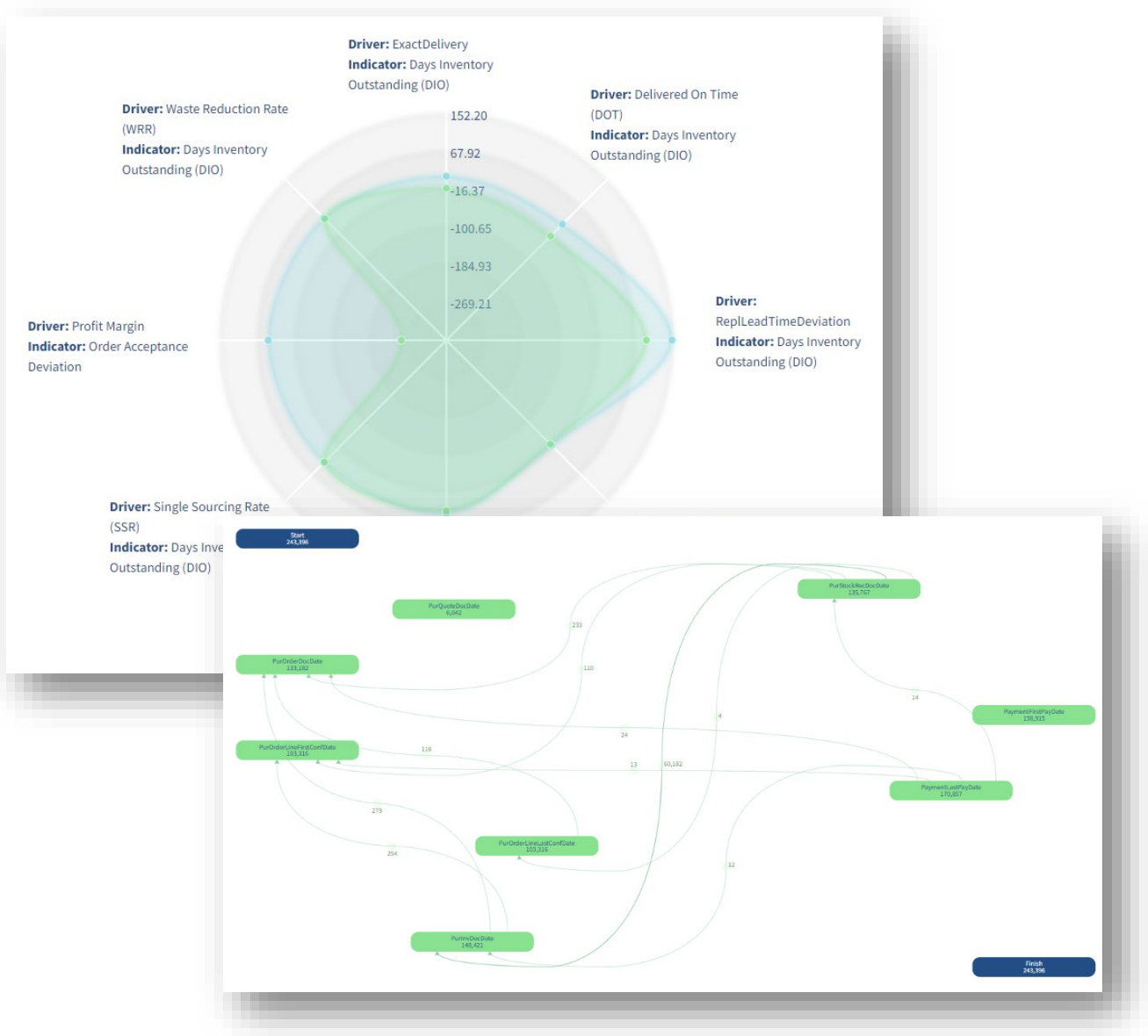
NEMO Release Letter

Version 2023-03-03



Stand: 2023-03-03 - Änderungen vorbehalten
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Content

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Summary

As of February 3, 2023, proALPHA has released NEMO version 2023-03-03.

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).

Most importantly NEMO 2023-03-03 extends the capabilities of the enthusiastically received Complexity Mining. In addition to existence of an entity (business document) column values can be permutated now as well.

Also not unexpected, Production has raised high interests and as such has yielded new metrics. And we added Resource data in particular for production analyses.

Furthermore, we introduced the NEMO Factory Calendar. This way Panels (Tiles) can take enterprise-specific off-days into account now.

Another new feature introduced with this latest NEMO version are amendable metadata.

Finally, we attempted to make the Ranker results more meaningful and actionable.

In addition, NEMO 2023-03-03 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)

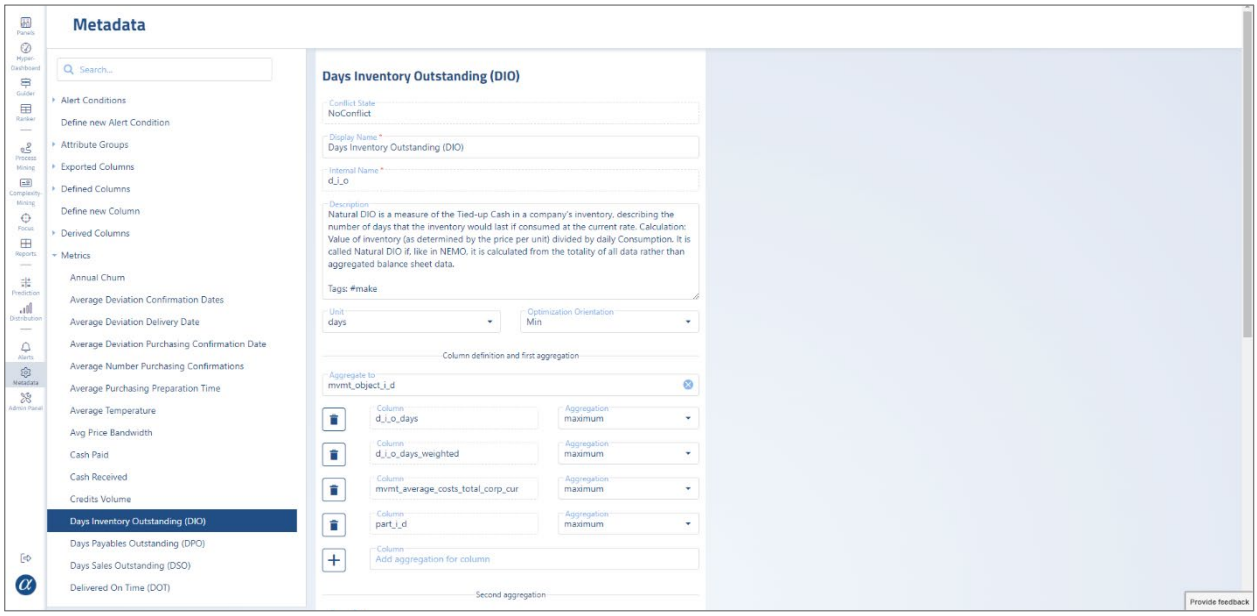
The NLI measures and ranks the degree of efficiency (“Wirkungsgrad”) of a certain operational measure. High NLIs indicate a significant leverage which is likely to be achieved. They help the user find and decide between the available opportunities and as such facilitate the daily decision support provided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

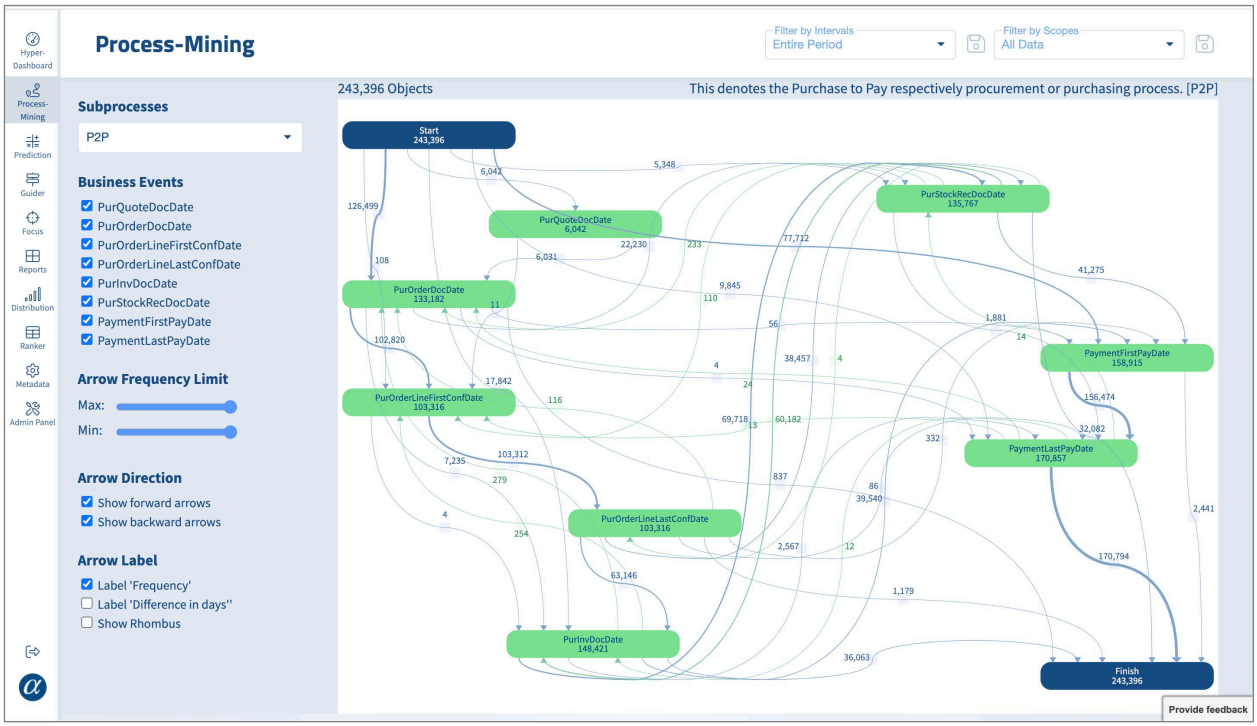


Hyper-Dashboard

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.

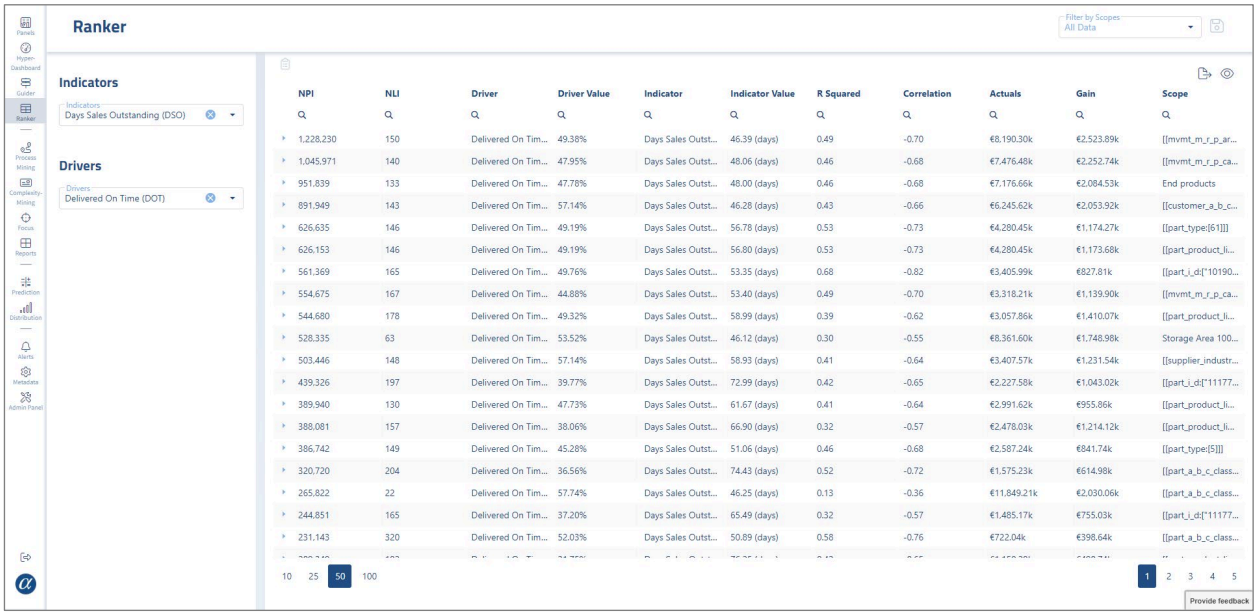


All Details

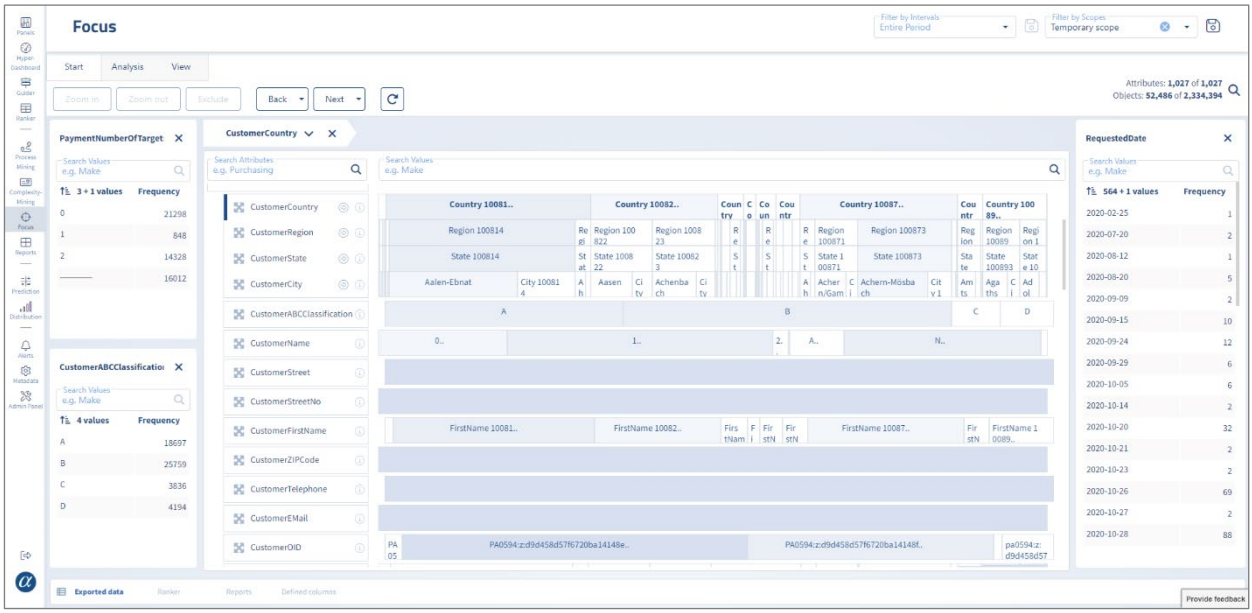
NEMO works always on details. There is no need to do any pre-aggregations at all. This means that the user can drill down to the detailed business documents at any point in time and instantaneously.

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.



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.

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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.

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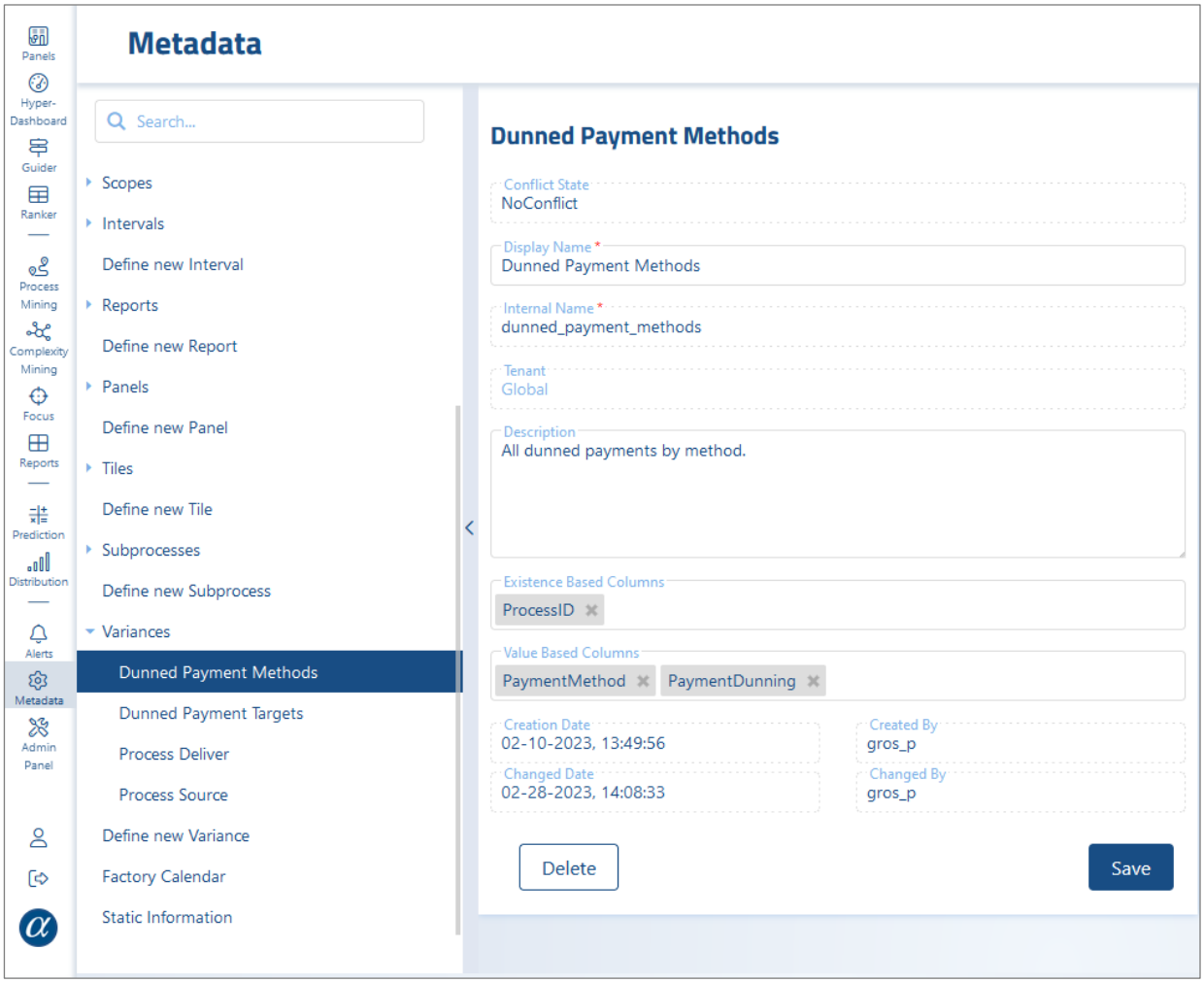
New and Changed Capabilities

Complexity Mining: Value Based Columns (NEW)

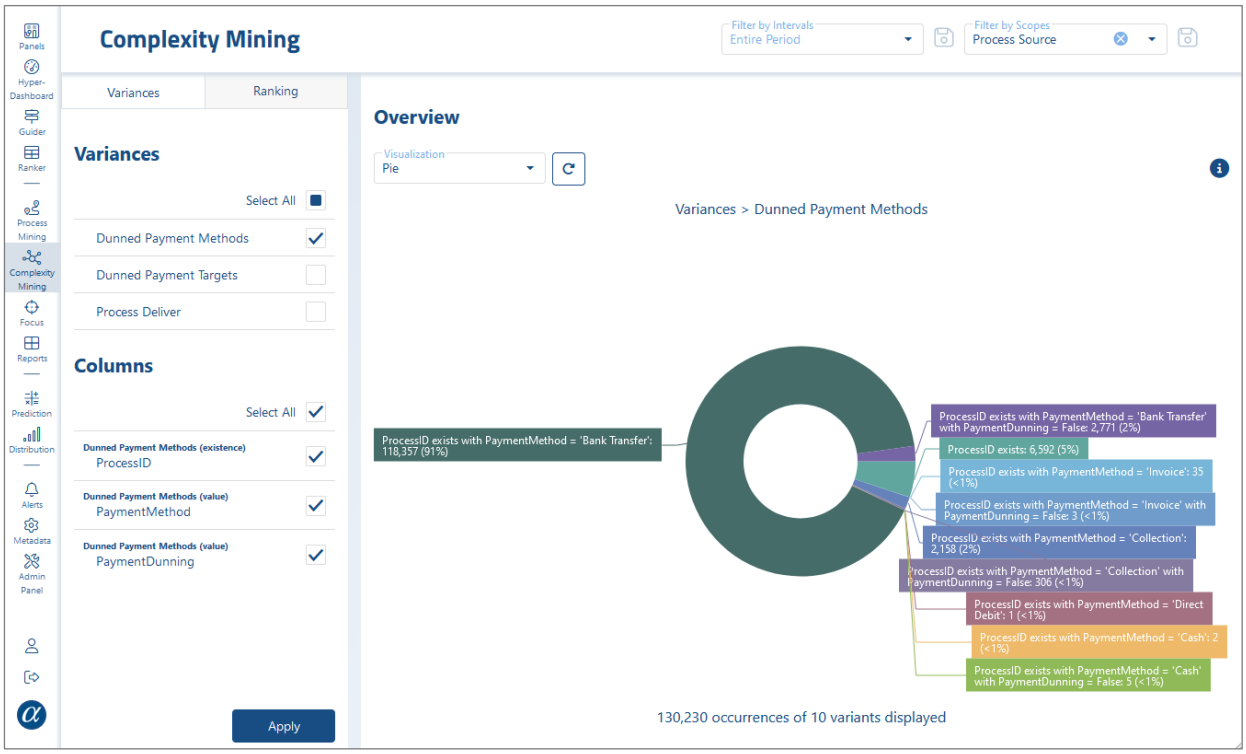
In the last Release Letter NEMO Complexity Mining was introduced as a tool to analyze the number of business process variants required to execute the business. The app, however, is also capable of measuring complexity regarding other variants as well.

This gets even clearer with the help of the newly introduced value-based columns. The value-based columns add to the already existing existence-based columns, which previously were just named columns. The variances therefore now contain both sorts of columns.

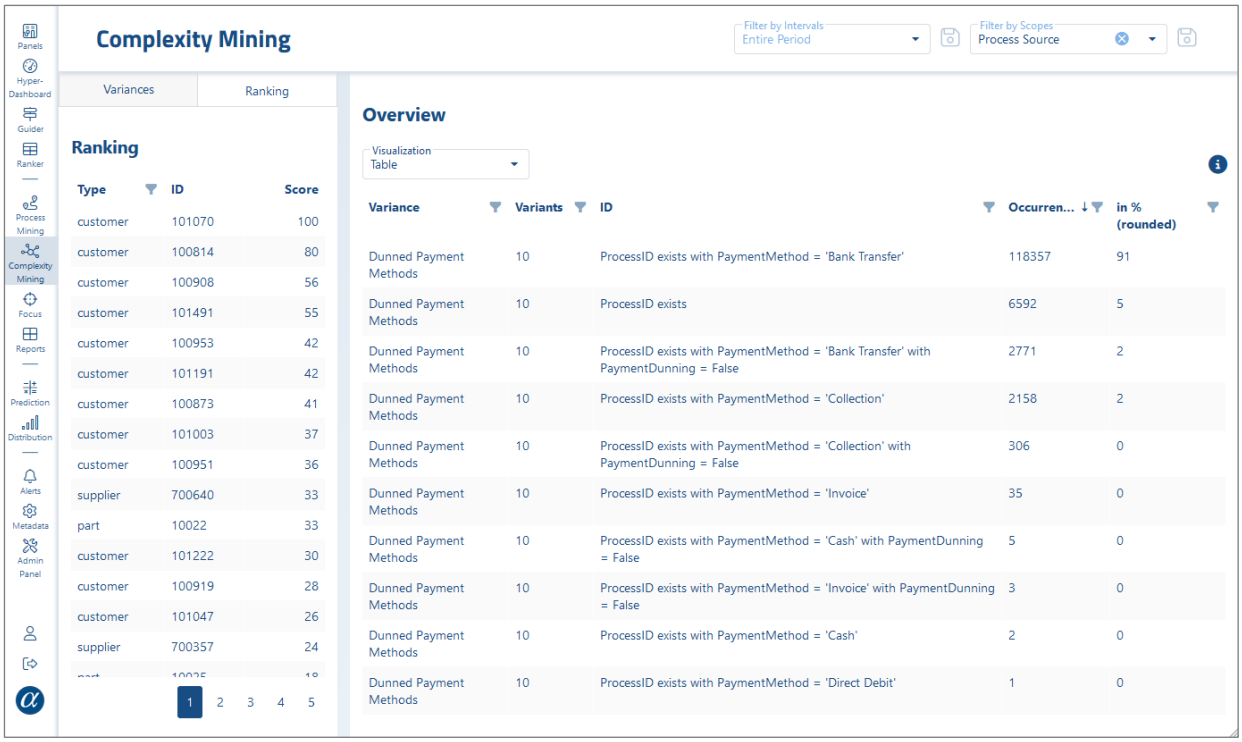


In this case all processes (process_i_d, existence) are evaluated regarding their payment methods (PaymentMethod, value) and respective dunning behavior (PaymentDunning, value).

This allows assumptions like: "There are 1000 processes paid with 'Bank Transfer' and 200 processes paid with 'Direct Debit'." But also, assumptions like: "There are 700 processes paid with 'Bank Transfer', which were paid in time and there are 300 paid with 'Bank Transfer', which could have been dunned, but have not been.



Since value-based columns are very likely to let the number of the resulting variants rise fast, a new visualization is added. This visualization is called 'Table' and grants a good overview regardless of the number of variants.

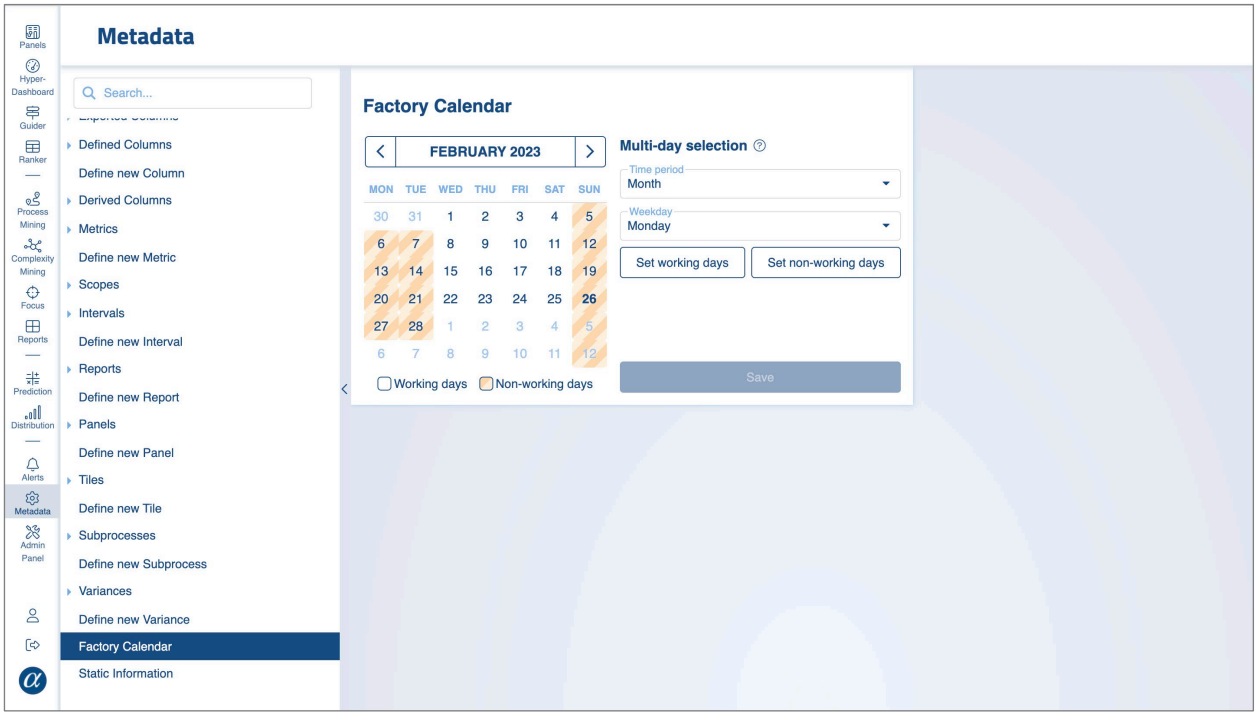


The concept of value-based columns opens a great variety of use cases to the NEMO Complexity Mining app.

Factory Calendar (NEW)

The Factory Calendar marks all non-working days of a period.

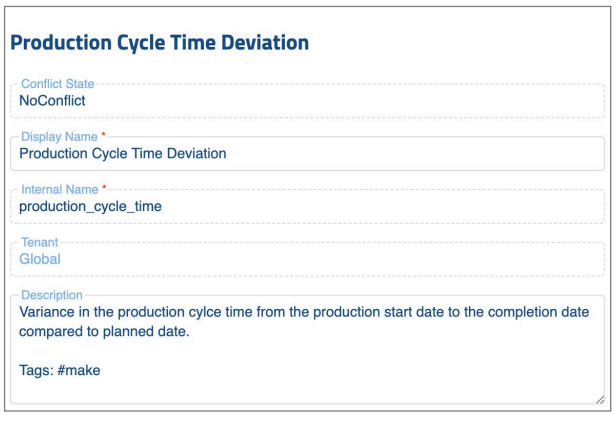
With the Metadata Editor the non-working days can be set.

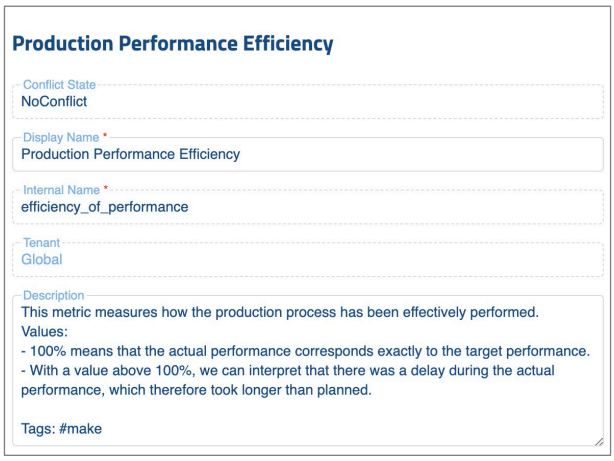


Subsequently Reports can evaluate the Factory Calendar in order to offset a certain event (date) with a number of non-working days for example. This might come in quite handy for certain Panels.

Production Metrics (NEW)

Even more production metrics have evolved out of customer feedback.



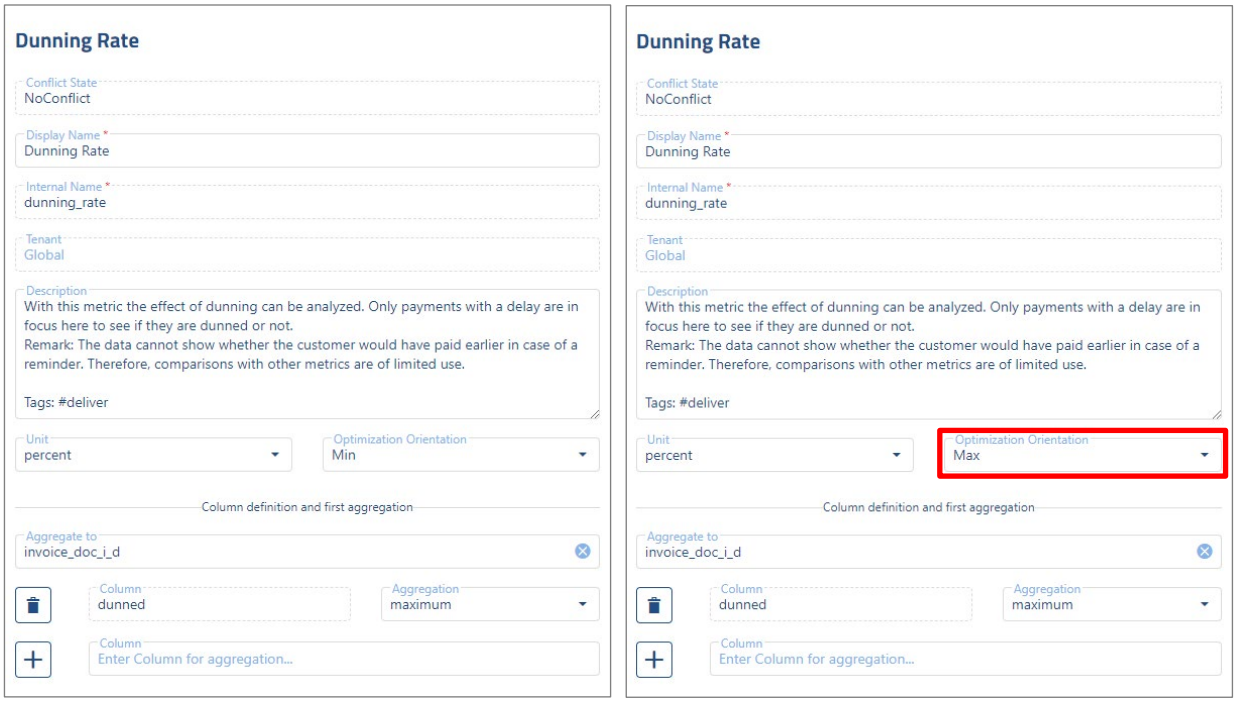


Amendable Metadata (NEW)

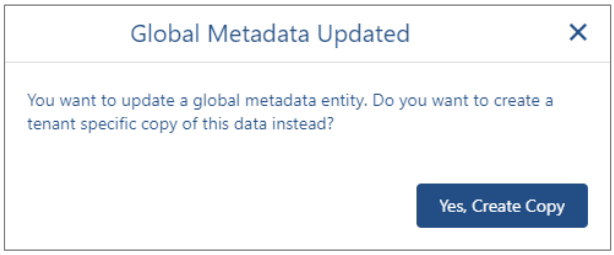
The metadata driven nature of NEMO has been a key feature from the very first version. With the latest release this feature has been extended by what we call amendable metadata. In essence this means that any metadata entity that is part of the samples provided by default can be amended by users. So, their own version of e.g., a sample metric will become effective and replace the sample metric.

Here's an example.

Let's say you want to change the Optimization Orientation of the Dunning Rate sample metric from Min to Max.



Now, when saving this change you will get prompted following confirmation dialog.

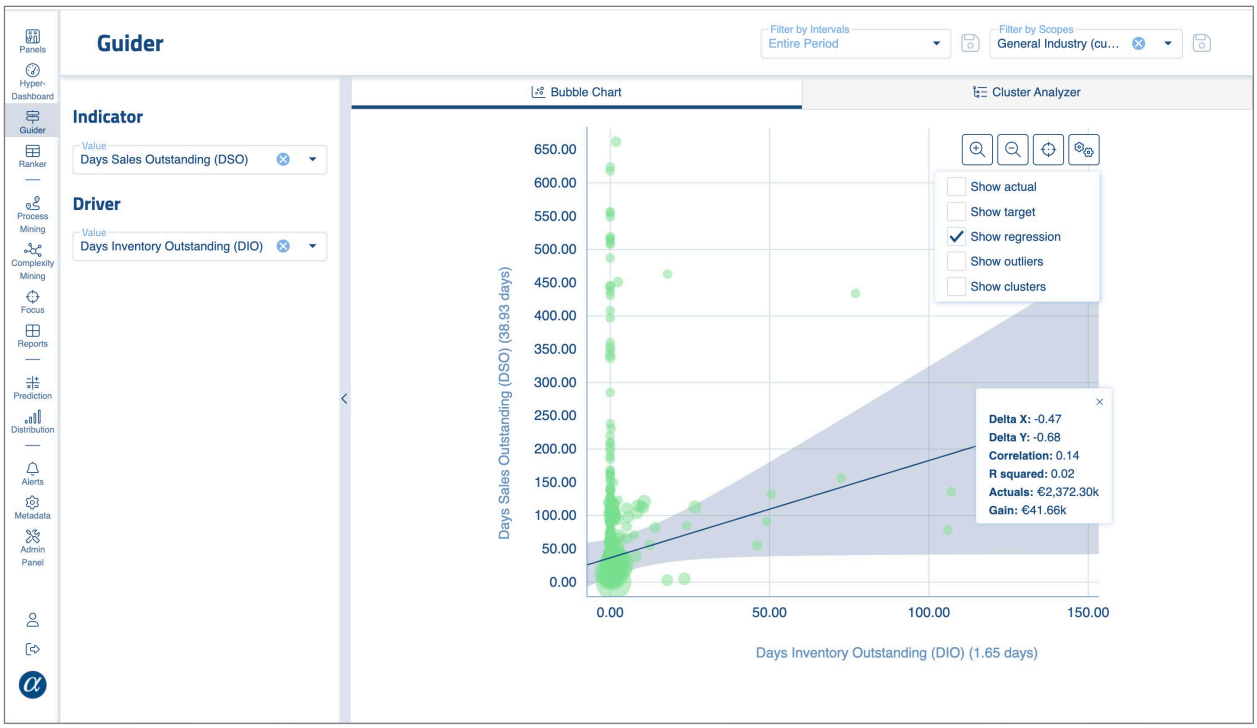


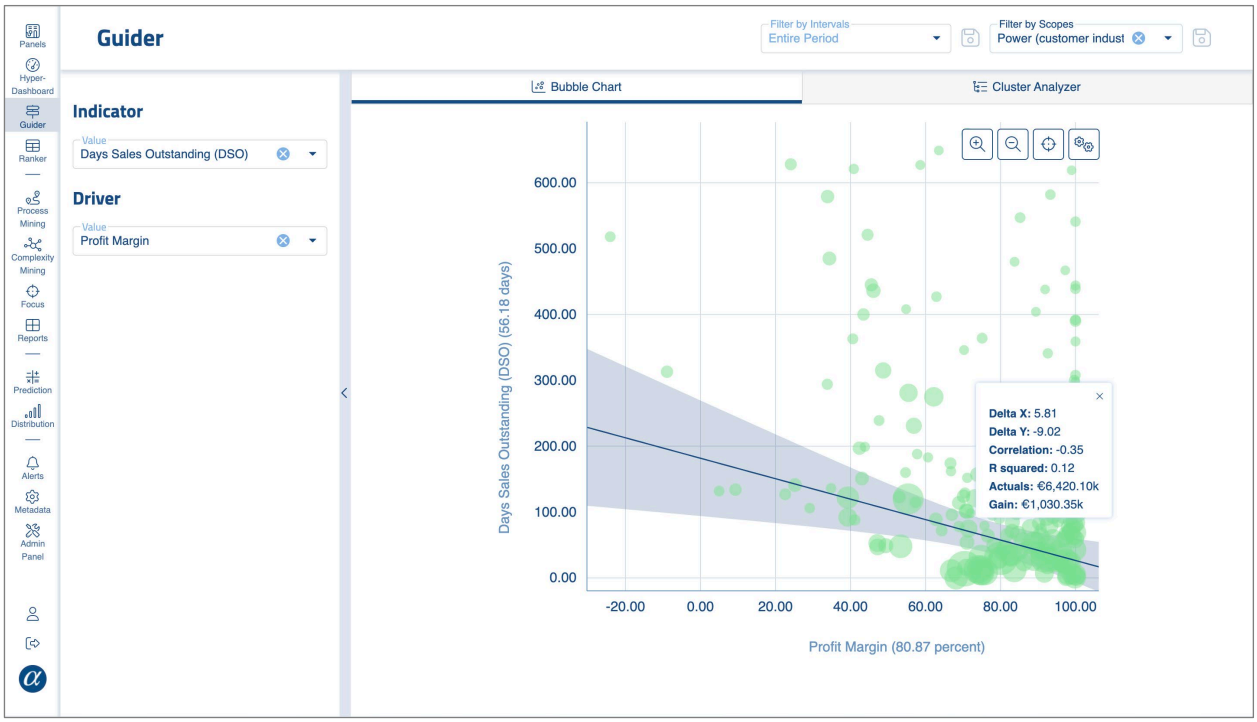
Click on the "Yes, Create Copy" button to save the amended version of the Dunning Rate metric. You can always bring back the sample version of any amended metadata entity by deleting the amended version again.

Ranker (IMPROVED)

Constantly assessing valuable customer feedback, we applied various improvements with the objective to make the ranker insights more meaningful and more actionable.

- "Company" will be crawled automatically from now on.
  - This serves all customers with multiple companies (Mandant, Firma) better.
- NPI values above 10,000,000 are ignored by default now.
  - It turned out that those suggestions are so hard to realize that they are nearly meaningless.
- The DIO metric takes more data into account per default now.
  - This makes the DIO calculations more precise.
- We have lifted a restriction for correlating certain metrics with each other now.
  - For example, DSO and DIO can be set into relation now. As well as DSO and Profit Margin. This furthers the detection of additional dependencies.





Reports (NEW and IMPROVED)

- (SAMPLE) Stock Analyzer (NEW)
- (SAMPLE) ABC/XYZ Analysis (IMPROVED)
- (SAMPLE) Replenishment Time Analysis (IMPROVED)
- (SAMPLE) Tied Up Cash (IMPROVED)
- (SAMPLE) Safety Stock Check (IMPROVED)
- (SAMPLE) Supplier ABC Classification (IMPROVED)
- (SAMPLE) Slow Moving Parts (IMPROVED)
- (SAMPLE) Operating Margin (IMPROVED)
- (SAMPLE) Operating Cash Flow (IMPROVED)
- (SAMPLE) Stock Controlled Parts (IMPROVED)
- (SAMPLE) Sales Price Analysis (IMPROVED)
- (SAMPLE) Purchasing Price Analysis (IMPROVED)

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
BODocShippingTypeDesc	Shipping type (description) #ERP-Origin: S_VersandArtSpr.Bezeichnung
BODocTermsOfDeliveryDesc	Terms of delivery (description) #ERP-Origin: S_LieferBedSpr.Bezeichnung
CallOrderDocShippingTypeDesc	Shipping type (description) #ERP-Origin: S_VersandArtSpr.Bezeichnung
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CreditDocShippingTypeDesc	Shipping type (description) #ERP-Origin: S_VersandArtSpr.Bezeichnung
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PartBOMReleaseDate	Part BOM release date #ERP-Origin: P_StkKopf.Freigabedatum
PartMainSupplier	value shows if part supplier relation is the main supplier #ERP-Origin: E_ArtLief.Hauptlieferant
PartVariant	Part variant #ERP-Origin: (MLL_Movements|EBT_CallOrder|E_BelegPos|E_RA_Pos|EBT_DeliveryPos|E_WE_Pos|ER_BelegPos|V_BelegPos|PP_StkZeile|PP_Auftrag|JBT_Costs).ArtVar
PartVariantDesc	Part variant #ERP-Origin: S_ArtVarSpr.Bezeichnung
PartVariantType	Part variant type #ERP-Origin: S_ArtVarTyp.ArtVarTyp
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QuoteDocTermsOfDeliveryDesc	Terms of delivery (description) #ERP-Origin: S_LieferBedSpr.Bezeichnung
ResCapacity(h)	Shows resource capacity in hours #ERP-Origin: dTimeCalenderStandard / 3600
ResCapacityStandard(h)	Shows resource capacity with standard calendar in hours #ERP-Origin: dTimeCalenderStandard / 3600
ResDate	Date of consideration for resource capacity #ERP-Origin: gtExpRefDate - iLoopTime
ResIntensity	Intensity of resource #ERP-Origin: M_Ressource.Intensitaet
ResIntensityUnit	Intensity unit for resource #ERP-Origin: M_Ressource.IntEinheit
ResMapping	Cross-module resource planning if resource is located in multiple areas #ERP-Origin:
ResOverloadIntensity	Overload intensity of resource #ERP-Origin: M_Ressource.UeberlastIntensitaet
ResOverloadPossible	Shows if overload is possible for resource #ERP-Origin: M_Ressource.UeberlastMoeglich
ResProduction	Shows if resource is located in production #ERP-Origin:
ResProject	Shows if resource is located in projects #ERP-Origin:
ResResGroup	Resource group #ERP-Origin: M_Ressource.RessGruppe
ResResGroupDesc	Resource group (description) #ERP-Origin: M_RessGruppeSpr.Bezeichnung
ResResource	Resource #ERP-Origin: M_Ressource.Ressource
ResResourceDesc	Resource (description) #ERP-Origin: M_RessourceSpr.Bezeichnung
ResService	Shows if resource is located in service #ERP-Origin:
ResStandardCalender	Standard calendar of resource #ERP-Origin: cStandardCalender
ResStandardCalenderDesc	Standard calendar description of resource #ERP-Origin: M_KalenderSpr.Bezeichnung
ResTypeDesc	Resource type (description) #ERP-Origin: ACM PM_ResourceCategories_desc
ResUnlimitedIntensity	Unlimited intensity of resource #ERP-Origin: M_Ressource.IgnoreIntensity
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ShippingDocTermsOfDeliveryDesc	Terms of delivery (description) #ERP-Origin: S_LieferBedSpr.Bezeichnung

ShippingTypeDesc	Shipping type (description) #ERP-Origin: S_VersandartSpr.Bezeichnung

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

- N.A.

Known Issues

- None

Documentation

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

- NEMO Glossary 2022-12-16 (no update)
- NEMO Data Structure 2023-03-03 (updated)
- NEMO Formula Syntax 2023-03-03 (updated)

Availability

All production environments have been updated already.

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