



Welcome, readers, to the first issue of *Das Original*, the official company magazine for customers, associates and employees of the Elbe enterprise. *Das Original* will keep you informed on news concerning the Elbe Company, the specialist in design and production of driveline solutions.

In 2005, the Elbe Group made structural and organizational changes in order to secure their lasting success in the market and strengthen the position of the German location in the enterprise.

A crucial factor for success in this ambitious goal is the personal support of all Elbe and Elso coworkers during the change process. For this reason we have coined the expression "Elbe Spirit", the new spirit of the times in the Elbe Group. With commitment, reliability and specialized knowledge we want to bind the various locations of our enterprise together for the future.

Das Original is both the expression and the result of the new Elbe spirit. We hope you are inspired while reading about this new way of working, and join in to support the spirit. We gladly accept your suggestions.

Yours Truly
Gundram Elbe



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Six Sigma: a successful beginning in the Elbe Group.

If you heard about Black and Green Belts in the halls and the cafeteria in the last few months, it had less to do with martial arts than with a new way to lead our company successfully into the future.

Globalization and tough competition make it difficult to meet that goal, but with Six Sigma Elbe has found the method it believes will meet the challenge.

What is behind the term Six Sigma? Six Sigma is a method for improving processes in an organization. The term sigma originates in statistics, and means the standard deviation (dispersion) of a process. The number of standard deviations between the average and the maximum deviation of the process gives the sigma level of the process. The optimum is 6 times or less, from this we get the name Six Sigma. In practice, this would correspond to approximately 3.4 defects per million parts or procedures.

Here, in a nutshell, is what makes Six Sigma: Recognition of the significant factors that influence a process, determining and adjusting the optimum values for these factors and lasting control of the results.



In the picture (from left): B. Klenk, M. Noschka, M. Ketterle, S. Serway, A. Loncar, F. Possmayer, M. Vukovic, A. Löffler, H. Ilshöfer, G. Elbe. In the picture are missing: O. Sinn.

Standard deviation? Higher mathematics? Or an equation beautiful only for mathematicians? Confused?

The Black Belts: M. Ketterle of Elbe and his colleagues C. Endres and T. Sollner from Elso explain this by the following example:

Attempting to pour water into a glass from a watering can is clearly going to put a lot of water around the glass.

Should we think of such a process as "capable"? Surely not. In Six Sigma jargon the capability of a process is described by the key words "dispersion" and "centering".

In the watering can example, in order to make the process at all controllable, the width of the water stream would have to be reduced. Those things that influence the width of the stream might be the angle of inclination of the watering can and the form of the spout.

After that, adjusting the position of the can so that the stream hits the middle of the glass (centered) should make the process capable.

This procedure is applicable in almost all processes of a business.

five project phases, represented by the DMAIC Cycle. DMAIC stands for Define, Measure, Analyze, Improve, and Control. In the first phase, the problem is defined and the goal for the project is determined, after which a judgment is made of the current process capability. The Analyze phase evaluates the measurement results and tracks down the actual causes of the problem. Finding the solution follows, and an action plan for lasting process improvement is produced. In

the last phase, verification is made that the process improvements made are permanent.

The improvement process is carried out by trained coworkers. According to the scope and length

of their training, they are called Yellow Belt, Green Belt or Black Belt. A Black Belt is responsible for project planning and execution of the Six Sigma methods and tools, for example. A Yellow Belt has basic knowledge, while a Green Belt leads the Six Sigma projects. Although Six Sigma leads to significant quality improvements, it has been started in only 200 German companies and only 1200 in the US.

Therefore Elbe is again a pioneer!



In the picture (from left): H. Kneuer, T. Dünninger, M. Koch, T. Endres, J. Beauchamp, S. Hömer, C. Endres, T. Sollner, G. Elbe. In the picture are missing: U. Schwappach, R. Huth.

Too far left?



reduced diffusion



centralized process



Six Sigma: 7 projects in Hofheim and Bietigheim-Bissingen successfully presented.



Interview with Mr. Gundram Elbe about Six Sigma.

On the 22nd and 23rd of November, 2005 the first 7 projects in the Elbe Group were presented by the Black and Green Belts, to much applause from the 75 coworkers.

The results of the presentation were astonishment, or, better, enthusiasm. It was plain to see how much hidden potential that can contribute to the success of the enterprise was uncovered. Each project is already well underway and producing results. Topics were as follows:

Elso project 1, Reduction of the preparation times for turning

Elso project 2, Rejection rate for cast parts

Elso project 3, Reduction of grinding time for flanges

Elbe project 1, Reduction of non-productive times on bottleneck machines

Elbe project 2, Machine utilization on the "Sweden line"

Elbe project 3, Additional time of the welding

Elbe project 4, Utilization in the shipping

Comments on Six Sigma:

This topic is very interesting for me. The potential and actual optimization of the work shown in this presentation makes us more competitive, and consequently makes it possible to help guarantee our jobs in the future.

The Elbe work council faces the Six Sigma project openly. Surely there is criticism voiced amongst our coworkers. Because of this, I hope that information meetings will be held and the topic communicated widely. This can help to eliminate misunderstandings, and help with a positive implementation. Also, it should be emphasized that the workers and the work are the main issue, so that we have a chance to reduce some of the "grunt work".

Bernd Sollner, chairman of the Elbe work council.

The introduction takes place with the purpose to make us more economically competitive, minimize cost and improve the daily processes. Six Sigma specializes in improving processes, as we have understood it so far.

Before today, there was only one other way of doing an improvement process, e.g. tests to improve the set-up times.

In conclusion: I hope that the Six Sigma projects that have already been started have been tested before they were implemented, and have been started properly. I'm saying that it's important to involve the works committee and the coworkers during the implementation of Six Sigma projects, but even more important, that this won't result in any disadvantages for the coworkers.

Matthias Wernthaler, chairman of the Elso work council.

Mr. Elbe, what made you decide to introduce Six Sigma in your business?

Elbe:

Actually, the occasion for me to introduce Six Sigma was an invitation from our customer Caterpillar in the USA. The philosophy immediately convinced me.

Philosophy, not a marketing ploy?

Elbe:

Exactly. This philosophy, which isn't yet implemented in many companies, is not a ploy. It must be made a part of life, every day, from each coworker to the executive management.

So, what does this mean in practice?

Elbe:

We had to find a tool to make sure that Elbe remains competitive in the future, to secure the long term business success. With Six Sigma, we can affect all key areas of the business in a practical way and improve our net value added chain.

So, Six Sigma means to improve competitive abilities?

Elbe:

Yes, with Six Sigma questions everything: How good is our product? Are the actual production costs too high? Are we selling at the right price? What about service? Can we improve quality? How is our company image?

How was this issue accepted by your workforce?

Elbe:

Our black and green belts fully involved everyone that was affected by those process changes right from the beginning. Everyone cooperated without reservation.

Which criteria were used to select the black and green belts?

Elbe:

The executive board, assisted by Bernd Klenk and Horst Kneuer chose employees that have technical know how, but also those that have shown administrative capabilities.

Does everyone have the chance to be involved?

Elbe:

Dedicated employees always have bright prospects in the Elbe group.

High expectations and more projects.

For six months now, the Elbe Group has devoted itself fully and completely to the quality offensive by means of Six Sigma. Meanwhile, three Black Belts and 14 Green Belts are ready to insure quality, and Yellow Belts will soon train in their turn. The Black and Green Belts will get a TUV Certification. „We go into the project with high expectations“, manager Gundram Elbe says. „Avoiding mistakes means less rework, less inefficiency, and improves quality. This is true in the production as well as in the administrative areas of the group. We improve our ratio of results to effort, and become more competitive. Yellow Belts are to be trained and to integrate the new spirit in the Elbe Group, as Mr. Klenk and Mr. Kneuer emphasized again.



Action! The Management says thank you.

There will be a special event for all participants in the Six Sigma training in Boxberg, between Würzburg and Heilbronn on March 25th 2006: Driver improvement training at the Bosch proving grounds. Why are we doing this? The executive board wants to say thanks to all participants for their extra efforts during the last few months.

„Special efforts should be rewarded appropriately“ C.E.O Gundram Elbe justifies the extraordinary trip for his Green- and Black belts. „Normally the curve performance of the Porsche Carrera GT is tested here, but today our colleagues can experience the need for speed, too.“ When the tires lose their grip on the wet proving ground at a speed of 120 km / h, the level of adrenaline will explode. Now it is all about staying cool. But don't panic, as the instructor will always give precise instructions via radio how to handle the car during aquaplaning.

However, the precise transition between clutch, accelerator and brake should be an easy task for people that have proven themselves in Six Sigma.



Photo: Bosch

Gasoline in the blood

But the Bosch proving grounds still have more to offer. On a total of 24 square kilometers the participants get the chance to prove their driving abilities on special tracks. Slalom, abrupt lane changes, braking and skilful evasion will take place, as well as driving on narrow serpentine and a passing track. If this isn't enough, test of top speed taking the driver and his car to the limits while driving round the proving grounds. After such exciting hours there will be lots of „Gasoline“ to discuss.

Elbe Spirit: Insight into the future.

Mr. Gebhardt, why „Elbe Spirit“?

Gebhardt: The Elbe Group is committed to the two production locations in Germany. The cost pressure on the product from the low wage countries is enormous. In order to remain attractive for existing customers, and win new customers, our business strategy consists of quality, flexibility and on-time delivery as well as the goal of continuous productivity improvement.

Is this what „Elbe Spirit“ means?

Gebhardt: The Elbe Spirit is the new attitude in the Elbe group. The management provides the tools and a not insubstantial investment in the German locations. However, these aren't the only things that will determine the success of the business in the international competition of the future. We will need technical knowledge, commitment and reliability from each individual coworker in order to insure the success of our business in the future. Only as a team can we go ahead to improve the conditions for success.

How is the Elbe Spirit connected with Six Sigma?

Gebhardt: With Six Sigma, we introduced a system that helps make it possible to improve all our production processes in Elbe and Elso. This is an important component of the Elbe Spirit. And I am confident that each coworker, including myself, can contribute something every day, to bring our goal a bit closer.

What are your wishes for the Elbe Group for 2006?

Gebhardt: Success!!! And the realization that this success in the Group comes not only from the management, production or sales, but from the hard work and the commitment of each individual.

This sounds almost as if you expect a real wave will be started with the Elbe Spirit?

Gebhardt: The bigger this wave becomes, the more successful the year 2006 and the following years will be.

Interview partner: **Ralf Gebhardt**

Marketing Manager, Elbe Holding GmbH & Co. KG

Liebherr puts the 0.313 on their new project.

Liebherr has always favored reliability from its suppliers. Now, the new development from Elbe, the 0.313, could score very well with Liebherr.

In the area of earth moving machines, Liebherr Bischofshofen employs approximately 780 workers in an extensive wheel loader program.

The high demand for quality that Liebherr makes on its product is also guaranteed throughout the spectrum of products at Elbe. In the new 514 loader, Liebherr uses axles from a renowned manufacturer, who also uses Elbe as their primary supplier of double joint shafts. After recent successful field tests, the new joint shaft 0.313 is also included. This shaft was developed with a double centered joint on both ends, for the rear axle connection. However, first things first:

Approximately one year ago, 4 prototypes of the shaft 0.313.115.8011 were sent to Liebherr in Bischofshofen (Austria). The shafts were installed into the field test machines L514/790. After approximately 4000 hours of operation, one of these shafts was sent back to Elbe for evaluation.

Results from the field test:

The shaft showed no external damage. The seals at the joint bearings and the extension as well as the centering device were still in good condition. Moving the joints on each end showed no irregularities. Both joints turn while bent with no noticeable difficulty. The extension moved easily. The balance for the shaft was checked, and still in order.

Because of the good results of the examination, it was decided that it was not necessary to dismantle the joints.

The new 514 wheel loader is completely equipped with joint shafts from Elbe. Elbe has been a listed Liebherr series supplier for decades.

Regreased and fully functional, the shaft could be sent back to the Liebherr Company with a good test report.

Reliability in every sense.



Photo: Liebherr

Mr. Wörndl, Builder/Designer for wheel loaders at Liebherr in Bischofshofen, swears by both the Elbe products and the smooth communications with Bietigheim-Bissingen.

Editor, Das Original: We don't want you to give away any company secrets, but can you say how many of the type 514 are produced annually?

Wörndl: We sell 150 type 514 wheel loaders annually, performing their daily duties reliably around the world.

Editor, Das Original: What impressed you about your work with Elbe?

Wörndl: The fast reaction and above all, the competence, of the coworkers in the Elbe company.

Editor, Das Original: What was the decisive factor to use the new shaft?

Wörndl: First, of course, was the successful field test, where the shaft showed its reliability in over 4000 hours in the 3-layer-test. Also, however, the positive relationship that Liebherr has had with Elbe for years.



Photo: Liebherr

Investment for the future. The Elbe Group creates more training positions starting in 2005!



The unemployment situation for the youth in Germany is disastrous. For 2004, the official count of unemployed teenagers was over half a million. 342,000 more were in government educational programs, from all government levels, so therefore were not counted in the official unemployment statistics.

But is not really black times - at least not in the Elbe Group, with, at the moment, 43 trainees employed. 24 of those get their occupational training at Elbe in Bietigheim. „For us, it’s clear that training is an investment in the future”, says Heinz Friederich, master mechanic and long time trainer.

Trainees at Elbe ...



In sum, 16.9 percent of youth in Germany have no apprenticeship training position or work place and therefore no prospects for the future. These numbers were reported in the magazine “Wirtschafts Woche” (Economics Week) in an appeal to the federal agency for work.t.

trainees have gone through his school.

The new generation is also being taken care of at Elso in Hofheim. There, 19 industrial trainees learn their occupation. Georg Müller learns Machine Tool Operations: “When I have questions, I can always turn to my colleague in a higher year of apprenticeship. Something unusual is having lunch with the trainers and the management. The others in the vocational school were pretty surprised when I told them about it.”

Practice is essential.

Hearing this from his protégé gives proof to trainer Ludwig Laubender that the Elbe Spirit concept is on the rise: “I have been in this business since 1974 and have had the opportunity to pass on my knowledge to 80 trainees. The feeling of working together and friendliness are quite important. When you have that, technical knowledge falls on fertile ground.” Emphasizing the relationship to practice and seeing how it all fits in the big picture are also important at Elbe. Laubender: “We organize trips to subsidiaries, suppliers and customers regularly. For the trainees, it helps to broaden their view if they can see things like how the raw material is produced, or how a customer uses Elbe’s technology.” A recent trip in October took the 43 trainees of Elbe and Elso to Aalen to visit a forging supplier. As a surprise, it included a visit to the cart track in Backnang. Education in the Elbe group - a pure enjoyment? “Of course we expect good performances”, Ludwig Laubender explains. “And our eleven education representatives assess the progress of the apprentices regularly.”

... and Elso



“The management has made it clear that it is committed to the main location in Germany - we have to insure that in two or three years, we have no lack of specialists.” In order to prevent this, Elbe started the education offensive in 2005. In plain language, they are calling for a new attitude, that of creating more jobs, and acceptance of new two year programs such as “Storage-Craftsman” and “Plant and Machine Operator”. It can be said that trainees are in good hands with Heinz Friederich, so far 92 industrial

The “Council of Eleven” found no fault with Sonja Müller, Klaus Hau, Stefan Frees and Alexander Sittler. The four Machine Tool Technology trainees passed their skilled worker exams with a commendation of the IHK (Chamber of Commerce and Industry). Sonja Müller: “Our study group in the cafeteria helped me very much. It is motivating to cram for examinations in a group. I am very proud to be rewarded for my hard work in this way.” Results of the education offensive in the Elbe Group? Keep it up, we are going the right way.



Mark Sirp,
first year trainee:
What I have learned so far is exactly what I expected from my apprenticeship. Not only how to use a file, but right from the beginning sound knowledge that I can use to build my future on.

In the picture:
Mr. Friederich, trainers at Elbe with Mark Sirp .

Mr. Friederich and Mr. Laubender, what goals are the Elbe Group pursuing with the education offensive?

Friederich: We are doing our part to reduce unemployment in the youth. And we train reliable personnel, who we know will have a place after their education. As an example, a former trainee is a manager in the Italy office today.

Laubender: Where other people only speak, we want to make an active contribution to help with the youth unemployment.

How does this work in practice?

Laubender: With Elso, in 2005 we started six new trainees. This was fifty percent more than in years previous.

Friederich: In 2005, at Elbe, we started five instead of four Industrial Machinists. Also, four Plant/Machine Operator jobs were created as well as two Storage-Craftsman persons. In the commercial area, we added two Industrial Clerks.

What does the educational system look like in the Elbe Group?

Friederich: Among other things, Elbe favors Learning Groups. A trainee from a higher year of apprenticeship helps younger apprentices with their learning. They meet in the cafeteria and go through the theoretical material again before tests. This method has proved itself, because three trainees passed their examinations for Industrial Machinist this year with a commendation.

Laubender: At Elso developed our own education philosophy over the years. A „godfather“, normally from the third or fourth year of apprenticeship, is assigned to each occupational trainee, and watches over the beginner. So, everything is passed down year by year. In addition, our trainees are given the use of



Georg Müller,
Trainee in the 3rd training year: It's amazing how unstrained you can work in the "Learning Island" here. Practice and theory stand hand in hand; it doesn't get better than this. And a benefit for us at the vocational school, we can go farther at the "Learning Island", and deepen our understanding.

In the picture:
Mr. Laubender, trainer at Elso, with Georg Müller

a training island, which includes two PC stations with CNC simulator and other software. The trainees can deepen their knowledge of the CNC machines with this equipment.

This is a large investment in the future.

Friederich: You could probably say that. In 2005, we have invested 30,000 Euro for a radial arm drill and a lathe for our training workshop.

Laubender: It isn't just the material. In the past, we have had a booth at the job fair in Hassfurt, designed and built by the trainees. This helps the young people learn to present themselves in public. We will participate with our trainees in a job fair again in 2006.

Friederich: Our trainees do artworks from scrap metal. The Brandenburg Gate, the Leaning Tower of Pisa, and the Statue of Liberty were sculptures from last year. A few weeks ago, there was a presentation of the competition for this year's group. The assignment was to create a column to advertise the Elbe Drive Shaft Service. Awards and cash prizes were presented from the management. We plan to have a tower about four meters high, eventually.

Heinz Friederich, at Elbe since 1982

- Master Machinist/REFA-Specialist and Workplace Safety Specialist
- trained 92 industrial trainees
- 24 trainees in the industrial and commercial area at Elbe now.

Ludwig Laubender, at Elso since 1974

- Master, Mechanical Engineering and Technical/REFA Specialist
- trained 80 industrial trainees
- working now with Elso's 19 industrial trainees.

The new record: 330 years of loyalty. Congratulations!

In the Elbe Group, 12 coworkers hold the longevity record in our company story this year: 330 years. Among them are two 40 year veterans.

A reason for congratulation and for celebration. Mr. Elbe, Mr. Kneuer and Mr. Klenk from the

Management gave thanks to our colleagues in our business for their long-time loyalty.

Mr. Sellner and Mr. Wernthaler of the worker's committee joined in the congratulations.



Jubilee at Elbe. In the picture (from the left): Hugo Höhn (25 years), Mrs. Zaja, Tomislav Zaja (40 years), Mrs. Tzortzis, Francais Tzortzis (40 years)



In the picture (from the left): Franz Hatzlhoffer (25 years), Richard Wilhelm (25 years), Andreas Lochner (25 years) and Ivan Maras also 25 years at Elbe



25 years with Elso: Doris Bock, Willi Eiring, Gerald Mock, Bernhard Valtenmeier and Heribert Zimmermann.

In the picture (from the left): Paul Vieneusel, Gabriele Mock, Gerald Mock, company owner Gundram Elbe, Ursula Zimmermann, Brigitte Eiring, Matthias Wernthaler, Heribert Zimmermann, Doris Bock, Willi Eiring, Herbert Bock, Erika Valtenmeier, Manager Horst Kneuer, Bernhard Valtenmeier.

Tell us your opinion!

You have the first edition of *Das Original* before you. Do you like it? What would you like to see in our company publication in the future? Give us your opinion, suggestions, criticism or praise.

Tell us what you would like to see and read in *Das Original*. We look forward to your contributions and suggestions... tell us everything that makes it more worth reading for you, in order to fill *Das Original* with life.

For those that would like to help us, we have prepared a few questions. Please pass your answers on to the office secretary. Thanks in advance for your contributions.

Everyone that responds will be entered into a drawing for 10 gifts, to be presented at a meeting of the worker's committee.

How well do you like *Das Original*?

- Excellent
 OK
 Not so good

I would like to see articles on:

Name: _____

Department: _____

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