

# Case study



## RAF Conningsby Modern training for the armed forces

The European fighter project is one of the most exciting and challenging initiatives to have faced the Royal Air Force in recent years.

The development of the aircraft – known in the UK as the Eurofighter Typhoon – along with the pilots and the men and women who will prepare and maintain it is divided between the four countries involved in the project (the UK, Germany, Spain and Italy), so a flexible approach has been essential. Co-operation has also been key to the success of the project, not only between nations but also with commercial partners such as BAE systems.

Nowhere is that combination of commitment, co-operation and flexibility more evident than at RAF Conningsby's Typhoon Training Facility (TTF), where everybody working on the Typhoon will learn their trade. RAF Conningsby is home to the three main Typhoon squadrons – No. 3 (fighter) Squadron (the first operational Typhoon squadron), No. 17 Squadron (the Operational Evaluation Unit for the aircraft) and No. 29 Squadron, (the Typhoon Operational Conversion Unit).

The TTF at RAF Conningsby is part of No. 29 squadron and is now responsible for all ground-based training of engineers and pilots alike. The facility was designed as a 'turn-key' project, the aim being that it would be operational from the day the doors were opened. And, as Neil Storey, Training Supervisor for the Ground-Maintenance School explained, the learning material and equipment have been 'fine-tuned' over the past 18 months. "The Training facility opened with 14 identical classrooms, all kited out to the same specification," said Neil, a former member of the RAF who now works at the base for BAE systems. "Training methods have developed significantly over the years, and a great deal of the training provided is now classroom-based. The Typhoon has been described as the easiest aircraft to fly and work on, and system knowledge is now the key, but the training challenges we face are of a different nature. This is a European project, so the training has to be designed to meet the requirements of all the nations involved, and

### Challenge

To make training more effective.

### SMART solution

SMART Board™ interactive whiteboards.

### Result

The touch screen capability of the SMART Board interactive whiteboard has made training more realistic for the trainee engineers.

obviously the skills and experience of those working on Typhoons will vary from country to country." For Neil and his team, the key to providing the most comprehensive training has been the development of two main systems – the Maintenance Simulator Training (MST) system, and Trilogi database. The MST enables trainers to set up computer-based, problem-solving scenarios for ground crew to work through; using a detailed graphics-based replica of the Typhoon, students can learn to strip the aircraft down simply by clicking a mouse.

The Trilogi database holds information relating to all the maintenance procedures and tests that ground crew need to know. Constantly updated, Trilogi is effectively a maintenance dictionary for the Typhoon. Before the introduction of the MST and the Trilogi database, the training courses for technicians were based around hard-back manuals and microfiche files. Now each desk in the classroom within the TTF is equipped with three computer screens, so that those studying can have three displays running simultaneously – the MST on one screen, the Trilogi on another and a third screen to focus on the task they are working through. However, when the facility was opened the equipment available to trainers needed improving. "All we originally had in each classroom was a single projection screen and a small magic board." said Neil. "If we were trying to present something about the Typhoon using the MST, we had to switch on the projection screen, which was far from ideal."

Having identified the problem, the training team found the solution. With a central SMART Board™ interactive whiteboard in each classroom, operated by a lectern-mounted Podium interactive pen display and flanked by two-projection screens, the displays used by trainers now mirror the systems used by students. Improving the equipment has had benefits for trainers and students alike, as Chief Technician Tony Blake, Senior Avionics Instructor at the TTF, explained. "We've loaded the MST and Trilogi database onto the SMART Boards and the result has been brilliant, it's so much quicker now to run sessions. If we had to go through the same process switching between the three displays on a PC it would take 30-40 seconds each time to load up, and over the course of a training session that can make a real difference.

One of the key components on the aircraft is the Maintenance Data Panel, which ground crew technicians will use to identify faults and run checks, and the SMART Board interactive whiteboard's ability to replicate the characteristics of the Panel has also improved the authenticity of the training. "On the Typhoon the Maintenance Data Panel is a touch screen system, so getting technicians to work through the Panel using touch screen properties of the board is almost identical with what they will have to do on the aircraft itself, which makes it much more realistic," added Tony.

With the length of courses ranging from three or four weeks to four months or more, encouraging students to come up to the front of the classroom and use the touch-screen system has also helped to break the ice. "Some of them will not have used interactive boards before, others will be familiar with them from other learning environments, but once they've got over any nervousness about being out at the front of the class, all of them have been very positive about using the technology." says Tony.

"We are already running Microsoft® PowerPoint® presentations on the SMART Boards, as well as using DVDs and video footage for training and debriefing. But one of the important issues for us is that the equipment and software we use has to be flexible. Things have moved on a lot over the past 18 months, and they will continue to change and progress over the next 18 months. We will have to continue fine-tuning the training packages that we use, so we will need to know that the equipment we have will be able to keep up with that. This is why making the most of the SMART Boards will be so important for us."

With more than 60 ground technicians and pilots currently learning their trades at the Typhoon training facility, it's clear that the training team will have a vital role to play in the success of the European Fighter Project. With the best available equipment, and a combination of flexibility, co-operation and commitment in its approach to the project, it's also clear that 20 squadron will be an integral part of the RAF's development in the future.

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**Neil Storey, Training Supervisor  
for the Ground Maintenance  
School, RAF Coningsby.**

## About SMART

SMART Technologies Inc. is both the industry pioneer and global education market segment leader in easy-to-use interactive whiteboards and other group collaboration tools. The award-winning SMART Board interactive whiteboard is the most widely installed interactive whiteboard in the world.

Many school jurisdictions have standardised on the product, which is used to provide interactive learning opportunities and enhance student achievement in more than 450,000 classrooms spanning every U.S. state, every Canadian province, every Local Authority in the UK and in more than 100 countries worldwide. SMART products also include interactive pen displays, interactive digital signage, wireless slates and software. Using SMART products, groups can access and share the information they need to meet, teach, train and present. SMART's education customers include New York City Board of Education (U.S.), Oxford University (UK), Kobe City Board of Education (Japan), Barrier Public School (Australia), University of Ottawa (Canada), United World College (Singapore), Stephen-Hawking-Schule Neckargemuend (Germany), Florida School for the Deaf and the Blind (U.S.) and Harvard University (U.S.).

SMART is a private company founded in 1987. Employing more than 900 people, SMART is headquartered in Calgary, Alberta, Canada, with assembly facilities in Ottawa, and offices in Bonn, Tokyo, China, New York City and Washington, DC. SMART has been issued and maintains a broad portfolio of patents with numerous U.S., Canadian and other patents pending. In 1992 SMART formed a strategic alliance with Intel® Corporation that resulted in joint product development and marketing efforts, and Intel's equity ownership in the company. SMART products are sold through dealers across North America and distributors worldwide. For more information, visit [www.smarttech.com](http://www.smarttech.com).

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