

NEMO Release Letter

Version 2022-11-25



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Summary

As of November 25, 2022, proALPHA has released NEMO version 2022-11-25.

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 2022-11-25 features various error corrections and performance improvements. Also, various housekeeping improvements have been implemented.

Furthermore, NEMO 2022-11-25 provides following new capabilities triggered by customers:

Metrics (NEW and IMPROVED)

- Project Management Metrics (NEW and IMPROVED)
 - Especially for all customers using pA Project Management for external projects
- Financial Accounting Metrics (NEW)
 - Rounding out operating and financial performance indicators

Reports (NEW and IMPROVED)

- (SAMPLE) ABC/XYZ Analysis (NEW)
- (SAMPLE) Part Consumption (IMPROVED)

Exported Columns (NEW and IMPROVED)

- Finance Data (IMPROVED)
 - Further integrating financial with operational data
- Call Order Data (NEW)
 - 70 newly added exported columns (NEW)
 - Ordered and Shipped quantity for blanked orders
 - Call Order
 - Purchasing Call Order

Focus (IMPROVED)

- Search Attributes by internal column names
- Copy values from Value Lists

In addition, we concluded, based on customer feedback, that less default metrics should be active initially. In consequence we have deactivated a number of metrics which would have to be reactivated if and when needed for Guider or Ranker (currently in the formula field the respective comment would need to be removed).

Last but not least we have eliminated some vanilla P&L metrics in favor of the upcoming Panels capabilities where these numbers will be reintroduced as reports.

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-Editor' interface. On the left, there's a sidebar with navigation icons and a search bar. Below the search bar is a list of items under 'Metrics', with 'OrderAcceptanceDeviation' selected. The main panel displays detailed information about this metric:

- Conflict State:** NoConflict
- Display Name:** OrderAcceptanceDeviation
- Internal Name:** order_acceptance_deviation
- Description:** example of a canonical metric (Guenther)
- Unit:** days
- Aggregate to:** no aggregation
- Optimization Orientation:** Min
- Column:** order_acceptance_deviation
- Aggregation:** maximum
- Group By:** order_acceptance_deviation

Hyper-Dashboard

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

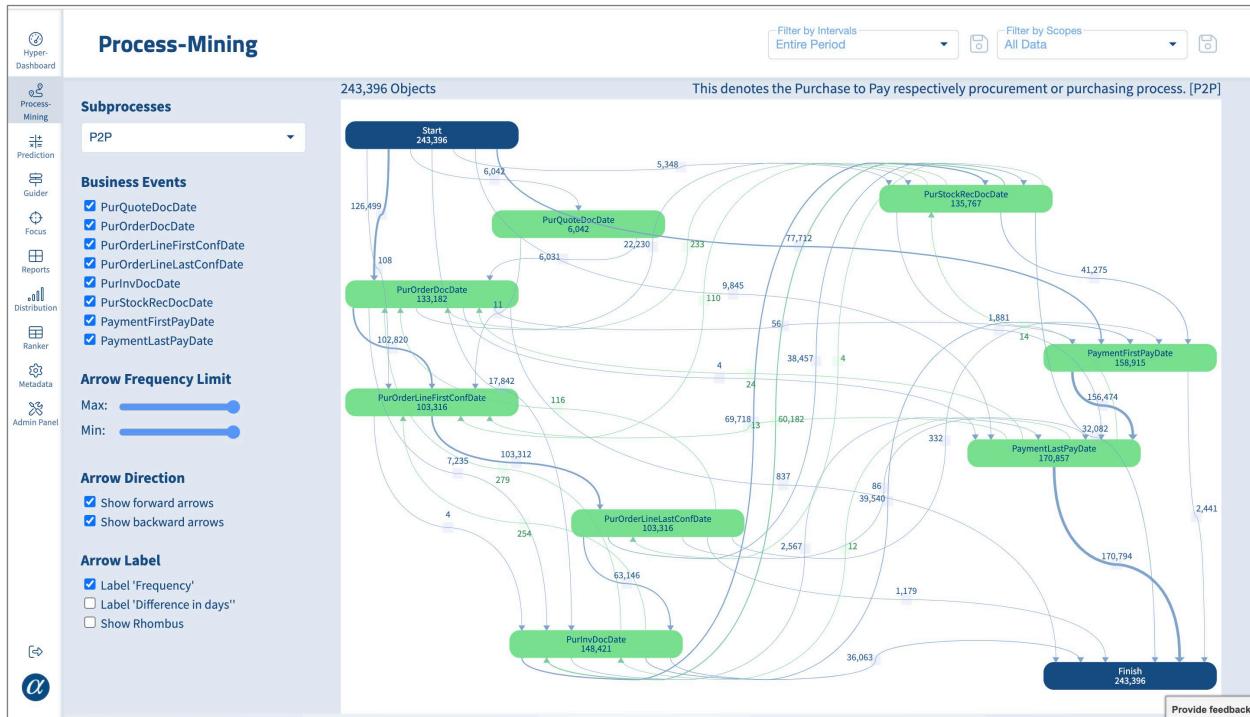
The screenshot shows the 'Hyper-Dashboard' interface. On the left, there's a sidebar with navigation icons and a search bar. Below the search bar is a list of items under 'Metrics', with 'OrderAcceptanceDeviation' selected. The main panel displays a circular correlation chart titled 'Best Opportunities to optimize indicators (by improving drivers)'. The chart has four quadrants representing different indicator groups:

- Top-Left: [[customer_industry:[Power - Waste, Sludge]]]
- Top-Right: [[customer_industry:[Building technology]]]
- Bottom-Left: [[part_type:[60]]]
- Bottom-Right: [[customer_industry:[Power]]]

Each quadrant contains several data points represented by blue dots, with numerical values labeled near them. A legend indicates that blue dots represent 'Average' and green dots represent 'Target'.

Process Mining

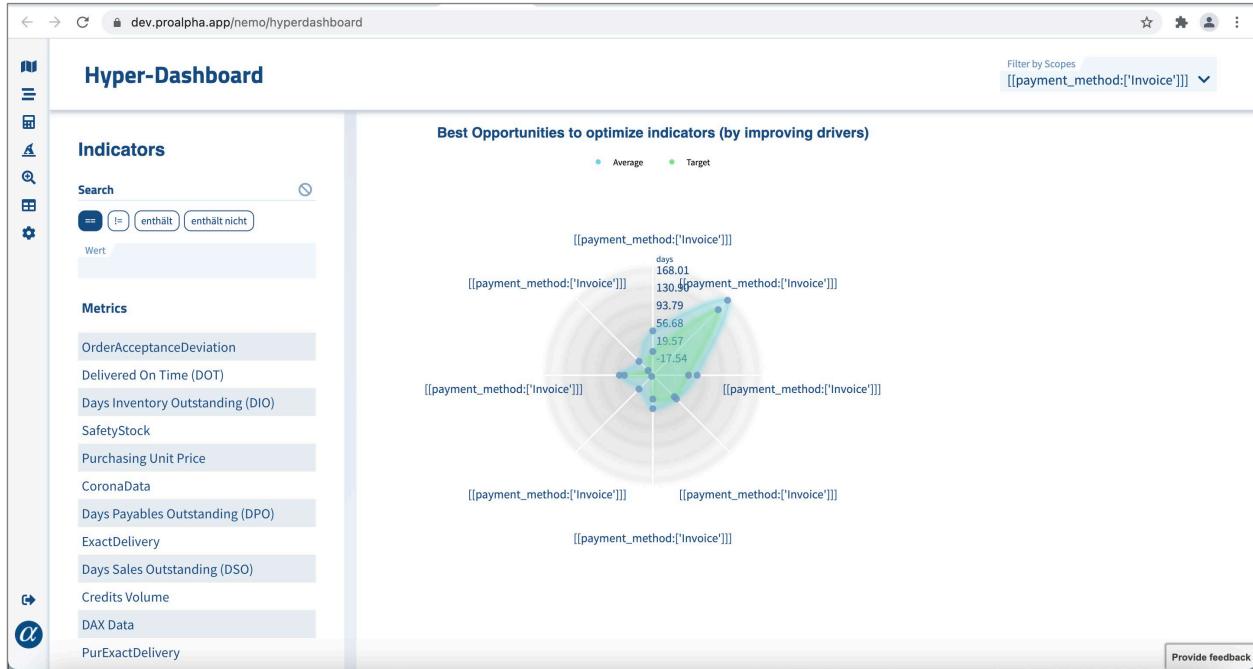
Inherently NEMO discovers all executed business processes. Process Mining visualizes these as so-called process maps. The edges (lines, links) represent business process variants. They can be captured in scopes for further analysis (e.g. Focus and Guider). The nodes (vertices, points) represent the business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

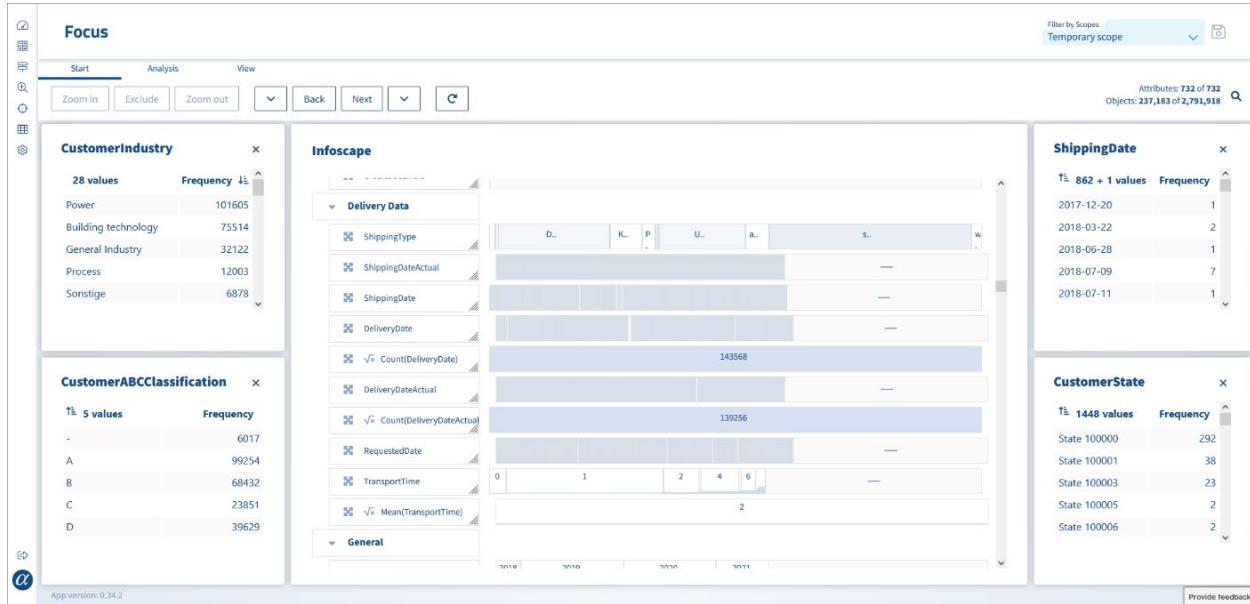


The Ranker table gives the details behind the Hyper-Dashboard.

The screenshot shows the 'Ranker' table. On the left, there's a sidebar with icons for search, filters, and settings. The main area has a title 'Ranker' and a subtitle 'Filter by Scopes All Data'. Below the subtitle is a 'R Squared:' slider from 0 to 1, with a '0' value highlighted. A 'Apply' button is next to the slider. The table lists various indicators with their R Squared values and corresponding data rows:

	NPI	NLI	Driver	Indicator	R Squared	Correlation	Actuals	Gain	Scope
0	601,917,952	40,704.1	Delivered On...	Days Invento...	0.05	0.23	€14,787.66k	€11,839,552....	PaymentMet...
	567,153,024	38,353.1	PurExactDeli...	Days Invento...	0.06	0.25	€14,787.66k	€8,897,089.5...	PaymentMet...
	558,322,112	40,228.5	PurExactDeli...	Days Invento...	0.07	0.26	€13,878.75k	€8,437,466.6...	[[invoicing_d...
	551,381,504	1,133,087.3	ReplLeadTi...	Days Invento...	0.24	0.49	€486.62k	€2,317,477.3...	[[customer_r...
	541,763,584	39,035.5	Delivered On...	Days Invento...	0.05	0.22	€13,878.75k	€11,146,345....	[[invoicing_d...
	368,957,248	13,932.0	Replenishme...	Days Invento...	0.53	0.73	€26,482.77k	€692,769.54k	[[part_type:[9]]]
	249,010,336	16,839.1	ReplLeadTi...	Days Invento...	0.02	-0.14	€14,787.66k	€13,503,370....	PaymentMet...
	248,111,296	25,661.8	ReplLeadTi...	Days Invento...	0.04	-0.19	€9,668.50k	€6,729,405.4...	[[customer_i...
	205,359,856	14,796.7	ReplLeadTi...	Days Invento...	0.02	-0.13	€13,878.75k	€11,834,033....	[[invoicing_d...
	176,447,920	32,377.2	PurExactDeli...	Days Invento...	0.09	0.30	€5,449.76k	€1,909,336.5...	[[customer_a...
	174,167,904	23,651.6	ReplLeadTi...	Days Invento...	0.03	-0.16	€7,363.89k	€6,652,653.0...	[[customer_a...
	172,000,192	3,384.2	Delivered On...	Days Invento...	0.05	0.23	€50,825.06k	€3,189,364.7...	[[part_a_b_c...
	171,797,920	3,349.2	Delivered On...	Days Invento...	0.05	0.23	€51,294.62k	€3,269,720.8...	[[invoice_doc...
	171,730,720	3,349.2	Delivered On...	Days Invento...	0.05	0.23	€51,274.56k	€3,268,441.8...	[[supplier_a...
	160,876,304	3,136.3	PurExactDeli...	Days Invento...	0.07	0.26	€51,294.62k	€2,386,454.0...	[[invoice_doc...
	160,813,376	3,136.3	PurExactDeli...	Days Invento...	0.07	0.26	€51,274.56k	€2,385,520.6...	[[supplier_a...
	152,162,416	2,993.8	PurExactDeli...	Days Invento...	0.07	0.26	€50,825.06k	€2,277,224.4...	[[part_a_b_c...
	141,023,744	14,585.9	Delivered On...	Days Invento...	0.10	0.31	€9,668.50k	€1,458,552.4...	[[customer_i...
	128,455,368	13,286.0	PurExactDeli...	Days Invento...	0.06	0.25	€9,668.50k	€2,082,220.8...	[[cus...

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



Instantly Live

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

New and Changed Capabilities

Finance Data (IMPROVED)

If the reference for a sales or purchasing document is available for a posting in financial accounting, the respective document header is filled. This eases the analysis of financial data in relation to associated operating data.

Call Order (NEW)

With this release the business documents call order (sales) and purchasing sales order are introduced. In Call Orders are general conditions for deliveries with customers entered. Customers can order parts which they require for production at certain dates, on call from your company. The linkage to the shipping (ShippingDoc) and the invoice (InvoiceDoc) have been considered. Purchasing Call Orders represent the other side requiring parts for your production. Terms and conditions with our suppliers are stored there. Linkage for stock receipt (PurStockRecDoc), dispatch notification (PurDesAdvDoc) and invoice voucher (PurlnvDoc) has been taken into account.

New and Changed Features

Metrics (NEW and IMPROVED)

While working with various customers several new metrics emerged. These are now being released to all customers, too.

Project Management Metrics (NEW and IMPROVED)

These project management metrics are available now:

- Project Completed In Time
- Project Completed Process Rate
- Project Costs Deviation
- Project Duration
- Project Missed Process Rate
- Project Planned Time
- Project Progress
- Project Proportion Of Time Spent
- Project Spent Time
- Project Time Deviation

Payments Received (NEW)

This is a new financial metric. It denotes the payments received according to financial accounting.



In this case the length of the accounting processing activity appears to affect the cash received.

Reports (NEW and IMPROVED)

(SAMPLE) ABC/XYZ Analysis (NEW)

This report consists of two metrics, one for volume-to-value analysis and the other for consumption regularity analysis. According to these two metrics, all parts can be classified into the appropriate class, from which it can be found out whether the parts of the respective MRP area are assigned to the appropriate MRP category.

part_id	part_produc...	part_type_d...	part_desc1	part_desc2	part_desc3	part_desc4	mrp_area	consumptio...	consumptio...	abc_xyz_ana...	previous_mr...	new_mrp_ca...	mrp_catego...
210942	4512	Purchased Pa...	Ares Rising (...				100001	815610	1.9562	AZZ	bestandsget...	manuelle Be...	CHECK
100007	4512	Purchased Pa...	Battlezone (2...				100001	725379.6	0.9864	AZ	bestandsget...	bedarfsgeste...	CHECK
339946	3235	Purchased Pa...	Generations ...				100001	574011.28	0.6792	AY	bestandsget...	bedarfsgeste...	CHECK
116757	2532	Purchased Pa...	1xCunning Fo...				100001	292990	0.5409	AY	bestandsget...	bedarfsgeste...	CHECK
117892	3235	Purchased Pa...	Big Blue Disk...				100001	230314.87	1.3927	AZZ	bestandsget...	manuelle Be...	CHECK
247485	3235	Purchased Pa...	Omnitec City ...				100001	224809.26	1.2554	AZZ	bestandsget...	manuelle Be...	CHECK
358329	8191	Purchased Pa...	1:Super Stard...				100001	203670	0.7127	AY	bedarfsgeste...	bedarfsgeste...	OK
113200	3111	Purchased Pa...	Around the ...				100001	200697.77	1.7766	AZZ	bestandsget...	manuelle Be...	CHECK
103508	2651	Purchased Pa...	Apollo 18: Th...				100001	199415.31	0.8194	AZ	bestandsget...	bedarfsgeste...	CHECK
100011	4512	Purchased Pa...	Ace Combat ...				100001	183503.08	2.1387	AZZ	bestandsget...	manuelle Be...	CHECK
100219	8133	Purchased Pa...	1:Castlevania:...				100001	181621.38	0.8502	AZ	bestandsget...	bedarfsgeste...	CHECK
119094	4116	Purchased Pa...	Killer Gorilla (...				100001	177073.96	1.1498	AZ	bestandsget...	bedarfsgeste...	CHECK
107316	4521	Purchased Pa...	Arrow of Dea...				100001	176576.36	3.2787	AZZ	bestandsget...	manuelle Be...	CHECK
308715	3235	Purchased Pa...	Omicron Co...				100001	176505.62	0.9201	AZ	bestandsget...	bedarfsgeste...	CHECK
118874	3111	Purchased Pa...	Fantastic Fou...				100001	163006.71	0.6435	AY	bestandsget...	bedarfsgeste...	CHECK
100222	8133	Purchased Pa...	1:Castlevania:...				100001	151537.27	0.8511	AZ	bestandsget...	bedarfsgeste...	CHECK
311203	4741	Purchased Pa...	Bionicle Mat...				100001	136544.23	0.7616	AY	bestandsget...	bedarfsgeste...	CHECK
109272	4521	Purchased Pa...	Final Fantasy ...				100001	134858.1	1.066	AZ	bestandsget...	bedarfsgeste...	CHECK
304946	3235	Purchased Pa...	AquaNox 2: ...				100001	133992.96	1.2652	AZZ	bestandsget...	manuelle Be...	CHECK

(SAMPLE) Part Consumption (IMPROVED)

Calculation of number of months was adapted in order to not cause problems with time intervals.

Focus (IMPROVED)

Search Attributes by internal column names

When searching for Attributes internal names of columns are also considered. This way Attributes can be found more easily especially after columns have been renamed.

Copy values from Value Lists

Copying less than 1,000 values from Value Lists now also supports directly pasting them into Excel worksheets.

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 the NEMO-Team will research the feasibility of new default metrics. Those would become available with the next release provided they deem valuable.

Display Name	Description
PurBOLineQtyOrdered	Order quantity on blanket order line #ERP-Origin: dBestellmenge (e_prah02.p)
PurBOLineQtyShipping	Shipping quantity on blanket order line #ERP-Origin: dLiefermenge (e_prah02.p)
CallOrderDocID	Object ID of call order doc #ERP-Origin: V_BelegKopf.V_BelegKopf_Obj
CallOrderDocDate	Document date of call order doc #ERP-Origin: V_BelegKopf.BelegDatum
CallOrderDocNo	Document number of call order doc #ERP-Origin: V_BelegKopf.BelegNummer
CallOrderDocRequestedNo	document number of call order request #ERP-Origin: V_BelegKopf.BelegInfo
CallOrderDocRequestedDate	Requested date of call order doc #ERP-Origin: V_BelegKopf.BestellDatum
CallOrderDocValidFromDate	valid from date of call order doc #ERP-Origin: V_BelegKopf.gueltig_ab
CallOrderDocValidToDate	valid to date of call order doc #ERP-Origin: V_BelegKopf.gueltig_bis
CallOrderDocCreationDate	Creation date of call order doc #ERP-Origin: V_BelegKopf.AnlageDatum
CallOrderDocChangeDate	Document change date #ERP-Origin: V_BelegKopf.AenderungDatum
CallOrderDocCheckingDate	Document check date #ERP-Origin: V_BelegKopf.Pruefungsdatum
CallOrderDocPriceValidityDate	Document price validity date #ERP-Origin: V_BelegKopf.Preisgueltigkeit
CallOrderDocContractDate	contract date of call order doc #ERP-Origin: V_BelegKopf.Vertragsdatum
CallOrderDocContractNo	contract number of call order doc #ERP-Origin: V_BelegKopf.Vertragsnummer
CallOrderDocExchangeRate	document exchange rate (call order) #ERP-Origin: V_BelegKopf.Kurs
CallOrderDocCurrency	document currency (call order) ERP-Origin: S_Waehrung.ISO_KurzBez
CallOrderDocTotalGrossFC	Gross sum in foreign currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTotalGrossOC	Gross sum in own currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTotalGrossCC	Gross sum in corporate currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTotalNetFC	Net sum in foreign currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTotalNetOC	Net sum in own currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTotalNetCC	Net sum in corporate currency ERP-Origin: V_BelegKopf.BruttoSumme[11]
CallOrderDocTermsOfDelivery	terms of delivery (call order) ERP-Origin: V_BelegKopf.LieferBedingung
CallOrderDocIncoTerm	inco term (call order doc) ERP-Origin: V_BelegKopf.IncoTerm
CallOrderDocShippingType	shipping type (call order) ERP-Origin: V_BelegKopf.VersandArt
CallOrderDocProfitCenter	Profit Center (Call order) ERP-Origin: V_BelegKopf.SBM_ProfitCenter_ID
CallOrderDocProjectOID	JBT_Project_Obj #ERP-Origin: V_BelegKopf.JBT_Project_Obj
CallOrderDocOpen	value shows if a document is archived #ERP-Origin: V_BelegKopf.offen
CallOrderDocLineID	Object ID of call order doc line #ERP-Origin: V_BelegPos.V_BelegPos_Obj
CallOrderDocLineNo	line number (Call order) #ERP-Origin: V_BelegPos.PositionsNr
CallOrderDocLineQty	line quantity (Call order) #ERP-Origin: V_BelegPos.Menge
CallOrderDocLineTotalGrossFC	total gross line amount in foreign currency #ERP-Origin: V_BelegPos.Gesamtpreis
CallOrderDocLineTotalGrossOC	total gross line amount in own currency #ERP-Origin: V_BelegPos.Gesamtpreis

CallOrderDocLineTotalGrossCC	total gross line amount in corporate currency #ERP-Origin: V_BelegPos.Gesamtpreis
CallOrderDocLineTotalNetFC	total net line amount in foreign currency #ERP-Origin: V_BelegPos.Gesamtpreis
CallOrderDocLineTotalNetOC	total net line amount in own currency #ERP-Origin: V_BelegPos.Gesamtpreis
CallOrderDocLineTotalNetCC	total net line amount in corporate currency #ERP-Origin: V_BelegPos.Gesamtpreis
CallOrderDocLineCreationDate	line creation date (Call order) #ERP-Origin: V_BelegPos.AnlageDatum
CallOrderDocLineChangeDate	line change date (Call order) #ERP-Origin: V_BelegPos.AenderungDatum
CallOrderDocLineStorageArea	line storage area (call order doc) #ERP-Origin: V_BelegPos.LagerOrt
CallOrderDocLineQuantityUnit	quantity unit of line #ERP-Origin: S_MengenEinheitSpr.Bezeichnung
CallOrderDocLineQtyOrdered	ordered quantity of line #ERP-Origin: V_BelegPos.beauftragte_Menge
CallOrderDocLineQtyDelivered	delivered quantity of line #ERP-Origin: V_BelegPos.gelieferte_Menge
CallOrderDocLineCostPriceFC	cost price of line in foreign currency (call order doc) #ERP-Origin: gdAverageCosts[{\&pa_MM_Fraction_Count}]
CallOrderDocLineCostPriceCC	cost price of line in corporate currency (call order doc) #ERP-Origin: gdAverageCosts[{\&pa_MM_Fraction_Count}]
CallOrderDocLineGrossProfitPct	gross margin percentage of line #ERP-Origin: opdGrossMarginPct
CallOrderDocLineGrossProfitAmtOC	gross margin amount of line in own currency #ERP-Origin: opdGrossMarginAmt
CallOrderDocLineGrossProfitAmtFC	gross margin amount of line in foreign currency #ERP-Origin: opdGrossMarginAmt
CallOrderDocLineGrossProfitAmtCC	gross margin amount of line in corporate currency (call order doc) #ERP-Origin: opdGrossMarginAmt
PurCallOrderDocID	Object ID of purchasing call order #ERP-Origin: EBT_CallOrder.EBT_CallOrder_Obj
PurCallOrderDocDate	Document date #ERP-Origin: EBT_CallOrder.Belegdatum
PurCallOrderDocNo	Document number #ERP-Origin: EBT_CallOrder.Belegnummer
PurCallOrderDocCreationDate	Creation date #ERP-Origin: EBT_CallOrder.CreationDate
PurCallOrderDocChangeDate	Document change date #ERP-Origin: EBT_CallOrder.ChangeDate
PurCallOrderDocOpen	value shows if a document is archived #ERP-Origin: EBT_CallOrder.offen
PurCallOrderDocOrderCategory	purchasing order category #ERP-Origin: EBT_CallOrder.Auftragsart
PurCallOrderDocOrderCategoryDesc	Description of the order category #ERP-Origin: S_AuftragsArtSpr.Bezeichnung
PurCallOrderDocValidFromDate	valid from date #ERP-Origin: EBT_CallOrder.gueltig_ab
PurCallOrderDocValidToDate	valid to date of purchasing call order doc #ERP-Origin: EBT_CallOrder.gueltig_bis
PurCallOrderDocContractQty	Quantity of purchasing call order doc #ERP-Origin: EBT_CallOrder.Menge
PurCallOrderDocRoute	value shows if a document is routed #ERP-Origin: EBT_CallOrder.Strecke
PurCallOrderDocContractDate	contract date #ERP-Origin: EBT_CallOrder.Vertragsdatum
PurCallOrderDocContractNo	contract number #ERP-Origin: EBT_CallOrder.Vertragsnummer
PurCallOrderDocPaymentMethod	Payment method #ERP-Origin: EBT_CallOrder.Zahlungsart
PurCallOrderDocPaymentMethodDesc	Description for payment method #ERP-Origin: ACM_SB_PaymentMethods_desc
PurCallOrderDocFinalAmountOC	Total amount in own currency #ERP-Origin: EBT_CallOrder.Endbetrag
PurCallOrderDocFinalAmountFC	Total amount in foreign currency #ERP-Origin: EBT_CallOrder.Endbetrag
PurCallOrderDocFinalAmountCC	Total amount in corporate currency #ERP-Origin: EBT_CallOrder.Endbetrag

PurCallOrderDocQtyOrdered

Quantity purchase progress point total #ERP-Origin: dLABFZGes

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.

Component Status

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

Known Issues

- Depending on the amount of business documents to be processed, there might be timeouts in Process Mining. Please attempt to reload or limit the volume of data via scopes or less business events.

Documentation

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

- NEMO Glossary 2022-11-25 (updated)
- NEMO Data Structure 2022-11-25 (updated)
- NEMO Formula Syntax 2022-07-22 (no update)

Availability

All customer environments have been updated already.