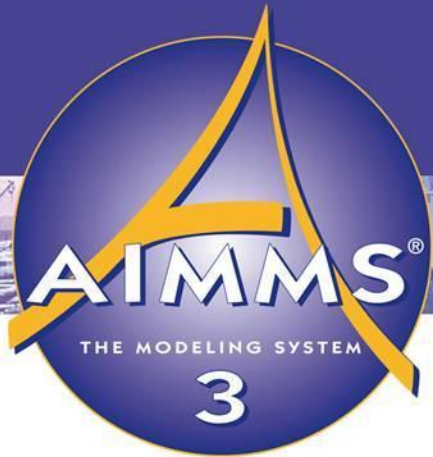


dr. Frans de Rooij
AIMMS Sales Manager Europe



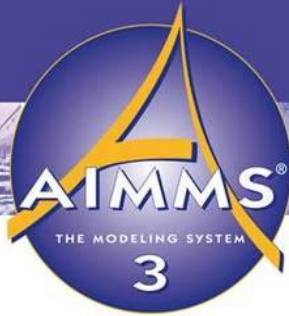
Deploying optimization models to End-Users with AIMMS

Optasoft Conference, Budapest, 5 November 2009

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Agenda

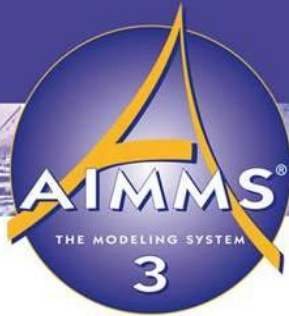


• **Introduction**

- Development of model & GUI
- Deployment to End-Users
- Conclusions

Introduction

Industry context



Optimization (Operations Research)

Computation & Simulation

Statistics & Forecasting

Rules

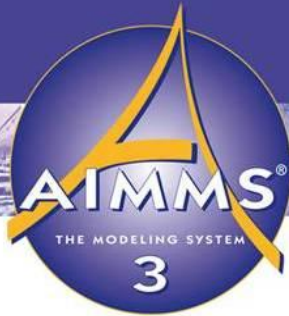
Business Intelligence

Collecting & managing quantitative data (ERP systems)

System Integrators & Consultants

Introduction

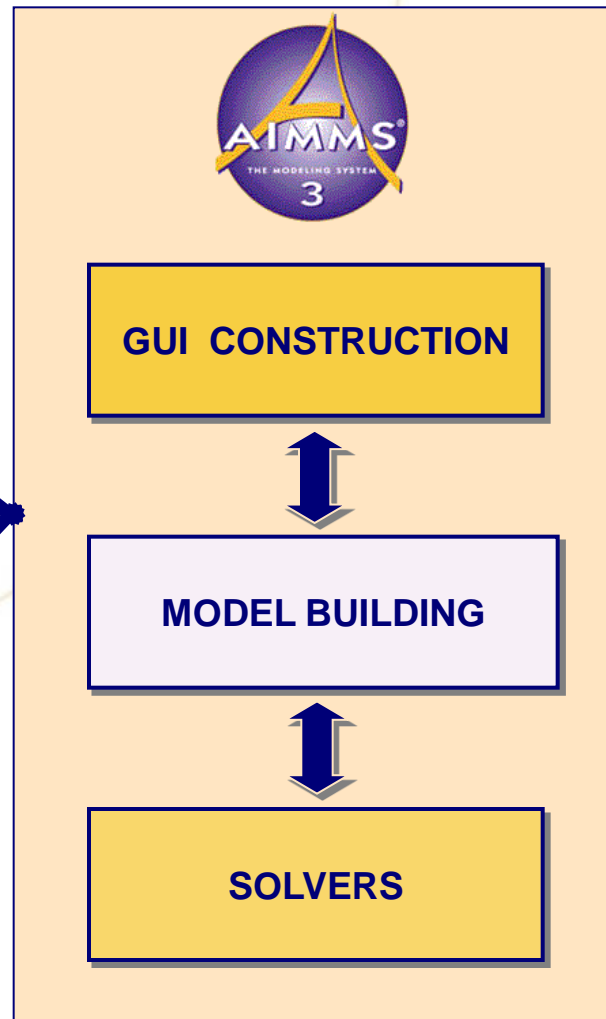
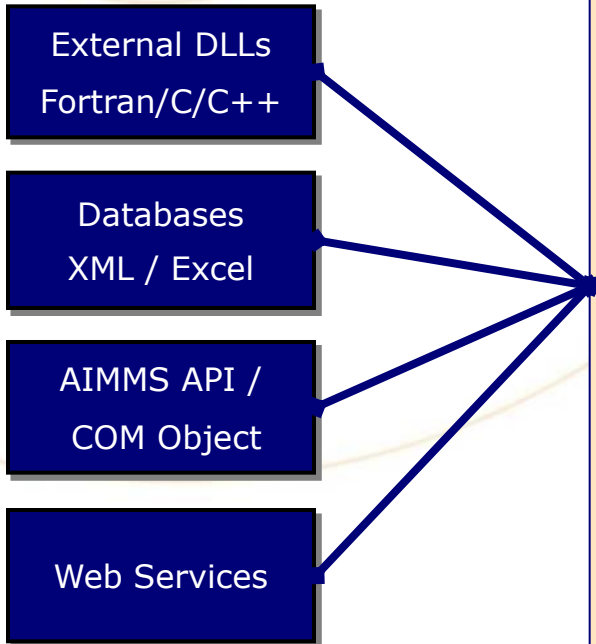
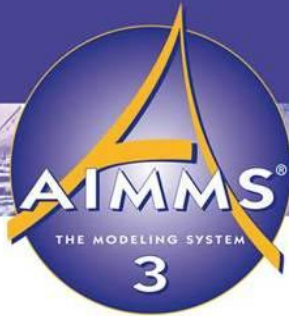
Our company



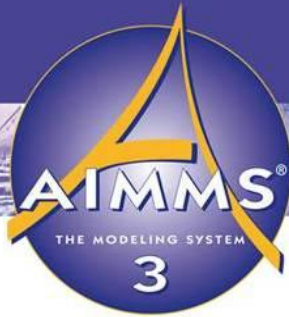
- Mission: Enabling people to apply OR successfully
- AIMMS= Advanced Interactive Mathematical Modeling Software
- 1989: Company founded in **Haarlem**, The Netherlands by prof. Jan Bisschop (University of Twente)
- 2005: American office opened in **Seattle**, USA
- 2007: Asia-Pacific office opened in **Singapore**

Introduction

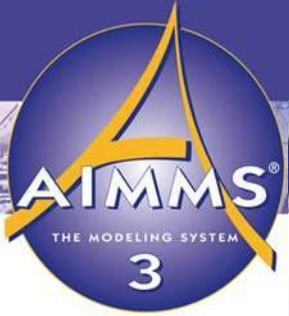
AIMMS System Overview



Introduction AIMMS in Industry



AIMMS Service Partners



Partners

Applied Optimization
ORTEC
Outperform
UniSoma

Ab Ovo
CQM
ETP
GTS Systems&Cons.
Optasoft
ORTEC
Outperform

Applied Optimization

Paragon Office
Seattle

Paragon Office
Haarlem

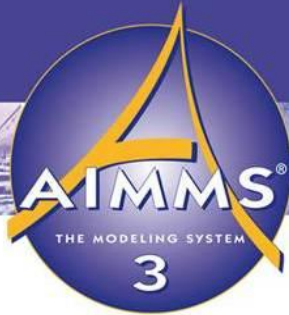
Paragon Office
Singapore

Agenda



- Introduction
- **Development of model & GUI**
- Deployment to End-Users
- Conclusions

Development of model & GUI



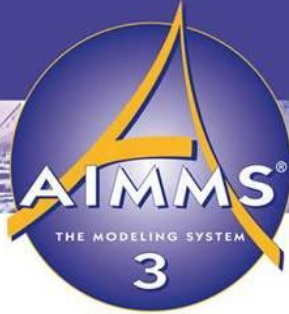
- Demo of AIMMS Example: **Transport Model**
- Parameters
 - Depots d with $\text{Supply}(d)$
 - Customers c with $\text{Demand}(c)$
 - $\text{UnitTransportCost}(d,c)$
- Variables
 - $\text{Transport}(d,c)$
- Objective
 - $\text{TotalTransportCosts}$
- Constraints
 - $\text{MeetDemand}(c)$
 - $\text{SatisfySupply}(d)$

Agenda



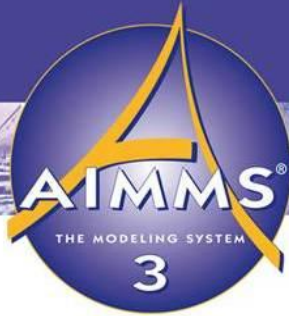
- Introduction
- Development of model & GUI
- **Deployment to End-Users**
- Conclusions

Deployment to End-Users



- You created great model in AIMMS
- You then created a GUI around this
- Now, how to deploy this application to End-Users:
 - Use the AIMMS GUI, or integrate in GUI of existing IT application?
 - Run the model on the user's local computer, or on a central server?

Deployment to End-Users

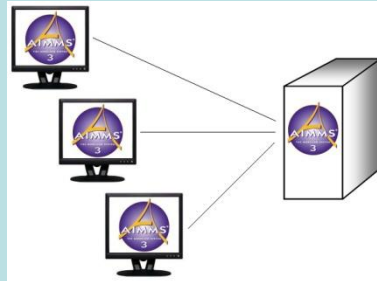


AIMMS GUI

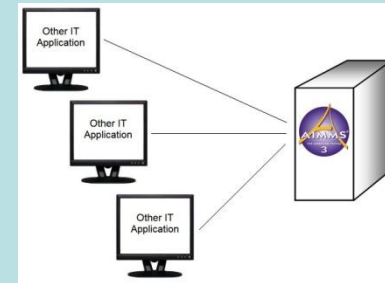
Other GUI

Remote

Server Based Optimization



Server Based Optimization engine



Local

Stand-alone AIMMS applications



AIMMS optimization engine



Deployment to End-Users



- Deployment is not just one single action, but requires updates:
 - Reality changes, requirements change
 - Better insights in the problems
 - Mathematics advances
- With server-based optimization you can do updates centrally

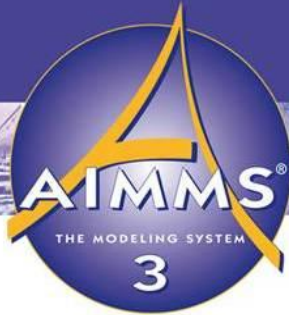
Agenda



- Introduction
- Development of model & GUI
- Deployment to End-Users
- **Conclusions**



Conclusion



- AIMMS is used for optimization applications in many industries
- Supported by AIMMS Service Partners around the world

- Easy to create model and GUI
- End-User can interact with model & data (e.g. Pivot table)

- AIMMS facilitates large-scale deployment to End-Users
 - AIMMS GUI, or other GUI
 - Local, or Server-based