

Cockpits for Managers – why they hardly understand their Reports

Rolf Hichert, Kreuzlingen

International Conference on "Visualising and Presenting Indicator Systems"
14 - 16 March 2005
Swiss Federal Statistical Office, Neuchâtel

Five Quality Criteria here are looked at

Bring Message first

Scale correctly

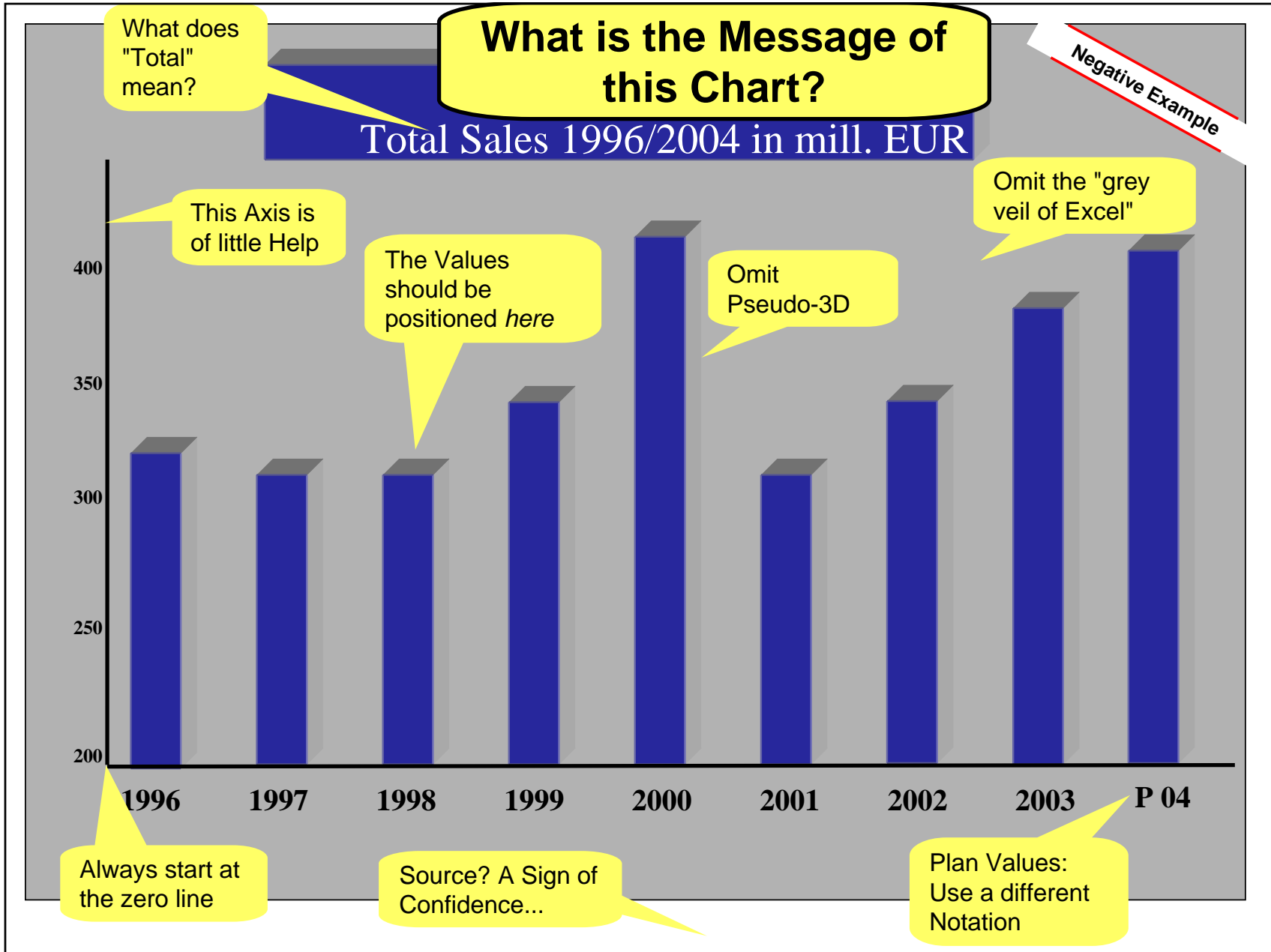
Use a Consistent Notation

Provide High Information Density

Reduce Noise and Redundancy

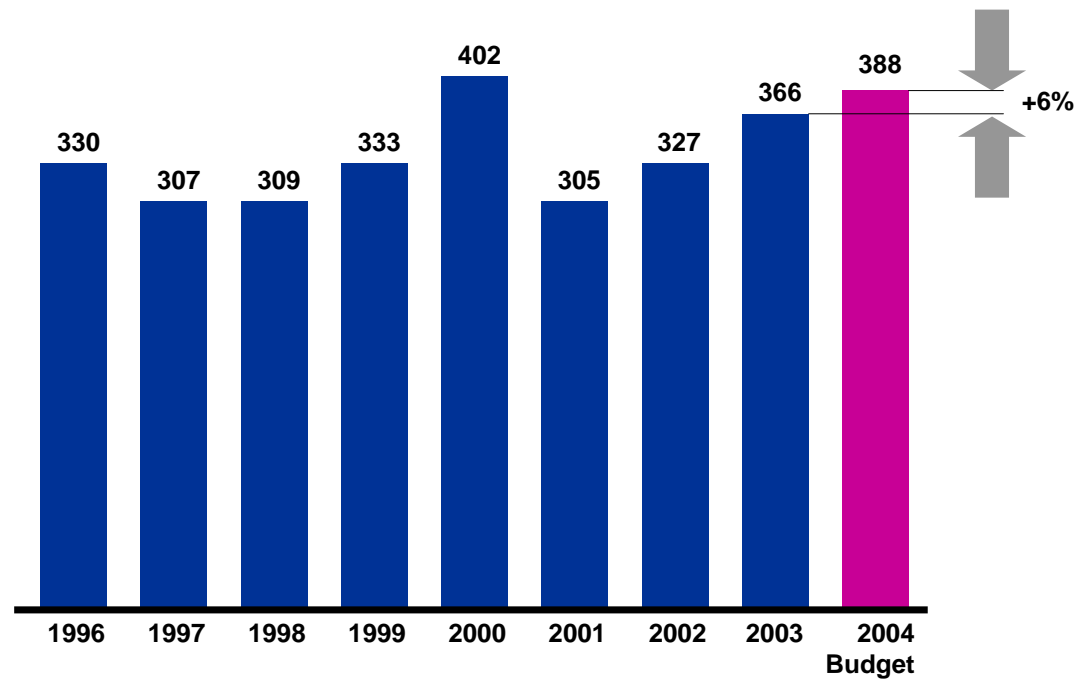
If we don't say what we want so say
nobody will understand us

Bring Message first



In 2004 we plan a Budget Increase of six Percent

AFG Division
Net Sales in mill. EUR
1996 - 2004



Source: Published Yearly Reports 1996 to 2003 (nominal) and Budget of Oct. 3, 2003

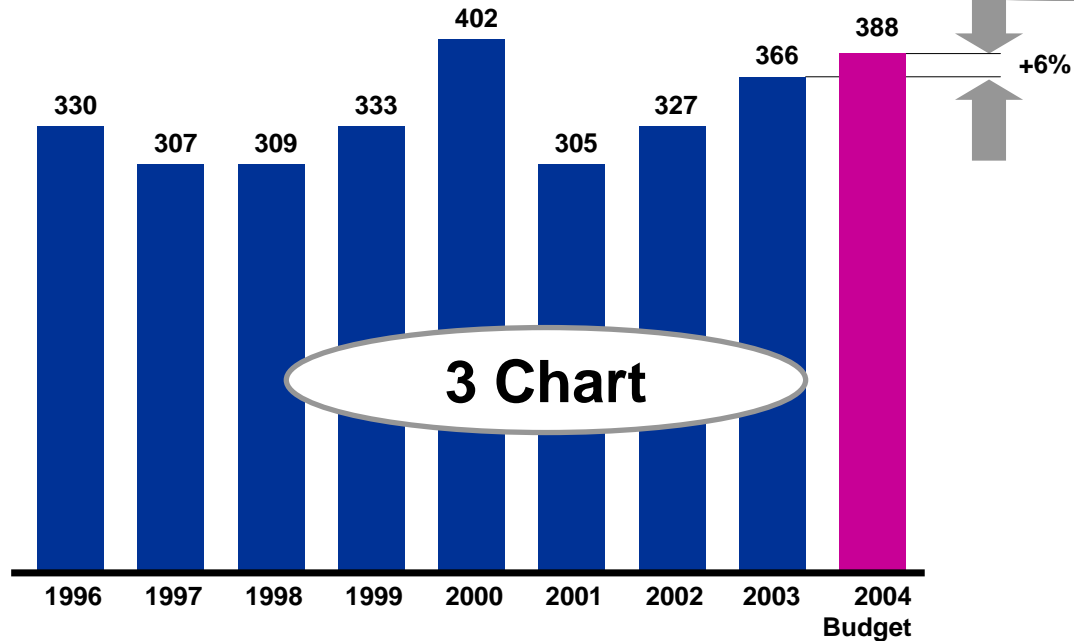
In 2004 we plan a Budget Increase
of six Percent

1 Message

AFG Division
Net Sales in mill. EUR
1996 - 2004

2 Title

5 Accentuation



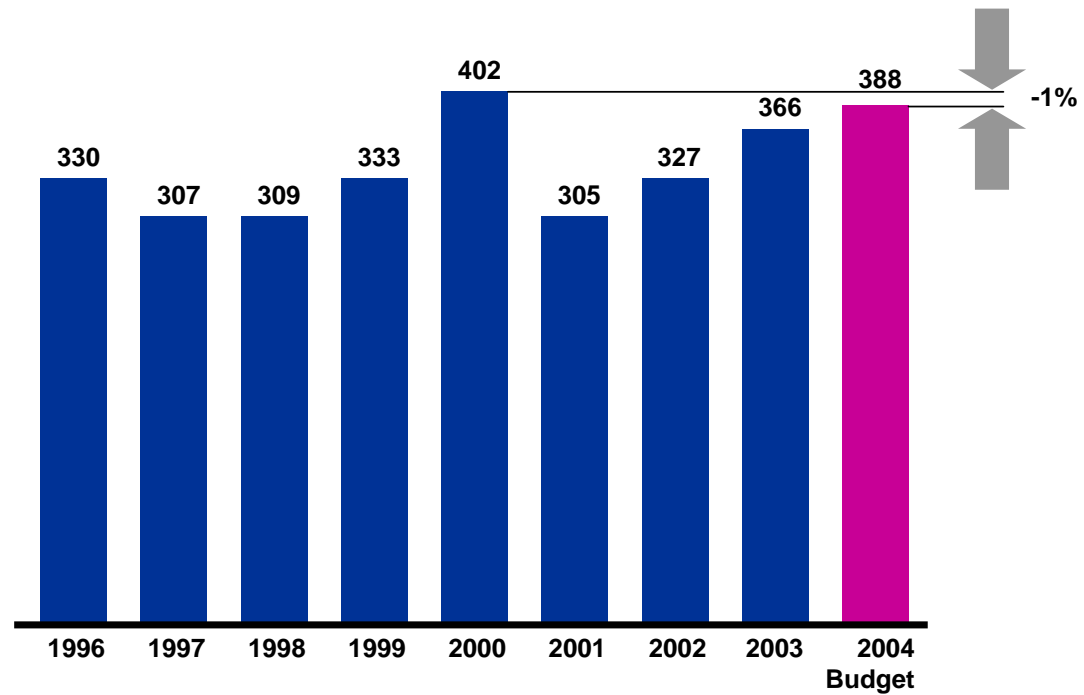
3 Chart

4 Foot Note

Source: Published Yearly Reports 1996 to 2003 (nominal) and Budget of Oct. 3, 2003

In 2004 our Budget will be one Percent lower than our Actuals of 2000

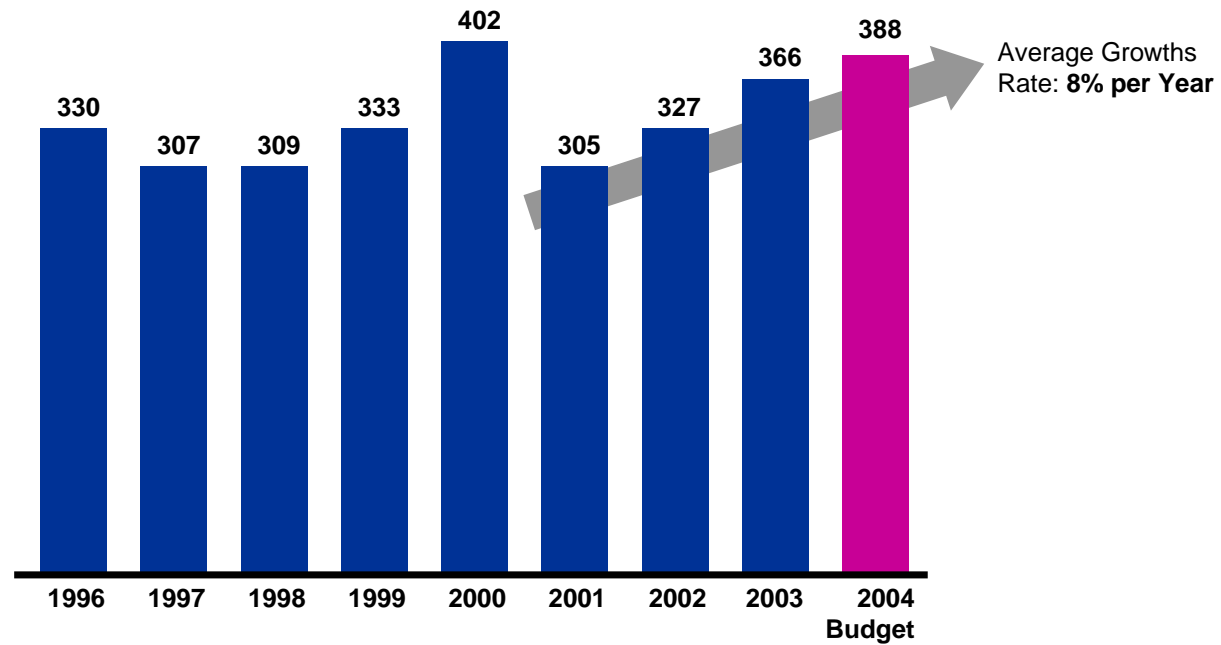
AFG Division
Net Sales in mill. EUR
1996 - 2004



Source: Published Yearly Reports 1996 to 2003 (nominal) and Budget of Oct. 3, 2003

Our average Growth Rate is eight Percent per Year

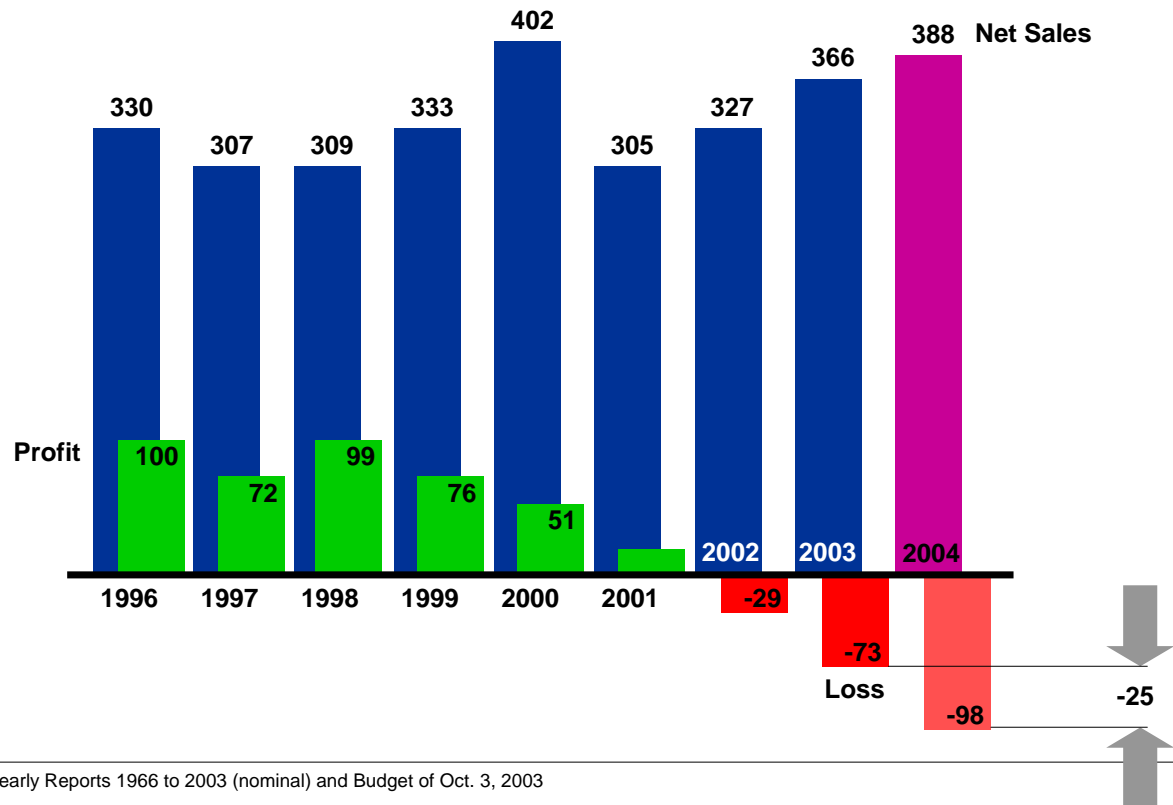
AFG Division
Net Sales in mill. EUR
1996 - 2004



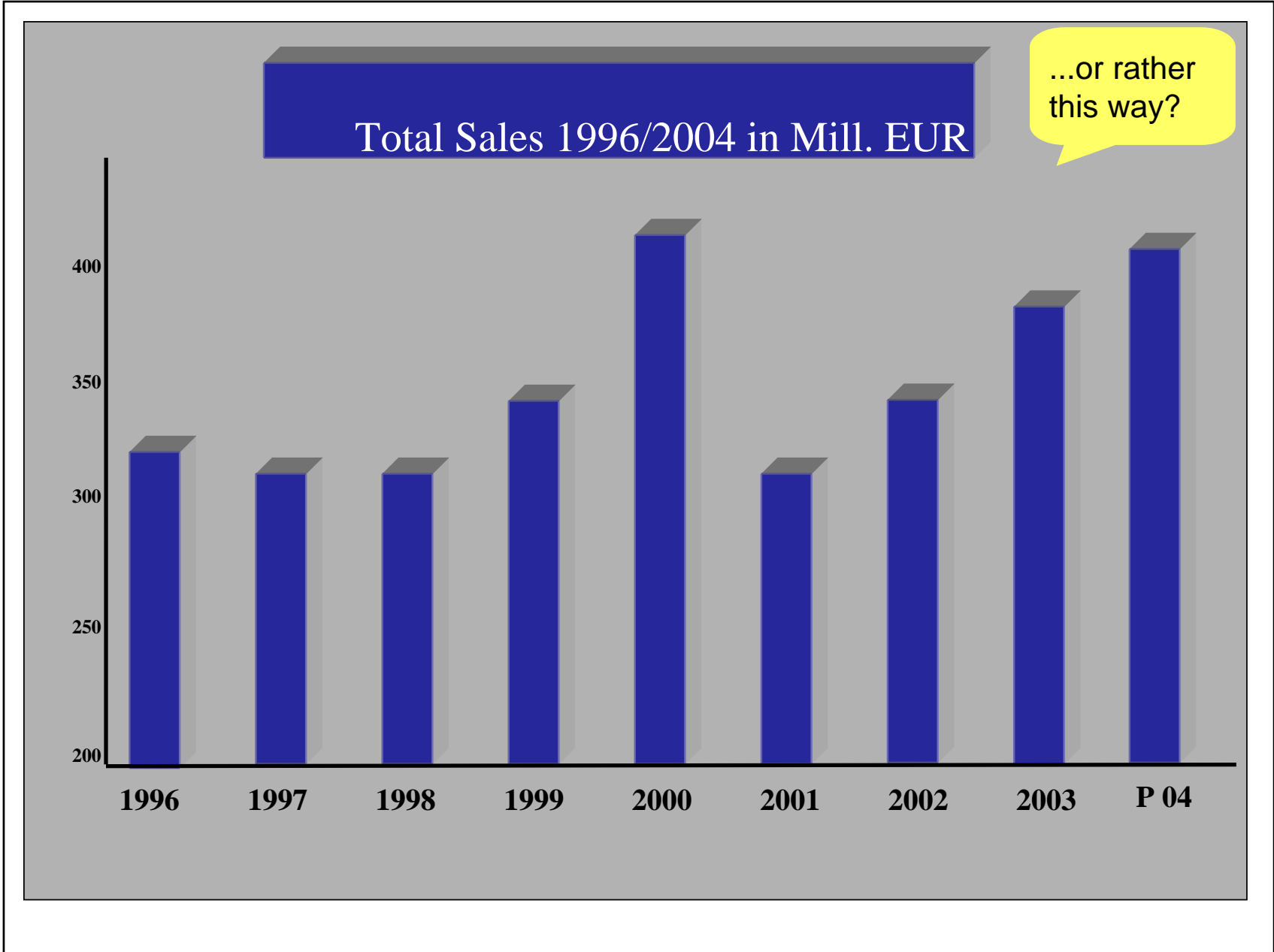
Source: Published Yearly Reports 1996 to 2003 (nominal) and Budget of Oct. 3, 2003

The 2004 Loss again will increase
by mill. 25 EUR

AFG Division
Net Sales, Profit and Loss in mill. EUR
1996 - 2004



Source: Published Yearly Reports 1996 to 2003 (nominal) and Budget of Oct. 3, 2003

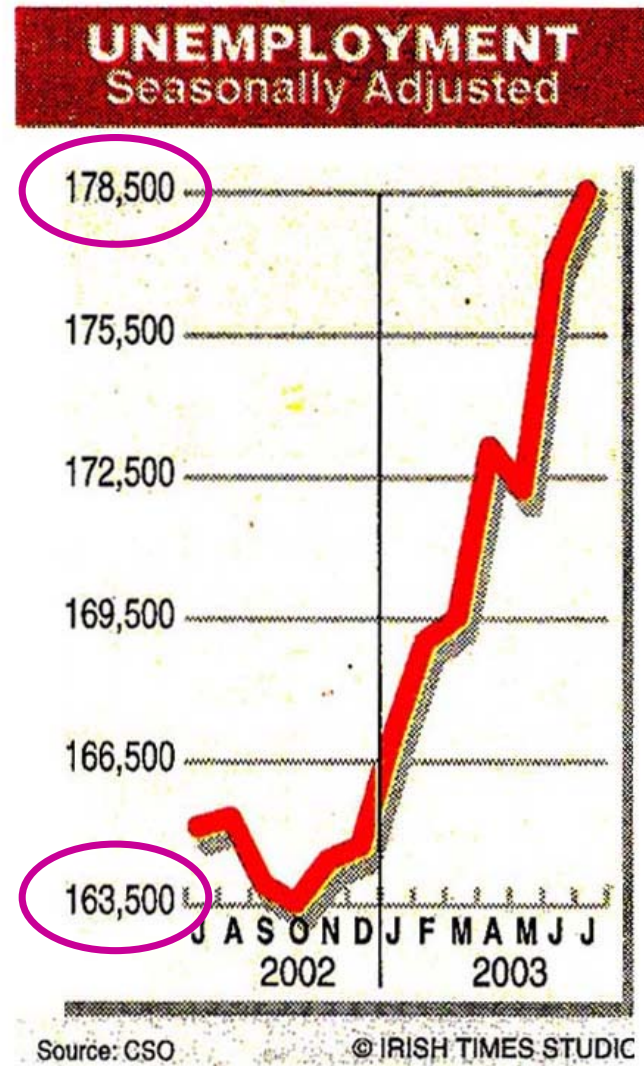


Incorrect Scaling produces
misleading Information

Scale correctly

Print and Online Media confront us with manipulated Display of Information

Example:
Daily Newspaper

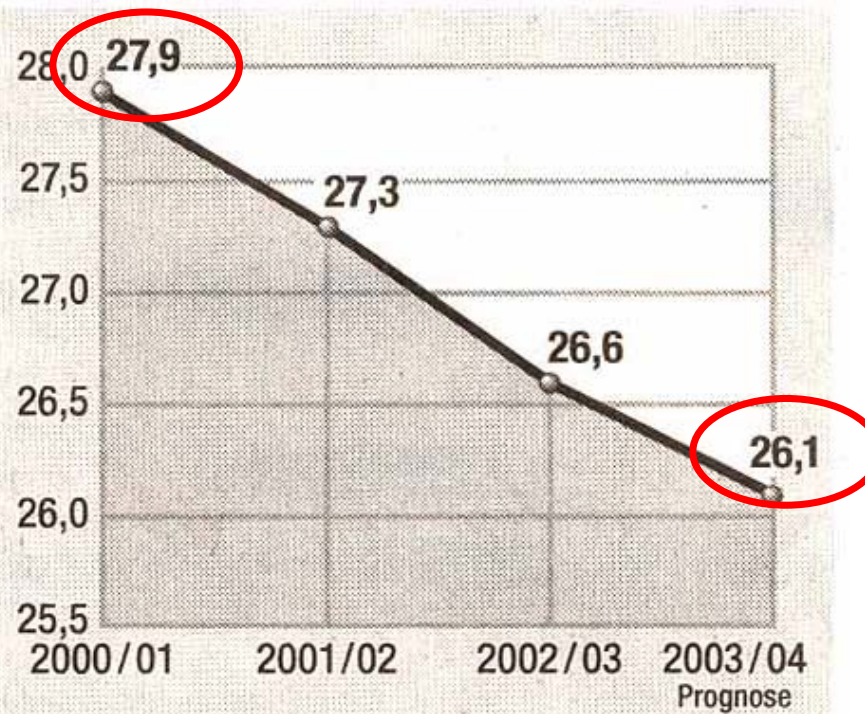


Source: Irish Times, August 4, 2003

"Less Passengers at British Airways"
Million Passengers per Fiscal Year

Passagierrückgang bei British Airways

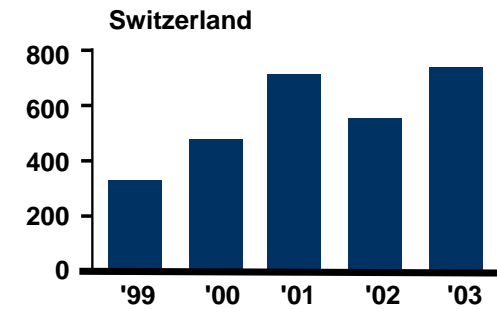
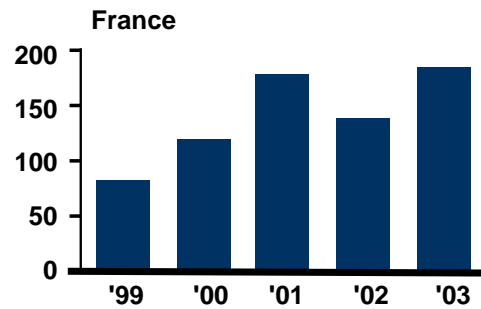
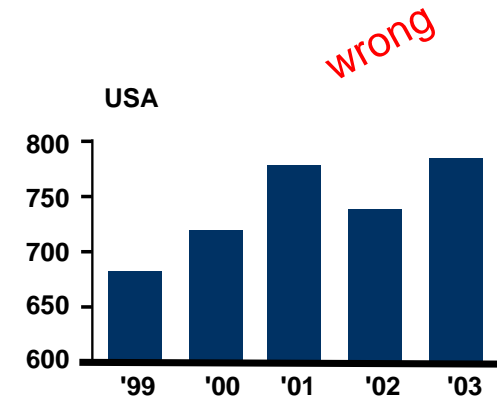
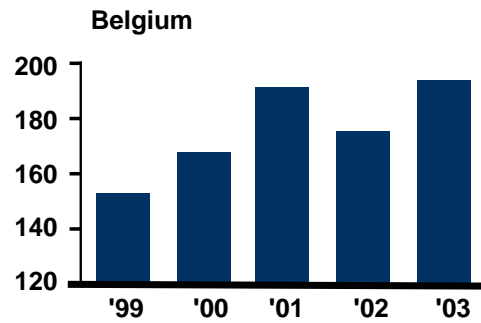
Millionen Fluggäste je Geschäftsjahr¹⁾



1) Passagiere auf Flugrouten in Großbritannien und Europa.
Quelle: British Airways
F.A.Z.-Grafik Brocker

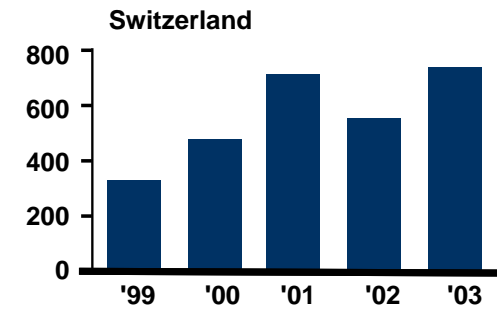
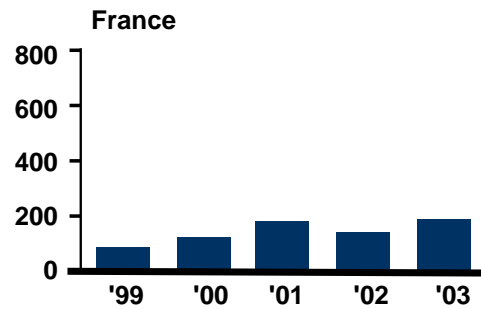
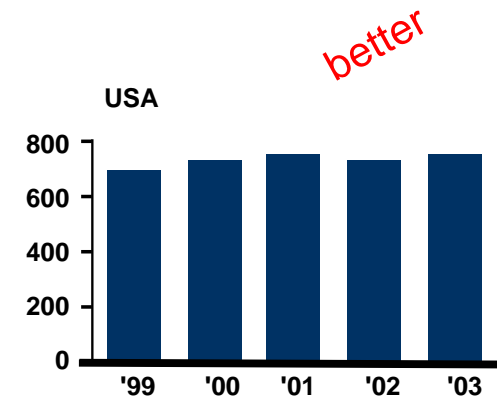
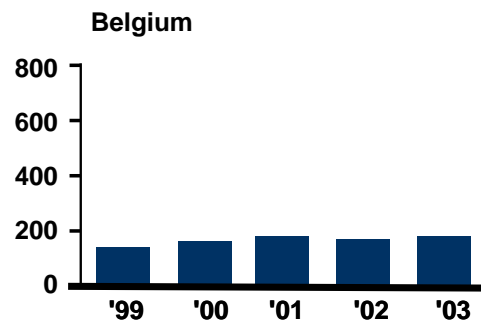
Nobody can understand Charts with wrong Scales

Net Sales
1999 to 2003
in mill. EUR



Nobody can understand Charts with wrong Scales

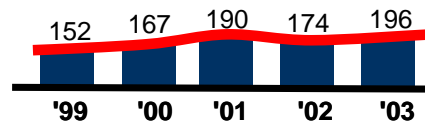
Net Sales
1999 to 2003
in mill. EUR



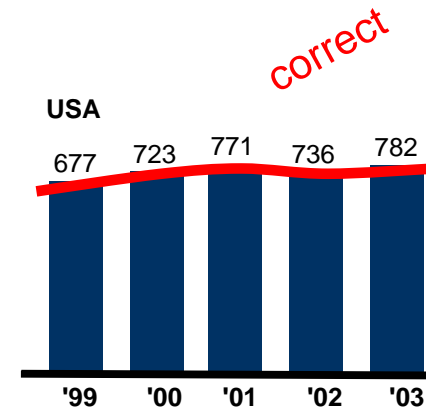
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Net Sales
1999 to 2003
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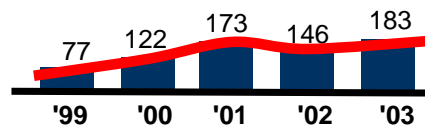
Belgium



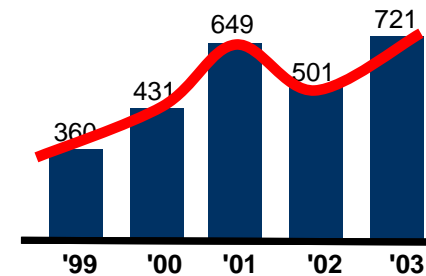
USA



France

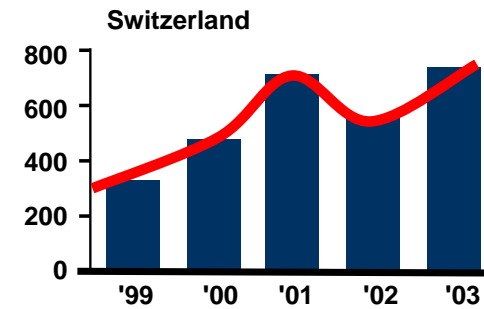
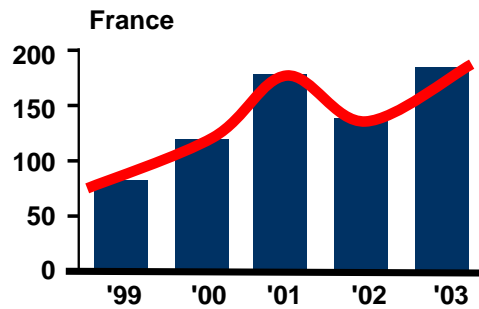
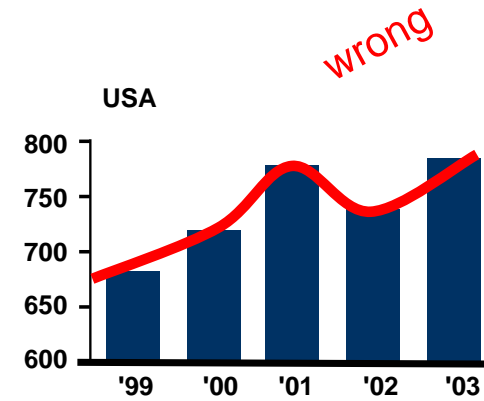
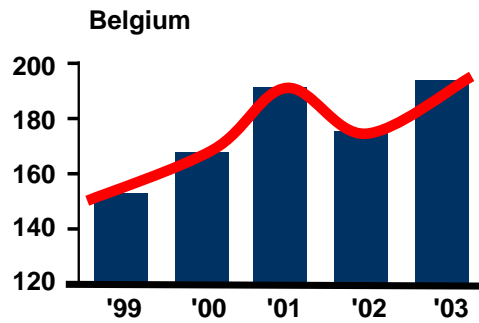


Switzerland



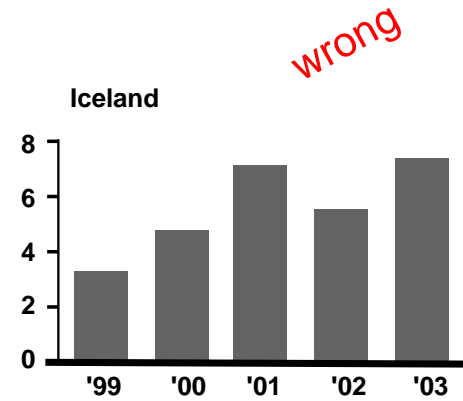
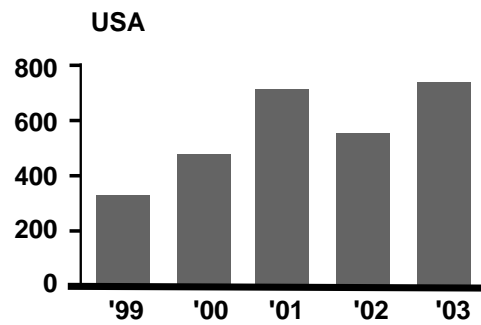
Nobody can understand Charts with wrong Scales

Net Sales
1999 to 2003
in mill. EUR



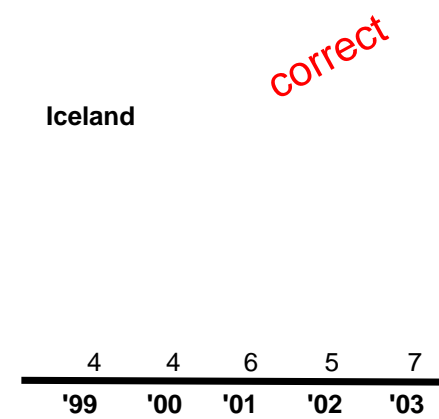
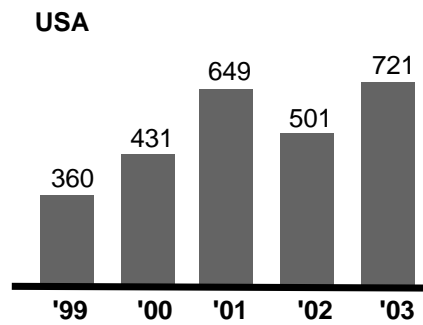
Nobody can understand Charts with wrong Scales

Net Sales
1999 to 2003
in mill. EUR



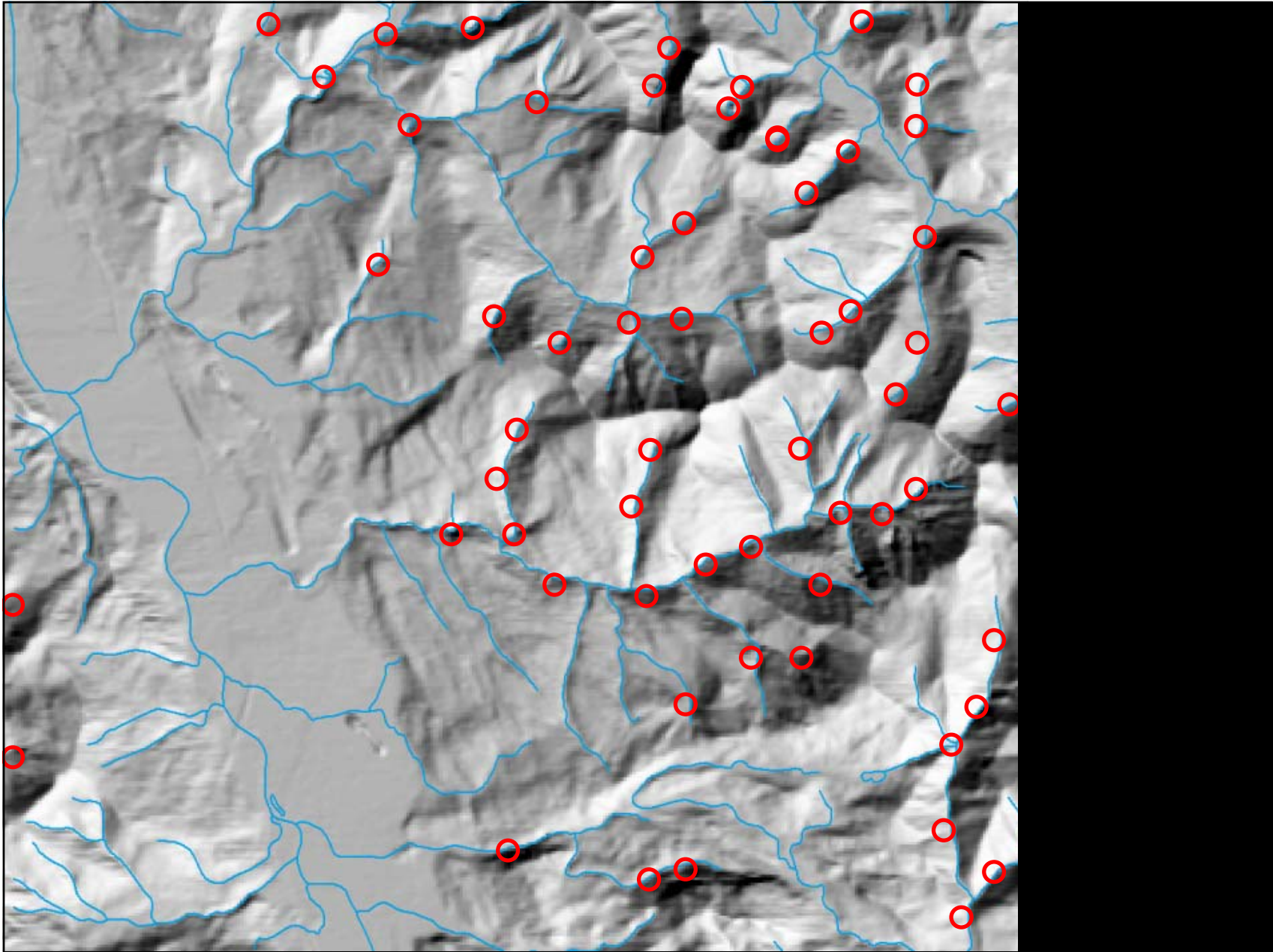
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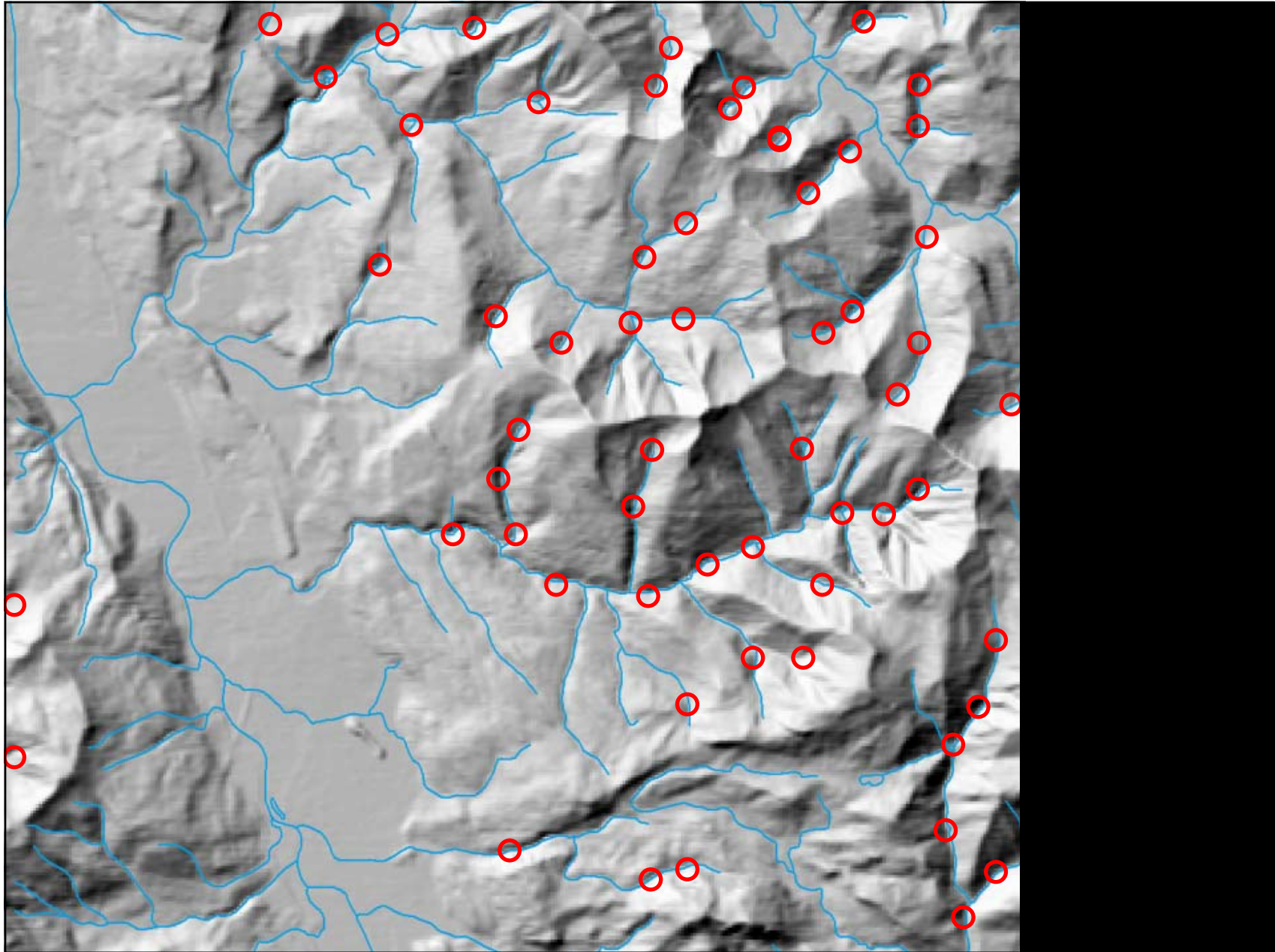
Net Sales
1999 to 2003
in mill. EUR



Like Road Maps our Management Reports should have
a comprehensible Legend

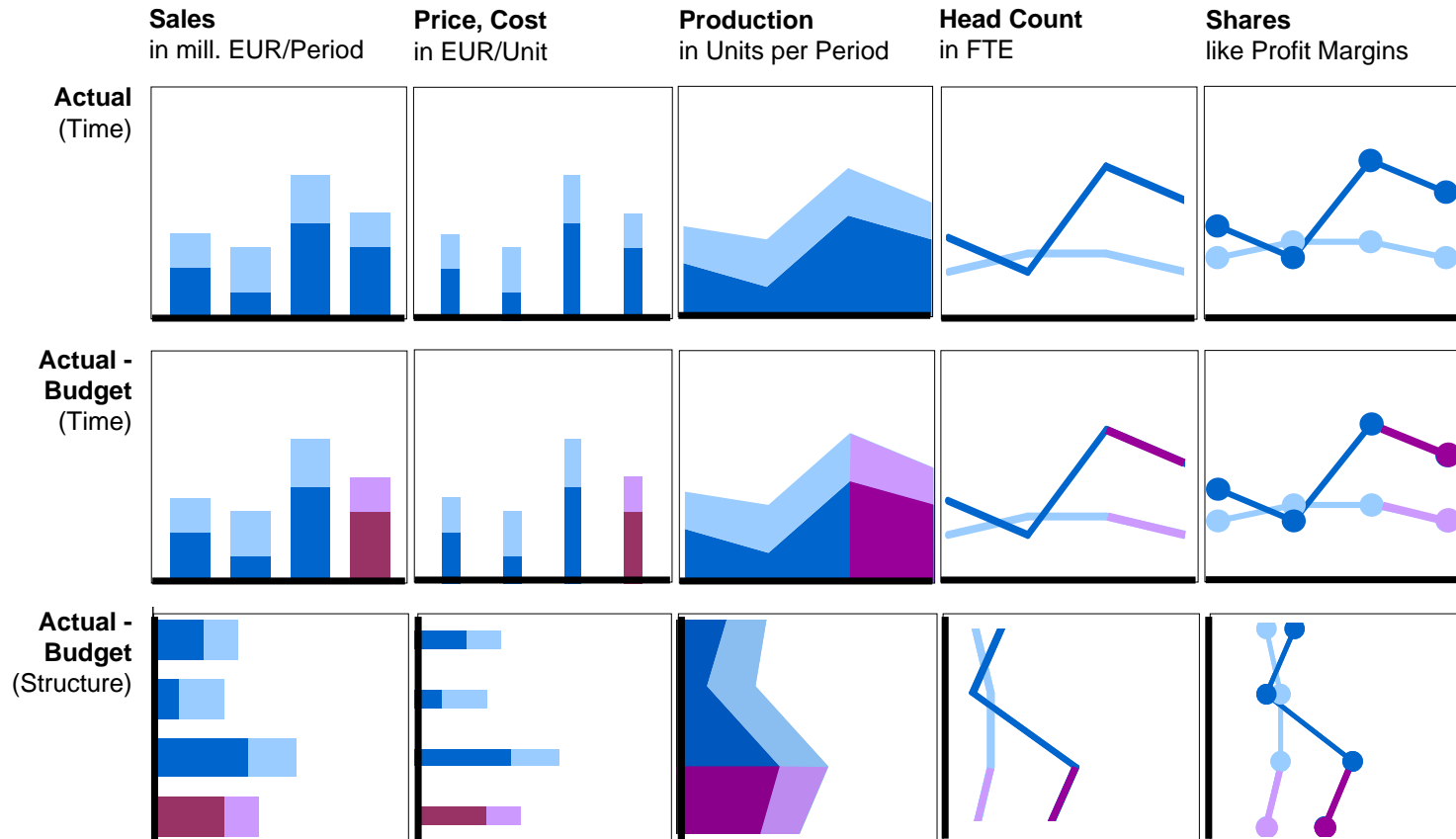
Use a consistent Notation





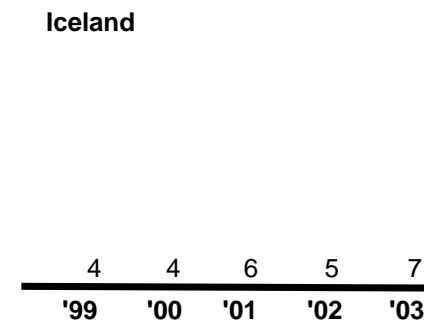
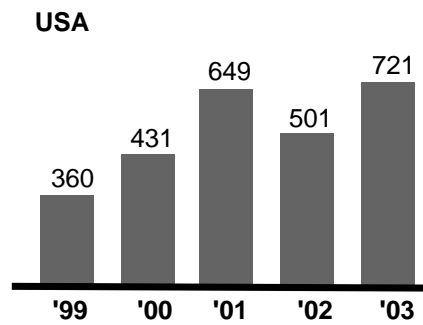
Like Road Maps Managers can only quickly comprehend the Information displayed if a consistent Notation has been used

Conceptual



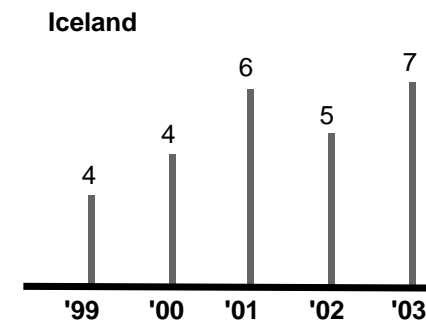
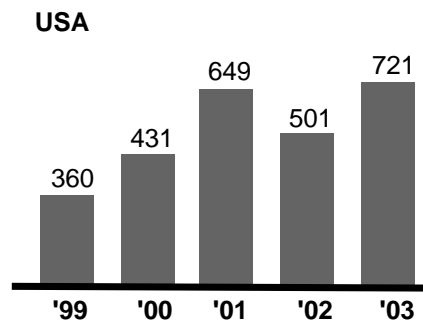
Only correct Scaling allows
quick and reliable Understanding

Net Sales
1999 to 2003
in mill. EUR



Different Scales must be made apparent

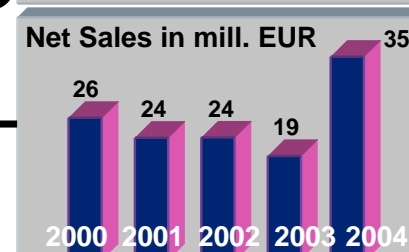
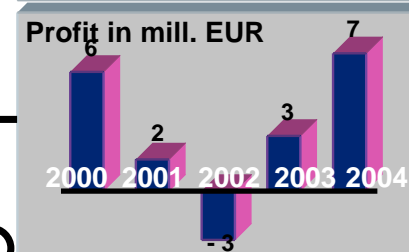
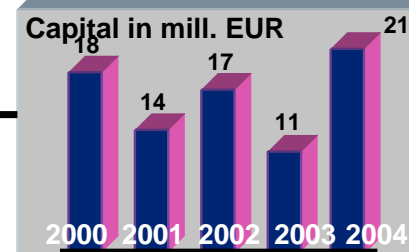
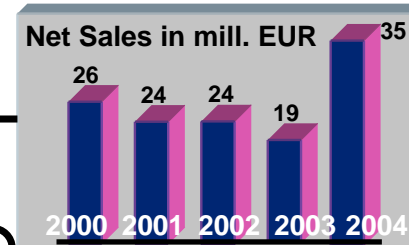
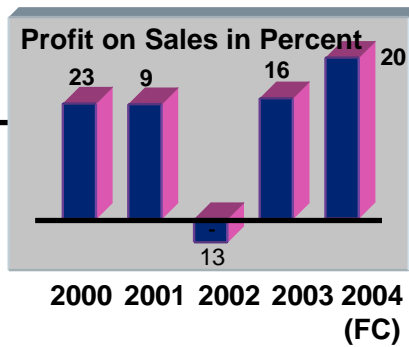
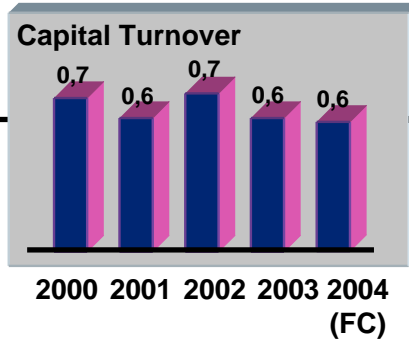
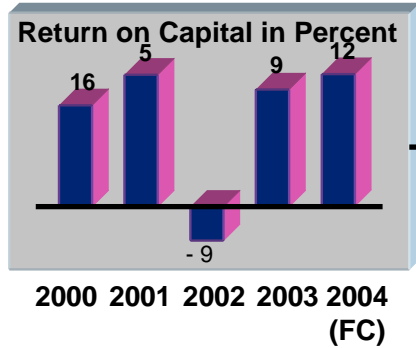
Net Sales
1999 to 2003
in mill. EUR



Different Scales must be made apparent

Potential for Improvement

ABC Corporation
ROI Tree
2000 to 2004 (Forecast)

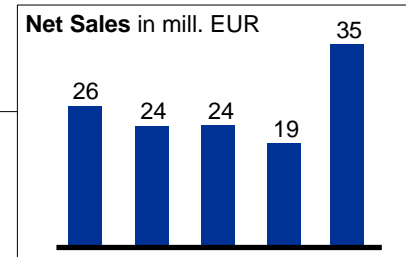
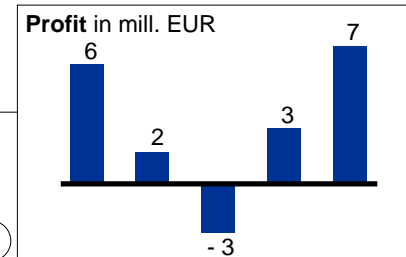
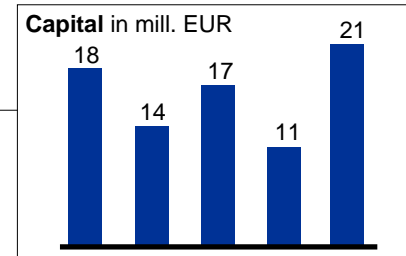
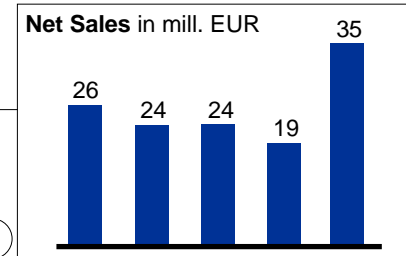
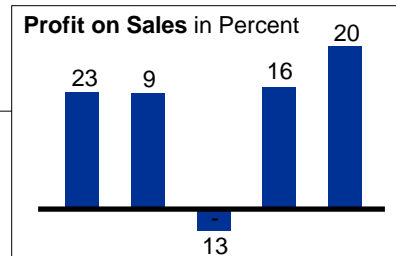
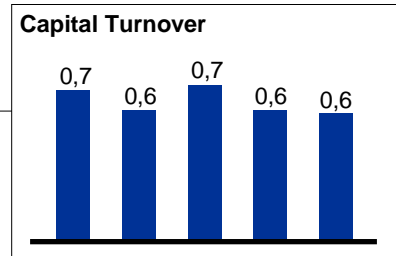
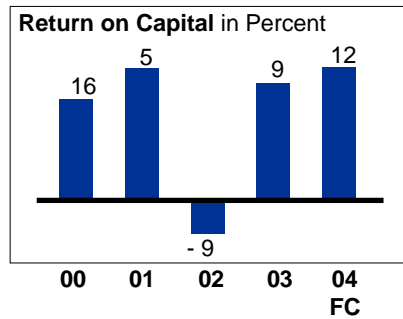


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Different Scales must be made apparent

Potential for Improvement

ABC Corporation
ROI Tree
2000 to 2004 (FC)

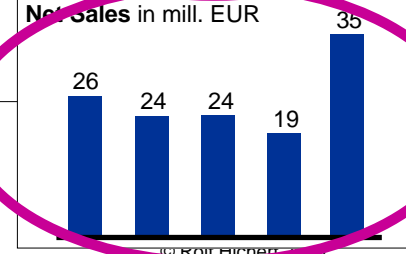
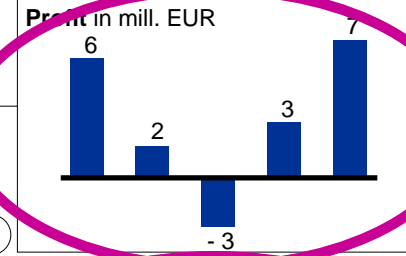
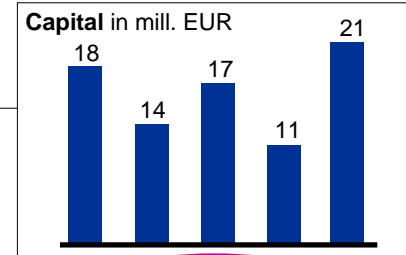
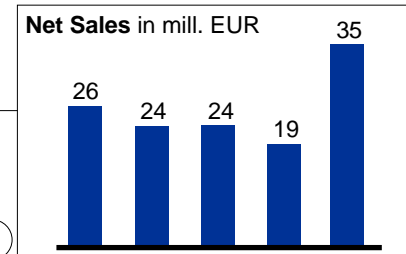
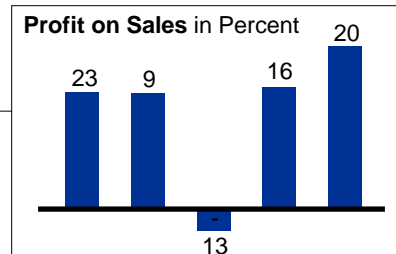
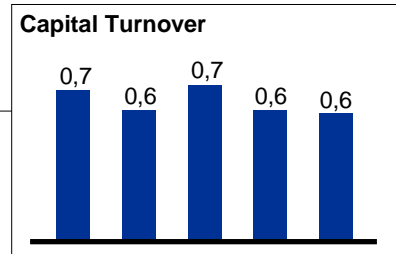
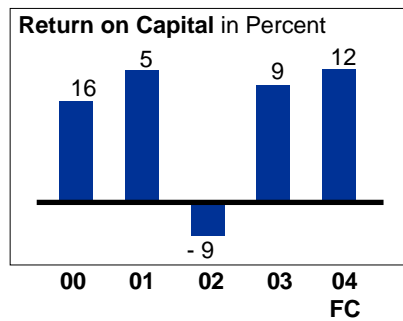


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Different Scales must be made apparent

Potential for Improvement

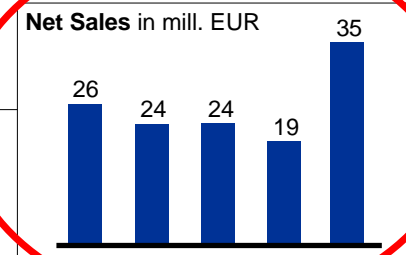
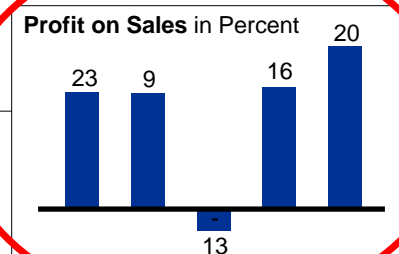
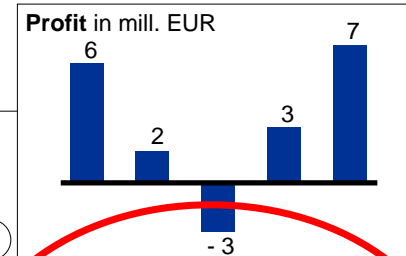
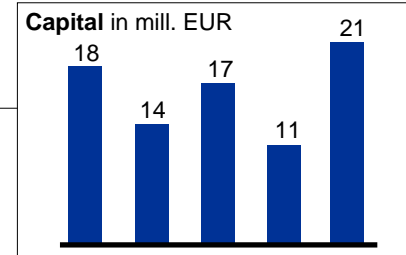
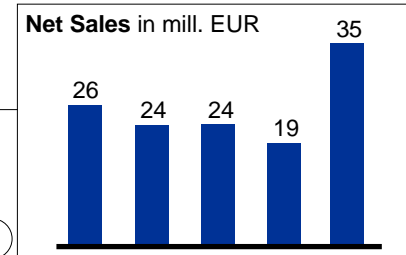
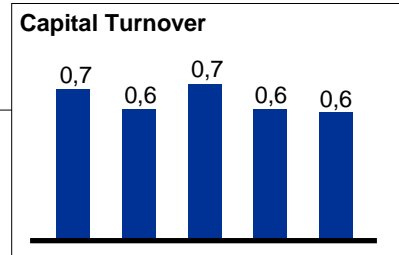
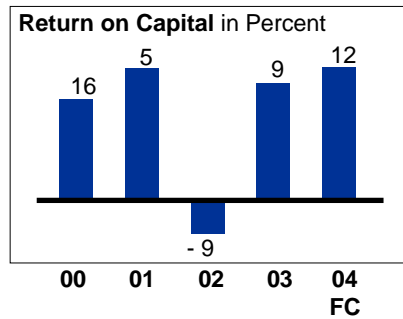
ABC Corporation
ROI Tree
2000 to 2004 (FC)



Different Scales must be made apparent

Potential for Improvement

ABC Corporation
ROI Tree
2000 to 2004 (FC)

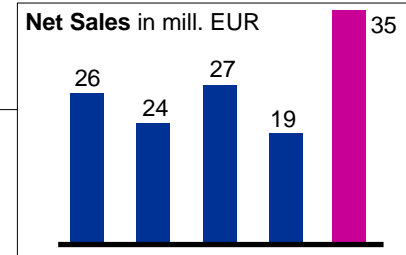
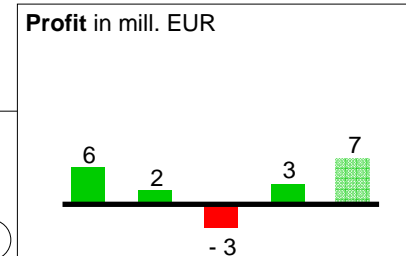
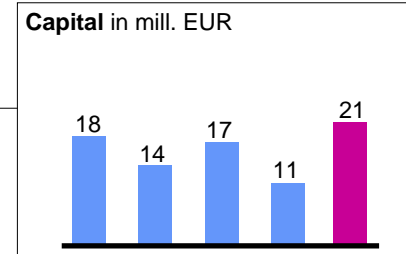
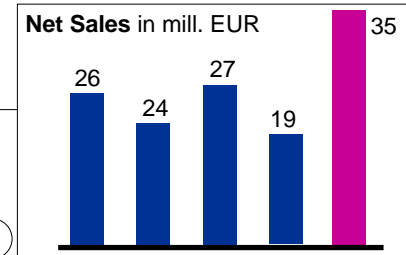
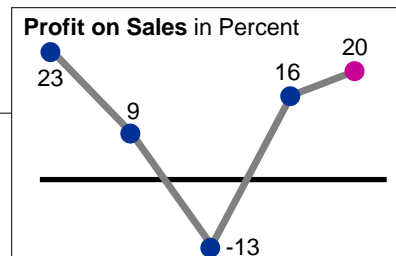
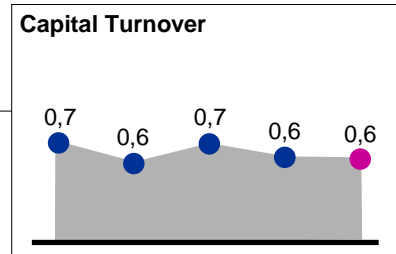
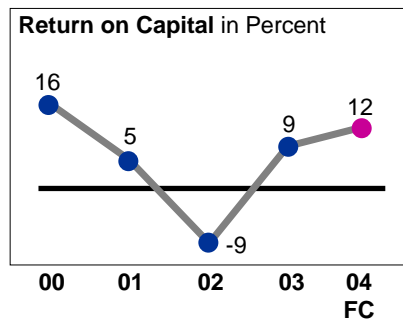


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Different Scales must be made apparent

better

ABC Corporation
ROI Tree
2000 to 2004 (FC)



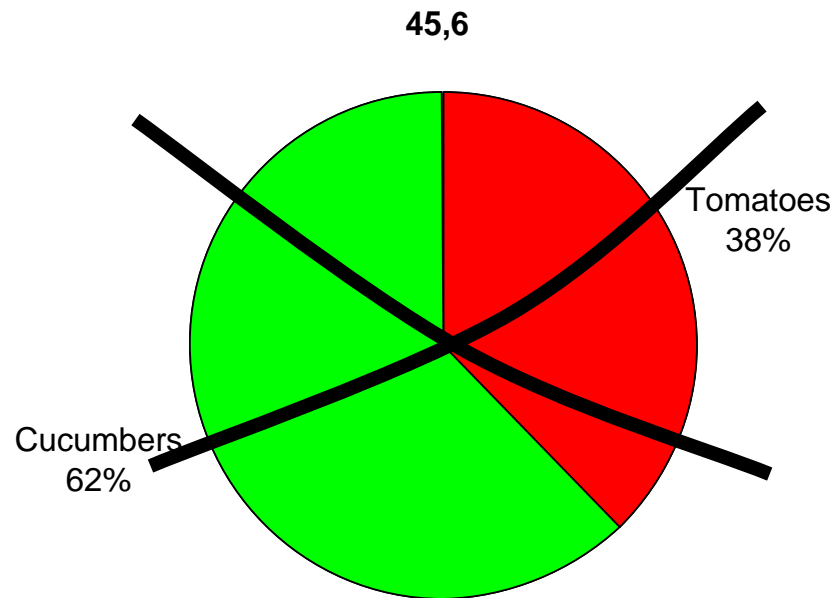
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Use Business Charts to explain complex Issues
and not for Decoration Purposes

**Provide high Information
Density**

Pictures should not be used to display self-evident Issues

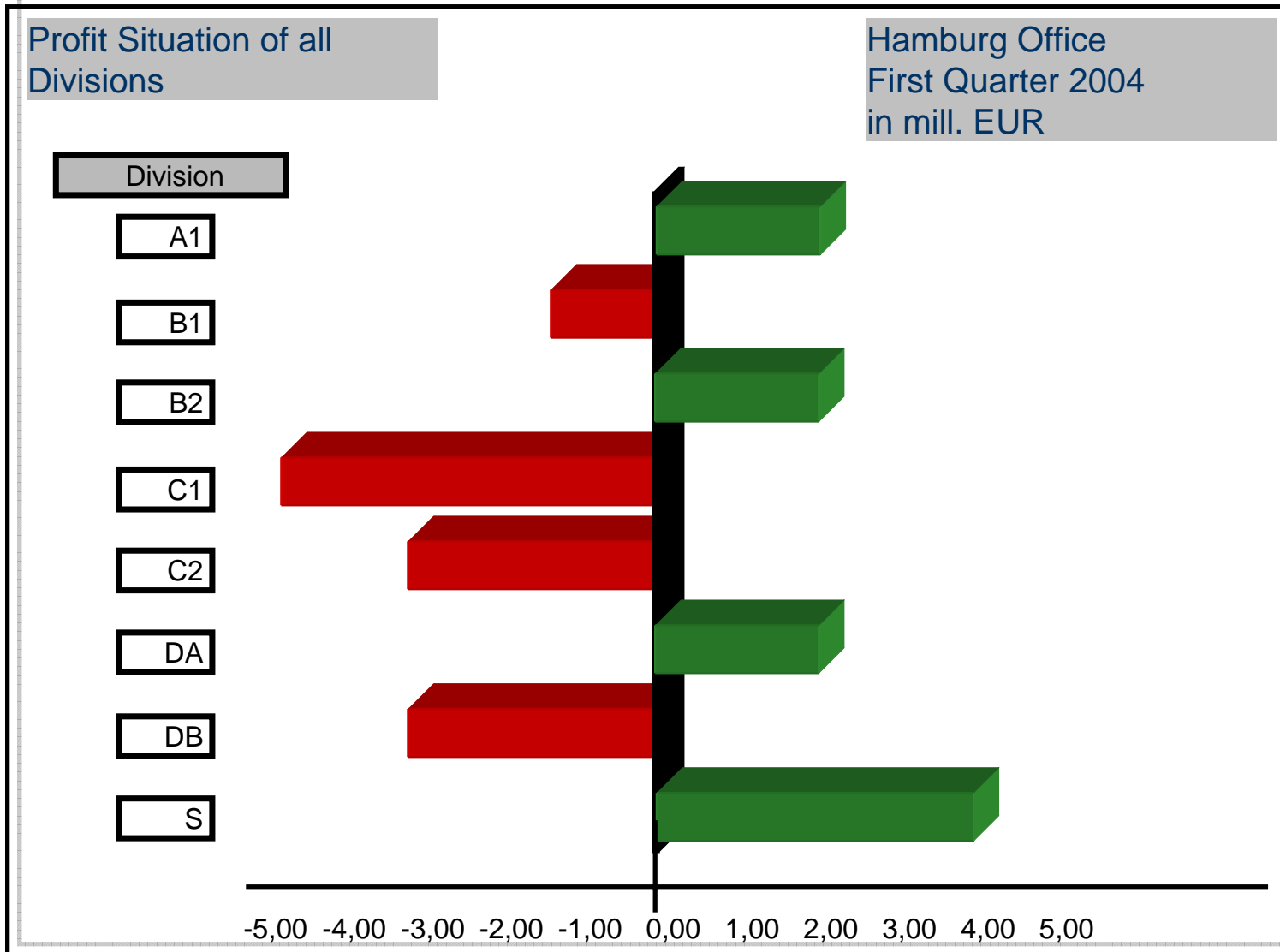
Food-Division, Glass Packaging
Production in tons
Q1 2004



A Picture is worth a thousand Words...

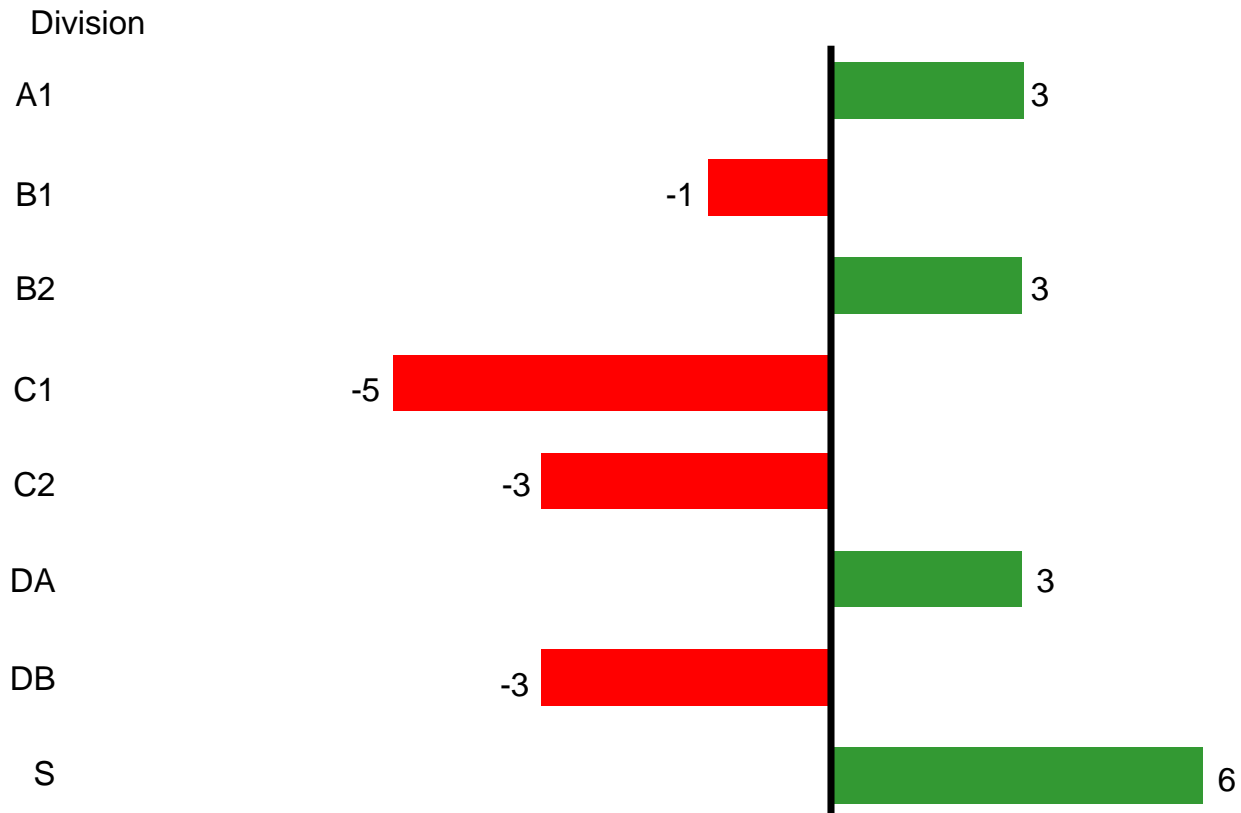
Business Charts with low Information Density lead to presentations with hundred and more slides

Potential for Improvement



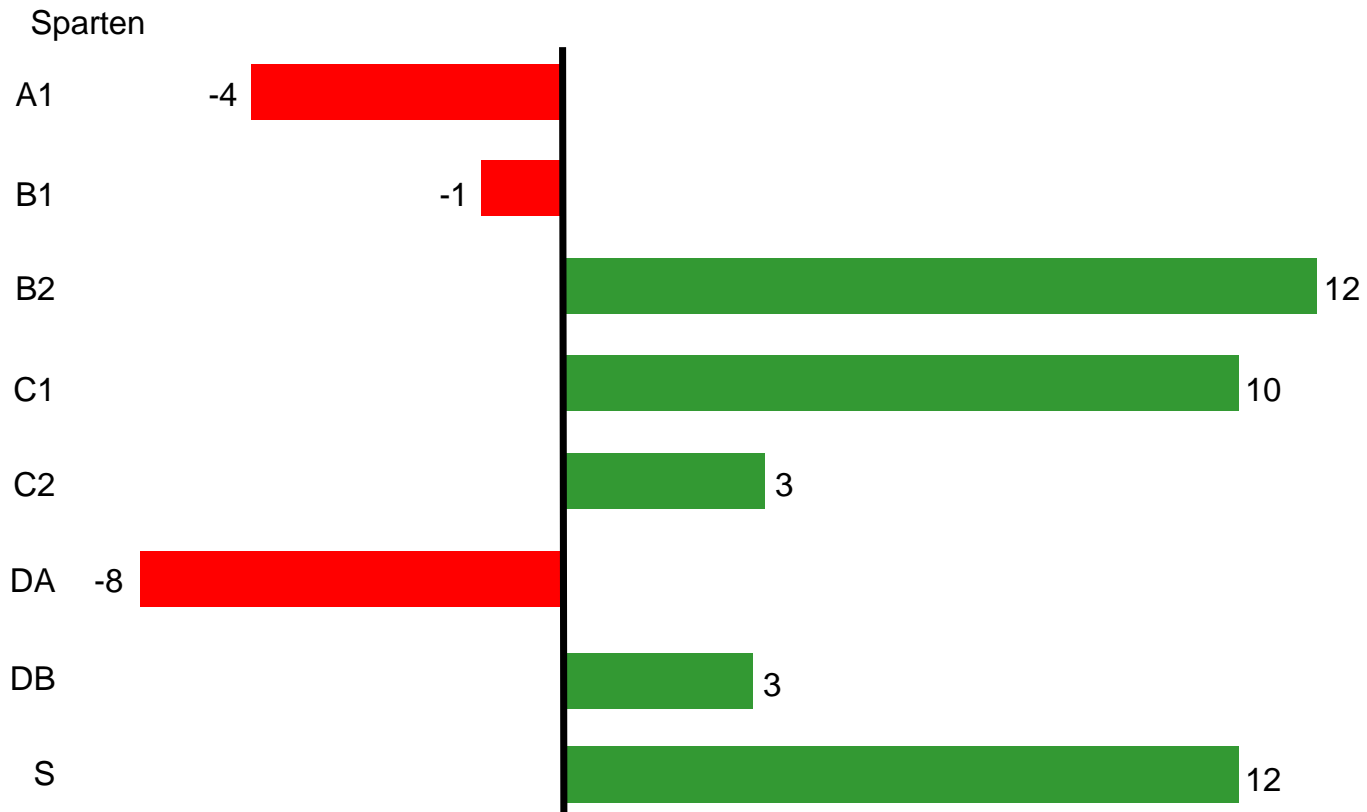
Business Charts with low Information Density lead to presentations with hundred and more slides

Profit by Divisions in mill. EUR
Office Hamburg Q1 2004



Business Charts with low Information Density lead to presentations with hundred and more slides

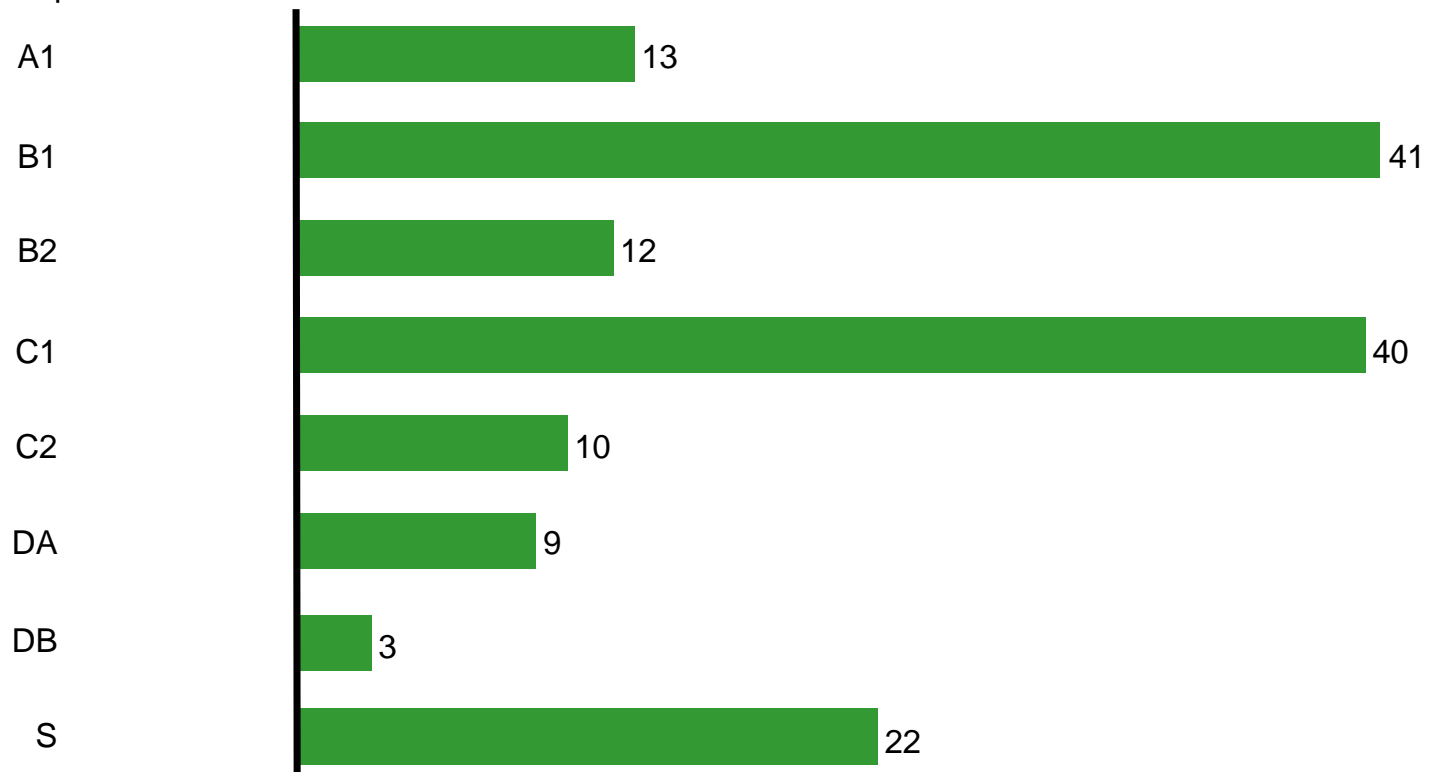
Profit by Divisions in mill. EUR
Office: Berlin Q1 2004



Business Charts with low Information Density lead to presentations with hundred and more slides

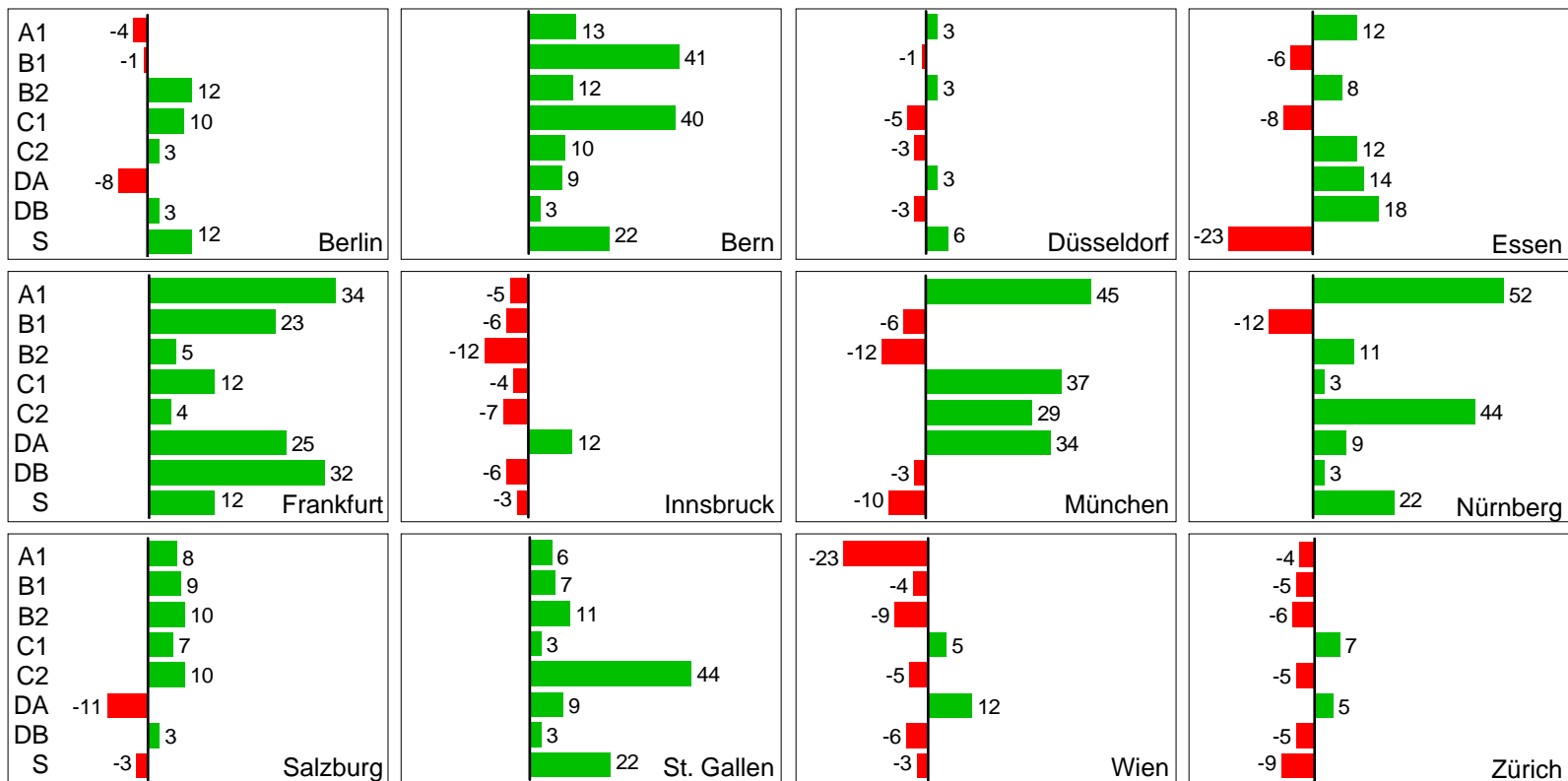
Profit by Divisions in mill. EUR
Office: Bern Q1 2004

Sparten



Business Charts with high Information Density give a better overview
by allowing comparisons

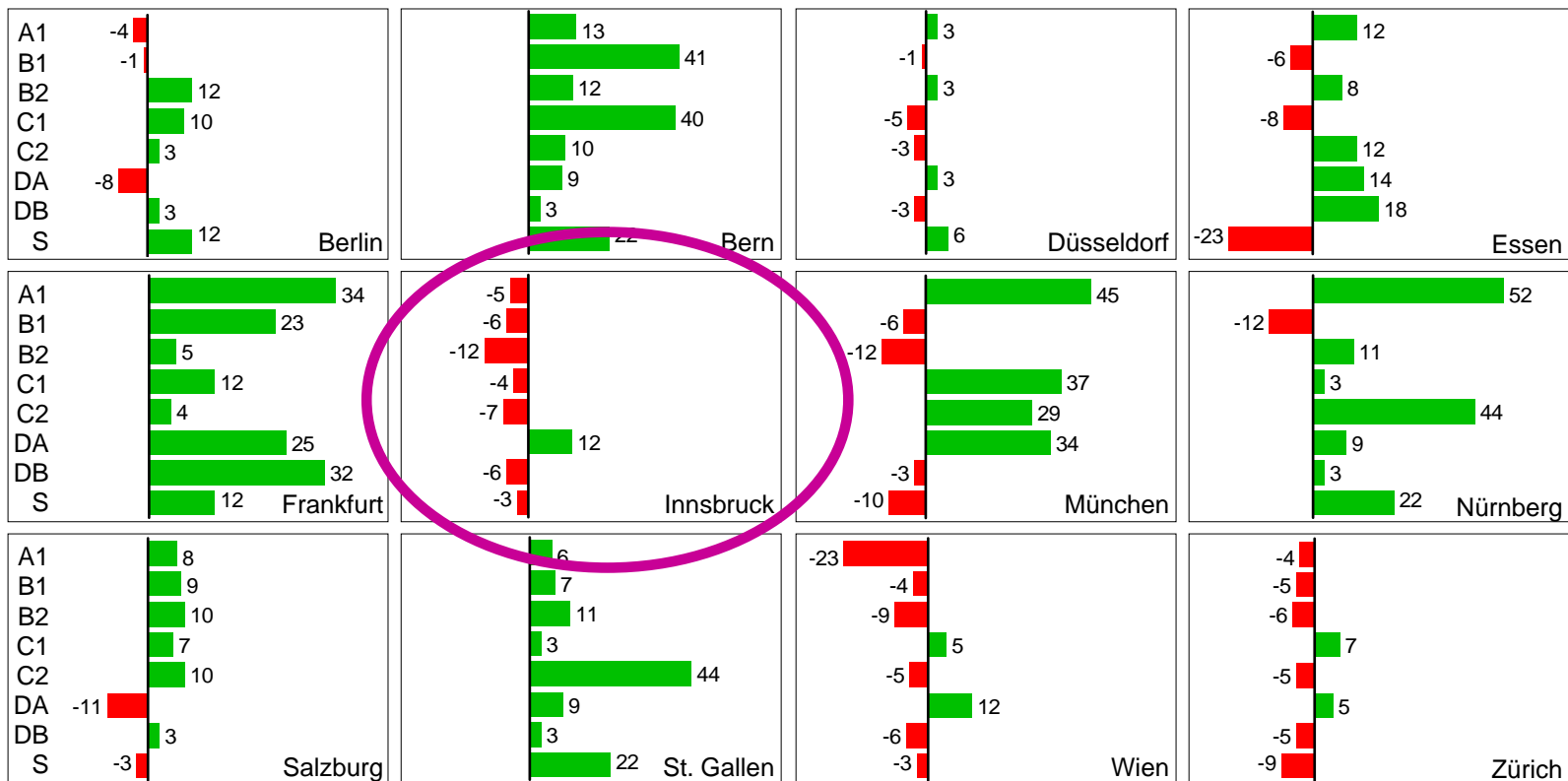
Profit by Divisions in mill. EUR
Offices Europe Q1 2004



Quelle: T56 vom 23.4.2004

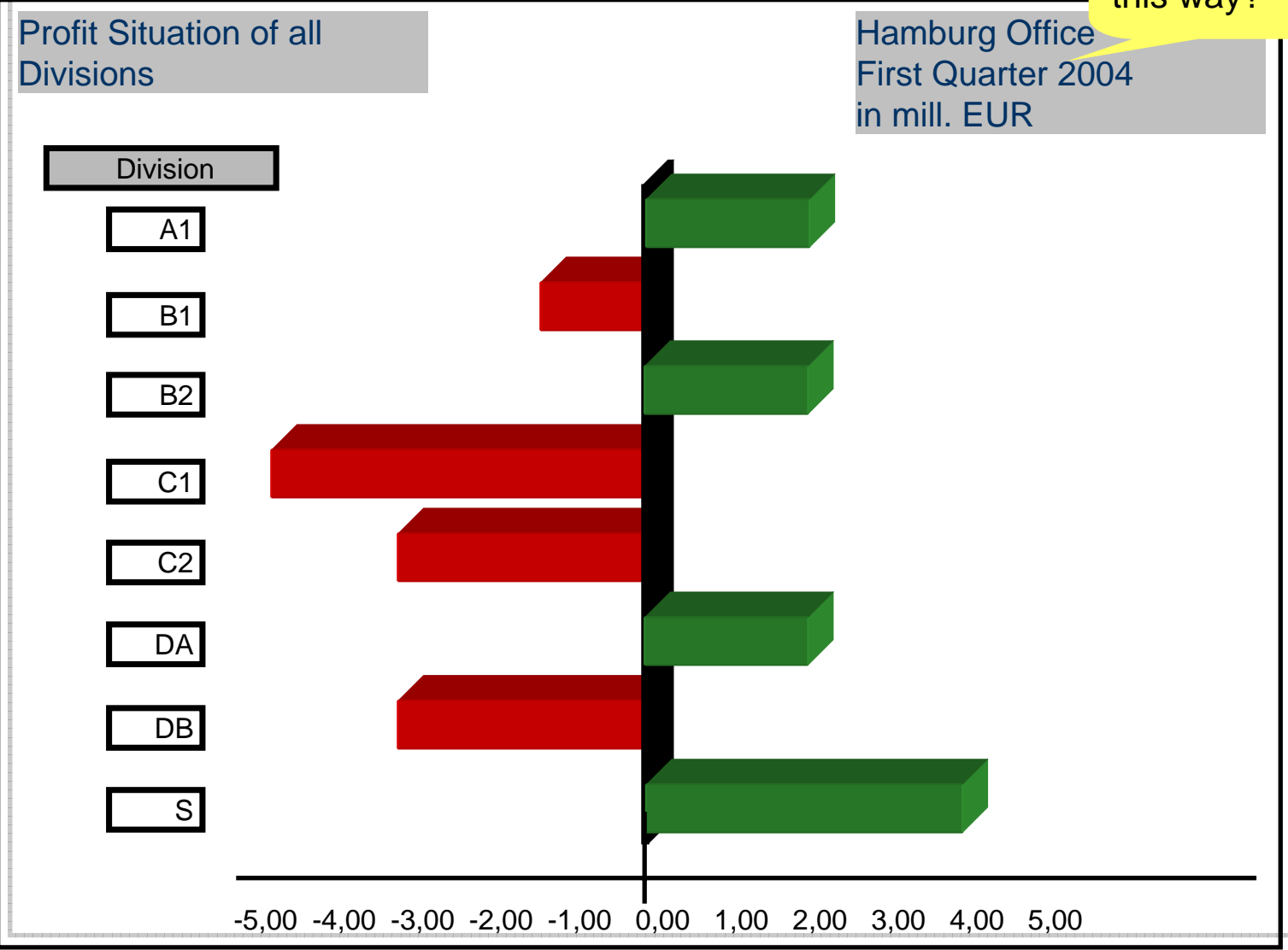
Business Charts with high Information Density give a better overview
by allowing comparisons

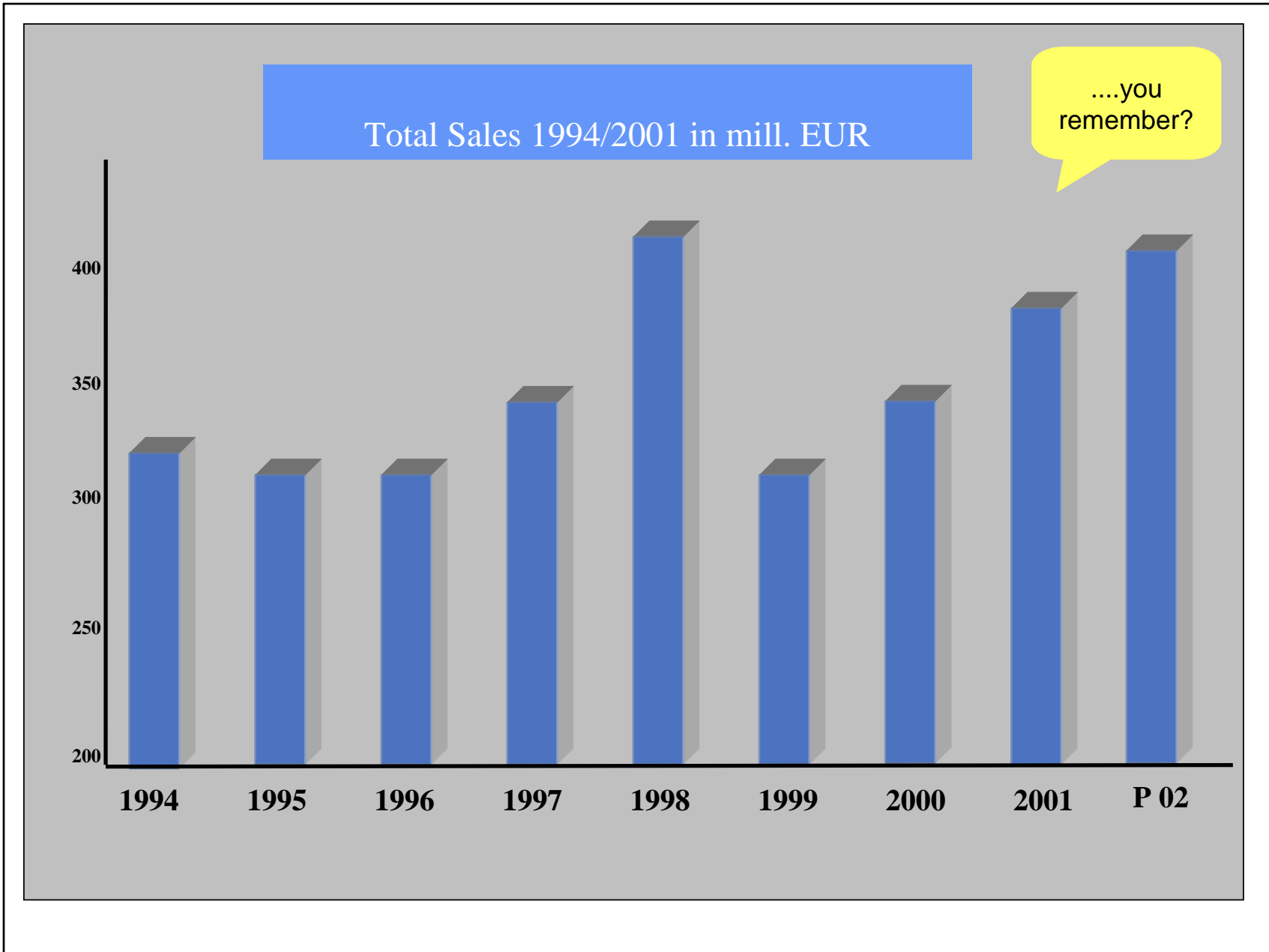
Profit by Divisions in mill. EUR
Offices Europe Q1 2004



Quelle: T56 vom 23.4.2004

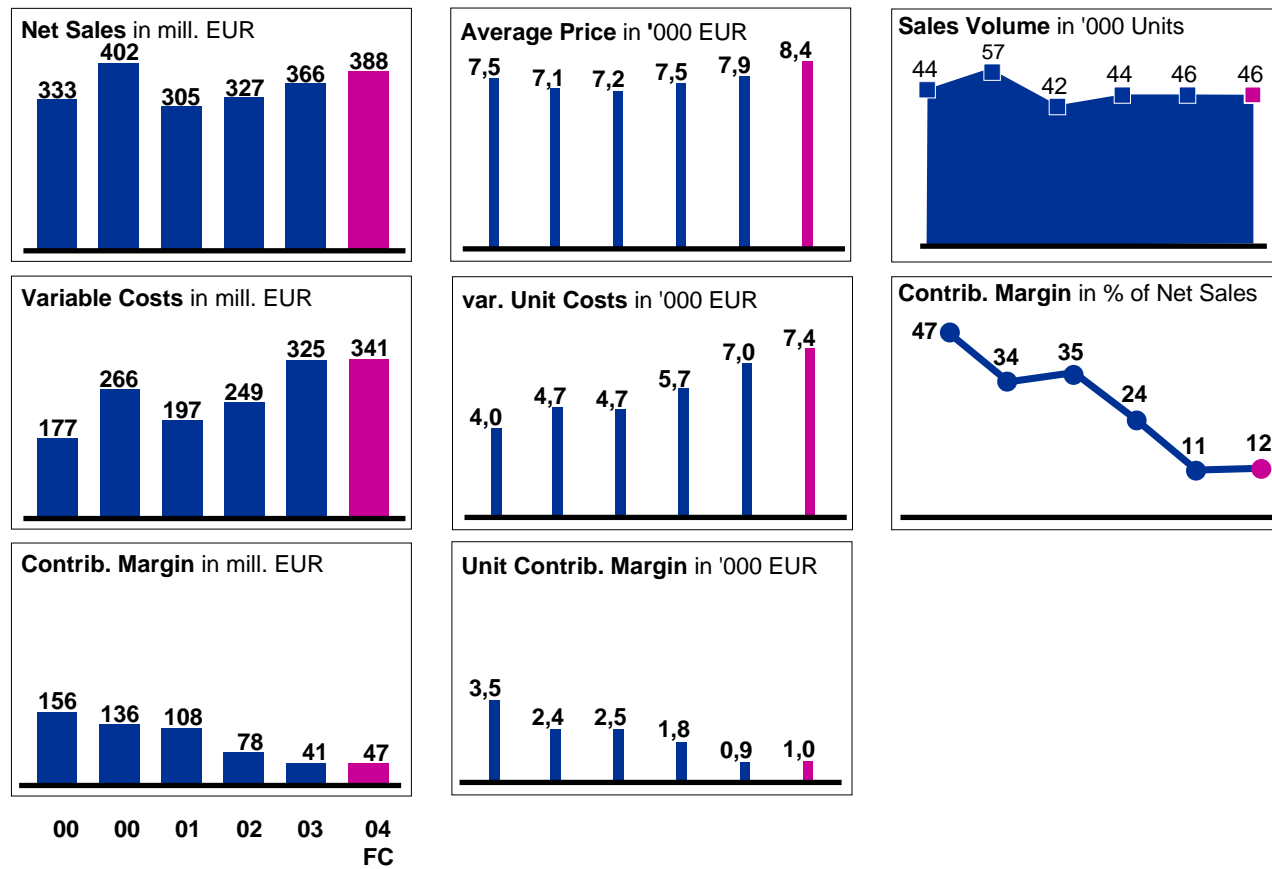
...or rather this way?





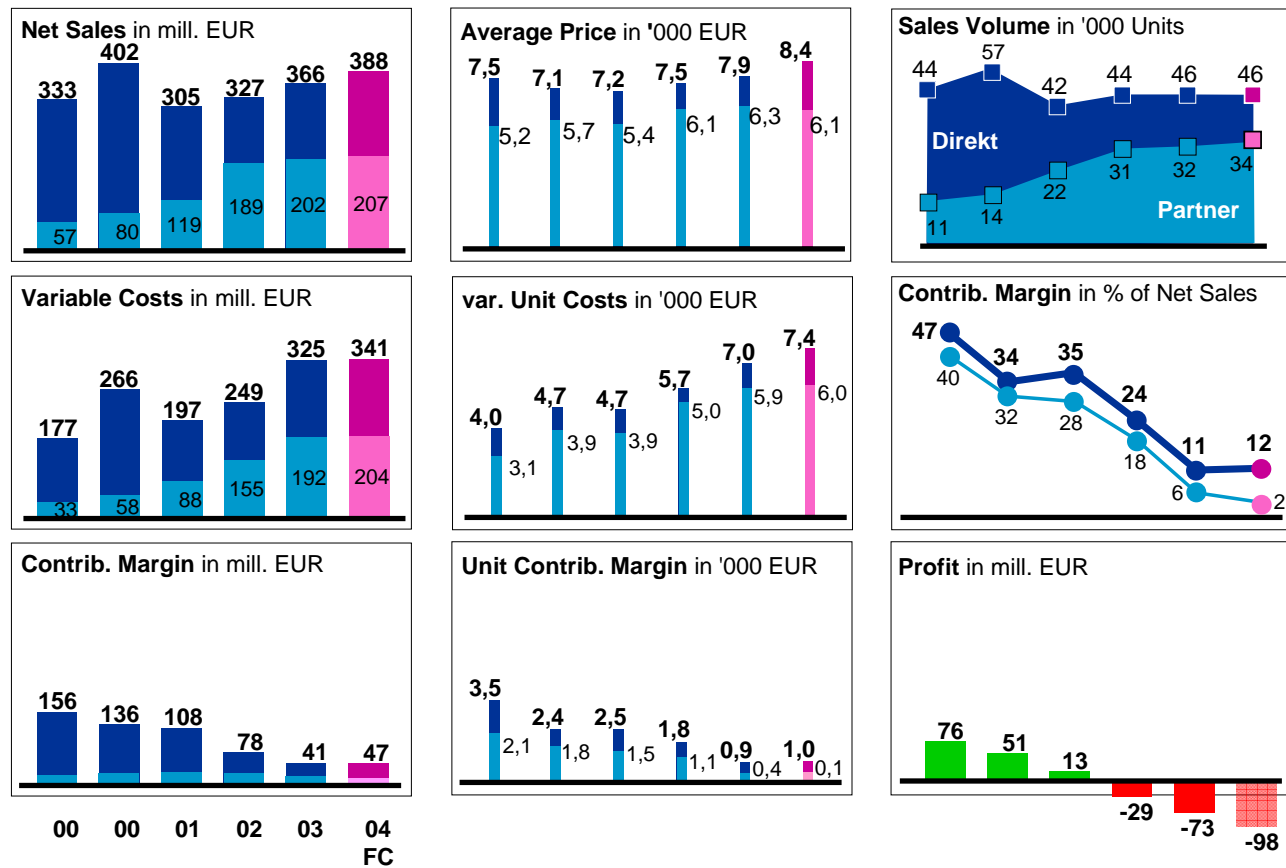
The diminishing Contribution from the Partner Business leads to decreasing profits since 1999

AFG Division
 Net Sales to EBIT in mill. EUR
 1999 - 2004



The diminishing Contribution from the Partner Business leads to decreasing profits since 1999

AFG Division
 Net Sales to EBIT in mill. EUR
 1999 - 2004

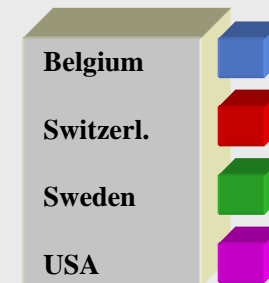
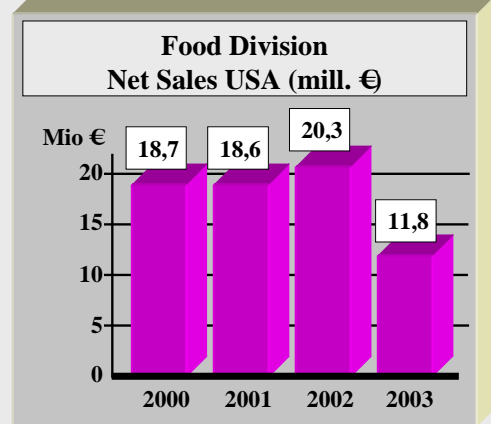
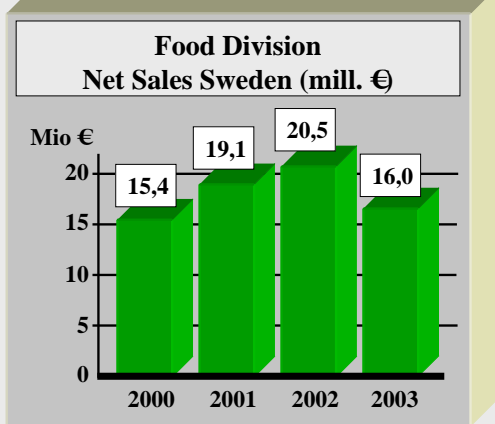
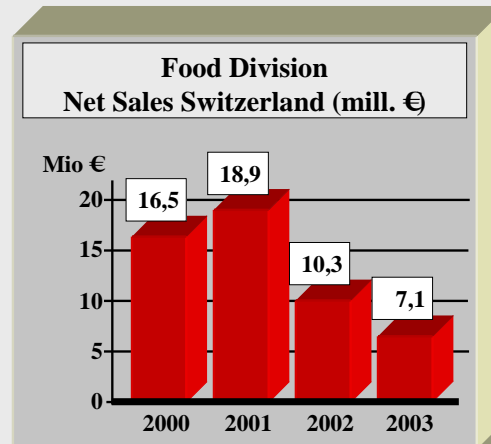
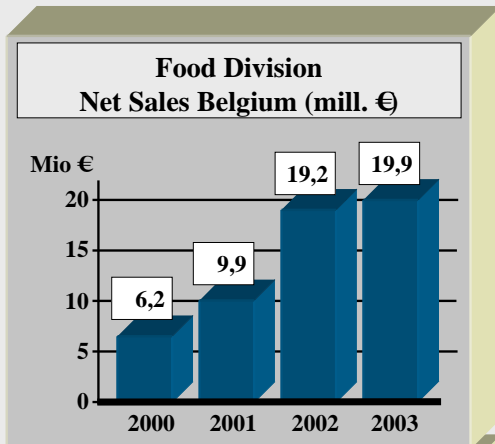


Frames, Clip-Arts, Shadows, Background Structures etc.
do not increase the Information provided

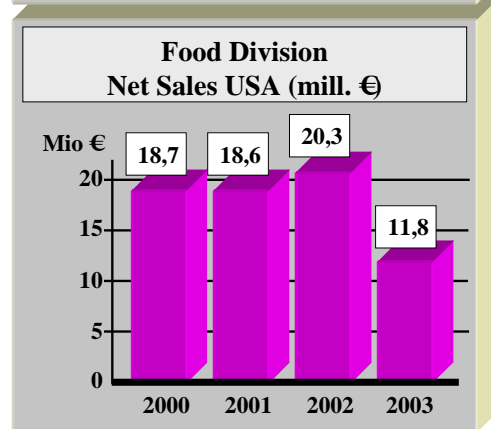
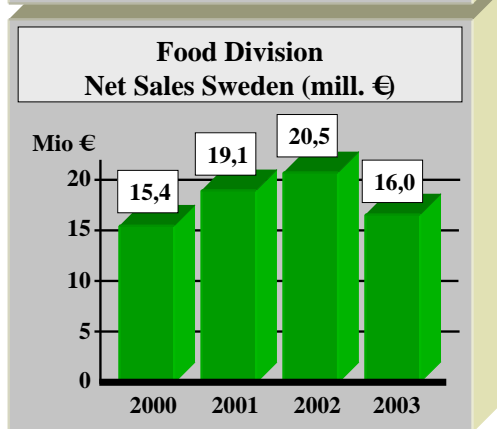
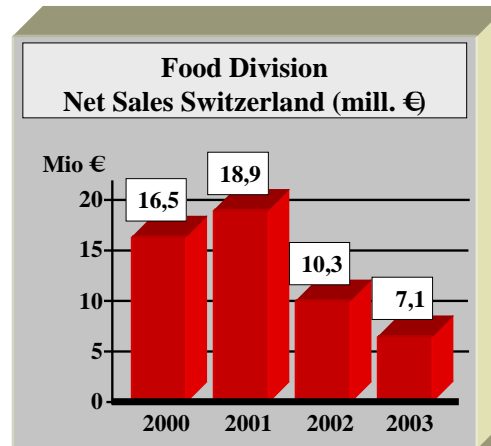
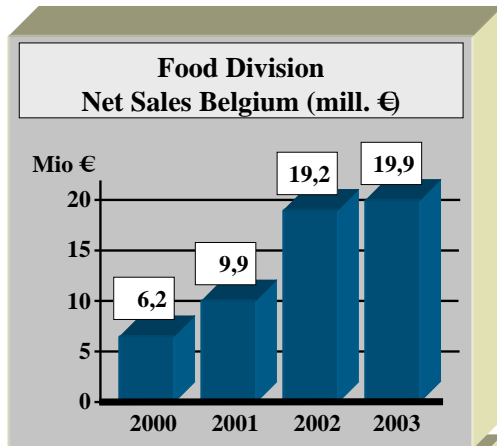
Reduce Noise and Redundancy

Omit the
Decoration

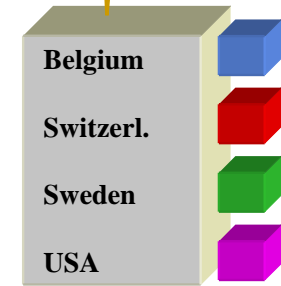
Graphical Display of the Development of Net Sales within the last four Years (in million EUR)



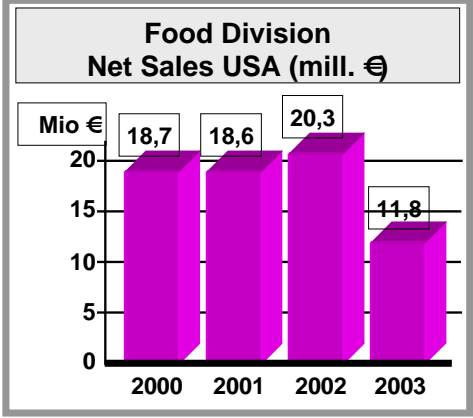
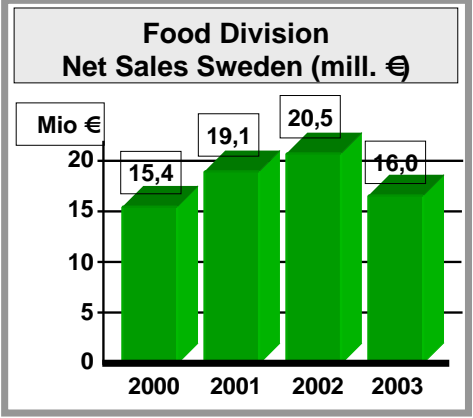
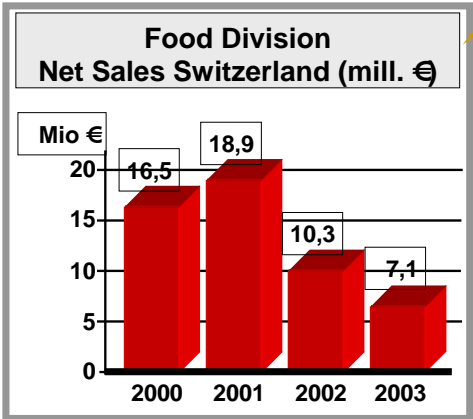
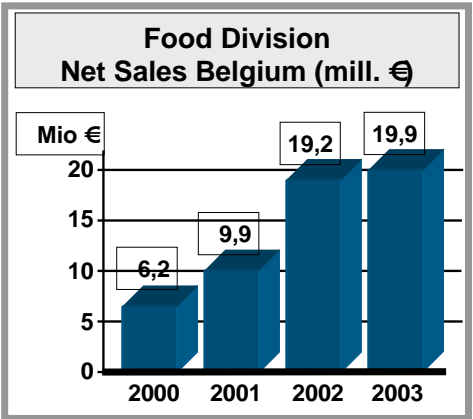
Remarks: None



Omit the Legend

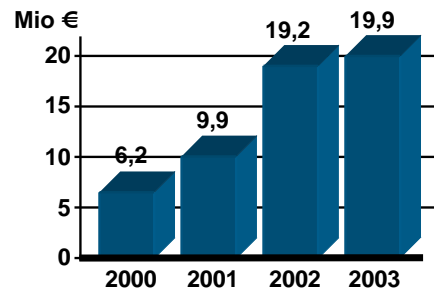


Omit
Frames

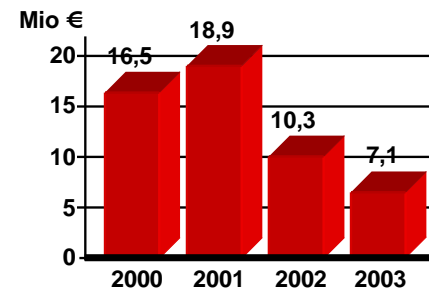


Omit
Grid Lines

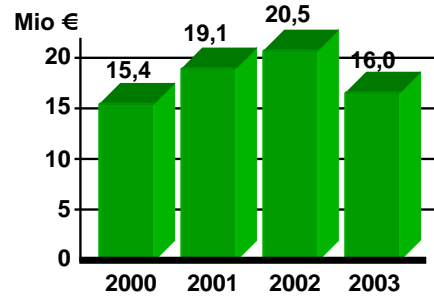
**Food Division
Net Sales Belgium (mill. €)**



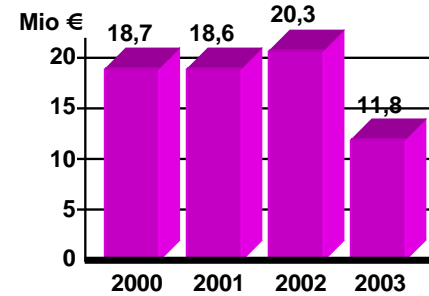
**Food Division
Net Sales Switzerland (mill. €)**



**Food Division
Net Sales Sweden (mill. €)**

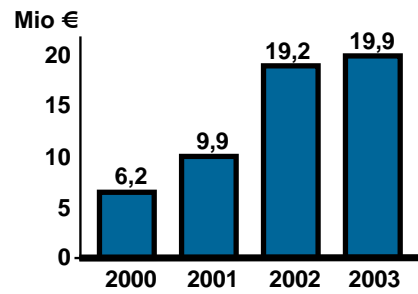


**Food Division
Net Sales USA (mill. €)**

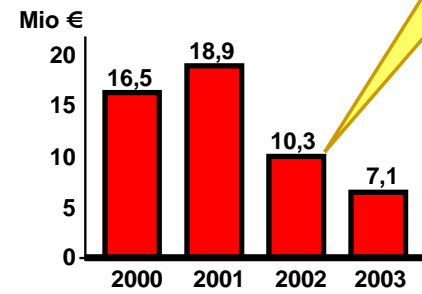


Omit Frames
and Borders

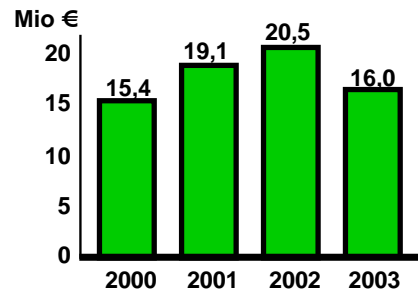
**Food Division
Net Sales Belgium (mill. €)**



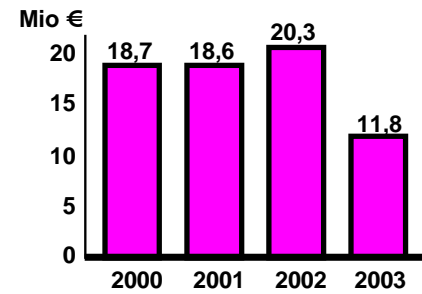
**Food Division
Net Sales Switzerland (mill. €)**



**Food Division
Net Sales Sweden (mill. €)**

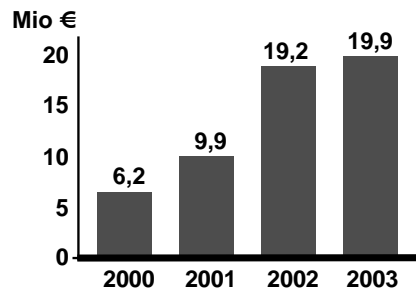


**Food Division
Net Sales USA (mill. €)**

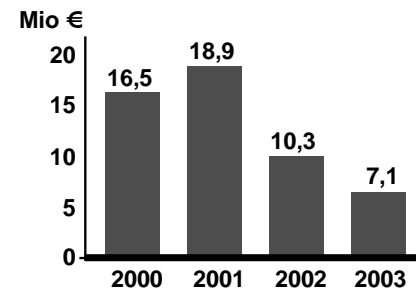


"Food Division"
is Title Information

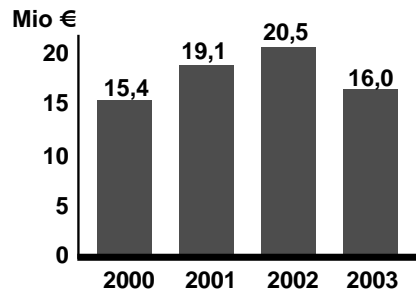
**Food Division
Net Sales Belgium**



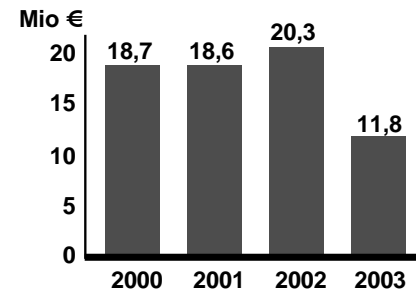
**Food Division
Net Sales Switzerland**



**Food Division
Net Sales Sweden**



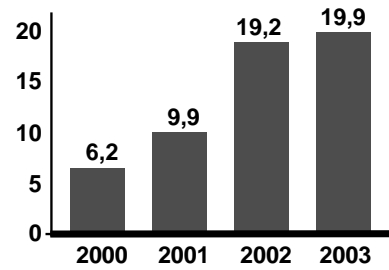
**Food Division
Net Sales USA**



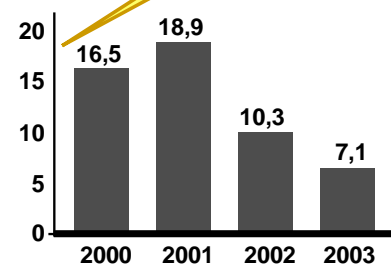
Food Division
in mill. EUR

Omit
Axes

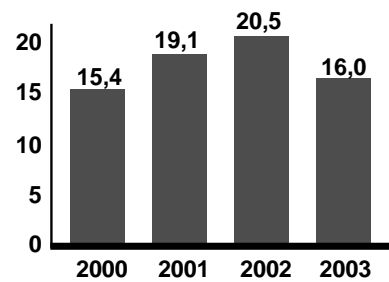
Net Sales Belgium



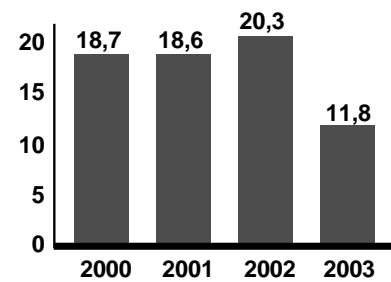
Net Sales Switzerland



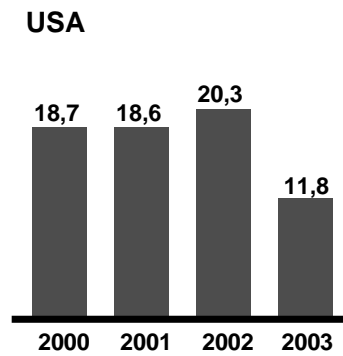
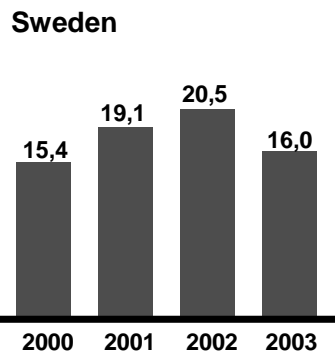
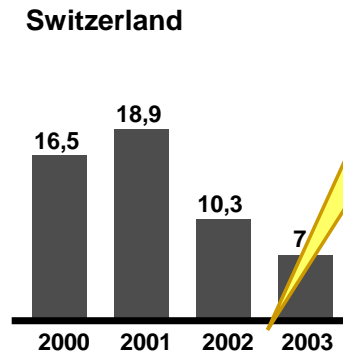
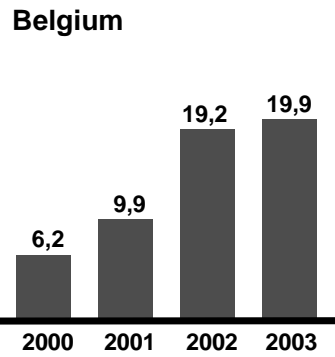
Net Sales



Net Sales USA

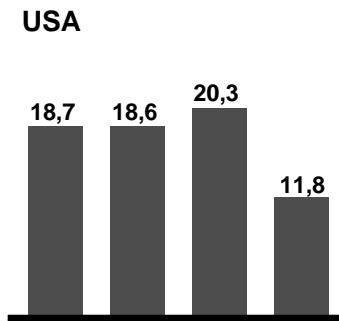
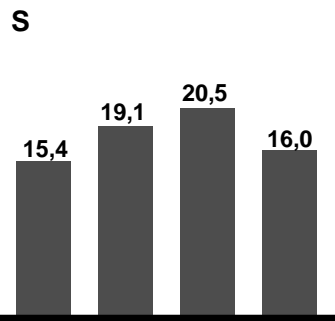
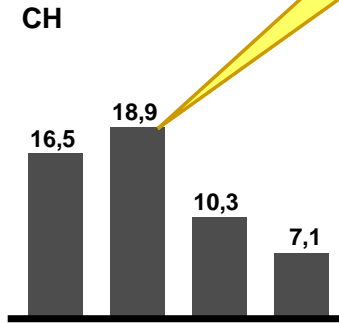
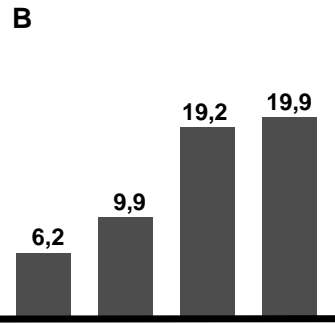


Food Division
Net Sales in mill. EUR



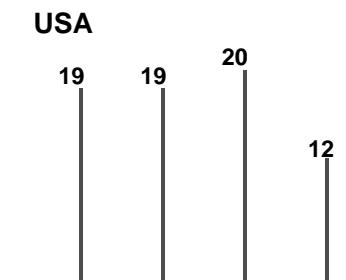
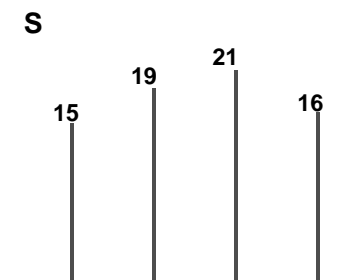
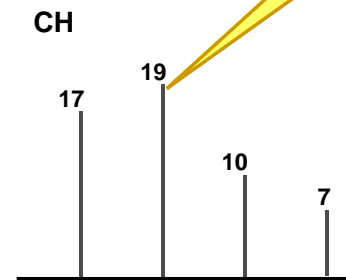
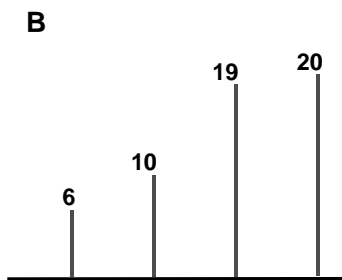
Omit
Lables

Food
NS mill. €
2000-2003



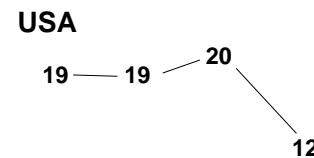
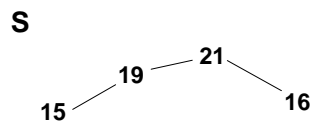
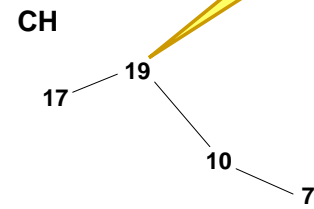
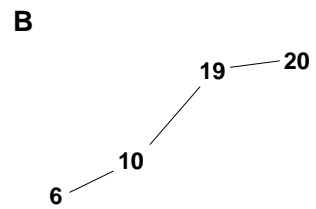
Reduce
Size

Food
NS mill. €
2000-2003



Omit
Columns

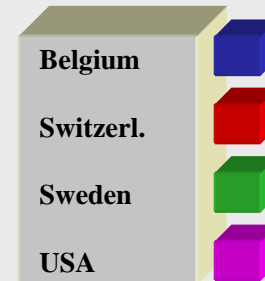
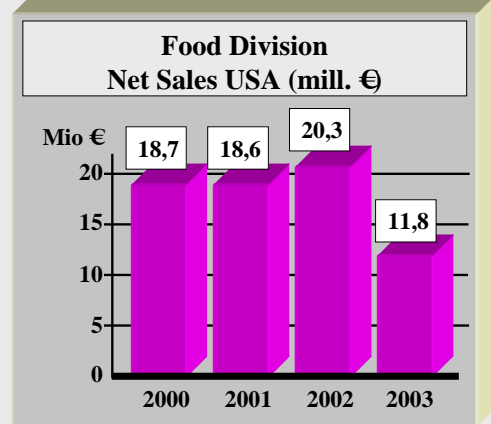
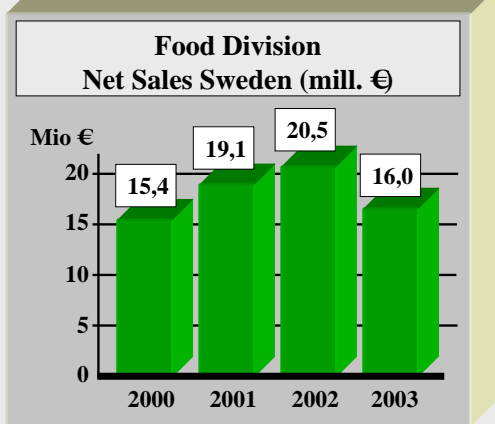
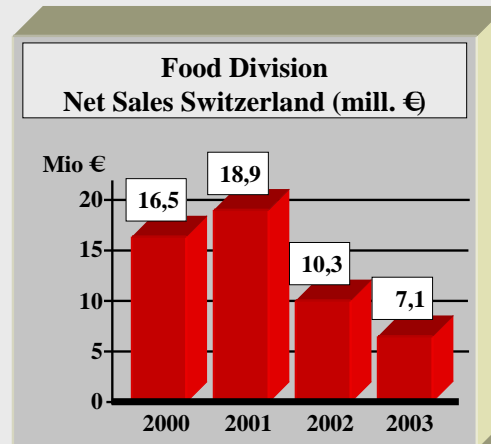
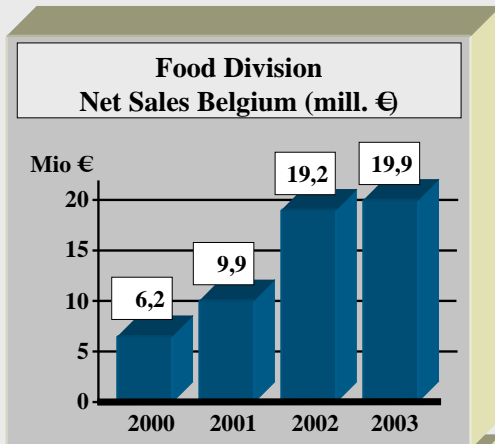
Food
NS mill. €
2000-2003



Omit
Values

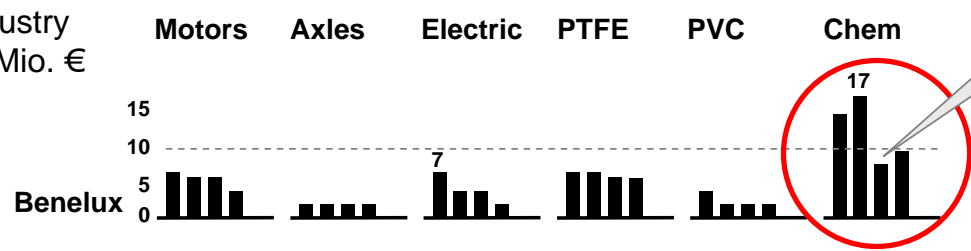
Or this way?

Graphical Display of the Development of Net Sales within the last four Years (in million EUR)



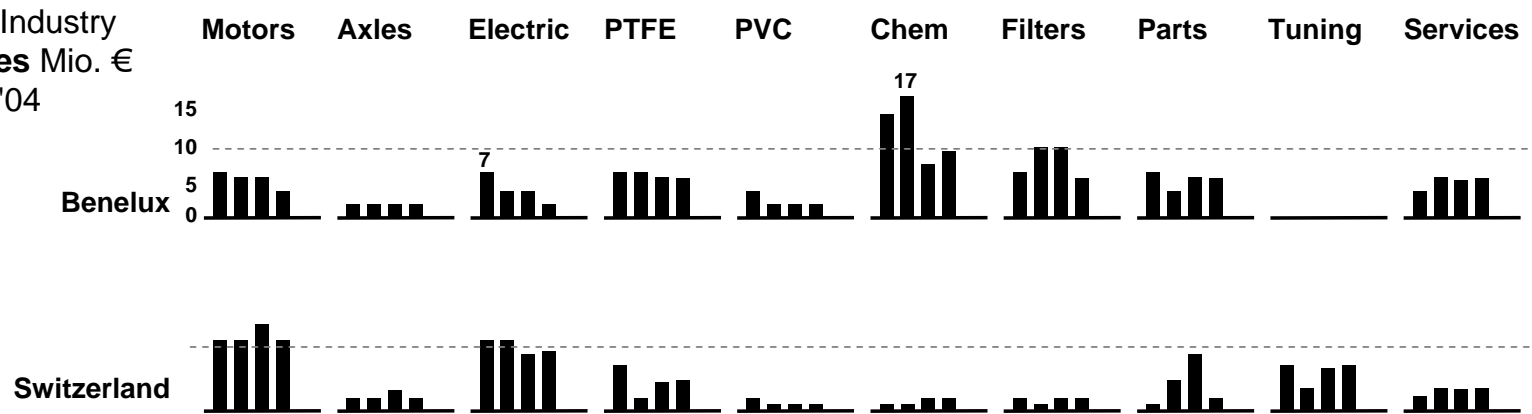
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BU Industry
Sales Mio. €
'01-'04

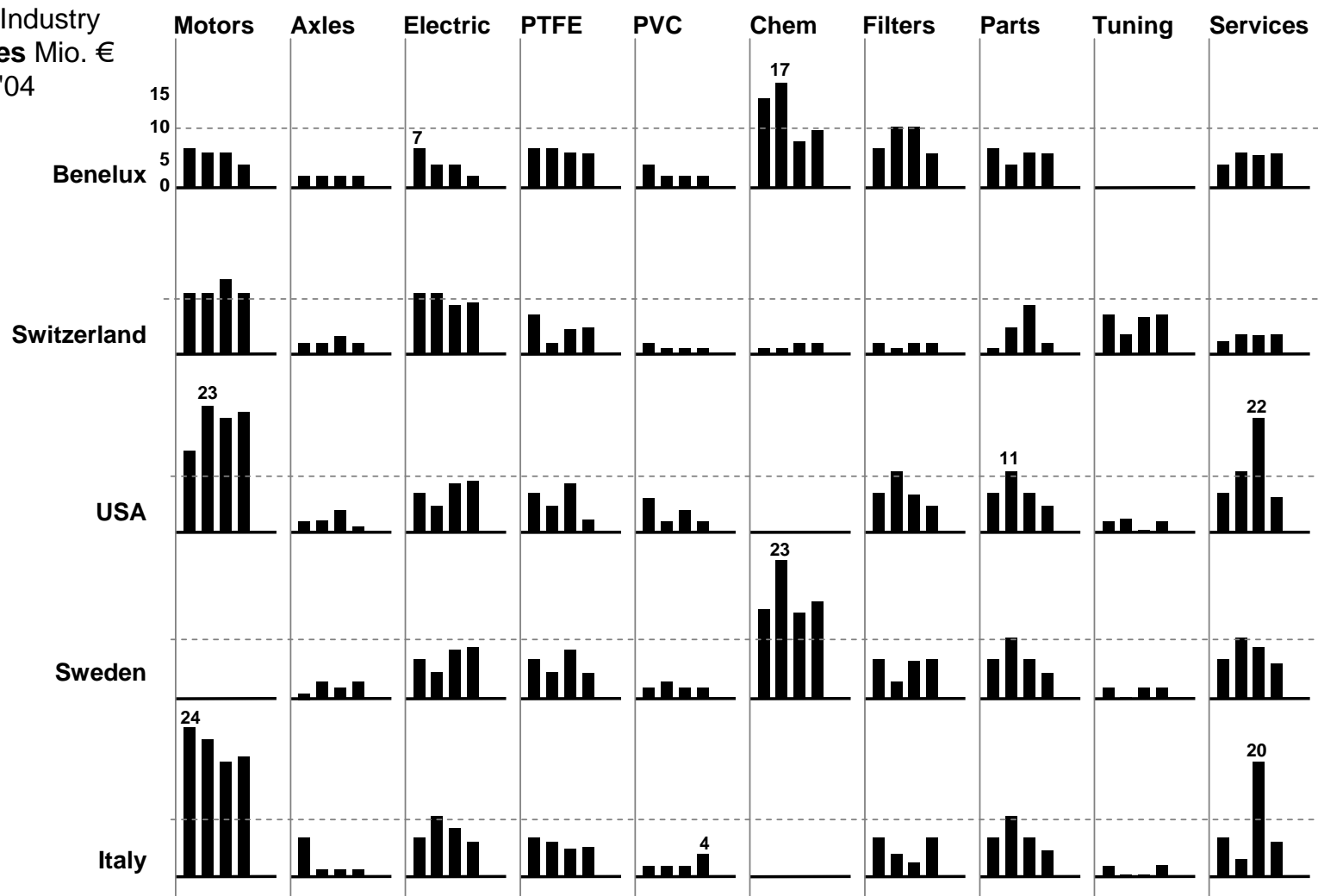


Comment:

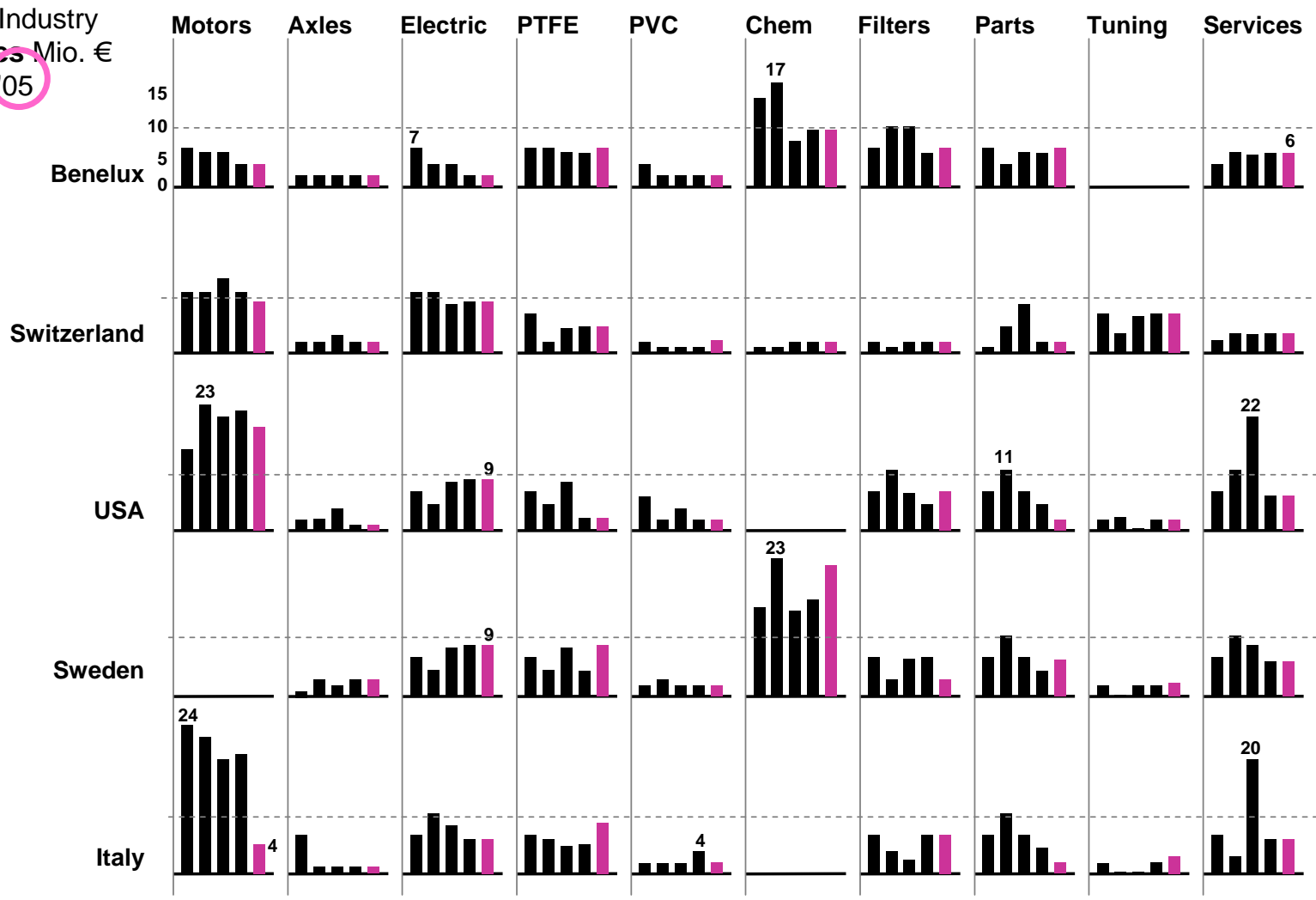
BU Industry
Sales Mio. €
'01-'04



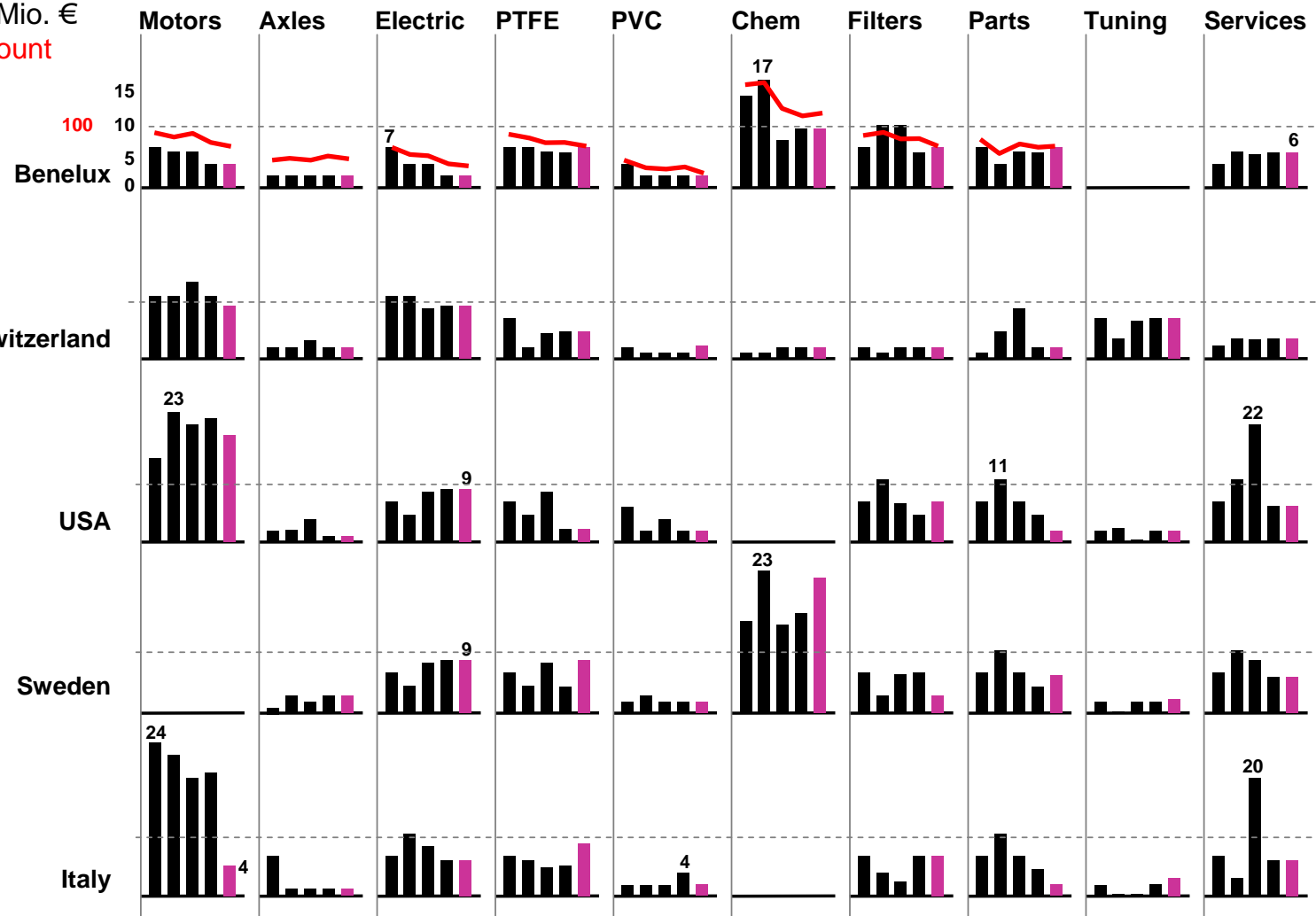
BU Industry
Sales Mio. €
'01-'04



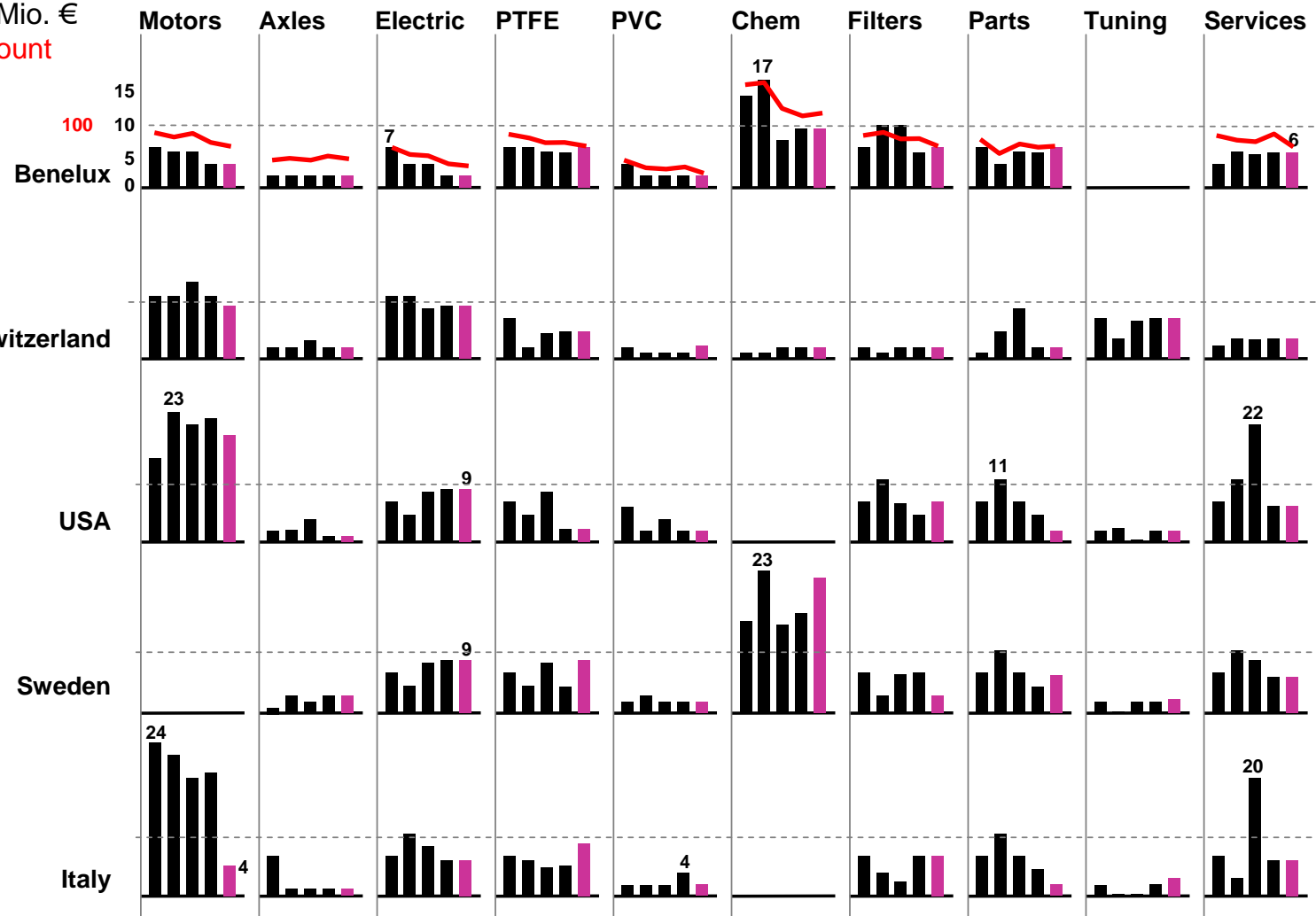
BU Industry
Sales Mio. €
'01 '05



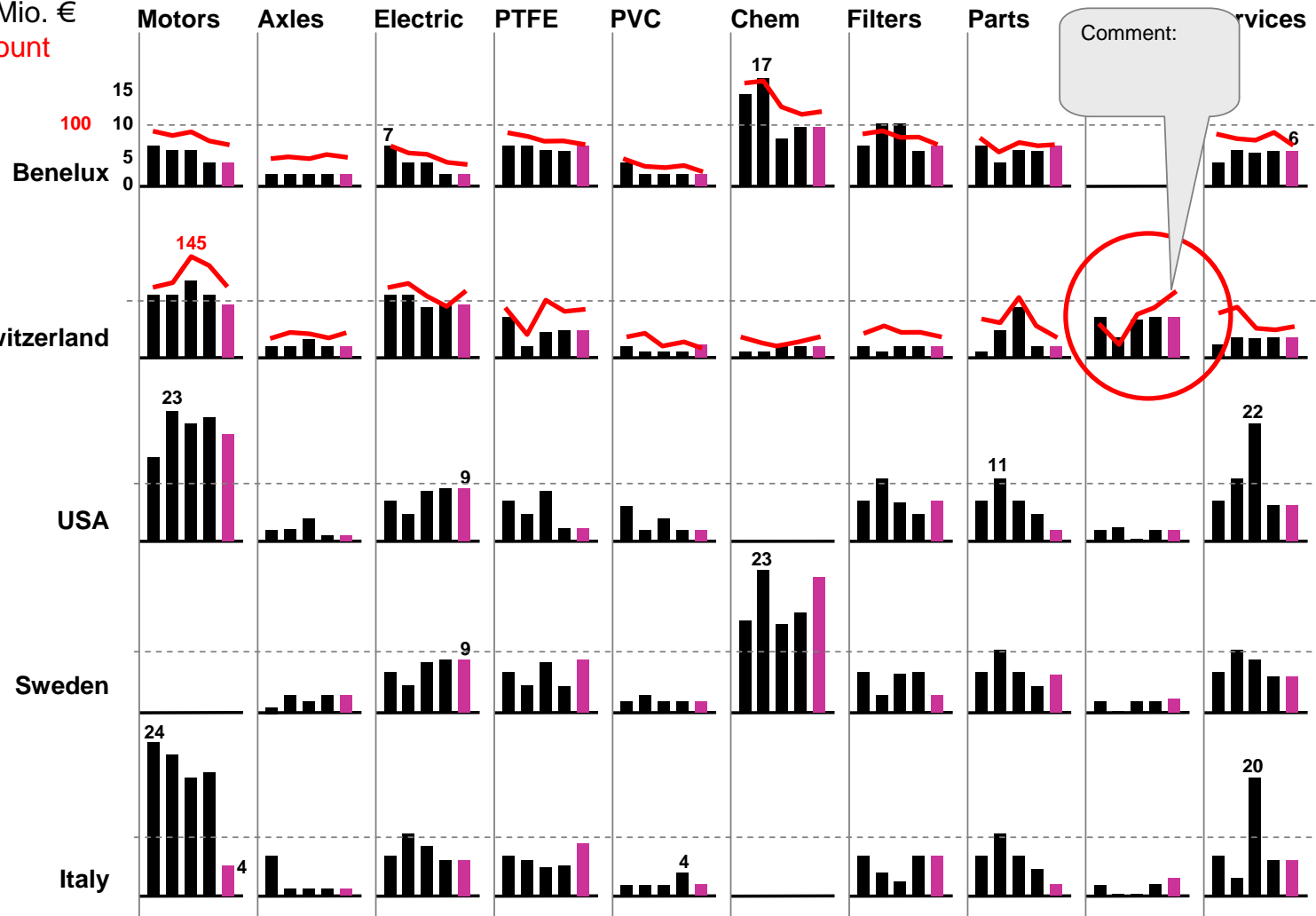
BU Industry
Sales Mio. €
Headcount
 '01-'05



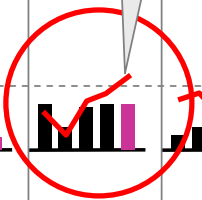
BU Industry
Sales Mio. €
Headcount
 '01-'05



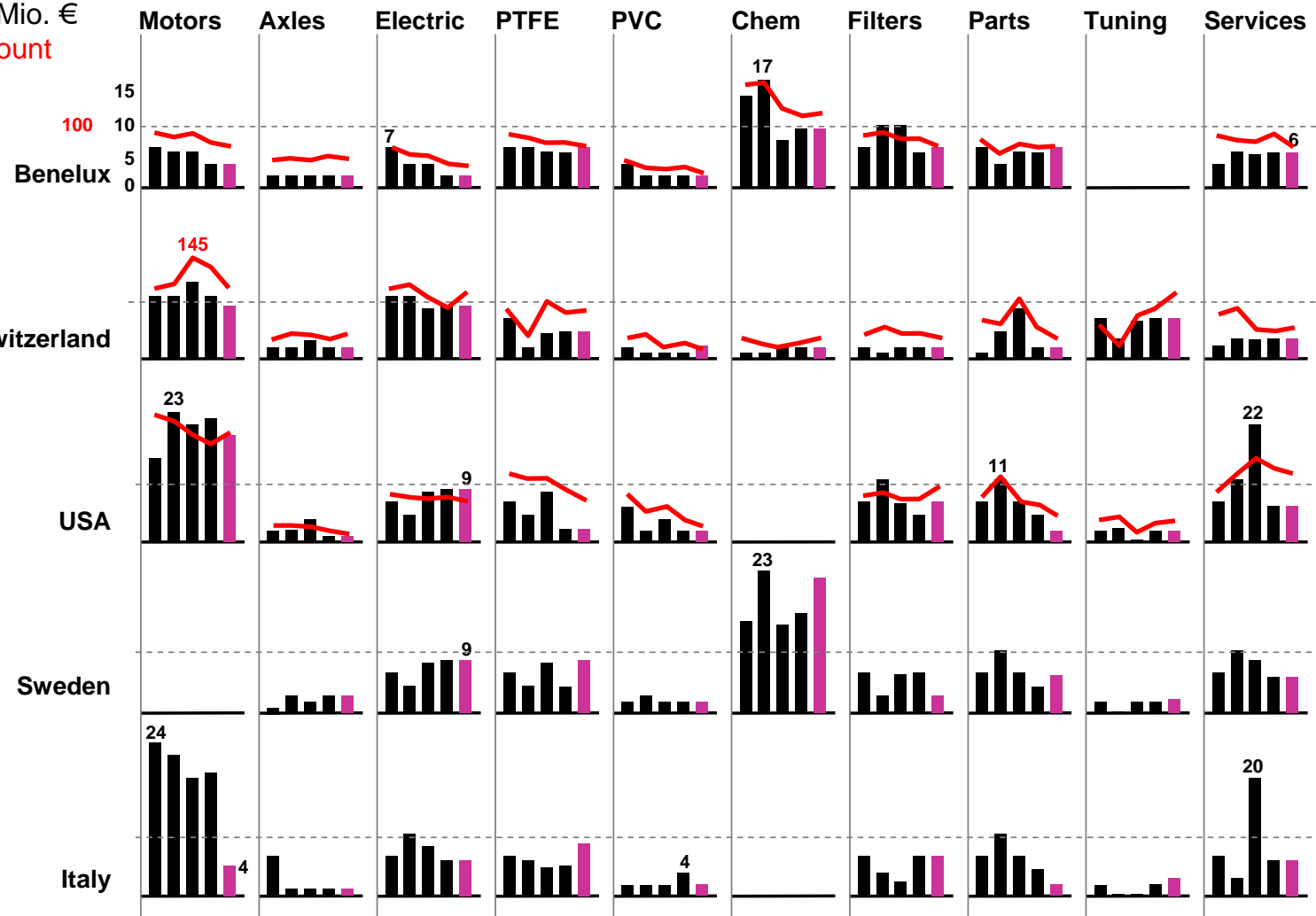
BU Industry
Sales Mio. €
Headcount
 '01-'05



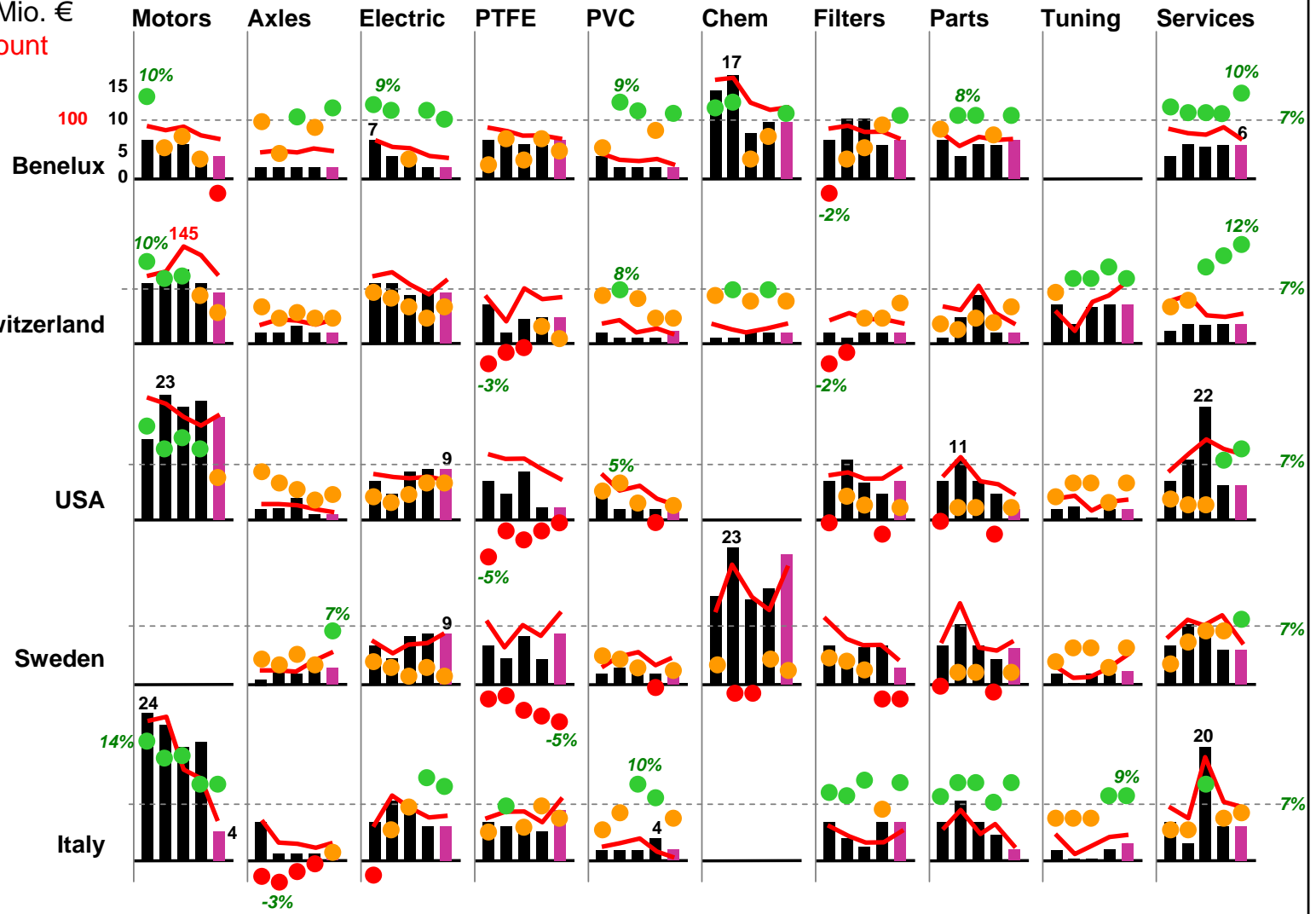
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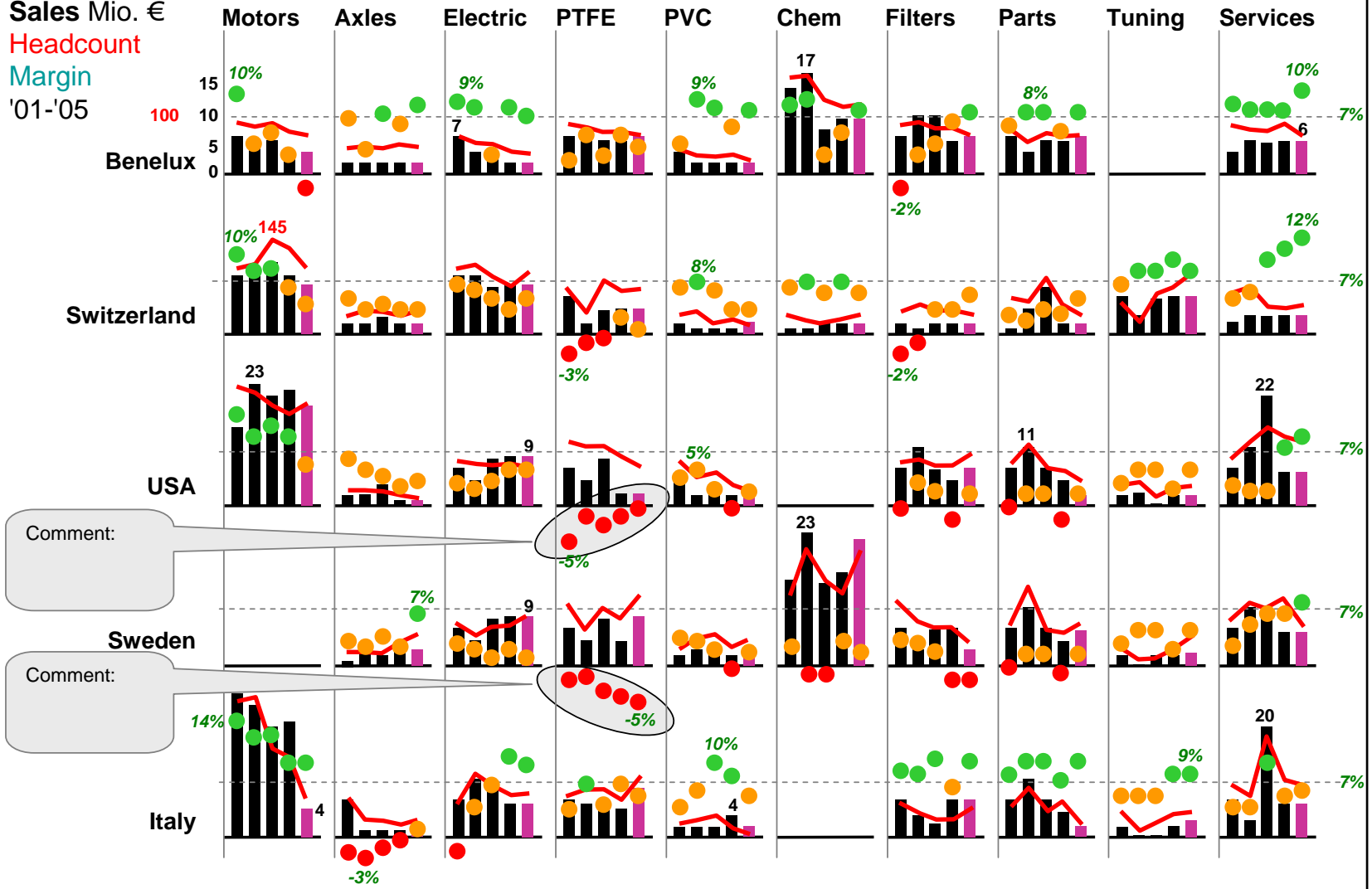
BU Industry
Sales Mio. €
Headcount
 '01-'05



BU Industry
Sales Mio. €
Headcount
Margin
 '01-'05



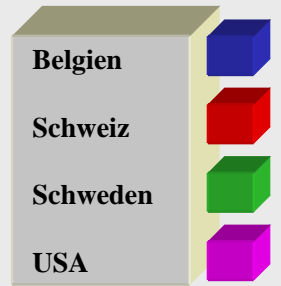
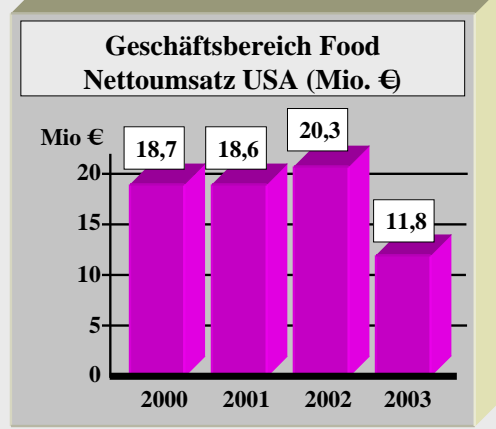
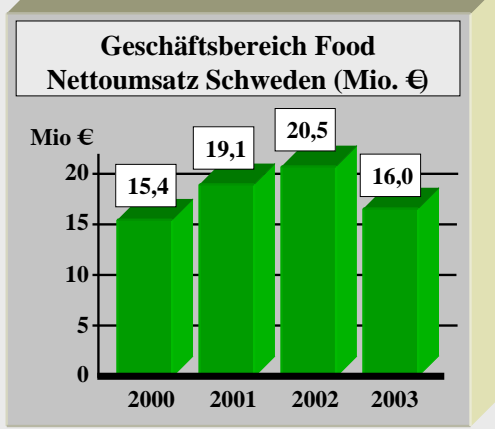
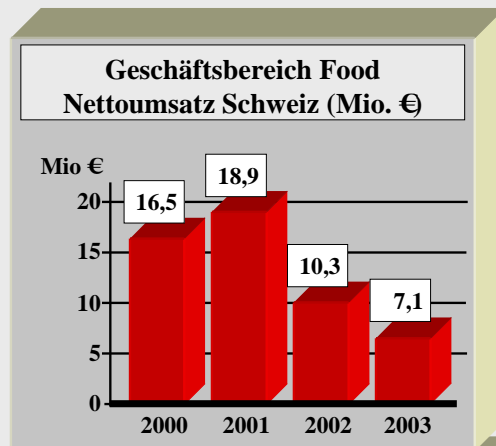
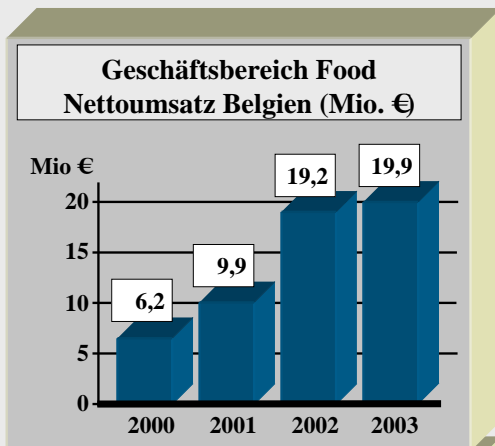
BU Industry
Sales Mio. €
Headcount
Margin
 '01-'05





or rather this way?

Graphische Darstellung der Nettoumsatzentwicklung in den letzten vier Jahren (in Mio. €)



Bemerkung: keine

If these five Quality Criteria are followed
Business Reports can be improved significantly

State Message first

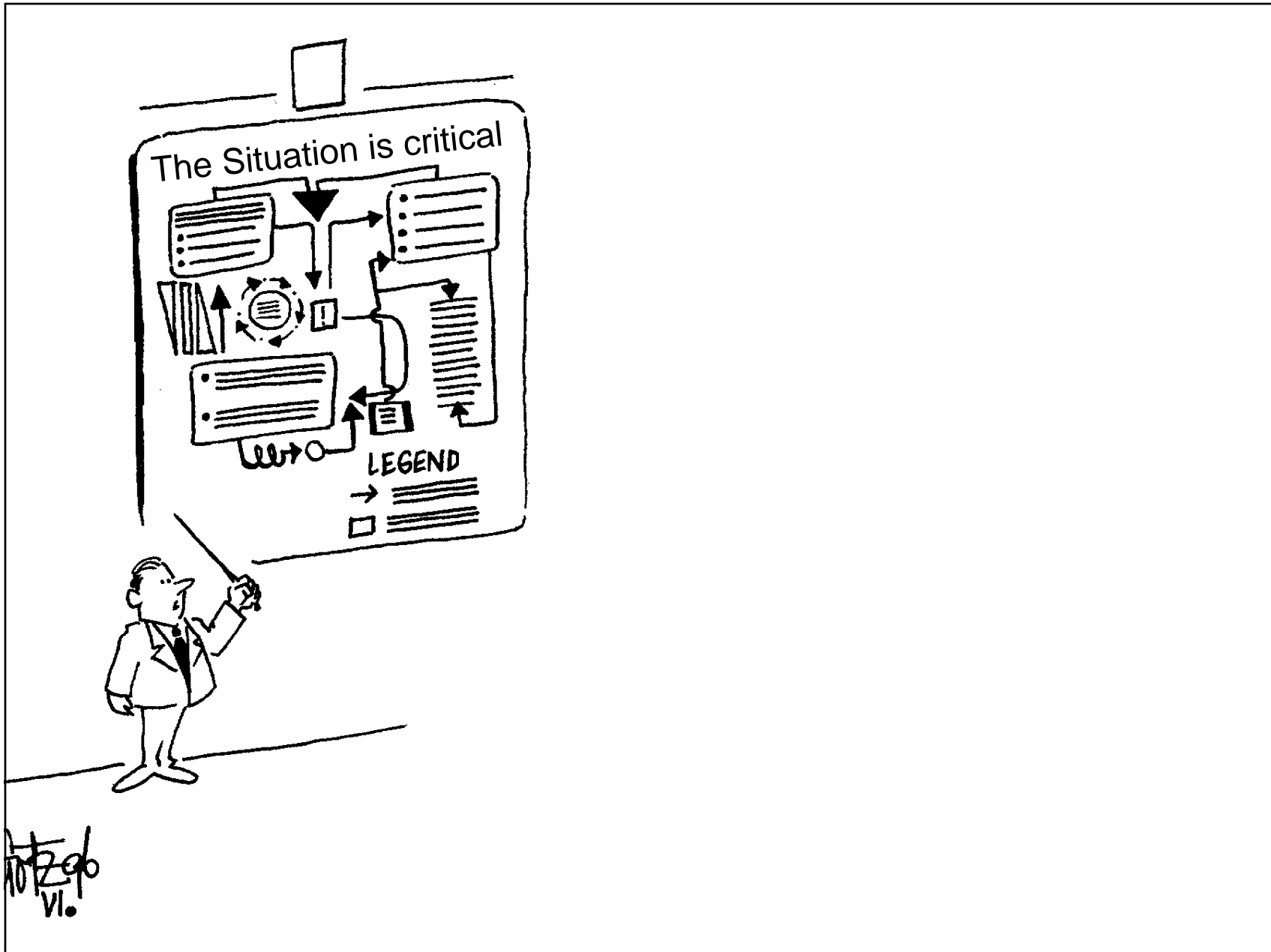
Scale Correctly

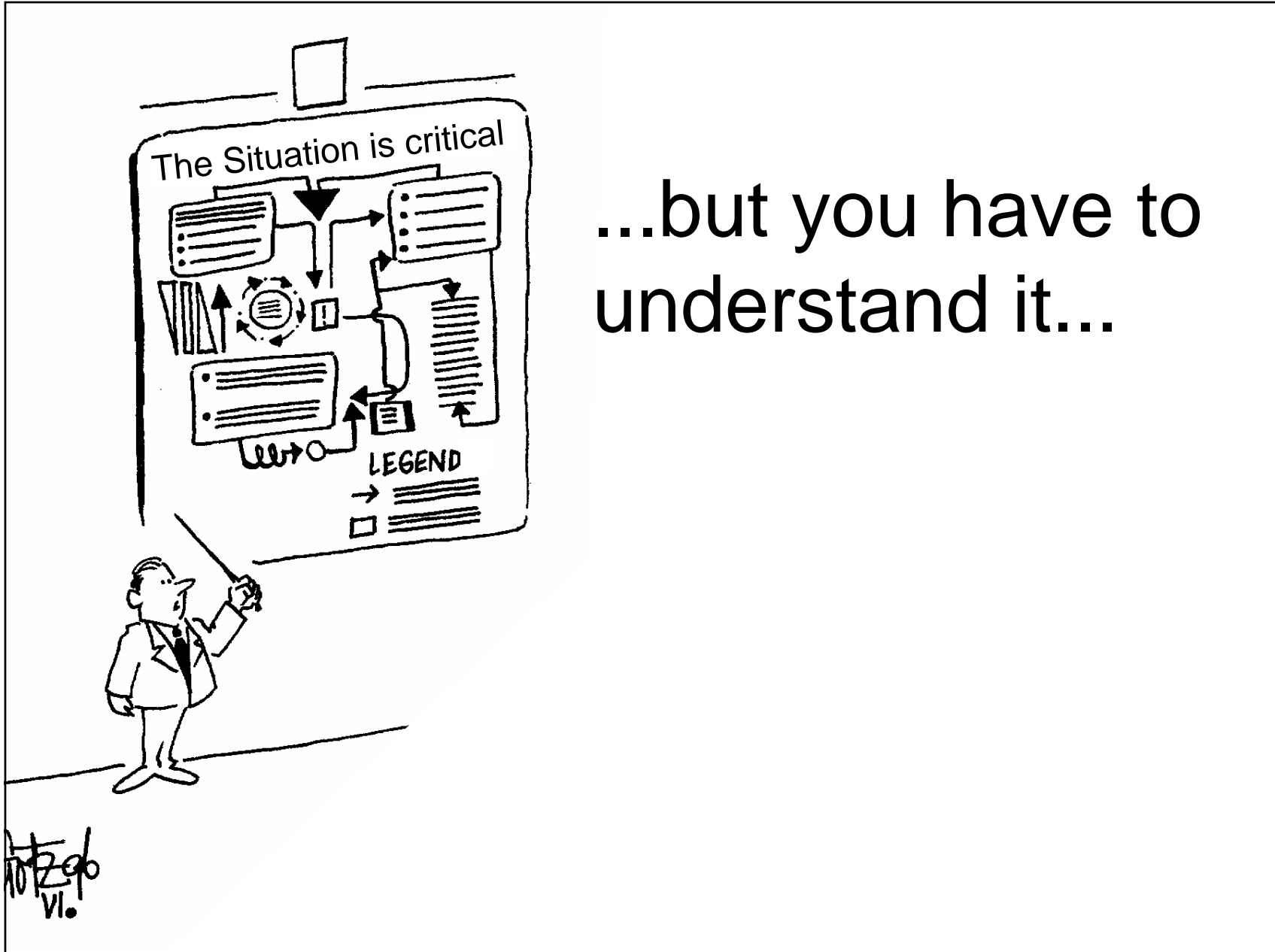
Use a Consistent Notation

Deliver High Information Density

Reduce Noise and Redundancy

A Picture is worth more
than 1.000 Words...





...but you have to understand it...



If you have questions or hints – please feel free to
contact me:

Rolf Hichert
Kreuzlingen/CH

mail@hichert.com
www.hichert.com