



## **SAMTECH extends its software offer to Machine Tool sector with the launch of a new Professional Solution: SAMCEF for Machine Tools**

*Liege, Belgium, 21<sup>st</sup> October 2003. SAMTECH, the European leader for the development of Integrated CAE Solutions, announces the launch of SAMCEF for Machine Tools, its new Professional Solution for the design, the analysis and the optimization of manufacturing machines.*

In the past, the mechanical design of machine tools was mainly based on rigid body mechanism simulation and separate local structure analysis using Finite Element Method. With **SAMCEF for Machine Tools**, SAMTECH proposes now the integration of these complementary disciplines into the same modeling environment with, in addition, the management of control/command behavior laws imported from an external functional simulation tool.

**SAMCEF for Machine Tools** offers a unique environment for the global design and the detailed mechatronic verification of Machine Tools. This Computer Aided Engineering tool, developed and commercialized by SAMTECH, is completely based on geometries defined locally or imported from well-known CAD systems. It offers a complete toolbox of components giving for the first time to the designer the possibility to use the same modeling environment during the whole design process also, i.e. from simple rigid body simulation to check the global kinematics of the Machine Tool to very detailed verification using Finite Element technique of the dynamic behavior of the machine tool interacting with the dynamic behavior of its controllers.

**SAMCEF for Machine Tools** is based on the following software tools developed by SAMTECH:

- **SAMCEF Field**, the associative object oriented modeling environment of **SAMCEF**
- **SAMCEF Mecano**, the powerful non-linear module of **SAMCEF** for both rigid/flexible mechanism simulation and non-linear structure analysis in static, kinematical or dynamic conditions;
- **SAMCEF Linear**, the complete set of linear modules of **SAMCEF** for structure analysis: linear static analysis (**SAMCEF Asef**), modal analysis and super-element creation/restitution (**SAMCEF Dynam**).
- **BOSS quattro**, the open object oriented task management and optimization platform, allowing also parametric studies, sensitivity analyses, statistical analyses, model updating with experiments, design of experiments and response surfaces.

*“The Machine Tool sector is more and more demanding of a precise, complete and integrated CAD based simulation environment coupling mechanisms, structures and control/command aspects because the physical dynamic behavior of high speed*



*machines cannot be described properly with simplistic approaches. Indeed, SAMCEF for Machine Tools is the first solution able to predict the vibrations, and thus the precision, of running high speed machines, while giving access under the same environment to classical design methods like rigid/flexible multi-body simulation and linear/non-linear FE analysis” explains Mani Ghassempouri, Development Manager at COMAU Systèmes France. “*

## **About SAMTECH**

Founded in 1986, SAMTECH is now the European leading provider of generic CAE solutions for thermo-mechanical analysis and optimization, professional solutions and associated services.

SAMTECH develops and commercializes:

### **“Generic purpose software tools”:**

- the general implicit linear and NL FEA package SAMCEF;
- the general explicit and fast dynamics code EUROPLEXUS;
- the CAE modeling environment FIELD;
- the task management and optimization platform BOSS quattro;
- TEA Mecano and TEA Thermal (Transparent NL thermo-mechanical solution in CATIAV5).

### **“Professional solutions”** answering to dedicated industrial needs:

- SAMCEF Rotor (Rotor Dynamics);
- SAMCEF Bolt (Composite assemblies analysis);
- SAMCEF HVS (Analysis of High Voltage Substations).

**“Third party and customized solutions”** like SAFE from Airbus (Fatigue analysis), where SAMTECH provides its clients with editor professional services for the reengineering, the development, the packaging and the deployment of proprietary professional solutions

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