Work group 1 for IBCS®Version 1.2

Semantic notation concept for more scenarios per scenario type

Discussion Paper

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1 Introduction

In June 2019 a revised version 1.2 of the IBCS®-standards is planned to be published. In this context, various workgroups have been formed to prepare for the upcoming changes.

Our workgroup dealt with the topic: "Semantic notation concept for more scenarios per scenario type". Scenarios with different meanings should also be presented differently. Basically, scenarios are currently distinguished in UN 3.2 Unify Scenarios as actual data (AC), plan data (PL) and forecast data or forecast (FC). Actual data is displayed in black, plan data in hollow and forecast in hatched form. Positive deviations are green, negative deviations are red.

This discussion paper is the result of the elaborations, drafts and reflections we had in the past two years at the meetings of the IBCS Roundtable Cologne/Bonn[1] on the topic, intensive exchange and valuable input from and with Rolf Hichert and Jürgen Faisst[2] on this topic and their approaches to it as well as the final summary in the working group.

In practice, there is a need for further differentiation between these scenarios as the current classification is not suitable to reflect different situations. This means that in a visualization considerably more scenarios must and can be mapped and compared with each other.

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[1] see protocols of the IBCS Roundtables Cologne/Bonn of the 13.09.2018, 12.07.2018, 22.02.2018 and 12.10.2017

[2] e.g. the following documents:

- More than three different scenarios_2017-09-29_rh.pdf
- More scenarios 2018-01-10_rh.png
- More scenarios 2018-01-23_rh.pdf
- Visuelle Identifikation von Szenarien_2018-02-22_jf.pdf
- Abbildungen 2.4 Szenarien_2018-09-24_rh.pdf und Buch H+F Szenarien_2018-09-26.pdf

This discussion paper is the result of the workgroup "Semantic notation concept for more scenarios per scenario type". The workgroup has dealt concretely with the following questions:

- Which different scenarios do exist in the reporting world?
- How can these be combined and visualized?

The essential principle in the development was to create a self-contained and uniform notation framework in which any number of scenarios can be combined and scaled.

We have defined three different scenarios for further detailing AC, PL and FC data:

- Time gradations - Data have different timeliness
- Versions - Data have different statuses
- Variants - Data have a different calculation basis

These scenarios are described below and rules for their visualization are defined. In general, these rules can be applied to the comparison of data as well as to deviations.

The illustrations and drafts in this discussion paper are partially drawn. The technical illustrations were realized with the software and visualization-tool gIV for IBM Cognos.

2 Time Gradation

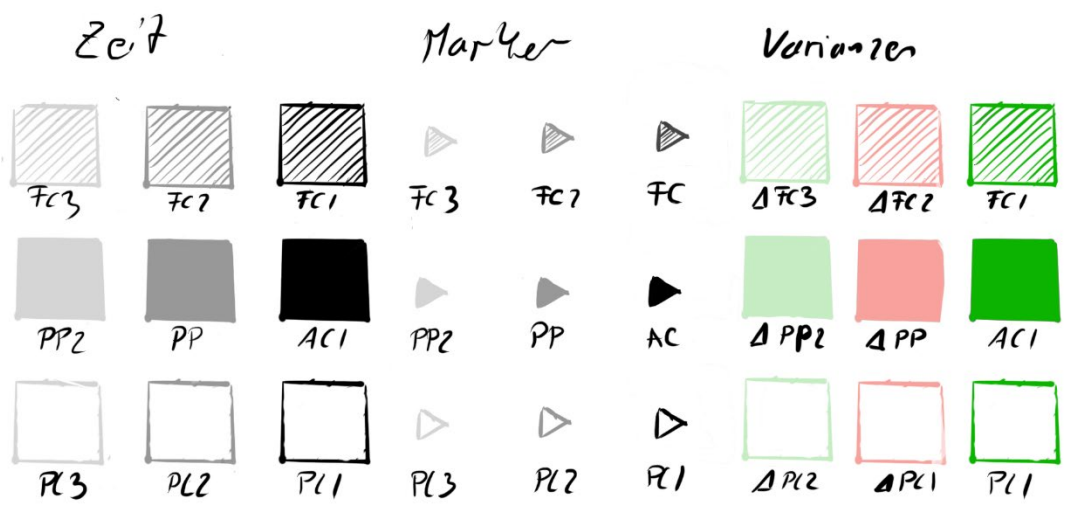
Data have different timeliness: If scenarios concern different time periods, these must be visualized accordingly. For example, actual data from the current month can be compared with data from the previous month or the previous year's month.

However, with the time gradations we do not compare time series with time gradations, i.e. we do not present a chronological sequence of data (e.g. January to December).

2.1 Visualization

In order to represent time gradations of a scenario, the relative coloration (chroma) is adjusted in regular steps. The later a value is displayed in comparison to the other values (current month, previous month, previous year's month), the darker it is displayed, or earlier time periods are displayed brighter. In practice, three colour saturation levels up to a 30% grey have proven effective for colouring the various time gradations. Earlier time periods are therefore less saturated or brighter compared to the current time period.

Fig. 1: How to display time gradations



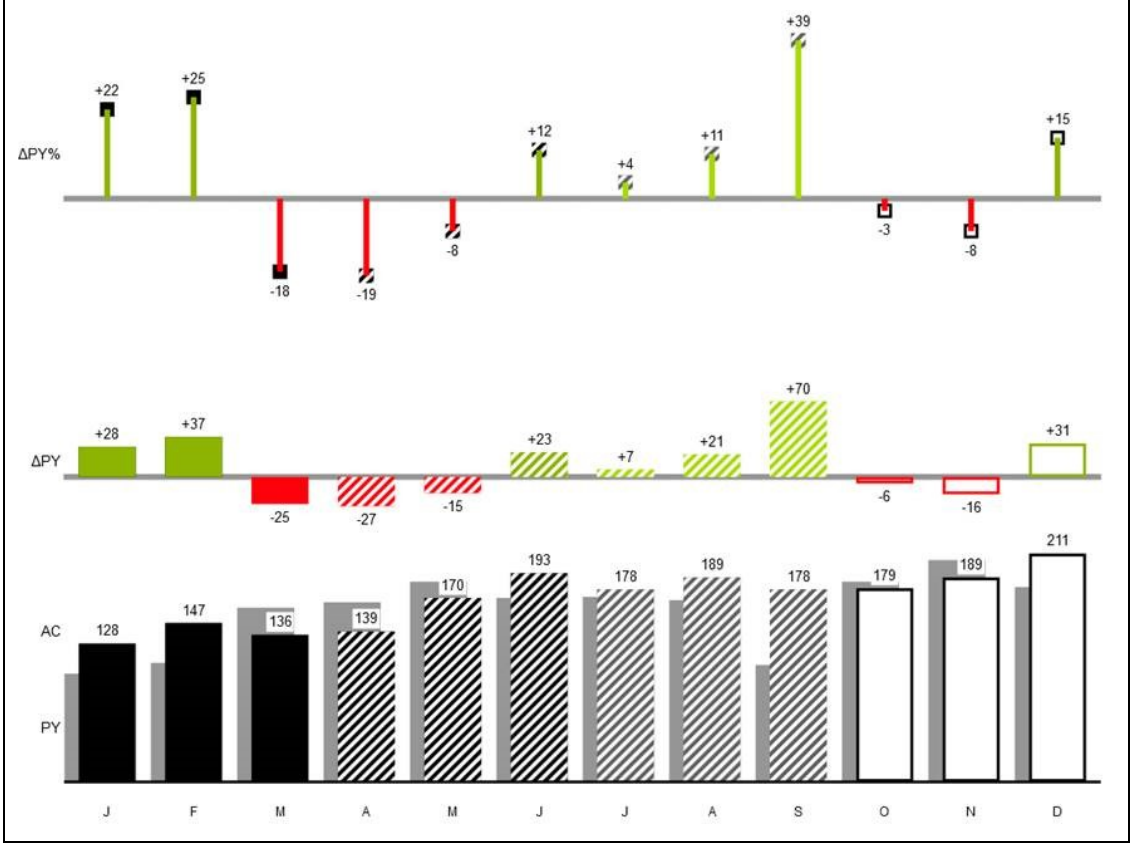
According to the current rules the representation in the colour gradation "grey" also stands for the previous year or previous period – it is the previous year's data (PY). This is the time gradation within the scenario type “Actual” (AC).

If, in addition to AC and PY, the value of the year before last year is to be displayed, the colour grey is again graduated and brighter.

2.2 A practical example

In practice, time gradations can be visualized in a report as follows:

Fig. 2: Time gradations: A practical example



3 Versions

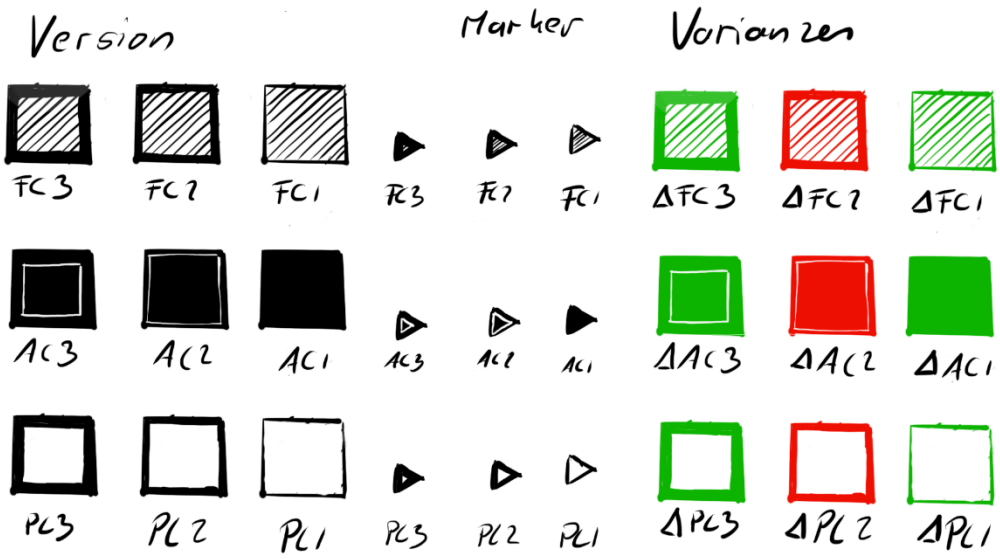
Data have different statuses: The versions can be used to represent different scenarios for a specific situation. Data can be compared either within the same scenario (for example, different forecast values FC 3+9, FC 6+6, and FC 9+3), across scenarios (for example, FC1, FC2, and PL), or within a specific issue (fast close vs. final, LTP vs. PL).

3.1 Visualization

The thickness of the frame is decisive for the representation of the versions: the higher the versioning, the thicker the frame. In the standard or first version, the thickness of the frame remains unchanged.

Since the AC value has no frame by default due to the continuous filling, an optical frame is created by a white auxiliary line.

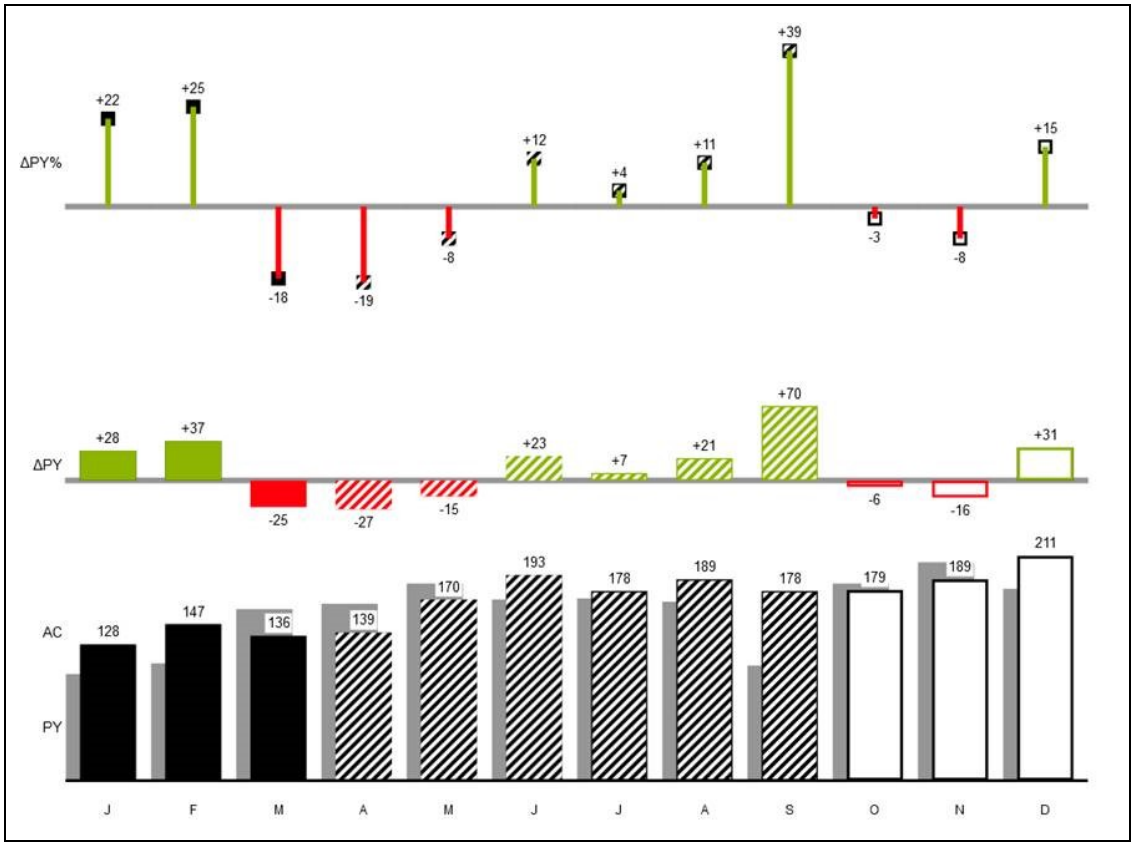
Fig. 3: How to display Versions



3.2 A practical example

In practice, versions can be visualized in a report as follows:

Fig. 4: Versions: A practical example


ΔPY%
+22
+25
-18
-19
-8
+12
+4
+11
+39
-3
-8
+15
ΔPY
+28
+37
-25
-27
-15
+23
+7
+21
+70
-6
-16
+31
AC
PY
128
147
136
139
170
193
178
189
178
179
189
211
J
F
M
A
M
J
J
A
S
O
N
D

4 Variants

Data have a different calculation basis: Variants are to be understood as concretisations or calculation basis. Variants consider several facts when representing different scenarios.

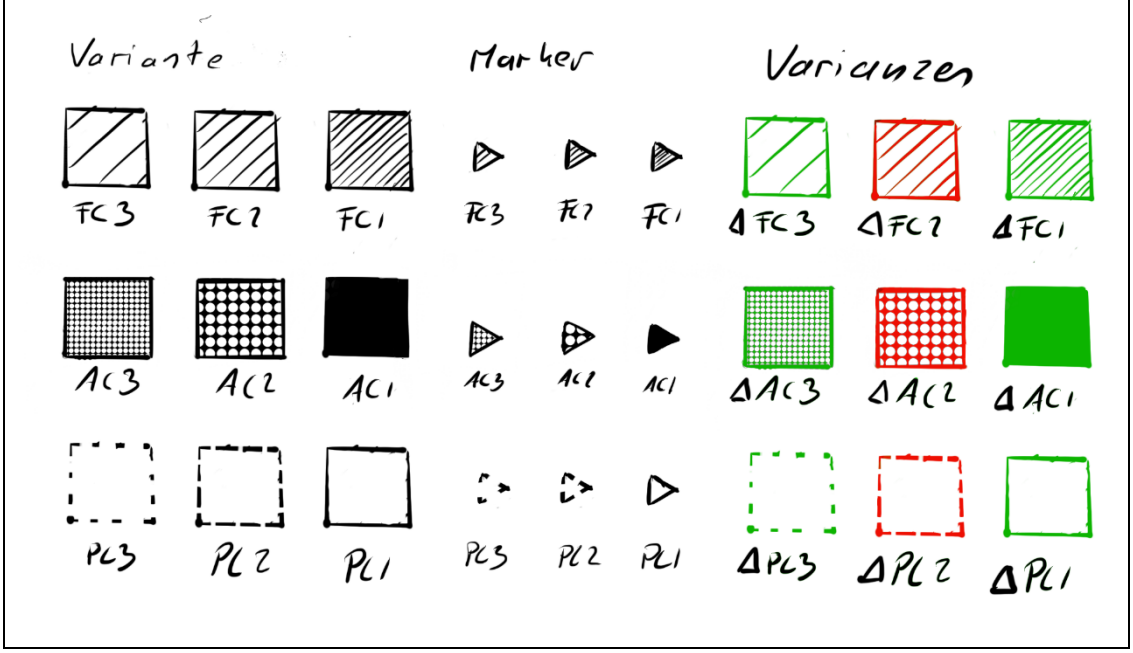
For example, variants can be used to represent the following scenarios:

- 3 variants: Regulated Brexit with contract (deal) / Unregulated Brexit without contract (no deal) / Cancellation of Brexit
- 2 variants: Harrods and Selfridges: merger / no merger

4.1 Visualization

For the representation of the variants, the frame filling or the running width of the pattern is decisive: the more concrete the variant, the denser the pattern. In the standard or first variant, the pattern remains unchanged.

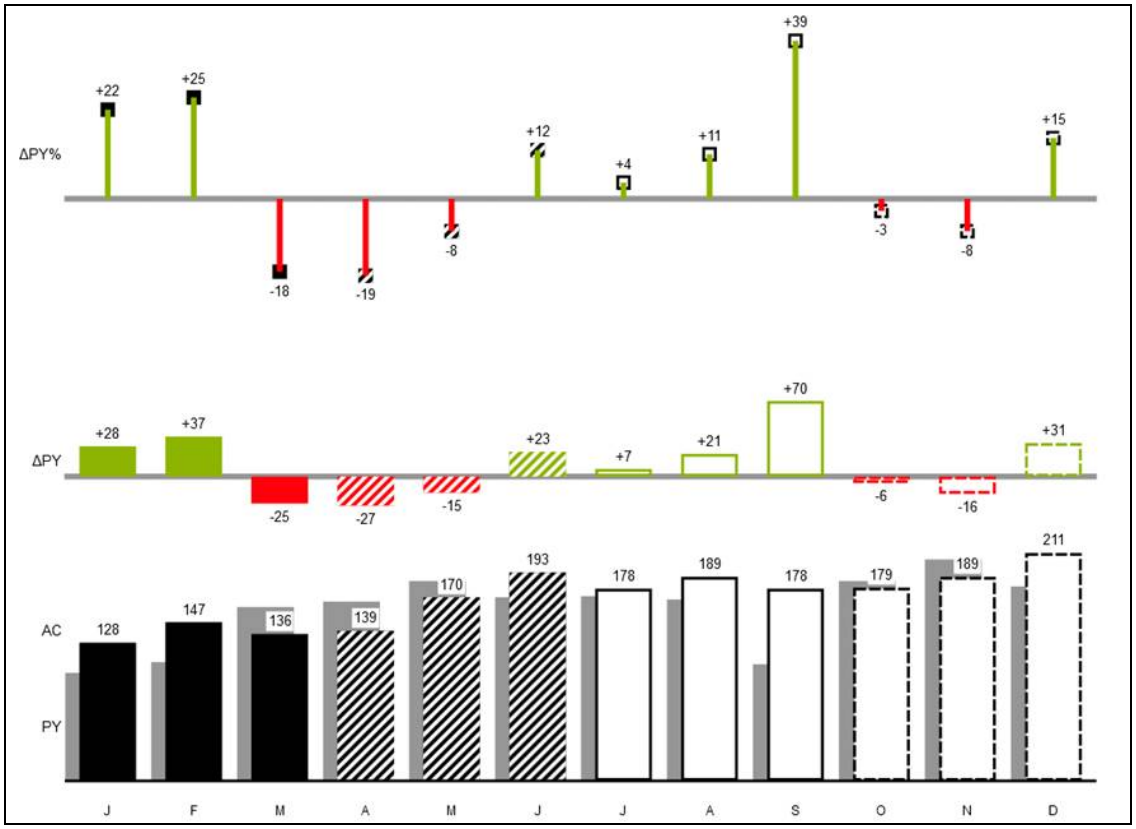
Fig. 5: How to display variants



4.2 A practical example

In practice, versions can be visualized in a report as follows:

Fig. 6: Variants: A practical example


ΔPY%
+22
+25
-18
-19
-8
+12
+4
+11
+39
-3
-8
+15
ΔPY
+28
+37
-25
-27
-15
+23
+7
+21
+70
-6
-16
+31
AC
PY
128
147
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5 Labelling

In general, the following two-letter-code applies to the labelling of all visualizations:

AC	Actual
PY	Previous Year
PL	Plan
BU	Budget
FC	Forecast

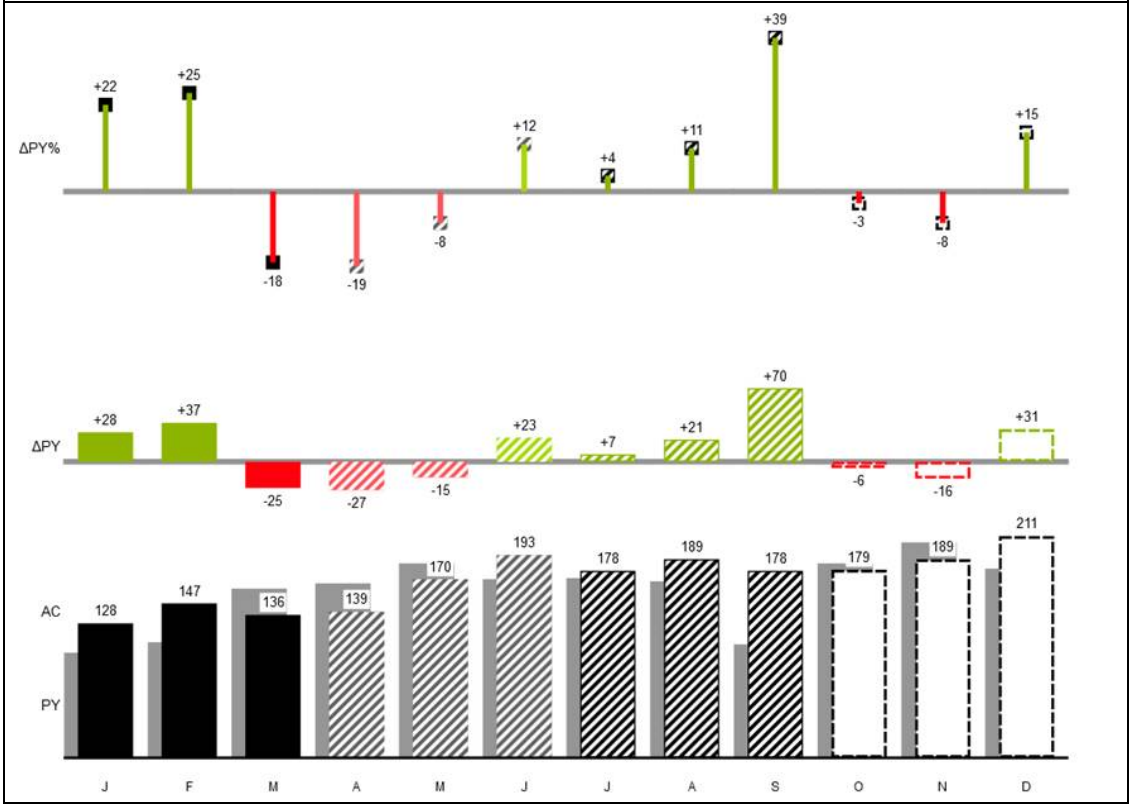
In order to supplement the two-letter code with further variants (e.g. AC1, AC2 or FC1, FC2 or FC 6+6), a meaningful and consistent differentiation standard must be individually defined for this purpose.

6 Additions and Outlook

6.1 Combination options

In general, any number of scenarios can be combined with each other. However, it makes visual sense not to display more than three, max. four different scenarios within one visualization. This ensures both clarity and comprehensibility of the facts to be presented. If four scenarios are used in a bar chart or column chart, the two most important scenarios can be displayed as bars / columns and the others as markers to the left or right of the columns / bars. The visual representation of the markers is used according to the scenario - time gradations, versions or variants.

Fig. 7: Combination options: A practical example

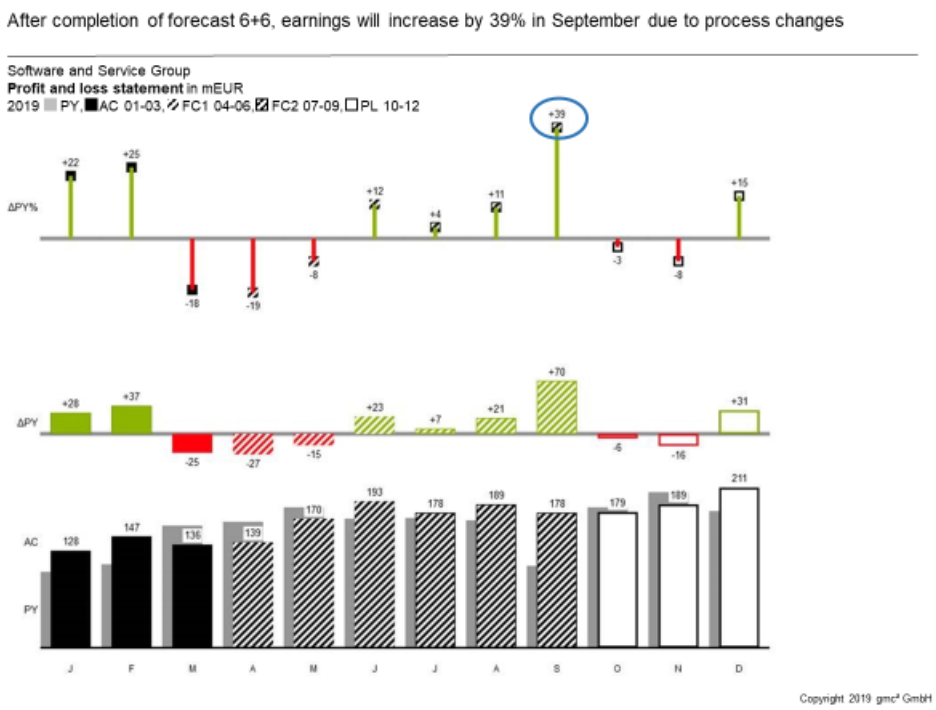


6.2 Title concept

Due to the expansion of the presentation of different scenarios, a more in-depth explanation of the scenario types presented is necessary. The different variants must be described both in the diagram and in the title. In addition, in the case of time variants, the time at which the data was collected is mentioned. In the case of version variants, the underlying methodology is mentioned. In order to ensure

continued transparency in the title concept, the use of legends is recommended for complex situations. The following figure shows an example of a template in which the title concept has been enhanced.

Fig. 8: Title example



6.3 References and Benchmarks

The scenarios described in this document generally represent data from a reporting company. Reference values or benchmarks are often used to better classify the company's own data. These are external data, which should therefore be visualized differently. A different basic colour should be used to differentiate between them. Thus, all references and benchmarks can be displayed in a violet tone:

Fig. 9: Visualization example for References and Benchmarks