

The development of shot putter Christina Schwanitz¹

Summary by Jörg Probst

In the winter of 2013 Christina Schwanitz won the gold medal at the European Indoor Championships, and in the summer she took home a silver medal from the World Championships in Moscow with a new personal best of 20.41m. Her current coach, Sven Lang, has summarised her development as an athlete. The coach explains how purposeful changes to Christina's training regime and her technique over three years have led to the long-awaited international success.

The 27 year-old joined Sven Lang's training group (which includes none other than David Storl) following a disappointing 2008 Olympic campaign and another disappointment at the 2009 World Championships. She arrived with a personal best of 19.31m from 2008, she possessed excellent maximum strength values (180kg bench press, 200kg deep squat), but her technical deficiencies didn't allow her to make proper use of her legs, and her competition performances had stagnated.

Over 2010 and 2011 coach and athlete emphasised the development of Christina's general athletic abilities, including speed, but they also worked hard on improving her technique. However, it wasn't until 2012 when Christina's new technique stabilised and her competition performances began to improve again. Finally, in 2013 the hard work, patience and belief in the path they had taken together really started to pay off with success on the international stage.

Until 2009, Christina's training had been very much focused on maximum and specific strength. Under Sven Lang's guidance, she now spent a lot more time on jumps, sprints, general throws and of course technique.

Specifically, her maximum strength training had consisted only of bench press and squats. From 2010 onwards she balanced out her maximum strength training by adding the clean (120kg in 2013), neck jerk (3x120kg in 2013) and various pulls to the training repertoire. Whilst her maximum strength values are now lower than in 2008 (bench press is now 3x145kg compared to 3x165kg in 2008; deep squats at 3x175kg compared to 3x210kg), her speed values have markedly improved (30m starts from 4.32s to 4.26s; standing long jump from 2.72m to 2.85m).

In 2006 and 2008 Christina had to undergo a number of foot operations, and the screws left in her foot required adjustments to her sprint and jumps routine. In particular, she had to do all of her jumps on soft surfaces to avoid further injury. In 2012 the last of the screws were removed and she could now benefit from a broader range of jumping exercises and increase the volume of jumps and sprints. Sven Lang believes this is one of the major reasons for Christina's improvements in 2013.

Prior to joining Sven Lang's group, Christina had been throwing mainly competition weight or overweight shots. In contrast, over the last two years Christina used lighter implements (40% of the volume during the pre-competition phase), something that had already proven successful with David Storl. Sven Lang says Christina's regular use of lighter implements is one of the main reasons for the improved release speed (12m/s in 2010, 13.2m/s in 2013).

Her technical improvements since 2010 include:

- Initiating the glide by pushing off over the heel rather than the ball of her foot, which allows for better horizontal drive. Indeed, her glide improved from 63cm in 2010 to 91cm in 2013.

¹ Based on: Lang, S. (2013). Der Weg zum WM-Silber. *Leichtathletiktraining*, 24(12), 4-11.

- As the centre of gravity remains closer to the ground, she arrives in a better power position and her left leg plants at a more favourable angle. This allows her to block more effectively, avoiding a premature 'shifting' of the body weight from right to left leg, which in turn has led to her achieving a better bow position and making better use of her legs and hips.