

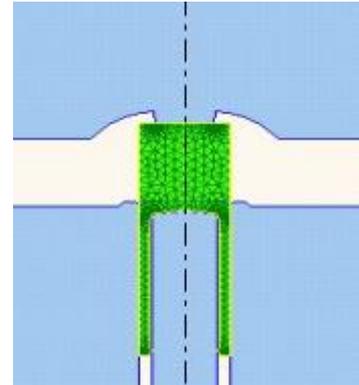
# Systems for the Metal Forming Industry

## Introduction

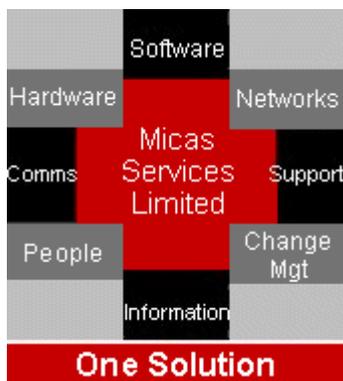
Micas Services Limited (MSL) were pleased to host a joint British Cold Forming Group (BCFG) and International Institute Forging Technology (IIFT) workshop on the 16th January 2003. The BCFG held their AGM during the morning and following a buffet lunch the directors of MSL presented overview of the products and services available for the metal forming industry. To complete the day the IIFT held their AGM. Managing Director Trevor Slater welcomed the group and hoped that the forging industry would greet the New Year challenge with New Technology.

## QForm2D

Trevor Slater commenced the presentation with a live QForm 2D simulation on a product with a multiple action manufacturing chain to demonstrate its ease of use, speed of set up and broad facilities. While this product simulated, the meeting looked in some detail at a four-stage cold formed rivet exploring the requirements in terms of geometry and setup data plus the features and facilities in viewing and interrogating results. The final stage of investigation was a simulated installation of this rivet using multiple tools. The requirements for 2D geometry were shown, moving from a simple 2 die requirement to dies requiring inserts and shrink rings, and finally to multiple part dies and the settings required were for direction and motion. Whilst not demonstrated due to time constraints, the simulation of tooling was discussed. Trevor promised that they would revisit the live simulated part during the final session and then introduced MSL Technical Director Geoffrey Baker who presented an overview of products and services.

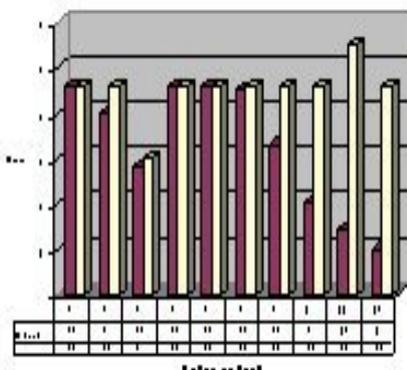


## Products and Services



Geoffrey Baker began by explaining how Micas had evolved from a software house into a "one stop shop" for information systems integration. The prime vertical markets for Micas are Metalforming, Steel Stockholding and Recycling, however, their customers businesses now range from manufacturing to agriculture, clothing, theatres and schools. Because of this diversity in application, Micas has had to develop skills to match. They have become adept at supplying and integrating the components that make up small to medium enterprises Information technology needs, hence the term "Systems Integrators". This integration encompasses hardware, human resources, information and application software through to networking, communications and e-commerce.

Micas believe in "getting you up", "keeping you going" and "helping to move you forward". Most SMEs do not have the resource to control the pace at which information technology is introduced into their companies and Micas is there to assist. Networks and communication were used as examples of the pace of change. "Asymmetric Digital Subscriber Line" or ADSL technology was chosen for particular emphasis, as access to this fast digital network is becoming far more affordable and more widely available. Finally he introduced MSL Operations Director Miss Sally Ravenscroft who gave a brief overview of Force4, Micas Services's integrated application software for metalformers.



## Force4

After a short interval for tea, Sally Ravenscroft showed the delegates a small portion of Force4, Micas Services's integrated application software for metalformers. The scope of the portfolio was outlined but the demonstration concentrated on the key module, Product Costing, with some interactive updates of the Rough Cut Planning module. A product was selected and its cost components explained, Raw Material, Tooling and the product route (BoM). Force4's method of using system and flexible, user-defined operation codes to build a product route were demonstrated including Bought Out items, Subassemblies and unit cost

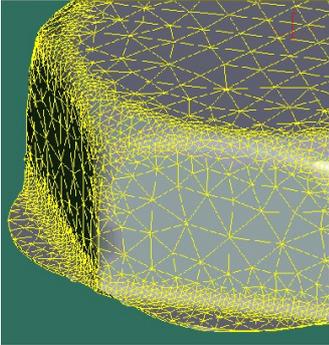
calculations based on time, weight and quantity.

A related Customer's sales order schedule was displayed and the use of Force4 manufacturing production batches discussed.

Sally performed a production booking and then, within the Rough Cut planning module, updated the plan to show the net result of capacity vs. load for the operation she had just recorded.

Questions from the floor centred on KANBAN, shop floor data collection and physical product identification.

### **QForm3D**



As promised, Trevor Slater then returned to look at the 2D simulation that had been running during the other presentation and showed the analysis available for this simulation. In including the set up, the simulation had taken about 25 minutes. The presentation continued with a detailed look at a 3D simulated part which contained three separate 3D actions. The part selected was a cold formed nut which had been simulated as a segment. The differences in terms of the geometry requirements for 3D simulation were highlighted and the importance of good solid models was stressed but the fundamental data set up remained as per 2D allowing ease of use and a mixture of 2D and 3D within the chain of activity. Participants were able to see how each separate action within the simulation was recorded into a number of records and at each of

these stages the user could view results – Finite Analysis, temperature, strain, velocity etc. in any selected cross cut of the product. Trevor closed the presentation answering questions and offered QForm on trial to companies should they wish to carry out tests or submit products to Micas that they would like to benchmark.

The meeting closed with a vote of thanks from John Yarnall from Bodycote on behalf of the BCFG.