



The Fibreoptic Industry Association

www.fia-online.co.uk

Secretary: Jane Morrison

The Manor House
BUNTINGFORD
Hertfordshire SG9 9AB
United Kingdom

Tel: +44 (0) 1763 273039 Fax: +44 (0) 1763 273255

e-mail: jane@fiasec.demon.co.uk

FIA - QUESTIONS AND ANSWERS

by
Paul Bateson, Chairman of the FIA

for Network Cabling News (March 2006)

<p>What is the purpose of the FIA and what does it seek to achieve?</p>	<p>The Fibreoptic Industry Association Limited was inaugurated in February, 1990 and has the legal status of a Company Limited by Guarantee. The FIA is managed by the FIA Secretariat with the support of a management Council.</p> <p>The purpose of the FIA detailed on the associations' web-site (www.fia-online.co.uk). In broad terms the FIA aims to promote high standards of service within the fibre optics industry by providing specialist information and support services to our membership. This is a very wide remit and covers a large industry sector ranging from splice protection sleeves to 40Gb/s laser devices via Bragg Gratings, optical fibre amplifiers and so on.</p> <p>However, over 70% of our 200 members are installers of optical fibre infrastructures. As a result many FIA products and services are targeted to minimise risk for both installers and their clients. These days the supply chain between a telecommunications cabling installer and the end customer can be littered with "middle men". To remain profitable an installer must not only be competent and technically astute but also, and most importantly, must be adept at contract management and quality assurance. A great deal of what the FIA does is focused on minimising the commercial risks for our members that in turn protects their clients. We do this by providing straightforward technical advice (direct from our Technical Director) but also by a range of Technical Support Documents and "white papers" that the FIA offers free-of-charge to its members via the web-site.</p>
<p>What does membership of the FIA offer that makes it different from other trade associations?</p>	<p>The FIA is a technology-based industry association. As a result the products and services are focused on optical fibre cabling and more general fibre optic issues. It is certainly true that some of our services translate to other technologies and it is often tempting to address these other areas. Indeed, in some cases other trade associations have adapted concepts developed by the FIA to their specific technology bases. Nevertheless, we have continued to maintain our distinct technology-specific approach. In fact we are attempting to broaden our activities by addressing more diverse fibre optic product areas rather than try to meddle in areas already well served by existing trade associations.</p>
<p>How does the FIA assist its member companies in terms of developing new business</p>	<p>Firstly, for general commercial support we provide a shop-window for our members via our web-site. In turn members have hyperlinks to their own web-sites. Separately we publish an e-guide to the products and services that our members provide. Approved Installers and Approved Training Providers are listed separately. The e-Newsletter, available to anyone visiting the web-site, also offers an opportunity for members to announce new products etc. Underpinning all this is the important, but somewhat intangible, impact of the FIA logo which can be displayed on member's web-sites, letterheads and vehicles.</p>

<p>opportunities?</p>	<p>Secondly, we are able to offer specific support to member companies that introduce new ideas that are of value to our other members. We do this through projects within our Product Sponsorship Scheme (or PSP). Although the FIA is essentially a non-profit making organisation, it does build up a reserve of funds over a period of time. When these funds reach an appropriate level the FIA Council is able to establish a PSP. This initiates an internal FIA member's competition to identify a product (or service) which most deserves sponsored development. The winner receives funding from these FIA reserves on the understanding that the outcome of the project is preferentially offered to the membership. This concept not only benefits the sponsored member but repays the investment the FIA makes with its members' money.</p>
<p>Is the issue of training and qualification taken seriously enough within the industry at large? What is the FIA hoping to accomplish with its recently launched FIA Qualification Scheme?</p>	<p>Qualifications at the "foundation", operator level are well established for the fibre optic industry. The City & Guilds 3466 and the more recent, updated 3666 series of qualifications are a good starting point for basic installation skills. What has been needed is a qualification system which recognises progression from these entry levels which in turn reflects increasing competence and changes in job function. The BICSI system attempts to do this is, but it is not viable for the optical fibre cabling industry since its installer certification requirements fall short of C & G certification, while the RCDD is, at least for now, too general and too US-centric.</p> <p>The FIA Qualification Scheme has been set up to bridge the resulting gap. The scheme offers a variety of qualifications up to an including "Certified (Optical) Fibre Expert" or CFE for short. Moving up the qualification ladder is achieved in most cases through obtaining individual awards by successfully completing FIA Approved Course units delivered by FIA Approved Training Providers and others. The highest levels, including that of CFE, are attained by the development and oral examination of a thesis. Once accepted these documents are uploaded to the FIA web-site and form, once again, part of the support services offered to our members.</p> <p>The FIA Qualification Scheme went "live" last year. A list of Approved Training Providers together with details of their Certified Trainers can be found on the FIA web-site. Learners have enrolled both in the UK and overseas and our first OFE qualification was awarded this April.</p> <p>For a full description of the scheme visit the FIA web-site and click on "FIA Qualification Scheme" icon.</p>
<p>How well is fibre being promoted as a cabling medium and who should be doing it?</p>	<p>Strangely, the FIA does not set out to uniquely promote optical fibre as a cabling medium. We are not in a battle with other transmission technologies - as might be the case for coaxial and balanced twisted pair in the home. The FIA, in common with any other responsible trade associations, seeks to support the best design solution for the customer and in a typical infrastructure there will be a mix of balanced cabling and optical fibre. It would not be appropriate to recommend the use of balanced cabling in long backbone networks. Similarly, it is not helpful in the long-term to attempt to promote optical fibre to the desk when the customer would obtain no benefit and in fact may possibly be disadvantaged for the support of certain other applications e.g. power over Ethernet.</p> <p>So the FIA have a very clear position - we promote high standards of service within the fibre optics industry by providing specialist information and support services to our membership. By doing so we promote the correct use of optical fibre in appropriate circumstances.</p>
<p>What issues are preventing the mass uptake of fibre optic cabling and how can these be overcome?</p>	<p>This question is frequently asked but is inherently flawed since it makes a false assumption and then asks the FIA how to correct it. The term "mass uptake" is market-specific. In many markets optical fibre is actually the default technology - long-haul telecommunications and automotive communications to name but two. So in these industry sectors there is nothing to overcome.</p> <p>I suppose the question really refers to the idea of "optics replacing copper" - perhaps in conventional building cabling. The common discussion revolves around "fibre to the desk" but is equally relevant for data centres. The answers to other questions in this article address these areas specifically.</p>
<p>Is fibre to the desk a realistic proposition? If so, what sort of timescale is likely before it becomes a reality?</p>	<p>There are clients for whom 'fibre to the desk' is a reality and has been for many years. However, they are a very small minority. The switch will only come when data rates and the means of generating that data (by coding etc.) render copper transmission unreliable and too expensive respectively. A further complication is the new strategic direction being taken by IEEE to deliver power over Ethernet (PoE). Although the consequences for power dissipation in cabinets and cabling have yet to be addressed, PoE and the forthcoming PoEplus technologies are significant market drivers.</p> <p>For most people 'fibre to the desk' is as far away as it was in the mid 1980's, and may never become a reality for many end users..</p>
<p>What are the</p>	<p>The trends are obvious, particularly as data rates are increasing in all areas of the LAN. Optical</p>

<p>trends regarding the deployment of fibre within the LAN?</p>	<p>fibre is already incumbent in the backbone. It is commonly used in the data centre environment and increasing data rates will only further promote its use (we are already hearing about 100 Gigabit/s applications).</p> <p>Wireless is a competitor to copper on the horizontal cabling segment but most experts recognise that, in most cases, wireless is additional delivery solution rather than an alternative.</p> <p>Optical fibre does very well in the areas in which it is the correct technological solution and current LAN trends only serve to underpin that situation.</p>
<p>Is 10 Gigabit Ethernet the end of the line for copper and is fibre the best way to achieve this level of performance?</p>	<p>When you been in this industry as long as I, and many of the other FIA Directors have, you learn never to say never. However, the reported challenges for both the 10GBASE-T chipset and the interesting approaches that have been necessary to manage alien crosstalk in the cabling systems seems to suggest that 10GbE may be the end of the line for unscreened cabling. Even if we cast aside these issues, the case for optical fibre is very strong - even in the face of potentially cheaper transmission equipment for balanced cabling.</p> <p>The latest data centre cabling standards have finally recognised the true capability of OM3 optical fibre cables to support 10GbE across up to ten mated connections over 200 metres. The flexibility in design solutions that results cannot be matched by the copper alternative - to say nothing of the weight and volume savings offered by optical fibre cabling (in the region of 85-95%). These are advantages that are not widely understood, and are certainly not advertised by the copper cabling community, but they need to be factored into any realistic cost comparison. The risk factor of using unproven electromagnetically-sensitive balanced cabling transmission in a 'mission critical' data centre environment also has to be carefully assessed, and cost avoidance analysis would include this in any comparison.</p>
<p>What impact do you expect the recently revised ISO/IEC 14763-3 standard to have on the industry?</p>	<p>ISO/IEC 14763-3 covering 'testing of installed optical fibre cabling' will hopefully be approved for publication in April. It represents the culmination of almost four years of work initiated by an FIA Technical Support Document covering the same topic. The objective of ISO/IEC 14763-3 is to provide much greater repeatability and improved measurement accuracy for the testing of installed cabling. This is just one example of the FIA working to minimise risk - since the cost of arguing about test results and any re-testing is high and ties up valuable resources within an installation organisation. The ISO/IEC 14763-3 standard contains three major shifts in approach which will require significant education in the marketplace and the FIA is gearing itself up to undertake this programme in Q2, 2006. It is particularly pleasing that part of these changes is linked in to a Product Sponsorship Scheme funded by the FIA in 2004-2005.</p> <p>Indeed ISO/IEC 14763-3 is a good example of how the FIA Technical Support Documents (TSDs) are intended to operate. If an FIA member or the FIA Council sees a need for guidance - either because a standard does not exist or because the standards have been overtaken by technology and need to catch up - a Technical Support Document will be developed which in effect acts as a standard for the FIA. Our Standards Director, Mike Gilmore, will then submit the TSD to the relevant standards body for action. This would then result in International or European standardisation at which point the FIA TSD is withdrawn in favour of the new standard. This allows not only for the specific issue to be addressed in a competent technical fashion in the short term but guarantees that useful standards will result in due course.</p>
<p>What can we expect from the FIA over the next 12 months?</p>	<p>The FIA will continue to focus on its Qualifications Scheme but will also be developing a significant enhancement to the Approved Installers Scheme. This is outlined on the FIA web-site and contains some revolutionary new concepts of support for those installers that wish to be recognised as Approved Installers. Watch this space!!!!</p>