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Who will be
world champion?

CNC turning and milling machine operators use
Sinumerik at WorldSkills Leipzig 2013



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Who will be world champion?

More than a thousand participants from all over the world will meet this summer in Leipzig, where world championship titles will be awarded in 46 recognized trades at WorldSkills. Germany will be fielding a strong team. The participants in CNC turning and CNC milling will demonstrate their prowess on machines by DMG / MORI SEIKI that are fitted with Sinumerik 840D sl and Sinumerik Operate.

 The beginnings of WorldSkills, the international world championship for the craft and industrial professions, which take place every two years, date back to 1946 in Spain. In the run-up to WorldSkills, preliminary rounds are held in the individual countries taking part – in Germany at SkillsGermany. This competition is supported by DMG / MORI SEIKI for CNC turning and by Chiron for CNC milling.

Herbert Mattes, a trainer at Chiron-Werke GmbH & Co. KG in Tuttlingen, supervises the competitions as the expert in CNC milling. In his opinion, participation is worthwhile for both companies and trainees: “The candidates are trained in areas that would otherwise not be covered in such depth. And, of course, it’s a great opportunity to meet up with global competitors, to compete with each other, and to make new contacts.”

1 Evaluation criterion: dealing with pressure

Tobias Schanzenbach works as a trainer in the field of metalworking at Siemens. He will act as a workshop supervisor for CNC milling at WorldSkills.

Mr. Schanzenbach, what are your duties as a workshop supervisor?

Tobias Schanzenbach: Among other things, I am responsible for ensuring that all the necessary equipment is available for the CNC milling section in Leipzig’s trade fair hall by the time of the competition. There are other things, too, that need to be arranged, such as the health and safety and environmental guidelines. I have an excellent team that includes applications and service engineers from Siemens and DMG / MORI SEIKI. They are on hand to help with the time-consuming and complex organization.

What criteria are used when evaluating the participants?

Tobias Schanzenbach: During the competition, the participants use the CAM system, typically Mastercam, to create the program for the workpiece based on a drawing. This program is then transferred to the machine. Tools and cutting values are set by the participants themselves. The workpiece must be completed within the specified time. The evaluation is based on the level of completion, dimensional accuracy, surface condition, and, of course, time. Basically, the test is to see whether participants can work under extreme pressure. Usually three workpieces are programmed and manufactured within the three days.



2 State-of-the-art competition machines

DMG / MORI SEIKI is supporting WorldSkills in Leipzig with more than 33 CNC machine tools. A total of 13 CTX alpha 300 V4 machines will be used for CNC turning and 12 vertical milling centers of the DMC 635 V type for CNC milling. Three DMC 635 V and five Milltap 700 compact processing centers are also available in two other disciplines, the Manufacturing Team Challenge and Plastic Molds Development. All the machines are equipped with Sinumerik 840D sl and the user interface Sinumerik Operate. We spoke about the competition machines at WorldSkills with Jörg Harings, who is responsible for overall management training at the DMG / MORI SEIKI Academy and who will be present in Leipzig as the expert and workshop supervisor for CNC turning.

Mr. Harings, all the competition machines are equipped with Sinumerik controllers. Why was this particular CNC chosen?

Jörg Harings: We decided on Sinumerik 840D sl with Sinumerik Operate because we wanted to showcase our latest state-of-the-art high-end machines in this competition. In addition, Sinumerik is a universal controller and therefore has the same interface for both turning and milling.

Why should companies let their trainees take part in the WorldSkills competitions?

Jörg Harings: At DMG / MORI SEIKI we have discovered that contestants bring a lot of new stimuli into vocational training. The trainees approach difficult topics on their own initiative and work in a manner that is much closer to real-world operation. All in all, the quality of the trainees and the training has increased enormously.

**Thank you very much for speaking with us.
We wish you every success at WorldSkills 2013!**

INFORMATION ABOUT WORLDSKILLS

At WorldSkills Leipzig 2013, Siemens is also the product sponsor for the disciplines of Industrial Electronics, Polymechanics/ Automation, and Electronics. Information can be found at

siemens.com/worldskills

Everything you need to know about the disciplines, the program, and much more can be found at

worldskillsleipzig2013.com or
worldskills.org/

dmgmoriseiki.com



DMG / MORI SEIKI



DMG / MORI SEIKI

12 vertical milling centers of the DMC 635 V type (left) will be used for CNC milling. A total of 13 CTX alpha 300 V4 machines will be used for CNC turning. All the machines are provided by DMG / MORI SEIKI and are equipped with Sinumerik 840D sl



Johannes Rudolf (left) and Tobias Brockfeld, winners in the CNC milling and CNC turning sections, respectively, at SkillsGermany, are hoping to perform well at WorldSkills

3 Gaining experience – professionally and personally

- ▶ SkillsGermany 2012 was held at AMB 2012. The German championship titles went to Tobias Brockfeld in CNC turning and Johannes Rudolf in CNC milling. Now both will compete for the title of world champion in their disciplines in Leipzig. Rudolf was an industrial mechanic trainee at Chiron-Werke GmbH & Co. KG in Tuttlingen and now works there as a journeyman. Brockfeld completed an apprenticeship as a cutting machine operator at GILDEMEISTER Drehmaschinen GmbH in Bielefeld and is now employed as a skilled machine fitter in applications engineering.

Johannes, how did you find out about the SkillsGermany competition and why did you decide to take part?

Johannes: There are a few candidates at Chiron who have already taken part. They said it was a great opportunity to gain experience that you couldn't get otherwise.

You recently spent some time at DMG and were able to train on the competition machine. How did you get on with the machine and the controller?

Johannes: I was already familiar with the user interface Sinumerik Operate from the training workshop. I find the interface very operator-friendly with its diagrams and colored graphics. With this machine I had to rethink the traverse path a bit, as at Chiron the pedestal moves while at DMG it's the table that moves.

What do you make of your chances at WorldSkills?

Johannes: It would be fantastic if I could make the top five. But I can't really gauge it at all. First, I don't yet know the other entrants and how they've prepared for the competition. Second, the pressure at WorldSkills is most certainly greater.

Tobias, why did you decide to become a cutting machine operator when choosing an occupation?

Tobias: After secondary school, I went to a vocational training school specializing in metal engineering, where I learned turning and milling. I was hooked right from the start and decided on an apprenticeship in this field.

Your participation in SkillsGermany was immediately crowned with success as the German champion. What did you find most challenging about the competition?

Tobias: Everything comes together in this competition, from programming in CAD/CAM, when you really have to think about what is the most practical approach, to choosing and measuring the machine tools. Then on top of that you have all the hustle and bustle at the venue – that ramps up the pressure quite a lot.

What other preparations are you making for WorldSkills?

Tobias: In my free time I'm programming a few workpieces in Mastercam for test purposes. I then save the finished program to a USB stick and manufacture the turned parts on the machine.

Thank you very much for speaking with us. We wish you all the best at WorldSkills and hope it's a great experience!



INFO AND CONTACT

The complete interviews can be found at siemens.com/cnc4you
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