

HICHERT®IBCS WHITE PAPER

Notation standards in business communication and their practical benefits

By Rolf Hichert and Jürgen Faisst

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About the authors

Rolf Hichert
Dr.-Ing., Prof. a.D.
rh@hichert.com

After studying mechanical engineering in Stuttgart, Rolf worked for the Fraunhofer Institute for Production Technology and Automation (IPA). He was a consultant at McKinsey & Co., Inc. in Düsseldorf, and afterwards professor at the University of Applied Sciences in Constance.

His next stations: Founder and director of the Transfer Center Technology and Management of the Steinbeis Foundation in Stuttgart, co-founder and managing director of MIK GmbH in Constance/-Germany, professor for controlling at the Eberswalde University of Applied Sciences, managing director of MIS Switzerland AG in Zurich. In 2004 he founded HICHERT+PARTNER. More than 5000 participants have taken part in his seminars HICHERT@SUCCESS.

In 2013 he transferred major parts of his intellectual property to the newly founded non-profit *International Business Communication Standards (IBCS) Association* in order to publically discuss, disseminate and further develop it under a Creative Commons license. Today Rolf serves as president of the *IBCS Association*.

Jürgen Faisst
Dr. rer. pol.
jf@hichert.com

Jürgen has been working with Rolf Hichert in various constellations for more than 20 years. He started his career at MIK GmbH, a software company co-founded by Rolf. He established a new regional office in Düsseldorf and became a managing partner. In 1998 he joined business intelligence pioneer MIS AG, supported the company's IPO and became COO and CTO of the board. From 2005 to 2013 Jürgen served as CEO of Thinking Networks AG, a leading supplier of corporate planning systems.

Jürgen's mission as a managing partner of HICHERT+PARTNER is to enable business analysts anywhere in the world to benefit from the *International Business Communication Standards (IBCS)*, a set of rules for the design of business communication originally developed by Rolf Hichert.

1 Executive summary

People and organizations in various disciplines benefit from their respective notation standards: Think about musicians, geographers and engineers, to name a few. The additional effort necessary to understand different sheet music notations from different composers or different drawing notations from different engineers is just unconceivable.

Only business management is still able to afford the luxury of company specific or even missing notation standards. The downside is not only additional effort; bad decisions based on incomplete or misleading information can be even worse. That's why Rolf Hichert developed the HICHERT@SUCCESS set of rules for more transparency in formal written business communication such as management reports and presentations. Based on this set of rules the HICHERT@IBCS notation standards evolved, which are already in practical use in various large corporations and public authorities such as Swiss Post, SAP, KPMG, and the German Military. By the end of 2013 the HICHERT@IBCS notation standards were transferred to the non-profit *International Business Communication (IBCS) Association* for promulgation, maintenance, and further development.

The practical benefits of notation standards in business communication are obvious: Better, faster, and cheaper results in all stages of the decision-making process: from provision of data and systems, to business analysis and elaboration of messages, and on to the final decision of the executive.

Analytical software packages supporting the notation standards are essential for leveraging the benefits of their implementation. In order to assist the selection of suitable business software, *BARC Business Application Research Center* has been appointed to evaluate the software and to issue certifications for the ability to create HICHERT@IBCS compliant charts and tables. *SAP BusinessObjects Design Studio with graphomate charts* are among the first software packages certified by BARC.

Adoption of HICHERT@IBCS notation standards by major software vendors like SAP will dramatically increase the speed of its dissemination. Perhaps in years to come, it will be a matter of course to have notation standards in business communication as has been the case in music and cartography for hundreds of years.

Standardization (ISO), founded in 1947, promotes worldwide industrial and commercial standards. Electric circuit plans are typical examples of an engineering standard, see **Figure 3**.

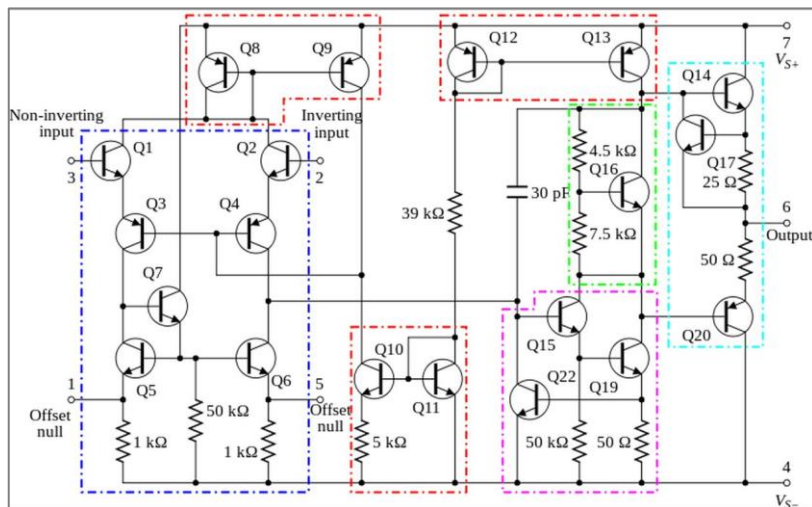


Figure 3: Component-level diagram of the common 741 op-amp.
Source: Wikipedia

Other important notation concepts can be found in mathematics, physics, sports, chemistry, biology, computing, etc.

ISO claims the benefits of standards: “International Standards bring technological, economic and societal benefits. They help to harmonize technical specifications of products and services making industry more efficient and breaking down barriers to international trade. Conformity to International Standards helps reassure consumers that products are safe, efficient and good for the environment.” (iso.org).

The benefits of standards in many disciplines are obvious. Thus, the time is ripe for notation standards in business communication, as well.

3 Notation standards in business communication

As we have seen before, notation standards are helpful and common practice in various disciplines. In the following we encourage the development of notation standards in the field of **business communication**. We then outline the evolution of *International Business Communication Standards (IBCS)* and introduce the main principles of its notation standards.

3.1 Need for notation standards in business communication

Business communication covers all aspects of verbal (oral) and written (visual) conveyance of business relevant information. This communication can be of both formal and informal nature. Formal communication follows a predetermined and consistently applied structure (e.g. in monthly reports and in project status presentations), whereas informal communication is not subject to formal rules. The standardization of notations as discussed here only affects the **formal written** part of business communication in terms of reports and presentation material. The focus is on the creation of charts, tables, texts, and pictures, which are combined to pages in reports, statistics, dashboards, and other communication products supporting decision making in management.

Assuming that well-informed managers make better decisions, business communication should strive for **transparency**. Providing transparency means supplying correct, complete, and comprehensible information at the right time by a trusted source.

The following three charts show how non-transparent communication of the same information can convey completely different and even misleading messages.

Figure 4 shows Net Sales from 2011 to 2014 and conveys a positive message: An average annual growth of eight percent.

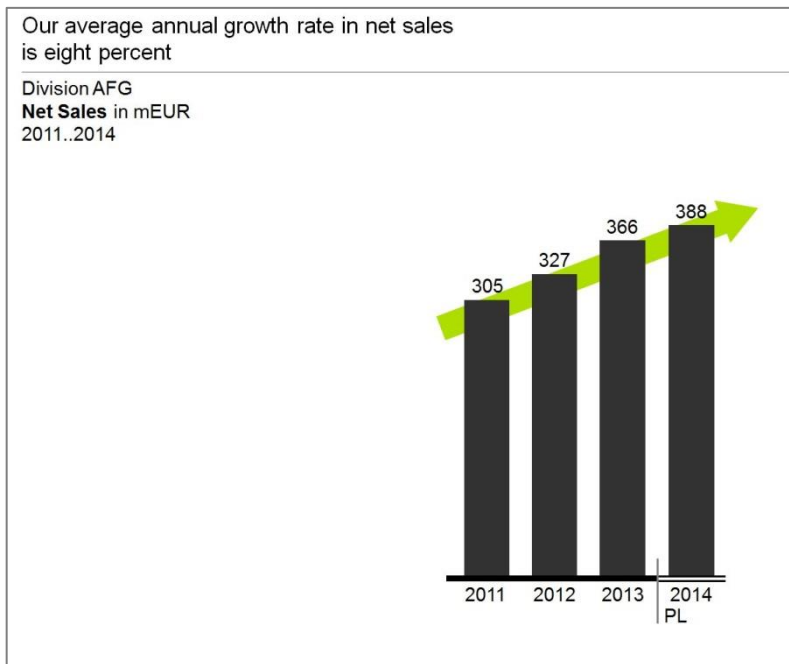


Figure 4: Division AFG, Net Sales in mEUR, 2011..2014

Figure 5 shows the same Net Sales figures, but now with an extended time series from 2006 to 2014 and adjusted for inflation and currency effects. In contrast to **Figure 4**, it reveals a negative message: 2014 will be the least successful year in Net Sales since 2006.

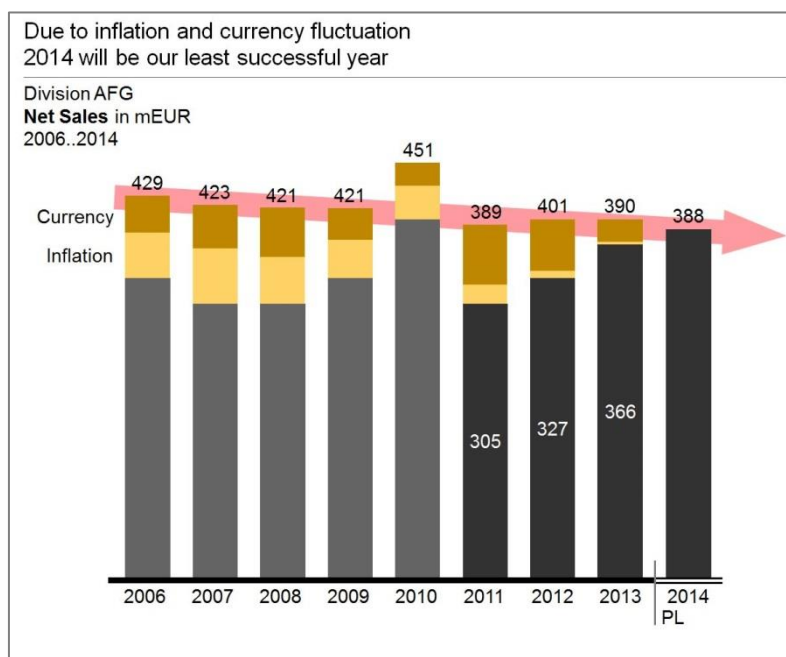


Figure 5: Division AFG, Net Sales in mEUR, 2006..2014

Figure 6 adds EBIT data to the Net Sales time series of **Figure 5**. This reveals an even worse message: Sales growth from 2011 to 2014 was achieved at the expense of EBIT, leading to an increase in losses from 2012 to 2014.

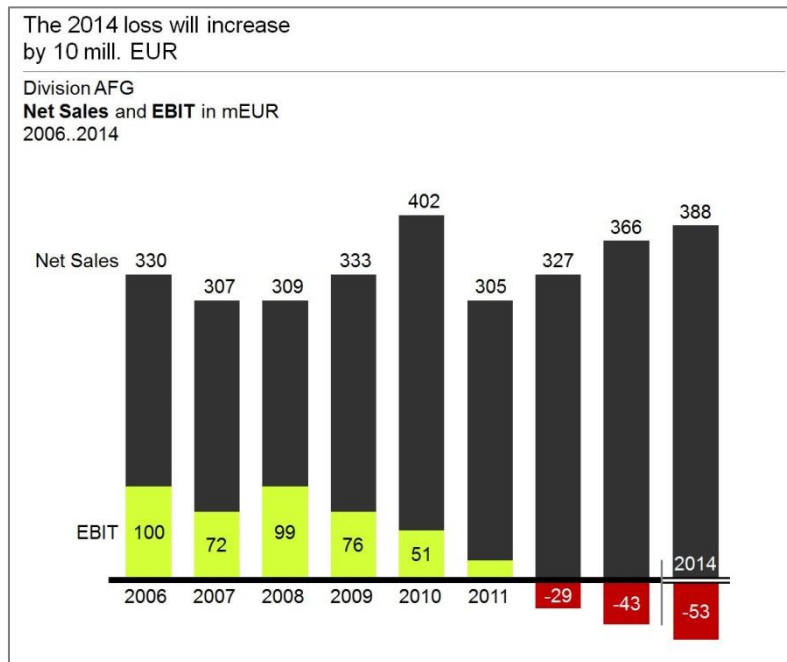


Figure 6: Division AFG, Net Sales and EBIT in mEUR, 2006..2014

Based on the first chart (**Figure 4**), management would probably have made the wrong decision. So transparency is essential for decision support.

Introducing notation standards for business communication increases transparency in two ways: **comprehension** and **credibility**.

Comprehension

These notation standards facilitate the understanding of reports and presentations by establishing rules for their conceptual and visual design. It is easier to understand reports and presentations with

- a clear message,
- a well-structured storyline,
- the same look for things meaning the same, and
- higher information density.

Credibility

These notation standards help to increase the credibility of reports and presentations. It is easier to make decisions if you are certain that you are not being fooled by deliberately incomplete information and misleading visualizations such as the one shown above in **Figure 4**.

3.2 Evolution of the *International Business Communication Standards (IBCS)*

The *International Business Communication Standards (IBCS)* have their roots in the early 1980s, when I (Rolf) graduated in technical engineering and started my consulting career at McKinsey & Co., Inc. There I learned to structure content and to visualize data, which – in full contrast to what I knew from technical drawings – was not standardized in business communication. I remained involved in this

topic, both in the software industry and in my consulting company, HICHERT+PARTNER. Here the HICHERT@SUCCESS concept with seven primary rules for improving formal business communication was developed:

- S AY** **Deliver messages:** Reports and presentations serve to convey messages to readers and listeners.
- U NIFY** **Standardize content:** Reports and presentations are more easily understood when the content displayed adheres to a uniform concept of meaning.
- C ONDENSE** **Concentrate information:** Reports and presentations are better understood when the contents have a high level of information density.
- C HECK** **Ensure quality:** Reports and presentations are credible when the conveyed content is based on correct, appropriate, and current data.
- E NABLE** **Implement concept:** Organizational, personnel-related, and technical requirements must be met in order to implement the rules.
- S IMPLIFY** **Avoid complication:** Reports and presentations are better understood when noise and redundancy are avoided.
- S TRUCTURE** **Group content:** Reports and presentations should adhere to the requirements for homogeneous, mutually exclusive, and exhaustive structures.

More than 5000 participants have taken part in HICHERT@SUCCESS seminars to date. HICHERT@SUCCESS has become the set of rules upon which many customer-specific notation manuals in large organizations, such as Philips and German Telekom, are based.

Seeing the customer-specific notation manuals converge to almost the same set of identical rules, prompted HICHERT+PARTNER to compile them into the **International Business Communication Standards (IBCS)**. A consultation draft of *IBCS Version 1.0* was transferred to the non-profit *IBCS Association* for promulgation, maintenance, and further development. In January 2014, the IBCS Association published the consultation draft of *IBCS Version 1.0* on www.ibcs-a.org for public review.

IBCS Version 1.0 covers notation standards only. An additional part covering the “Communication of messages” will follow in a future version of IBCS.

3.3 Principles of the HICHERT@IBCS notation standards

Notations are created and used to facilitate clearer and faster communication. Notation **standards** refer to generally accepted agreements in the way things are denoted. Notation standards for business facts and quantities can be seen as a systematic approach to data visualization and information design.

Top ten principles of HICHERT@IBCS:

1. **Message:** on every report page
2. **Title:** consistent on every report page
3. **Time vs. structure:** horizontal axes vs. vertical axes
4. **Scaling:** correct and consistent
5. **Scenarios:** actual is black, previous year is gray, and plan is outline
6. **Period types:** category width identifies months, quarters, and years
7. **Variiances:** good variiances are green, bad variiances are red
8. **Legends:** no separate but integrated legends
9. **Labels:** no value axes but integrated labels
10. **Highlighting:** message is visualized in charts and tables

The **HICHERT@IBCS notation standards** cover two main aspects:

- **Notation of meaning:** Similar content should be visualized in a similar manner and vice versa; what looks the same should also mean the same. This includes the meaning of terms (e.g. words, abbreviations, and numbers), measures, scenarios, time periods, and structure dimensions, such as regions or products, as well as analyses, such as comparisons and variances. These aspects of meaning should use a unified notation so that the contents can be understood as completely as possible.
- **Design of components:** Design in this context means the layout, construction, and presentation of all components, namely communication products (e.g. reports, statistics, presentation material), pages, objects (e.g. charts and tables), and elements (e.g. axes, titles, columns). Objects consist of elements (object elements). In addition, there are general elements, such as titles, footnotes, and messages, which are not used for the construction of objects. In general, pages consist of objects and general elements. These components should use a standardized notation so that they can be interpreted as easily as possible.

The HICHERT@IBCS notation standards include some practical suggestions for the dimensioning of charts and tables. **Figure 7** is an example showing dimensions of a column chart with absolute variances that work well in practice.

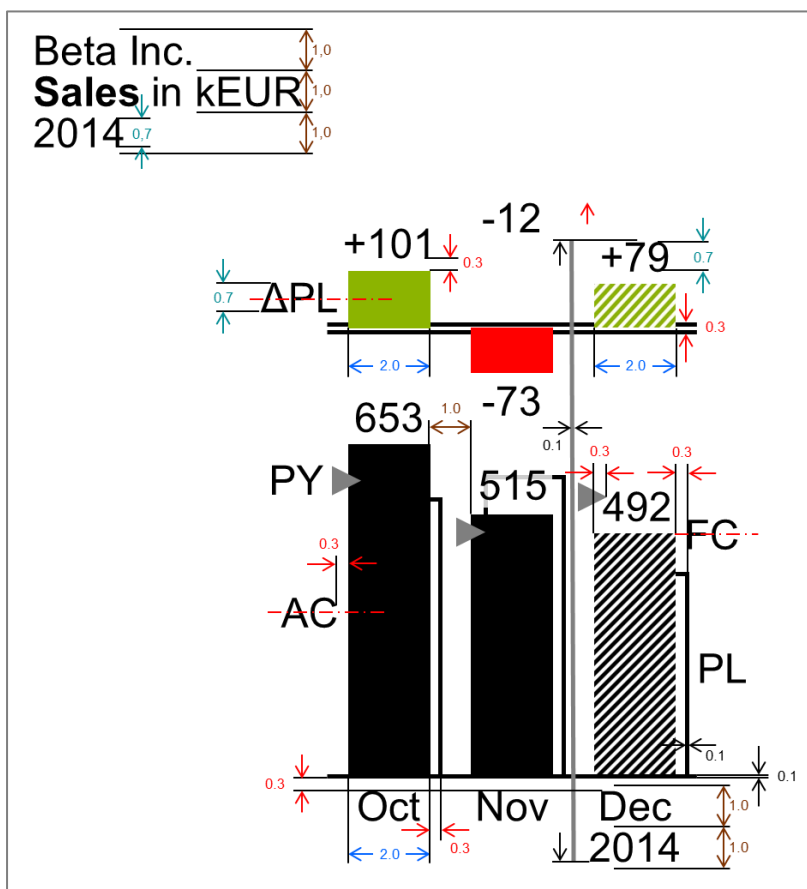


Figure 7: Dimensioning of a column chart showing a basic measure with absolute variances.
Source: www.ibcs-a.org

4 Practical benefits of notation standards in business communication

The benefits of notation standards for traffic signs, chess moves, weather maps, and many other disciplines are obvious. They have been used for a long time and nobody would argue about the advantages of these standardizations. But it seems to be different in business communication: Enforcement of “corporate design standards” seemed to be more important than enforcement of “standards for meaning”. Moreover, business people want to understand the economic benefits of change – installing new rules, new reports, and new software – preferably expressed in financial terms. This needs not only to oversee the investments to be taken (which seems to be relatively straightforward), but furthermore to calculate the expected merits, such as better informed executives and faster report production processes.

We want to look at this problem using the matrix in **Figure 8**, in which the horizontal section represents the process to support decision making and the vertical section examines the fundamental types of expected benefits.

The process to support decision making consists of the following three stages:

- (A) **Provide data and systems:** This stage in the process concerns providing correct, useful, and timely data as well as appropriate systems to be used for analyzing and reporting. It will typically be executed by IT departments.
- (B) **Analyze data and create messages:** In this stage, the data is to be analyzed in order to get a clear view of the business status. It will typically be executed by business analysts. As a result, the analysts will deliver their findings resp. messages in the form of reports and presentations.
- (C) **Evaluate messages and make decisions:** In this stage, executives make decisions based on their evaluation of the reports and presentations.

Looking at these stages, we see three types of benefits when notation standards are implemented in business communication:

- (i) **Improved quality:** The quality of the deliverables in every process stage will increase. This means more readily understood dashboards, clearer messages in better comprehensible reports, and – ultimately – better decisions.
- (ii) **Reduced reaction time:** The speed of the overall decision-making process will increase. The delivery time of new dashboards will be shorter, business analysts can answer the questions more quickly, and executives make sound decisions faster.
- (iii) **Reduced costs:** Saving time in the delivery of dashboards, in the analysis of data, and in the creation of reports and presentations will reduce costs. But reducing the time executives spend on trying to understand the reports will be the biggest advantage.

	(A) Provide data and systems	(B) Analyze data and create messages	(C) Evaluate messages and make decisions
(i) Improved quality	1	2	3
(ii) Reduced reaction time	4	5	6
(iii) Reduced cost	7	8	9

Figure 8: 3x3 matrix to discuss the benefits of notation standards in business communication

In the last several years, we have discussed the nine quadrants in **Figure 8** with numerous participants of our seminars, with customers, with business consultants, and with software vendors. In the following, we will look at some of these quadrants and discuss the benefits in greater detail using quotes from some early adopters of our standards: “We started in 2007 with our new ‘value-based reporting’ using the HICHERT standard of the time. Our new chart layout became the visualization standard of our annual report as well. Even in our annual reports consistent scaling (“1 bn CHF corresponds to 15 mm”) was incorporated” stated Heinz Hostettler from the **Swiss Post** in Berne, Switzerland, responsible for corporate controlling.

@ 2 and 3: Improved quality analyzing data and making better decisions

To our understanding, this is the key success factor in applying the rules of HICHERT@IBCS. If the readers of reports and the audience of presentations understand better what is being said, they have a clearer understanding of the facts and can therefore come to better decisions. “Analyzing the newly designed reports helped our management team to understand our key messages more quickly. And I think this helped to come up with better decisions” said Ralph Schatten, responsible for the reporting of **KPMG** in Germany.

And Nadin Eberlein and Joachim Mette from corporate controlling at **SAP** Headquarters in Walldorf mentioned the focus of their internal project ‘information design’: “Most important for us was easier and faster recognition of the information by using visual standards, e.g. for actuals, budget, and forecast data”.

Jens Fleckenstein from **PWC** Germany in Frankfurt sees the potential of quality improvements, too: “Two years ago I created a new information system for 4,000 recipients based on the Hichert concept. In particular, the rules of SIMPLIFY and CONDENSE of this concept enabled us to use mobile devices at all. The new system was widely accepted – but who can calculate the cost benefits?” Jens is sceptical about quantifying cost reductions.

@ 4: Reduced reaction time in providing data and systems

Measuring the reaction time stemming from a higher degree of standardization is relatively easy. We have talked to people who were able to reduce the production time of their reports from two days to a few hours thanks to standard layouts.

Nadin Eberlein and Joachim Mette from **SAP** Headquarters in Walldorf said: “After defining our new notation guidelines based on the concept of HICHERT@SUCCESS we were able to standardize and simplify the vast amount of different reports. This started three years ago and has now become an important part of our information process. So far, we have reached a lot in the financial departments and will now roll-out the concept in other departments, too.”

“We were able to standardize different existing Excel templates and reduce the time for providing the data” said Christopher Kaatz, colonel in the **German military** and responsible for the management accounting reports of the German Ministry of Defense, “our reports now can be understood more quickly because of their better structure und higher quality of visuals. Our new notation concept plus user-friendly templates were the key for success.”

@ 7: Reduced cost in providing data and systems

Reducing reaction time in providing data and systems in general will also reduce time related cost. Moreover, using the same templates for different reports, dashboards, and PowerPoints certainly reduces the complexity and therefore sources of mistakes, too. Heinz Hostettler from the **Swiss Post** commented: “We could substantially reduce the number of chart and table layouts. The new standards were easier to handle and I think this saved us a lot of time.”

Implementation costs and investment decision

In general, the benefits described above cannot be achieved without a one-time investment in the development of an individual notation concept, software evaluation and installation, as well as training, consulting, and – of course – redesign of reports, presentations, dashboards, etc. Quantifying both these implementation efforts and the benefits mentioned above must be carried out in order to come to a sound investment decision.

5 Analytical software packages supporting the HICHERT®IBCS notation standards

Today’s process of creating reports and presentations is substantially assisted by analytical software packages. Though the most important part in report creation, namely the finding and formulation of the message, remains the intellectual work of the analyst, software support is essential for the overall process. Software ensures the provision of data, supports the analysis of business figures, and finally helps the analyst to design charts and tables supporting the message he wants to convey.

With regard to notation standards the visualization parts in that process are of interest: the design of interactive dashboards for the analysis phase and the design of static reports and presentations illustrating a specific message. To put it clearly – the practical implementation of notation standards for business communication will only be possible if the analytical software package in use supports them.

But how can you realize that an analytical software package is able to create HICHERT®IBCS-compliant charts and tables? As long as it is not common practice for all analytical software packages to support the HICHERT®IBCS notation standards, it is necessary to honor the ones that do. This is why the IBCS Association joined forces with BARC, the Business Application Research Center, to set up an appropriate evaluation and certification process in January 2014.

The evaluation is carried out in two stages:

- **Compliance with HICHERT®IBCS:** Software providers give evidence of compliance by creating predefined HICHERT®IBCS-compliant templates (see www.certification-templates.hichert.com) in the BARC lab using the software to be certified. The templates created with their standard software are evaluated based on transparent criteria. This concerns the notation of business meaning and the design of report components as described above.
- **Ease of use:** The second stage does not involve achieving the highest possible level of compliance with the predefined templates, but rather the ease of use in the first-time creation of the templates as well as in subsequent changes to them. The evaluation represents a measure of the anticipated level of user satisfaction.

SAP is one of the first vendors of analytics software to be interested in HICHERT@IBCS certification. Together with the early internal adoption of HICHERT@IBCS in the SAP finance department, this expresses a strong commitment by SAP to the *International Business Communication Standards (IBCS)*. In April 2014, BARC confirmed the ability of *SAP BusinessObjects Design Studio 1.x with graphomate charts 2.x* to create charts compliant with the notation standards of HICHERT@IBCS. The presentation showed clearly that *graphomate charts for SAP BusinessObjects Design Studio* were specifically designed to create HICHERT@IBCS-compliant charts. And the speed of producing completely new charts and the flexibility applying various analyses was amazing.

The following chart (**Figure 9**) has been produced using *SAP BusinessObjects Design Studio 1.2 with graphomate charts 2.1* during the HICHERT@IBCS evaluation session:

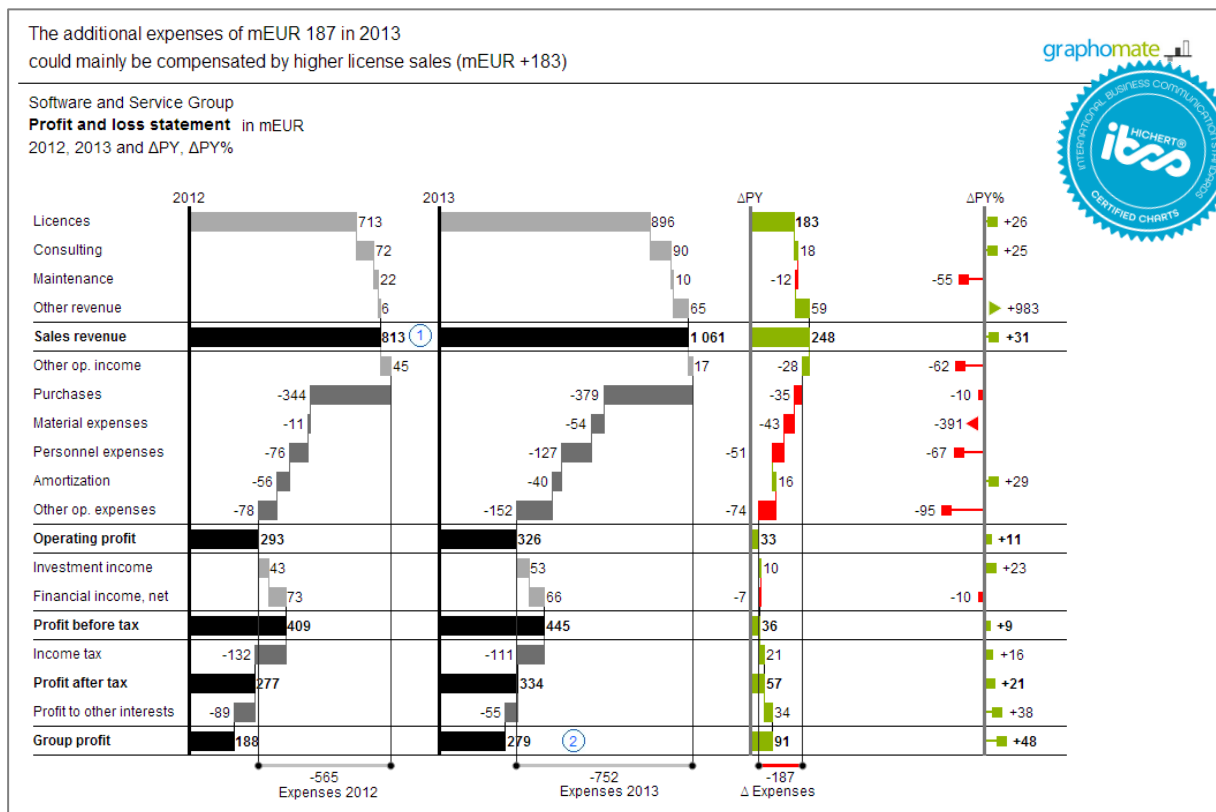


Figure 9: HICHERT@IBCS Template 12A created with *SAP BusinessObjects Design Studio 1.2 with graphomate charts 2.1*

6 Outlook

The advantages of notation standards in business communication are evident: Deeper analytical insight and therefore better decisions; faster analysis and decision making; less time and expense for the creation of interactive dashboards, for analysis, and for the understanding reports and presentations. After all, enterprises move one step further towards an information-driven culture allowing for an even stronger adoption of analytics across the organization.

But one thing still remains to be achieved: The greater the organizational scope of application (e.g. my report - my department - my company - the whole world), the greater the benefits of notation standards will be. This is why we must strive to make IBCS a truly world-wide standard in all fields of business communication. *International Business Communication Standards* will help decision makers all

over the world to understand internal and external reports and presentations faster and without ambiguity.

Adoption of HICHERT@IBCS notation standards by major software vendors like SAP will dramatically increase the speed of its dissemination. Perhaps in years to come, it will be a matter of course to have notation standards in business communication as has been the case in music and cartography for hundreds of years.



About IBCS

The *International Business Communication Standards (IBCS)* are practical rules for the conceptual and visual design of reports and presentations based on the HICHERT®SUCCESS concept regarding a consistent visual language. The *IBCS Association* is a non-profit organization that supports the promulgation, maintenance, and further development of the *International Business Communication Standards*.

www.ibcs-a.org, info@ibcs-a.org



About HICHERT+PARTNER

HICHERT+PARTNER serves as the “IBCS Institute” and provides services for successful implementation of the *International Business Communication Standards*, such as the HICHERT®SUCCESS implementation concept, seminars and training courses, certification of consultants and software as well as consulting and on-site support.

www.hichert.com, info@hichert.com