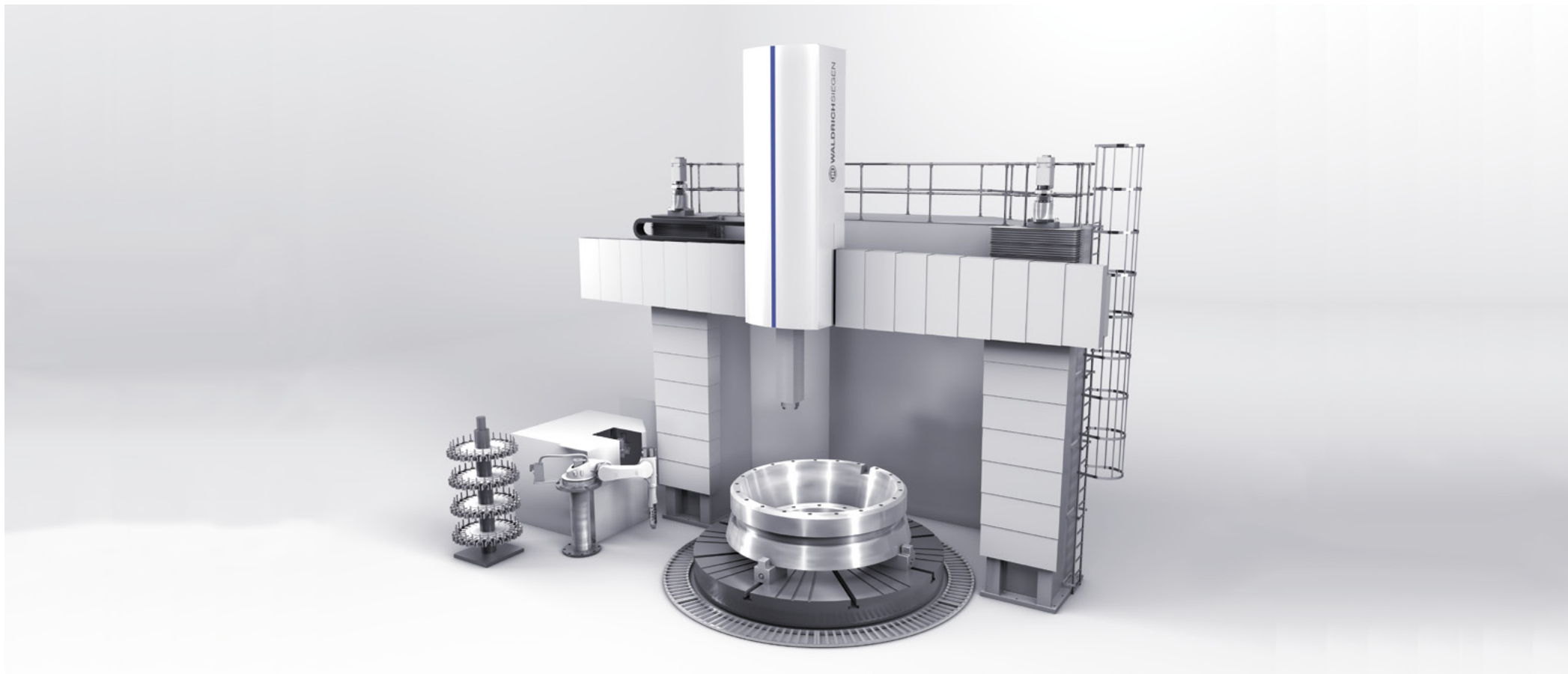


New vertical lathe and milling machine



Innovation in the field of heavy machine tool building – the new WaldrichSiegen ProfiTurn V.

With the development of a new vertical turning machine program, WaldrichSiegen sets new standards in the machine tool industry: The ProfiTurn V provides significantly more performance and precision than all other known machine concepts. It integrates different operations for the machining of complex, large work pieces with the highest precision and excels in obtaining high availability and energy efficiency.

WaldrichSiegen also exhibits its innovative strengths by expanding the portal milling machine series by a smaller machine size. “Both new developments represent our strategy to expand our product portfolio with convincing solutions to the customers’ ben-

efit”, explains Dr. Stephan Witt, President of WaldrichSiegen.

WaldrichSiegen built vertical lathes until the beginning of the 1970s – now they have developed a completely new generation. The new ProfiTurn V series covers the entire range of machining large and highly precise work pieces with weights up to 500 t and diameters up to 12 m. By integrating different operations including turning, boring, milling and grinding the ProfiTurn V enables the user to machine the entire complex work piece on one machine.

All main axes and the faceplate of the table are fully hydrostatic. They guarantee high static and dynamic rigidity, a low rate of wear and a nearly unlimited ser-

vice life in all traversing axes. The generously dimensioned structural components are made of high quality cast iron. They are produced in-house with the highest perfection.

When pre-machining, the ProfiTurn V makes full use of its power range and thus significantly reduces machining times. When finishing, the machine ensures the high quality and precision WaldrichSiegen is well known for all over the world. Due to their modular design, each ProfiTurn V can be flexibly adapted to the field of applications within a wide range of work pieces.

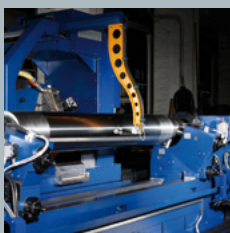
When designing the ProfiTurn V the WaldrichSiegen experts implemented their years of ex-

perience in designing portal milling machines and horizontal lathes. They transferred these well-proven solutions to the new machine concept.

The same goes for the second novelty in the WaldrichSiegen portfolio: the expansion of the ProfiMill series by a smaller machine size. “With the new machine we offer an economic and powerful solution for machining middle-sized work pieces”, explains Dr. Benedikt Sitte, manager mechanical engineering.

The highlights of the new ProfiMill: the high-quality cast machine components, the fully hydrostatic guidance of all main axes and its performance, precision and reliability.

The new machine size with a milling performance up to 70 kW was developed for producing components for the energy, engine construction, machine tool construction or general machine construction industry. Due to the modular system and a large variety of heads, the machines of the ProfiMill series can be configured individually depending on the customer and work piece requirements. Again, the focus is on the user-specific machining of complex work pieces.



- ProfiMill for Dongfang: A giant comes to life
- Successful acceptance at SMTW
- Turn-milling complex work pieces

- A giant leap for roll grinding technology
- Roll shop for hot rolling mill in Vietnam
- New boring mill for Gontermann-Peipers

ProfiMill for Dongfang: A giant comes to life



The WaldrichSiegen ProfiMill series stands for highest performance and highest precision.

As previously reported in the last editions of this newsletter, WaldrichSiegen received the order for a large portal milling machine in gantry design from Dongfang Heavy Machinery in Guangzhou, China.

After the successful Design Review Meeting last year, all departments started their work. Now, the time has come: A giant comes to life at the WaldrichSiegen assembly hall in Burbach, Germany. The portal milling machine is one of the largest machines ever built by WaldrichSiegen. It has the impressive size of 8,5 m distance between the columns and a passage height of 7,5 m. Machine bed, columns and crossbar have already been assembled. Hydraulics, hydrostatics and electrics

are currently being installed. The heart of the machine, a milling and boring unit with an impressive traverse of 3,5 m in the Z axis and 120 kW performance has also already been assembled.

As soon as the assembly in Burbach is completed, the commissioning of the machine will start. The machining units and the machine equipment will be completed at the same time. After handing over the gantry machine to Dongfang, the ProfiMill will be the centerpiece for the production of turbine housings and other complex components for power plants.

Hubert Schuhen

Successful acceptance at SMTW

Producing machine beds precisely and efficiently – in order to achieve this goal Shanghai Machine Tool Works (SMTW) invested in a ProfiMill portal milling machine by WaldrichSiegen. Now the new center machine in the SMTW workshop successfully passed the acceptance tests at the customer's site.

The commissioning was completed with an acceptance test: re-milling the notches in the table. Two 12 m long machine beds had to be milled so precisely that they fit together perfectly once they were bolted together without having to be recut. The ProfiMill fulfilled this complex task to the complete sat-

isfaction of the customer in the first attempt. Thus, the machine could immediately afterwards be used in the machine shop of SMTW.

With this project, WaldrichSiegen once again confirmed why SMTW opted for one of their portal milling machines. WaldrichSiegen impressed all by developing an ideal machining strategy for the SMTW work pieces and thus proved to be a reliable partner for their most complex machining requirements.

Hubert Schuhen



WaldrichSiegen develop perfect machining strategies for every task.

Turn-milling complex work pieces

Integrating different machining processes in one machine has been a major trend in the machine tool industry in recent years. Users increasingly demand turn-milling of large, complex work pieces like turbine rotors or pinion shafts. WaldrichSiegen developed the perfect solution for all complex turn-milling processes.

The successful concept of the ProfiTurn lathes can be enhanced on request by integrating a high-performance milling aggregate between the two turning tool holders. The aggregate has a performance of 50 KW and is equipped with a pivoting milling head with two CNC axes in the X and Y direction. At the same time, the headstock drive was completely reworked and equipped with a zero backlash drive in Master/Slave design con-

trolling the C axis. The advantage: Complex turn-milling operations in one machine set-up.

Several orders prove that this concept strikes a chord with users. In 2012, WaldrichSiegen delivered a machine for work pieces weighing 35 t to the company Shenyang Blower in China. Now, another ProfiTurn for machining turbine rotors with weights of 60 t and turning diameters of 2,000 mm passed the acceptance tests at Hangzhou Turbine in China.

The machine carries out turning as well as notch milling operations on the turbine rotors and completes all necessary boring operations. Hangzhou Turbine can also machine the bearing seats with an additional integrated grinding aggregate. Thus, the complete turbine rotor is completely machined on one machine.

A further ProfiTurn, designed for machining complex pinion shafts, is currently being installed in the Ukraine at NKMZ. It is due to be put into operation at the end of this year. This machine is even larger: The maximal weight of the work pieces is 100 t.

Hubert Schuhen



Turning, milling and grinding on the ProfiTurn 2000.

Breaking News

Herkules and WaldrichSiegen unite their strengths in the fields of roll grinding and texturing in one location. The employees of both engineering departments will design and further develop the machines of both brands in an engineering competence center at Herkules in Siegen. That will increase efficiency and optimize the development of the machines.

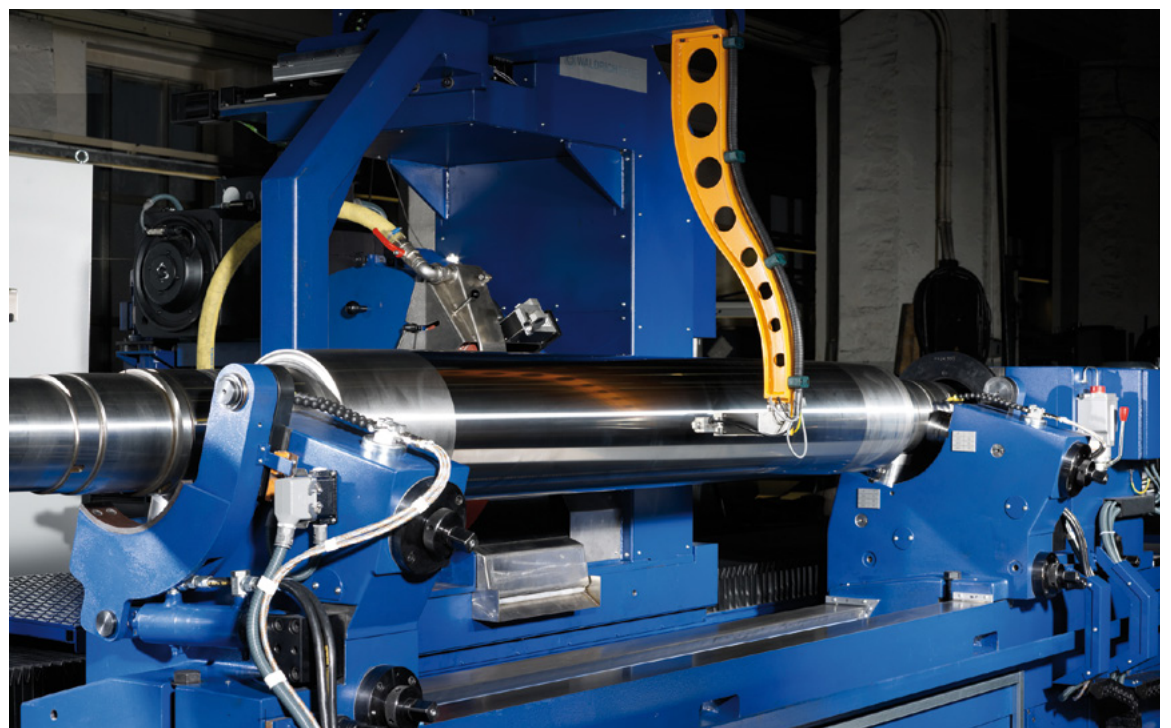
This internal concentration of competencies does not afflict the independence of the companies on the market. Both companies continue to be represented by different sales departments and the machines will be produced according to brands and capacities as before.

With founding the competence center, the companies of the HerkulesGroup follow their strategy to use the synergies between the companies to the advantage of the customer.

Economical, reproducible finish grinding with CBN wheels – the HerkulesGroup and their cooperation partner, the Austrian grinding wheel manufacturer MACH ROTEC, achieved this milestone in grinding technology with a unique technology package. Until recently one could use CBN grinding only for rough grinding with very high costs. The innovative Herkules MACHtechnology now allows, for the first time ever, finish grinds of any type with economical use of CBN coatings. The recipe for success: vibration damping grinding wheels and vibration damping machine technology with ultrafast control and measuring technology.

Cast and forged HSS rolls could not be finished conventionally to the required quality until recently. One reason for this is that conventional wheel bodies, made out of aluminium, steel or plastics, do not possess any damping properties and are therefore not suited for the finish grinding of very hard HSS rolls. In contrast, MACH ROTEC's patented CFRP (carbon fiber reinforced polymer) wheel bodies offer stability and excellent damping characteristics directly at the contact point of wheel and roll.

The CBN wheels, due to their extreme hardness, forgive no



Perfect damping and ultrafast measuring technology – roll grinders of the ProfiGrind series.

mistakes. They always grind exactly what the control dictates. Achieved through the perfect in-feed and damping of the Waldrich-Siegen machines – coupled with the simultaneous measuring and interpretation of events by the HCC/KPM controls and measuring devices – can one avoid geometric errors during CBN grinding.

The very light MACH ROTEC grinding wheel bodies allow cutting speeds of more than 80 m/s.

This minimizes wear of the CBN coating and makes their use cost effective.

The result of the grinding process with Herkules MACHtechnology is a homogeneous surface over the entire roll without any patterns, shadings or grit marks. The homogeneous surface structures reduce the outbreak of carbides during rolling and thus provide a cleaner sheet. Moreover, CBN grinding with the new technology has yet another advantage:

Energy savings of about 25,000 Euro per machine each year (based on energy costs in Germany).

With the development of the new technology, Herkules shows once again that they do not just sell machines, but they develop the perfect solution for every application.

Roll shop for hot rolling mill in Vietnam

FORMOSA HA TINH STEEL CORPORATION (FHS) currently realizes the largest greenfield project in the steel industry worldwide in the Vietnamese province Ha Tinh. There, the subsidiary of the FORMOSA PLASTICS GROUP (FPG) will produce five million tons of steel each year by the middle of 2015. An increase of production capacity to ten million and then 22 million tons of steel per annum is scheduled.

FPG awarded the order for a fully-automated roll shop for the new steel mill to WaldrichSiegen – a further milestone in the trusting and reliable partnership of both companies.

FORMOSA HA TINH STEEL CORPORATION will grind rolls for a new hot rolling mill in the shop. It is equipped with five roll grinders, two loaders, roll cooling and further roll shop equipment.

Following a trend in the steel industry, all work rolls are placed in the grinding machine with the help of a loader. In order to mini-

mize auxiliary times, the work rolls are ground in chocks. The loader is equipped with a special system for turning the chocks. Thus, the collision of chocks and roll grinders is prevented. This integrated system dispenses with the separate turning of the chocks on the grinding machine. In order to eliminate mistakes and operating errors, the rolls are identified with RFID technology and all steps of the operation are documented, controlled and optimized by WaldrichSiegens' own Roll Shop Management System (RSMS). The result: Significant time savings when transporting rolls with a safe process flow.

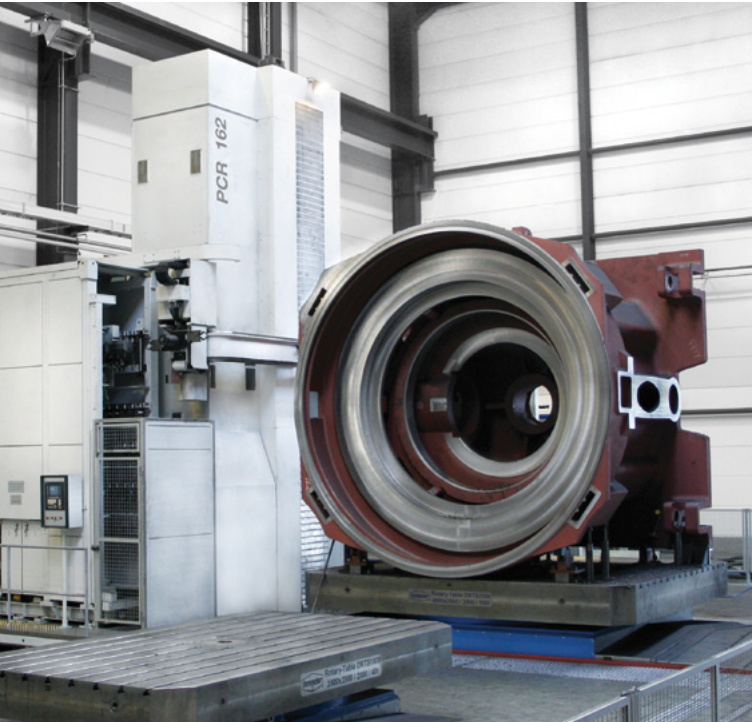
In addition to the long-term partnership between companies, FPG had other crucial reasons to opt for WaldrichSiegen: All components are designed and produced by one source and WaldrichSiegen roll grinders are well known for reliability and their easy handling.

Mike Nitschke



Made to measure components from one source – a roll shop mark WaldrichSiegen.

New boring mill for Gontermann-Peipers



Precise machining of complex work pieces: UnionChemnitz PCR series.

What do you do, when you have to replace your old boring mill with a new one and you only have limited space in your production hall? You look for a manufacturer who adapts the new boring mill with your preferred technical data and tailored to fit the existing space.

The German roll and cast product manufacturer Gontermann-Peipers approached Waldrich-Siegen and UnionChemnitz with that task last year. After intensive project work, that covered all details of the machine from the very beginning, Gontermann-Peipers opted for a UnionChemnitz PCR 162 High Torque.

The PCR 162 has 63 kW performance, 5,000 mm torque and speeds of 2,200 min⁻¹ and thus

has all prerequisites Gontermann-Peipers required for the complex machining of their work pieces.

The machine will be equipped with a high-performance orthogonal milling head as well as a facing and turning unit that can be exchanged automatically. Due to space limitations, the integrated pick-up station is moveable and can be removed from the working area if required.

The existing clamping plate and the fundament in the customer's production hall will be used again. Furthermore, the distance between boring spindle and clamping plate had to be minimized. For that reason, UnionChemnitz designed a special solution for the bed and the carriage without reducing the necessary rigidity.

All axes are hydrostatically guided for the PCR 162 to handle the most difficult cuts. The hydrostatic guidance guarantees highest rigidity and best damping qualities.

The machine will be put into operation at Gontermann-Peipers in May 2014 and will perform to the complete satisfaction of the customer for years to come.

Harald Kohlsdorf

New president at WaldrichSiegen

A new president will begin his leadership at WaldrichSiegen in September 2013: Jörg Hartwig. He will be responsible for the sales departments at Waldrich-Siegen and UnionChemnitz.

Mr. Hartwig, welcome in the HerkulesGroup! Why did you opt for the role as President Sales at WaldrichSiegen?

The main reasons for my decision were the structure of the companies, the products and the new professional and personal perspective. I have known the names "WaldrichSiegen" and "UnionChemnitz" and their excellent machine tools for some time now. The strategic orientation of both companies is an exciting and challenging task. The combination of all those factors is ideal for me.

What is your professional background?
I've been connected with the

machine tool industry ever since my apprenticeship and thus I know the industry very well. I was responsible for the sales in Germany and also had the opportunity to work in the USA and Tokyo for some time. I worked the important Asian markets for some years. After working for a manufacturer of customer-specific automatic lathes for many years I know the characteristics of project business very well. I take a technological orientation for granted.

What are your goals and what will be the priority of your work?
It has to be our first priority to remain technological market leader. As a German machine tool builder we can only act economically in the long run when we offer machines equipped to customer-specific requirements that work highly precise and efficient. We must keep on distinguishing ourselves from our competitors.

That includes global action. Both companies must be oriented according to these goals. Another crucial factor are the employees standing behind the company and our products.

What values do you find important in sales?
Our sales managers focus on the market and therefore they give decisive signals for the structure of our product portfolio. Professional appearance and work, flexibility and fast reactions guarantee satisfied customers. It's important to maintain a sustainable relationship with the customer that goes well beyond the signing of the contract. A good exchange of information and a high motivation are crucial.

You will have your first official appearance at the EMO in Hannover...
The EMO is the perfect opportunity to meet existing and potential

customers and talk to them right at the start of my new job. I look forward to be seen as a "Herkules-Group man" at the trade fair.

Mr. Hartwig, thank you for the interview and have a good start in your new job.



Jörg Hartwig, President Sales at WaldrichSiegen.

Corporate planning game

Preparing students for their role in working life – priME Cup Germany, a nationwide corporate planning game, pursues this target. WaldrichSiegen hosted the second level of the competition, the Master Cup, in April 2013. 17 students from all over Germany participated. They competed against each other in four teams and managed a fictitious company during five business periods. "I took part in a corporate planning game when I was a student. I made many experiences I still profit from today. That's why we agreed right away to

host the Master Cup. Supporting the next generation of employees is an important aspect of our corporate culture", said WaldrichSiegen president Dr. Stephan Witt and explained why WaldrichSiegen provided the infrastructure for the game.

Local corporate race

50 employees from the companies in the HerkulesGroup took part in a local race on July 17, 2013 in Siegen. Overall nearly 8,000 employees from companies based in Siegen (Germany)

participated. In best summer weather the WaldrichSiegen employees ran a 5,5 km circuit through the city and impressed the viewers with an excellent team performance.



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