seven2one
Informationssysteme GmbH

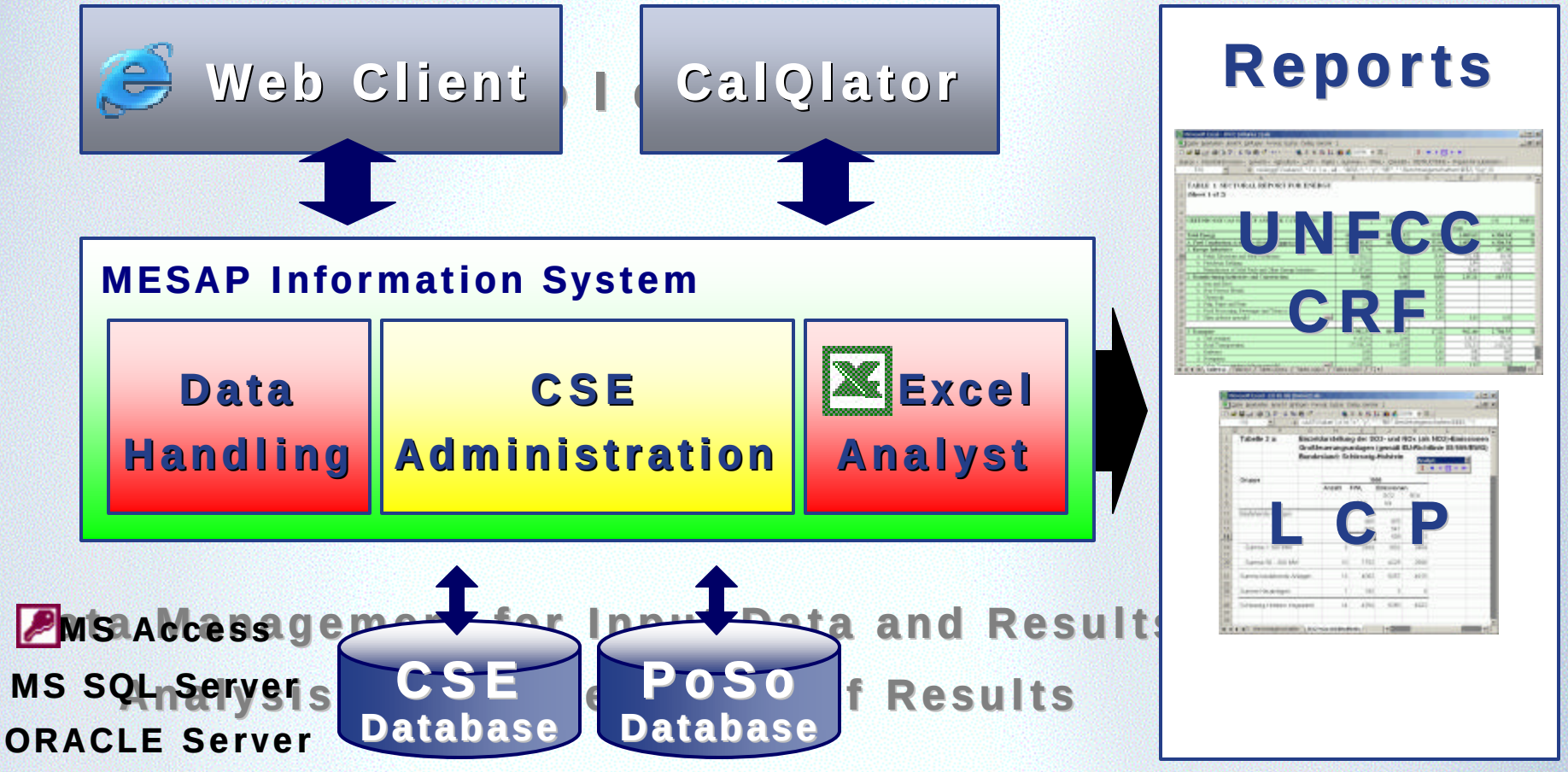
MESAP

# Central System of Emissions

# CSE

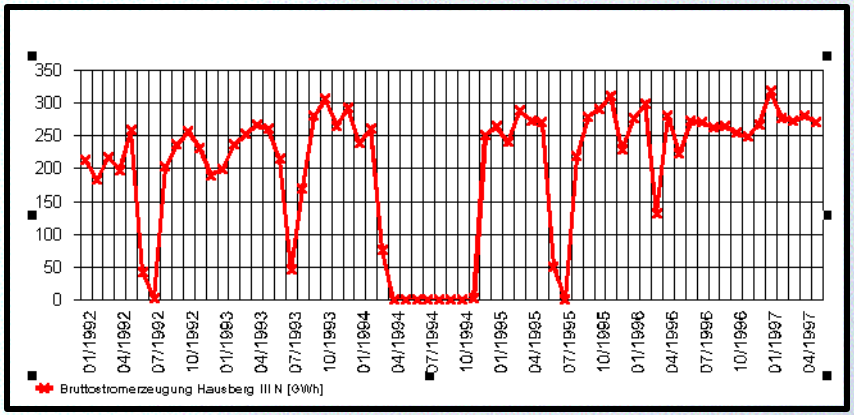
Ulrich Schellmann, Seven2one Inc.

# The CSE-MESAP Solution



# Time Series Object

**Annual CO2 Emission**
of **Passenger Cars**
in **Urban Driving Sector** for
the City **Berlin** in **Germany**
in **Gtons**




| | | | | | | | | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|
| Berlin | Emission | CO2 | Pass. Cars | Diesel | Gt | a | REF | 56,673 | 62,829 | 60,821 |

**Multi-dimensional Time Series Key** | **Specs** | **Data Values**

# Multi-dimensional Key

| Spatial Unit | Data Content | Pollutant | Source Category | Technology | Sector | Fuel |
|---|---|---|---|---|---|---|
| Bavaria | Activity rate | | | Boilers | | Biogas |
| Germany | Em.factor | | | | | |
| **Berlin** | **Emission** | **CO2** | **Rd Transp.** | **P.Cars** | **Urban driving** | **Diesel** |
| Europe | | NH3 | Agriculture | Trucks | Heat production | Peat |
| Stuttgart | | NMVOC | Comb.plants | . . . | Metal degreasing | . . . |
| | | . . . | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1996 |
| Berlin | Emission | CO2 | Pass. Cars | Diesel | Gt | a | REF | 56,673 |

# Data Values

| Unit | T.Res. | Hypo | 1996 | 1996 | 1998 | 2002 |
|---|---|---|---|---|---|---|
| Gt | year | REF | 6,673.98 | 2,829.65 | 3,653.21 | -,- |

| Unit | T.Res. | Hypo | Jan | Feb | ... | Dec |
|---|---|---|---|---|---|---|
| Gt | month | REF | 489.32 | 502.56 | ... | 521.87 |

| | | | | | | | | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|
| Berlin | Emission | CO2 | Pass. Cars | Diesel | Gt | a | REF | 6,673 | 2,829 | 3,653 |

# Master Data

seven2one Informationssysteme

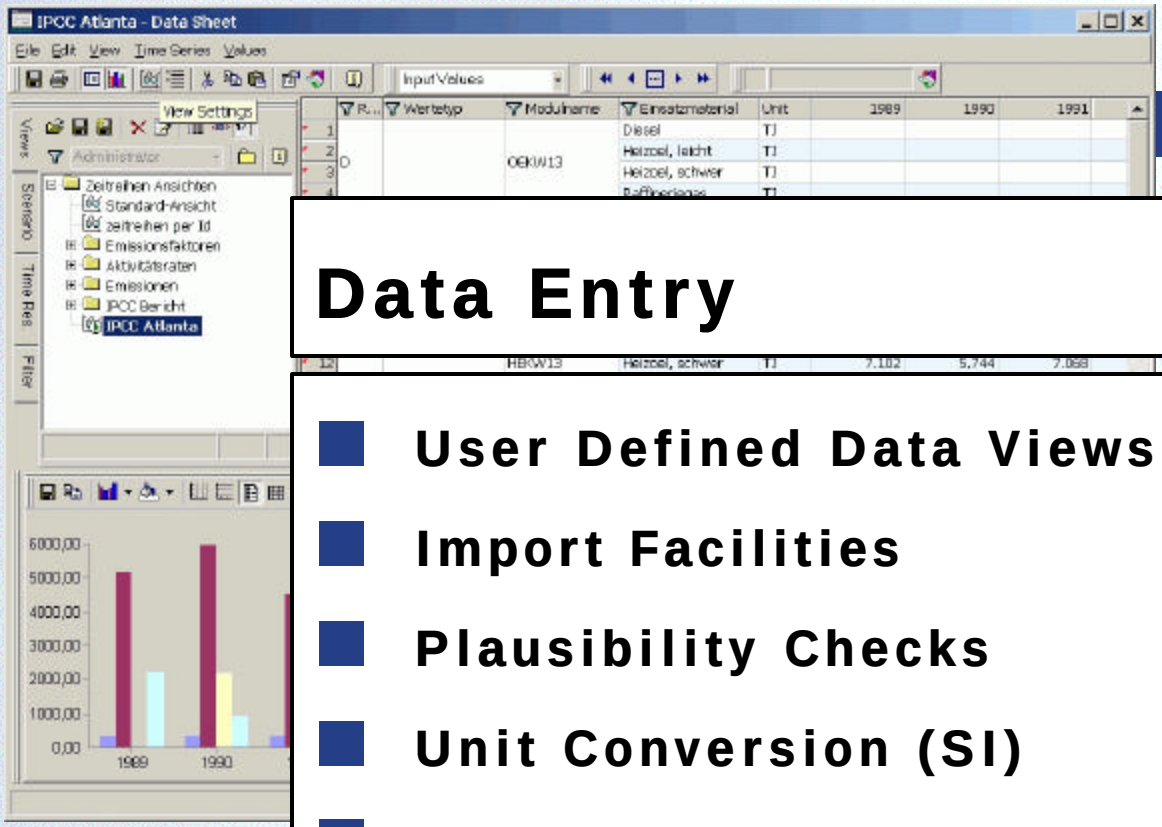
## Navigation Tree

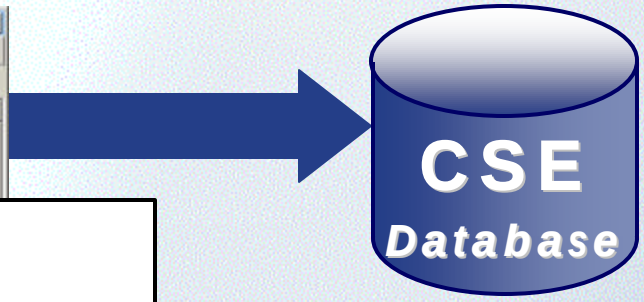
- PowerPlants
  - Utility A
    - Coal Power Plant
      - Block (a)
        - Boiler
        - Generator
        - REA
        - Turbine
      - Block (b)
  - Utility B
    - Nuclear Power Plant
      - Generator
      - Reactor
      - Turbine
  - Utility C

## Master Data Form

| | |
|---|---|
| **Identdata** | |
| Name of Unit | |
| Localization of Unit | Berlin |
| Owner | E.ON AG<br>EnBW |
| Type of Unit | Thermal |
| EURELECTRIC Classification | Monovalent Lignite |
| Fuel | Coal |
| **Technical Data** | |
| Comissioning Year | 01.05.1983 |
| Decomissioning Year | |
| Lifetime | 45 |
| Gross Power (MW) | |
| Gross Power (TS) | 865 MW (1998) |
| Betriebsarbeit | #Kein Wert# |
| Efficiency | 39,7 % (1998) |
| Combined Cycle | Ja |
| Combined Heat&Power | Ja |

# Workflow in CSE



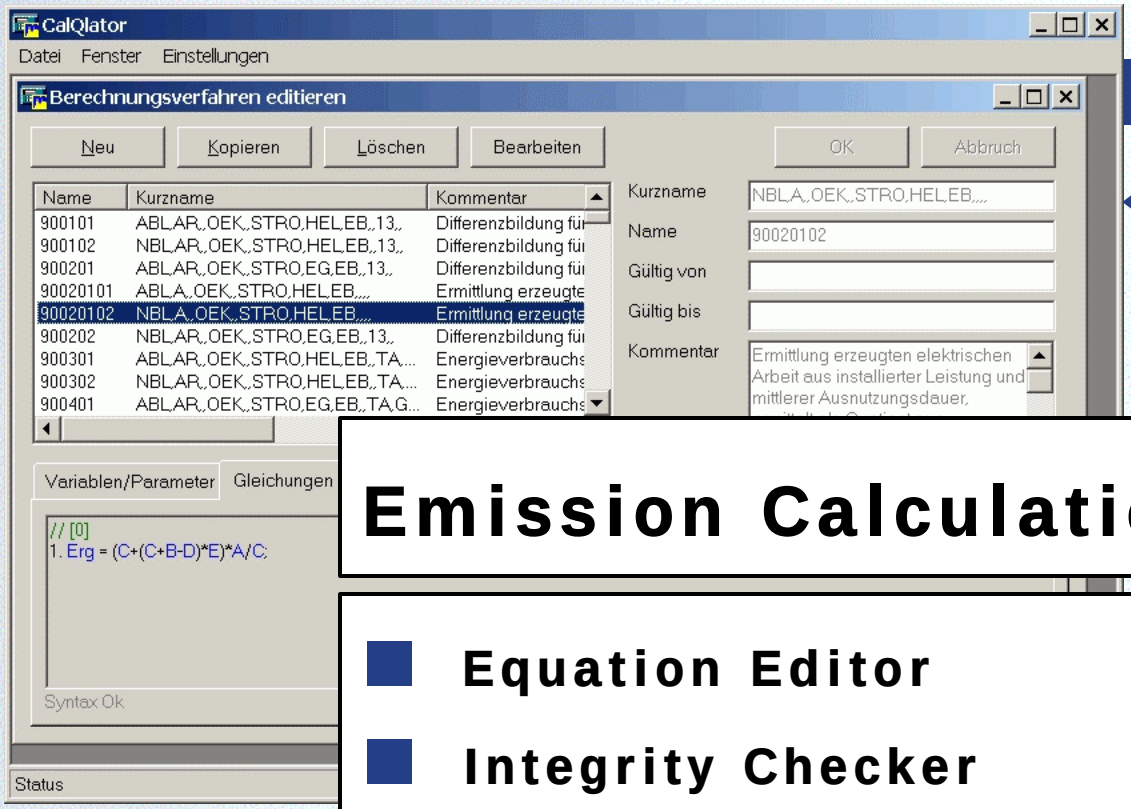



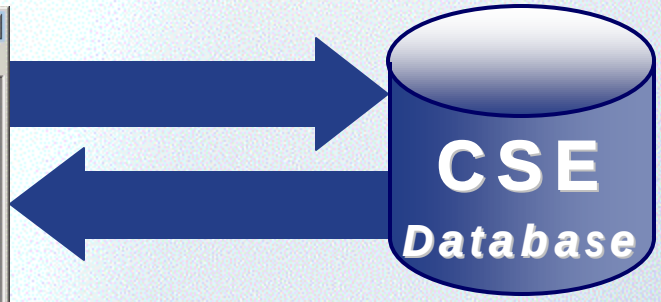

## Data Entry

- User Defined Data Views
- Import Facilities
- Plausibility Checks
- Unit Conversion (SI)
- Currency Exchange Rates
- Documentation

seven2one
Informationssysteme

# Workflow in CSE

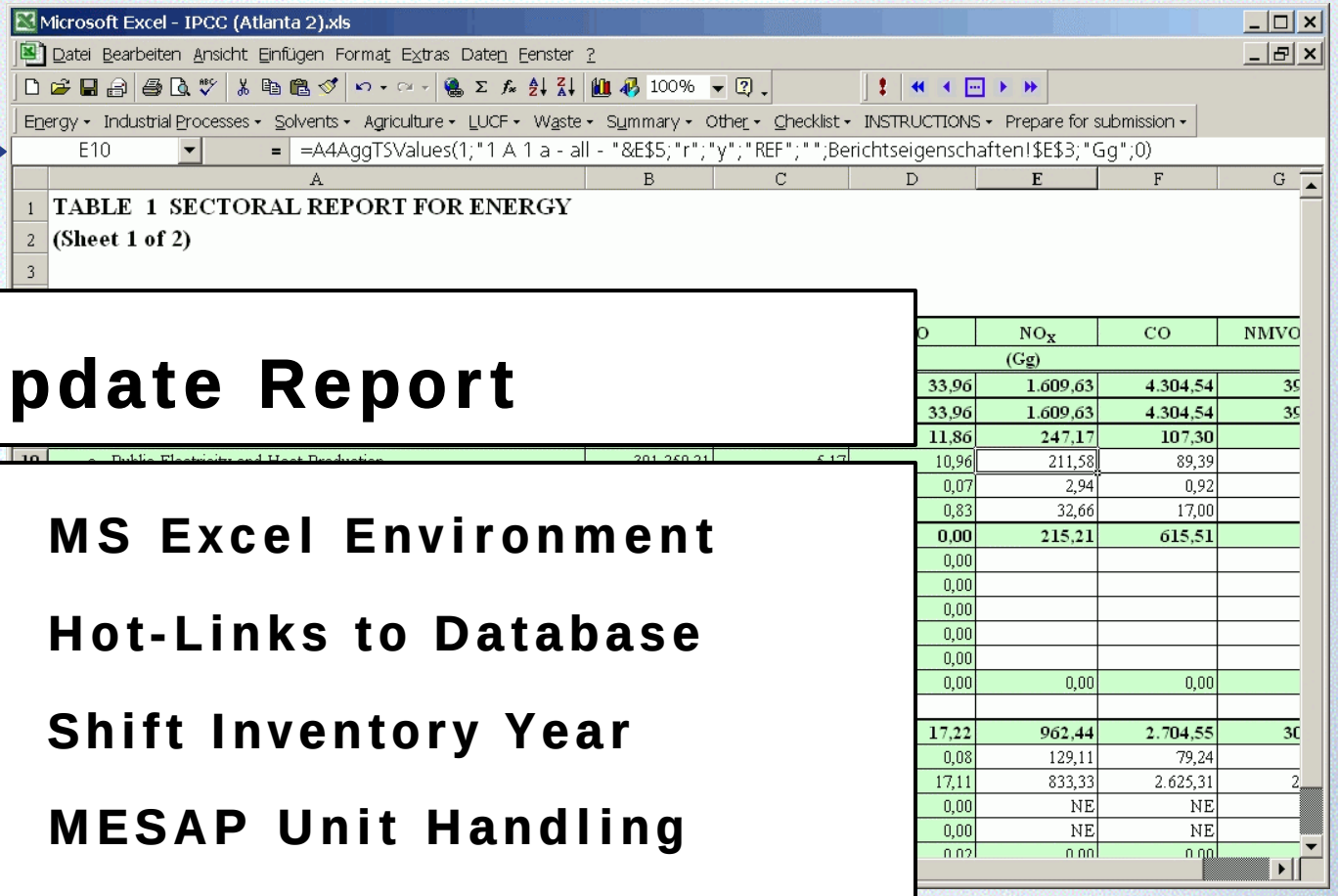



## Emission Calculation

- Equation Editor
- Integrity Checker
- Solver

# Workflow in CSE




## Update Report

- MS Excel Environment
- Hot-Links to Database
- Shift Inventory Year
- MESAP Unit Handling
- Preparation for Submission

# Advantages of CSE/MESAP

- **lower cost:** standardized software
- **higher consistency:** single relational DB
- **faster reporting:** Excel reports with Hot-links
- **higher quality:** extensive documentation
  automated processing
- **secure data:** access rights management
- **expandable:** modular, flexible design
- **scalable:** client/server architecture

➔ **Flexibility** without programming

seven2one
Informationssysteme

# Thank you
# for your attention!

***Demonstration of the Software***

***at Poster Presentation***

***today 6:00 pm – 8:00 pm***