

SupplyOn SCPM Production-2-Supply LKA for Schaeffler Project Documentation

Transforming Supply Chains into Collaboration Networks



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1 Introduction “Lieferantenkapazitätsabgleich (LKA)”/Supplier Capacity Management

Currently, the Capacity Management Process (LKA) is not standardized throughout the Schaeffler plants. A consistent and standardized tool is missing and production capacities are usually taken from single orders, delivery forecasts or yearly agreements (YPSA).

There is the urgent need to perform a regular and automatized comparison of transferred demands and available production capacities. For this comparison, the Supplier needs to record the production capacities, that are reserved for the customer, at a dedicated platform.

The tool monitors and detects

- Overdue data provision
- Invalid data input
- Shortterm over-utilization of production capacities
- Mid- and Longterm over-utilization of production capacities

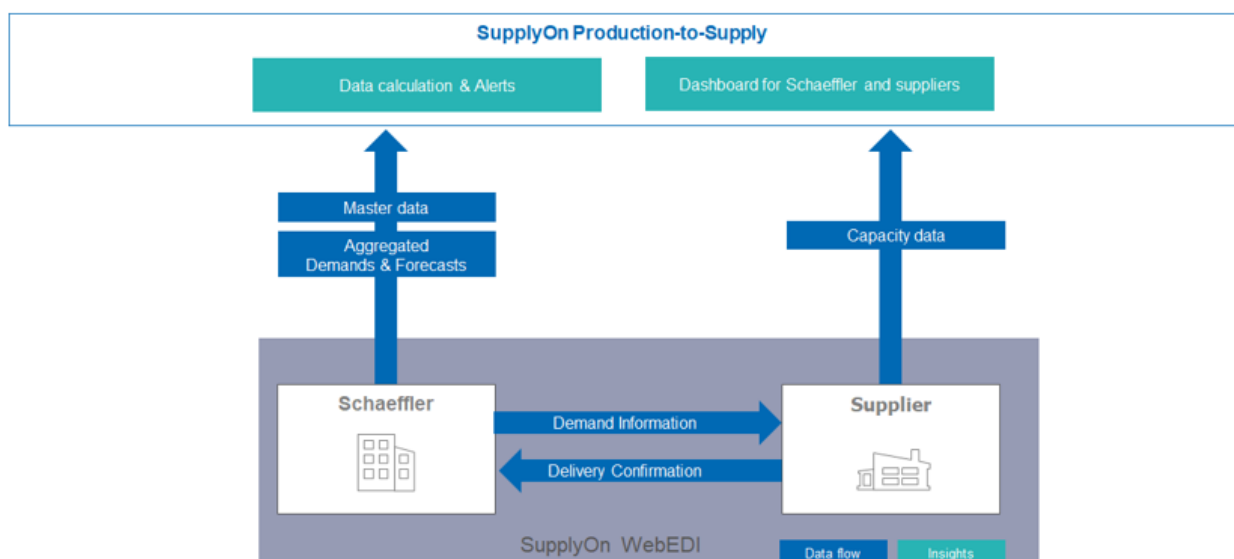
Summarizing, the LKA tool will be used to support the following goals:

- › Automate, modernize and optimize the (currently 100% Excel based) capacity management process at Schaeffler
- › Simplify and improve Supplier collaboration by providing additional features like
 - › Alerting Mechanisms
 - › Buyer and Supplier View at the same Dashboard
- › Recognize Bottlenecks early, in order to react timely

1.1 Scope

- › **Transparency on available production capacities to fulfill the demand requested by the customer**
- › Increased exception handling capabilities and the possibility to take preventive actions
- › The capacity data provided by the Supplier are matched against existing demand in SupplyOn WebEDI
- › Summary of the data in a **dashboard** accessible for Suppliers and Schaeffler
- › The solution is provided via the SupplyOn **Visibility and Analytics** module

1.2 Production to Supply (P2S) Setup



1.3 Benefits for Buyers

- › Mismatches in the Supplier production capacity are highlighted earlier.
- › Less effort:
 - › Visibility and Analytics highlights and predicts events to take early action.
 - › KPI are calculated automatically, near real time, based on current data.

1.4 Benefits for Suppliers

- › Reduction of Inventory:
 - › Visibility & Analytics balances the available capacity against the customers demand. Supplier gains better overview, if the customer demand can be fulfilled with the available capacity
- › Improved OTD:
 - › Possible mismatches are highlighted earlier
- › Less effort:
 - › KPI are calculated automatically, near real time, based on current data.
 - › Visibility & Analytics highlights and predicts events to take early action.

2 Prerequisites for the usage of Visibility & Analytics

The LKA Tool is embedded in the SupplyOn Visibility&Analytics Service.

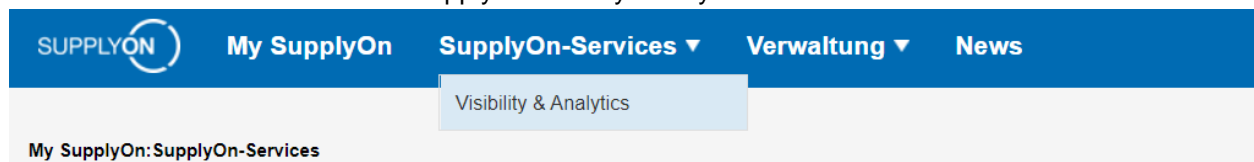


Figure 1: Visibility&Analytics

Precondition for the usage of Visibility&Analytics is an active user account for the SupplyOn platform with the appropriate user roles for Visibility&Analytics.

To receive an appropriate user account please contact your internal **SupplyOn CompanyAdmin** and request at least one of the following user roles:

- **SCPMAnalyticsBuysideUser** (general access to standard reports in V&A)
- **scpm_p2s_buyer** (access to specific P2S related reports on buyside)
- **scpm_p2s_Seller** (access to specific P2S related reports on sellside)

SupplyOn Company Admin

- Your SupplyOn CompanyAdmin is an employee of your company
- If you don't know your CompanyAdmin please contact the [SupplyOn Support](#) (Please provide your company name and your Supplier Number or DUNS)
- Your SupplyOn CompanyAdmin is responsible for:
 - Creation of user accounts
 - Assignment of additional user roles
 - Resetting of your password
 - Unlocking your user account

Further information, user guides, videos and FAQs are available on the [Supplier Info Portal](#).

3 System Interfaces

The Production-2-Supply solution for Schaefflers LKA Project is using several data interfaces to import and export data.

3.1 Demand Interface (from Customer to SupplyOn)

Confirmed purchase orders (POs) for Schaeffler are taken from the existing data base for WebEDI.

3.2 Capacity Interface (from Supplier to SupplyOn)

3.2.1 General Approach

Every Supplier has to be categorized either into category “Simple” or “Detailed”. Depending on the category, Suppliers have to provide a different level of detail within their excel template.

3.2.1.1 Category “Part Simple”

In this scenario, the Supplier only has to provide **one sheet named “Part Capacity”**.

The template will be **prefilled** with:

- Buyer ID -> Schaeffler Corporate Group ID
- Supplier ID -> Supplier Spin ID
- Buyer Part Number
- Supplier Part Number
- Part Description

The only **mandatory** field to be filled by the Supplier is the “Capacity Weekly”, so the actual number of pieces that can be produced per week. Make sure that it is an actual numeric value and no formula in the excel file.

In addition, several **optional** fields can be filled:

- **Capacity Type**
 - Standard type is always “planned”
 - Alternatively, “actual” can be inserted to indicate a temporary capacity deviation (e.g. because of machine maintenance or holiday season,...)
- **UoM**
 - Standard type is always “pce” (pieces)
 - Alternatively, other common units can be inserted here, e.g. kg, m or other common units (mainly relevant for industry Suppliers)
- **Capacity Valid From/Until**
 - Standard is always from *today* until *today+24 months*
 - Alternatively, a specific time horizon can be indicated. That’s especially relevant for *actual* capacities that should be applied temporarily
 - If no Valid Until is specified for **Actual** Capacity, it assumed that ValidFrom=ValidUntil
 - If no Valid Until is specified for **Planned** Capacity, it is assumed that ValidUntil=Today+24months
- **Comment**
 - Free text field
 - Supposed to provide additional information in case of shortages
- **Data Extraction Date**
 - Standard is always current date

- Alternatively, Suppliers can indicate, when the data was retrieved from their system

This results then in the following excel structure:

Buyer ID	Supplier ID	Buyer Part Number	Supplier Part Number	Part Description	Capacity Type	Capacity Weekly	UoM	Capacity Valid From	Capacity Valid Until	Comment	Data Extraction Date
2001125	123	SPN1			Planned	150	pcs	01.01.2021			13.04.2021
2001125	123	SPN2			Planned	150	pcs	01.01.2021			13.04.2021

3.2.1.2 Category “Part Detailed”

In this scenario, the Supplier only has to provide **two sheets named “Cluster Assignment” and “Machine Capacity”**.

First, the Supplier has to assign Clusters/Machines to Buyer Part Numbers. This is done in the tab **“Cluster Assignment”**.

The template will be **prefilled** with:

- Buyer ID -> Schaeffler Corporate Group ID
- Supplier ID -> Supplier Spin ID
- Buyer Part Number
- Supplier Part Number
- Part Description

The **mandatory** fields to be filled by the Supplier are:

- Capacity Cluster -> Name of the **Cluster** (e.g. Bottleneck Machine) for the respective Part Number
- Production Time -> Production Time to produce **one batch** of the respective **Part Number**. Make sure that it is an actual numeric value and no formula in the excel file.
- Production Time Unit -> Unit of the Production Time (allowed values: s,m,h).
- Number of Pieces per Cycle -> Number of pieces that are produced within one Production batch for the respective Part Number. Make sure that it is an actual numeric value and no formula in the excel file.
- Part Weight (kg) -> weight of one piece in kg to calculate capacities and demands in kg

These production parameters are required to compare machine hours and shift hours to demands.

This results then in the following excel structure:

Buyer ID	Supplier ID	Buyer Part Number	Supplier Part Number	Part Description	Capacity Cluster	Production Time (Cycle Time) (h)	Production Time Unit	Number of pieces per Cycle	Part Weight (kg)
2001125	123	BPN1	SPN1	PartABC	Machine 1	0,1	h	10	0,5
2001125	123	BPN2	SPN2	PartEFG	Machine 1	0,05	h	20	0,2

Secondly, the Supplier has to provide capacities and **further details on machine level**, this is done in the tab **“Machine Capacity”**.

The template will be **prefilled** with:

- Buyer ID -> Schaeffler Corporate Group ID
- Supplier ID -> Supplier Spin ID

The **mandatory** fields to be filled by the Supplier are:

- Capacity Cluster -> Name of the **Cluster** (e.g. Bottleneck Machine) for the respective Part Number
- Machine Availability per week (h) -> actual **net production hours** that can be used on the respective machine to **produce Schaeffler parts**. Make sure that it is an actual numeric value and no formula in the excel file.
- Maximum Shift Availability per week (h) -> maximum working hours from a shift perspective. Make sure that it is an actual numeric value and no formula in the excel file.

In addition, several **optional** fields can be filled:

- **Current Shifts per week**
 - Additional information for Schaeffler to evaluate if shift model could be changed to enable higher production quantities
- **Capacity Type**
 - Standard type is always “planned”
 - Alternatively, “actual” can be inserted to indicate a temporary capacity deviation (e.g. because of machine maintenance or holiday season,...)
- **Capacity Valid From/Until**
 - Standard is always from *today* until *today+24 months*
 - Alternatively, a specific time horizon can be indicated. That’s especially relevant for *actual* capacities that should be applied temporarily
 - If no Valid Until is specified for **Actual** Capacity, it assumed that ValidFrom=ValidUntil
 - If no Valid Until is specified for **Planned** Capacity, it is assumed that ValidUntil=Today+24months
- **Comment**
 - Free text field
 - Supposed to provide additional information in case of shortages
- **Data Extraction Date**
 - Standard is always current date
 - Alternatively, Suppliers can indicate, when the data was retrieved from their system

This results then in the following excel structure:

Buyer ID	Supplier ID	Capacity Cluster	Machine Availability per week (h)	Maximum Shift Availability per week (h)	Current Shifts per week	Capacity Type	Capacity Valid From	Capacity Valid Until	Comment	Data Extraction Date
2001125	123	Machine 1	90	150	15	Planned	01.01.2021	31.12.9999		13.04.2021
2001125	123	Machine 2	100	150	15	Planned	01.01.2021	31.12.9999		13.04.2021

3.2.1.3 Category “Cluster Simple”

In this scenario, the Supplier has to provide **two sheets named “Cluster Assignment” and “Cluster Capacity”**.

First, the Supplier has to assign Clusters/Machines to Buyer Part Numbers. This is done in the tab **“Cluster Assignment”**.

The template will be **prefilled** with:

- Buyer ID -> Schaeffler Corporate Group ID
- Supplier ID -> Supplier Spin ID
- Buyer Part Number
- Supplier Part Number
- Part Description

The **mandatory** fields to be filled by the Supplier are:

- Capacity Cluster -> Name of the **Cluster** (e.g. Bottleneck Machine) for the respective Part Number
- Production Time -> Production Time to produce **one batch** of the respective **Part Number**. Make sure that it is an actual numeric value and no formula in the excel file.
- Production Time Unit -> Unit of the Production Time (allowed values: s,m,h)
- Number of Pieces per Cycle -> Number of pieces that are produced within one Production batch for the respective Part Number. Make sure that it is an actual numeric value and no formula in the excel file.

These production parameters are required to compare machine hours and shift hours to demands.

This results then in the following excel structure:

Buyer ID	Supplier ID	Buyer Part Number	Supplier Part Number	Part Description	Capacity Cluster	Production Time (Cycle Time) (h)	Production Time Unit	Number of pieces per Cycle
2001125	123	BPN1	SPN1	PartABC	Machine 1	0,1	h	10
2001125	123	BPN2	SPN2	PartEFG	Machine 1	0,05	h	20

Secondly, the Supplier has to provide capacities for each Cluster, this is done in the tab **“Cluster Capacity”**.

The template will be **prefilled** with:

- Buyer ID -> Schaeffler Corporate Group ID
- Supplier ID -> Supplier Spin ID

The **mandatory** fields to be filled by the Supplier are:

- Capacity Cluster -> Name of the **Cluster** (e.g. Bottleneck Machine) for the respective Part Number
- Capacity Weekly -> actual quantity that can be produced per week for the respective cluster

In addition, several **optional** fields can be filled:

- **Capacity Type**
 - Standard type is always “planned”
 - Alternatively, “actual” can be inserted to indicate a temporary capacity deviation (e.g. because of machine maintenance or holiday season,...)
- **UoM**
 - Standard type is always “pcs” (pieces)
 - Alternatively, other common units can be inserted here, e.g. kg, m or other common units (mainly relevant for industry Suppliers)
- **Capacity Valid From/Until**
 - Standard is always from *today* until *today+24 months*
 - Alternatively, a specific time horizon can be indicated. That’s especially relevant for *actual* capacities that should be applied temporarily
 - If no Valid Until is specified for **Actual** Capacity, it assumed that ValidFrom=ValidUntil
 - If no Valid Until is specified for **Planned** Capacity, it is assumed that ValidUntil=Today+24months
- **Comment**
 - Free text field
 - Supposed to provide additional information in case of shortages
- **Data Extraction Date**
 - Standard is always current date
 - Alternatively, Suppliers can indicate, when the data was retrieved from their system

This results then in the following excel structure:

Buyer ID	Supplier ID	Capacity Cluster	Capacity Type	Capacity Weekly	Capacity Valid From	Capacity Valid Until	Comment	Data Extraction Date
2001125	123	Cluster 1	Planned	1500	01.01.2021	31.12.9999		13.04.2021
2001125	123	Cluster 2	Planned	1500	01.01.2021	31.12.9999		13.04.2021

3.2.2 Template Guidelines/Hints

- **Tab Names mustn't be changed** by the Supplier, otherwise, the importer cannot recognize the type of input:
 - Cluster Assignment
 - Machine Capacity
 - Part Capacity
- **Column Headers are not fixed** and can be adapted (e.g. to match Supplier's language).
- **Order of the columns mustn't be changed** and columns mustn't be deleted, e.g. BuyerID always needs to be the first column, etc.
- **Lines in the dataset mustn't be skipped**, this means first row needs to contain column headers and data must start in second row
- Clusters that are assigned in the tab "Cluster Assignment" are relevant for the tab "Machine Capacity". The idea is to assign a cluster (e.g. a machine) to each BuyerPartNumber and then provide capacities on cluster/machine level
- Capacities have to be provided as **net values**. So, the utilization ratio should be considered when providing machine/shift hours.
- Each BuyerPartNumber should only be assigned to one cluster (1:n relationship!)
- Please avoid using formulas in the excel file. Otherwise these cells might not be imported properly

4 System User Interface - Dashboards

The Dashboards can be found in SupplyOn-Services/Visibility & Analytics.

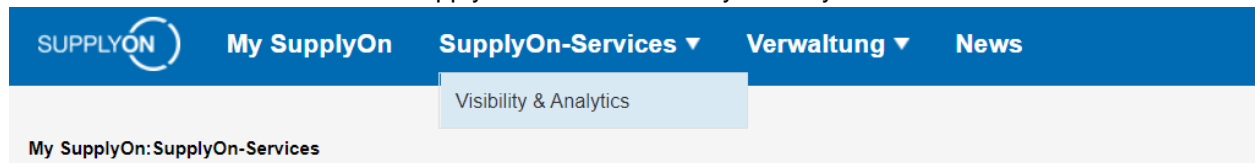


Figure 2: Entry Point Visibility & Analytics

The customer specific user interface for Schaeffler instance of SupplyOn SCPM Production-2-Supply “Capacity Management (LKA)” consists of five different dashboards panels:

- P2S Capacity Overview
- P2S Volatility
- P2S Capacity Details
- Capacity Templates

The following elements are used for the dashboards:

4.1 Global Filters

The filters are located on the right side of each report under “Filters on all pages” and have the purpose of selecting records based on one or more specific conditions. The selection of different filters affects the visuals and tables.

The filters between the dashboards are connected and synchronized meaning that, if the user is navigating to one of the subpages and applies a filter, then it’s still active when moving back to the main page.

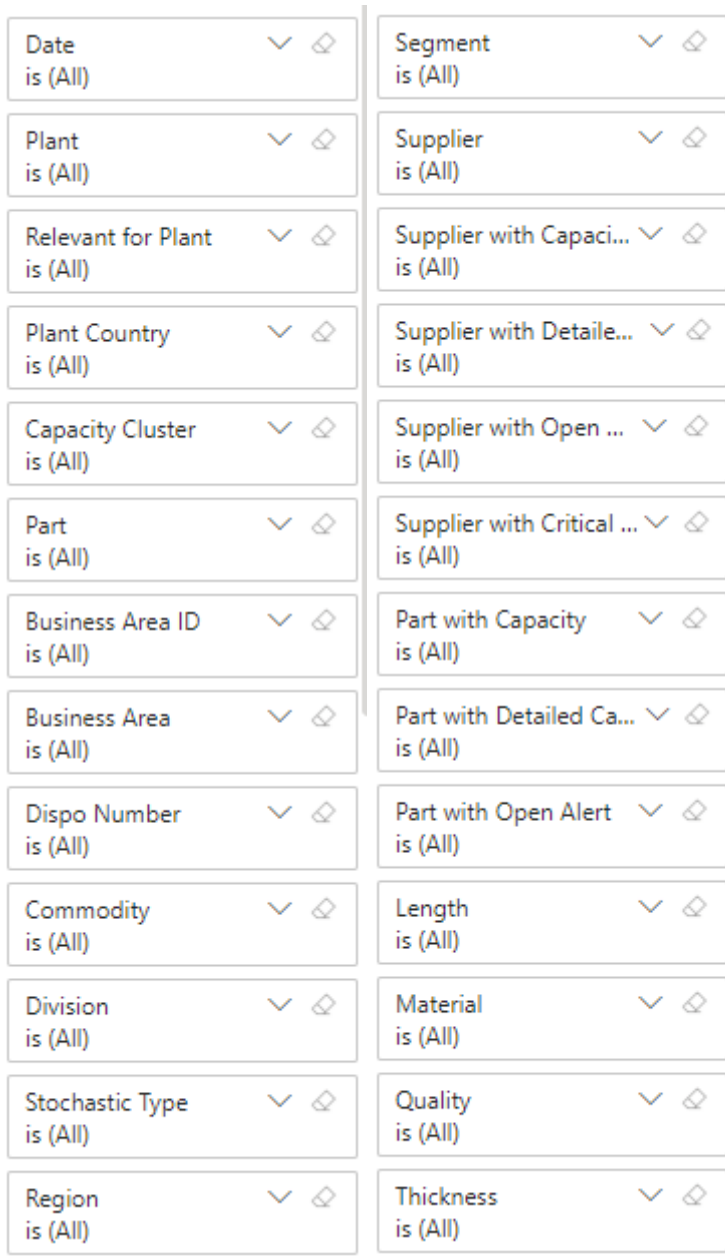


Figure 3: Global Filters

All of the filters are the same in each tab of the dashboard. Here is a brief explanation of each filter:

- Date: relative date filter that enables the user e.g. to filter for the next 8 months/next 12 weeks/etc...
- Plant: Selection of individual plant to see demands and capacities but user can't see other plants that are affected by certain bottlenecks
- Relevant for Plant: Selection of plant to see demands and capacities. This filter will show all the plants -yours and others affected by your clusters
- Plant Country: Buyer Plant Country
- Capacity Cluster: Capacity Clusters defined by Suppliers via Cluster Assignment Template
- Part: Material Part Number taken from WebEDI
- Business Area ID: taken from Part Master Data transferred by Schaeffler
- Business area: taken from Part Master Data transferred by Schaeffler
- Commodity: taken from Part Master Data transferred by Schaeffler
- Division: taken from Part Master Data transferred by Schaeffler
- Stochastic Type: taken from Part Master Data transferred by Schaeffler
- Region: taken from Part Master Data transferred by Schaeffler
- Segment: taken from Part Master Data transferred by Schaeffler
- Supplier: Standard Supplier Number + Name taken from WebEDI
- Supplier with Capacity: enables the user to filter only for suppliers that inserted capacity data
- Supplier with Detailed Capacity: enables the user to filter only for suppliers that inserted detailed capacity data on machine level
- Supplier with Open Alert: enables the user to filter only for suppliers that have an open alert
- Supplier with Critical Alert: enables the user to filter only for suppliers that have a critical alert
- Supplier with Capacity: enables the user to filter only for suppliers that inserted capacity data
- Part with Capacity: enables the user to filter only for parts for which the supplier inserted capacity data
- Part with Detailed Capacity: enables the user to filter only for parts for which the supplier inserted capacity data
- Part with Open Alert: enables the user to filter only for parts that have an open alert
- Length: taken from Part Master Data transferred by Schaeffler
- Basic Material: taken from Part Master Data transferred by Schaeffler
- Grade: taken from Part Master Data transferred by Schaeffler
- Thickness: taken from Part Master Data transferred by Schaeffler

4.2 Aggregation Buttons

The following buttons can be used to change the KPIs displayed in the matrix and to switch between weekly and monthly aggregation:

- Utilization = $\frac{\text{Weekly/Monthly Demand}}{\text{Weekly/Monthly Capacity}}$
- Demand = Sum of Weekly/Monthly Demand
- Capacity = Sum of Weekly/Monthly Capacity
- Critical Alerts
 - = Sum of Critical Alerts within a certain week/month
 - A critical alert is determined when
 - Capacity < demand
 - and cumulative capacity of last 3 months < cumulative demand of last 3 months

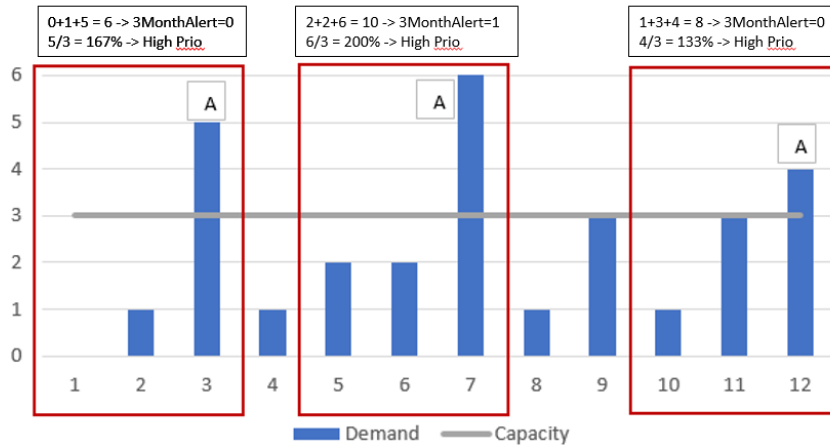


Figure 4: Critical Alert Calculation



Figure 5: Aggregation Buttons

The current selection of buttons is indicated by a darker color (so, in the figure above, *Utilization* and *Monthly* has been selected)

4.3 Refresh Date Card

This card displays the date when the data was recalculated (generally, data is updated on a daily basis):



Figure 6: Refresh Date Card

4.4 Visuals and Tables

These are located in the top and bottom middle part of the dashboard. The visual and tables reflect the output of the filter selection.



Figure 7: Visuals and Tables

5 P2S Capacity Overview

This is the main page. In terms of business, this dashboard provides a high level overview on potential bottlenecks and enables different deep diving options.

Here is a brief explanation of each visual found in the P2S Capacity Overview dashboard.

5.1 KPIs



Figure 8: KPIs

The KPIs are displayed in the overview page and are adapted according to filter settings:

- Suppliers with Demand: counting the number of Suppliers that have future demands in the WebEDI system
- Supplier with Capacity: counting the number of Suppliers that have already sent some capacity data (this could be extended to distinguish between Suppliers with simple or detailed input)
- Alerts: counting the number of alerts that have been identified
- Critical Alerts: counting the number of alerts that are considered “critical” (for explanation see chapter 4.2)
- Average Utilization: calculating the average of demand/capacity. **Hint:** this KPIs brings added value mainly when filters are applied. E.g. filtering for next 6 months and clicking at a specific cluster, shows the average utilization for the respective cluster in the specified time frame. On a global level it might be hard to interpret.
- Affected Plants: providing a list of plants that's affected by the current selection

5.2 Capacity – Demand Evaluation

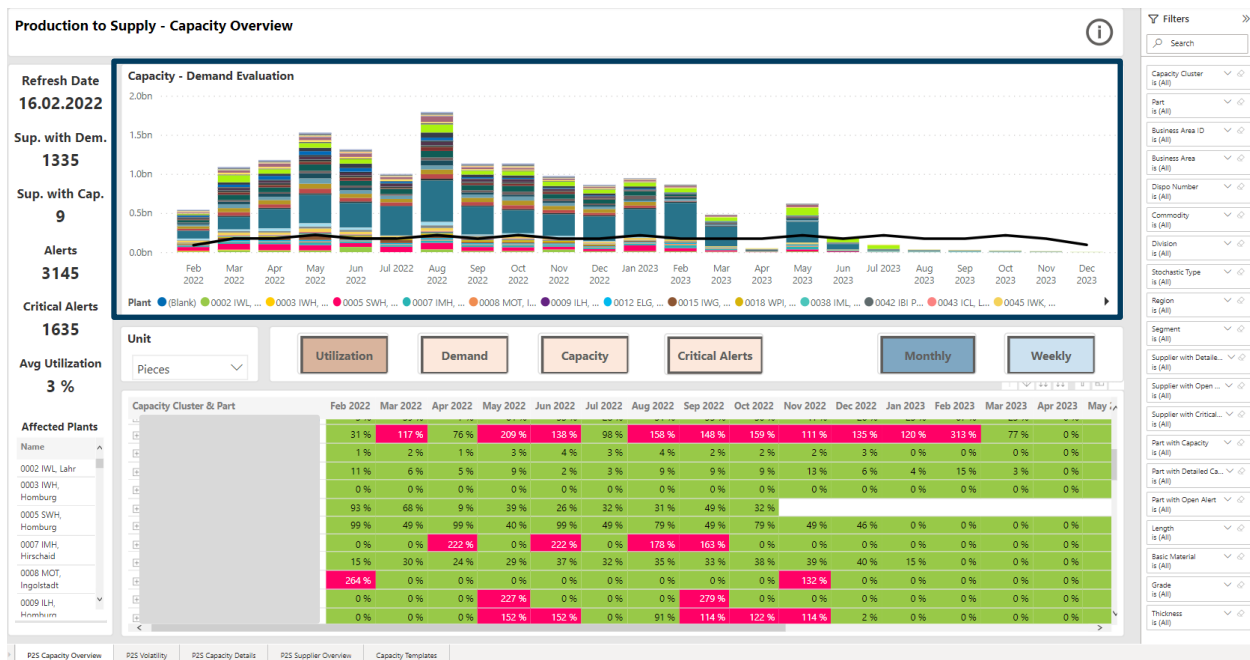


Figure 9: Capacity Demand Evaluation

In this visual, the user can directly compare demands and capacities over time. In addition, the demand can be analyzed by identifying the different buyer plants in the stacked bars.

The capacity is visualized by a black line indicating the capacity based on machine capacities

Here are some tips and tricks for using this visual:

- Clicking at one specific Month in this visual, also filters the bottom visual for the specific month and helps to deep dive into this month
- Clicking at a specific plant in the legend, enables the user to monitor all clusters/parts that are sent to the specific plant in the respective time horizon
- Doing a mouseover over a bar/line visualizes the actual values. So, clicking at a specific cluster or part number in the bottom view and then doing a mouseover in the upper view helps to compare actual values for a specific cluster or part number
- Using the **Unit** slicer in the middle bar enables the user to switch between standard unit (pieces) and hourly values. For the hourly values, actual machine/shift hours are compared to hourly demands on a weekly/monthly basis

5.3 Capacity – Demand Matrix

5.3.1 General

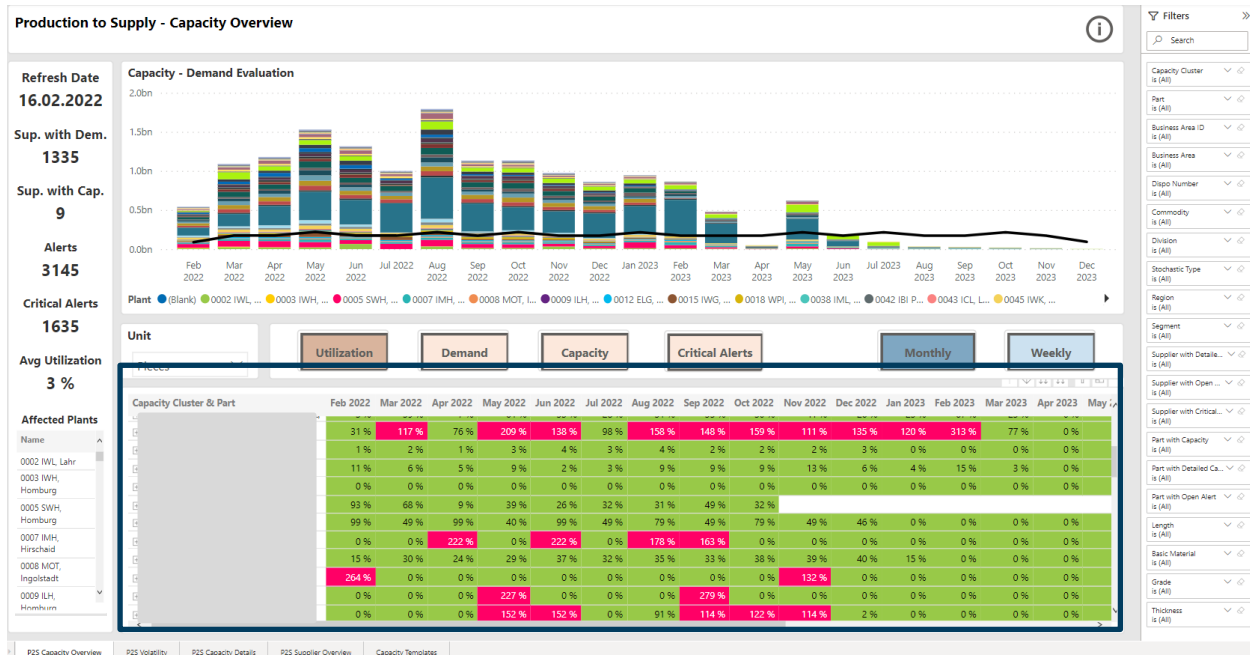


Figure 10: Capacity Demand Matrix

This visual, is based on the previous LKA process developed by Schaeffler. So, in the standard view, it visualizes the utilization on cluster (machine) level per week/month.

By clicking at the ‘+’ of a specific machine, the user can deep dive on part level and check, which parts actually cause the bottlenecks.

Additionally, by using the buttons in the middle bar, further KPIs can be visualized (see chapter 4.2).

5.3.2 Hints

This view is supposed to be the entry point for the user. It clearly indicates potential issues on the first side. On this basis, either the top view can be filtered or a global filter can be applied, in order to proceed with a detailed analysis in the other tabs.

Especially, using the “Critical Alerts” view, shows on the first sight when a cluster has some structural bottlenecks in several consecutive weeks.

5.3.3 Conditional Formatting

As shown in the screenshot, some of the cells are marked red, some are marked green.

Depending on the Button that’s active, different rules for conditional formatting are applied:

- **Utilization**
 - Red, if utilization > 100%
 - Green, if utilization <= 100%
- **Demand:** no conditional formatting is applied in this scenario, as it’s hard to compare demands of highly heterogeneous parts
- **Capacity:** no conditional formatting is applied in this scenario, as it’s hard to compare capacities of highly heterogeneous parts
- **Critical Alerts**
 - Red, if number of critical alerts > 0
 - Green, if number of critical alerts = 0

6 P2S Volatility

This dashboard mainly has two purposes:

1. Historization of demand and capacity data
2. Identifying parts with high demand volatility

From a data perspective, demand and capacity data are historized on a bi-weekly level. This means that, in this view, the user can select data sets from the past on a bi-weekly level.

This tab has two additional filters on page level:

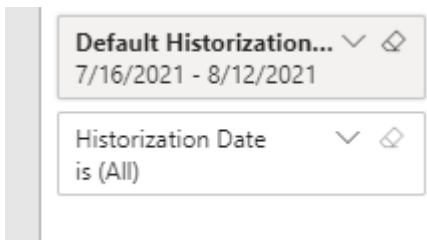


Figure 11: Historization Filters

The first filter is a default setting, filtering for the last 4 weeks (usually this results in the last two data extracts, that's the most common use case).

Here is a brief explanation of each visual in the P2S Demand Volatility dashboard.

6.1 Demand Volatility Overview

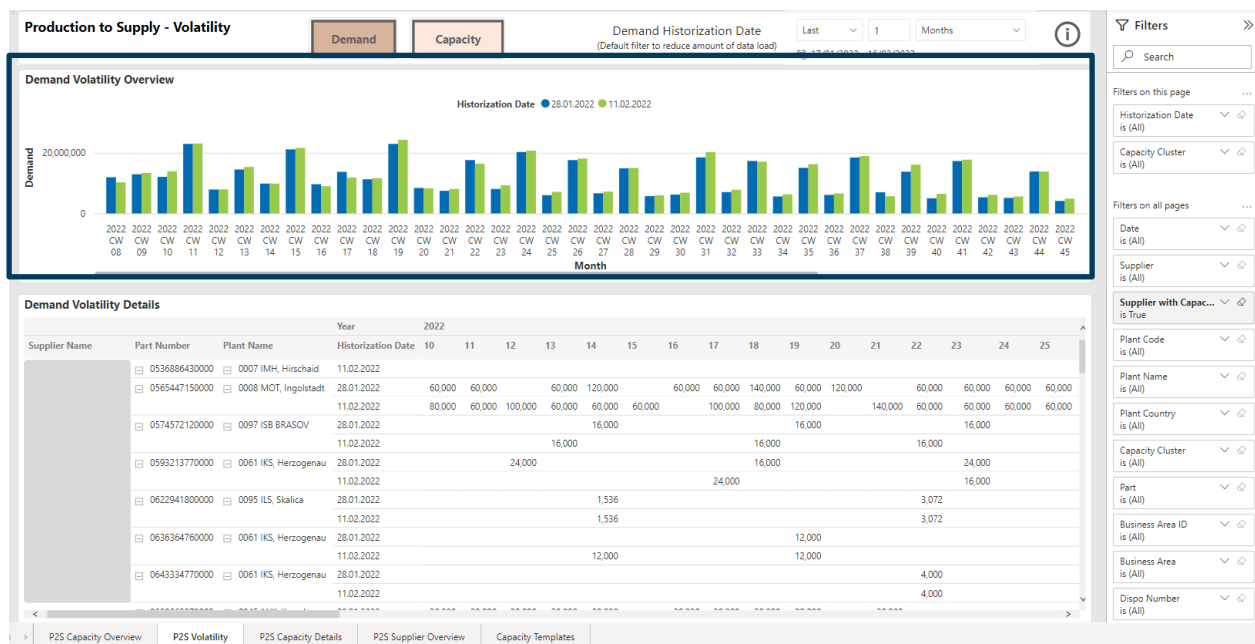


Figure 12: Demand Volatility Overview

This visual is supposed to serve as entry point for the analysis. Here, the user can identify on the first sight for which month/week the demand has been changed significantly.

By clicking at the respective week (in the screenshot above, CW52 could be an interesting case), the table below is filtered automatically and enables the user to analyze, which part numbers or plants caused the demand increase.

6.2 Demand Volatility Details

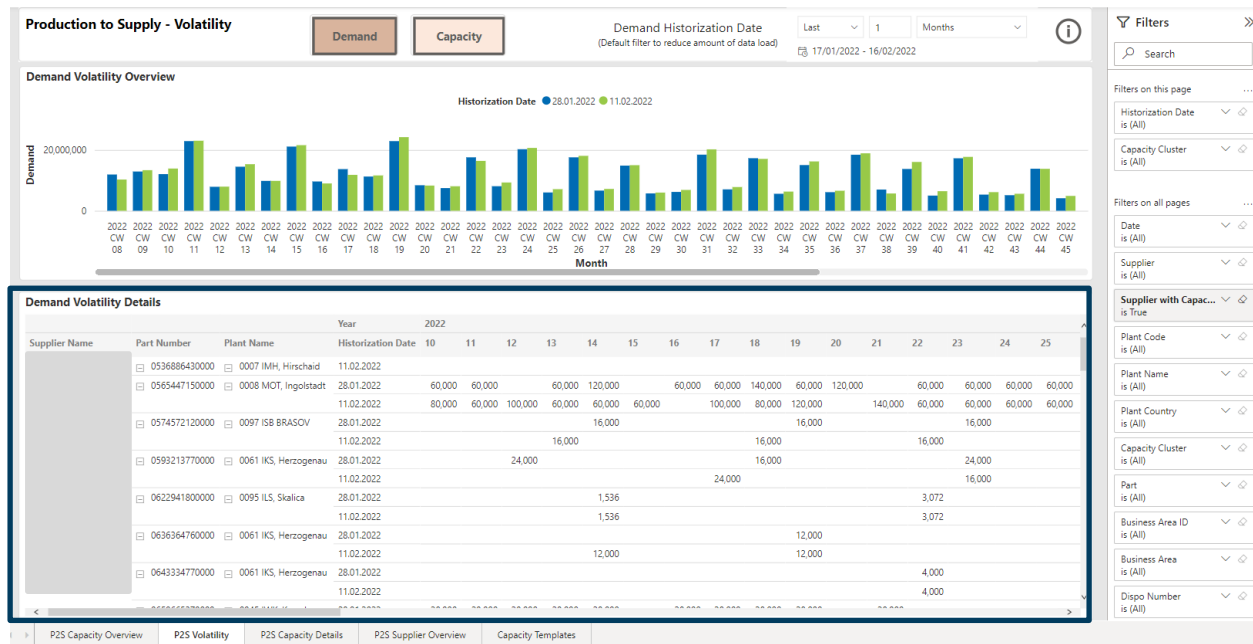


Figure 13: Demand Volatility Details

This visual helps the user to directly compare the demands for a specific part number or plant at different points in time. In this way, it is possible to identify potential causes for a bottleneck in case the demand has been increased significantly. This table is supposed to serve as a deep dive option and should be used after prefiltering via bar chart or global filters has been applied.

6.3 Capacity Volatility

By clicking the “Capacity” button, the volatility of capacity data can be analyzed. In this way, it can be checked if capacities for a specific cluster had to be assigned in a different way over time.

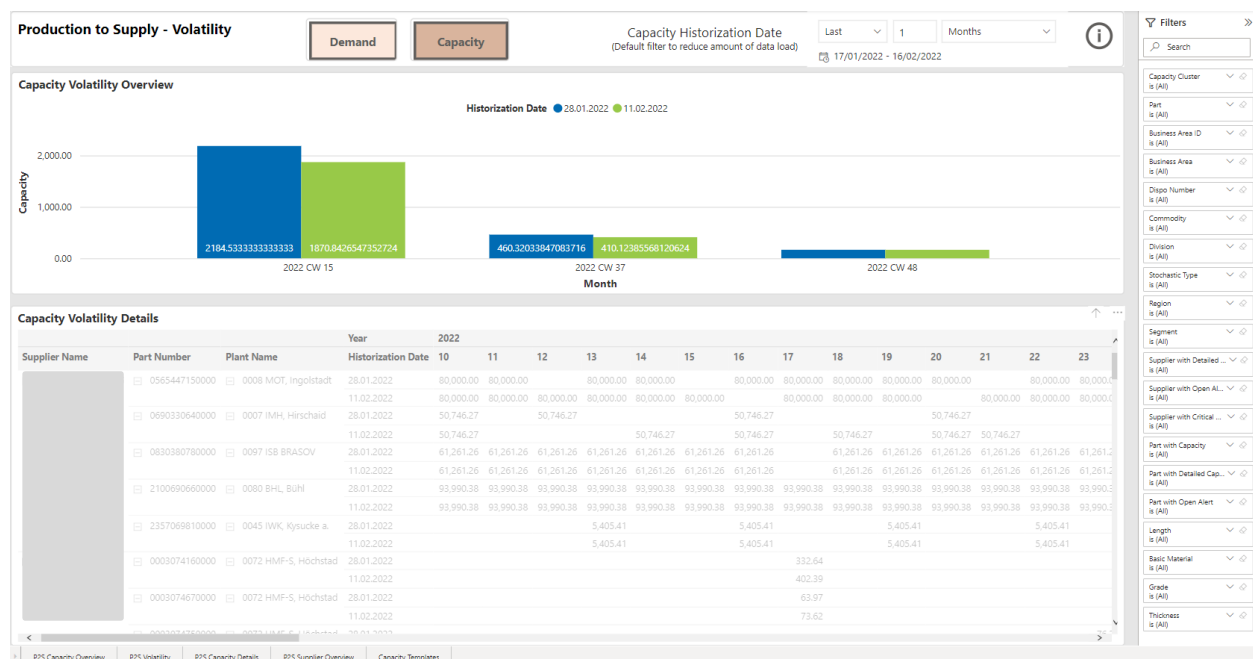


Figure 14: Capacity Volatility

7 P2S Supplier Details

The Supplier Details View is supposed to provide the buyside user an easy way to analyze suppliers on high level and identify suppliers with issues easily.

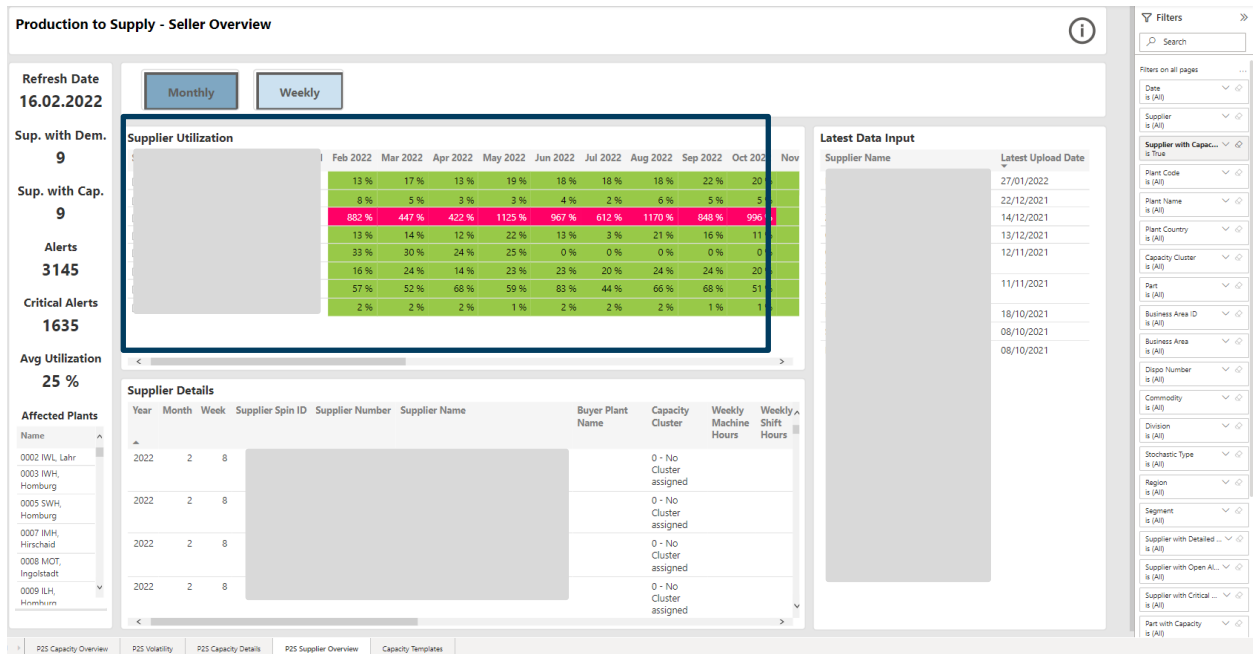


Figure 15: P2S Supplier Overview - Utilization

This visual is structured the same way as the utilization visual in the P2S Capacity Overview. However, in this case, the entry point is the supplier and the visual includes a drill down option on cluster- and part-level. In this way, the buyside user can identify a potential Supplier problem on high level and then drill down on the root cause of the issue.

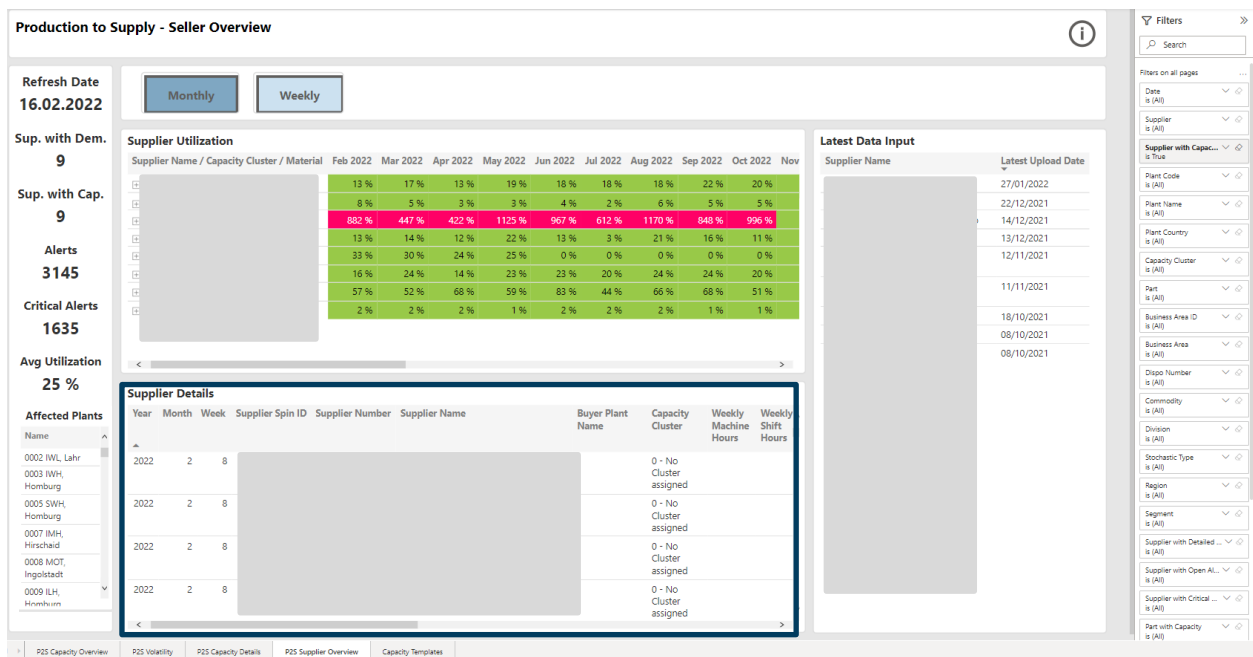


Figure 16: P2S Supplier Overview – Details

In this visual the details of capacities and demands are provided in tabular form.

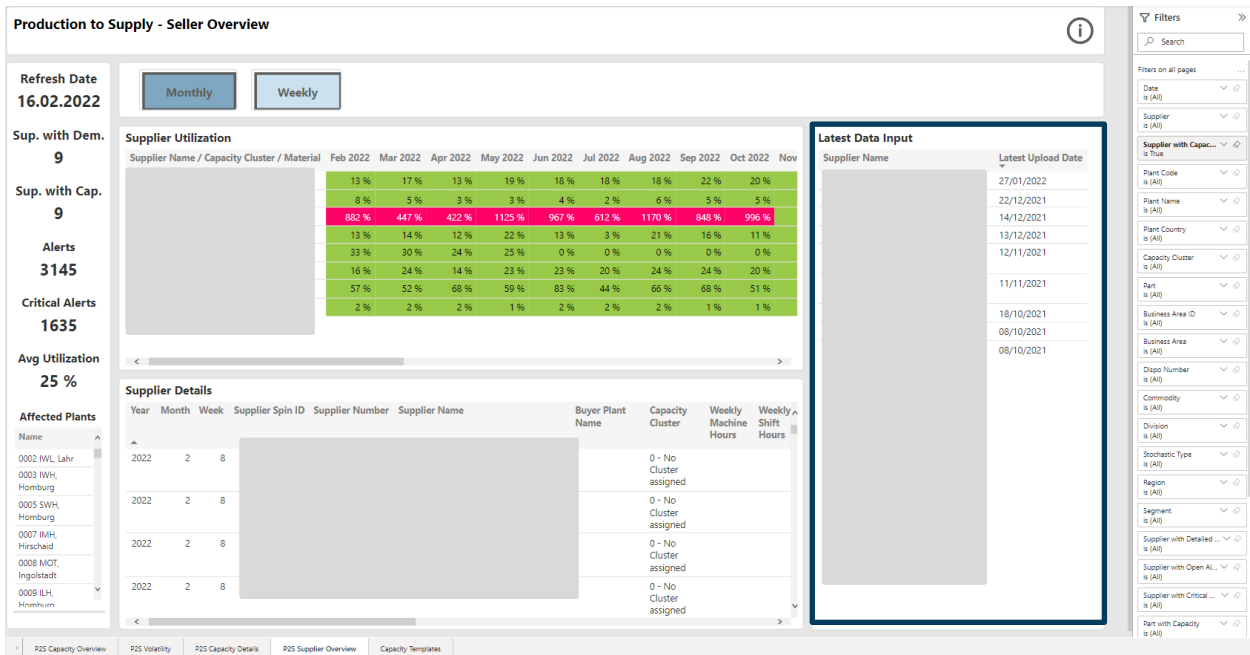


Figure 17: P2S Supplier Overview - Latest Data Input

Finally, in the “Latest Data Input” Visual, the buyside user has the option to identify Suppliers with outdated capacity data or observe Suppliers with new data input.

8 P2S Capacity Details

This tab contains a flat table enabling the user to analyze actual bottlenecks in detail.

It is recommended to apply some filters before and only use this tab for specific deep dive actions.

The following columns are visualized in this table:

Year	Month	Week	Supplier Spin ID	Supplier Number	Supplier Name	Buyer Plant Name	Capacity Cluster	Weekly Machine Hours	Weekly Shift Hours	Shift Model	Material Number	Produced Pieces Per Cycle	Cycle Time Minutes	Cycle Time Seconds	Weekly Demand	Weekly Demand Hours
2022	2	8					0 - No Cluster assigned				0629907560000				0	
2022	2	8					0 - No Cluster assigned				0670518980000				0	
2022	2	8					0 - No Cluster assigned				0684732060000				0	
2022	2	8					0 - No Cluster assigned				0708160690000				0	
2022	2	8					0 - No Cluster assigned				0835450420000				0	
2022	2	8					0 - No Cluster assigned				0844581350000				0	
2022	2	8					0 - No Cluster assigned				0855838200000				0	
2022	2	8					0 - No Cluster assigned				0896654220000				0	
2022	2	8					0 - No Cluster assigned				0896674680000				0	
2022	2	8					0 - No Cluster assigned				0896711550000				0	
2022	2	8					0 - No Cluster assigned				0896751180000				0	
2022	2	8					0 - No Cluster assigned				0896757700000				0	

Figure 18: Capacity Details

Here's an explanation of the single columns:

- Year/Month/Week: determining the time frame a certain capacity/demand entry applies on
- Supplier Spin ID: Spin ID of the Supplier
- Supplier Name: Name of the Supplier
- Buyer Plant Code/Name: specifying the buyer plant
- Capacity Cluster: Capacity Cluster specified by the Supplier
- Weekly Machine Hours: Machine Capacity the Supplier has provided via input template. It determines the number of hours a machine is available for Schaeffler per week.
- Weekly Shift Hours: Number of hours the shift could work per week for a certain capacity cluster
- Material Number: identifier for the material
- Produced Pieces per Cycle: number of pieces that can be produced for a material number within one batch
- Cycle Time Hours: Number of hours it takes to produce one batch of the respective material
- Weekly Demand: demand of the respective material in the specified buyer plant in the respective week
- Weekly Demand Hours: Weekly Demand recalculated in hours, so the number of hours it takes to fulfill the whole weekly demand
- Weekly Capacity: Capacity for material/plant combination calculated based on machine hours and material production parameters
- Weekly Capacity Hours: Weekly Capacity recalculated in hours, so the number of hours available for the material/plant
- Weekly Saldo: Weekly Capacity – Weekly Demand
- Utilization: Weekly Demand/Weekly Capacity
- Capacity Comment: retrieved from input template (usually Supplier should provide a reason for bottlenecks here)

- Weekly Alert: indicating whether an alert was identified for this row
- Critical Alert: evaluating, if the alert I considered *critical* (see chapter 4.2 for details)

9 Capacity Templates

The last Tab contains the input templates for Suppliers. The columns are pre-filled according to part numbers that already have active demand and capacity data in the system.

The goal is to download a prefilled template for a specific Supplier. For the first scenario, providing detailed capacity input, the first two tables have to be exported. For the simple scenario, the third table has to be exported.

Production to Supply - Capacity Templates

Cluster Assignment

Buyer ID	Supplier ID	Buyer Part Number	Supplier Part Number	Part Description	Capacity Cluster	Production Time (Cycle Time)	Production Time Unit	Number of pieces per Cycle
2001125		0536886430000		F-347296.10-0301.SPFED.NWDK				
2001125		0574572120000		F-347537-0301.SPFED.NWFR				
2001125		0593213770000		F-239575.05-0091.DFED.ARRE-HLB				
2001125		0622941800000		F-568131-0171.TRFED.RSEMB-HLA				
2001125		0636364760000		F-237232-3061.DFED.ARRE-HLA				
2001125		0643334770000		F-235988.16-0061.DFED.ARRE-HLB				
2001125		0650663240000		F-562899.23-0151.DFED.KGTA				

Machine Capacity

Buyer ID	Supplier ID	Capacity Cluster	Machine Availability per week (h)	Maximum Shift Availability per week (h)	Current Shifts per week	Capacity Type	Capacity Valid From	Capacity Valid Until	Comment	Data Extraction Date
2001125										16/02/2022 05:45:10
2001125			0.00	0.00	0	Planned				16/02/2022 05:45:10
2001125			97.75	97.75	15	Planned				16/02/2022 05:45:10
2001125			0.00	0.00	0	Planned				16/02/2022 05:45:10
2001125			6.00	34.00	5	Planned				16/02/2022 05:45:10
2001125			0.00	0.00	0	Planned				16/02/2022 05:45:10

Part Capacity

Buyer ID	Supplier ID	Buyer Part Number	Supplier Part Number	Part Description	Capacity Type	Capacity Weekly	UoM	Capacity Valid From	Capacity Valid Until	Comment	Data Extraction Date
2001125		0953478790000		F-624766.20-0031.BZ.RDE	Planned	0	pcs	11/11/2021 00:00:00	31/10/2022 00:00:00	UAT hissdni 10.11.2021	16/02/2022 05:45:10
2001125		0896674680000		F-550749.05-0112.BZ.RSEMZ-B	Planned	1015	pcs	11/11/2021 00:00:00	31/10/2022 00:00:00	UAT hissdni 10.11.2021	16/02/2022 05:45:10
2001125		0896628890000		F-559467.03-1112.BZ.RSEMZ-C	Planned	11216	pcs	11/11/2021 00:00:00	31/10/2022 00:00:00	UAT hissdni 10.11.2021	16/02/2022 05:45:10
2001125		0933385380000		F-357334-0021.KOL.VCPZVEN	Planned	12895	pcs	11/11/2021 00:00:00	31/10/2022 00:00:00	UAT hissdni 10.11.2021	16/02/2022 05:45:10
2001125		0656335770000		F-413176-0131.BZ.RSEMB	Planned	138	pcs	11/11/2021 00:00:00	31/10/2022 00:00:00	UAT hissdni 10.11.2021	16/02/2022 05:45:10

Figure 19: Capacity Templates

Hints:

- The columns in “green” are mandatory in each sheet
- The columns in “gray” are optional
- The columns in “white” are prefilled
- There is one additional page filter in this tab to select the respective Supplier, for which the template should be exported
- By clicking at the three dots in the upper right corner of a table, the data can be exported (“Export Data”) to excel

The “green” columns have to be filled out by the Supplier. By clicking at the three points at the upper right, the table can be downloaded as csv or xlsx file. As explained in the text section in this tab, the template might have to be adapted slightly, based on the chosen file format:

- Downloading as .xlsx file automatically generates two rows above the actual table, these two rows need to be removed, before the file can be uploaded again.
- Downloading as .csv file results in comma-separated data. In order to fill it out properly, it should be transferred in column-format. This can be done by selecting “Data” -> “Text to Columns” in Excel

10 Tipps & Tricks

10.1 Filtering by Clicking

By clicking at some parts of the visuals, it is possible to get a filtered view. This is an easy and intuitive option to filter certain dashboard visuals without using the actual filter section on the right. It's important to understand that this way of filtering only works for the current page and is not transferred to other pages.

This way of filtering especially helps to easily deep dive on potential issues. Here is one example:

- First, we have set the global “Date” filter, in order to focus on the next 8 months
- In addition, we’ve just clicked at “Molding Machine 2” in the bottom visual
- In this way, the upper visual and the KPIs on the right are filtered respectively
- So, we can see on the first side, which impact the over utilization in certain months has on the KPIs and which plants are affected in a certain month

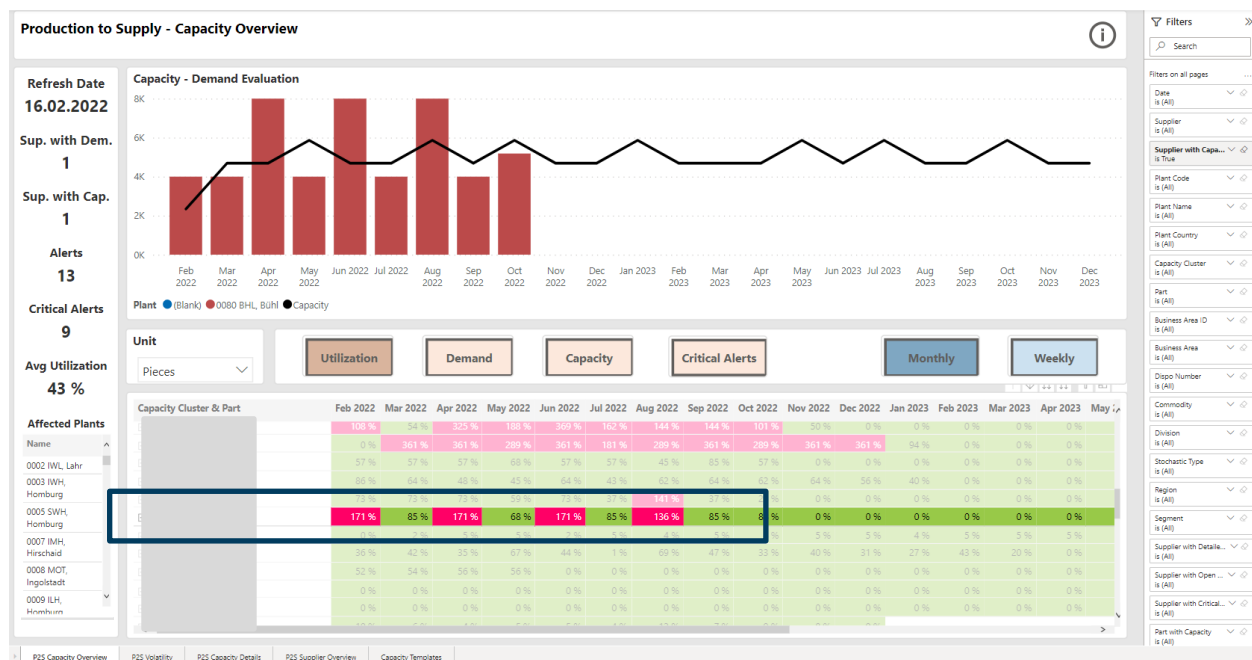


Figure 20: Filtering by Click Example

So, depending on the use case, carefully think about choosing either the global filter section or the “on click” feature or a combination of both.

10.2 Bookmarking

There’s an additional feature that enables the user to save a specific view for later.

So, as a user I could set respective filters for my relevant plants/clusters/materials, then save it as a bookmark and the next time I open the dashboard, I can directly jump into this pre-selection and save some time.

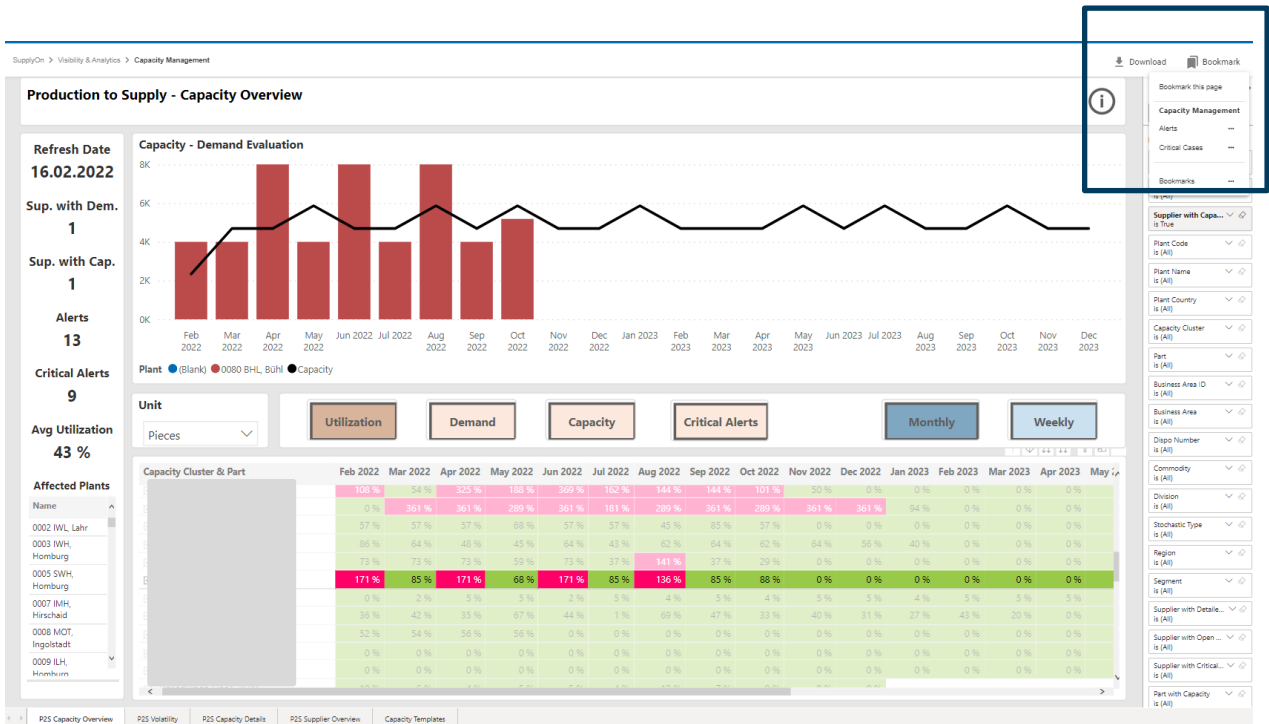


Figure 21: Bookmarking

10.3 Email Notifications

An extension to this feature, is the “Email Notifications” Functionality. It can be reached via the navigation bar on the leftside:

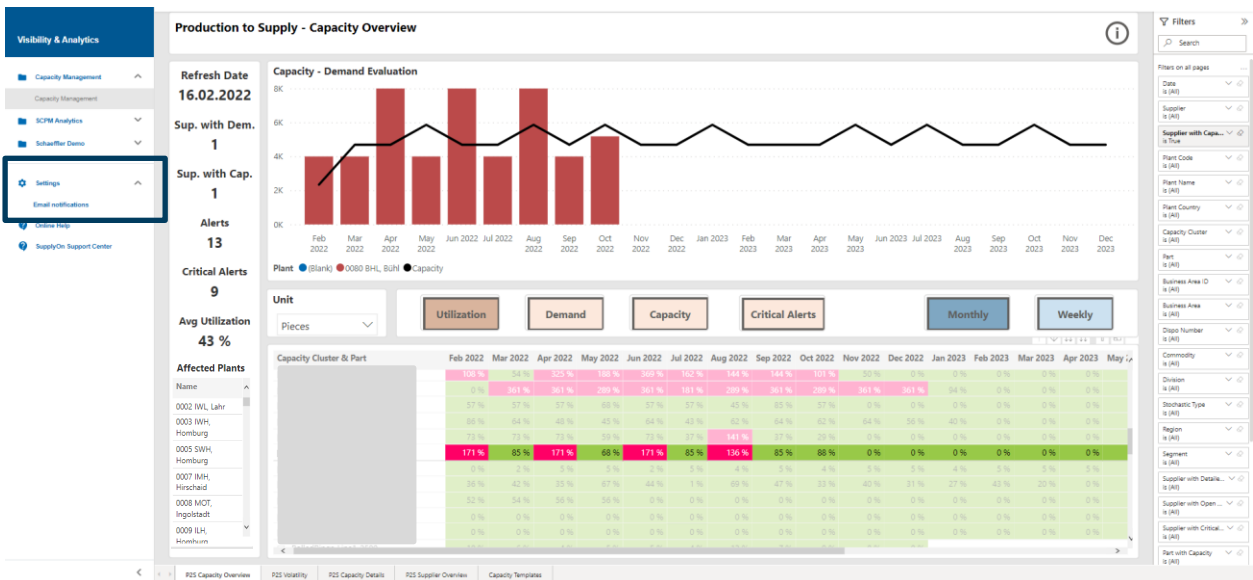


Figure 22: Email Notifications

With this, you can schedule regular dashboard exports to be sent to you (and additional email addresses). In this way, a user doesn’t even have to go into the LKA Dashboard, but can comfortably receive an email notification on a regular basis.

This email notification can not only be configured for a whole view, but also for pre-defined Bookmarks.

A new Email Notification can be created as follows:

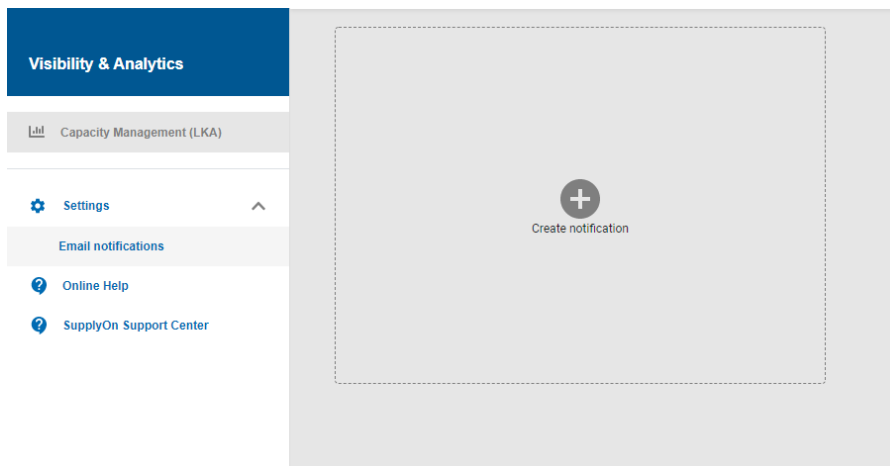


Figure 23: New Email Notification

The 'Create notification' form includes the following sections and fields:

- Select report and format:**
 - Report * (dropdown)
 - Report page * (dropdown)
 - Bookmark** (dropdown, set to 'None (dont apply filters)')
 - Format * (dropdown, set to 'PDF (*.pdf)')
- Define schedule:**
 - Only once (toggle, off)
 - Repeat:
 - Weekly on: Sun, Mon, Tue, Wed, Thu, Fri, Sat
 - Monthly: every 1 month
 - Delivery time:
 - At (hh:mm): 08:00 (dropdown)
 - At 08:00, only on Monday and Friday
 - Please note that, depending on system load, email delivery time may be behind schedule by 5-10 min.
- Define email dispatch:**
 - Recipients * (text input)
 - Please separate e-mail addresses with comma
 - E-mail subject * (text input, 0 / 50)
 - E-mail message text (text area, 0 / 200)
- Give a name:**
 - Name * (text input, 0 / 50)

Buttons: Cancel, Save and close

Figure 24: New Notification Details

10.4 Date Filters

There are different options of using date filters. Some of the possibilities will be demonstrated in the following section.

The easiest way of specifying a date range is to apply a relative date filter. The filter is quite flexible, so it allows to specify the date range based on days, weeks or months. In this way, a more focused way e.g. on a short term horizon can be enabled.



Figure 25: Relative Date

Also, it could be possible, that the user wants to specify a specific quarter or specific months. In this way, the Advanced Filtering can be used. Here, the user can specifically determine a start and end date.



Figure 26: Advanced Filtering

Finally, specific dates can be chosen. This option might not be useful for the standard views to determine demand dates. However, for the historization filter in the demand volatility view, it can be really helpful. Here, he user can select specific reference dates that should be compared.

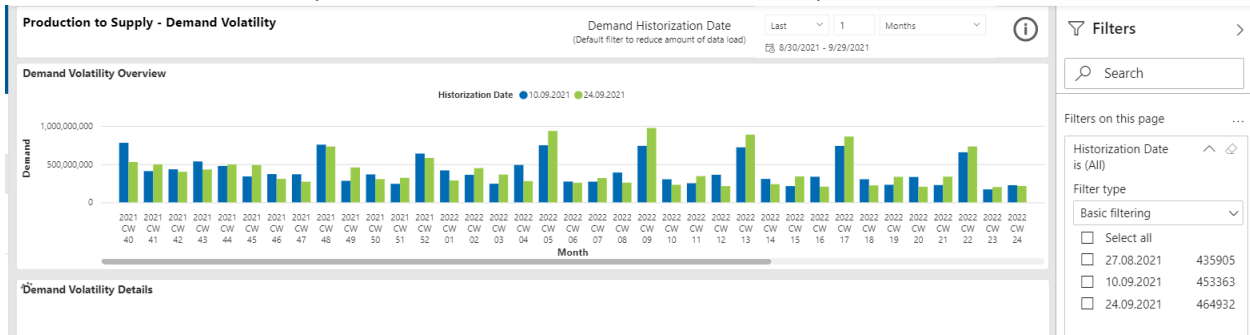


Figure 27: Simple Date Filter

10.5 Plant Filters

Also, we offer two ways to filter for the plant, which the user is interested in.

If you select the regular “plant” filter, the data is filtered for all demands and capacities for this plant.

The drawback is that the user cannot see which other plants might affect certain bottlenecks. Also, the total capacity of a certain cluster cannot be checked in this view.

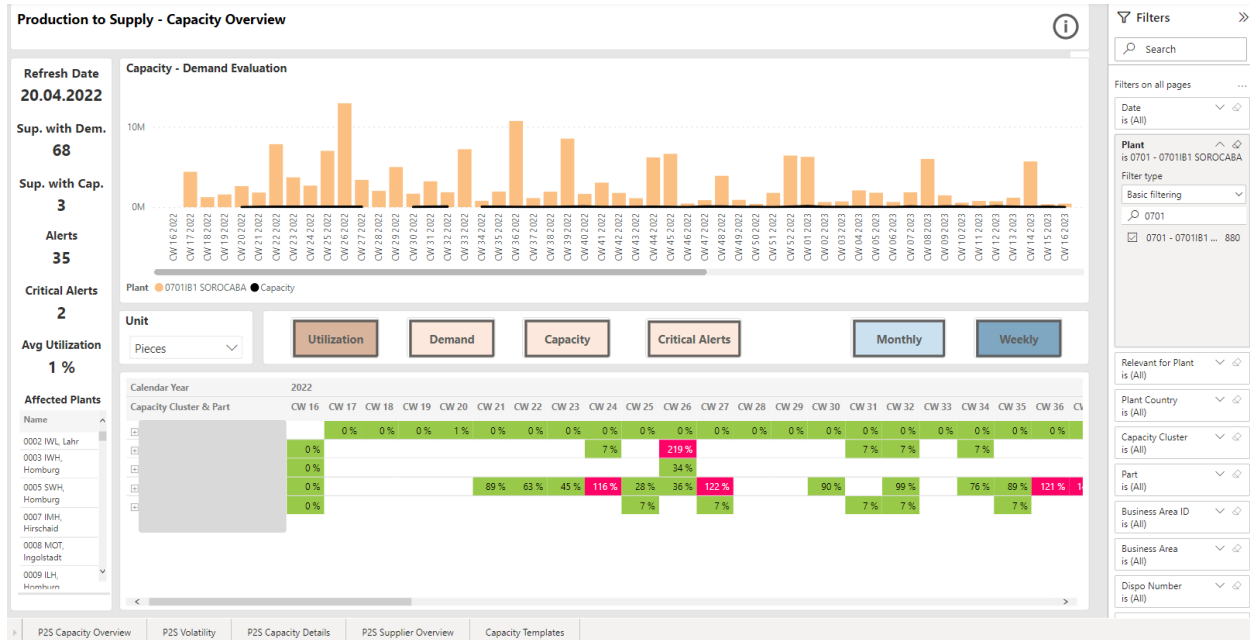


Figure 28: Simple Plant Filter

That’s why, a second option has been developed. Here you can filter for all data that’s “relevant for plant”...

This means, if you set the filter for a plant, it’s filtering for all clusters that are affecting a certain plant, but the user still sees all data for these clusters.

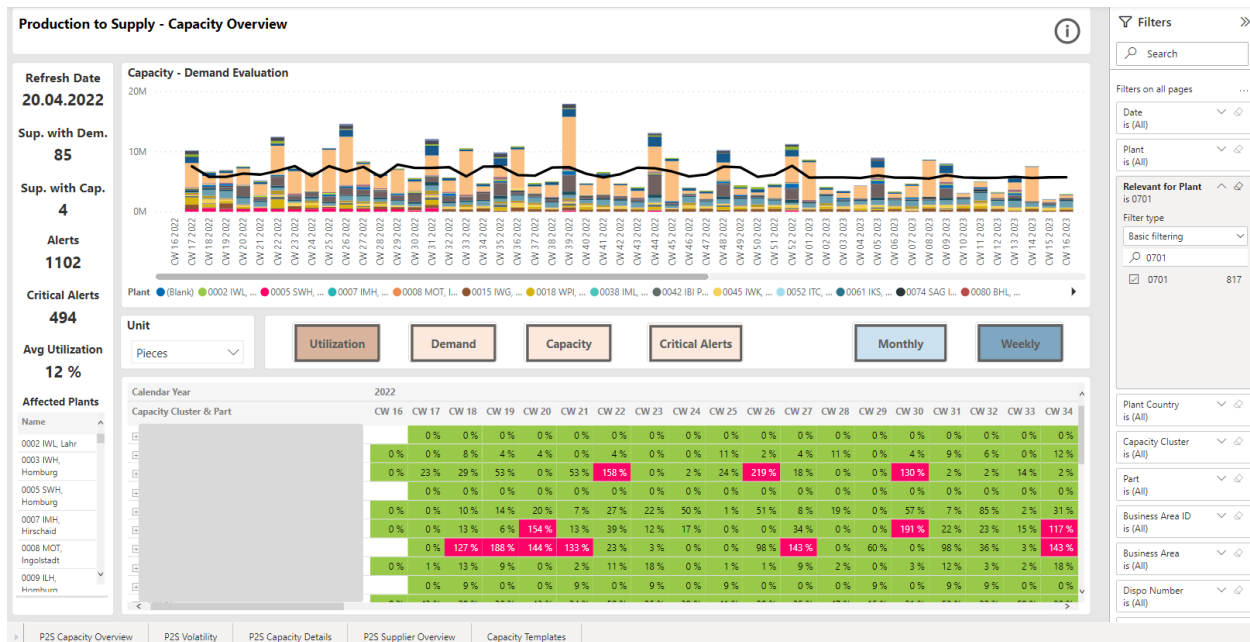


Figure 29: "Relevant for Plant" filter

11 Operational Support

When facing any operational issues with the dashboard, please contact the SupplyOn support:

customer-support@supplyon.com

If you observe any structural problem with the dashboard, the V&A team can also be contacted directly.

V_SCPMSupport@supplyon.com