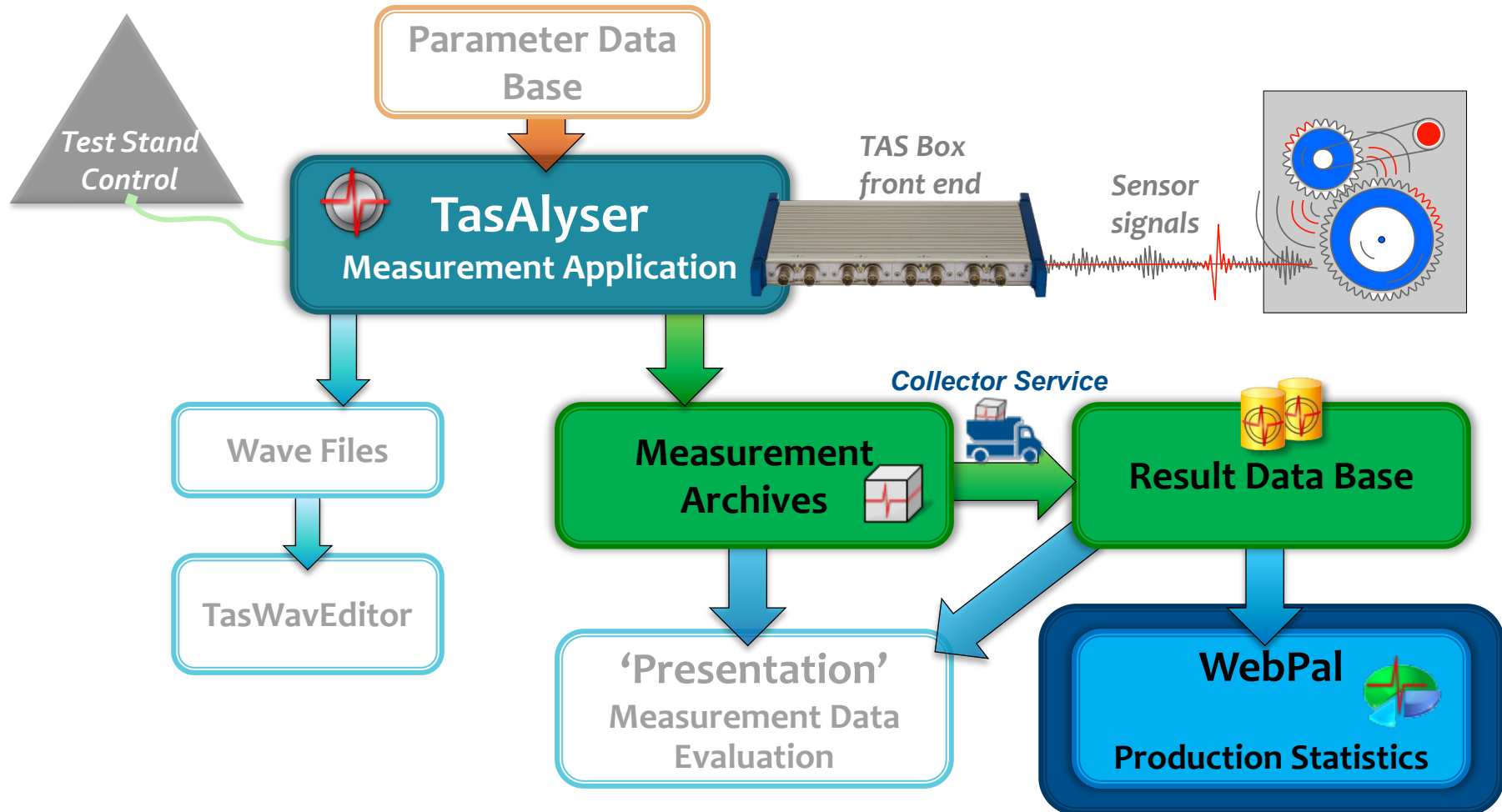




How to get an overview of your current production,  
NOK rate and defects

# Discom Result Database

Each test run generates a result file, called Measurement Archive (file extension .rdt). The Collector Service imports these files into the result database, which forms the base for the WebPal production statistics.



# Addressing Any Value: Clavis

The **Clavis** is the unique identification of a measurement value in the measurement application, the parametrization, and in all evaluation tools.

It consists of 6 elements:

- 🔑 **Test Step** (= „Mode“, e.g. 3-rD, Stdy, ...)
- 🔑 **Instrument** (e.g. order spectrum, RMS, spectral value)
- 🔑 **Object/Location** (e.g. input shaft, pinion gear, oil pump)
- 🔑 **Processing Channel** (Synchronous, Mix, Fixed frequency)
- 🔑 Instrument **Measurement Parameter** (e.g. H1, Main Order Band)
- 🔑 **Sensor** (e.g. vibration sensor VS-1, Microphone Mic)



“Clavis” is Latin and means “key”: the unique key to find a value.

Because limits are distinct for types and test stands, the unique identification for a limit value has 8 elements:

**Clavis + type + test bench.** 🔑

# Production Analysis: WebPal



**WebPal** is a server-based service. Using the **WebPalViewer** app, you can check production statistics, NOK rates, top N defect reasons, value statistics, trend analysis and more.

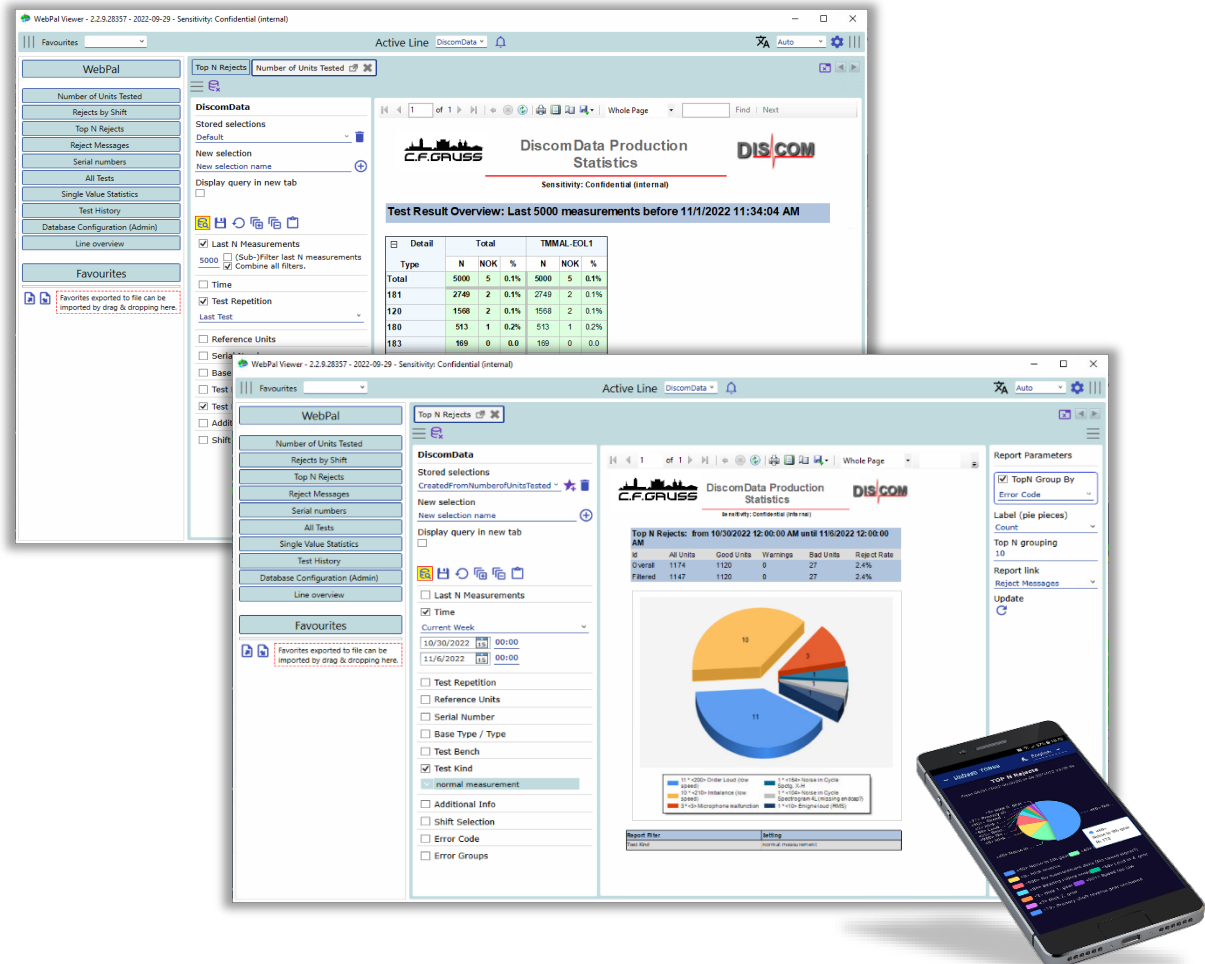
The WebPal back end runs on a server computer, which is in many cases identical to the result database server.

For simple installations with only one measurement PC, WebPalViewer can connect directly to the result database.

WebPal was designed to assist you in identifying and solving all kinds of production problems.

The starting point for different ways of analysis is the production statistics, which displays for all test stands and types the production numbers and fault rates. From there, you can proceed to top N defect statistics, time series and other types of analysis.

A broad set of filter options enables further specification of analysis.



# WebPalViewer: Basic Operations



Use the Three-Lines-Buttons to show/hide options panes.



You can have multiple evaluations open in different tabs.

Zoom selector



Use button to export a report for Excel or pdf.

“Close all tabs” button

[Number of units tested] gets you to the production statistics tabular overview.

[Top N Rejects] directly links to the reject statistics pie chart.

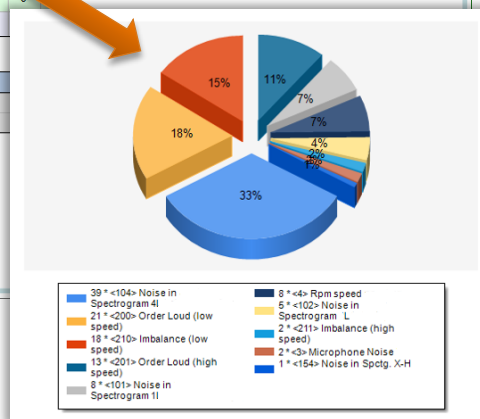
[Serial Number] lets you find all results for a certain serial number.

Set the **Last N** and/or **Time range** filters first, and more filters if desired, then press [Requery] button.

The screenshot shows the WebPalViewer interface with several panels:

- Left Panel:** A sidebar menu with options like 'Number of Units Tested', 'Rejects by Shift', 'Top N Rejects', 'Reject Messages', 'Serial numbers', 'All Tests', 'Single Value Statistics', 'Test History', 'Database Configuration (Admin)', and 'Line overview'. Below this is a 'Favourites' section.
- Top Panel:** Displays 'Top N Rejects' and 'Number of Units Tested' with a zoom selector set to 75%.
- DiscomData Panel:** Contains 'Stored selections' (Default), 'New selection' (New selection name), and 'Display query in new tab' (checkbox). It also has a 'Requery' button and several filter checkboxes: 'Last N Measurements' (checked, 5000), 'Time' (checkbox), 'Test Repetition' (checked), 'Test Bench' (checkbox), 'Test Kind' (checked), 'Additional Info' (checkbox), and 'Shift Selection' (checkbox).
- Main Content Area:** Shows 'Discom Data Production Statistics' for 'Sensitivity: Confidential (internal)'. It includes a 'Test Result Overview' table and a 'Report Filter' section.

Click on a percentage number to see the detailed Top N Rejects statistics



## Test Repetition Options:

**First Test:** this looks at the first test result for each serial number.

**Last Test:** this is your final production result.

**Filter unchecked:** includes all repetitions.

# WebPalViewer Most Used Reports



## Number of Units Tested

DiscomData Production Statistics

Sensitivity: Confidential (internal)

Test Result Overview: Last 5000 measurements

| Type  | Total |     |      | TMMAL-EOL1 |     |      |
|-------|-------|-----|------|------------|-----|------|
|       | N     | NOK | %    | N          | NOK | %    |
| Total | 5000  | 5   | 0.1% | 5000       | 5   | 0.1% |
| 181   | 2749  | 2   | 0.1% | 2749       | 2   | 0.1% |
| 120   | 1568  | 2   | 0.1% | 1568       | 2   | 0.1% |
| 180   | 513   | 1   | 0.2% | 513        | 1   | 0.2% |
| 183   | 169   | 0   | 0.0  | 169        | 0   | 0.0  |
| 030   | 1     | 0   | 0.0  | 1          | 0   | 0.0  |

Report Filter: Test Kind (normal measurement), Test Repetition (Last Test)

Click the [-] button to expand the table and get the total numbers tested.

## Top N Defects

DiscomData Production Statistics

Sensitivity: Confidential (internal)

Top N Rejects: from 10/30/2022 12:00:00 AM until 11/6/2022 12:00:00 AM

| Id       | All Units | Good Units | Warnings | Bad Units | Reject Rate |
|----------|-----------|------------|----------|-----------|-------------|
| Overall  | 1174      | 1120       | 0        | 27        | 2.4%        |
| Filtered | 1147      | 1120       | 0        | 27        | 2.4%        |

Report Parameters: TopN Group By (Error Code), Label (pie pieces), Count, Top N grouping (10), Report link, Reject Messages, Update

Use the Report Parameter pane to change category analysis and other options, then press [Update] button.

## Test History

DiscomData Production Statistics

Sensitivity: Confidential (internal)

History of TestResults

DiscomData Production Statistics

Sensitivity: Confidential (internal)

TestResults

Stored selections: Default, New selection, Display query in new tab, Time (Current Year: 1/1/2022 to 12/31/2022), Test Repetition, Base Type / Type, Test Bench, Test Kind

In the Report Parameter pane, you can switch to reject statistics by error classes.

Set the Test Repetition and other filters as needed.

# Links Within Web.Pal Report

The list of defects in Web.Pal contains clickable links which lead to more information

Click on the error code for a single value (like Spectral Value) to get to the single value statistics for this value.

**C.F. GRUSS** GaussData Production Statistics **DISCOM**

EOL TB1      JJJ      7777      0133 K 080117      9/21/2010 12:31 AM      83d      2/19 not OK

| Code | Nr | Error Message                   | Mode | Instrument    | Location   | Param   | Channel   | Pos.  | Value | Limit | U   |
|------|----|---------------------------------|------|---------------|------------|---------|-----------|-------|-------|-------|-----|
| 901  | 0  | Referenzgetriebe: Wert Triebatz | 6-S  | SpectralValue | Tellerrad  | TAb_H1  | SK6       | 35.00 | 89.56 | 76.00 | dBg |
| 900  | 1  | Referenzgetriebe: Wert Gang     | 6-Z  | SpectralValue | InputShaft | GAn_H1  | SK1       | 40.00 | 83.84 | 76.00 | dBg |
| 72   | 2  | Tellerrad laut                  | 6-S  | Ord           | Tellerrad  | O36.00  | Tellerrad | 36.00 | 80.43 | 75.00 | dBg |
| 72   | 3  | Tellerrad laut                  | 6-S  | Ord           | Tellerrad  | O217.00 | Tellerrad | 217.0 | 85.46 | 75.00 | dBg |
| 72   | 4  | Tellerrad laut                  | 6-S  | Ord           | Tellerrad  | O34.00  | Tellerrad | 34.00 | 76.12 | 75.00 | dBg |

Click on the serial number to open a new window with a full list of all single value result data. (There are more actions available when you click on the serial number.)

0212 K 090919      9/21/2010 3:41 AM      1/2 rpt. OK

| Instrument    | Location  | Param    | Channel | Pos.  | Value | Limit | U   |
|---------------|-----------|----------|---------|-------|-------|-------|-----|
| SpectralValue | Hohlwelle | BevAb_H1 | SK5     | 35.00 | 104.5 | 103.0 | dBg |

0217 K 090919      9/21/2010 3:56 AM      1/2 rpt. OK

| Instrument    | Location   | Param  | Channel | Pos. | Value | Limit | U |
|---------------|------------|--------|---------|------|-------|-------|---|
| SpectralValue | InputShaft | GAn_H1 | SK1     |      |       |       |   |

These fields show the repetition number of this measurement and the final result. Click on the field to open a new tab showing all repetitions for this serial number.

Click on the test bench name to load this measurement into the Presentation application. (WebPalViewer will download the data as a file and save it.)

EOL TB5      LLM      4004      0013 K 090921      9/21/2010 5:38 AM      1/1 rpt. OK

| Code | Nr | Error Message         | Mode | Instrument    | Location  | Param    | Channel | Pos. | Value | Limit | U |
|------|----|-----------------------|------|---------------|-----------|----------|---------|------|-------|-------|---|
| 18   | 0  | Beveloid laut / Schub | 5-S  | SpectralValue | Hohlwelle | BevAb_H2 | SK5     |      |       |       |   |

EOL TB2      LLM      4004      0010 K 090921      9/21/2010 5:38 AM      1/1 rpt. OK

| Code | Nr | Error Message | Mode | Instrument | Location | Param | Channel | Pos. | Value | Limit | U  |
|------|----|---------------|------|------------|----------|-------|---------|------|-------|-------|----|
|      |    |               | In   | Fmin       | rein     | -     | FXCL    |      |       |       |    |
|      |    |               | 6    | W          | F-A      | -     | raus    | 0    | 99.82 | 0     | N° |
|      |    |               | 5    | W          | F-A      | -     | raus    | 0    | 270.6 | 0     | N° |
|      |    |               | 6    | W          | F-B      | -     | rein    | 0    | 234.0 | 0     | N° |
|      |    |               | 4    | W          | F-B      | -     | rein    | 0    | 87.98 | 0     | N° |
|      |    |               | 4    | W          | F-A      | -     | raus    | 0    | 573.2 | 0     | N° |
|      |    |               | 3    | W          | F-A      | -     | raus    | 0    | 448.1 | 0     | N° |
|      |    |               | 2    | W          | F-B      | -     | rein    | 0    | 184.4 | 0     | N° |
|      |    |               | 2    | W          | F-A      | -     | raus    | 0    | 1281  | 0     | N° |

EOL TB1      LLN      4003      0005 K 090920      9/21/2010 5:38 AM      1/1 not OK

| Code | Nr | Error Message                  | Mode | Instrument | Location | Param  | Channel | Pos.  | Value | Limit | U   |
|------|----|--------------------------------|------|------------|----------|--------|---------|-------|-------|-------|-----|
| 75   | 0  | Welligkeit Zahnflanke Beveloid | 4-S  | Ord        | BevAn    | O37.00 | BevAn   | 37.00 | 98.75 | 95.85 | dBg |



# Web.Pal Single Value Statistics

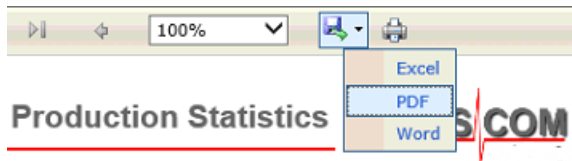
The Single Value Statistics can be reached directly from the Web.Pal start page or by clicking on a single value error code in the reject messages report.

The data range of the statistics is set in the options (see next page).

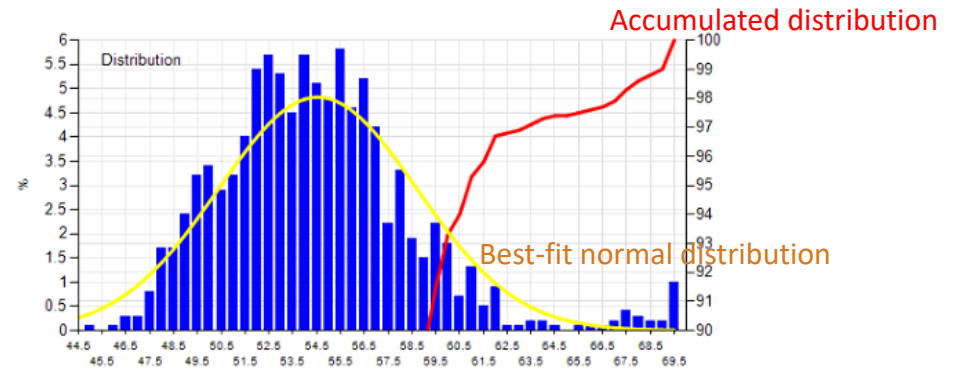
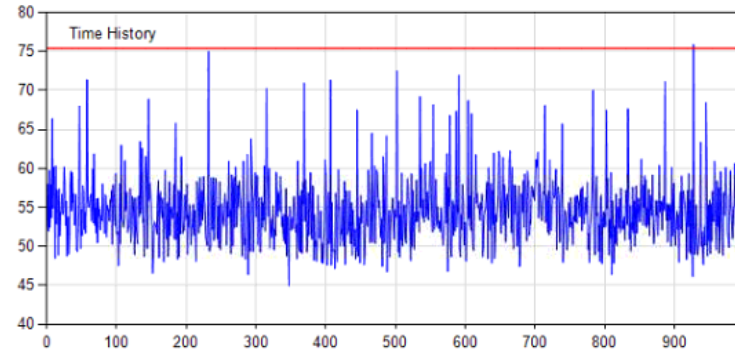
Time series and distribution also show the limit value.

In the table below, specifications about the selected metric, data range, and applied filters can be read.

This report can be exported as pdf or office document. (The export is available for all Web.Pal reports.)



Single Value Time History. Last > 1000 Measurements before Serial 0432642V



| Test Stand    | Model | Mode | Instrument     | Param  | Location   | Channel     | Sensor |
|---------------|-------|------|----------------|--------|------------|-------------|--------|
| [Gauss -EOL1] | [081] | 5-Rd | Spectral Value | Order4 | InputShaft | Mix.VSFront |        |

| Curve Data | Average | Standard Dev. | Minimum | Maximum | Color |
|------------|---------|---------------|---------|---------|-------|
| Value      | 54.54   | 4.166         | 44.98   | 75.89   | 0     |
| Limit      | 75.42   | 8.35E-08      | 75.42   | 75.42   | 1     |

| Report Filter        | Setting   |
|----------------------|-----------|
| Show Measurements    | All Tests |
| Show Reference Units | On        |



