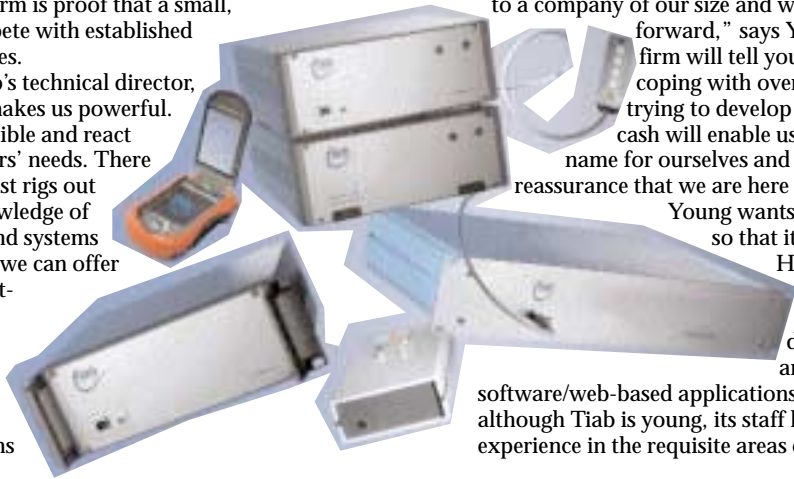


In the quiet village of Middleton Cheney near Oxford lies a small firm with some big ideas. Tiab, which develops digital control systems that can be used for hydraulic testing within the automotive sector, has already won business from high-profile companies such as Renault and Nissan. And now the firm has clinched a £35,000 Smart award from the government in recognition of its innovation.

Perhaps the most surprising thing about Tiab is that it was formed just one year ago. Since then, the company has sent shockwaves through the hydraulic testing sector by using its knowledge of digital control systems to undercut its bigger rivals on cost by up to half. This lively, agile firm is proof that a small, focused team can compete with established multinational companies.

Conway Young, Tiab's technical director, says: "Our small size makes us powerful. It means we can be flexible and react quickly to our customers' needs. There are a lot of hydraulic test rigs out there, and it is our knowledge of controllers, software and systems integration that means we can offer some powerful and cost-effective solutions."

The digital control systems that Tiab develops are used for precision control of powerful hydraulic rams



"We are a knowledge-based business which acts as the 'glue' that pulls these systems together," says Young. "It is all about developing simple, yet powerful digital control systems that customers can add to as and when they need. By using well known software such as LabView, we are making the whole process open and easy to operate."

The Smart award of £35,000 means Tiab can forge ahead with developing its products. The firm recently introduced its iPAQ handheld computer that is used to control its rigs over a wireless network link. Tiab says it will be looking to improve data capture capability.

"The Smart award is a significant amount of money to a company of our size and will really help us move forward," says Young. "Any small firm will tell you that it is a struggle coping with overhead costs while trying to develop your product. This cash will enable us to make a bigger name for ourselves and give our customers reassurance that we are here for the long term."

Young wants the firm to stay small so that it can remain flexible.

He has recently taken on two new staff, one a LabView development engineer and the other a

software/web-based applications expert. He says that, although Tiab is young, its staff have many years of experience in the requisite areas of digital control.

Controlling interests

Although just a year old, the small company Tiab is already in with the big boys. It recently scooped a Smart award for its innovative digital control systems for hydraulic testing. *Lee Hibbert* reports

to test mechanical car components or complete vehicles. Surprisingly, the innovation that has brought the firm into the spotlight comes from the effective use of established technologies. It is the simplicity and versatility of the systems that unleashes their potential.

Off-the-peg tailoring

According to Young many larger firms have traditionally built their digital control systems in-house. These are often bulky and cumbersome, and have a need for specialised software programs, which can create legacy problems. This approach, says Young, is an unnecessarily complex way of handling hydraulic testing.

Tiab, on the other hand, uses a more modular, generic approach to the construction of the controllers, coupled with open interfaces running established front-end software such as LabView. The aim is to take less of a bespoke approach to digital control systems for hydraulic testing, thereby enabling companies to reduce implementation costs.

Sales drive: Tiab wants to break out of the automotive industry to bring its control systems to other sectors. Its iPAQ handheld computer is shown (left) coloured red

Although 80% of its current business is in the motorsport and automotive sectors, Tiab is looking to access other markets. It sees potential in the medical and aerospace sectors, and in manufacturing activities such as steel plate production. "The biggest problem we face is getting known," says Young. "Most people we speak to have no difficulty understanding what benefits we can offer them, it is just a matter of letting them know we are here."

Tiab also has its eye on export markets. The company has already sold digital control systems to Italian wind-tunnel testing firm Fondtech, and believes that it can continue to expand abroad.

"That is the beauty of what we are doing," concludes Young. "It is not a business that other firms can easily expand in to because it requires an enormous amount of experience and know-how. We have heard a lot about how the UK will have to excel in knowledge-based engineering if it is to beat off competition from lower-cost countries, and we are a wonderful example of how that can be achieved."