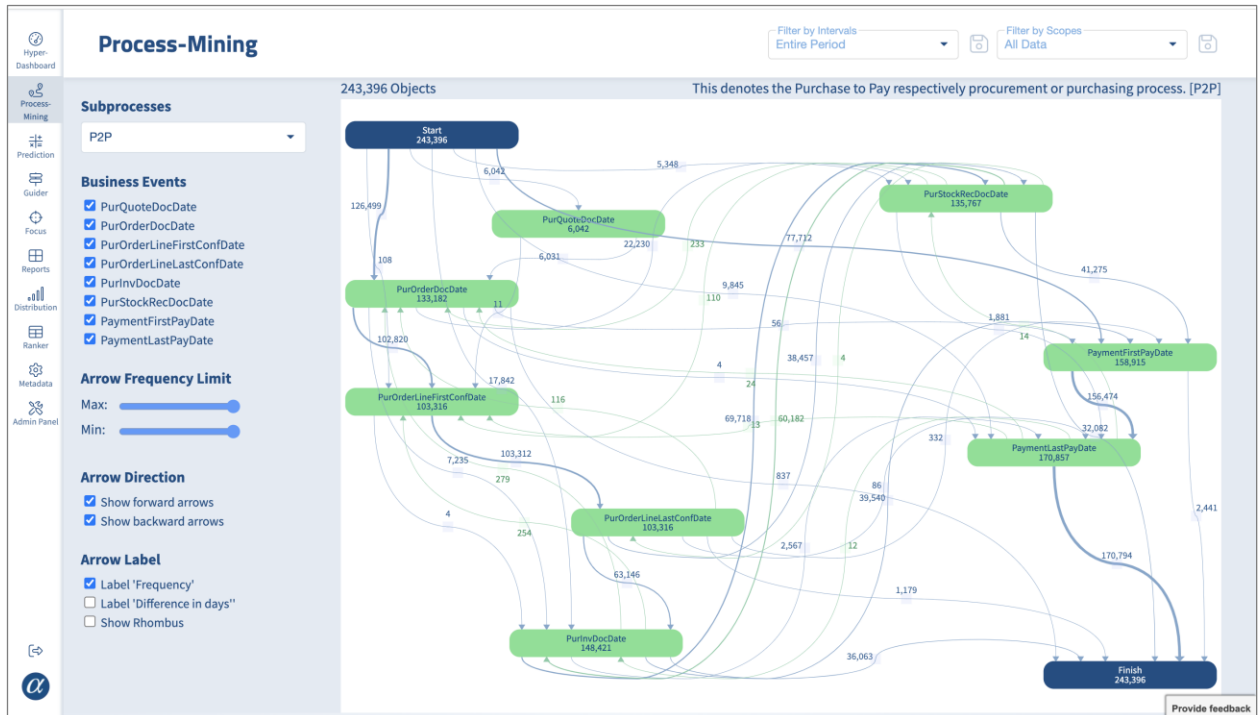
Hyper-Dashboard

NEMO continuously ranks all business process correlations. This enables dynamic dashboards which are complementing classical dashboards.



Process Mining

Inherently NEMO discovers all executed business processes. Process Mining visualizes these as so-called process maps. The edges (lines, links) represent business process variants. They can be captured in scopes for further analysis (e.g. Focus and Guider). The nodes (vertices, points) represent the business events which, chained up, represent the executed business activities.



All Details

NEMO works always on details. There is no need to do any pre-aggregations at all. This means that the user can drill down to the detailed business documents at any point in time and instantaneously.

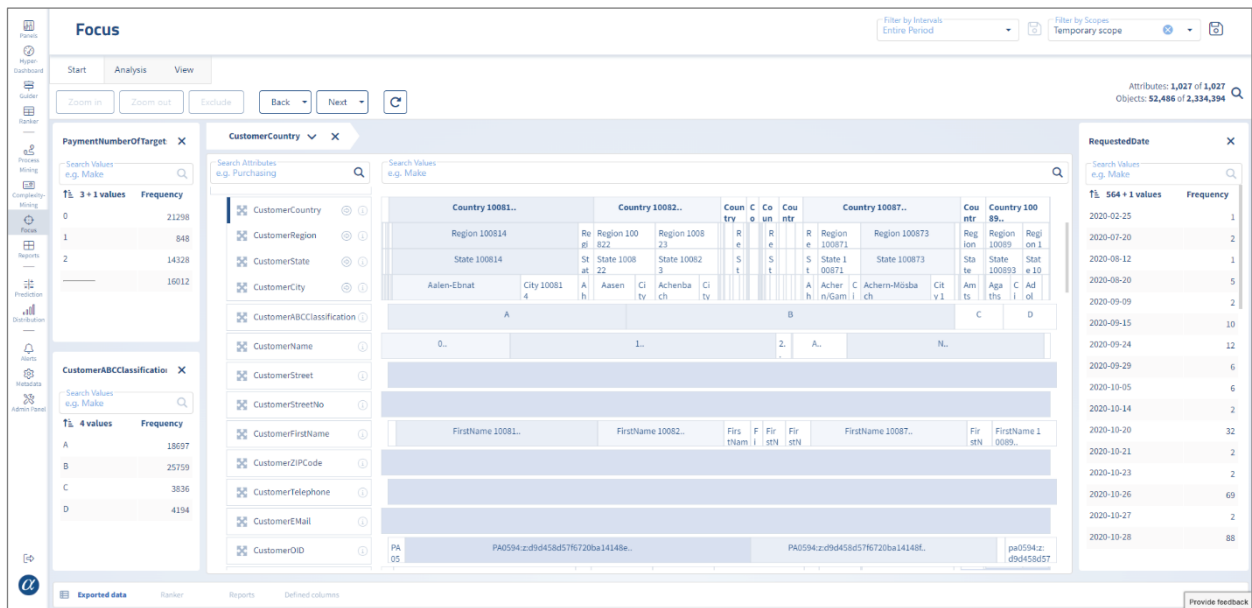
Here an example for the Payment Method Invoice. The Hyper-Dashboard provides an overview of the top measures for process improvements.



The Ranker table gives the details behind the Hyper-Dashboard.

NPI	NLI	Driver	Driver Value	Indicator	Indicator Value	R Squared	Correlation	Actuals	Gain	Scope
1,228,230	150	Delivered On Tim...	49.38%	Days Sales Outst...	46.39 (days)	0.49	-0.70	€8,190.30k	€2,523.89k	[[mvmmt_m_r_p_ar...
1,045,971	140	Delivered On Tim...	47.95%	Days Sales Outst...	48.06 (days)	0.46	-0.68	€7,476.48k	€2,252.74k	[[mvmmt_m_r_p_ca...
951,839	133	Delivered On Tim...	47.78%	Days Sales Outst...	48.00 (days)	0.46	-0.68	€7,176.66k	€2,084.53k	End products
891,949	143	Delivered On Tim...	57.14%	Days Sales Outst...	46.28 (days)	0.43	-0.66	€6,245.62k	€2,053.92k	[[customer_a_b_c...
626,635	146	Delivered On Tim...	49.19%	Days Sales Outst...	56.78 (days)	0.53	-0.73	€4,280.45k	€1,174.27k	[[part_type: 61]]
626,153	146	Delivered On Tim...	49.19%	Days Sales Outst...	56.80 (days)	0.53	-0.73	€4,280.45k	€1,173.60k	[[part_product_li...
561,369	165	Delivered On Tim...	49.76%	Days Sales Outst...	53.35 (days)	0.68	-0.82	€3,405.99k	€827.81k	[[part_id: '10190...
554,675	167	Delivered On Tim...	44.88%	Days Sales Outst...	53.40 (days)	0.49	-0.70	€3,318.21k	€1,139.90k	[[mvmmt_m_r_p_ca...
544,680	178	Delivered On Tim...	49.32%	Days Sales Outst...	58.99 (days)	0.39	-0.62	€3,057.86k	€1,410.07k	[[part_product_li...
528,335	63	Delivered On Tim...	53.52%	Days Sales Outst...	46.12 (days)	0.30	-0.55	€8,361.60k	€1,748.98k	Storage Area 100...
503,446	148	Delivered On Tim...	57.14%	Days Sales Outst...	58.93 (days)	0.41	-0.64	€3,407.57k	€1,231.54k	[[supplier_industr...
439,326	197	Delivered On Tim...	39.77%	Days Sales Outst...	72.99 (days)	0.42	-0.65	€2,227.58k	€1,043.02k	[[part_id: '11177...
389,940	130	Delivered On Tim...	47.73%	Days Sales Outst...	61.67 (days)	0.41	-0.64	€2,991.62k	€955.86k	[[part_product_li...
388,081	157	Delivered On Tim...	38.06%	Days Sales Outst...	66.90 (days)	0.32	-0.57	€2,478.03k	€1,214.12k	[[part_product_li...
386,742	149	Delivered On Tim...	45.28%	Days Sales Outst...	51.06 (days)	0.46	-0.68	€2,587.24k	€841.74k	[[part_type: 53]]
320,720	204	Delivered On Tim...	36.56%	Days Sales Outst...	74.43 (days)	0.52	-0.72	€1,575.23k	€614.98k	[[part_a_b_c_class...
265,822	22	Delivered On Tim...	57.74%	Days Sales Outst...	46.25 (days)	0.13	-0.36	€11,849.21k	€2,030.06k	[[part_a_b_c_class...
244,851	165	Delivered On Tim...	37.20%	Days Sales Outst...	65.49 (days)	0.32	-0.57	€1,485.17k	€755.03k	[[part_id: '11177...
231,143	320	Delivered On Tim...	52.03%	Days Sales Outst...	50.89 (days)	0.58	-0.76	€722.04k	€398.64k	[[part_a_b_c_class...

And the Focus view gives the details behind the Ranker table. And all within seconds.



Dynamic Dashboards

From all details arbitrary dashboards can be derived as well.



Since these so-called Panels are automatically built-in conjunction with Scopes they are correct by nature. Especially there is no dispute about the calculation of metrics and key figures anymore since those are isolated from the Panels.

Instantly Live

NEMO doesn't need any customization. Even chart-of-account or financial calendar are not needed for NEMO to function.

Technology Signature Features

The NEMO technology is characterized by

- Integration
 - All applications leverage and maintain the same data
- Speed
 - Response times should be as fast as possible
 - Development times – customers or us – should be as short as possible

These objectives are achieved by leveraging following unique approaches.

Push rather than Pull Data Copying

All data are regularly pushed from the source system to NEMO.

For our ERP we push all essential order types now:

- Purchase Order
- Production Order
- Sales Order

This means following supply chain processes are covered now:

- Source
 - Purchasing, procurement
- Make
 - Inventory
 - Production
- Deliver
 - Sales
- Return Handling
 - Sales
 - Purchasing
- Finance
 - Accounting Journal

Flat Data Structure

There is only one table in NEMO.

There are no aggregations (cubes) nor indices.

There are no Joins at all.

Process Chains

All data are organized along the performed business processes.

Dynamic Calculations

All calculations are performed in real-time.

There are no data preparation runs.

Metrics Driven

All control data (metadata) are available to all applications rather than being specific to a single application.

All control data are dynamically changeable – by the user or by us.

Metrics are maintained as separate entity rather than specific to each application.

In-memory Columnar Data Management

Our data are particularly suited to this mode of data management.

The resulting compression rates (easily 1:10) are very beneficial to the overall performance.

Upside-down Visualization

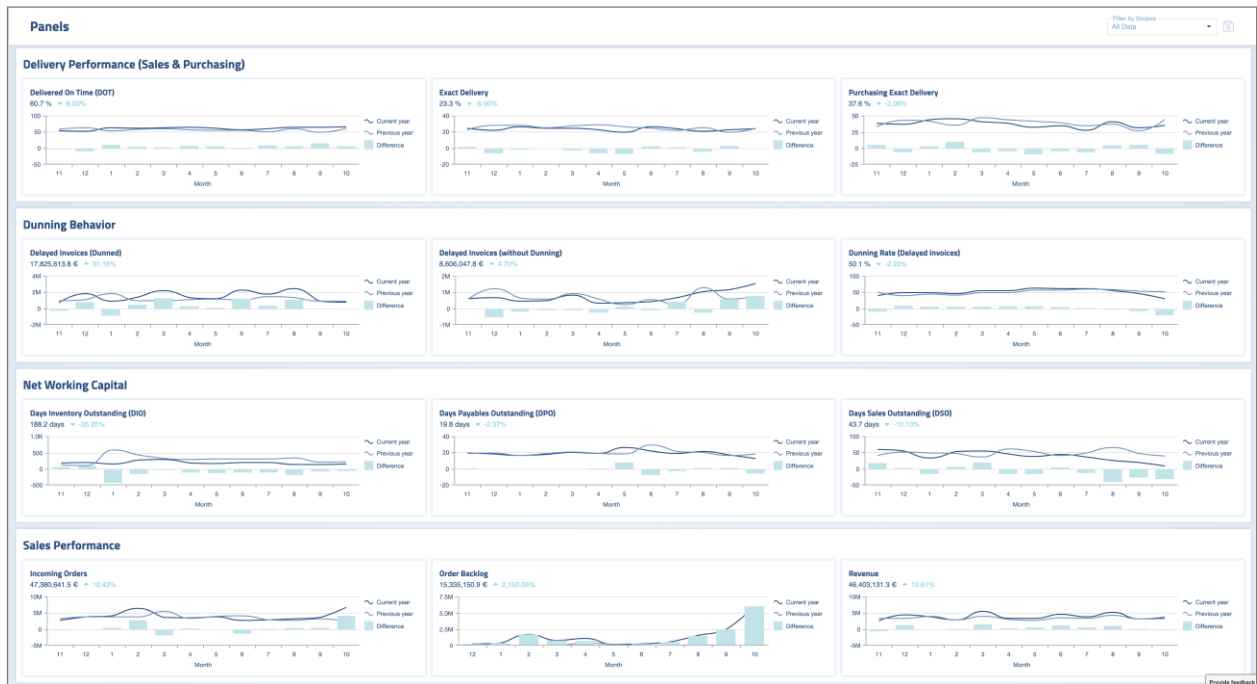
Rows and columns are inverted compared to MS Excel.

This makes patterns (e.g., populations of columns) easier to spot.

New and Changed Capabilities

Panels (NEW)

For illustrative purposes here the default Panel for the "All Data" scope:



Panels are in essence dynamic dashboards. This means that these dashboards don't require any sort of reloading new data (no new extraction, transformation and loading procedures). Also, it means that Panels work on all scopes and intervals. Panels are as automatic as it gets. This means that there is no need to set them up at all. Also, this means that they can be changed and extended at any time.

Panels are created when new Scopes get created. The philosophy is that a Scope is an area of business interest and has a unique business owner. In consequence the associated Panel has a unique business owner as well. This Panel is composed out of the mandatory Tiles. In turn these Tiles are either based on Metrics or special Reports.

Tiles based on Metrics are depicted as average values. Tiles based on Reports are depicted as sums.

Reports qualifying as Tiles must adhere to following SQL syntax rules:

- GROUP BY with one space
- No delimiter ";" at the end
- No ORDER BY
- One row as a result of the report
- Result needs to have one column with the internal name of the report
- Optionally specific aggregation date e.g. MIN(order_doc_date) AS report_date

Please compare with initially supplied mandatory Tiles (Revenue, Incoming Orders, Order Backlog).

(TILE) Revenue

Conflict State

NoConflict

Display Name *

(TILE) Revenue

Internal Name *

revenue

Description

Natural Revenue denotes the operational revenue. These numbers are different from the financial results used in reporting financial results.
Calculation: Aggregated from invoice line details from the totality of all data rather than derived from P&L summaries reduced by all credit lines.

Remark: This report is specially created for the panels to be used as tiles.

Query Syntax *

```
WITH first_agg
AS (SELECT Max(invoice_doc_total_net_corp_cur) AS
invoice_doc_total_net_corp_cur,
Max(credit_doc_total_net_corp_cur) AS
credit_doc_total_net_corp_cur,
invoice_doc_i_d,
credit_doc_i_d
FROM $schema.$table
GROUP BY invoice_doc_i_d,
credit_doc_i_d)
SELECT SUM(invoice_doc_total_net_corp_cur) AS sum_invoices,
SUM(credit_doc_total_net_corp_cur) AS sum_credits,
(CASE WHEN SUM(invoice_doc_total_net_corp_cur) IS NULL THEN 0 -
SUM(credit_doc_total_net_corp_cur)
WHEN SUM(credit_doc_total_net_corp_cur) IS NULL THEN
SUM(invoice_doc_total_net_corp_cur)
ELSE (SUM(invoice_doc_total_net_corp_cur) -
SUM(credit_doc_total_net_corp_cur)) END) AS revenue
FROM first_agg
```

(TILE) Incoming Orders

Conflict State

NoConflict

Display Name *

(TILE) Incoming Orders

Internal Name *

incoming_orders

Description

Incoming Orders denotes the total amount of sales orders. These numbers are different from the financial results used in reporting financial results. Calculation: Sum of total net from sales order docs.

Remark: This report is specially created for the panels to be used as tiles.

Query Syntax *

```
WITH first_agg AS
(
SELECT Max(order_doc_total_gross_corp_cur) AS
order_doc_total_gross_corp_cur,
order_doc_i_d,
MIN(order_doc_date) AS report_date
FROM $schema.$table
GROUP BY order_doc_i_d)
SELECT Sum(order_doc_total_gross_corp_cur) AS incoming_orders
FROM first_agg
```

(TILE) Order Backlog

Conflict State

NoConflict

Display Name *

(TILE) Order Backlog

Internal Name *

order_backlog

Description

Order Backlog denotes the total amount of open sales orders.
Calculation: Sum of total net from open sales order docs.

Query Syntax *

```
WITH first_agg AS
(
SELECT Max(order_doc_total_gross_corp_cur) AS
order_doc_total_gross_corp_cur,
order_doc_i_d,
Min(order_doc_date) AS report_date
FROM $schema.$table
WHERE order_doc_open = 'true'
GROUP BY order_doc_i_d)
SELECT Sum(order_doc_total_gross_corp_cur) AS order_backlog
FROM first_agg
```

As a side-effect Reports for Tiles can easily be developed and tested with the mini-app Reports and the Reports Infoscape in Focus.

The respective Tiles should be straightforward (see also the NEMO Glossary) though there are some peculiarities:

Natural Revenue

- Conflict State
NoConflict

- Display Name *
Natural Revenue

- Internal Name *
revenue

- Description
Natural Revenue

- Status
Mandatory

- Type
Report

- Tile Source ID
Select Tile Source ID...

- Graphic
Enter Graphic...

- Tile Group
Sales Performance

- Aggregation
Sum

- Unit
currency

Here a short explanation of some special features:

- Unit
- This is for Report Tiles where this information cannot be derived otherwise.
- Tile Group
- This is for the visual grouping of Tiles in a Panel. All Tiles having the same Tile Group are depicted in a rectangle with this text as header.

Production (NEW)

All data records with the "Production" business process contain the document chain of the production process in proALPHA with information on the component, purchased part, supplier, customer, payments and delivery dates. The key information in a "Production" data record contains all the essential data on the production order. This includes general data of the production order itself, but also, information on:

- Sub-production orders
- BOMs
- Activities and resources
- Optimization results
- Target and actual cost
- Scrap costs.

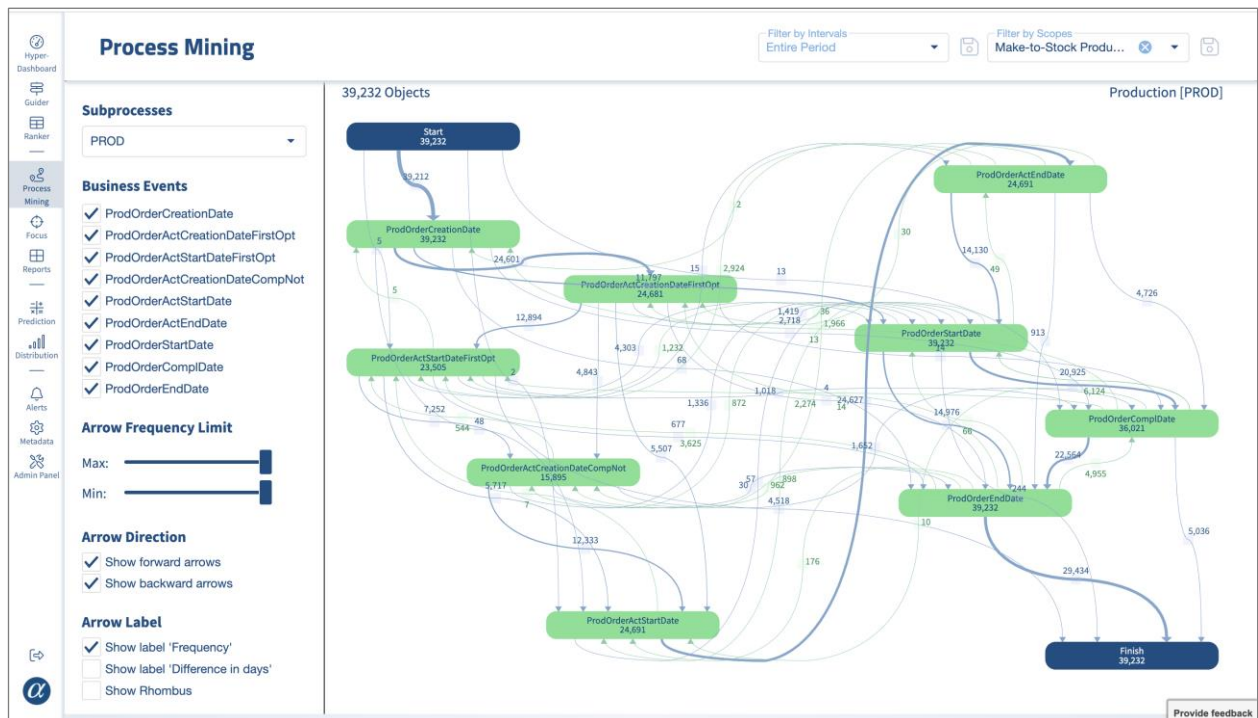
Focus on Production Data

The purchasing, producing and selling process chains are complete now.

The screenshot displays the 'Focus' interface for production data. At the top, there are filters for 'Filter by Intervals' (set to 'Entire Period') and 'Filter by Scopes' (set to 'All Data'). Below these are navigation tabs for 'Start', 'Analysis', and 'View'. A toolbar includes 'Zoom in', 'Zoom out', 'Exclude', 'Back', 'Next', and a refresh icon. On the right, it shows 'Attributes: 1,272 of 1,272' and 'Objects: 3,435,311 of 3,435,311'. The main area features two search boxes: 'Search Attributes' (with 'e.g. Purchasing') and 'Search Values' (with 'e.g. Make'). A list of production-related attributes is shown on the left, including 'ProdOrderLineStatus', 'ProdOrderLineStatusDesc', 'ProdOrderLineAssemblySec', 'ProdOrderLineStartupScrap', 'ProdOrderLineNumber', 'ProdOrderLineScrapPosted', 'ProdOrderLineDemandQty', 'ProdOrderLineDemandDate', 'ProdOrderLineWithdrawalQ', 'ProdOrderLineBOMFactor', and 'ProdOrderLineProductionQ'. Each attribute has a corresponding input field with numerical values (e.g., 0, 1, 2) and a dropdown menu. The 'ProdOrderLineStatus' dropdown is set to 'R' and 'Archived'. At the bottom, there are options for 'Exported data', 'Ranker', 'Report', and 'Defined columns', along with a 'Provide feedback' link.

Process Mining for Production

There are various ways to analyze production data with process mining.

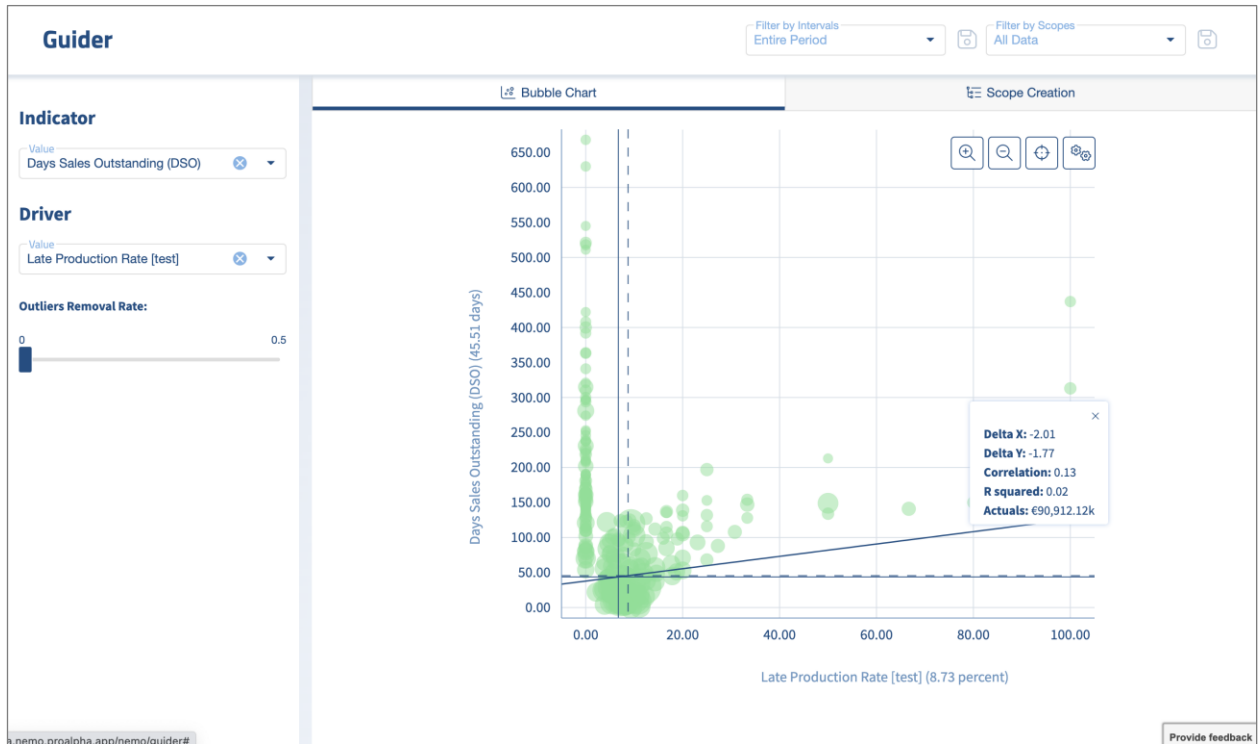


For illustrative purposes scopes for Make-to-Stock and Make-to-Order are supplied as well.

Metrics for Production

Late Production Rate

This metric shows the percentage of production orders that were late in their completion date. This can show how much potential capital is lost due to late completion. The completion date and the end date of production are taken into account in the calculation.



Prediction (UPDATED)

Prediction has been completely overhauled as well.



There are various options to ease the reading of the graphics now.



Furthermore, prediction results can be viewed as report as well as exported to Excel now.

Prediction

Filter by Scopes: All Data

Indicator: Days Sales Outstanding (DSO)

Start date: 07-27-2021

End date: 10-26-2022

Prediction date: 01-26-2023

Apply

Linear Chart | Results Table

Date	Value	Moving Average Value
07-27-2021	118.88	118.88
07-28-2021	118.96	118.92
07-29-2021	118.75	118.86
07-30-2021	116.17	118.12
07-31-2021	119.61	118.46
08-01-2021	119.61	118.68
08-02-2021	119.02	118.74
08-03-2021	120.17	118.96
08-04-2021	119.38	119.02
08-05-2021	118.68	118.98
08-06-2021	119.31	119.02
08-07-2021	120.50	119.19
08-08-2021	120.50	119.34
08-09-2021	119.33	119.33

Provide feedback

Continuous Improvements (UPDATED)

Some important improvements are

- the Gain calculation is more accurate now
- Ranker results are more meaningful now (by ignoring NULL in automatic scopes)
- Metrics have an "Is Crawlabe" flag now (settable only by an Admin)

Focus (NEW and IMPROVED)

All Attributes can now be coupled so they are aligned horizontally. This way it's possible to explore relations between data way faster. Especially if the amount of data has been reduced already by applying restrictions.

Focus

Filter by Intervals: Entire Period | Filter by Scopes: Temporary scope

Attributes: 1,027 of 1,027 | Objects: 52,486 of 2,334,394

CustomerCountry X

Search Attributes: e.g. Purchasing | Search Values: e.g. Make

Payment Data | Part Data | Customer Data

CustomerCountry	Country 10081..	Country 10082..	Country 10083..	Country 10084..	Country 10085..	Country 10086..	Country 10087..	Country 10088..	Country 10089..
CustomerRegion	Region 100814	Region 100822	Region 100823	Region 100871	Region 100873	Region 100877	Region 100878	Region 100879	Region 100880
CustomerState	State 100814	State 100822	State 100823	State 100871	State 100873	State 100877	State 100878	State 100879	State 100880
CustomerCity	Aalen-Ebnat	City 100814	Aachen	Aachen	Aachen	Aachen	Aachen	Aachen	Aachen
CustomerABCClassification	A	B	C	D	E	F	G	H	I
CustomerName	0..	1..	2..	A..	N..				
CustomerStreet									
CustomerStreetNo									
CustomerFirstName	FirstName 10081..	FirstName 10082..	FirstName 10083..	FirstName 10084..	FirstName 10085..	FirstName 10086..	FirstName 10087..	FirstName 10088..	FirstName 10089..
CustomerZIPCode									

Exported data | Ranker | Reports | Defined columns

Provide feedback

Attributes can now be hidden in the Defined Columns Infoscape as well. So you can apply a layout that suits your needs best.

The screenshot shows the 'Focus' application interface. On the left is a sidebar with icons for various tools like 'Exported data', 'Ranker', 'Reports', and 'Defined columns'. The main area is divided into a search bar for attributes (e.g., 'Purchasing') and a search bar for values (e.g., 'Make'). Below these is a data table with columns for 'bedarfgesteuert', 'kommissi onsgeste', and 'bestandsgesteuert'. The table contains several rows of data, with some cells containing 'false' or 'true'. At the bottom of the table, there are buttons for 'Hide selected' and 'Show All (0)'. The top right corner shows 'Attributes: 183 of 183' and 'Objects: 2,334,394 of 2,334,394'. The bottom right corner has a 'Provide feedback' button.

Newly Exported Columns

Most of the added columns have been requested by our customers. They will become available as soon as new data exports and loads have been performed. Based on these data refreshes we will research the feasibility of new default metrics. Those would become available with the next release provided they deem valuable.

Display Name	Description
AccountGroup	Account group of part data #ERP-Origin: S_ArtKtoGr.Konten-Gruppe
AccountGroupDesc	Account group (description) of part data #ERP-Origin: S_ArtKtoGrSpr.Bezeichnung
CustomerURL	HomePage of customer #ERP-Origin: S_Adresse.HomePage
ProdOrderActActLaborCat	Labor category of production activity #ERP-Origin: MB_Aktivitaet.Lohnart
ProdOrderActActStatusLastOpt	Last operation activity status of production activity log #ERP-Origin: ACM PP_OrderStatus_desc
ProdOrderActActualSetupTime	Actual setup time of production activity #ERP-Origin: MB_Aktivitaet.Ist_Tr
ProdOrderActActualUnitTime	Actual time of production activity #ERP-Origin: MB_Aktivitaet.Ist_Te
ProdOrderActAlterantiveGroup	Alterantive group of production activity #ERP-Origin: MB_Aktivitaet.AltGruppe
ProdOrderActBasicIntensity	Basic intensity of production activity #ERP-Origin: MB_Aktivitaet.BasisIntensitaet
ProdOrderActBasicResource	Basic resource of production activity #ERP-Origin: MB_Aktivitaet.BasisRessource
ProdOrderActBasicResourceCat	Basic resource category (description) of production activity #ERP-Origin: ACM PM_ResourceCategories_desc
ProdOrderActChangeDate	Change date of production activity #ERP-Origin: MB_Aktivitaet.Aenderungdatum
ProdOrderActChangedManuell	Shows if production activity is changed manual #ERP-Origin: MB_Aktivitaet.manuell
ProdOrderActCheckQM	Shows if production activity has quality check #ERP-Origin: stamm.base.cls.SBCQualityCheckSvc:prpoInstance:llsOperationQMrelevant
ProdOrderActCheckTimeQM	Quality check time (description) of production activity #ERP-Origin: ACM PM_CheckTimeQM_desc
ProdOrderActCheckTypeQM	Quality check type (description) of production activity #ERP-Origin: ACM PM_CheckTypeQM_desc
ProdOrderActCostItemGroup	Cost item group of production activity #ERP-Origin: MB_Aktivitaet.KostenartenGruppe

ProdOrderActCreationDate	Creation date of production activity #ERP-Origin: MB_Aktivitaet.Anlagedatum
ProdOrderActCreationDateCompNot	First creation date of completed production activity log #ERP-Origin: MBL_ActivityLog.CreationDateTime
ProdOrderActCreationDateFirstOpt	First creation date of production activity log #ERP-Origin: MBL_ActivityLog.CreationDateTime
ProdOrderActCreationDateLastOpt	Last creation date of production activity log #ERP-Origin: MBL_ActivityLog.CreationDateTime
ProdOrderActDataEntryID	Activity data entry ID (description) of production activity #ERP-Origin: ACM MB_DataEntryIDsExtOperat_desc
ProdOrderActDateLastDataEntry	Oldest creation date of activity (with origin 'Rückmeldung') of production activity log #ERP-Origin: MBL_ActivityLog.startDateTime
ProdOrderActDateLastOptBeforeDataEntry	Oldest start date (with origins 'Komplettoptimierung', 'Einzelterminierung', 'Grobterminierung', 'Feinplanung') before last activity (with 'Rückmeldung') of production activity log #ERP-Origin: MBL_ActivityLog.startDateTime
ProdOrderActDeliveryTime	Delivery time of production activity #ERP-Origin: MB_Aktivitaet.Lieferzeit
ProdOrderActDeliveryTimeUnit	Delivery Time unit (description) of production activity #ERP-Origin: ACM MM_TimeUnits_desc
ProdOrderActEndDate	End date of production activity #ERP-Origin: MB_Aktivitaet.EndTermin
ProdOrderActEndDateFirstOpt	First operation end date of production activity log #ERP-Origin: MBL_ActivityLog.endDateDateTime
ProdOrderActEndDateLastOpt	Last end date operation of production activity log #ERP-Origin: MBL_ActivityLog.endDateDateTime
ProdOrderActEndTime	End Time of production activity #ERP-Origin: MB_Aktivitaet.EndZeit
ProdOrderActExcessDelivery	Excess delivery of production activity #ERP-Origin: MB_Aktivitaet.Ueberlieferung
ProdOrderActFirstDateSingleScheduling	Oldest creation date of activity (with origin 'Einzelterminierung') of production activity log #ERP-Origin: MBL_ActivityLog.CreationDateTime
ProdOrderActIsAlterantiveGroup	Shows if production activity is alterantive group #ERP-Origin: MB_Aktivitaet.AlternativGr
ProdOrderActIsBufferOperation	Shows if produciton activity is buffer operation #ERP-Origin: MB_Aktivitaet.IsBufferOperation
ProdOrderActLastDateSingleScheduling	Newest creation date of activity (with origin 'Einzelterminierung') of production activity log #ERP-Origin: MBL_ActivityLog.CreationDateTime
ProdOrderActMinQty	Minimum quantity of production activity #ERP-Origin: MB_Aktivitaet.Mindestmenge

ProdOrderActNumberOfManPlanning	Number of different days (with origin 'Einzelterminierung') of production activity log #ERP-Origin: counter for MBL_ActivityLog
ProdOrderActNumberOfPlanning	Number of different days with origins 'Komplettoptimierung', 'Einzelterminierung', 'Grobterminierung', 'Feinplanung' of production activity log #ERP-Origin: counter for MBL_ActivityLog
ProdOrderActOID	object ID of production activity #ERP-Origin: MB_Aktivitaet.MB_Aktivitaet_Obj
ProdOrderActOperation	Operation of production activity #ERP-Origin: MB_Aktivitaet.Aktivitaet
ProdOrderActOperationCat	Operation category (description) of production activity #ERP-Origin: ACM MM_ActivityTypes_desc
ProdOrderActOperationLine	Operation line of production activity #ERP-Origin: MB_Aktivitaet.AktPos
ProdOrderActOptEndTime	Optimal end time of production activity #ERP-Origin: MB_Aktivitaet.OptimalEndTime
ProdOrderActOptStartTime	Optimal start time of production activity #ERP-Origin: MB_Aktivitaet.OptimalStartTime
ProdOrderActOriginFirstOpt	First log type (description) of production activity log #ERP-Origin: ACM PP_ActivityLogType_desc
ProdOrderActOriginLastOpt	Last log type (description) of production activity log #ERP-Origin: ACM PP_ActivityLogType_desc
ProdOrderActOverlappingDate	Overlapping date of production activity #ERP-Origin: MB_Aktivitaet.UebTermin
ProdOrderActPlanActive	Shows if production activity is planned active #ERP-Origin: MB_Aktivitaet.planaktiv
ProdOrderActProductionQty	Finished quantity of production activity #ERP-Origin: MB_Aktivitaet.FertigMenge
ProdOrderActQtyConditional	Conditional quality quantity of production activity #ERP-Origin: dQMQuantities[3]
ProdOrderActQtyFactor	Quantity factor of production activity #ERP-Origin: MB_Aktivitaet.Mengenfaktor
ProdOrderActQtyNotOK	Bad quality quantity of production activity #ERP-Origin: dQMQuantities[2]
ProdOrderActQtyOK	Good quality quantity of production activity #ERP-Origin: dQMQuantities[1]
ProdOrderActQtyUnit	Quantity unit (description) of production activity #ERP-Origin: S_MengeneinheitSpr.KurzBez
ProdOrderActReportedQty	Reported quantity of production activity #ERP-Origin: MB_Aktivitaet.RueckMenge
ProdOrderActScrapPosted	Scrap posted quantity of production activity #ERP-Origin: MB_Aktivitaet.AusschussGebucht

ProdOrderActScrapQtyCostsCorpCur	Scrap quantity costs in corporate currency (production activity) #ERP-Origin: dActScrapProcLoc[{{&pa_MM_Fraction_Total}}]
ProdOrderActScrapQtyCostsOwnCur	Scrap Quantity costs in own currency (production activity) #ERP-Origin: dActScrapProcLoc[{{&pa_MM_Fraction_Total}}]
ProdOrderActScrapTargetQty	Scrap target quantity of production activity #ERP-Origin: MB_Aktivitaet.Produktionsmenge
ProdOrderActSetupOperation	Shows if production activity is setup operation #ERP-Origin: MB_Aktivitaet.RuestAktivitaet
ProdOrderActSetupTime	Setup time of production activity #ERP-Origin: MB_Aktivitaet.TR
ProdOrderActShortDelivery	Short delivery of production activity #ERP-Origin: MB_Aktivitaet.Unterlieferung
ProdOrderActStartDate	Start date of production activity #ERP-Origin: MB_Aktivitaet.StartTermin
ProdOrderActStartDateFirstOpt	First operation start date of production activity log #ERP-Origin: MBL_ActivityLog.startDateTime
ProdOrderActStartDateLastOpt	Last operation start date of production activity log #ERP-Origin: MBL_ActivityLog.startDateTime
ProdOrderActStartDateOperation	Start date operation of production activity #ERP-Origin: MB_Aktivitaet.StartTerminAkt
ProdOrderActStartTime	Start time of production activity #ERP-Origin: MB_Aktivitaet.StartZeit
ProdOrderActStartupScrap	Startup scrap of production activity #ERP-Origin: MB_Aktivitaet.Anfahrausschuss
ProdOrderActSublotQty	Sublot quantity of production activity #ERP-Origin: MB_Aktivitaet.MengeTeilLos
ProdOrderActTargetSetupTime	Target setup time of production activity #ERP-Origin: MB_Aktivitaet.Soll_Tr
ProdOrderActTargetUnitTime	Target unit time of production activity #ERP-Origin: MB_Aktivitaet.Soll_Te
ProdOrderActTime	Time of production activity #ERP-Origin: MB_Aktivitaet.Zeit
ProdOrderActTimeUnit	Time unit (description) of production activity #ERP-Origin: ACM_SB_TimeUnits_desc
ProdOrderActTimeUnitSetupTime	Time unit setup time up to hours of production activity #ERP-Origin: ACM_SB_TimeUnitsUpToHours_desc
ProdOrderActTimeUnitUnitTime	Time unit up to hours (description) of production activity #ERP-Origin: ACM_SB_TimeUnitsUpToHours_desc
ProdOrderActTotalCostsCorpCur	Total costs in corporate currency (production activity) #ERP-Origin: dActRepLoc[{{&pa_MM_Fraction_Total}}]
ProdOrderActTotalCostsOwnCur	Total costs in own currency (production activity) #ERP-Origin: dActRepLoc[{{&pa_MM_Fraction_Total}}]
ProdOrderActUnitTime	Unit time of production activity #ERP-Origin: MB_Aktivitaet.TE

ProdOrderActWithdrawalQty	Withdrawal quantity of production activity #ERP-Origin: MB_Aktivitaet.EntnahmeMenge
ProdOrderActualCostsCorpCur	Actual costs in corporate currency (production order) #ERP-Origin: dWOActualValues
ProdOrderActualCostsOwnCur	Actual costs in own currency (production order) #ERP-Origin: dWOActualValues
ProdOrderAssemblyReportDate	Reporting date of assembly production order #ERP-Origin: PP_Auftrag.MeldeTerminBGr
ProdOrderAssemblySeq	assembly sequence for production order #ERP-Origin: PP_Auftrag.Baugruppenfolge
ProdOrderChangeDate	Change date of production order #ERP-Origin: PP_Auftrag.Aenderungdatum
ProdOrderCheckQM	Shows if part is relevant for quality management in production order #ERP-Origin: stamm.base.cls.SBCQualityCheckSvc:prpoInstance:llsPartQMrelevant
ProdOrderCheckTime	TODO #ERP-Origin: ":U
ProdOrderComplDate	Date of completion of production order #ERP-Origin: PP_Auftrag.Fertigstellung
ProdOrderCoverageDocType	Documenttype of the Coverage #ERP-Origin: PP_Auftrag.Coverage_MRPDocType
ProdOrderCoverageOID	ID of the coverage #ERP-Origin: PP_Auftrag.Coverage_Obj
ProdOrderCreationDate	Creation date of production order #ERP-Origin: PP_Auftrag.Anlagedatum
ProdOrderCriticalTimePath	Critical time path of production order #ERP-Origin: PP_Auftrag.ZeitMengeKritischerPfad
ProdOrderCycleTime	Cycle time of production order #ERP-Origin: PP_Auftrag.Durchlaufzeit
ProdOrderDataEntryNo	Data entry number of production order #ERP-Origin: PP_Auftrag.RueckMeldeNr
ProdOrderDocNo	Document number (production order) #ERP-Origin: PP_Auftrag.Belegnummer
ProdOrderDriver	driver of production order #ERP-Origin: stamm.base.cls.SBCMasterFilesAccountingSvc:prpoInstance:cDriverID
ProdOrderEndDate	end date of production order #ERP-Origin: PP_Auftrag.EndTermin
ProdOrderFinishedQty	Finished quantity of production order #ERP-Origin: PPT_OrderPart.FinishedQty
ProdOrderFirstOrder	value shows if the order is not the first #ERP-Origin: PP_Auftrag.nicht_erster
ProdOrderIdleTime	Idle time of production order #ERP-Origin: PP_Auftrag.Tue_liegen_proz

ProdOrderIndexNo	Index number of production order #ERP-Origin: PP_Auftrag.IndexNr
ProdOrderIndexNoRouting	Index number for process of production order #ERP-Origin: PP_Auftrag.IndexNrProz
ProdOrderInspOrdState	Check state description of production order #ERP-Origin: ACM SB_QualityCheckState_desc
ProdOrderJointProduction	Shows if production order is joint #ERP-Origin: IJointProduction
ProdOrderLineAssemblySeq	Assembly sequence of production order line #ERP-Origin: PP_StkZeile.BaugruppenFolge
ProdOrderLineBOMFactor	BOM factor of production order line #ERP-Origin: PP_StkZeile.Faktor
ProdOrderLineChangeDate	Change date of production order line #ERP-Origin: PP_StkZeile.Aenderungdatum
ProdOrderLineContDemand	Shows if production order line has continuous demand #ERP-Origin: PP_StkZeile.HasContinuousDemand
ProdOrderLineCreationDate	Creation date of production order line #ERP-Origin: PP_StkZeile.Anlagedatum
ProdOrderLineDataEntry	Shows if production order line has data entry #ERP-Origin: PP_StkZeile.Rueckmeldung
ProdOrderLineDataEntryNo	Data entry number of production order #ERP-Origin: PP_StkZeile.RueckmeldeNr
ProdOrderLineDeliveryQty	Delivery quantity of production order line #ERP-Origin: PP_StkZeile.Liefermenge
ProdOrderLineDemandDate	Demand date of production order line #ERP-Origin: PP_StkZeile.BedarfsTermin
ProdOrderLineDemandQty	Demand quantity of production order line #ERP-Origin: PP_StkZeile.Bedarfsmenge
ProdOrderLineElectroBOM	Shows if production order line is an electronic BOM #ERP-Origin: PP_StkZeile.IsElectroBOMLine
ProdOrderLineFinishedQty	Finished quantity of production order line #ERP-Origin: PP_StkZeile.Fertigmenge
ProdOrderLineFinishedQtySubWO	Finished quantity sub work order of production order line #ERP-Origin: PP_StkZeile.FinishedQtySubWO
ProdOrderLineGrossQty	Line gross quantity of production order line #ERP-Origin: PP_StkZeile.MengeBrutto
ProdOrderLineIdentNoBOM	BOM ID number of production order line #ERP-Origin: PP_StkZeile.IdentStk
ProdOrderLineIndexNo	Index Number of production order line #ERP-Origin: PP_StkZeile.IndexNr
ProdOrderLineIsRepairPart	Show if production order line is repair part #ERP-Origin: PP_StkZeile.IsRepairPart

ProdOrderLineLineNo	Position number of production order line #ERP-Origin: PP_StkZeile.Position
ProdOrderLineMRPArea	MRP area of production order line #ERP-Origin: PP_StkZeile.Lagergruppe
ProdOrderLineManual	Shows if production order line is manual #ERP-Origin: PP_StkZeile.Manuell
ProdOrderLineManualAssign	Shows if production order line has manual assignment #ERP-Origin: PP_StkZeile.manZuordnung
ProdOrderLineManual-ChangeDate	Manual change date of production order line #ERP-Origin: PP_StkZeile.ManuellAenderungDatum
ProdOrderLineMatCostsCorpCur	Material costs in corporate currency (production order line) #ERP-Origin: dWOActualValues[{{&pa_MM_Fraction_Count}}
ProdOrderLineMatCostsOwnCur	Material costs in own currency (production order line) #ERP-Origin: dWOActualValues[{{&pa_MM_Fraction_Count}}
ProdOrderLineNumber	Number of production order line #ERP-Origin: PP_StkZeile.Anzahl
ProdOrderLineOID	object ID of production order line #ERP-Origin: PP_StkZeile.PP_StkZeile_Obj
ProdOrderLineOptDemandDate	Optimal demand date of production order line #ERP-Origin: PP_StkZeile.OptimalDemandDate
ProdOrderLineProductionQty	Production quantity of production order line #ERP-Origin: PP_StkZeile.FertigMenge
ProdOrderLineQtyIndepQty	Indep quantity of production order line #ERP-Origin: PP_StkZeile.WOQtyIndepQty
ProdOrderLineQtyUnit	Quantity unit (description) of production order line #ERP-Origin: S_MengeneinheitSpr.KurzBez
ProdOrderLineReportedQty	Reported quantity of production order line #ERP-Origin: PP_StkZeile.Rueckmenge
ProdOrderLineScrapFactor	Scrap factor of production order line #ERP-Origin: PP_StkZeile.Verschnittfaktor
ProdOrderLineScrapPosted	Posted scrap of production order line #ERP-Origin: PP_StkZeile.AusschussGebucht
ProdOrderLineStartupScrap	Startup scrap of production order line #ERP-Origin: PP_StkZeile.Anfahrausschuss
ProdOrderLineStatus	Order status of production order line #ERP-Origin: PP_StkZeile.AuftragsStatus
ProdOrderLineStatusDesc	Order status (description) of production order line #ERP-Origin: ACM PP_OrderStatus_desc
ProdOrderLineStorageArea	Storage area of production order line #ERP-Origin: PP_Stkzeile.Lagerort
ProdOrderLineTargetDate	Target date of production order line #ERP-Origin: PP_StkZeile.TargetDate

ProdOrderLineWithdrawalQty	Withdrawal quantity of production order line #ERP-Origin: PP_StkZeile.Entnahmemenge
ProdOrderLocationMatrix	Location matrix of production order #ERP-Origin: PP_Auftrag.Tue_Matrix_proz
ProdOrderLowerLimit	Lower limit of production order #ERP-Origin: PP_Auftrag.LowerLimit
ProdOrderManuellChangeDate	Manual change date of production order #ERP-Origin: PP_Auftrag.ManuellAenderungDatum
ProdOrderNewSetupTime	New setup time of production order #ERP-Origin: PP_Auftrag.TR_Neu
ProdOrderNo	Number of production order #ERP-Origin: PP_Auftrag.Auftrag
ProdOrderOID	object ID of production order #ERP-Origin: PP_Auftrag.PP_Auftrag_Obj
ProdOrderOpen	shows if the production order is archived #ERP-Origin: pbPP_Auftrag.Archived
ProdOrderOptimalLotSize	Lot size of production order #ERP-Origin: PP_Auftrag.Produktionsmenge
ProdOrderOrderCategory	order category of production order #ERP-Origin: PP_Auftrag.Auftragsart
ProdOrderOrderCategoryDesc	order category (description) of production order #ERP-Origin: S_AuftragsArtSpr.Bezeichnung
ProdOrderOrderStart	start date of production order task #ERP-Origin: PP_Auftrag.AuftragsStart
ProdOrderOrderStatus	status of the production order #ERP-Origin: PP_Auftrag.AuftragsStatus
ProdOrderOrderStatusDesc	status (description) of the production order #ERP-Origin: ACM PP_OrderStatus_desc
ProdOrderParentOrderOID	object ID of the parent production order #ERP-Origin: PP_Auftrag.PP_Auftrag_Obj
ProdOrderPartOrderOID	object ID of part production order #ERP-Origin: PP_Auftrag.PP_Auftrag_Obj
ProdOrderPlanDate	Plan date of production order #ERP-Origin: PP_Auftrag.PlanTermin
ProdOrderPriority	Priority of production order #ERP-Origin: PP_Auftrag.Prioritaet
ProdOrderPriorityDesc	Priority (description) of production order #ERP-Origin: M_PrioritaetSpr.Bezeichnung
ProdOrderProdOrderID	Order ID (description) of production order #ERP-Origin: ACM PP_OrderIDs_desc
ProdOrderProfitCenter	Profit center of production order #ERP-Origin: PP_Auftrag.SBM_ProfitCenter_ID
ProdOrderQtyConditional	Conditional quantity for the production order #ERP-Origin: stamm.base.cls.SBCQualityCheckSvc:prpoInstance:dCalculateQtyForDocument

ProdOrderQtyNotOK	Not ok quantity for the production order #ERP-Origin: stamm.base.cls.SBCQualityCheckSvc:prpoInstance:dCalculateQtyForDocument
ProdOrderQtyOK	Ok quantity for the production order #ERP-Origin: stamm.base.cls.SBCQualityCheckSvc:prpoInstance:dCalculateQtyForDocument
ProdOrderQuantityUnit	Quantity unit (description) of production order #ERP-Origin: S_MengenEinheitSpr.Bezeichnung
ProdOrderReleaseDate	Release date of production order #ERP-Origin: PP_Auftrag.Prod_Freigabe
ProdOrderReportingDate	Reporting date of production order #ERP-Origin: PP_Auftrag.MeldeTermin
ProdOrderReqDate	Requested date of production order #ERP-Origin: PP_Auftrag.WunschTermin
ProdOrderReqStartDate	Requested start date of production order #ERP-Origin: PP_Auftrag.WunschStartTermin
ProdOrderResActive	Shows if production activity resource is active #ERP-Origin: MB_Ressource.aktiv
ProdOrderResAltGroup	Alternate group of production activity resource #ERP-Origin: MB_Ressource.AltGruppe
ProdOrderResAltGroupDesc	Alternate group (of production activity resource #ERP-Origin: (if available bM_RessAltGrSpr then
ProdOrderResChangeDate	Change date of production activity resource #ERP-Origin: MB_Ressource.Aenderungdatum
ProdOrderResCreationDate	Creation date of production activity resource #ERP-Origin: MB_Ressource.Anlagedatum
ProdOrderResHelpRes	Shows if production activity resource is help function #ERP-Origin: MB_Ressource.HelpRes
ProdOrderResIntensity	Intensity of production activity resource #ERP-Origin: MB_Ressource.Intensitaet
ProdOrderResIntensityUnit	Intensity unit of production activity resource #ERP-Origin: M_Ressource.IntEinheit
ProdOrderResLineNo	Line number of production activity resource #ERP-Origin: MB_Ressource.RessPos
ProdOrderResOID	Object ID of production activity resource #ERP-Origin: MB_Ressource.MB_Ressource_Obj
ProdOrderResResDesc	Resource (description) of production activity resource #ERP-Origin: M_RessourceSpr.Bezeichnung
ProdOrderResResGroup	Resource group of production activity resource #ERP-Origin: M_Ressource.RessGruppe
ProdOrderResResType	Ressource type (description) of production activity resource #ERP-Origin: ACM PM_ResourceCategories_desc

ProdOrderResResource	Resource of production activity resource #ERP-Origin: MB_Ressource.Ressource
ProdOrderScrapCostsCorpCur	Scrap costs in corporate currency (production order) #ERP-Origin: dCorporateCurrencyAmount
ProdOrderScrapCostsOwnCur	Scrap costs in own currency (production order) #ERP-Origin: mawi.lager.cls.MLInventoryValSvc:prpoInstance:dCalculateFieldSum(dWOScrapValuesNew)
ProdOrderScrapQty	Scrap quantity of production order #ERP-Origin: PPT_OrderPart.ScrapQty
ProdOrderStartDate	start date of production order #ERP-Origin: PP_Auftrag.StartTermin
ProdOrderStartupScrapQty	Startup scrap quantity of production order #ERP-Origin: PP_Auftrag.Anfahrausschuss
ProdOrderStockQty	Stock quantity of production order #ERP-Origin: PP_Auftrag.Bestandsmenge
ProdOrderStorageArea	Storage area of production order #ERP-Origin: PP_Auftrag.Lagerort
ProdOrderTargetCostsCorpCur	Target costs in corporate currency (production order) #ERP-Origin: mawi.lager.cls.MLInventoryValSvc:prpoInstance:dCalculateFieldSum(dWOSTandValuesNew)
ProdOrderTargetCostsOwnCur	Target costs in own currency (production order) #ERP-Origin: mawi.lager.cls.MLInventoryValSvc:prpoInstance:dCalculateFieldSum(dWOSTandValuesNew)
ProdOrderTargetQty	Target quantity of production order #ERP-Origin: PP_Auftrag.Sollmenge
ProdOrderTargetTimeArchived	Target archive time of production order #ERP-Origin: PP_Auftrag.TargetTimeArchived
ProdOrderTargetTimeReleased	Target release time of production order #ERP-Origin: PP_Auftrag.TargetTimeReleased
ProdOrderTimeUnitDesc	Time unit (description) of production order #ERP-Origin: ACM SB_TimeUnits_desc
ProdOrderTransportTime	Transport time of production order #ERP-Origin: PP_Auftrag.Tue_Transport_proz
ProdOrderUpperLimit	Upper limit of production order #ERP-Origin: PP_Auftrag.UpperLimit
ProdOrderWaitingTime	Waiting time of production order #ERP-Origin: PP_Auftrag.Tue_warten_proz
ProdOrderWithActualCosts	Shows if production order has actual data #ERP-Origin: PP_Auftrag.nachkalkuliert
ProdOrderWithdrawalQty	Withdrawal quantity of production order #ERP-Origin: PP_Auftrag.Entnahmemenge
ProdOrderWorkOrderQty	Production quantity of production order #ERP-Origin: PP_Auftrag.Produktionsmenge

ProdOrderWorkOrderType	Work order type (description) of production order #ERP-Origin: ACM PP_WorkOrderType_desc
SupplierURL	HomePage of supplier #ERP-Origin: S_Adresse.HomePage
ValueFlowGroup	Value flow group of part data #ERP-Origin: SBM_ValueFlowGroup.SBM_ValueFlowGroup_ID
ValueFlowGroupDesc	Value flow group (description) of part data #ERP-Origin: DBM_ShortDescription.ShortDesc1

Compatibility

NEMO is compatible with all ERP releases from 6.1 onwards.

Functional Limitations

Following functionality is restricted as of now:

- Calculations of Driver and Indicators are not based on Intervals yet.
- Stock movements for material withdrawals are not yet exported in Production
- Warehouse movements for material storage are not yet exported in Production

Component Status

- Scopes with ranges don't work in Process Mining yet.
- Intervals don't work in Process Mining yet.

Known Issues

Documentation

Apart from this Release Letter, the following documentation is available.

- NEMO Glossary 2023-01-20 (updated)
- NEMO Data Structure 2023-01-20 (update)
- NEMO Formula Syntax 2022-07-22 (no update)

Availability

Starting from this version (NEMO Version 2023-01-20) new releases will be exclusively available for the NEMO Data Warehouse based on HANA.

All production environments will be updated within the next week.