

***OLAP Theory-English version***  
***On-Line Analytical processing (Business Intelligence)***

[Ing. Skorkovský, CSc]

KPH\_ESF\_MU

# ***Agenda***

- The Market
- Why OLAP
- Introduction to OLAP
- OLAP Terms and Concepts
- Summary

# ***OLAP market size***



# ***Why OLAP***

- **The Right Information In The Right Place  
At The Right Time**
- **Why**
  - More self-sufficient Business users
  - Keep the integrity of the data
  - Reduces the query drag(burden) and network traffic
  - Organization can respond more quickly to market demands

# ***Introduction to OLAP***

“OLAP enables analysts, managers, and executives to gain insight into data through fast, consistent, interactive access to a wide variety of possible views of information. OLAP transforms raw data so that it reflects the real dimensionality of the enterprise as understood by the user. “

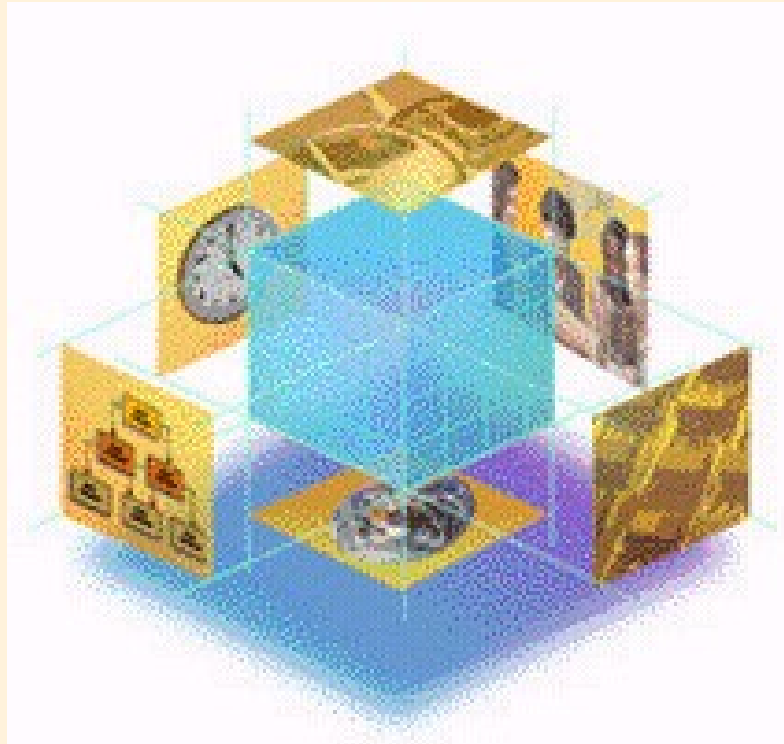
# ***Introduction to OLAP***

- Users
  - Analysts, managers and executive managers
- Access
  - Fast consistent, interactive
  - Wide variety of possible views
- Transformation
  - Raw data
  - Real dimensionality of enterprise

# ***Introduction to OLAP***

- Organizational functions
  - Finance
    - Budgeting
    - Performance analysis
  - Sales
    - Sales analysis and forecasting
  - Marketing
    - Market research analysis
    - Market/customer segmentation
  - Purchase
    - Cost of materials
  - Production
    - Cost of conversion
  - Distribution
    - Cost of shipping
  - etc

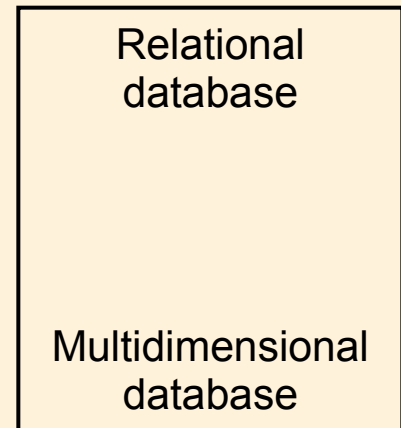
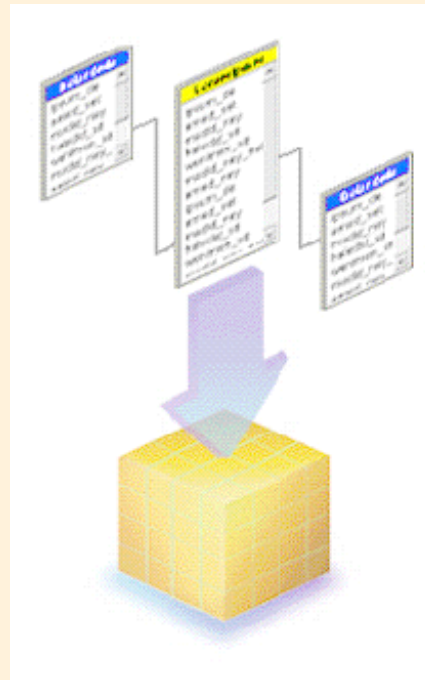
# ***OLAP Terms and Concepts***





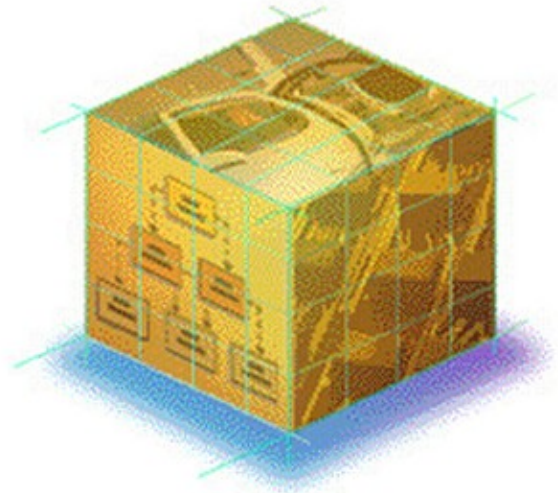
# ***OLAP Terms and Concepts***

- Relational database
- Multidimensional database



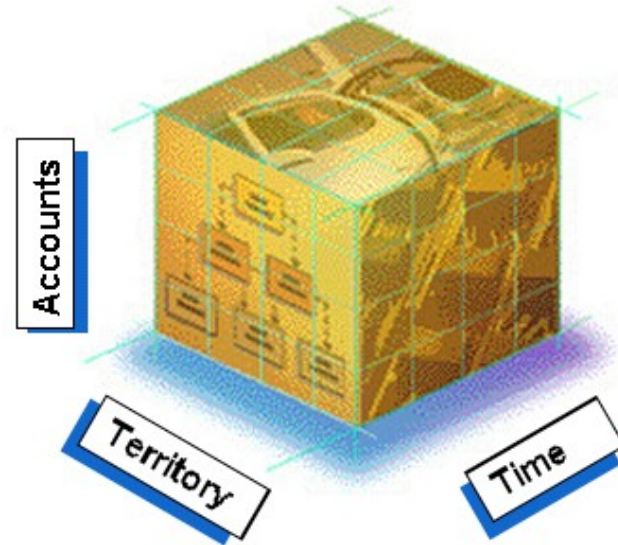
# ***OLAP Terms and Concepts***

- Cube
  - Information Is conceptually viewed as cubes.



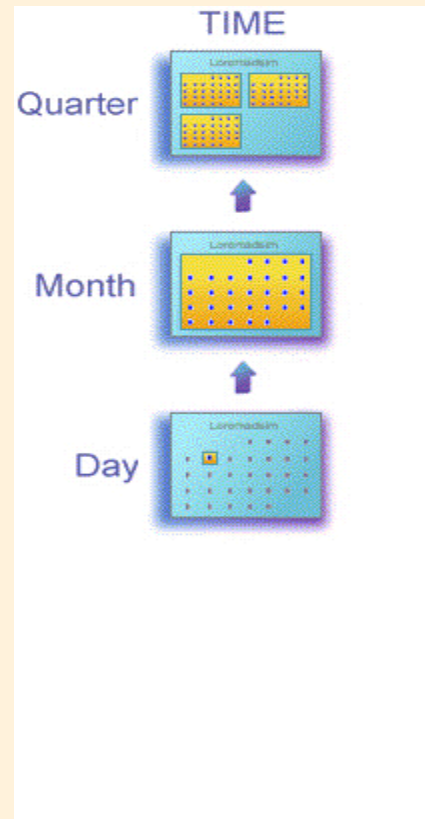
# ***OLAP Terms and Concepts***

- Cube
  - Information is conceptually viewed as cubes.
- Dimension
  - Distinct categories for business data.



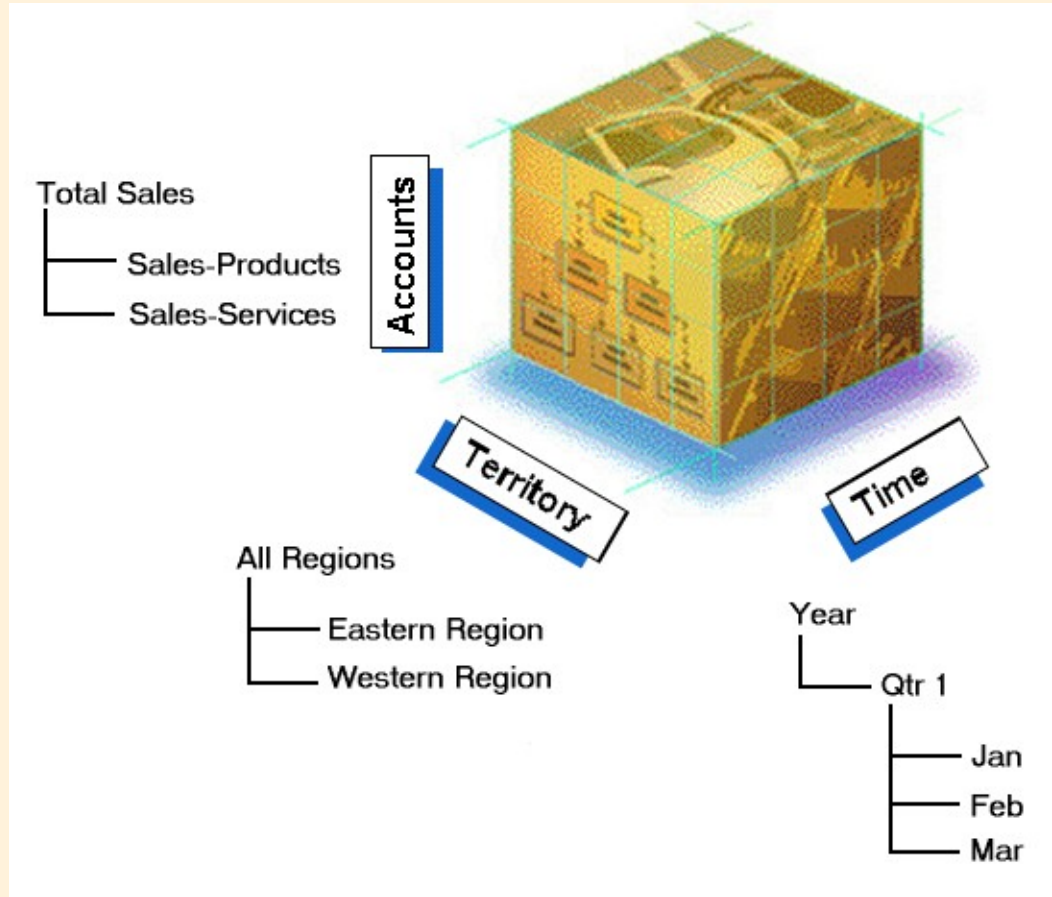
# ***OLAP Terms and Concepts***

- Cube
  - Information is conceptually viewed as cubes.
- Dimension
  - Distinct categories for business data.
- Hierarchy
  - Levels of details on the data.



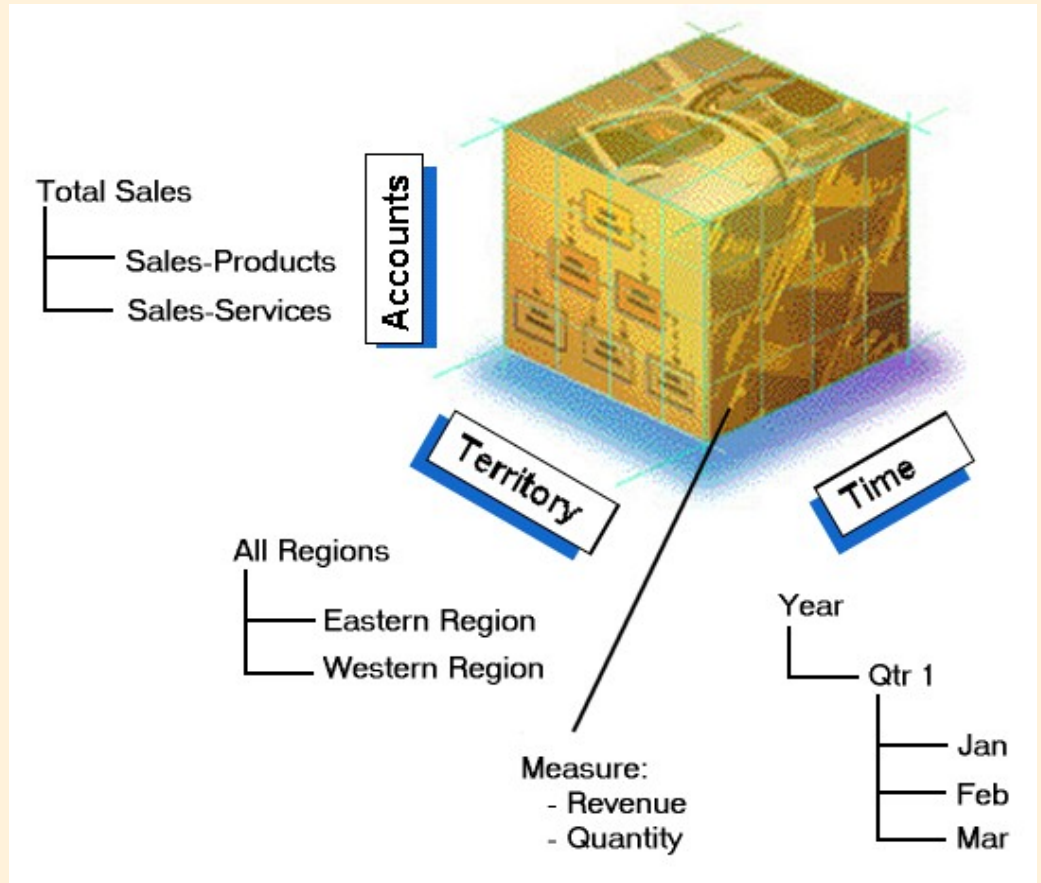
# ***OLAP Terms and Concepts***

- Cube
  - Information is conceptually viewed as cubes.
- Dimension
  - Distinct categories for business data.
- Hierarchy
  - Levels of details on the data.



# ***OLAP Terms and Concepts***

- **Cube**
  - Information is conceptually viewed as cubes.
- **Dimension**
  - Distinct categories for business data.
- **Hierarchy**
  - Levels of details on the data.
- **Measure**
  - Quantitative values.



# ***OLAP Terms and Concepts***

## **Cube**

Information Is conceptually viewed as cubes.

## **Dimension**

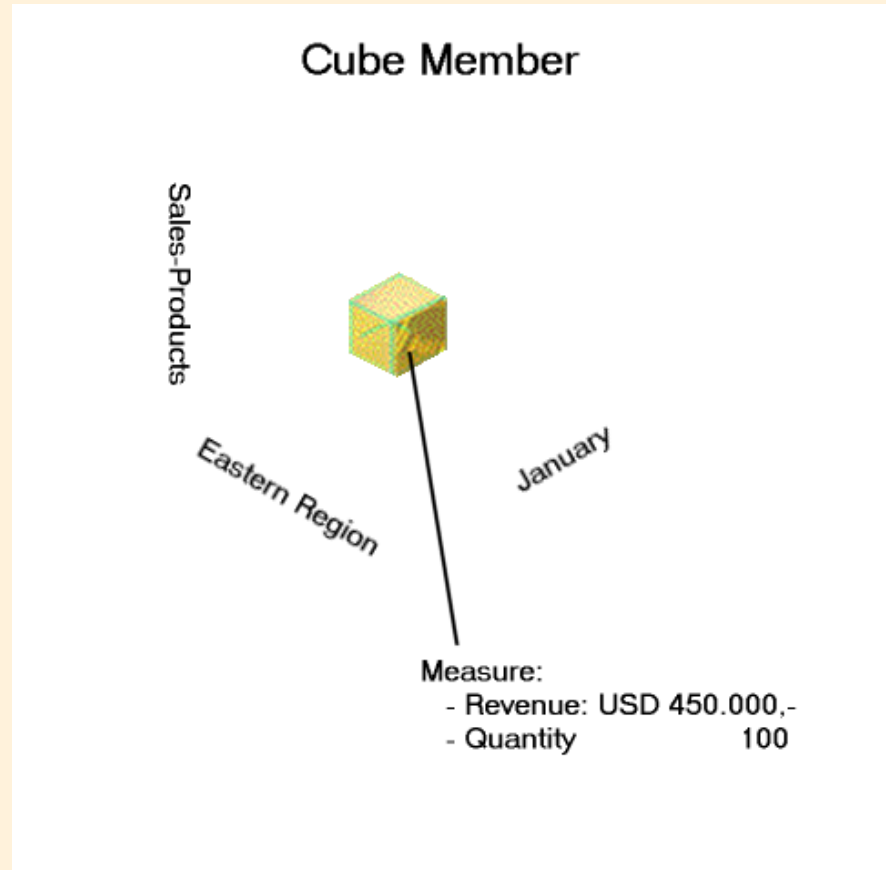
Distinct categories for business data.

## **Hierarchy**

Levels of details on the data.

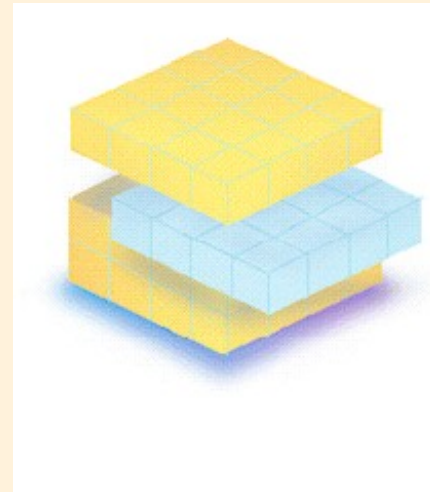
## **Measure**

Quantitative values.



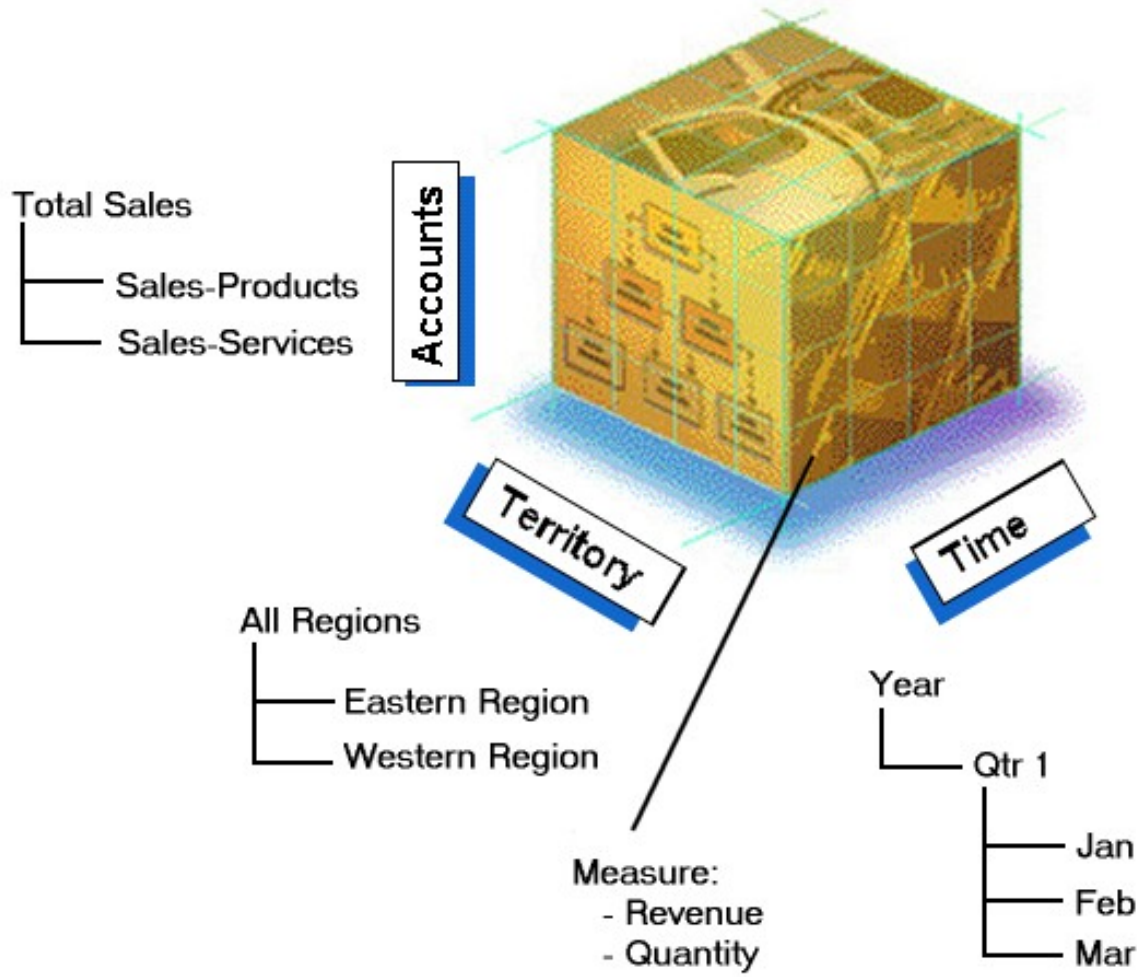
# ***OLAP Terms and Concepts***

- **Cube**
  - Information is conceptually viewed as cubes.
- **Dimension**
  - Distinct categories for business data.
- **Hierarchy**
  - Levels of details on the data.
- **Measure**
  - Quantitative values.
- **Data slice**
  - A subset of the data in a partition.





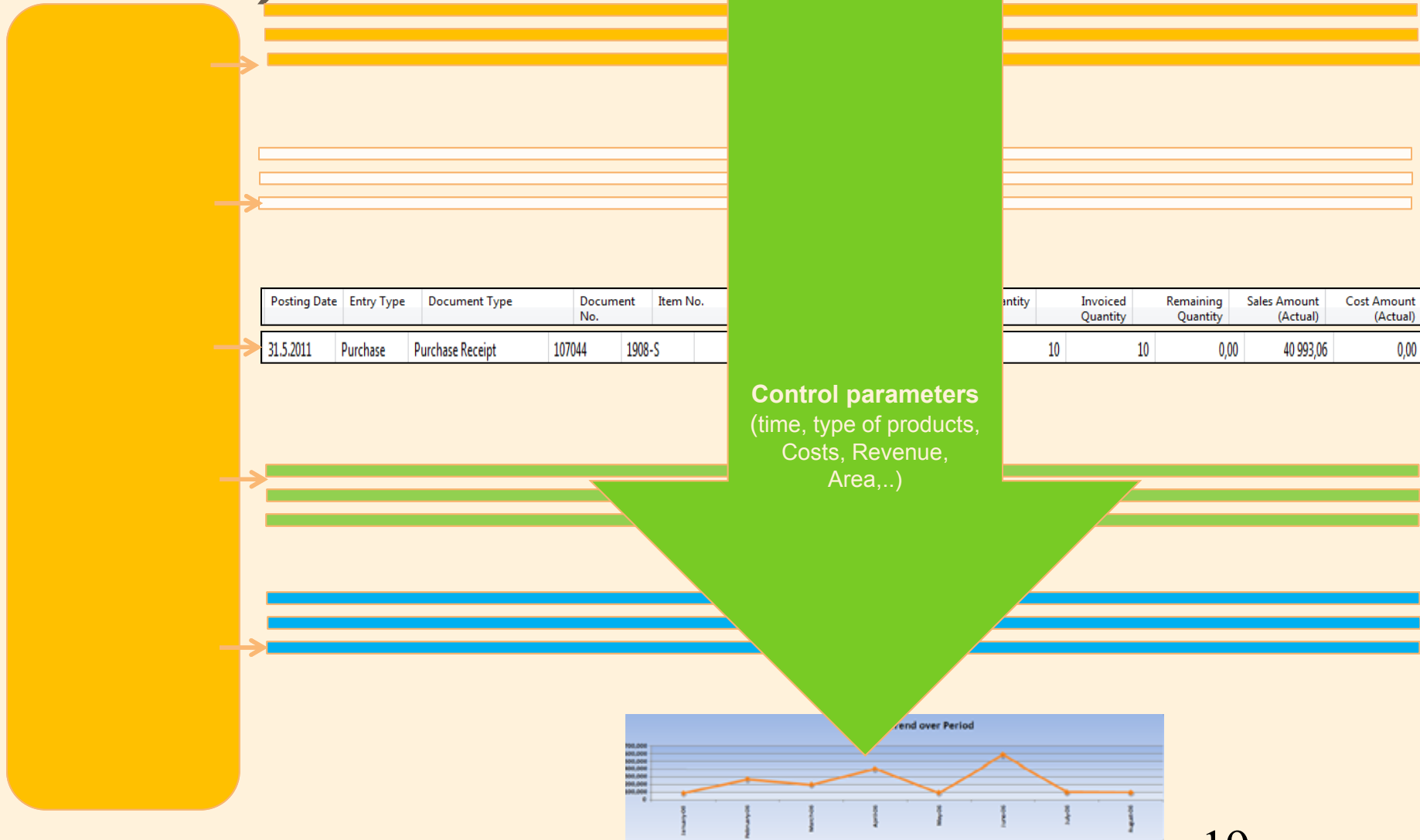
# ***OLAP Cube***



# ***Reporting (NAV tools or JETs)***



# Main principles (source tables and their entries)



## *Some chosen analysis asked by CFO EUROM Czech Republic*

- Working capital – setup of the accounting schedule from NAV

WC Working Capital Analysis - Účetní schéma

Název ..... WC

Číslo řady	Popis	Typ s...	Součet	Typ řady	T... Z...	Tučně	Nová strana
		Účty		Pohyb	Č.. A..		
	Working Capital Analysis	Účty		Pohyb	Č.. A..	✓	
1	Goods all	Součty	139995	Pohyb	Č.. A..		
2	Receivables	Součty	315995	Pohyb	Č.. A..		
3	Cash total	Součty	211995	Pohyb	Č.. A..		
4	Banks all	Součty	221995	Pohyb	Č.. A..		
TR	Receivables	Vzorec	1+2+3+4+5	Pohyb	Č.. A..	✓	
		Účty		Pohyb	Č.. A..		
5	Short bank credits	Účty	231000	Pohyb	Č.. A..		
6	Splatné závazky, celkem	Součty	321995	Pohyb	Č.. A..		
7	Prepayments	Účty	324100	Pohyb	Č.. A..		
8	Associate liabilities	Součty	368995	Pohyb	Č.. A..		
TP	Payables	Vzorec	5+6+7+8	Pohyb	Č.. A..	✓	
		Účty		Pohyb	Č.. A..		
▶	Working capital	Vzorec	TR TP	Pohyb	Č.. A..	✓	

Účetní sc...    Funkce    Tisk    Nápověda

# Some chosen analysis asked by CFO EUROM Czech Republic

- Working capital – Show of the results from NAV

WC - WC - Náhled účetního schéma

Obecné Filtry dimenzí Možnosti

Název účetního schém... WC  
Název rozložení sloupce . WC

Filtr data . . . . . 01.01.08..31.03.08  
Filtr rozpočtu . . . . .

Číslo řady	Popis	Net change (0)	Net change (-3M)	Net change (-6M)	Net change (-9M)
	<b>Working Capital Analysis</b>				
1	Goods all	22 734 286,66	22 868 622,95	35 133 928,96	34 203 102,87
2	Receivables	8 896 962,33	15 620 590,10	13 095 293,10	-2 424 454,90
3	Cash total	-28 167,60	36 920,70		
4	Banks all	7 249 513,07	-161 688,80		-2 694 006,24
<b>TR</b>	<b>Receivables</b>	<b>30 460 492,90</b>	<b>57 101 259,84</b>	<b>34 005 343,10</b>	<b>25 923 710,64</b>
5	Short bank credits	-8 392 101,56	18 736 814,89	-14 223 878,96	-3 160 931,09
6	Splatné závazky, celkem	-12 766 412,03	-9 171 504,29	-3 876 790,60	295 083,40
7	Prepayments				
8	Associate liabilities				
<b>TP</b>	<b>Payables</b>	<b>-21 158 513,59</b>	<b>9 565 310,60</b>	<b>-18 100 669,56</b>	<b>-2 865 847,69</b>
	<b>Working capital</b>	<b>9 301 979,31</b>	<b>66 666 570,44</b>	<b>15 904 673,54</b>	<b>23 057 862,95</b>

1 7 31 3 12

Funkce Nápověda

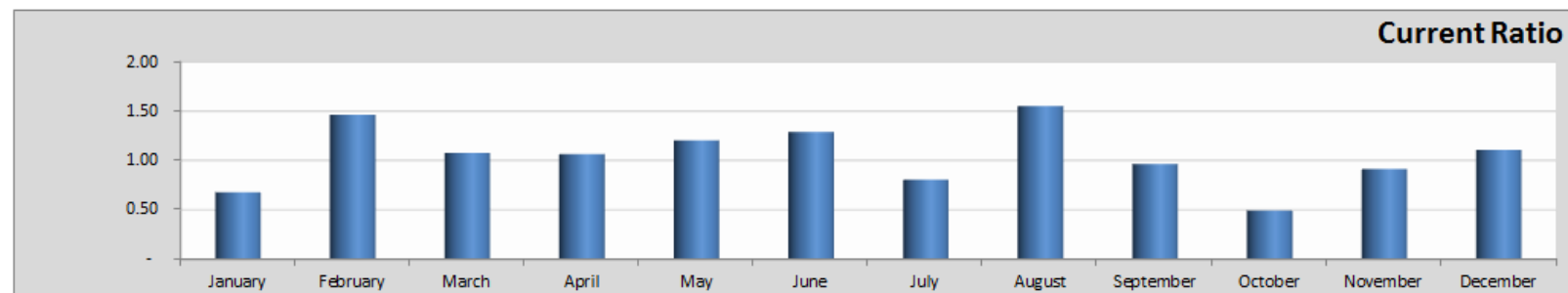
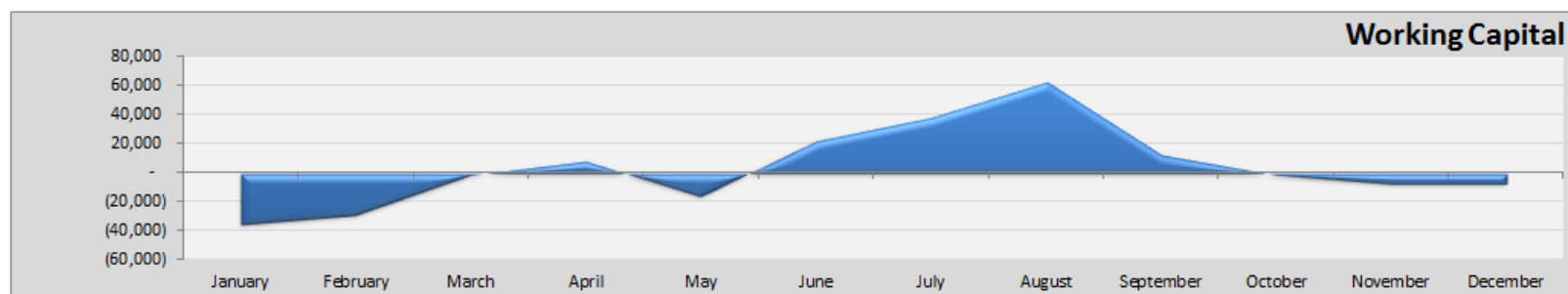
# *Some chosen analysis asked by CFO EUROM Czech Republic*

Working capital – Show of the results from JETs

## Working Capital & Current Ratio

Report Date 8/23/2011

2011												
	January	February	March	April	May	June	July	August	September	October	November	December
<b>Current Assets</b>	74,405	(90,939)	(16,110)	136,096	(92,528)	101,144	(155,777)	174,615	(363,170)	1,015	72,525	(72,789)
<b>Current Liabilities</b>	109,902	(62,118)	(14,989)	127,587	(76,890)	78,566	(193,757)	112,467	(376,168)	2,070	79,494	(65,841)
<b>Working Capital</b>	(35,497)	(28,821)	(1,121)	8,508	(15,638)	22,579	37,980	62,148	12,998	(1,055)	(6,969)	(6,948)
<b>Current Ratio</b>	0.68	1.46	1.07	1.07	1.20	1.29	0.80	1.55	0.97	0.49	0.91	1.11



# Some chosen analysis asked by CFO EUROM Czech Republic

## Inventory - Dashboard

**Company**

- JetCorp, Belgium
- JetCorp, North America

**Location**

- Amsterdam Warehouse 1
- Amsterdam Warehouse 2

**Item Category**

- Awards & Recognition
- Bags & Totes

**Product Group**

- Flashlights
- USB Drives

**Year**

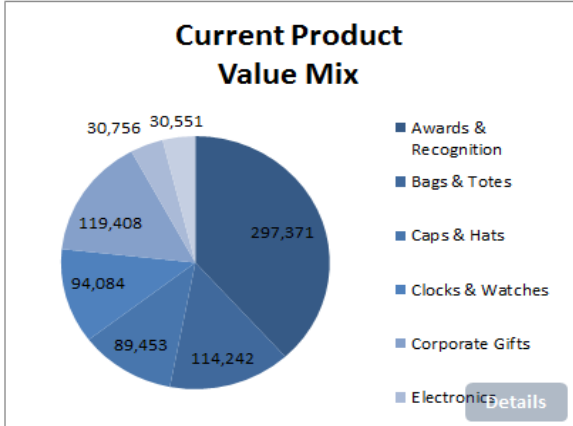
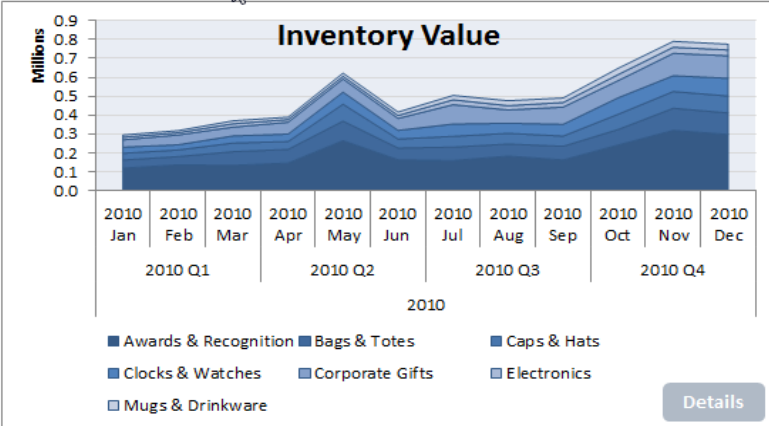
- 2007
- 2008
- 2009
- 2010

**Quarter**

- 2010 Q1
- 2010 Q2
- 2010 Q3
- 2010 Q4

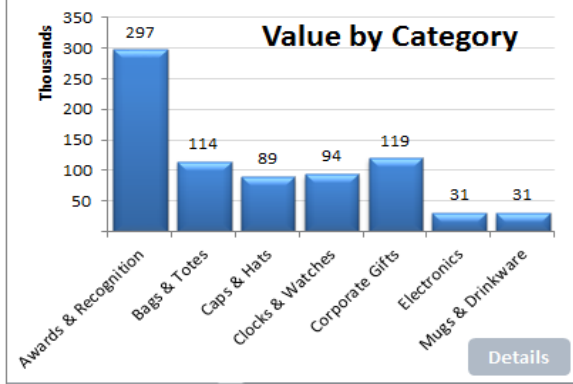
**Month**

- 2010 May
- 2010 Jun
- 2010 Jul
- 2010 Aug



**Average Inventory Value**

	Period	Prev. Yr	Variance	%	Grand Total
Awards & Recognition	188,840	200,797	-11,957	-5.95%	188,840
Bags & Totes	72,551	83,459	-10,908	-13.07%	72,551
Caps & Hats	56,765	63,983	-7,218	-11.28%	56,765
Clocks & Watches	57,043	63,353	-6,310	-9.96%	57,043
Corporate Gifts	73,856	81,520	-7,664	-9.40%	73,856
Electronics	19,293	18,451	842	4.56%	19,293
Mugs & Drinkware	19,052	16,732	2,320	13.86%	19,052



# Some chosen analysis examples (JETs)

## Accounts Receivable Dashboard

**Company**

- JetCorp, Belgium
- JetCorp, North Am...

**Country**

- Austria
- Belgium
- Canada
- Denmark
- France
- Germany
- Great Britain
- Iceland

**Customer**

- Designstudio Gmu...
- Möbel Siegfried
- Michael Feit - Möb...
- Nieuwe Zandpoort...
- Techibase
- Louvain Contractors

**Global Dimension 1**

- CORPORATE - Co...
- EVENTS - Events ...
- SPORTS - Sports ...

**Global Dimension 2**

- LARGE - Large Bu...
- MEDIUM - Medium ...
- SMALL - Small Bu...

