# New in Minitab<sup>®</sup> 20.1 & 20.2. & 20.3





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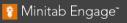












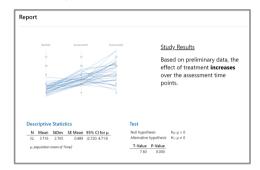




## Overview key changes introduced since Minitab v20:

- Interface Improvements
  - Multi-Select in Navigator
  - Model selection for Classification and **Regression Trees**
- Statistical Methods
  - Model Validation for Binary Logistic Regression and Poisson Regression
- Visualisations
  - Update: Variability Chart
  - New: Parallel Coordinates Plot
  - New: Binned Scatterplot
  - New: Heat Map

- **New Addition** 
  - Reports with live-linked data summaries and plots, ability to add annotations



- Accessibility
  - Platform extension Minitab Statistical Software now available on the cloud via new web application
- New Graph Builder suite
- Optional Predictive Analytics Modul

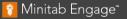












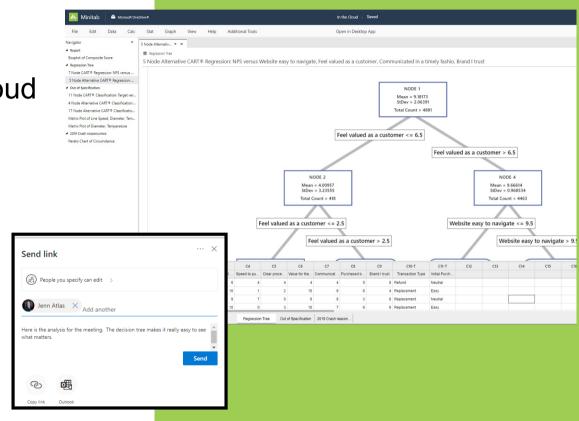






## Now from anywhere on the cloud

- Access from nearly any device
- Minitab now delivered as both desktop application and new web application
- Share projects with a single click
- Data Access and store from Google Drive™, Microsoft OneDrive® or local files
- Single user sign-on available
- Named-User rental via Cloud



















## **Update: Report**

#### Addition:

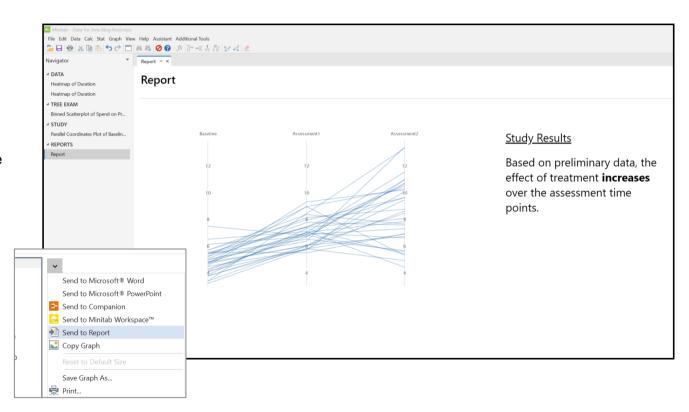
A Report within a Minitab project.

#### **User Benefit:**

Create and view reports directly within your Minitab Project file, making it easy to organise results. Reports are customisable and support the aggregation and curation of live-linked Minitab tables and graphs. Users can also add annotations to a Report.

#### **Summary:**

Reports can be easily created within Minitab projects and are easily discovered in the Navigator. With a single click, users can send to Microsoft Word, Microsoft PowerPoint, Companion by Minitab or Minitab Workspace

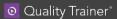


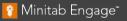
















## Compatibility of project files:



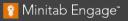
















<sup>\*</sup> Migration note: On the update path graphics objects loose connection to data, also ReportPad from V18-V16 is not converted into V20 files. ADDITIVE offers migration support and consulting up to complete migration from any of your old Minitab projets. Please contact your account manager.

## Interface Improvement: Multi-Select in the Navigator

#### Improvement:

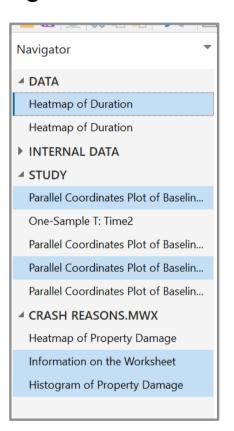
Ability to select multiple items from the Navigator that was introduced in Minitab 19.1.

#### **User Benefit:**

Selecting a range of output makes it easier for users who need to remove or send output from the Navigator.

#### **Summary:**

One of the top feedback items from users, this improvement makes sending or removing multiple items from the navigator much easier.



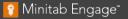
















## Improved Model Selection for Classification and Regression Trees

#### Improvement:

When evaluating alternate models, users now have an all-in-one view of the decision tree, scree plot and node details.

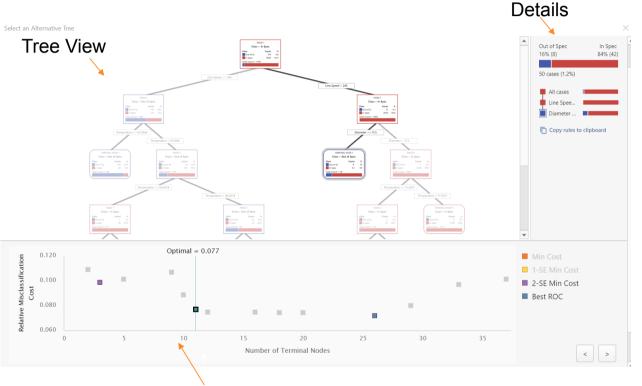
#### **User Benefit:**

Users can see the decision tree, model and node details in a single view, making alternative model selection easier than ever.

Select an Alternative Tree...

#### **Summary:**

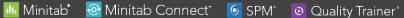
When users choose to view an alternative tree, a single view provides them with detailed information for all possible models.



Scree Plot Navigator

















## Model Validation in Binary Logistic Regression and Poisson Regression

#### Improvement:

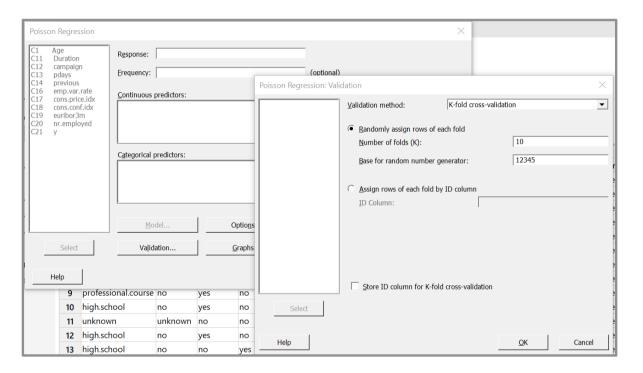
Model validation is now available in Binary Logistic and Poisson Regression.

#### **User Benefit:**

Validation is the process of evaluating a trained model on a test data set. This feature makes it easier for users to create useful models.

#### **Summary:**

Validation prevents model overfitting, which is an important aspect in machine learning. This feature is now available in the Predictive Analytics menu and within Stat-Regression, Stat-Binary Logistic Regression and Stat-Poisson Regression



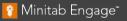
















## Visualisations: Variability Chart

#### Improvement:

Two improvements are added to the chart that was introduced in Minitab 19.2:

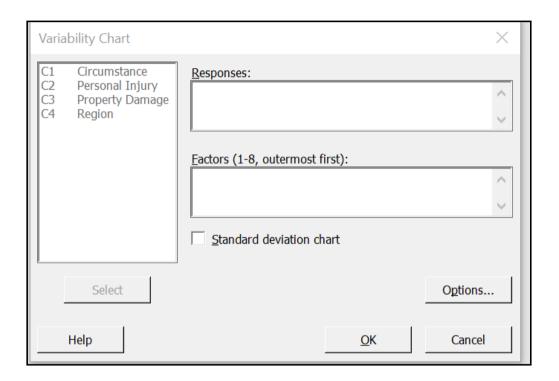
- 1. The ability to specify multiple response variables for a given set of factors – this results in multiple graphs, one for each response.
- 2. The ability to brush individual observations.

#### **User Benefit:**

It is easy to create multiple variability charts with a single click. Also, exploring data is easier with the added ability to brush individual observations.

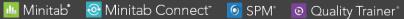
#### **Summary:**

The Variability chart dialog can now support multiple responses, and brushing points is available when interacting with the graph.



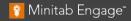
















### New Visualisations: Parallel Coordinates Plot

#### Addition:

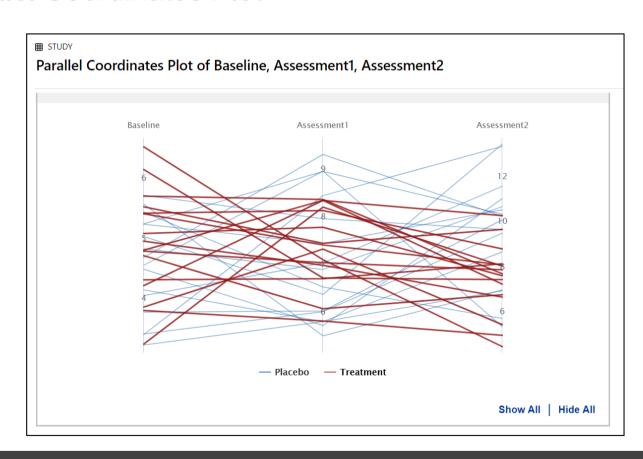
A parallel coordinates plot is a graph that displays multivariate numerical data, making it easy to visualise multiple dimensions.

#### **User Benefit:**

Parallel plots represent high dimensional data as a 2-dimensional visualisation. Data is represented in the form of a line making it easy to visualise trends.

#### **Summary:**

The parallel coordinates plot is an efficient way to visualise multidimensional and multivariate data.



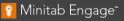
















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## New Visualisations: Binned Scatterplot

#### Addition:

A binned scatterplot is a visual to display the relationship between two continuous variables when the dataset contains many observations. The gradient can be defined by observation frequency or by the mean of another variable.

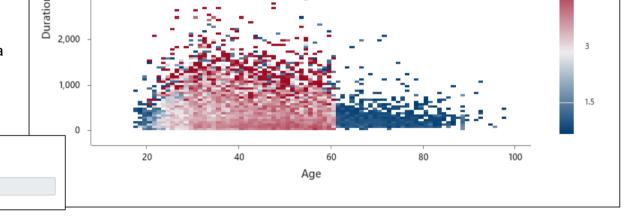
#### **User Benefit:**

Using a gradient to differentiate the density of data on a scatterplot makes it easier to communicate information to users. Users can also define the gradient as an average of another variable, providing additional flexibility for the visualisation.

Gradient defined by:

Mean of variable:

Frequency of binned data



#### **Summary:**

Binned scatterplots create meaningful graphics when displaying information for large data sets.









5,000

4.000









## New Visualisations: Heat Map

#### Addition:

A heatmap is a visual to display the impact of multiple categorical variables on a metric. The multiple categorical variables are displayed in a table layout with a gradient to display a function of a metric (e.g., percent defects, average customer satisfaction rating).

#### **User Benefit:**

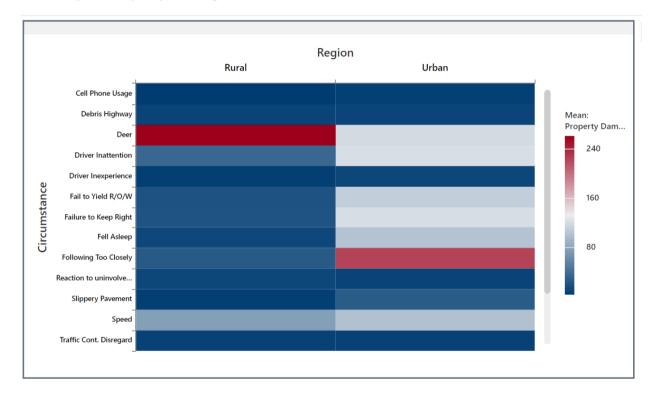
Heatmaps identify areas of interest. They can quickly uncover scenarios that lead to a high or low values.

#### **Summary:**

Heatmaps are located in the Graph menu, between the Bar and Pie Charts. When you have a large number of factor levels, they may be easier than a bar chart to communicate areas that are different.

#### ■ CRASH REASONS.MWX

#### Heatmap of Property Damage



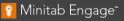










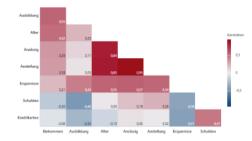


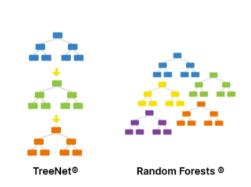


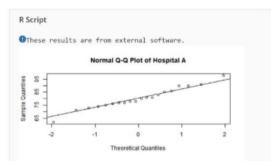


### New in Minitab 20.2

- \* Correlogramm for visual comparison of Pearson correlation coefficients between each pair of variables
- \* Enhancements for variable weighting in CART® classification and CART® regression
- \* Enhancements for scatter plot, heat map and parallel coordinate plot
- \* R-Integration
- \* Optional chargeable Predictive Analytics Module including TreeNet® classification, TreeNet® regression, Random Forests® classification and Random Forests®regression







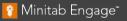


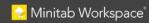














### New in Minitab 20.3

New "Graph Builder Suite" in Minitab 20.3

With its interactive and easy-to-browse gallery, the new Graph Builder in Minitab 20.3 allows users to move seamlessly from one graph to the next, using the same data each time.





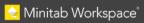














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