

# Scandinavian Simulation Society, SIMS, 60 years

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# 50th and beginning of 60th

- During the 40th & 50th computers were not used that much and simulation mostly for flight simulators and physical simulation like nuclear bombs and galactic dynamics
- First weather forecast with computer 1954 (prof Carl-Gustav Rossby)
- Facit made first commercial computers in Sweden late 50th- early 60th
- Numerical methods became hot – how formulate mathematical problems in a way that could be solved by computers (prof Germund Dahlquist, KTH, one of the pioneers)?

***Scandinavian Simulation Council,  
Stockholm, November 1958***

***Scandinaviska  
Analogmaskinsällskapet, SAMS,  
Västerås, April 1959***

- Steel industry, Flight simulators, Atomic energy
- ***Analog*** simulation
- Standardization
- 13 SAMS conferences: Sweden, Denmark and Norway

# BESK-1

First computer built in Stockholm



J35 Flight simulator 1959  
3000 electronic tubes

# 1968 - 1983

## ***1968 Scandinavian Simulation Society (SIMS)***

- Analog → Hybrid -> ***Digital computers***
- Annual meetings, secretary general & committee
- 1972 SIMS first time in ***Finland***
- Started to use computers with more advanced calculations, but not yet nice displays
- Process models in Fortran



Simulated how to go to the moon

International cooperation: 1976 agreement with ***IMACS***

# 1983 – 1992 SIMS

## Organization

- 1983 Constitution
- Steering Committee

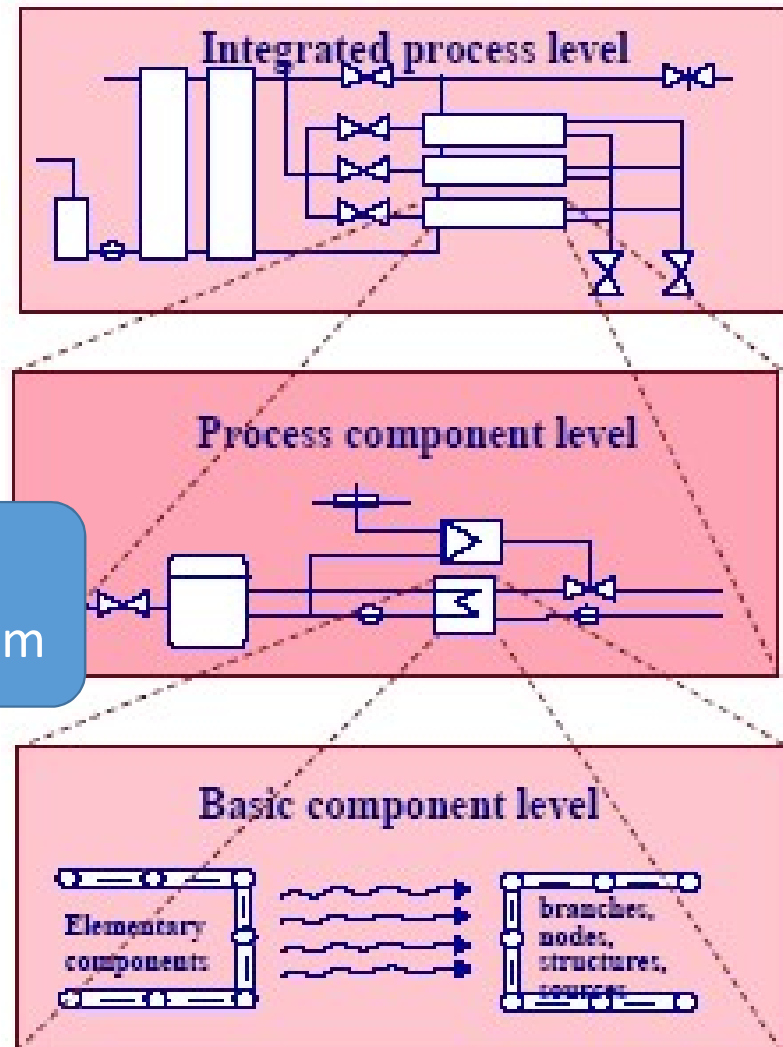
## *Simulation software products*

- Matlab & Simulink
- VAX computers

## *International cooperation*

- 1985 *IMACS 11th World Congress* in Oslo
- 1991 *European Simulation Multiconference* in Copenhagen

1986 Apros  
by VTT and Fortum



# 1992 – 1999 SIMS

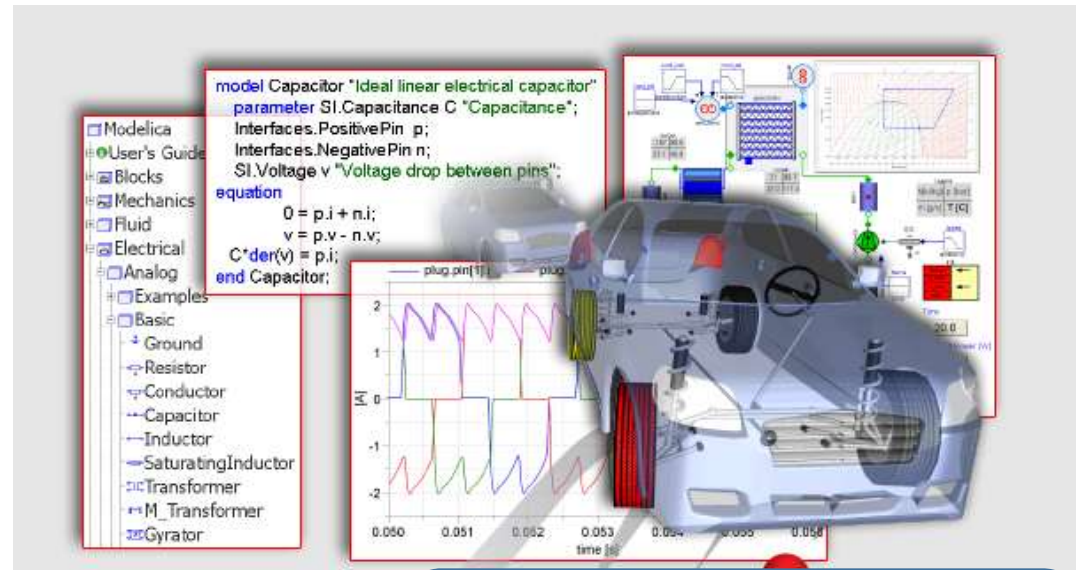
## *Annual conferences*

### *Simulation*

- Combined differential and algebraic equations
- Computational intelligence
- Matlab
- Model builders, gPROMS
- PCs ... Supercomputers

### *International cooperation*

- 1992 *Eurosim* founded, *SIMS* as a member society
- 1998 *Eurosim Congress* in Helsinki

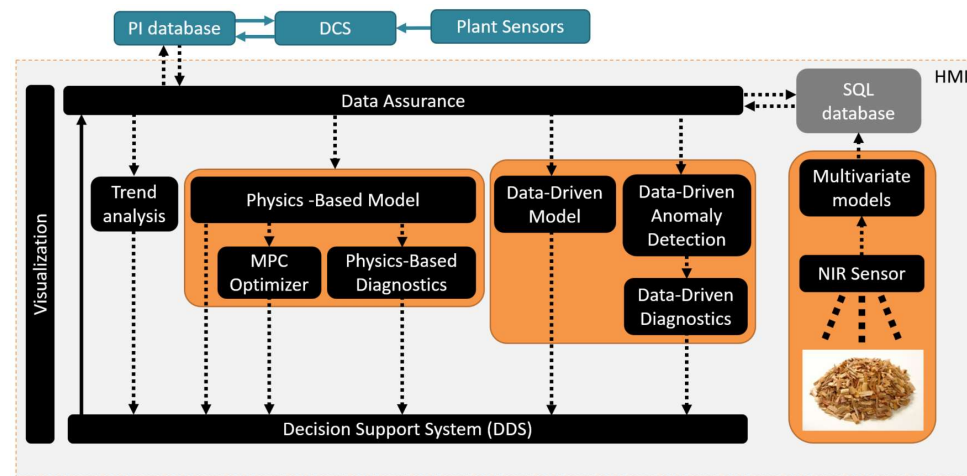


## 1996 Modelica

- Modelica Association
- Open access and open source

1999-2019

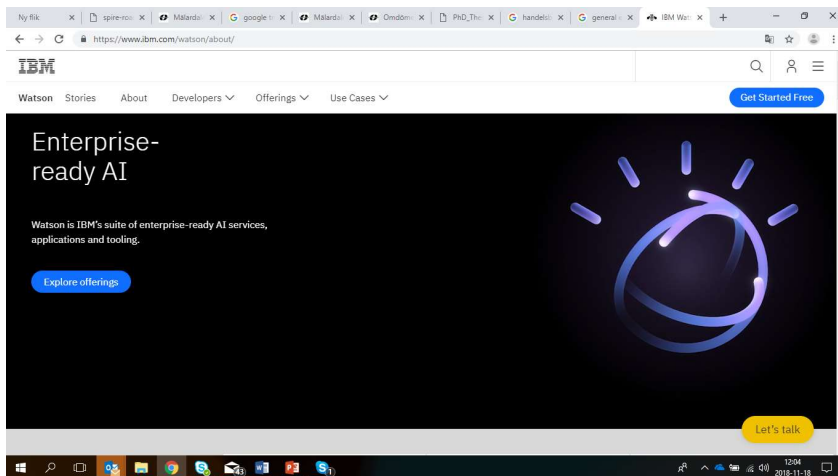
Graphics becomes much more advanced



Open source code –  
Open Modelica, Python,...

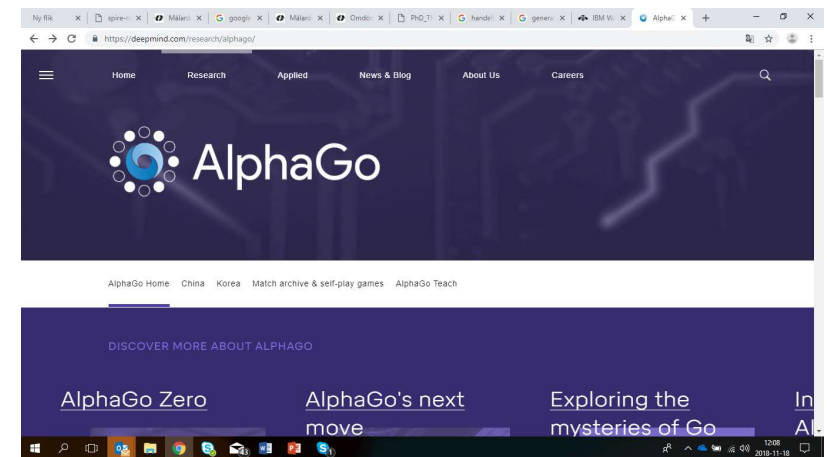
Diagnostics, production planning,  
Optimization, MPC, on-line adaptation

Amazon AWS platform – 3D, analytics tools, ...  
Hackaton on how to use platform and given data  
on energy in Vasteras



Watson beats  
Jeopardy master

AI-functions added



# 1999 – 2019 SIMS

## New Organization

- Society of societies
- Membership: national, SIMS and Eurosim
- Renewed website
- 2012 SIMS first time in ***Iceland***
- ***Linköping University Electronic Press***

## ***International cooperation***

- 2016 *Eurosim Congress in Oulu (IEEE & IFAC)*
- 2019 *International Conference on Applied Energy*

**SIMS** Scandinavian  
Simulation  
Society



[www.scansims.org](http://www.scansims.org)





## SIMS activities

- **Tools:** Stimulate use of new simulation tools like Open Modelica and Python
- **Industry, Energy & Environment:** Applications in energy field like power plants, geothermal at Iceland, process industry, oil & gas production, wastewater treatment, biogas production.
- **Stimulated Automation** generally and SIMS reps are Finnish Automation, Automation region in Sweden and Norwegian Automation.
- **PhD students:** Strong support in the five SIMS countries Denmark, Finland, Iceland, Norway and Sweden.

[www.scansims.org](http://www.scansims.org)