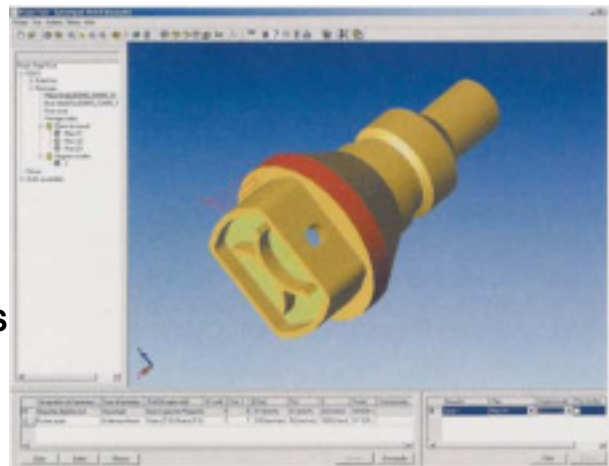


## A new CAM is unveiled at the SIAMS Exhibition

Developped by Jurasoft SA and marketed by Jinfo SA, the revolutionary CAM software **SylvieXpert**, for turning and milling machines, had its grand unveiling during the 2004 SIAMS Exhibition.

SylvieXpert, the CAM (Computer Aided Manufacturing) software reminds us of the early days of Jinfo SA in 1982 and their "Chantal" and "Sylvie" softwares. Over the years Jinfo brought us other, complementary, solutions : notably CoCreate's CAD (Computer Aided Design) software and its volumetric handling and data management techniques.

On the CAM front, customer services (installation, customisation, training, customer support) are offered, an arrangement that many European software houses have found satisfactory for several years. Of late, the creation of more and more complex machine tools and the ever-greater user demands has created a lack of satisfaction with some NC Machines solutions on the market. A recent study has shown that while the current CAD "standard" answers most needs, this does not apply to the CAM domain. The future of CAM will probably be a multiplicity of ever more specialised programs, each giving better performances in their ever more specific domains. It will be not uncommon to find several CAM solutions in a single company, even a small company, each adapted to a specific function. (one for wire EDM, one for mould machining, one for mill-turn machining, etc). Armed with this discovery and with requests from clients and manufacturers using certain specific NC Machines (Numerically Controlled Machine Tools), the directors of Jinfo decided to take up the programming of CAM software once more. This led to the founding of the Jurasoft SA company just over a year ago.



User interface of SylvieXpert's "Entirely 3D" approach

The company's program design team being backed by Jinfo's experience. This latest program, called SylvieXpert, must meet immediately all the performance criteria required for the future product design and realistic process simulation in the NC Machines domain, such as complex mill-turn or swiss type machines. It will be marketed in French-speaking Switzerland by Jinfo and will premier during the next SIAMS Expo (11-15 March).

### Which machines are to be targeted ?

The SylvieXpert program is designed to control the latest NC Machines such as 5-Axis milling and turning centres with multiple spindles and turrets (with fixed or sliding headstocks). This program was conceived, from the very beginning, for multi-channel machines possessing an unlimited number of linear and rotary axes. The capacity to control new generations of swiss type machines, enabling turning and milling, is also included. The management of machining via reworking spindle is but one of the many possibilities, including the automatic generation from master patterns. In another domain, the management of multi-part machining with intermediary fixture is but one of the challenges being explored by the Jurasoft development team. It is this kind of work with complex applications for multi-function NC Machines that is the main thrust of the development of this program.

### Zoom

**General Information**  
**Program's Website**  
[www.sylvieexpert.ch](http://www.sylvieexpert.ch)

### Address

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**Personnel : 12**

**Founded :**

**Jinfo SA : 1982**

**Jurasoft SA : 2003**

### Activities



**Product range :**

**CAM : SylvieXpert**

**CAD and PDM : OneSpace Solution Suite**

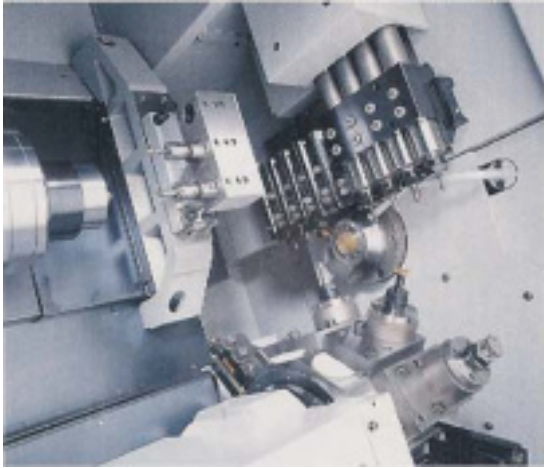
**CAM : Goélan**

**Engraving : Type3**

**Workshop tool**

**management : Wintool**

**DNC : Cwork3**



**A realistic simulation gives the user the closest possible feeling for the operational reality, such as with this Citizen machine tool**

### Entirely 3D

To insure the optimal performance this kind of NC Machine requires, the program handles the entire range of movements of the machine ; the tools, the fixtures, and of course the part and its raw material. The tools assembled (cutters, extensions, tool holders, etc) are placed into tool groups. The system handles three types of tools groups : tool blocks, turrets and spindles. SylvieXpert also supports the latest generation of tool holders that include several tools per tool slot. This kind of work requires a comprehensive 3D visual environment. In order to guide all future design efforts towards CAM, the ACIS « volumetric modeller » of Spatial Corp was chosen. The development from this core work encourages a stable, precise,

effective standard, and the importation of data from the most widespread CAD programs. The advantage of 3D modelling, apart from the cinematic-style management of the machine, is the benefit of data about the automatic treatment of depths, leadouts and raw material. The description of the geometries to be machined is also enormously simplified.

### At the heart of SylvieXpert : the operating instructions

With most of the CAM softwares available, the operator describes the required operations, and associates them with geometries. The sequence of events then generating the operating instructions. With SylvieXpert, an operator can work thus, but can also create a sequence of operating instructions to be associated with a geometry. Furthermore, he can include standard sequences of instructions. He can also associate a sequence of instructions (parameters, tool and cutting conditions) with several geometrical areas. This possibility allows the operator to use his experience and knowledge to automate similar-shape machining. The management of these sequences, being such an important part of the program, it was decided to handle the sequences via a Data-Base Management System.

Thus, the perfecting of the machining instructions takes place before the simulation, instead of during the post-processing that most traditional CAM programs use to generate the ISO code. Our solution enormously simplifies the perfecting of the instructions and the visualisation of collisions. For the NC Machines that employ master patterns, these are automatically generated and the operations placed in the correct channels.

### A customisable and multi-Operating System solution

SylvieXpert works with Windows 2000 and XP Pro and will also be available on other platforms such as Linux. Jurasoft, developers of SylvieXpert, are customising this CAM for every type of NC Machine and user.

### Development Partners

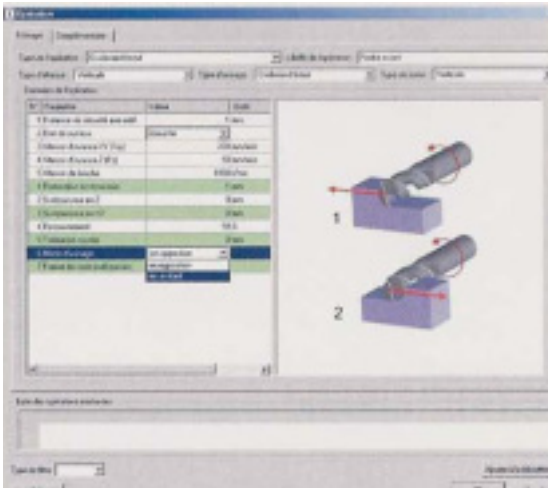
This development was supported by the *Jura Canton Economic Promotion* initiative, and is co-financed by the *Commission for Technology and Innovation (CTI) of the Federal Office for Professional Training and Technology* via a collaboration with TT-Novatech and the Engineering schools of the Jura region

This collaboration is for the automatic determination of machining parameters (feed rate, spindle speed, feed / tooth, depth of axial and radial cuts) based on indications drawn from the material to be machined, the type of machining, the surface roughness required, the characteristics of the machine tools, etc.

Furthermore, an expert system will enrich the initial database with the real machining parameters used in given cases. In order to make the program the closest possible to human operators practise several companies and experts are collaborating in the perfecting of SylvieXpert.

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### Real simulation

One of the main problems involved with controlling multi-channel, multi-axis NC Machines is the perfecting of the machining instructions. A real simulation, not just of the removal of the materials but also the movements of tool groups within the work environment, is therefore essential. With SylvieXpert, the emphasis was placed on a real simulation which takes into account each customers differences.