

Add more IQ to your steelmaking: Join the BSE ACADEMY now!

The BSE ACADEMY is a global "Steelmaking University" offering a comprehensive solution for education, qualification and training, displayed in different educational components for all personnel levels:

- Managers and engineers
- Supervisors and shift managers
- Operators and maintenance staff

What makes the BSE ACADEMY different from any other educational program for steelmakers is the hands-on approach that closes the gap between "learning" and "doing". Backed by decades of excellence at the BSW, one of the world's most efficient mini-mills, everything you learn here is proven and tested, backed by experience, expertise and success.

Have a glance at our OPEN Courses Winter Program 2010/2011 - and look forward to upcoming news!



	Date	Area	Topic
2010	October 6 - 10	Maintenance	Preventive Maintenance in EAF
	October 25 - 29	Environment	Environmental Workshop
	November 15 - 18	Electrics	EAF Electrics for Electricians
	December 8 - 10	Safety	Safety Workshop - a practical approach
2011	January 26 - 28	Process - EAF	Process metallurgy
	February 7 - 11	Long product rolling mill	Rolling Technologies for Long Products
	March 14 - 25	Management	Crash Course for Shift Leaders
	April 11 - 13	Electrics	EAF Electrics for Non-Electricians
	May 10 - 12	Maintenance	Preventive Maintenance in EAF
	May 23 - 27	Environment	Dedusting principles for steel plants
	July 4 - 15	Leadership	Management training for high potentials

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Making steel experts to meet a growing demand

A skilled workforce is the most important success factor in any steelworks contributing 80% to the success of an enterprise. These skills must be continuously and systematically upgraded by training to keep abreast of technological advances to sustain success.

THE steel industry, in attracting a dedicated work force, is faced with overcoming perceptions that working in the industry offers only a noisy, hot and dirty workplace.

It is difficult to motivate new graduates to join a steelworks when other 'modern' industries can offer talented people clean, air conditioned offices to work in.

Industrialised nations are facing demographic changes leading to a shortage of graduates but even more so shortages of skilled technologists such as metallurgists. At the same time, newly industrialised nations are facing a lack of qualified experts due to rapid capacity expansion in these countries. In both scenarios we are confronted with the same basic questions:

- How can we recruit new experts?
- How can we retain these experts in a company?

Knowing, that highly skilled and experienced people are the key to the efficient use of the sophisticated plant invested in today, there is a fear that after investing heavily in training personnel they may leave for other employers enticed by a higher salary.

Can we also afford to pay more for better experts? Is there a link between salary and performance?

While we produce budgets for spare parts and capital expenditure (capex), how often do we ask how much of the budget should be devoted to human investment (*humex*)?

Approximately 10% of the conversion costs of steelmaking are for personnel. Relating this to total costs only 3% go towards employees. But the impact of having a good well trained workforce is contributing far more resulting in a 15 to 20% increase in productivity (without the need to invest in additional equipment). Thus, this impact could justify a 40% to 60% salary increase (related to fixed costs - not considering any possible additional margin).

Training Services

Badische Stahl-Engineering (BSE) is a service provider aiming to improve the efficiency of operations by increasing productivity and decreasing conversion costs in electric arc steelmaking. Operating globally, it offers consulting services as well as technical services training and equipment.

Consulting includes extensive analysis of steel plants and rolling mills, development of future concepts and their use and implementation.

A number of tools are used for this purpose, eg lectures, logistic simulations, training programmes at BSW - the minimill of the Badische Group - in Kehl, Germany, Continuous Improvement Process (CIP), coaching and technical assistance.

BSE's training activities are derived from its consulting service and are well established in the steelmaking industry. Steelmakers, operators and managers from all around the world visit BSW to witness one of the world's most



BSW's high performing steel plant and wire rod and rebar mills at Kehl are used to provide practical experience



Fig 1 Combining practical experience with theoretical knowledge is the core of BSE Academy's training activities

efficient minimills in action. As part of BSE's customised consultancy contracts, seminars not only provide a great learning experience but also an uplifting motivational 'kick' - 'looking over the top of the rim' which has already changed many people's perception: What is possible here today can also happen elsewhere tomorrow.

Over the years BSE has conducted many consulting studies and one conclusion from these is that having qualified personnel is a prerequisite for high performance. Take for example maintenance work which is an important issue for all steelmakers. There are three main reasons.

Obviously only qualified engineers are able to perform the correct and reliable work with a low fault level. Further they are able to:

- quickly find and repair failed components and eliminate future failures and weak points;
- correctly assess/analyse failures and problems (root cause analysis);
- carry out inspections and diagnoses;
- optimise equipment and its functions (cost savings).

The demands are constantly growing. Technology is becoming increasingly complex. To cope with this, the knowledge and skills (ie ability) of the workforce have to be continuously developed 'in step' with the technological advances.

Only qualified people are able to take over

responsibility on complex work and to make the necessary decisions independently. Further, they can be involved in difficult decisions. Involvement enables commitment and motivation, which are preconditions for excellence.

Evidently only a qualified (competent) engineer is a useful maintenance person who generates value for the enterprise. Therefore a thesis can be formulated:

Humans are the most important success factor. Continuous and systematic qualification is a basic requirement for sustainable success.

Success depends 80% on the people, only 20% on equipment. This is the philosophy of the Badische Group, one of the most productive wire-rod and rebar producers in the world. In 2009, BSW produced 2.2Mt of good product.

It is important that the know-how acquired in a training seminar is transferred to the actual job undertaken by the employee in the best way.

BSE Academy

Because of the increased demand and importance of training BSE has expanded its services by launching the BSE Academy. The Academy aims to become the leading platform providing training, qualification and education for experts in the steel industry based on the minimill culture at all levels.

Already more than 6000 participants from 28 countries have completed various training programmes at the BSE Academy.

The key to success is improving know-how

and the skills of each individual working in a minimill along with hands on experience of how to do a job for greater satisfaction, motivation and professional performance (Fig 1).

The motto of the BSE Academy is:

Look: at one of the world's most efficient minimills in action!

Listen: to our instructors which are steel industry experts!

Do: through practical exercises within our seminars and transfer your experiences to your home plant! (Fig 2).

The Academy aims to close the gap between general theoretical training (provided by colleges) and training on specific equipment (provided by the equipment manufacturer) so as to provide the essentials of day to day needs for efficient plant operation.

Hence, the Academy's training methods are special and emphasise practical experience ranging across:

- Show how training at BSW steel works;
- Practical training in the BSW workshop;
- Interactive learning in work-groups using case studies;
- Theoretical class room training;
- Testing the success of learning after each module;
- A testimonial at the end of successful participation.

Further to the different teaching methods, all the courses are held in or close to the BSW steel plant to enable practical application at each stage.

Training is thus closely related to the real life plant atmosphere.

Fig 3 presents an overview of the training blocks offered by the Academy.

Customised Training

Customised Training is an option available at BSE Academy. Here, BSE assesses the training needs of a plant's employees, develops and organises a training programme according to specific needs and executes the training either at the Academy's facilities including training locations in and around the BSW steel plant or onsite at the customer's steelplant.

Such individual and customised training pro-

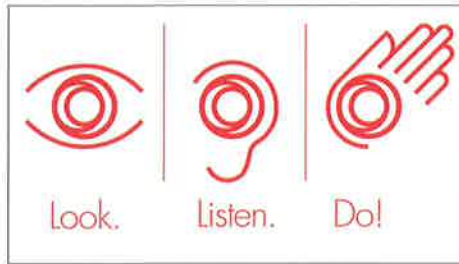


Fig 2 'Look, Listen and Do' is BSE Academy's motto

vides effective input with maximised output. It can take place in the form of:

- Small Groups: Small and effective training groups of 12 to 15 people guarantees the greatest impact to the participants as well as providing intense, deep and direct contact to the trainer and peer group;
- Direct Contact: contact with the trainers, direct, deep and intense;
- Understanding specific needs: With its extensive industry know how and contact with most minimills around the world, BSE understands what customers need;
- Steel Plant Atmosphere: All Seminars are conducted in a real life industrial atmosphere either at the BSW steel works or on the customer's site.

Open Courses

Open Courses are the latest training services provided by BSE Academy which take place all year round with specific subjects on set dates. The courses are aimed at broadening the experience of experts in different fields of operation. Managers may know how to lead people and the business processes, but often the link to the steelmaking operation is missing.

Supervisors have a different understanding of their role. They mostly are either the main actors or the 'office manager', but they are not managing the crews on the shop floor.

Operators in many emerging countries have neither an adequate basic education nor experience in the steel industry. But these are the people running the capital-intensive equipment invested in by their company.

The main target is either to provide opera-



Fig 3 Overview of BSE Academy's training services

tors, supervisors and managers with hands-on training for their jobs or to improve the skill level in their present jobs.

The courses are:

- starting with general know-how but concentrating/filtering to the necessity of the minimill industry;
- designed from the operator/user point of view;
- lead by instructors with hands on experience, specific from and to the minimill industry, from practitioner to practitioner;
- taking the application of the German Dual-Apprenticeship-System into account providing the necessary theoretical knowledge along with practical experience.

BSE knows the industry and stays in close contact with more than 200 companies world wide. Keeping training to a limited number of participants increases the impact given to each trainee and guarantees the highest success rate and provides a direct contact to the trainers.

For many years, BSE has provided training to steelmakers across the world by using BSW's high performing steel plant and wire rod and rebar mills to show how to improve. At this time, one thing has become clear to BSE: People are the driving success of a plant's performance.

To see a listing of courses at BSE Academy visit www.bse-academy.de

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Warning about machine standards directive

Machine manufacturers may be inadvertently relying on out-of-date standards to demonstrate compliance with directives, warns Laidler Associates.

The safety and compliance consultant say only standards harmonised with the current Machinery Directive 2006/42/EC can be used to demonstrate compliance.

Many companies are continuing to reference superseded standards that were harmonised with the previous, and now obsolete, Machinery Directive.

Paul Laidler, managing director of Laidler said: "In some cases, the changes made to standards to bring them into line with the new directive are minor but in other cases, much more extensive and significant changes have been made.

"This applies to EN ISO 12100-1 and EN ISO 12001-2, two important Type A standards governing the design of all machines."

He said irrespective of how much a standard

has changed it is essential to reference the appropriate version, otherwise it is impossible to be certain that the requirements of the directive have been met.

This means that no Declaration of Conformity can be issued and no CE marking can be applied to the machine in question. In these circumstances, the machine cannot legally be sold or traded in the EU.

The situation is complicated because some standards have not been harmonised with the current Machinery Directive. An example is EN 60204-1, which covers safety requirements for electrical equipment of machines.

Where no harmonised standard is available, machine builders must make their own judgement about whether the existing standard can be relied upon to show compliance with the directive, or whether some alternative method must be used.

It is reported that 85% of the standards relevant to the Machinery Directive have been pub-



lished in their harmonised form and that a further 10% will be published in the coming weeks or months.

That still leaves 5% where no harmonised standard is available so machine builders must decide whether the existing standard can be relied upon to show compliance with the directive, or if an alternative method must be used.

For more information visit www.laidler.co.uk