Interreg
Euregio Meuse-Rhine
European Regional Development Fund

EUROPEAN UNION

EMR-eMS-Analysis

Managing Authority Interreg V-A Euregio Meuse-Rhine

Agenda

I. **Technical Architecture of DW/BI-Systems**

II. Data Model of DW/BI-Systems

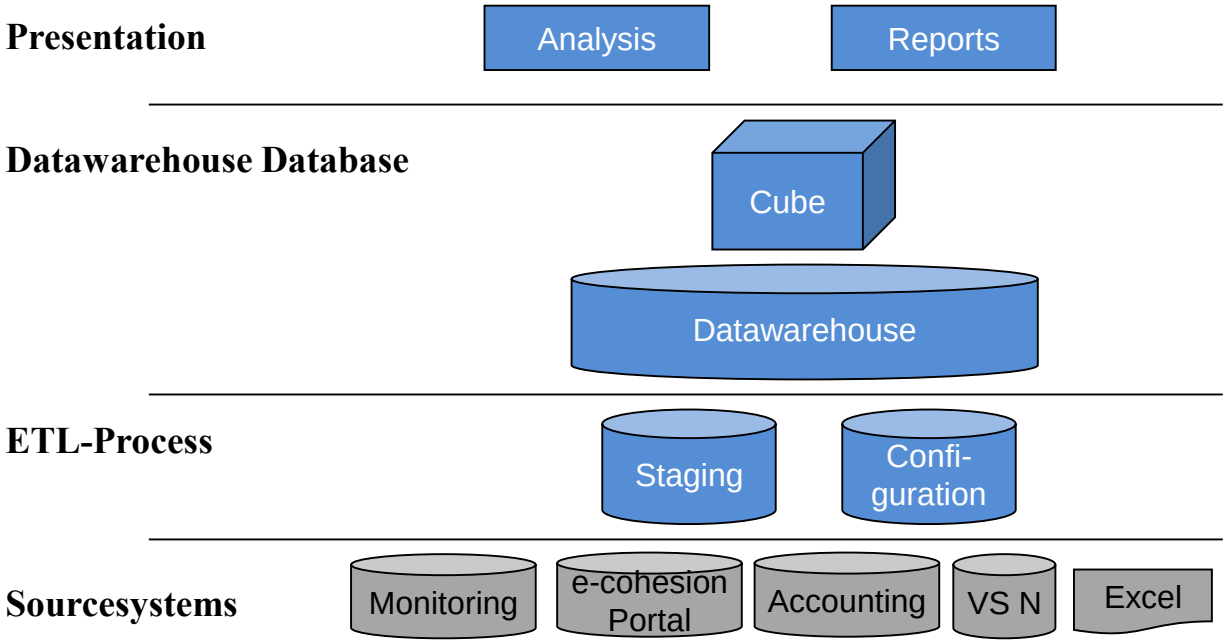
III. Live Presentation

What is Data Warehouse/Business Intelligence?

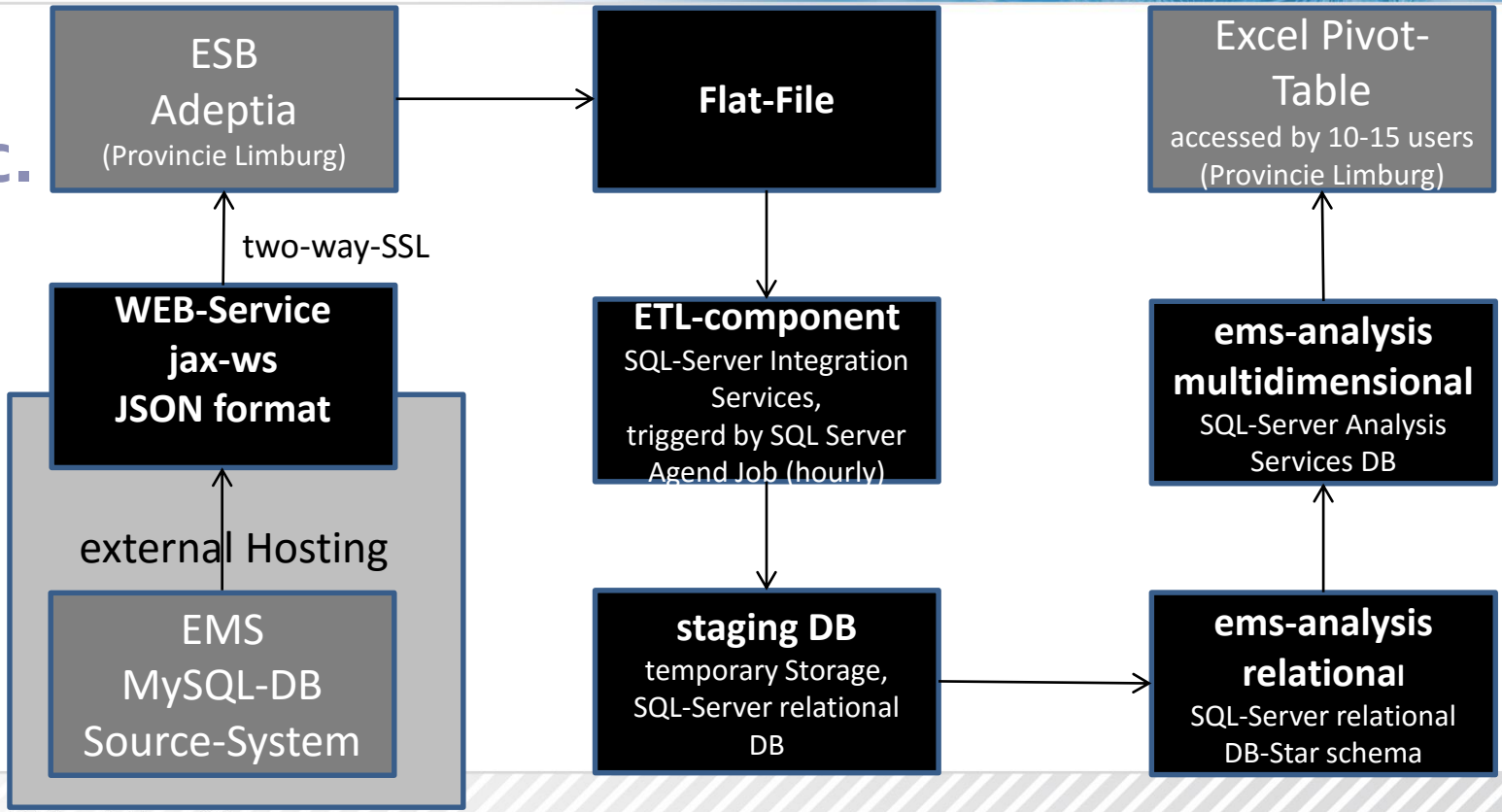
- Data warehousing and business intelligence are techniques to provide business people with information and tools they need to make both operational and strategic business decisions. (Kimball)

- Typically, you create BI solution when business users want to analyze, explore, and report on their data in an easy and convenient way. (Webb/Russo/Ferrari)

DW / BI Architecture



Techn. Architec.



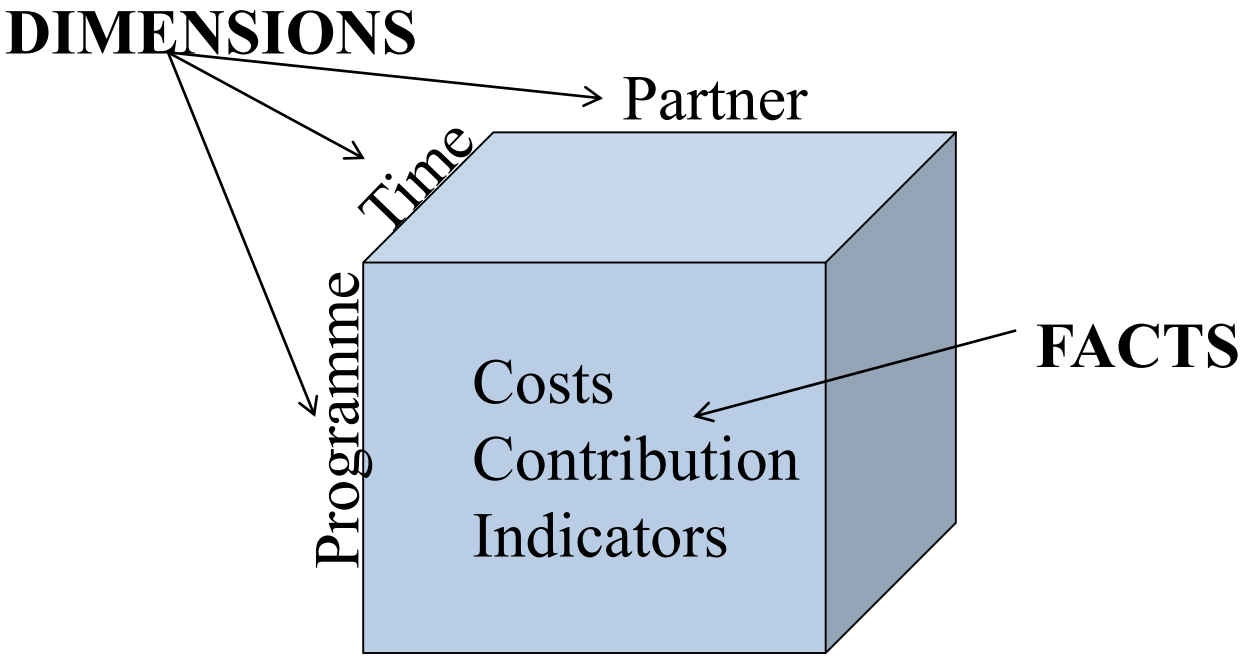
Agenda

I. Technical Architecture of DW/BI-Systems

II. Data Model of DW/BI-Systems

III. Live Presentation

Multidimensional



Facts

- Numeric values
- Also called Measures
- Are generated within Business Processes

Examples:

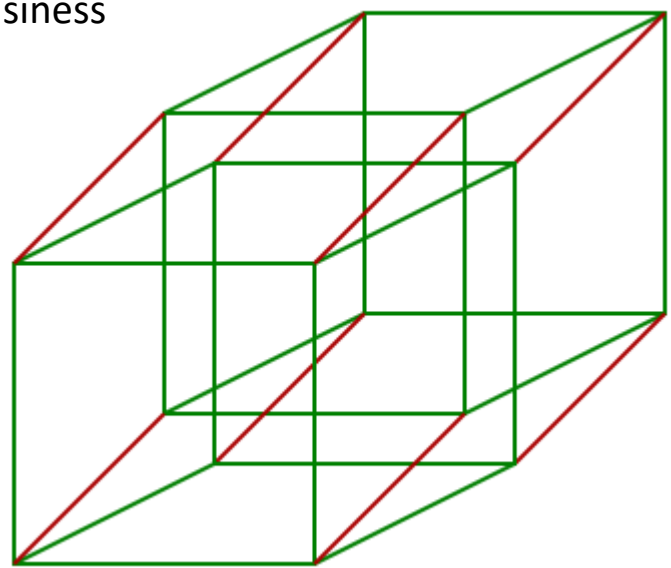
- Costs
- Contributions
- Payments
- Indicators

Dimensions

- Dimensions refer the objects that participate in the business
  - Describe
  - Search
  - Aggregate

- Who-, What-, When-, How-, Why-, Where-Context

  Examples:
  Project
  Call
  Budgetline
  Kind of Contribution



Bus-Matrix

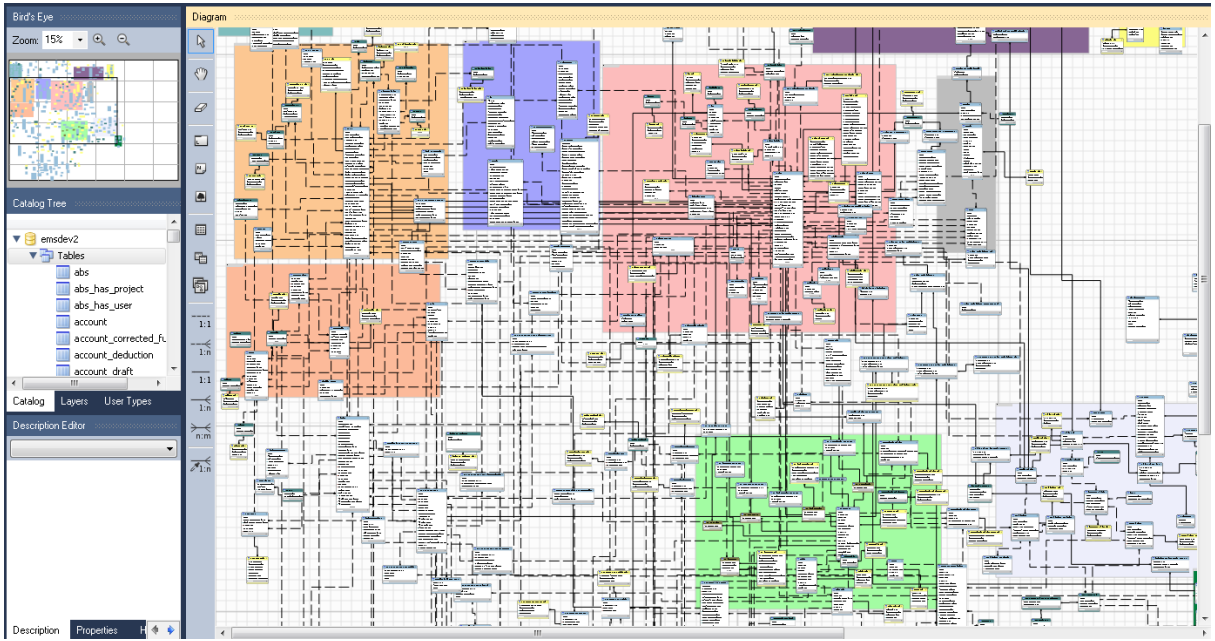
Fact / Dimension	Budgetline	Subbudgetline	Workpackage	Kind of Contribution MA	Kind of Contribution CA	Source	Partner	Priority	Project	Projectversion	Specific Objective	Call	Other Dimensions
planned costs	x	x	x				x	x	x	x	x	x	
planned contribution/financing				x	x	x	x	x	x	x	x	x	
actual costs													
actual contribution/financing													
planned and acutal Indicators													

1. Version
2. Version
3. Version

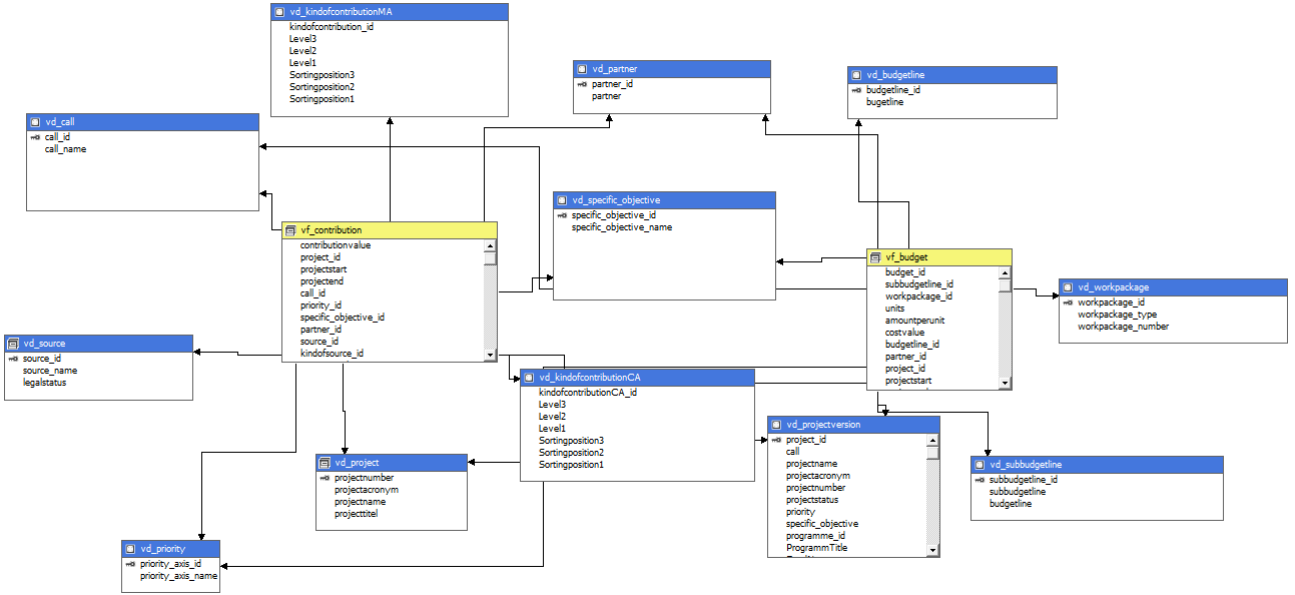
Bus-Matrix (Detail)

Fact / Dimension	Budgetline	Subbudgetline	Workpackage	Kind of Contribution MA	Kind of Contribution CA	Source	Partner	Priority	Project
planned costs	x	x	x				x	x	x
planned contribution/financing				x	x	x	x	x	x

Complexity: eMS-Datastructure



eMS-Analysis Prototyp I - Datastructure



Conclusion: Different kinds of workloads

- operational workload: continuous transaction that create, read, update, delete single data-records
  =>Tool: relational, normalized data-base

- analytical workload: discontinuously appearing transactions that read thousands of data-records
  => Tool: multidimensional de-normalized data-base

Agenda

I. Technical Architecture of DW/BI-Systems

II. Data Model of DW/BI-Systems

III. Live Presentation

Benefits

- **User-friendliness**
  - Flexible combination of information-items
  - Intuitive navigation
- **Performance**
  - Response time
  - No negative influence on the transactional system
- **Independence**
  - Development of the DW/BI-System
  - Change of the transactional system

Interreg
Euregio Meuse-Rhine
European Regional Development Fund

EUROPEAN UNION

Thank you for your attention!