Technique Analysis of Swedish Elite Throwers with „Analyz3d by Dr. Tobias Hein"

Prior to the Track & Field World Championships in London, three-dimensional movement analyses of Swedish Elite throwers were carried out in Växjö, Sweden. For the disciplines Discus and Javelin throwing as well as Shot Put, the technique of the best youth and senior athletes of Swedish Track & Field have been recorded and evaluated in order to improve their individual throwing technique and consequently their overall performance.

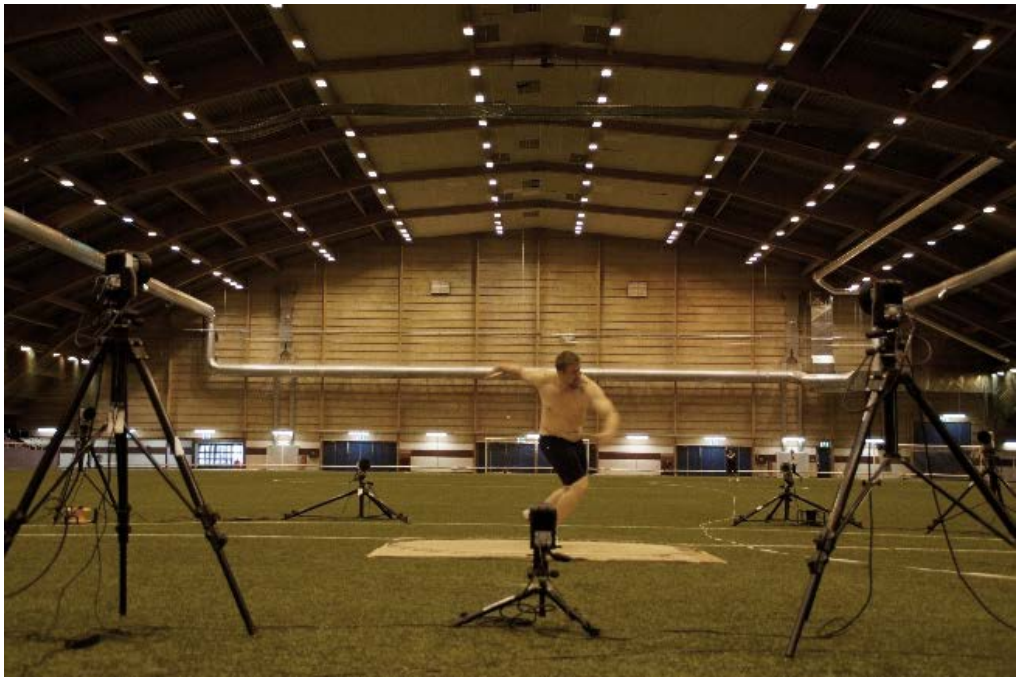
14 Oqus Cameras have been placed within Tipshallen and on the outside throwing field to record the three specially arranged competitions in 2D (200Hz) and in 3D (500Hz). The competitions have been approved by the Swedish Track & Field Association to enable maximal motivation and performance of the athletes.

The athletes have been equipped with 26 reflective markers so that individual throwing patterns as hip-shoulder separation, knee or elbow angles, etc. can be analyzed with regard to the effective throwing result. Markers have also been placed on each throwing implement to analyze its position, speed, acceleration as well as release angle, etc. during the throwing procedure.

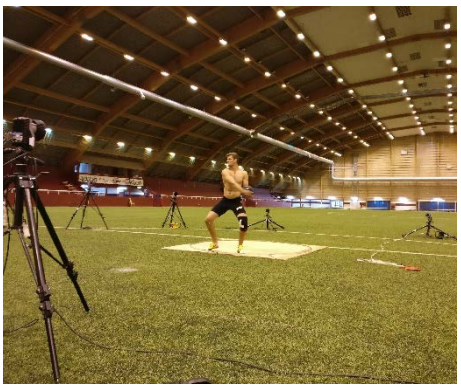
Athletes participating in the project:

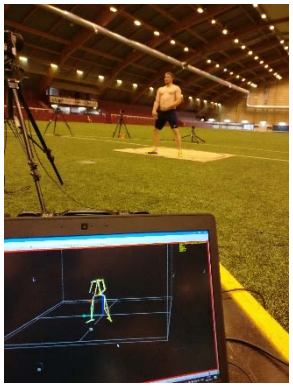
- *Daniel Stahl*, Discus, Silver medalist World Championships in London 2017

- *Simon Pettersson,* Discus, 11th place World Championships in London 2017
- *Axel Härstedt*, Discus, 10th place Olympic Games in Rio de Janeiro 2016
- *Fanny Roos*, Shot Put, Junior European Champion U23 in Bydgoszcz, Poland 2017
- *Gabriel Wallin,* Javelin, 8th place European Championships in Helsinki 2012
- *Sofi Flink*, Javelin, Junior World Champion in Barcelona 2012 and silver medalist Junior World Championships in Eugene, USA

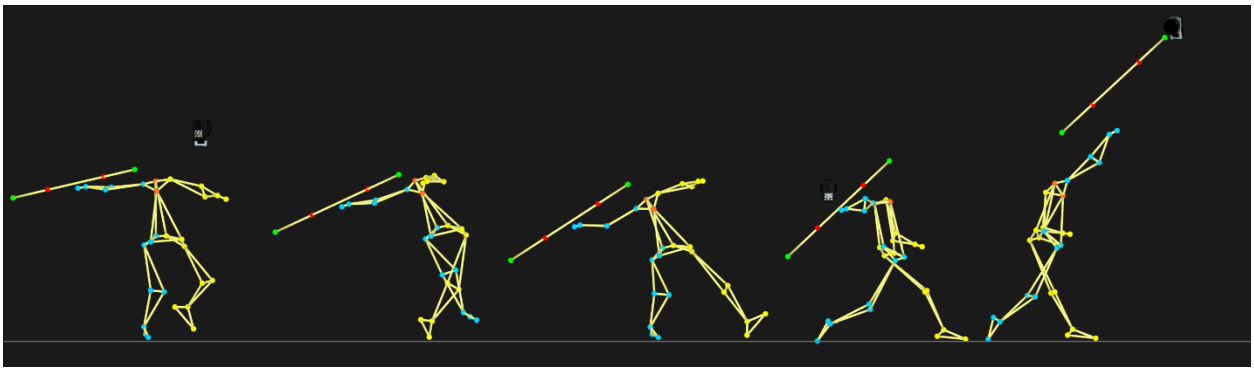


Dr. Tobias Hein, a biomechanist from Basel, Switzerland, and owner of "Analyz3d by Dr. Tobias Hein", is in charge of the project. He travelled to Sweden for the measurements, which seem to be very important for athletes and coaches. Anders Axlid, the head of Swedish throwing says: "The biomechanical testing the Swedish Athletics Association has been able to do with Analyz3d and Dr. Tobias Hein is a necessary and extremely valuable tool in being able to improve our throwers' performances according to each individual's needs. We want to win medals and at the world class level we need to take every step possible to utilize modern technology and knowledge to make sure we are working and training on the right things. Thanks Analyz3d!"





“It is a very interesting and challenging project to record world-class athletes during a real competition in 3D with all the markers and equipment. But it leads to a unique analysis perfect and helpful for the athletes and coaches to improve their throwing technique. I am happy to be part of this great project, also during the next years. I have to thank Göteborgs Universitet, especially Prof. Stefan Grau and Mikael Gustafsson from the Centrum för Hälsa och Prestationsutveckling and Qualisys who supported me during the project.” says Dr. Hein.



Contact information:
Analyz3d by Dr. Tobias Hein | Sempacherstrasse 24 | CH – 4053 Basel | www.analyz3d.ch

Qualisys, Market Director Patrik Almström, patrik.almstrom@qualisys.se www.qualisys.com

Qualisys is a leading provider of motion capture technology and has a long history of supplying research, engineering and sports facilities with high-end camera systems and expertise in capturing and analyzing movements. Qualisys offers a wide range of products and services and has offices in Gothenburg, Chicago and Shanghai.

Our customers are found in the biomechanical research, sports biomechanics and medical sectors. Our systems are also used for engineering and specialized industrial purposes.

Qualisys is certified according to ISO 9001:2015 and compliant with Medical Device Directive 93/42/EEC, which demonstrates our commitment to provide highest possible quality products and services to our customers. The certifications reflect our ongoing investment in technology, process and people.