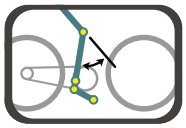
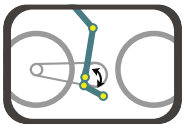
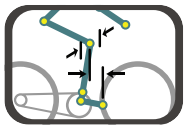
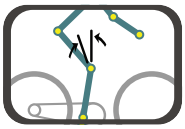
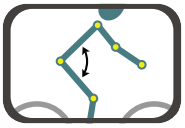
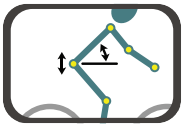
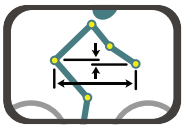
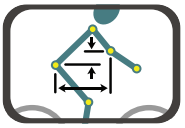
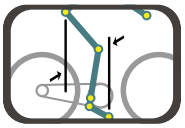
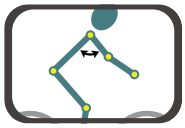
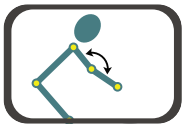
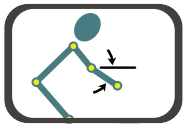
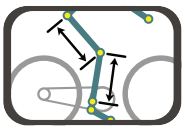
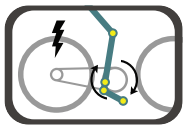
RETÜL

Cyclist Report Definitions

KEY	DESCRIPTION & DEFINITION	KEY	DESCRIPTION & DEFINITION
	*Knee Angle Flexion & Extension* The average of each stroke's minimum and maximum 3D included angle defined by the hip, knee, and ankle. Alternate option is 180 minus the included angle.		*Ankle Maximum & Minimum* The average of each stroke's maximum and minimum 3D included angle defined by the knee-ankle line and the heel-foot line. *Ankle Range* The average of each stroke's difference between the maximum and minimum 3D included angle defined by the knee, ankle, and foot.
	*Knee Forward of Foot* The average of each stroke's difference between the horizontal positions of the knee and foot when the foot is in the forwardmost position where a positive number represents the knee being more forward then the foot. *Knee Lateral Travel* The average of each stroke's difference between the maximum and minimum lateral position of the knee.		*Knee Travel Tilt* The acute included angle in the frontal plane between the best fit axis of the points of the knee during the recording and the vertical axis where a positive number represents the knee further from the plane of the bike at the top of the stroke.
	*Hip Angle Closed & Open* The average of each stroke's minimum and maximum 3D included angle defined by the knee, hip, and shoulder.		*Hip Vertical Travel* The average of each stroke's difference between the maximum and minimum vertical position of the hip. *Back Angle* The average of the 3D acute included angle defined by the hip to shoulder line segment and the horizon of every body measurement index.
	*Hip to Wrist Vertical* The average of the differences of the vertical position of the hip and wrist of each body measurement index where a positive number represents the wrist being higher than the hip. *Hip to Wrist Horizontal* The average of the differences of the horizontal position of the hip and wrist of each body measurement index.		*Hip to Elbow Vertical* The average of the differences of the vertical position of the hip and elbow of each body measurement index where a positive number represents the elbow being higher than the hip. *Hip to Elbow Horizontal* The average of the differences of the horizonal position of the hip and elbow of each body measurement index.
	*Hip Foot Lateral Offset* The average of the distances between the lateral position of the hip and foot of each body measurement index where a positive number represents the foot being further from the plane of the bicycle than the hip.		*Armpit Angle to Elbow & Wrist* The average of the 3D included angle defined by the hip, shoulder, and elbow or wrist of each body measurement index.
	*Elbow Angle* The average of the 3D included angle defined by the shoulder, elbow, and wrist of each body measurement index.		*Forearm Angle* The average of the 3D acute included angle defined by the elbow to wrist line segment and the horizon of each body measurement index where positive angle represent the wrist higher than the elbow.
	*Thigh & Shin Length* The average of the 3D distances between the hip and knee or knee and ankle of each body measurement index.		*Power Output* The average and maximum calculated power or user input power during the recording time. *Speed* The average and maximum calculated rear wheel speed during the recording time. *Cadence* The average and maximum calculated number of strokes per minute defined by the foot of every body measurement index.

The Stroke Intellegence measurement techniques shown here are patent pending.
The goal positions of measurements are 3D cubic interpolated between frames for higher accuracy.

June 2009