

REPORTING

Unit 3 – Query languages and visualization
S3 –4 – REPORTING

OUTLINE

1. REPORTING
2. REPORTING TOOLS REVIEW
3. PENTaho REPORT
4. MY FIRST REPORT
5. BI: FUTURE

mas detallado que un dashboard !!!!!

REPORTING

- Involves **preparing, analyzing, and displaying business metrics**.
- Historically, **technical employees** prepared the data to generate managed reports.
- But now, **non-technical users can generate ad-hoc reports** autonomously, often using **drag- and drop interfaces**.
- In many cases, they are generated on a defined **schedule**.
- Some tools (e.g. Tableau, PowerBI, SAP Analytics) support **Natural Language processing (NLP)** to generate the reports.
- Reports can take many forms: **tables, PDFs, spreadsheets, or webpages**.
- They rely on data from the company data sources, using them as a **single source of truth**.

REPORTING

- Wide experience in organizations
 - Essential for decision-making and tracking performance.
- Evolution of Reporting Systems:
 - Traditional: Document Oriented (e.g. manual reports, spreadsheets)
 - Modern:
 - Document Management Systems (e.g. Sharepoint, Docuware, Google Workspace).
 - Relational DB Systems & Reporting Tools (e.g. Tableau, Power BI)
- Mature technology
 - Integration between databases and reporting tools for automated analysis.
 - Big data friendly, scalable and real-time analytics.

REPORTING TOOLS: why?

- Simplifies data understanding: Easier for technical and non-technical users to use the data and better understand business metrics.
- Enable data-driven decisions: Teams can use them to make informed decisions and share the data.
- Can aggregate data from multiple departments, allowing users to interact with the data and provide an integral view of the company.
- Speed up reporting: Can generate reports in short time.
- Automates custom reporting: Can publish customized reports automatically.
- In today's world and besides analytics, data must be communicated to promote insight, action and understanding.

REPORTING TOOLS: which ones?

- User-friendly: Users should easily query and generate responses.
- Customized reports, with text and graphics
- Scalable for growing datasets and user needs.
- Can easily integrate within our current infrastructure.
- This also applies to dashboards.

Dashboards and reports both provide visual information about the performance of the organization, enabling decision making.

Dashboards are more high-level, and provide a quick view of performance. Reports focus on detailed analysis and historical data, usually a snapshot.

REPORTING TOOLS: Design rules

- User centered design: Focused on user needs and preferences.
- Organize information: Structure data logically to enhance clarity and usability. Consistent interface.
- Keep it simple: Avoid unnecessary stuff, focus on the core message. Minimalism design principles.
- Provide visual clues: Use icons, charts, and other visual elements to guide users effectively.
- Right color scheme: Choose the right color palette that improves readability and understanding.
- Other aspects to consider: accessibility, responsiveness (if interactive), ...

IBCS

International Business Comunication Standard

Proposals for business communication

Source: IBCS®

We know how important are **standards**

Traffic



IBCS

- Universal set of rules for reporting, visualization and presentation of business information.
- Promotes common structure and design, improving comparison, benchmarking.
- Improves the quality of business communication (46% faster understanding, 61% less errors answering)
- As the data is easier to understand, it supports faster and more informed decision making.
- It provides a notation to present data in a consistent way.
- BI tools (e.g. PowerBI) integrate IBCS principles.
- IBCS is the basis of ISO/AWI 24896 Standard notation for business reports, started in July 2024.

IBCS

Key characteristics of Business communication

- Purpose: Making critical decisions.
- Challenges:
 - Operating under constraints of time and efficiency.
 - Managing high volumes of reports and vast amounts of data.
- Impact:
 - Reach company-wide users who require consistency.
 - Mitigating the high risk on misinterpretation.

IBCS- Based on scientific, experimental and practical experience.

- **Conceptual Rules:** How the content is structured and organized to transmit the intended message clearly.
- **Perceptual Rules:** How information is **visually presented** to make it easy to perceive and understand.
- **Semantic Rules:** Ensure consistency and standardization in how similar content is represented.

IBCS: SEVEN AREAS ACRONYM “SUCCESS”

- **SAY:** Transmit a clear and concise message (Conceptual Rule)
- **UNIFY:** Similar things have a consistent appearance. (Semantic Rule)
- **CONDENSE:** Increase information density while maintaining clarity. (Perceptual Rule)
- **CHECK:** Present information in a way that it is easy to understand and it doesn't mislead. (Perceptual Rule)

Communications products: reports, presentations, statistics, dashboards and BCSs.

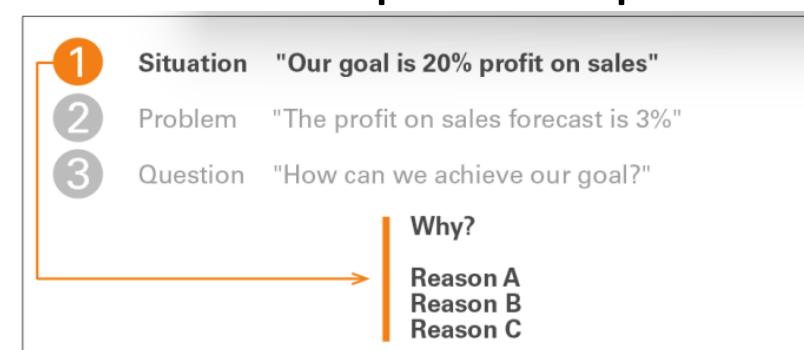
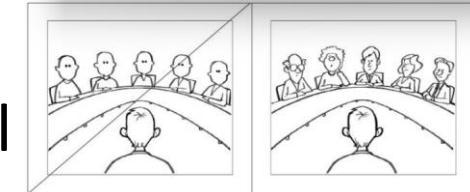
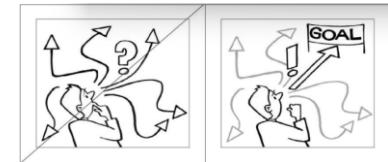
IBCS: SEVEN AREAS ACRONYM “SUCCESS”

- **EXPRESS:** Ensure the message and facts are communicated clearly and intuitively. (Perceptual Rule)
- **SIMPLIFY:** Remove components that do not add value. (Perceptual Rule)
- **STRUCTURE:** Organize content logically to guide audience effectively. (Conceptual Rule)

IBCS- SAY: Convey a message

Reports intend to say something to the recipients.

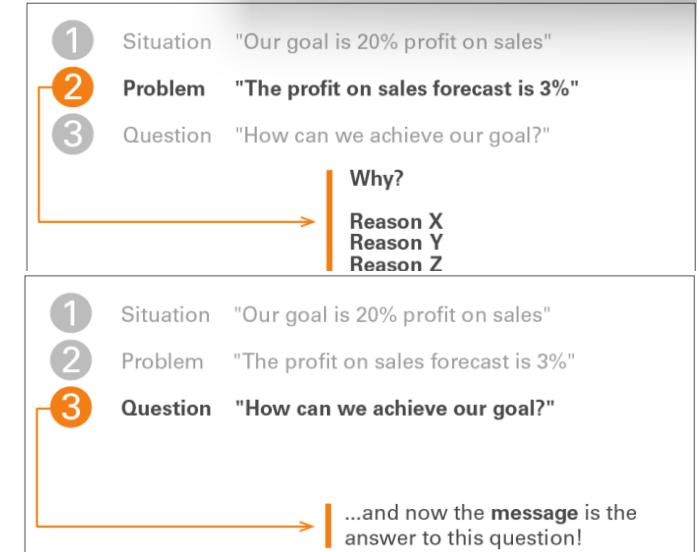
- SA1 Know your objectives:
 - SA1.1 Know own goals: First, we need a clear vision of what we want to achieve.
 - SA1.2 Know your target audience: function, position, knowledge, experience, attitude, cultural background,...
- SA2 Introduce your message: Context and background
 - SA2.1 Map situation: Compile and present related facts.



IBCS- SAY: Convey a message

Reports intend to say something to the recipients.

- SA2.2 Explain the problem: What is the challenge?
- SA2.3 Raise the question:
What is the relevant questions from receiver's perspective?
- SA3 Deliver the message: Answer it.
 - SA3.1 Detect, explain, or suggest



IBCS- SAY: Convey a message

Reports intend to say something to the recipients.

- SA3.1 Detect, explain, or suggest:
- SA3.2 Say the message first:

Summed up clear overall message:

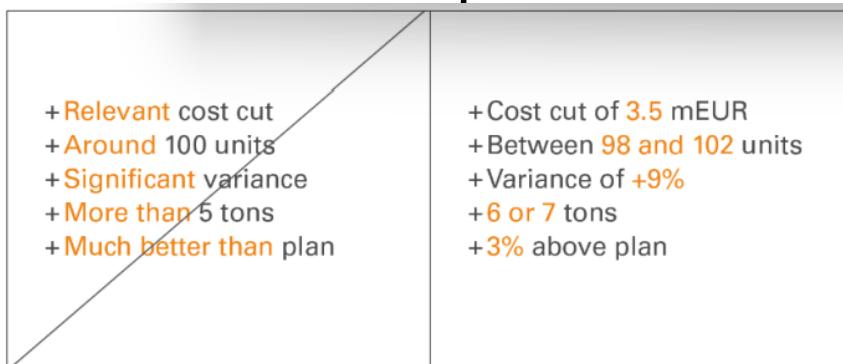
<p>The market for Project B is too small and we expect high competition. In addition, costs are above budget and desired quality is unattainable. Therefore, we should stop the project.</p>	<p>We should stop Project B</p> <ul style="list-style-type: none"> + Market is too small + Competition is very high + Costs are above plan + Quality is unattainable
---	---

Detections	Explanations	Suggestions
① Export share of PSI sank in Q1 from 45% to 40%	...because product approvals are lacking in Asia and America .	Therefore, we should move up authorization for the USA to August.
② Inventory is replaced 5 times, which is below industry average of 6.5	... because suppliers are not particularly reliable.	Therefore, we should re-examine the selection of suppliers.
③ Sales in spare parts fell by 12%	...because competitors are increasingly imitating our products.	Therefore, we should redesign our spare parts business.
④ Personnel costs in Berlin amount to 35% of sales, which is 6app above the target	...because the personnel situation has not been adjusted.	Therefore, we should utilize logistics through cooperations.
⑤ Results for kitchens in Q1 were 3 million under budget for the first time	...because we had a lot of down time at our new plant C.	Therefore, we should re-examine the new management concept.
⑥ Production costs at C are 11% higher than the average	...because lot sizes here are smaller than at all the other plants.	Therefore, we should build the planned warehouse already this year.
⑦ Result has deteriorated despite a 6% increase in sales	...because sales often gave discounts that were too large	Therefore, we should reorganize the management of sales.
⑧ Margins in films are 5% lower than in the previous year	...because excess capacity still exists in Eastern Europe-	Therefore, we should not begin production in China as planned.
⑨ Consulting time for small customers takes up 50%	...because consulting was provided without concrete specifications.	Therefore, we should focus consultations on customer potential.

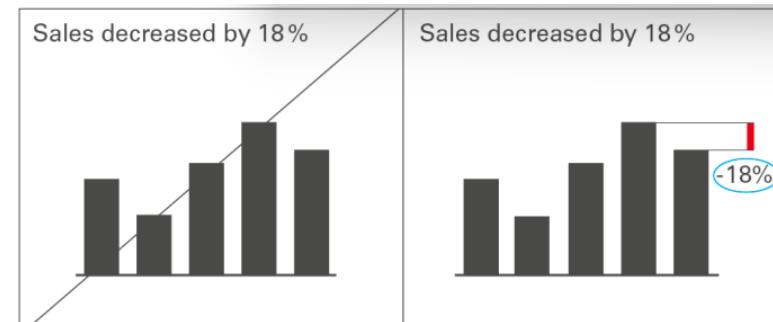
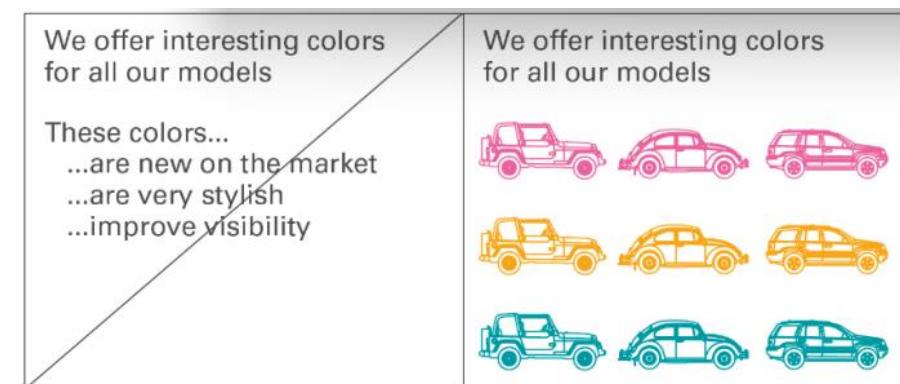
IBCS- SAY: Convey a message

Reports intend to say something to the recipients.

- SA4 Support message
 - SA4.1 Provide evidence: Prove the message with facts and figures.
 - SA4.2 Use precise words:



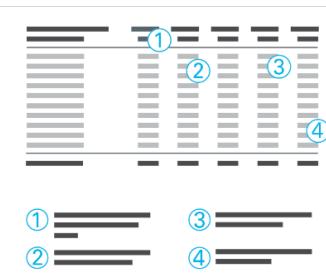
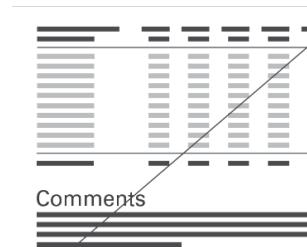
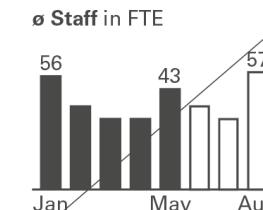
- SA4.3 Highlight message:



IBCS- SAY: Convey a message

Reports intend to say something to the recipients.

- SA4.4 Name the sources
- SA4.5 Link comments:
- SA5- Summarize message
 - SA5.1 Repeat the message
 - SA5.2 Explain the consequences



"...and I hope that
I could get across,
that we have to..."

...and then the audience
says "Thank you".

...and now we should decide on the next steps:

- a Staff** Additional resources are needed...
- b Machines** Two more assembly lines must be...
- c Marketing** Our web shop features should...

IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

- UN1 Unify terminology
 - UN1.1 Unify terms and abbreviations
 - UN1.2 Unify numbers, units and dates

Term	Abbreviations	Definition
	short long	
+ Return on investment	ROI	Ret. on inv.
+ Accounts receivable	AR	Acc. receiv.
+ Profit before tax	PBT	Profit b. tax
+ Profit and loss	P&L	Profit & loss
+ Human resources	HR	Human res.
+ Net sales per capita	NS/c	NS per cap.

ISO80000-1 Numbers

ISO4217 Currencies

SI Physical Units

ISO8601 Dates

23 mtr.	100.000.000	23 m	100 000 000
34 kg.	123456	34 kg	123 456
20 sec.	1234567 CHF	20 s	1.23 mCHF
22 tons	€	22 t	EUR
[kg]	US\$	kg	USD
sqm	£	m ²	GBP
1.5.2021	II/2021	2021-05-01	2021-Q2
01/05/21	W17-2021	2021-05-01	2021-W17
05/01/21	Jun/2021	2021-05-01	2021-06

IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

- UN2 Unify descriptors
 - UN2.1 Unify messages
 - UN2.2 Unify titles and subtitles
- Who, what, when



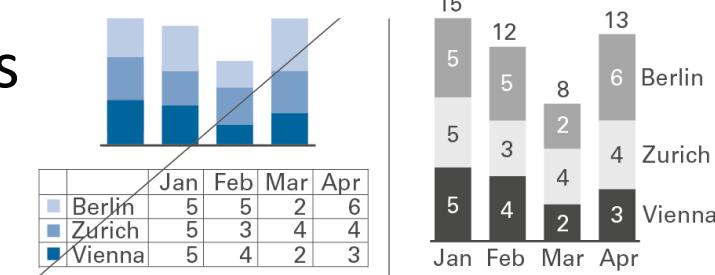
Net Sales Development from
January to July 2021
Alpha Corporation [mEUR]

Profit ratio: In thousand Euros
per Employee in Division D
Actual and Budget in 2021

Alpha Corporation
Net sales in mEUR
Jan..Jul 2021

ABC Corporation, Division D
Profit per employee in kEUR
2021 AC, BU

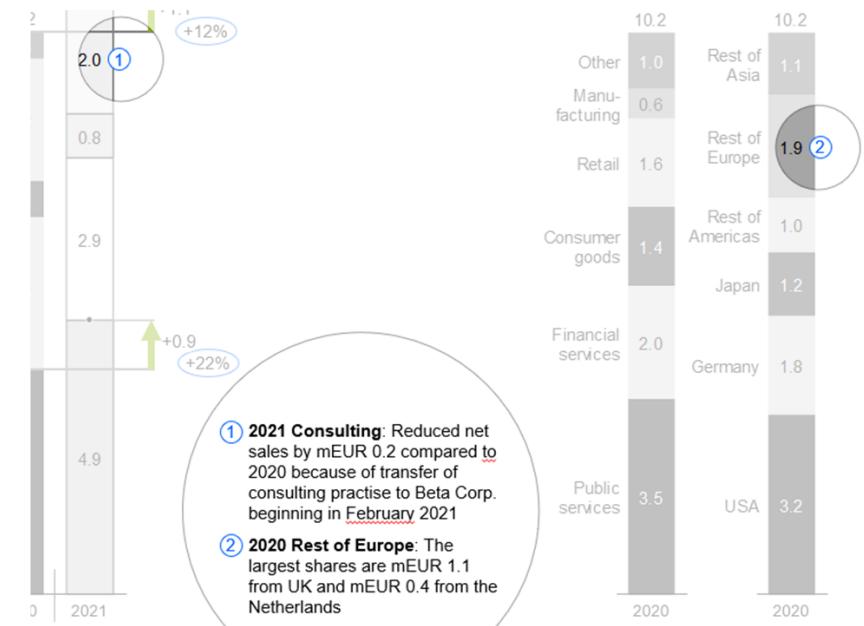
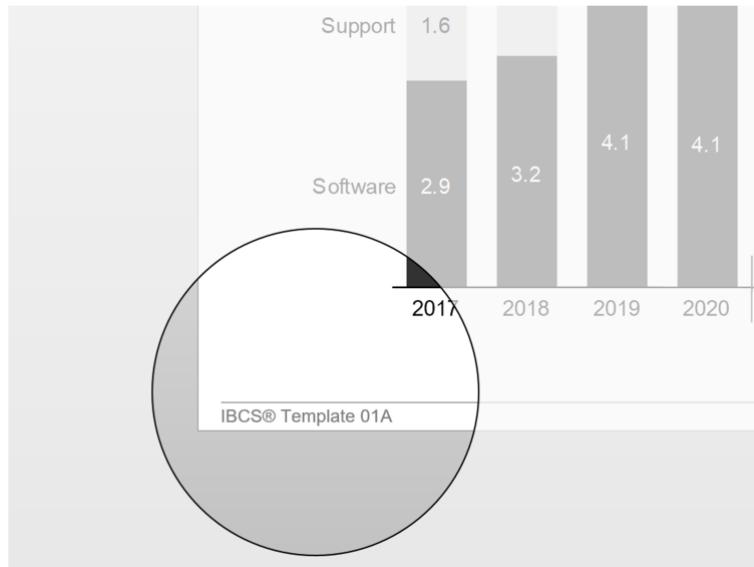
- UN2.3 Unify position legends and labels



IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

- UN2.4 Unify comments
- UN2.5 Unify footnotes



IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

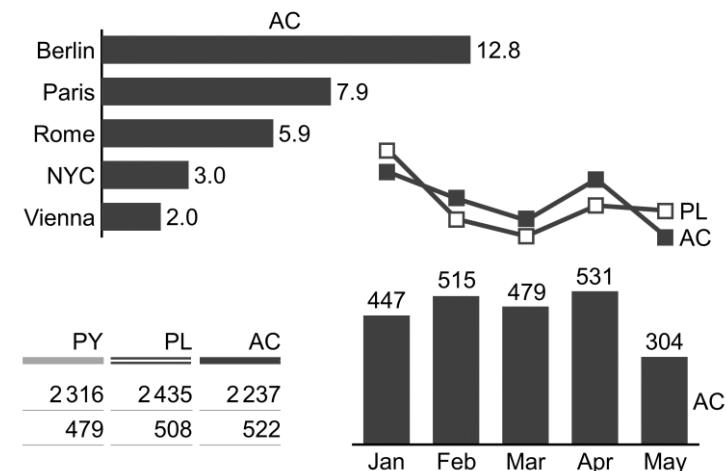
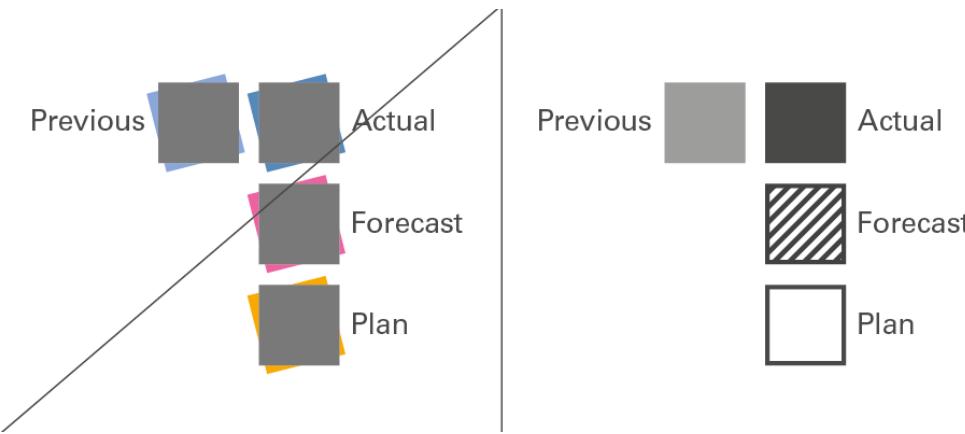
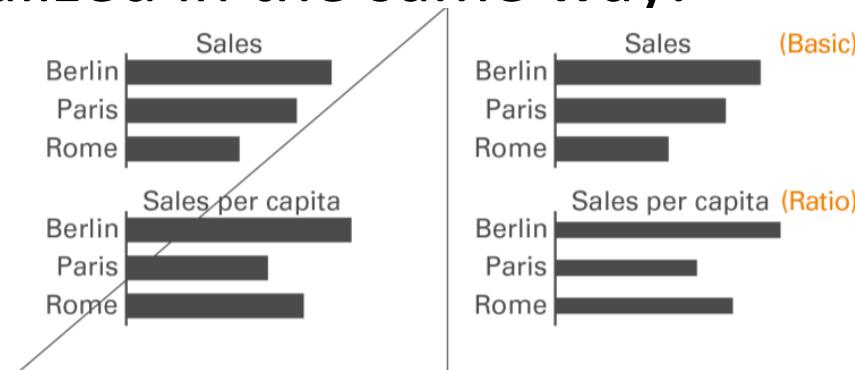
UN3 Unify dimensions

- UN3.1 Unify measures

Basic-2/3 category width

Ratio- 1/3 category width

- UN3.2 Unify scenarios



IBCS- UNIFY: Apply Semantic Notation

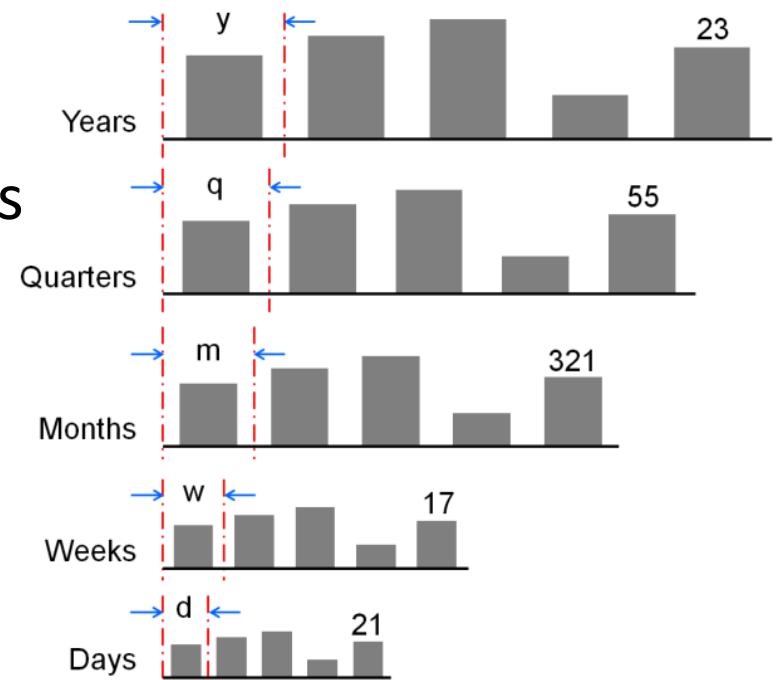
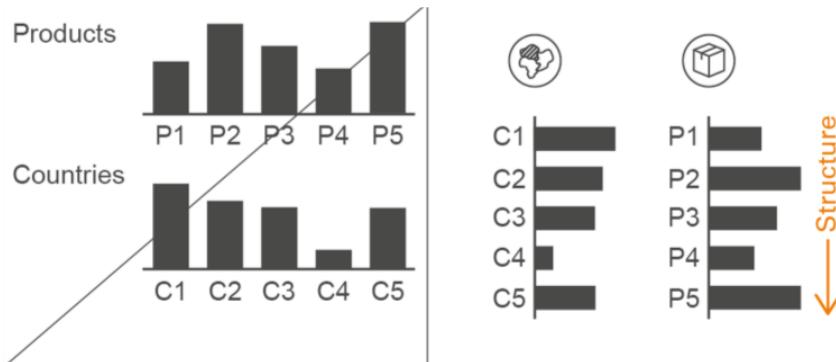
Similar content should be visualized in the same way.

- UN3.3 Unify time periods, use horizontal axes

Visual direction of time

Category widths

- UN3.4 Unify structure dimensions



IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

UN4 Unify analysis

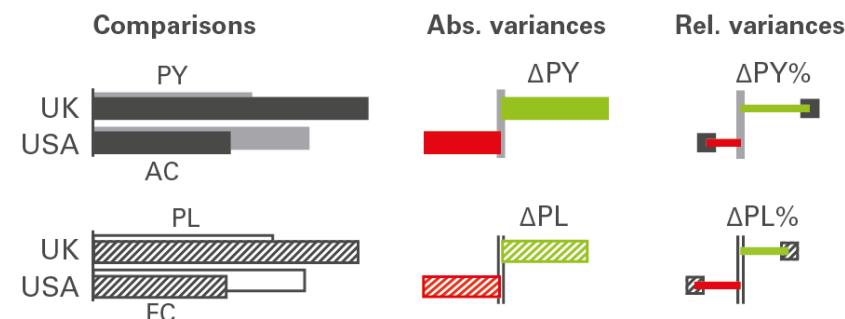
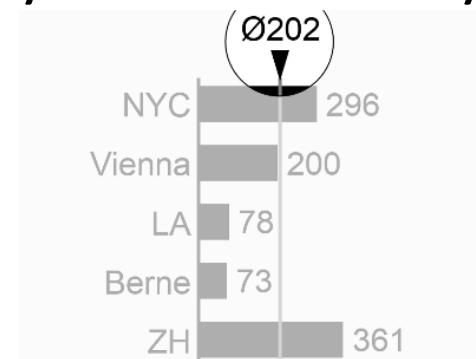
- UN4.1 Unify scenario analysis

Scenario comparison

Absolute variances

Relative variances

- UN4.2 Unify time series analysis
- UN4.3 Unify structure analysis



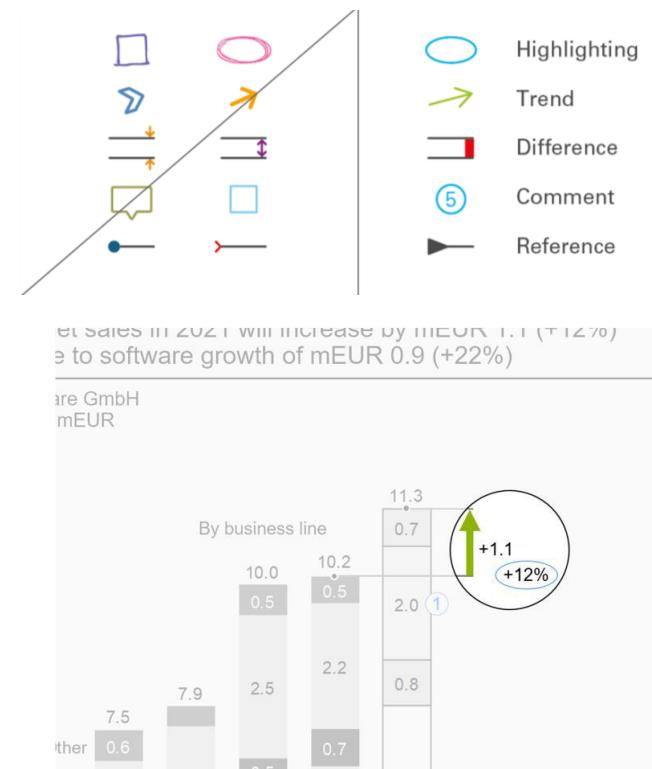
Analyses	Symbol	Example	Application
Difference	x - y	AC'20 - AC'19	"Year to date"
Time span	a..b	Feb..Jun'21	Jan Feb Mar
Year to date	-x	-Jun'21	123 234 546
Year to go	x-	Jun'21-	22 46 86
Rolling	~x	~Jun'21	
Average	ø	ø'21	
First day	.x	.Aug'21	
Last day	x.	Aug.'21	



IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

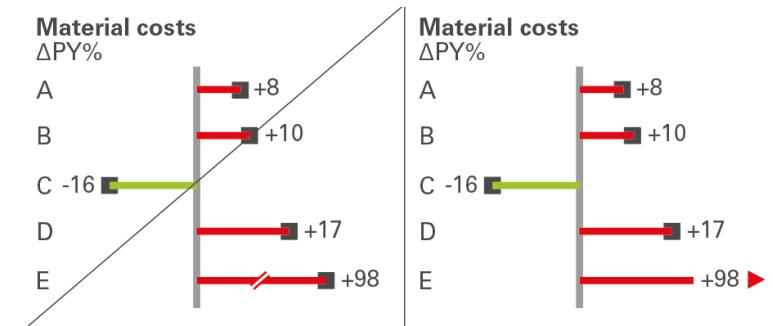
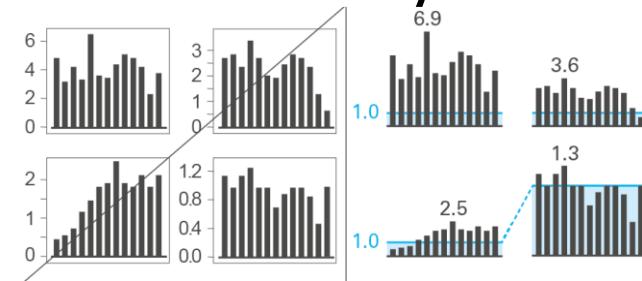
- UN4.4 Unify adjustment analyses
 - UN5 Unify indicators
 - UN5.1 Unify Highlighting indicators
- Assisting lines and areas
 Difference markers
 Trend arrows
 Highlighting ellipses
 Reference arrowheads
 Comment references



IBCS- UNIFY: Apply Semantic Notation

Similar content should be visualized in the same way.

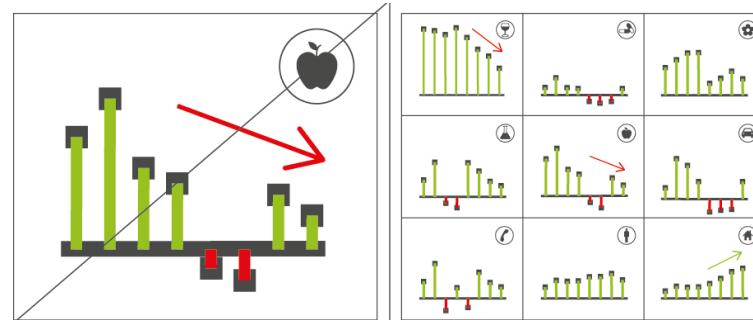
- UN5.2 Unify scaling indicators
- UN5.3 Unify outlier indicators



IBCS- CONDENSE: Increase Information Density

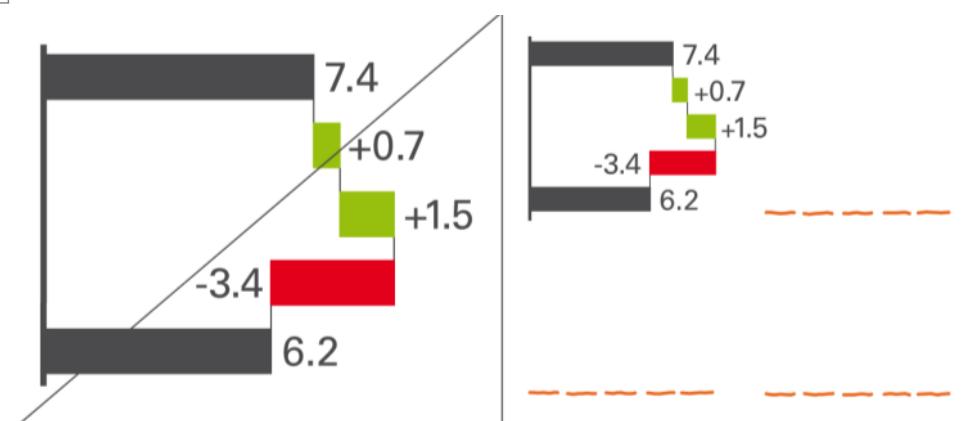
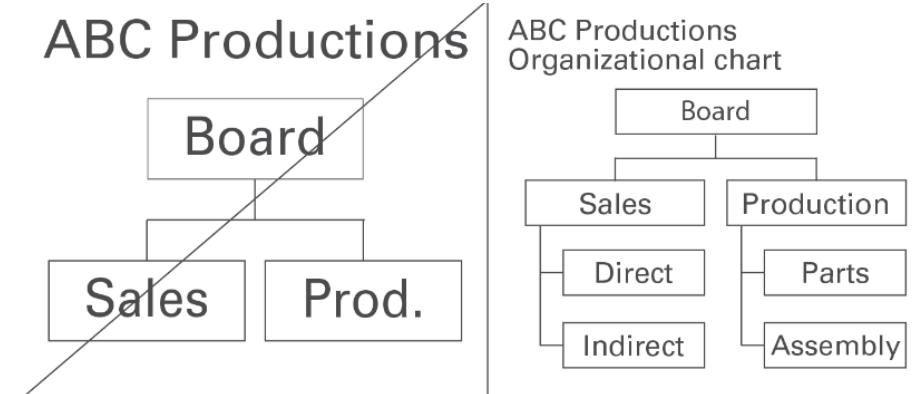
All reports include all needed information on one page

- CO1 Use small components
 - CO1.1 Use small fonts
 - CO1.2 Use small elements



- CO1.3 Use small objects

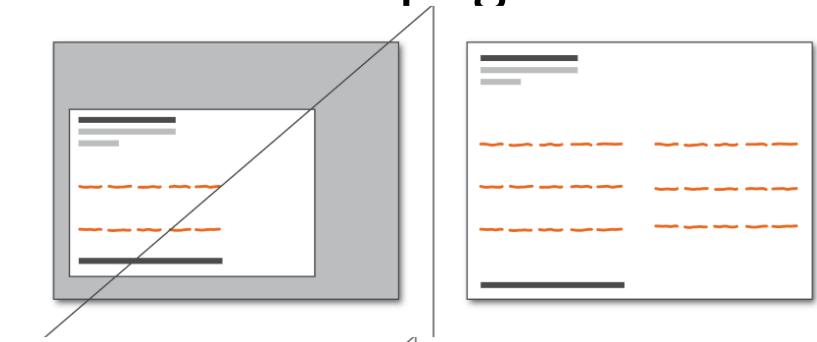
ABC Productions



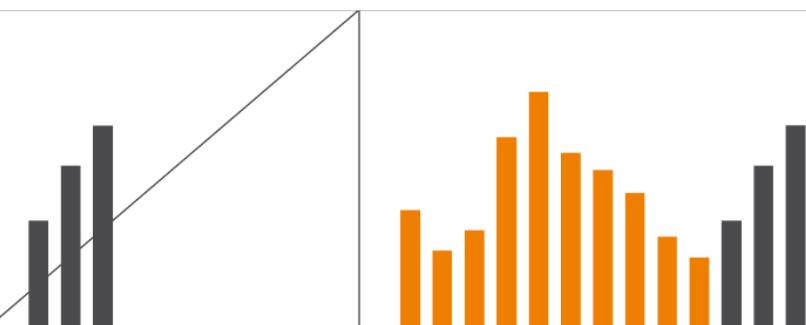
IBCS- CONDENSE: Increase Information Density

All reports include all needed information on one page

- CO2 Maximize use of space
 - CO2.1 Use narrow page margins
 - CO2.2 Reduce empty space
- CO3 Add data
 - CO3.1 Add data points



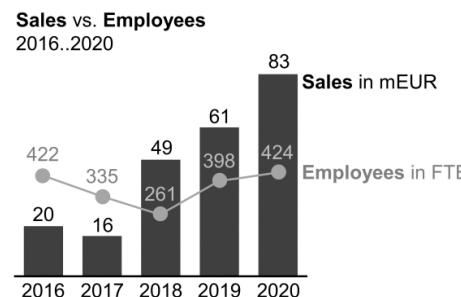
	Sales in EUR		
	Jan	Feb	Mar
Germany	502	456	243
Austria	49	34	44
France	89	83	89
Italy	123	101	117
Sweden	77	88	8
Denmark	34	37	45



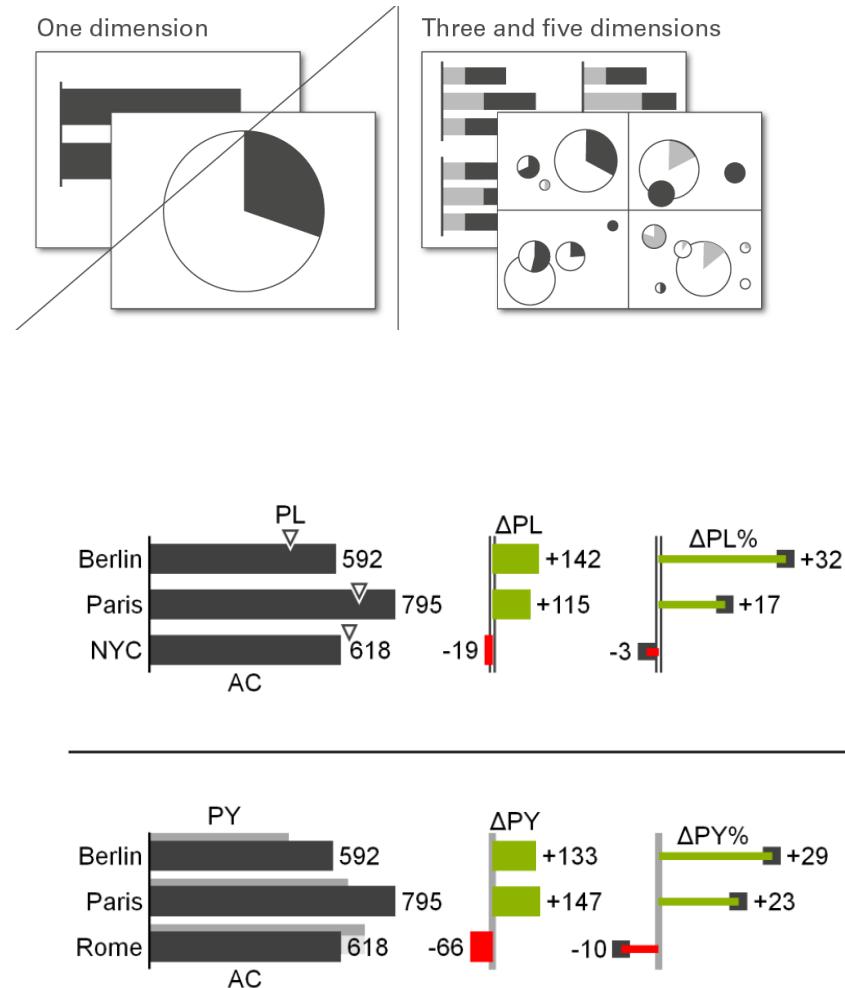
IBCS- CONDENSE: Increase Information Density

All reports include all needed information on one page

- CO3.2 Add dimensions
- CO4 Add elements
 - CO4.1 Show overlay charts



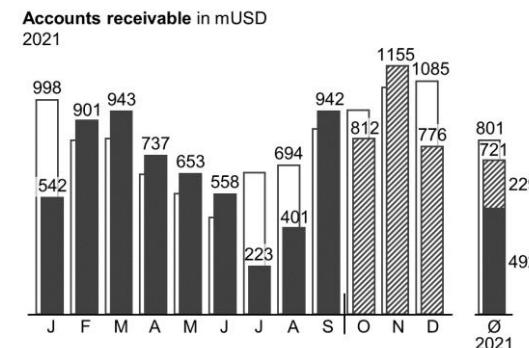
- CO4.2 Show multi-tier charts



IBCS- CONDENSE: Increase Information Density

All reports include all needed information on one page

- CO4.3 Show extended charts



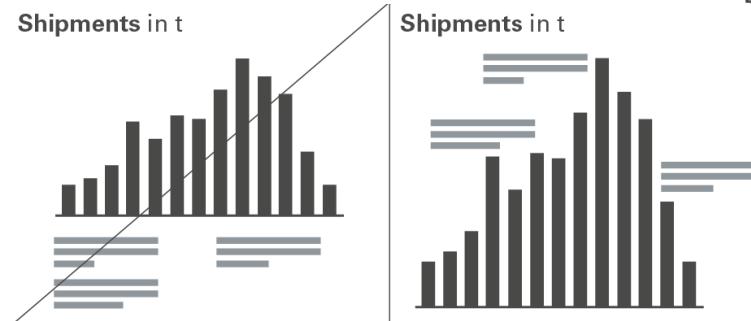
- CO4.4 Embed chart elements in tables
- CO4.5 Embed explanations

Sales in kEUR
2020

	PY	AC	ΔPY
Germany	84	87	+3
Austria	19	17	-2
France	28	27	-1
Rest	36	39	+3
Europe	167	170	+3

Sales in kEUR
2020

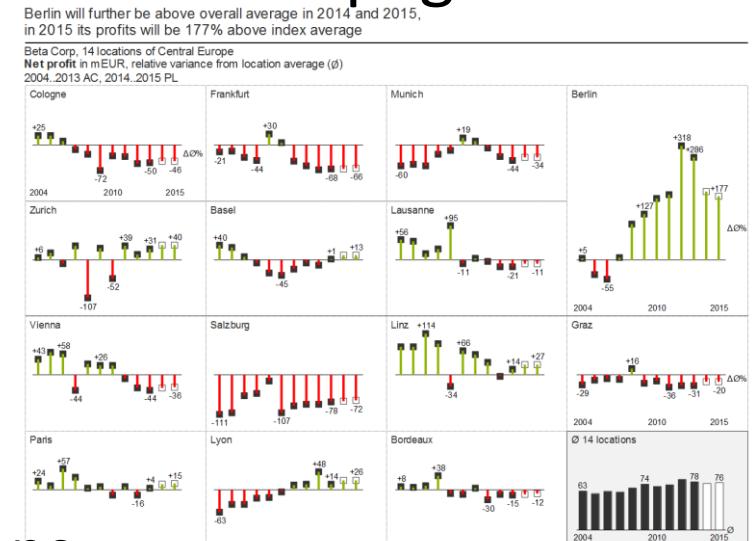
	PY	AC	ΔPY
Germany	84	87	+3
Austria	19	17	-2
France	28	27	-1
Rest	36	39	+3
Europe	167	170	+3



IBCS- CONDENSE: Increase Information Density

All reports include all needed information on one page

- CO5 Add objects
 - CO5.1 Show small multiples
 - CO5.2 Show related charts on one page
 - CO5.3 Show chart-table combinations
 - CO5.4 Show charts and tables in text pages



IBCS- Check: Ensure Visual Integrity

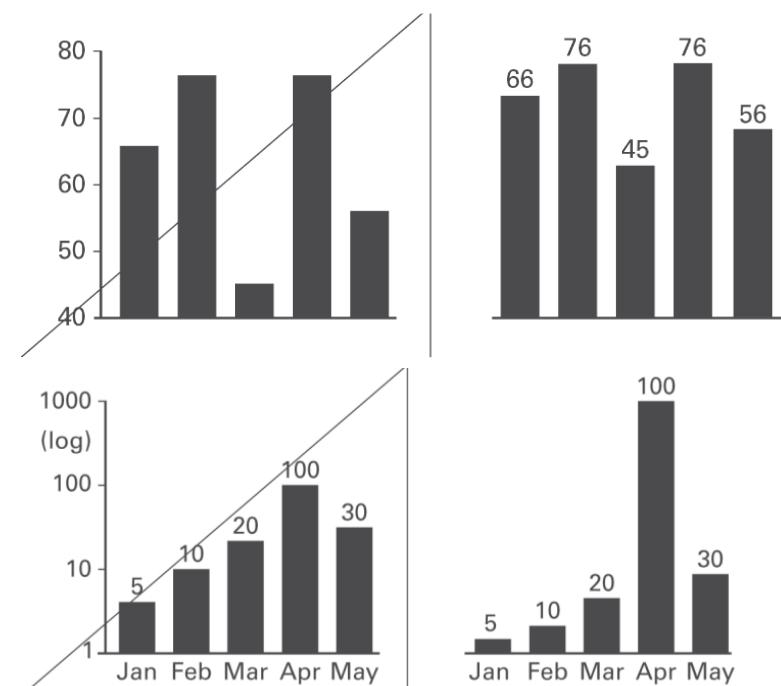
Information in reports is truthful and understandable

- CH1 Avoid manipulated axes
 - CH1.1 Avoid truncated axes (exception: variances)
 - CH1.2 Avoid logarithm axes
 - CH1.3 Avoid different class sizes



A horizontal bar chart with ten bars representing age ranges and their corresponding counts. The bars are ordered from oldest to youngest.

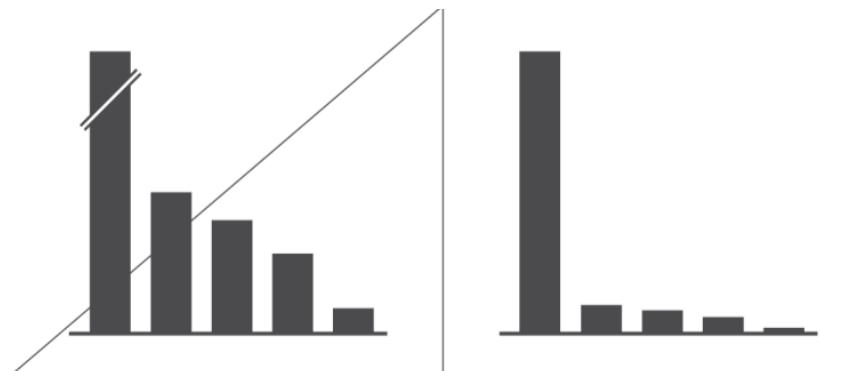
Age Range	Count
56_60	0
51_55	2
46_50	5
41_45	7
36_40	10
31_35	13
26_30	6
21_25	4
16_20	2



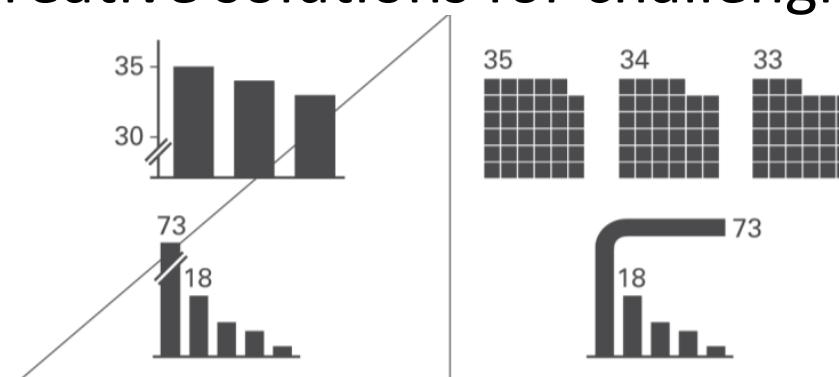
IBCS- Check: Ensure Visual Integrity

Information in reports is truthful and understandable

- CH2 Avoid manipulated visualization elements
 - CH2.1 Avoid clipped visualization elements



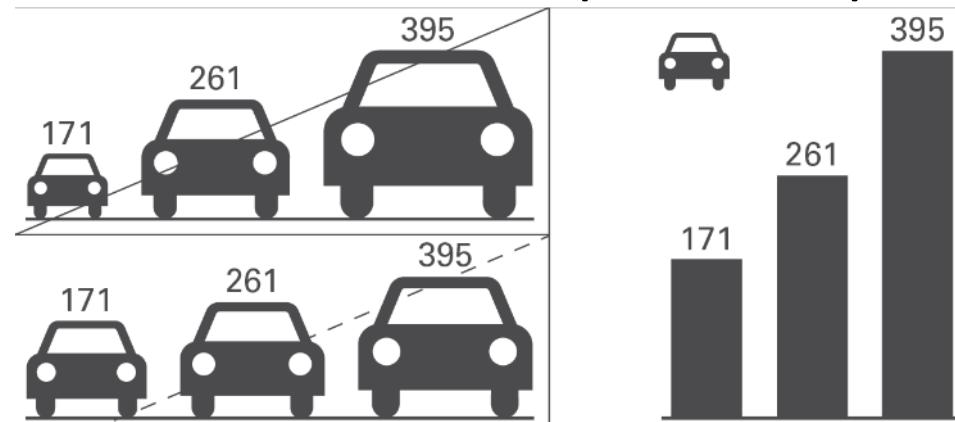
- CH2.2 Use creative solutions for challenging scaling issues



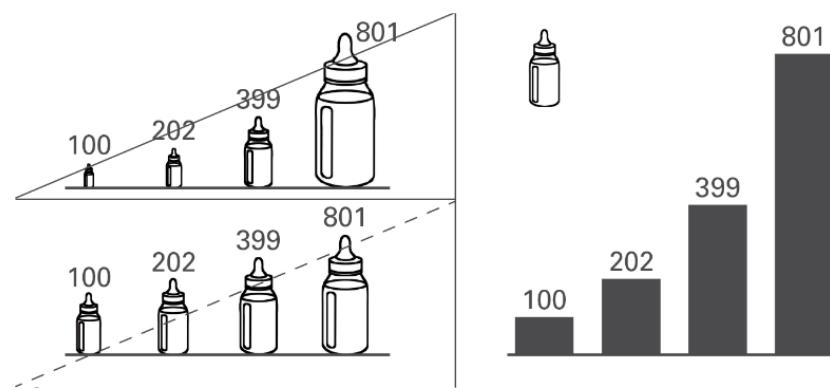
IBCS- Check: Ensure Visual Integrity

Information in reports is truthful and understandable

- CH3 Avoid misleading representations
 - CH3.1 Use correct area comparisons, prefer linear ones



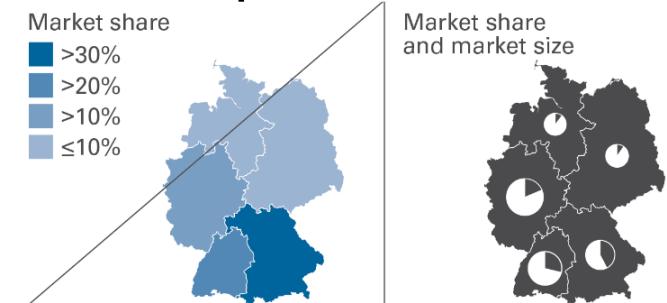
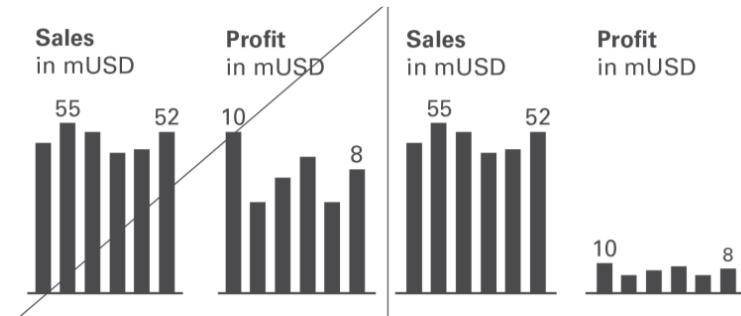
- CH3.2 Use correct volume visualizations, prefer linear ones



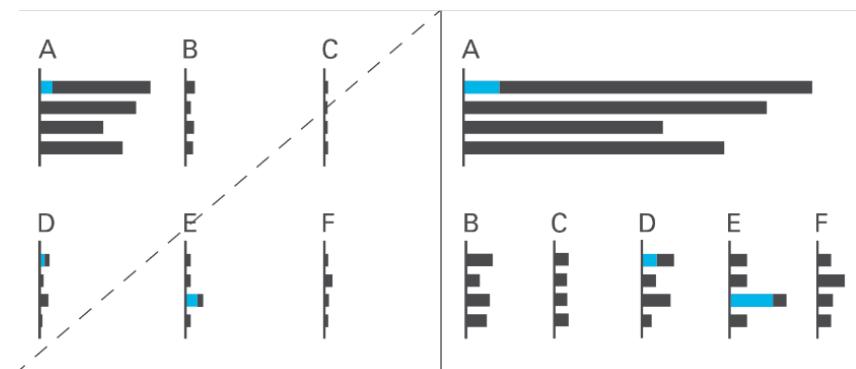
IBCS- Check: Ensure Visual Integrity

Information in reports is truthful and understandable

- CH3.3 Avoid misleading colored areas in maps
- CH4 Use the same scales
 - CH4.1 Use identical scale for the same unit



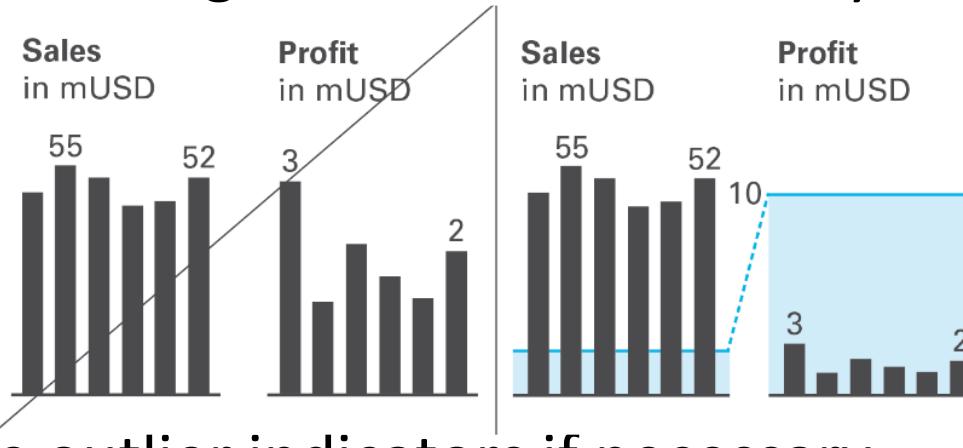
- CH4.1 Size charts to given data



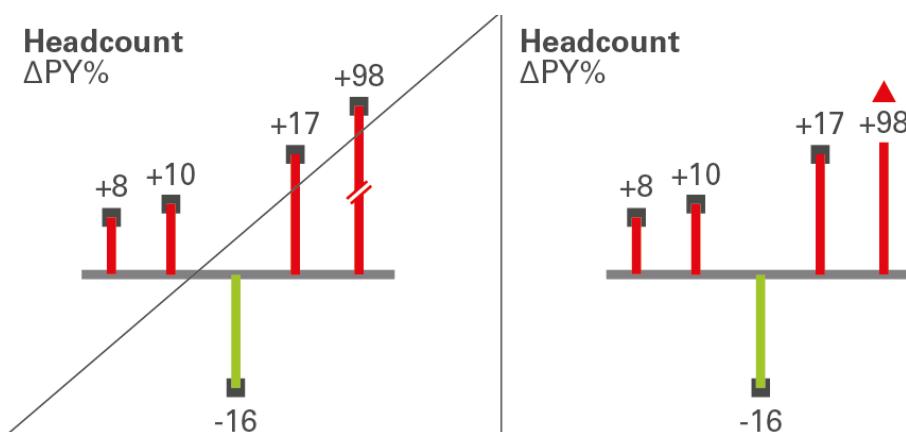
IBCS- Check: Ensure Visual Integrity

Information in reports is truthful and understandable

- CH4.3 Use scaling indicators if necessary



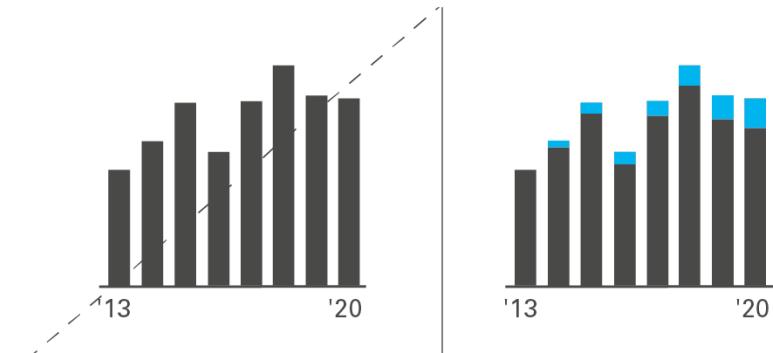
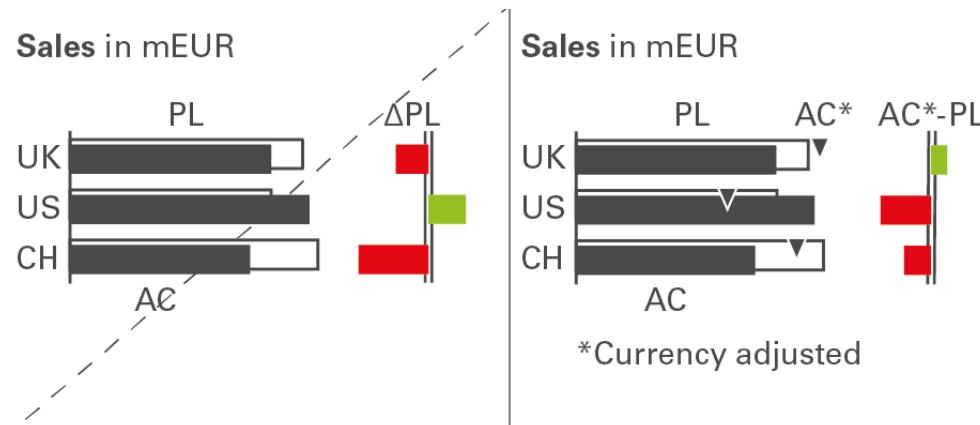
- CH4.4 Use outlier indicators if necessary



IBCS- Check: Ensure Visual Integrity

Information in reports is truthful and understandable

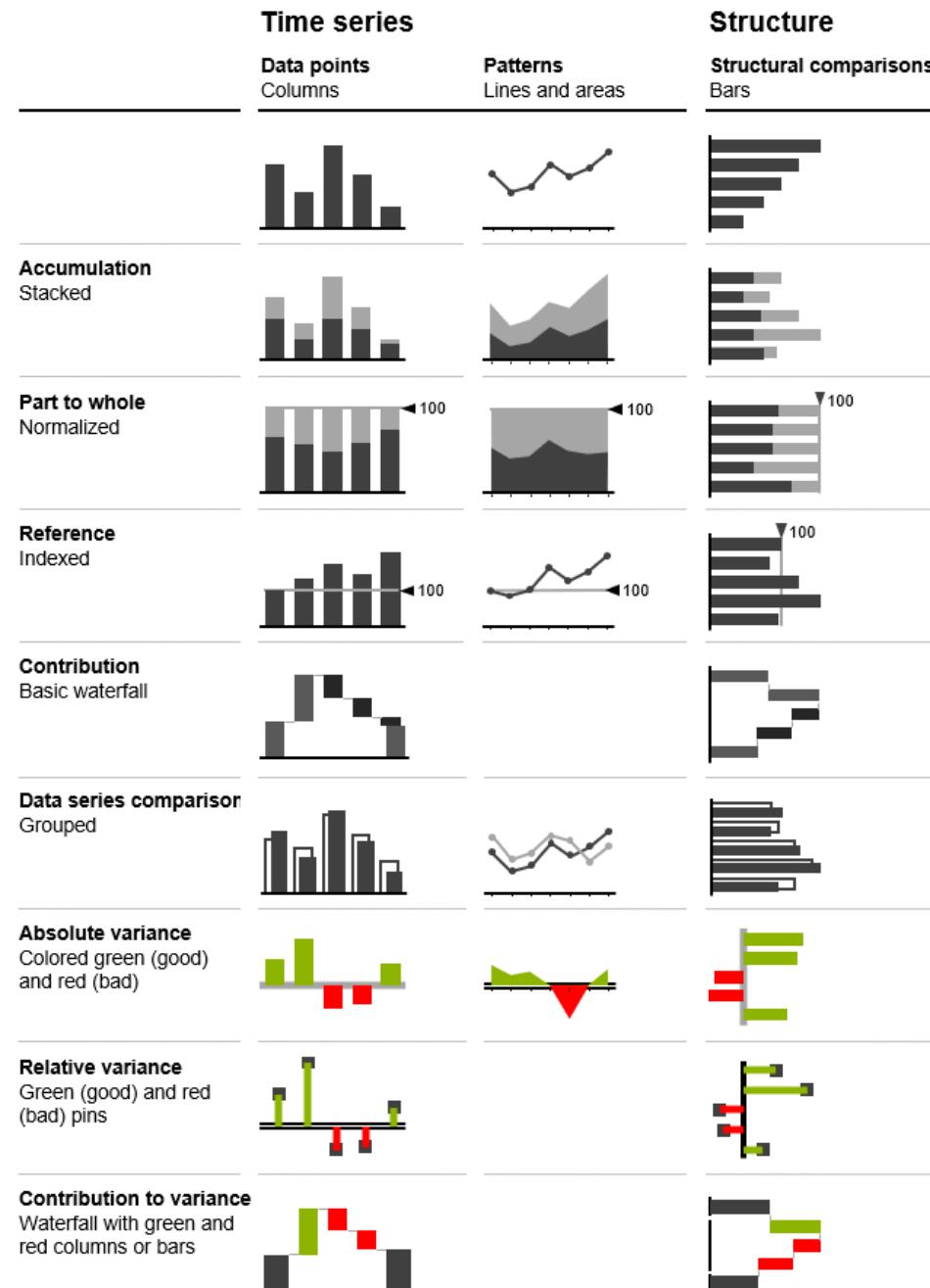
- CH4.5 Use magnifying glasses
- CH5 Show data adjustments
 - Ch5.1 Show the impact of inflation
 - CH5.2 Show the currency impact



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

- EX1 Use appropriate object types
 - EX1.1 Use appropriate chart types
- Bar-comparisons.
Line- trends over time.



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

- EX1.2 Use appropriate table types

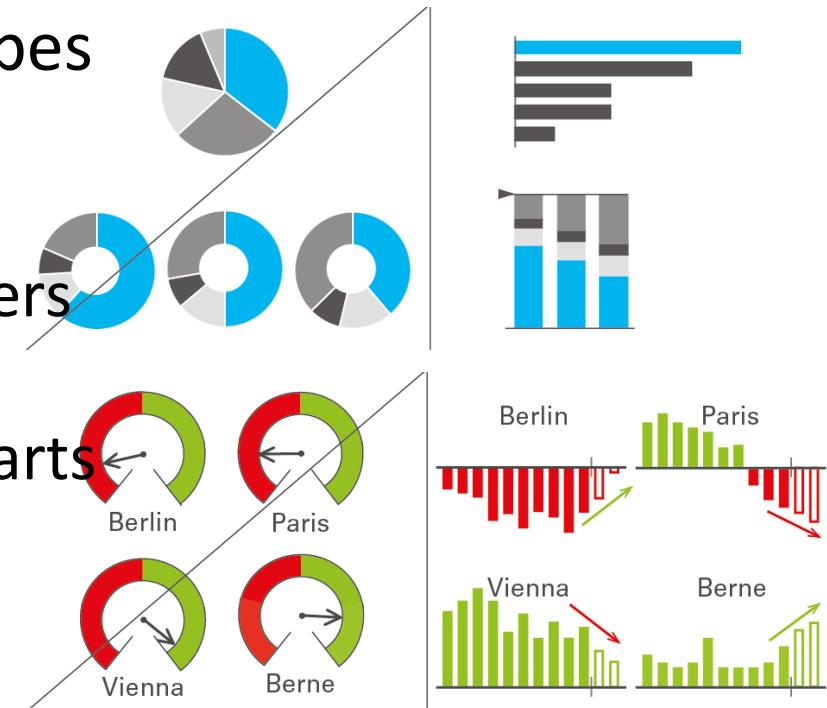
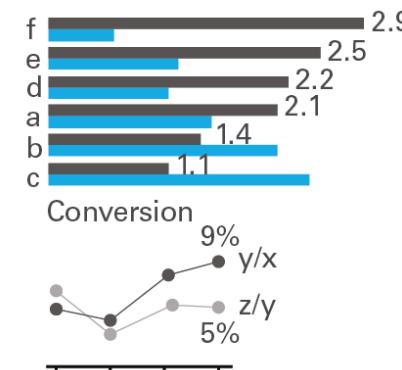
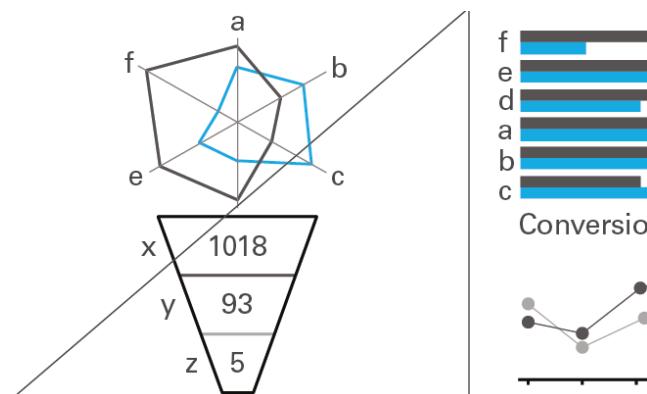
Electronic Inc.
Profit after tax in kEUR
Nov 2020

Nov										Jan_Nov						
PY	PL	AC	ΔPY	ΔPY%	ΔPL	ΔPL%				PY	PL	AC	ΔPY	ΔPY%	ΔPL	ΔPL%
560	590	559	-1	-0%	-31	-5%	Austria			5 078	5 611	5 509	+431	+8%	-102	-2%
56	72	58	+2	+4%	-14	-19%	Belgium			531	529	484	-47	-9%	-45	-9%
140	149	134	-6	-4%	-15	-10%	France			1 290	1 488	1 354	+64	+5%	-134	-9%
345	279	260	-85	-25%	-19	-7%	Germany			3 124	2 815	2 850	-274	-9%	+35	+1%
78	91	86	+8	+10%	-5	-5%	Poland			816	818	854	+38	+5%	+36	+4%
77	81	86	+9	+12%	+5	+6%	Sweden			809	722	764	-45	-6%	+42	+6%
61	70	66	+5	+8%	-4	-6%	Switzerland			604	582	678	+74	+12%	+96	+16%
502	498	545	+43	+9%	+47	+9%	Other			5 602	6 022	5 441	-161	-3%	-581	-10%
1 819	1 830	1 794	-25	-1%	-36	-2%	Europe			17 854	18 587	17 934	+80	+0%	-653	-4%
119	109	121	+2	+2%	+12	+11%	Brazil			1 205	1 254	1 314	+109	+9%	+60	+5%
65	71	59	-6	-9%	-12	-17%	Canada			629	656	718	+89	+14%	+62	+9%
346	326	311	-35	-10%	-15	-5%	USA			3 406	3 124	3 239	-167	-5%	+115	+4%
438	401	399	-39	-9%	-2	-0%	Other			4 166	4 219	4 008	-158	-4%	-211	-5%
968	907	890	-78	-8%	-17	-2%	Americas			9 406	9 253	9 279	-127	-1%	+26	+0%
54	66	62	+8	+15%	-4	-6%	Australia			517	609	588	+71	+14%	-21	-3%
266	204	231	-35	-13%	+27	+13%	China			2 107	1 925	2 399	+292	+14%	+474	+25%
9	70	11	+2	+22%	-59	-84%	Japan			67	855	144	+77	+115%	-711	-83%
234	311	255	+21	+9%	-56	-18%	Other			2 351	2 099	2 145	-206	-9%	+46	+2%
563	651	559	-4	-1%	-92	-14%	Rest of World			5 042	5 488	5 276	+234	+5%	-212	-4%
3 350	3 388	3 243	-107	-3%	-145	-4%	World			32 302	33 328	32 489	+187	+1%	-839	-3%

IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

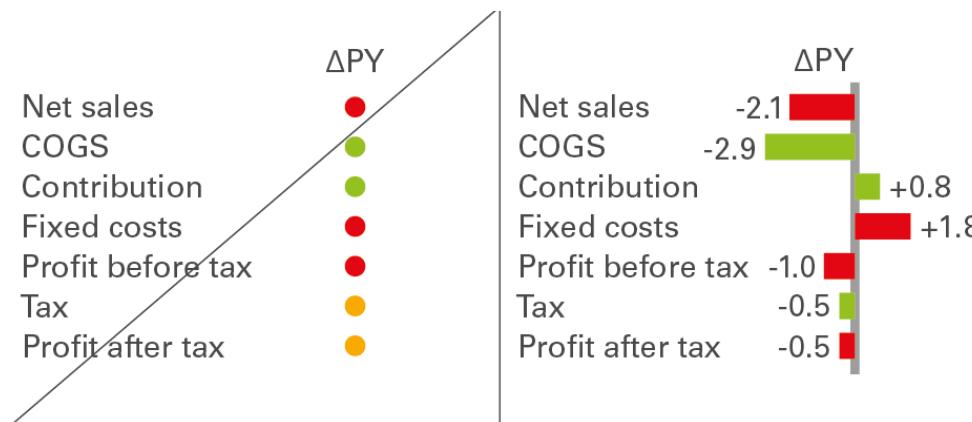
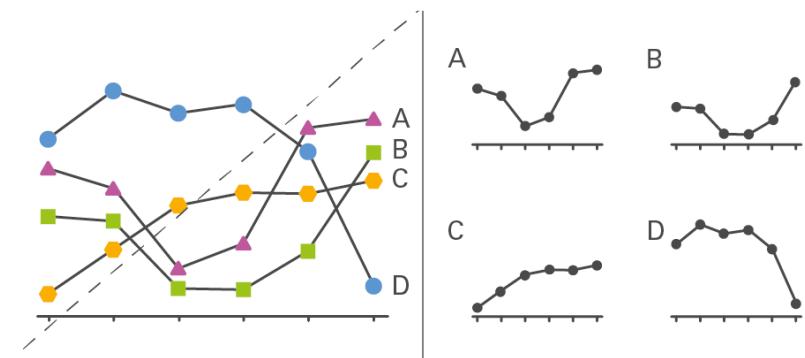
- EX2 Replace inappropriate chart types
 - EX2.1 Replace pie and ring charts
 - EX2.2 Replace gauges, speedometers
 - EX2.3 Replace radar and funnel charts



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

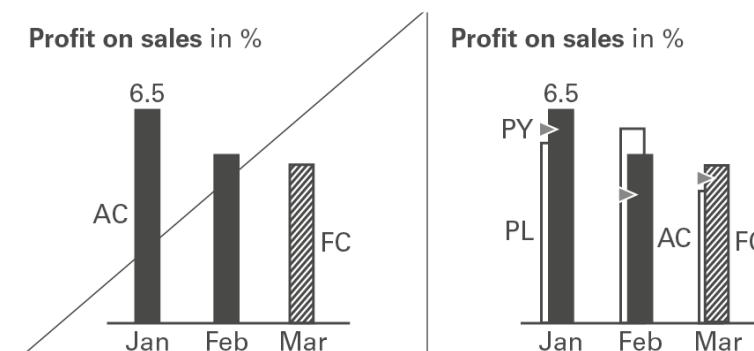
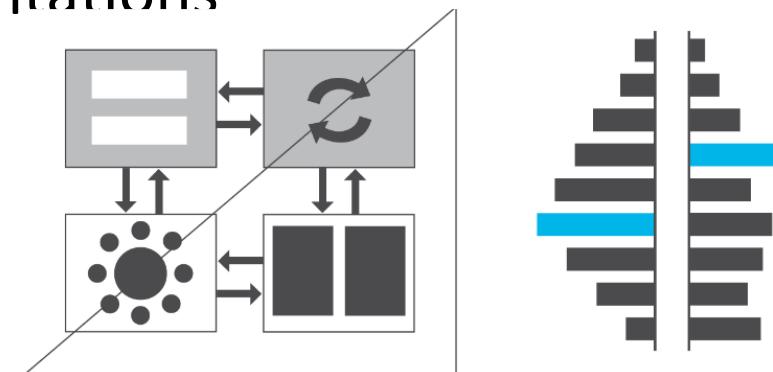
- EX2.4 Replace spaghetti charts
- EX2.5 Replace traffic lights



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

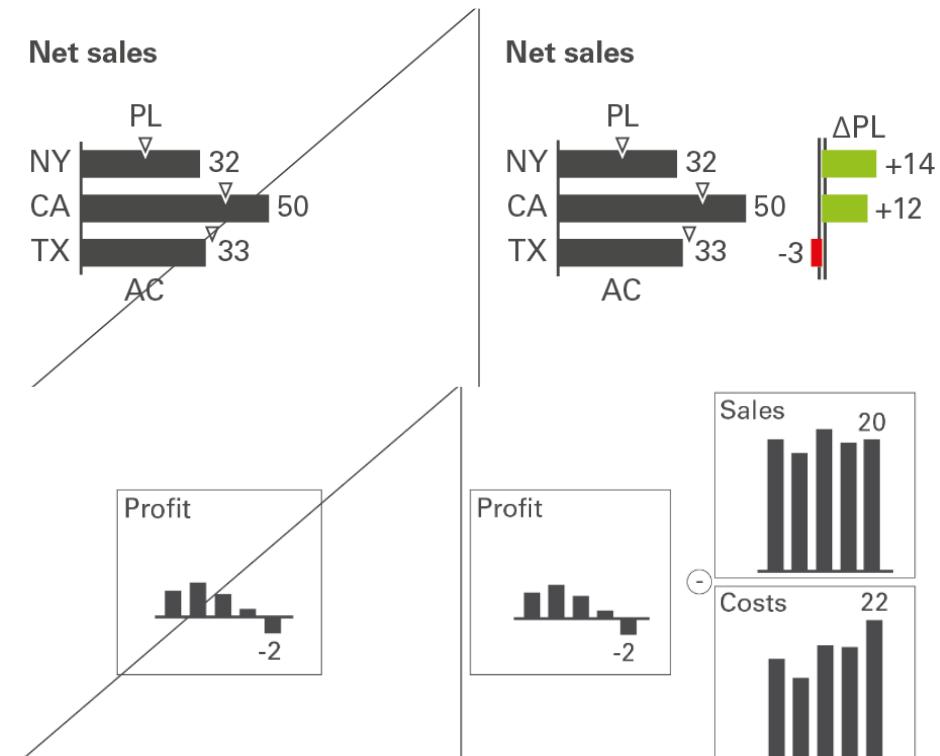
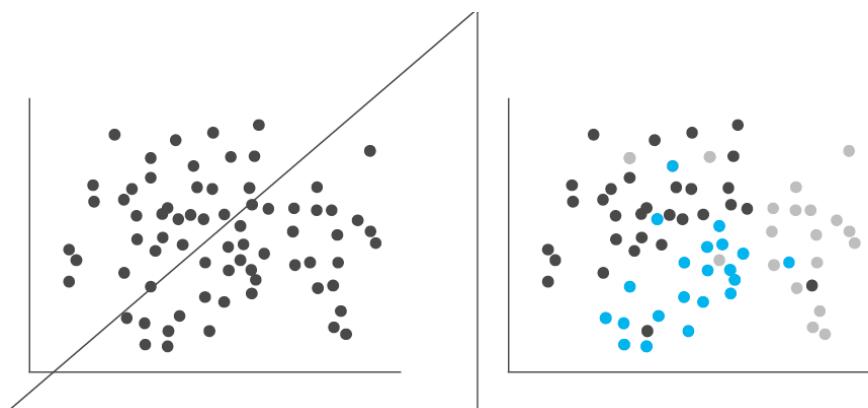
- EX3 Replace inappropriate representations
 - EX3.1 Prefer quantitative representations
 - EX3.2 Avoid text slides in presentations
- EX4 Add comparisons
 - EX4.1 Add scenarios



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

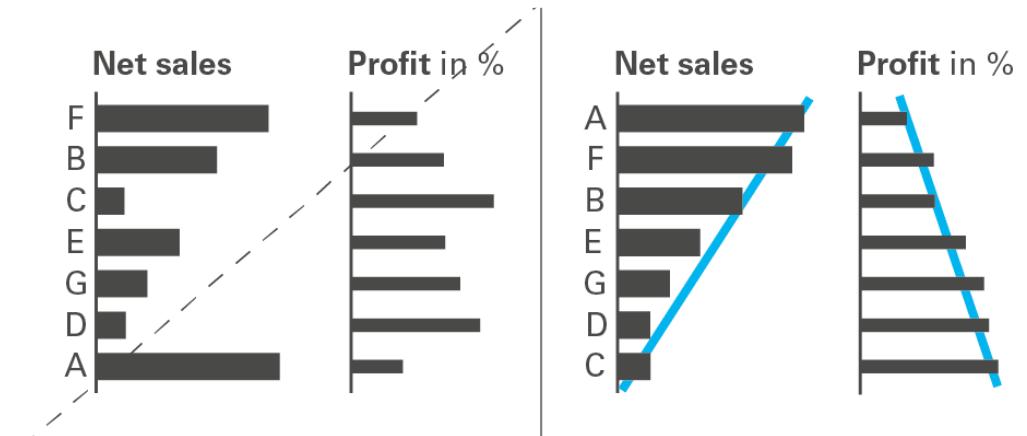
- EX4.2 Add variances
- EX5 Explain causes
 - EX5.1 Show tree structures
 - EX5.2 Show clusters



IBCS- Express: Choose Proper Visualization

Charts and tables in reports help to identify interesting facts and communicate the desired message

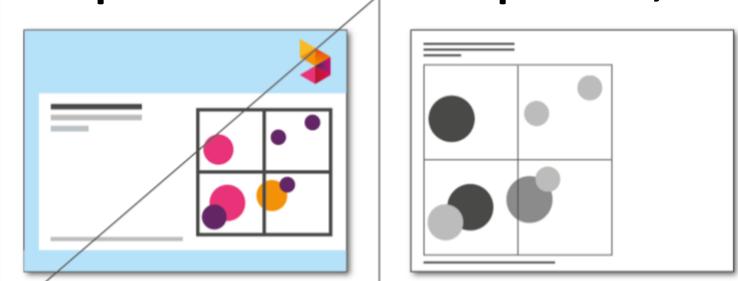
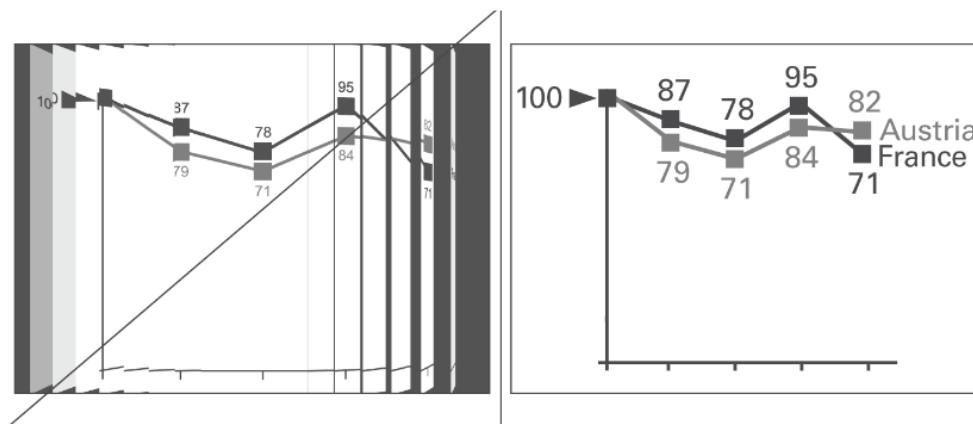
- EX5.3 Show correlations



IBCS- Simplify: Avoid clutter

Avoid all unnecessary and decorative components in reports, presentations and dashboards.

- SI1 Avoid unnecessary components
 - SI1.1 Avoid cluttered layouts
 - SI1.2 Avoid colored or filled backgrounds
 - SI1.3 Avoid animations and transition effects



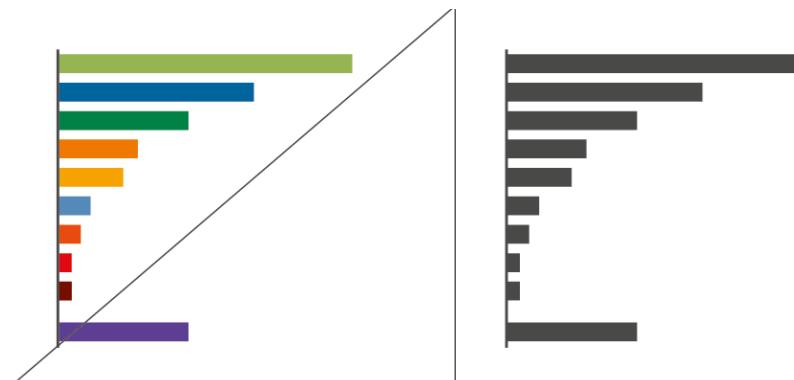
	AC	ΔPL
34 567	321	
22 343	-1 122	
1 231	34	
32 557	-234	
8 990	2 289	
11 887	199	

	AC	ΔPL
34 567	+321	
22 343	-1 122	
1 231	+34	
32 557	-234	
8 990	+2 289	
11 887	+199	

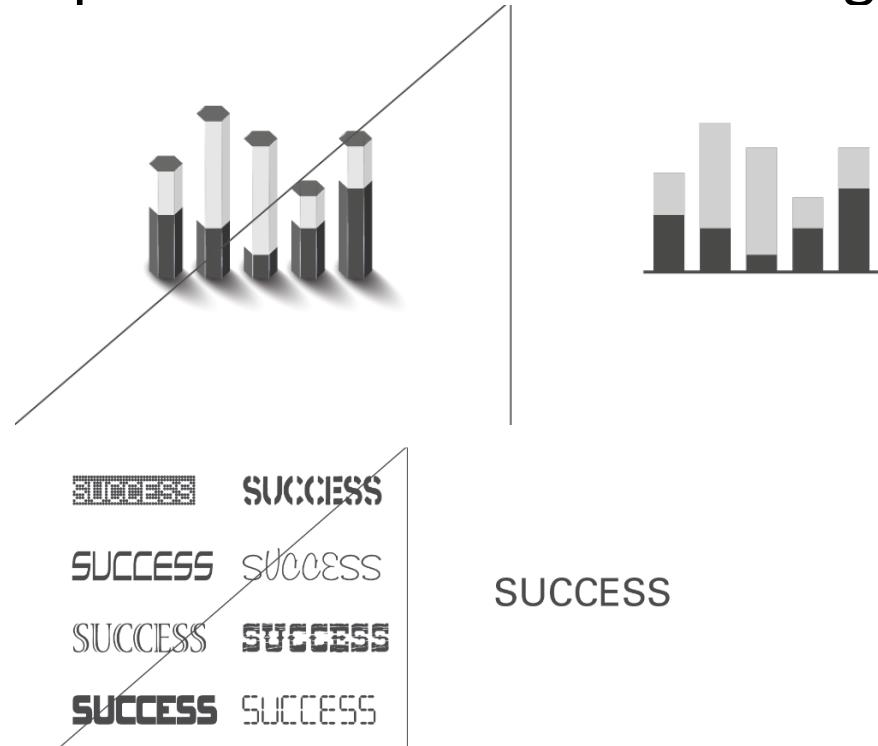
IBCS- Simplify: Avoid clutter

Avoid all unnecessary and decorative components in reports, presentations and dashboards.

- SI2 Avoid decorative styles
 - SI2.1 Avoid frames, shades, and pseudo-3D without meaning
 - SI2.2 Avoid decorative colors



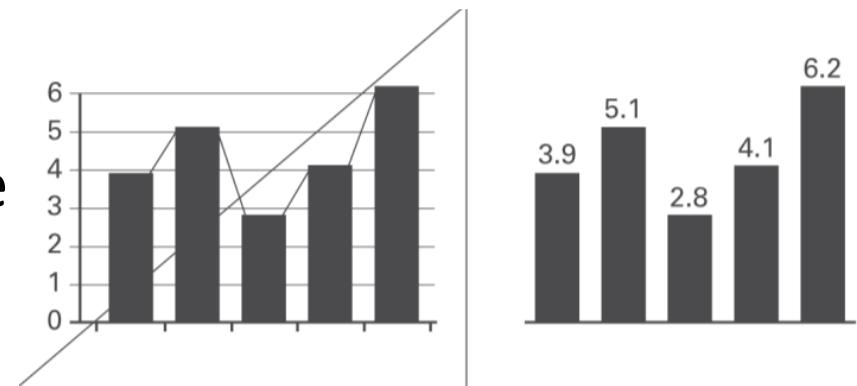
- SI2.3 Avoid decorative fonts



IBCS- Simplify: Avoid clutter

Avoid all unnecessary and decorative components in reports, presentations and dashboards.

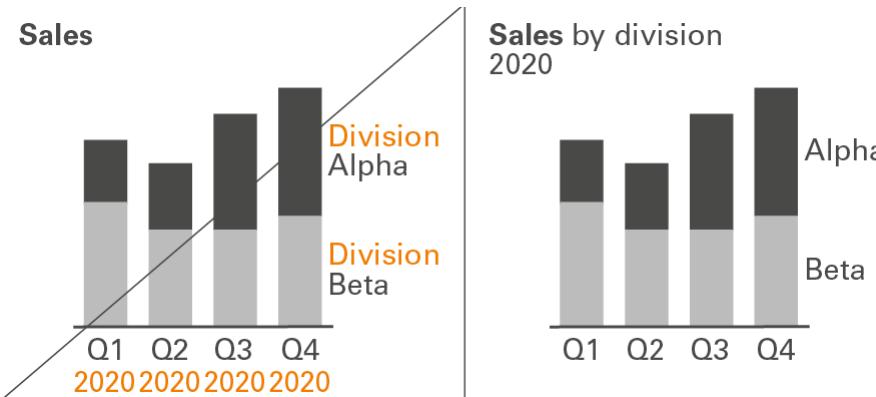
- SI3 Replace with cleaner layout
 - SI3.1 Replace grid lines and value axes with data labels
 - SI3.2 Avoid vertical lines by right-align data



IBCS- Simplify: Avoid clutter

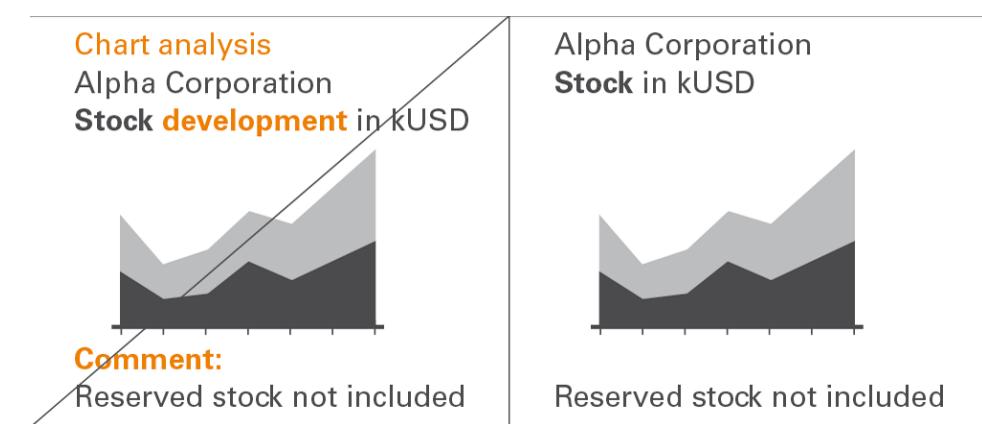
Avoid all unnecessary and decorative components in reports, presentations and dashboards.

- SI4 Avoid redundancies
 - SI4.1 Avoid superfluous extra words
 - SI4.2 Avoid obvious terms
 - SI4.3 Avoid repeated words



The table shows sales figures for different regions. A diagonal line from the top-left to the bottom-right is crossed out. The 'Full year 2020' column header is also crossed out.

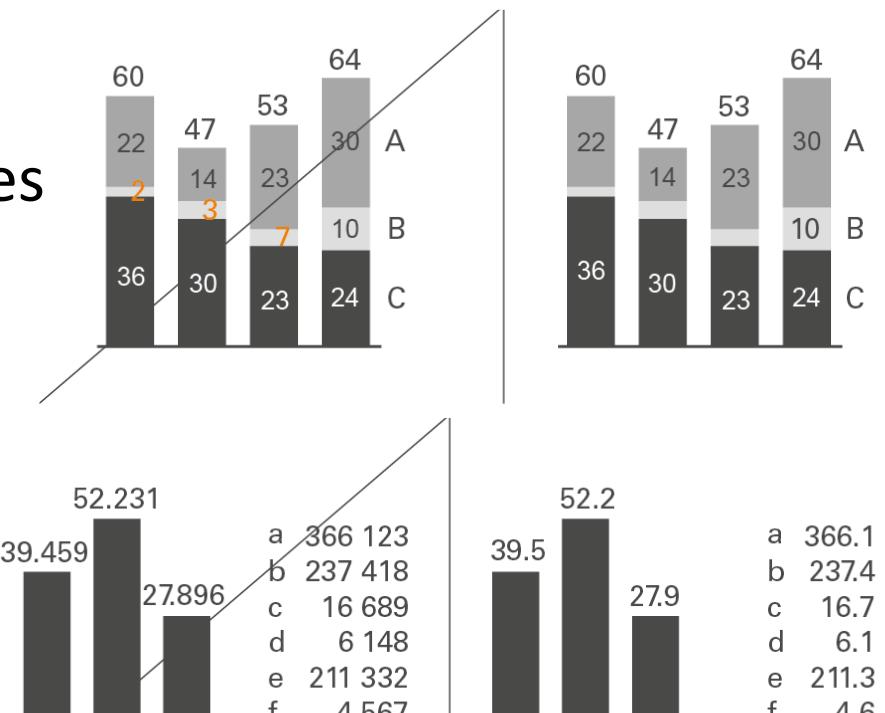
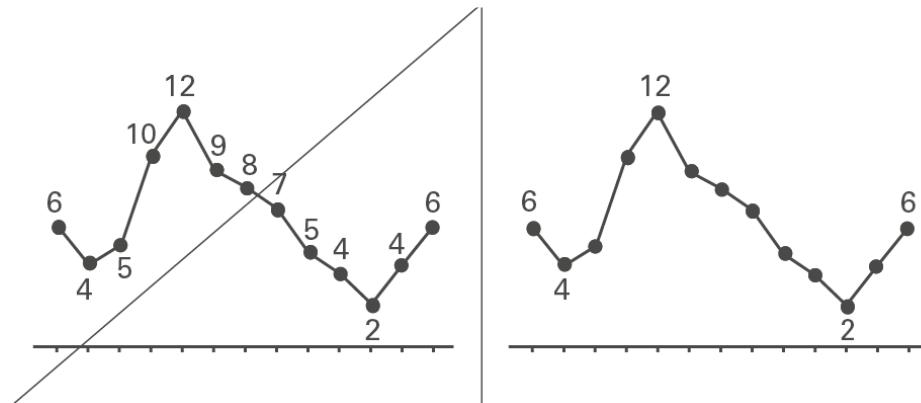
	Sales in kEUR
Germany	788
France	34
Italy	122
Other countries	345
Sum of Europe	1 289
Full year 2020	



IBCS- Simplify: Avoid clutter

Avoid all unnecessary and decorative components in reports, presentations and dashboards.

- SI5 Avoid distracting details
 - SI5.1 Avoid labels for small values
 - SI5.2 Avoid long numbers
 - SI5.3 Avoid unnecessary labels



IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

- ST1 Use consistent elements
 - ST1.1 Use consistent items
 - ST1.2 Use consistent types of statements
 - ST1.3 Use consistent wording

Activities

- + Sell division A
- + **Restructuring of** division B
- + Split division C
- + Improve division D

Activities

- + Sell division A
- + **Restructure** division B
- + Split division C
- + Improve division D



Objectives

- + Improve quality
- + Reduce costs
- + **We have** delays
- + Reduce price

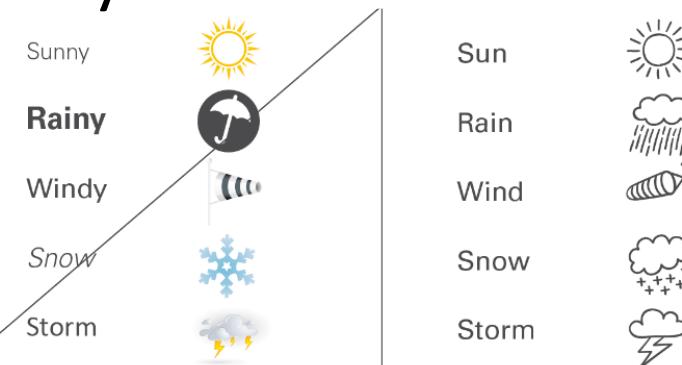
Objectives

- + Improve quality
- + Reduce costs
- + **Avoid** delays
- + Reduce price

IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

- ST1.4 Use consistent visualizations
- ST2 Build non-overlapping elements
 - ST2.1 Build non-overlapping report structures



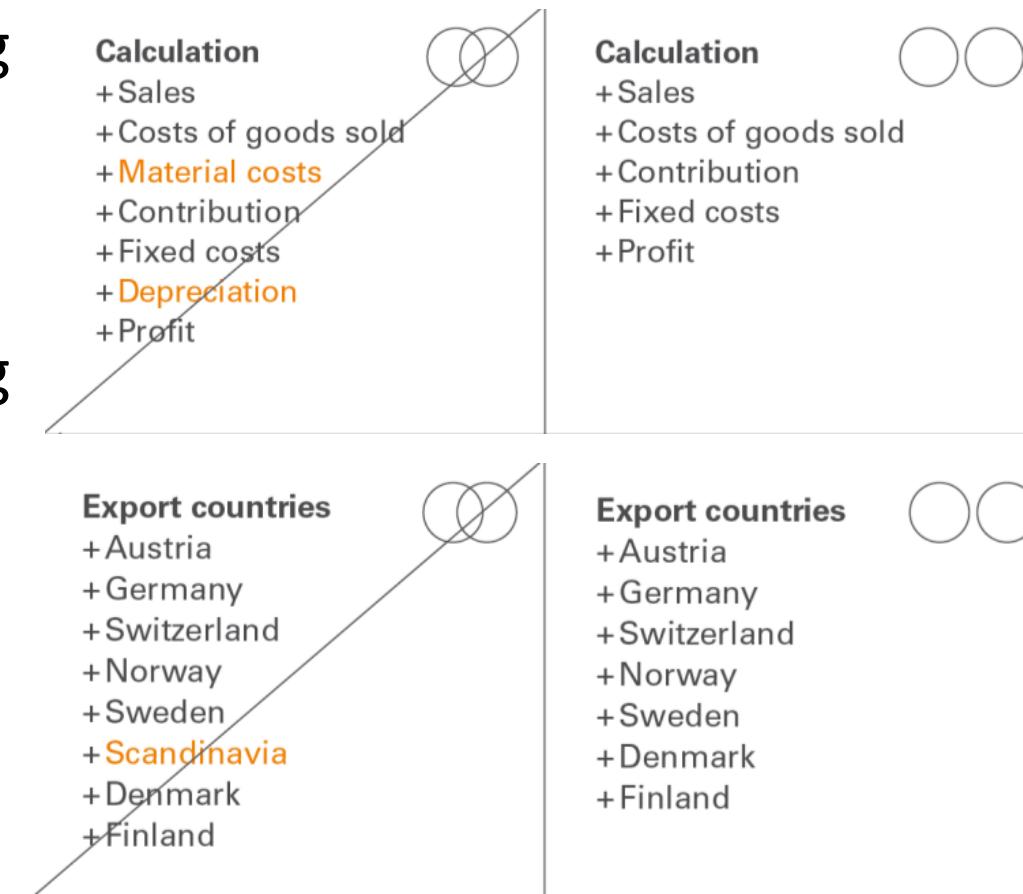
Project Beta	
+ Name	+ Steps
+ Objective	+ Schedule
+ Manager	+ Costs
+ Team	+ Milestones
+ Results	+ Calendar
+ Expenses	+ Achievements

Project Beta	
+ Name	
+ Manager	
+ Team	
+ Results	
+ Schedule	
+ Costs	

IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

- ST2.2 Build non-overlapping business measures



IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

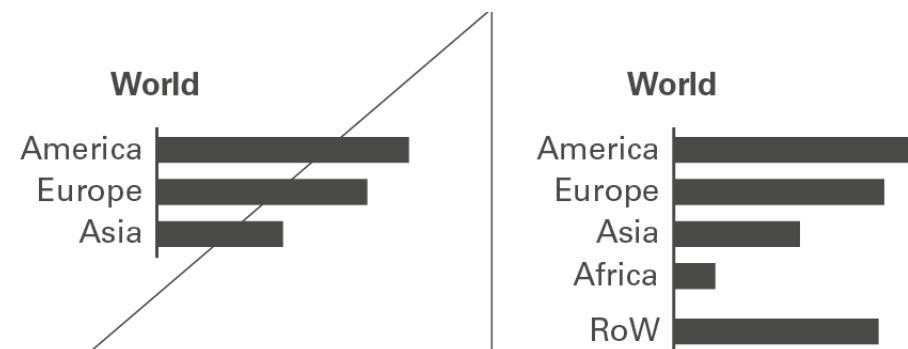
- ST3 Build collectively exhaustive elements
 - ST3.1 Build exhaustive arguments
 - ST3.2 Build exhaustive structures

We think of all options

- + New products, old location
- + Old products, old location
- + New products, new location

We think of all options

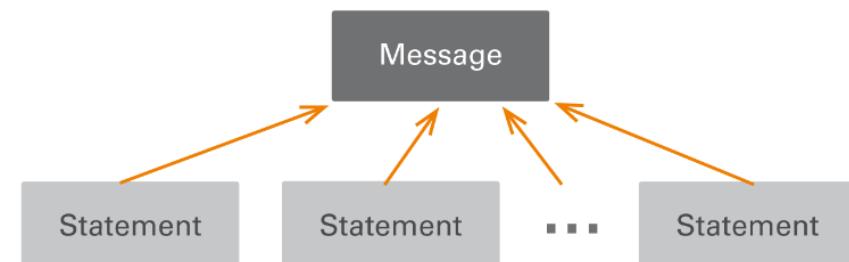
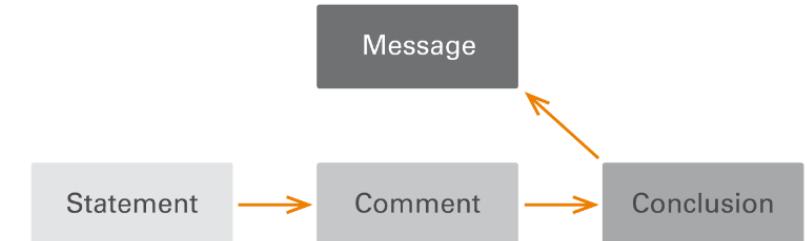
- + New products, old location
- + Old products, old location
- + New products, new location
- + Old products, new location



IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

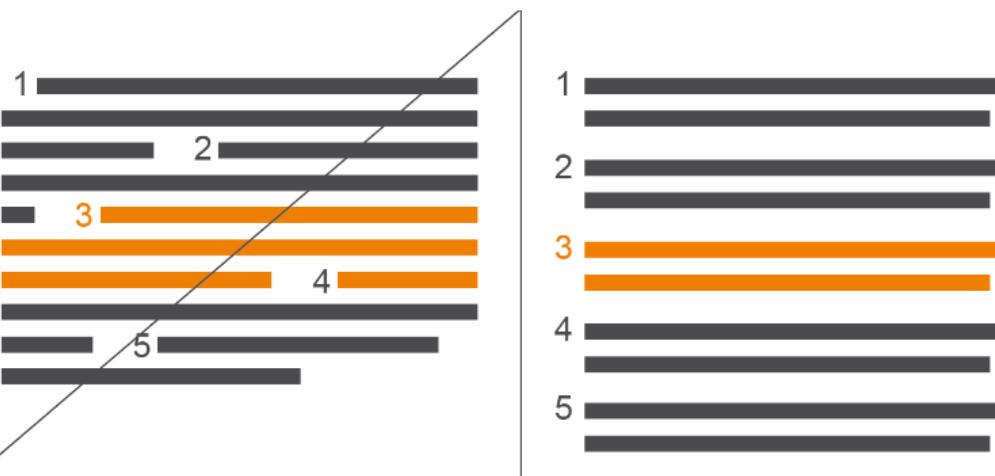
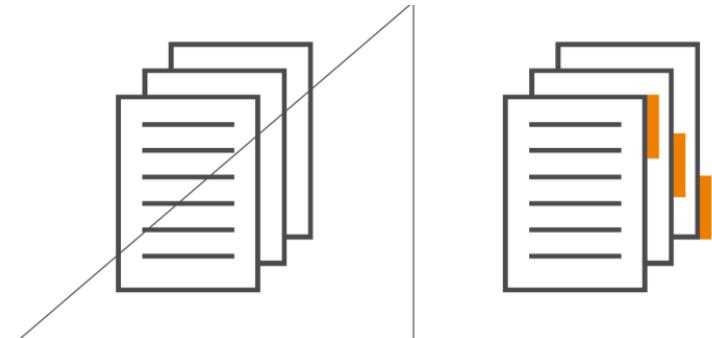
- ST4 Build hierarchical structures
 - ST4.1 Use deductive reasoning
 - ST4.2 use inductive reasoning



IBCS- Structure: Organize Content

Reports, presentations and dashboards follow a logical structure forming a convincing storyline.

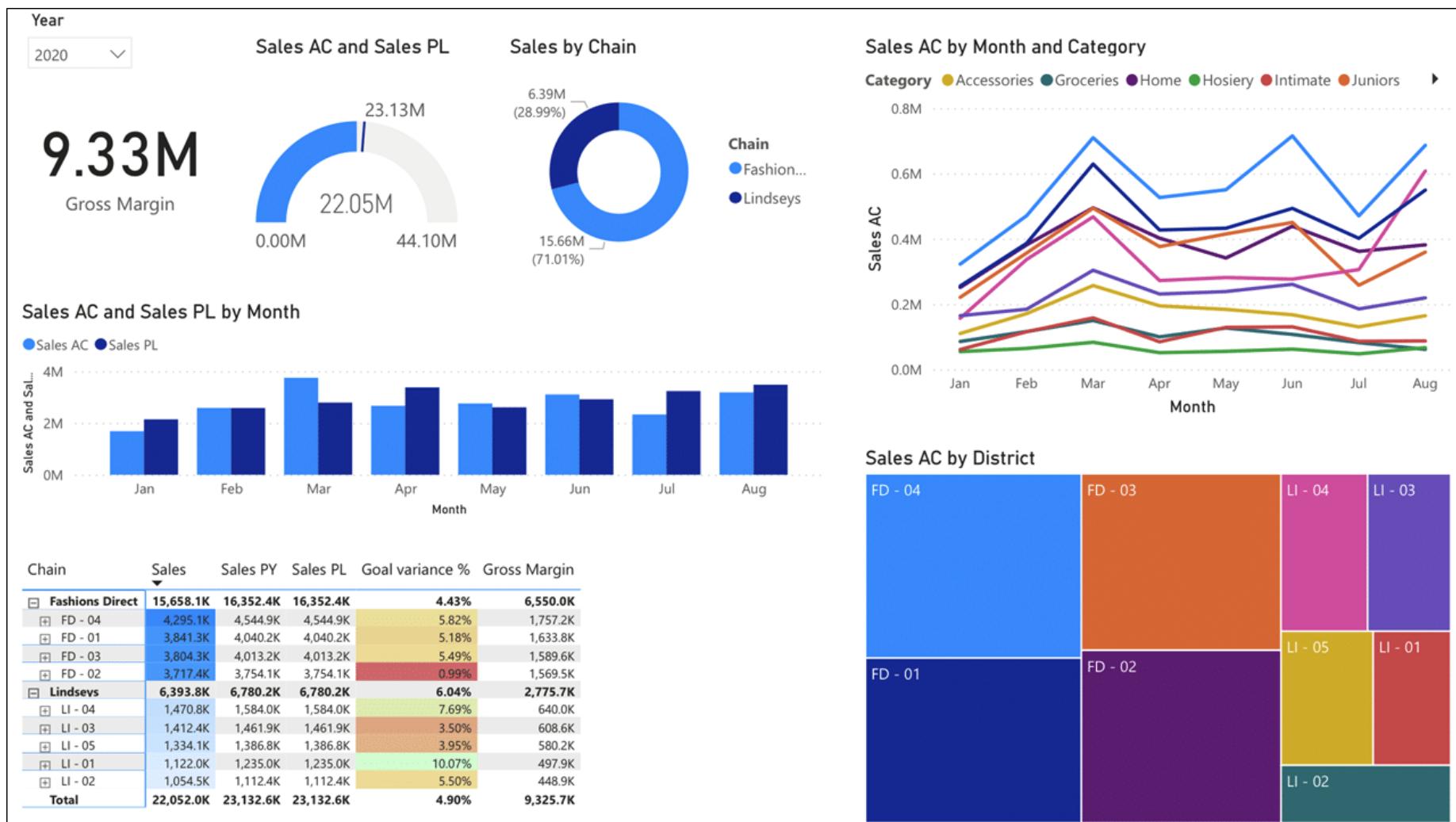
- ST5 Visualize structure
 - ST5.1 Visualize structure in reports
 - ST5.2 Visualize structure in tables
 - ST5.3 Visualize structure in notes



	J	F	M	Q1
Hamburg	12	11	9	32
Berlin	19	16	14	49
North	31	27	23	81
Munich	16	14	15	45
Stuttgart	23	20	21	64
South	39	34	36	109
Germany	70	61	59	190

	J	F	M	Q1
Hamburg	12	11	9	32
Berlin	19	16	14	49
North	31	27	23	81
Munich	16	14	15	45
Stuttgart	23	20	21	64
South	39	34	36	109
Germany	70	61	59	190

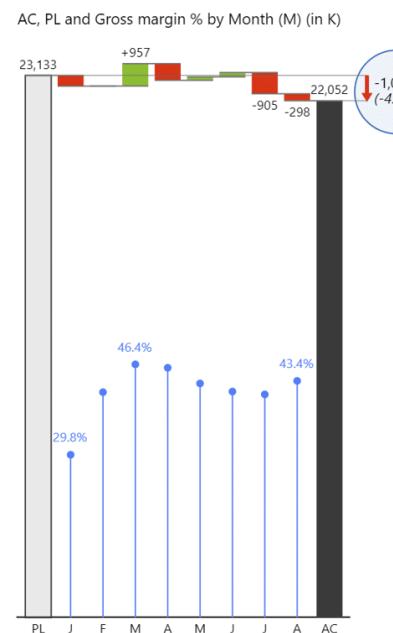
IBCS- How we do apply it? An example (Source: ZebraBI)



IBCS- How we do apply it? An example (Source: ZebraBI)

Alpha corp.
Sales and GM in kUSD
Aug YTD 2020 ✓

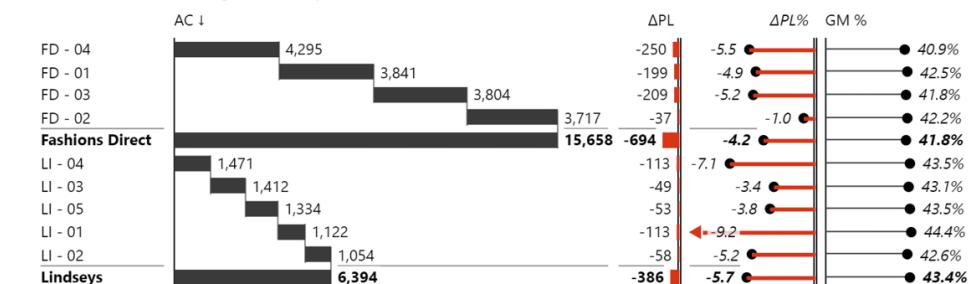
	AC	PL	ΔPL	ΔPL%
Sales	22,052	23,133	-1,081	-4.7%
Gross margin	9,326	9,643	-317	-3.3%
GM %	42.3%	41.7%	+0.6pp	+7.4%



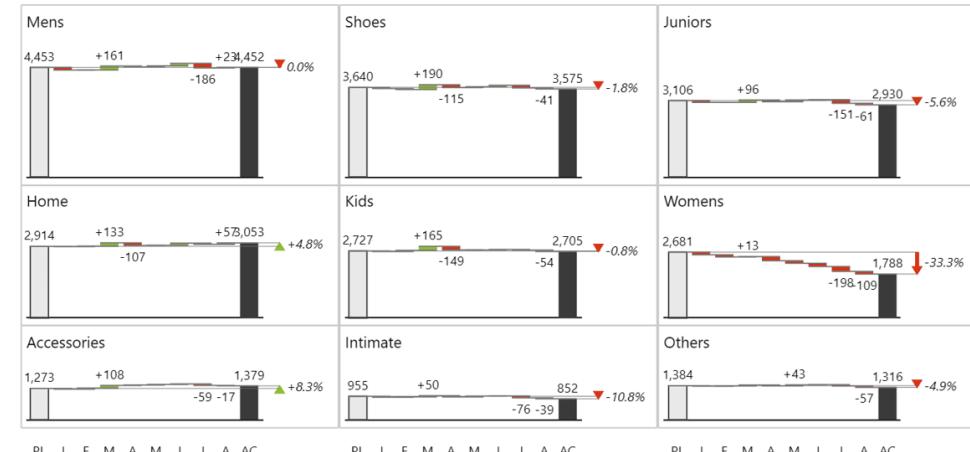
Sales ▼-1,081 kUSD below plan (-4.7%)

III zebra bi

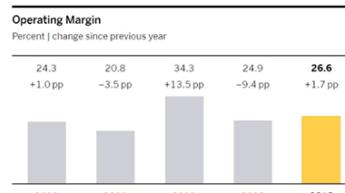
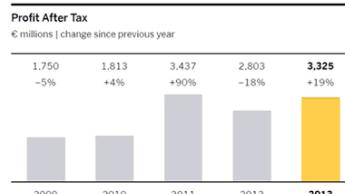
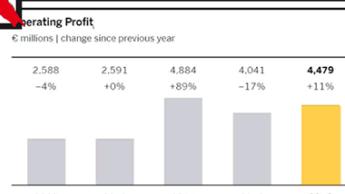
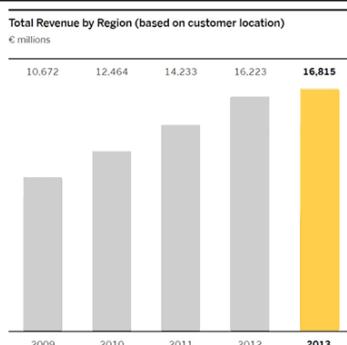
Sales AC, PL (in K), Gross margin % (in %) by Chain, District



AC and PL by Category, Month (M) (in K)



IBCS- How we do apply it? An example (Source: IBCS)



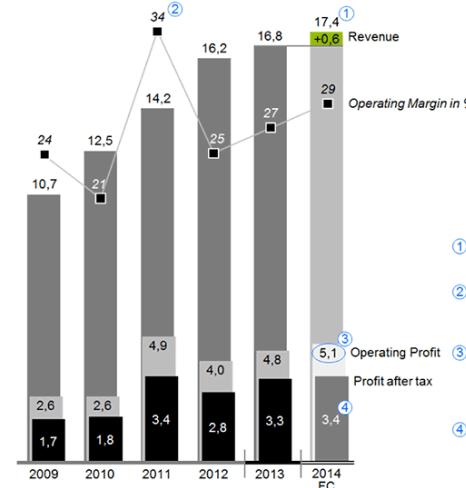
SAP AR 2013 pages 94ff

We expect a revenue increase of bEUR 0,6 in 2014 mainly due to the acquisition of Alpha. This will lead to an operating profit of bEUR 5,1



acquisition

SAP AG
Revenue, Operating Profit and Profit after Tax in bEUR
Operating Margin in %
2009..2013



① Revenue 2014: The growth of bEUR 0,6 is due to the acquisition of Alpha.

② Operating Margin 2011: Again, aenean commodo ligula eget dolor. Aenean massa. Cum sociis bEUR 0,1 natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus.

③ Operating Profit 2014: Compared to donec quam felis, ultricies nec, pellentesque eu, pretium bEUR 0,3 quis, sem. Nulla consequat massa quis enim. Donec pede justo, fringilla vel, aliquet nec, vulputate eget, arcu. lo af

④ Profit after tax 2014: Because of bEUR 2,3 birur ullamcorper ultricies nisi. Nam eget dui. Etiam rhoncus. Maecenas tempus, tellus eget cond

Caution: Data of 2014 are made up for demonstration purposes

IBCS- How we do apply it? An example (Source: IBCS)

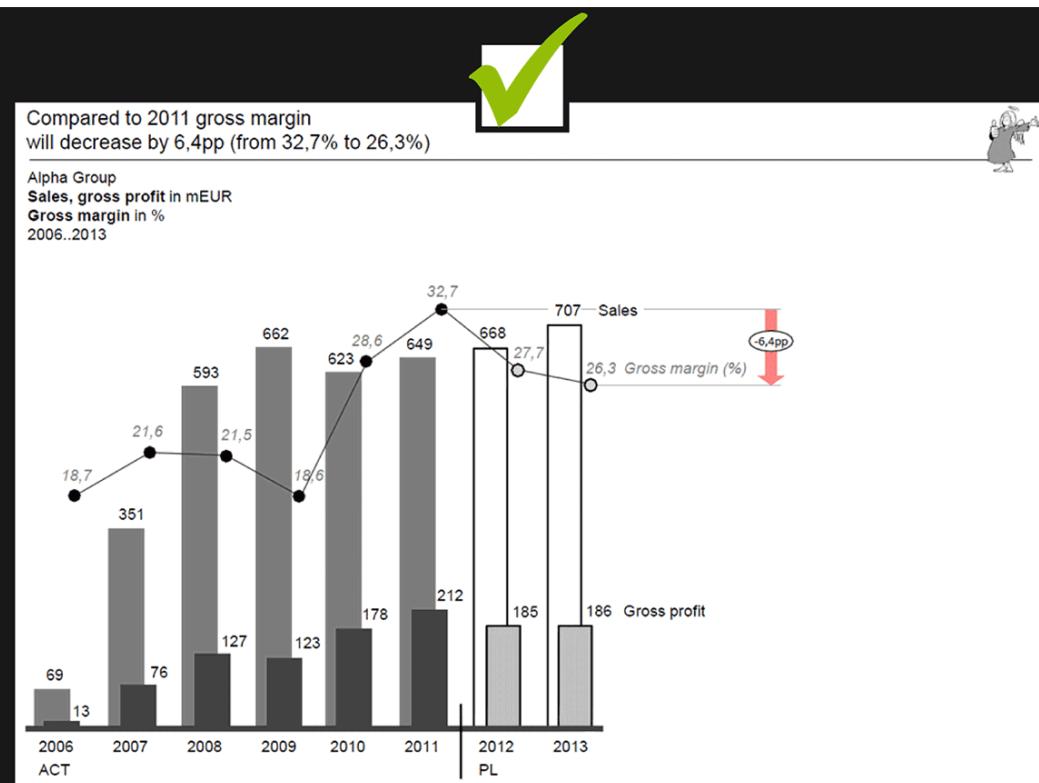
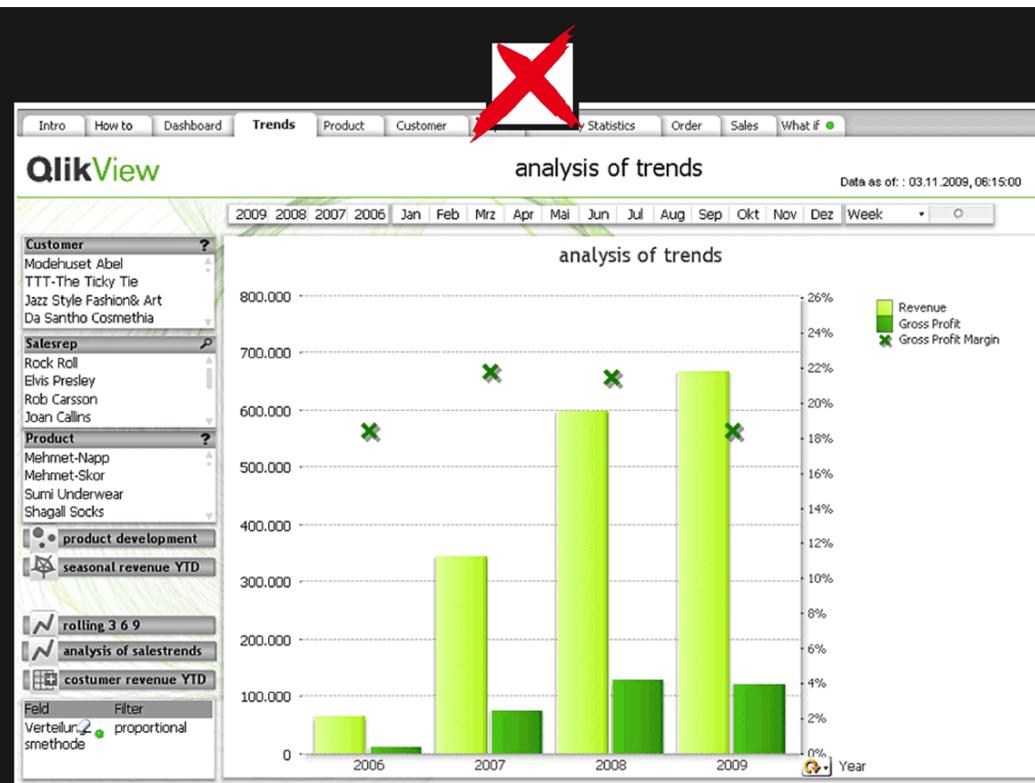


Total Result		6,738,734.78 €	6,665,225.07 €
▼ 10	Americas	1,902,453.40 €	1,854,604.14 €
► 1	United States	1,010,268.15 €	1,051,664.96 €
► 2	Canada	447,983.74 €	437,579.29 €
► 3	Mexico	77,521.00 €	
► 4	Columbia	297,021.84 €	301,593.07 €
► 5	Argentina	69,658.67 €	63,766.82 €
▼ 11	Europe	3,177,731.45 €	3,113,743.11 €
► 1	United Kingdom	627,810.75 €	597,254.99 €
► 2	Ireland	-10,879.34 €	43,885.82 €
► 11	Germany	1,619,139.28 €	1,526,285.05 €
► 20	Spain	62,801.15 €	59,425.35 €
► 21	Poland	784,520.19 €	842,321.40 €
► 24	Switzerland	72,700.00 €	69,506.96 €
► 25	Netherlands	21,639.42 €	-24,936.46 €
▼ 16	Asia-Pacific	1,446,992.86 €	1,425,083.69 €



	AC	BU	ΔBU	ΔBU%
United States	1.010	1.052	-41	-4%
Canada	448	438	+10	+2%
Mexico	78	0	+78	∞
Columbia	297	302	-5	-2%
Argentina	70	64	+6	+9%
Americas	1.902	1.855	+48	+3%
United Kingdom	628	597	+31	+5%
Ireland	-11	44	-55	-125%
Germany	1.619	1.526	+93	+6%
Spain	63	59	+3	+6%
Poland	785	842	-58	-7%
Switzerland	73	70	+3	+5%
Netherlands	22	-25	+47	+187%
Europe	3.178	3.114	+64	+2%

IBCS- How we do apply it? An example (Source: IBCS)



Summary

IBCS-standards for clear, consistent and actionable business communication using charts, tables and reports.
Enhances clarity, comparability and efficiency.

Why?

Better decision-making through standard and interpretable visuals.
Minimizes misinterpretation through consistent interfaces.

Applications

Financial reports, dashboards, operational KPIs, etc.
Compatible with tools like PowerBI, Excel, Qlik, SAP Analytics,...