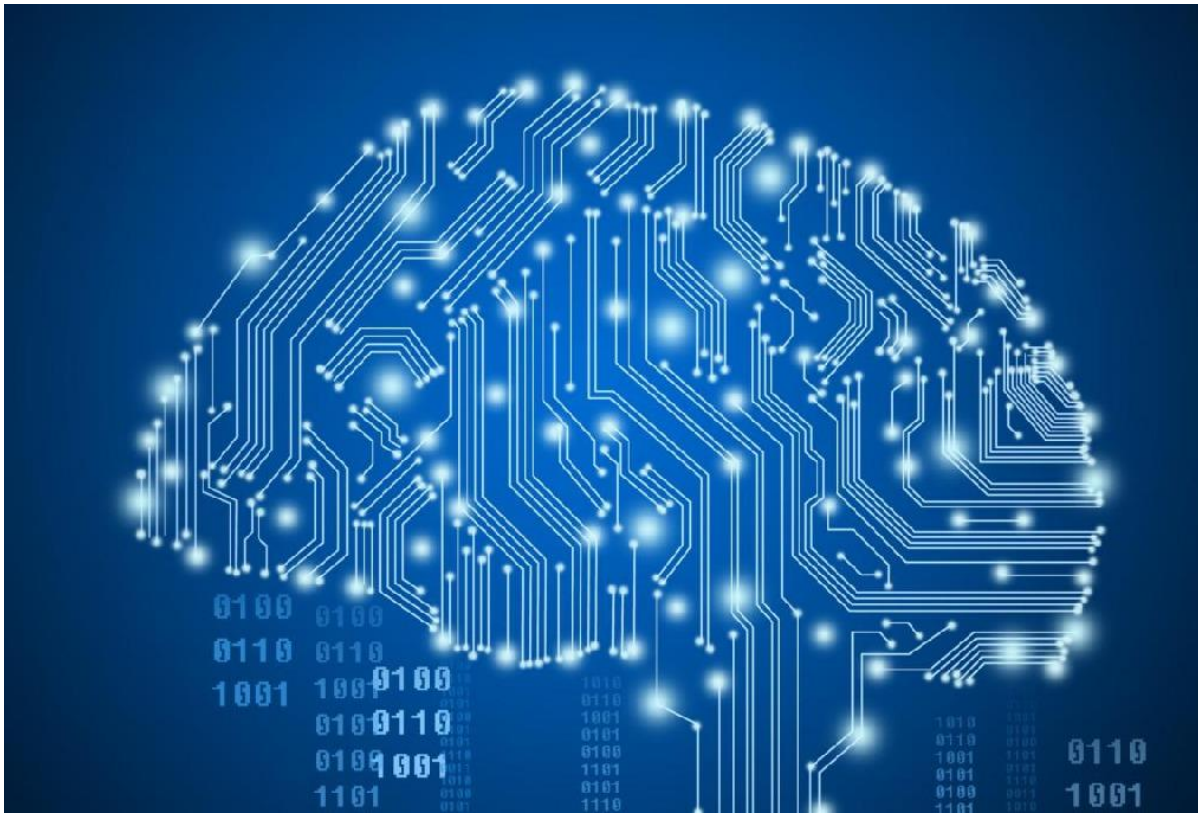

NEMO Version 2023-04-28

Release Letter

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1. Summary

As of April 28, 2023, proALPHA has released NEMO version 2023-04-28.

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).

With this release we introduce the new Task Runs Monitor as part of the NEMO Admin Panel. The new TRM helps users with administrative privileges manage all long running NEMO tasks like Crawler runs in a more convenient and intuitive way.

Moreover, Scopes can now also be created and applied based on individual data Infoscapes.

Focus was also improved with respect to data ingestion and changing data types of Attributes.

In Complexity Mining Scopes can now be added to the definition of Variances. This supports their usage from scratch so Scopes don't have to be applied in an additional step over and over again.

Last but not least we added new and improved existing reports.

In addition, NEMO version 2023-04-28 features various error corrections and performance improvements. Also, various housekeeping improvements have been implemented.

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2. 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)

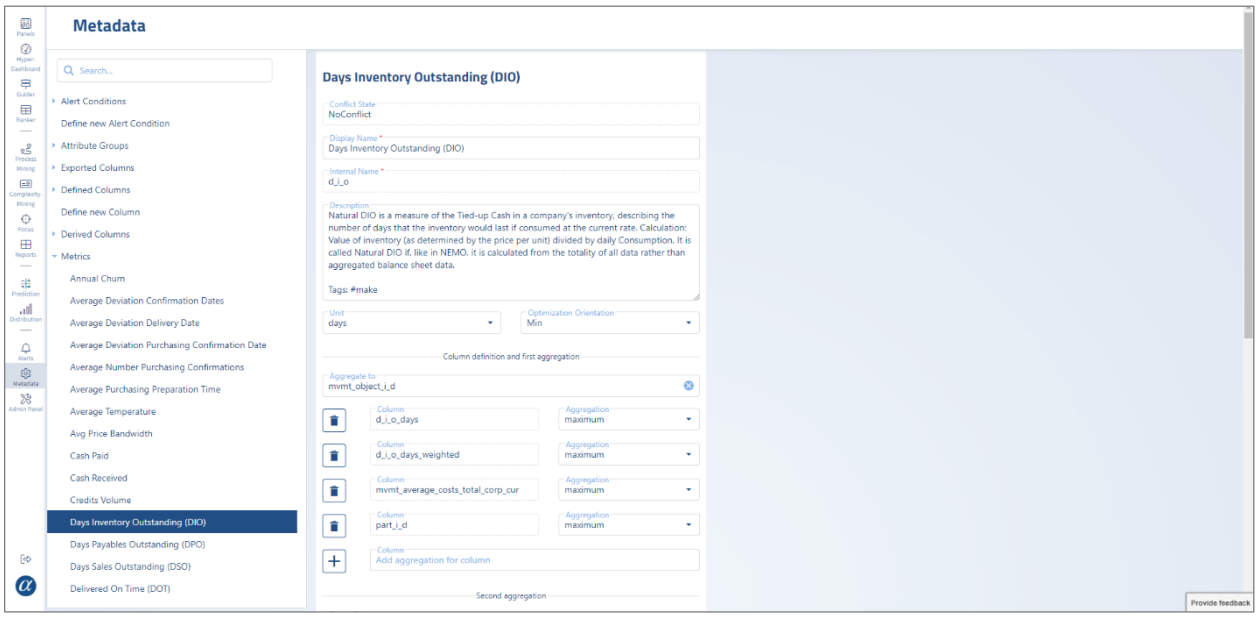
The NLI measures and ranks the degree of efficiency ("Wirkungsgrad") of a certain operational measure. High NLIs indicate a significant leverage which is likely to be achieved. They help the user find and decide between the available opportunities and as such facilitate the daily decision support provided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



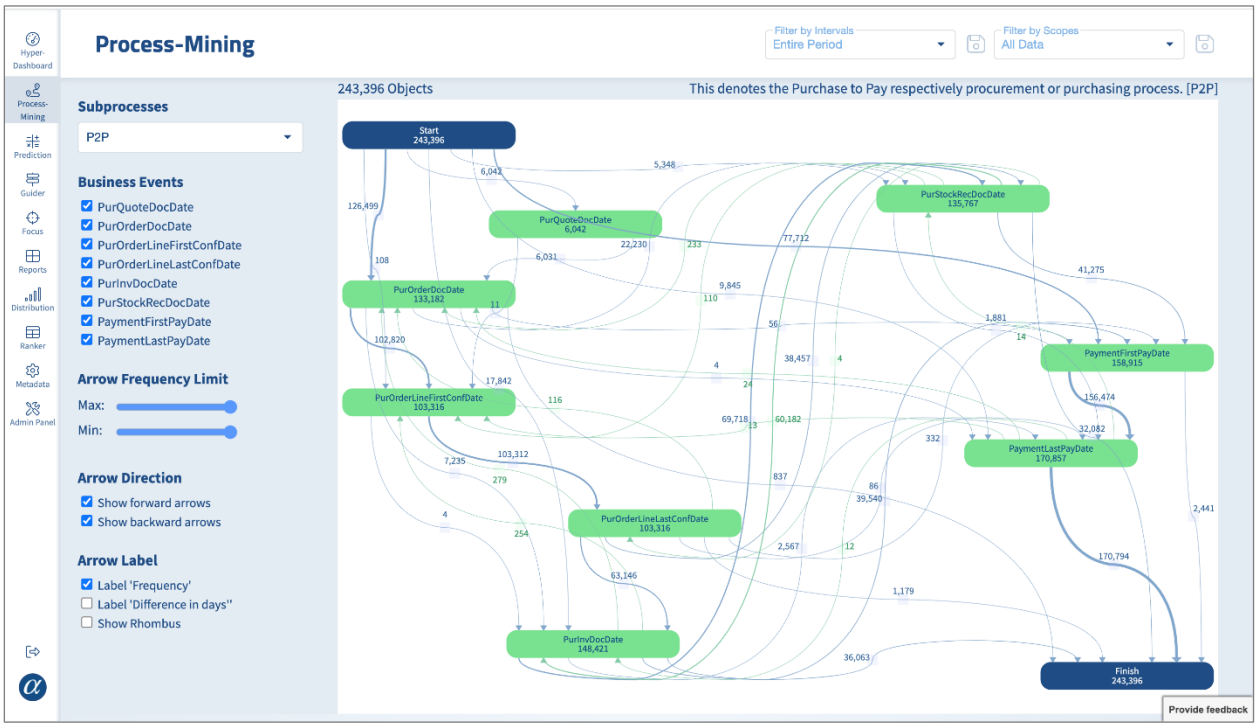
Hyper-Dashboard

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

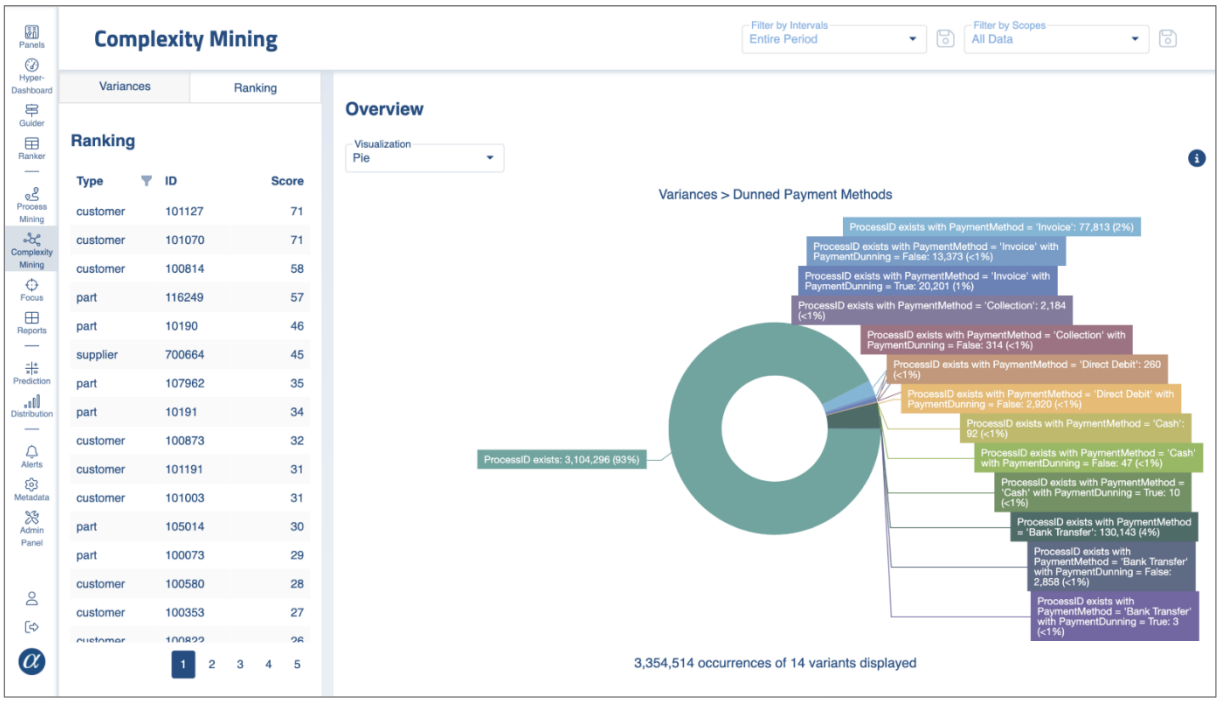
scopes for further analysis (e.g. Focus and Guider). The nodes (vertices, points) represent the business events which, chained up, represent the executed business activities.



Complexity Mining

Similarly, NEMO detects automatically all executed business process variants. Each and every variant increases the complexity of the respective business.

Increasing complexity increases complexity costs. This phenomenon can be analyzed as well.

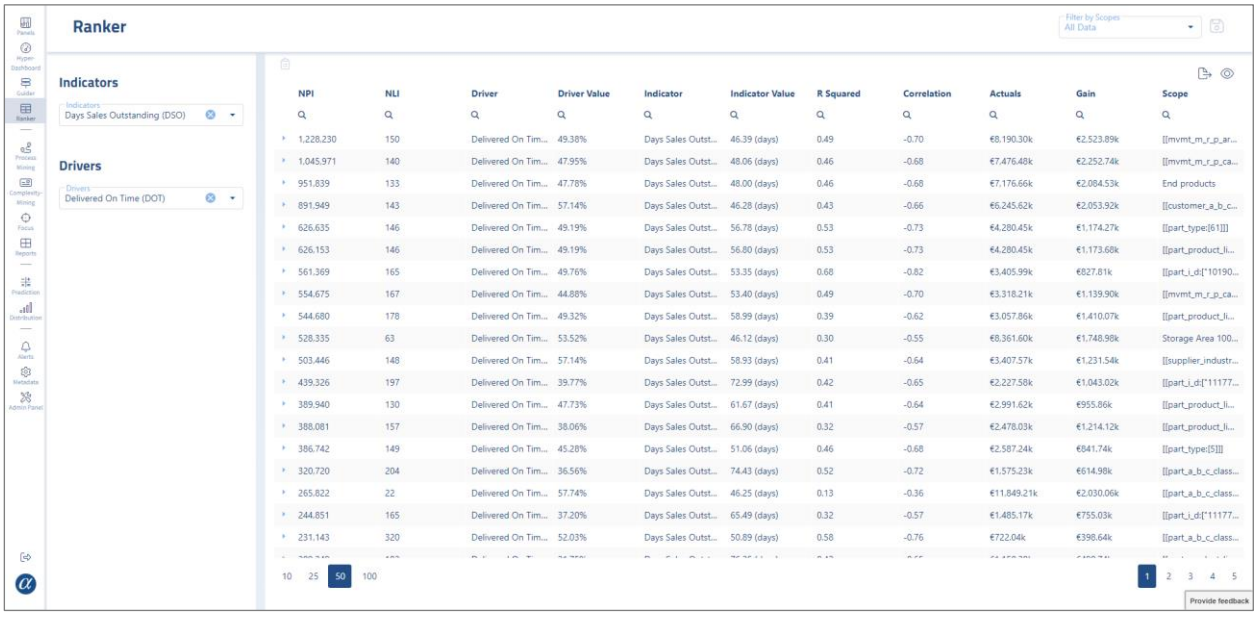


All Details

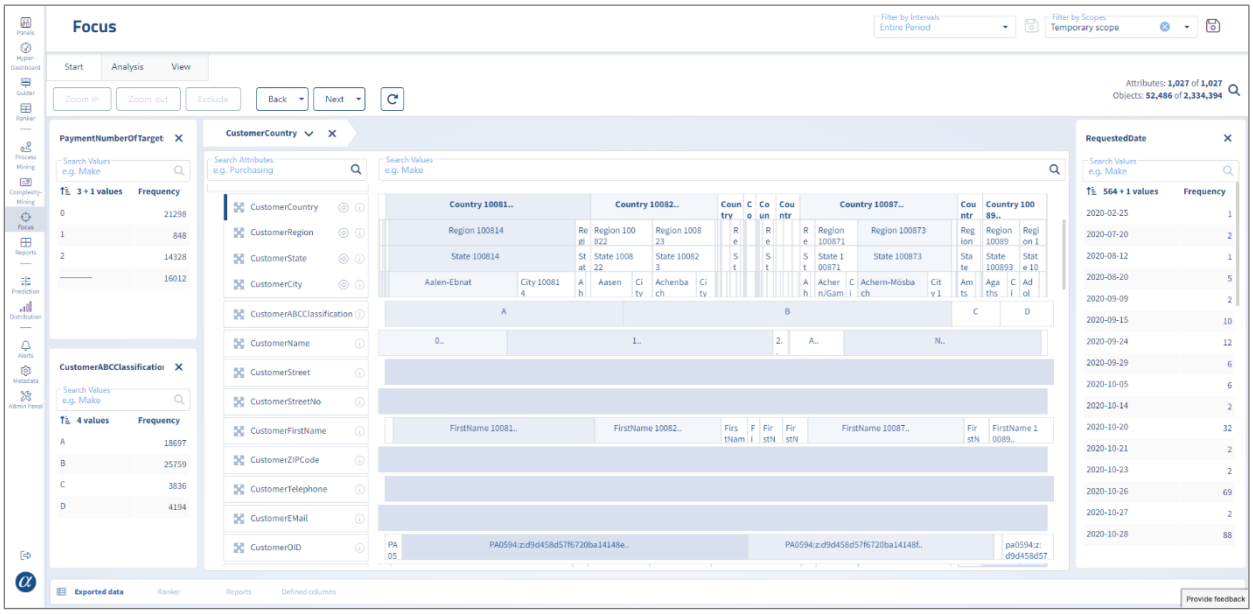
NEMO works always on details. There is no need to do any pre-aggregations at all. This means that the user can drill down to the detailed business documents at any point in time and instantaneously.

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.

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3. 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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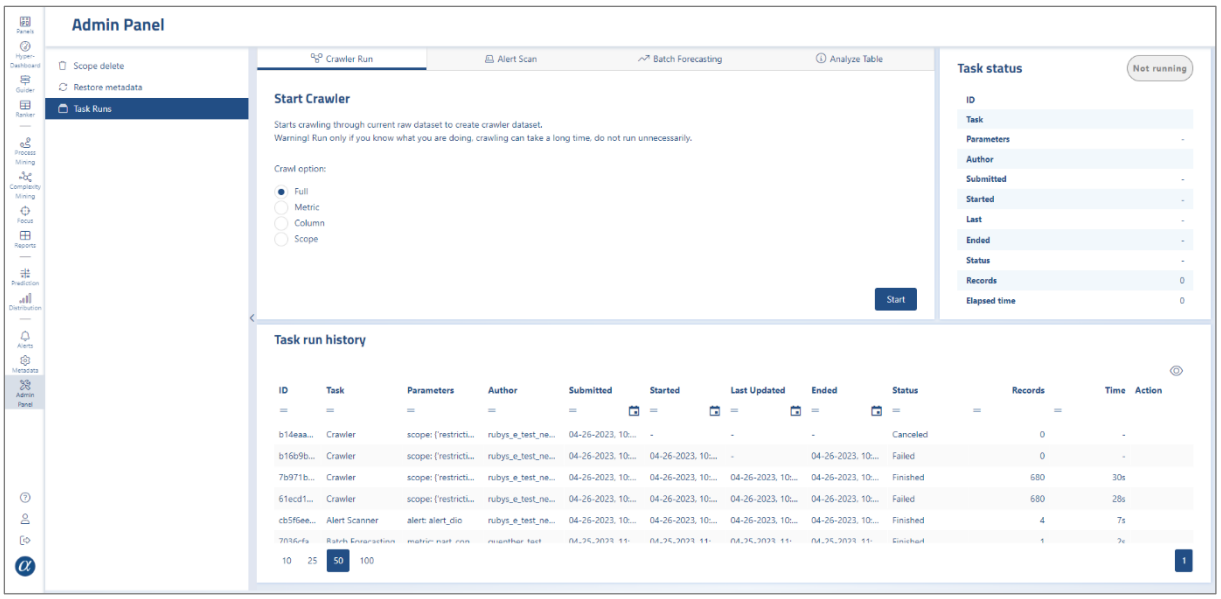
4. New and Changed Capabilities

Task Runs Monitor (NEW)

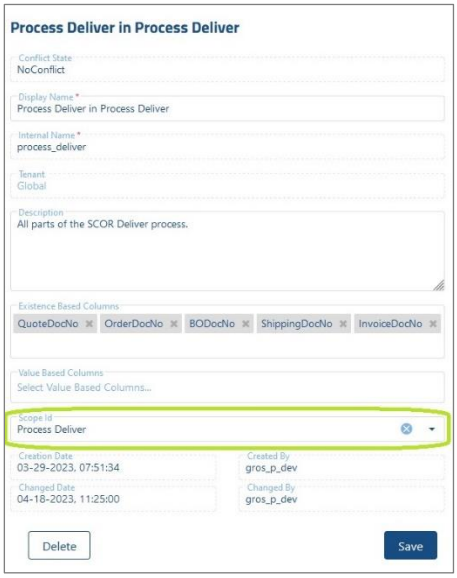
All long running tasks can now be managed and monitored with help of the new Task Runs view in NEMO's Admin Panel app.



Complexity Mining (IMPROVED)

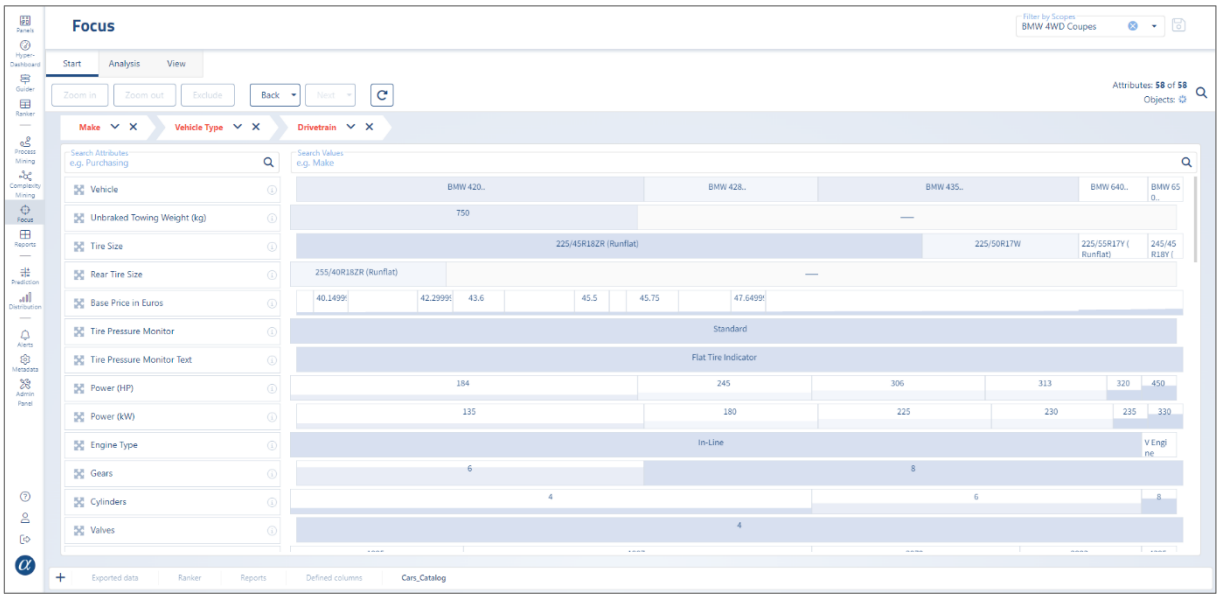
Complexity Mining straight forward permutates all Variance columns with each other to gather all existing Variants. For certain Variances this might result in confusing Variants (e.g., the Variance 'Process Deliver' which et al. permutates the column 'Invoice Doc No' also includes Invoices from the finance data).

To narrow down the data, before a Scope is applied in the upper right combo box, Variances now hold the possibility to add a base Scope (e.g., the Variance 'Process Deliver' has the Scope 'Process Deliver' added, so only data of this process type is permutated by Complexity Mining).



Scopes on Individual Data Infoscapes (NEW)

Scopes are a fundamental concept of NEMO. Thus, they are now available for Infoscapes based on individual data as well.



Focus (IMPROVED)

Uploading data to Focus from csv files is now more robust:

- More date and time formats are now supported
- If a data type conversion fails for a subset of values those values will be set to null

5. Compatibility

NEMO is compatible with all ERP releases from 6.1 onwards.

NEMO is optimized for Chromium based web browsers e.g., Google Chrome or Microsoft Edge.

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

- Very large temporary scopes created with Process Mining might fail in other apps.
- The *Between* filter does not work for numeric columns in NEMO Reports and NEMO Ranker.

6. Documentation

Apart from this Release Letter, further documentation is available on NEMO Help Portal.

7. Availability

All production environments have been updated already.

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