



## **New features in the different software versions of SAM PuttLab**

Click the version name below to jump to detailed information about the features!

**[SAM PuttLab 5 / 5.1](#)**

**[SAM PuttLab 2010\\*](#)**

**[SAM PuttLab 2008\\*](#)**

\*All features are also available in SAM PuttLab 5 / 5.1



## New Features SAM PuttLab 5 / 5.1

- Putter data can be saved to any recording
- New info fields on main screen for Projects / Players / Sessions
- Interface for connection to SAM 3D-Putt application
- PuttLab App – remote operation of PuttLab
- New Report: Performance Report
- New Report: History Report

### 1. Putter data can be saved to any recording

PuttLab versions 5 and 5.1 include a lot of new features. The main differences to the previous version 2010 are listed in this chapter to give a quick overview.



Putter Data  
Name: Areso C15  
Loft: 2.0 Lie: 71 Length: 33.5 Edit

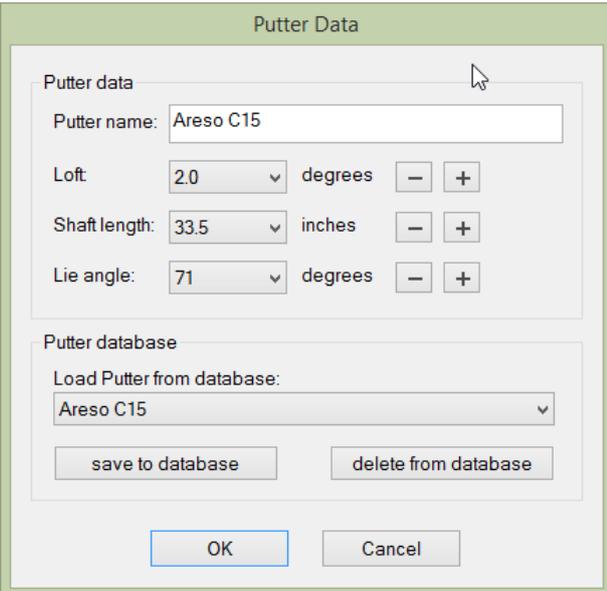
Version 5.1 introduces to save putter configuration data to any training or measurement recording.

In the startup window for Measurement or training you see a new "Putter Data" section.

For each measurement the following parameters can be saved:

- name for the putter that is used
- the putter loft angle
- the putter lie angle
- the shaft length

## New Features SAM PuttLab 5 / 5.1



Putter Data

Putter data

Putter name: Areso C15

Loft: 2.0 degrees - +

Shaft length: 33.5 inches - +

Lie angle: 71 degrees - +

Putter database

Load Putter from database: Areso C15

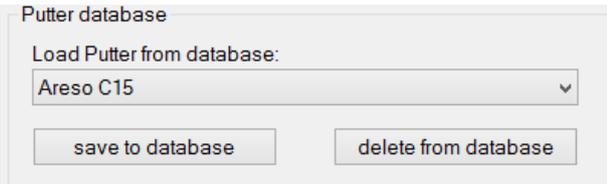
save to database delete from database

OK Cancel

When the "Edit" button is pressed a new window will open for selection of the parameters.

Parameters can be selected by using the + / - buttons or the provided list fields.

If a putter model is used frequently it can be saved to a small putter database.

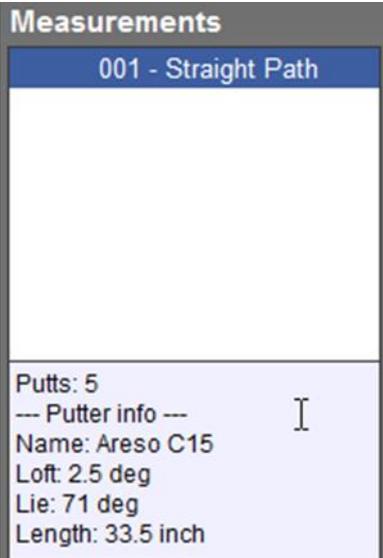


Putter database

Load Putter from database: Areso C15

save to database delete from database

So you will be able to quickly load putters that were previously saved to the database.



Measurements

001 - Straight Path

Putts: 5

--- Putter info ---

Name: Areso C15

Loft: 2.5 deg

Lie: 71 deg

Length: 33.5 inch

For each recording the putter data is shown below the "Measurements" section on the main program screen.

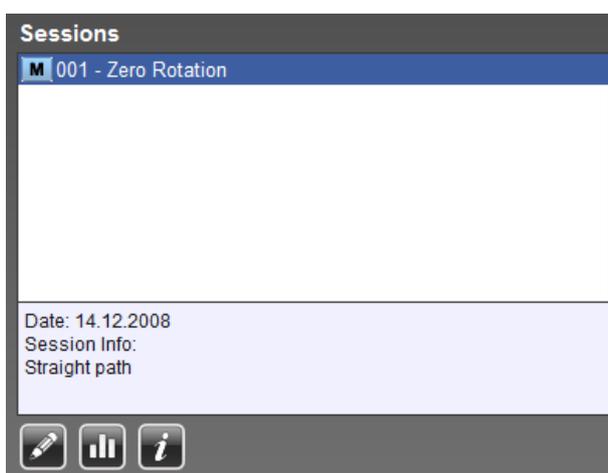


The putter data will be stored for the actual player. For any new Measurement or Training the data from the previous session will be used as default.

## 2. New info fields on main screen for Projects / Players / Sessions

On the main screen of the PuttLab software there are new information fields available for Projects / Players / Sessions / Measurements.

Example: Sessions info field



The fields provide additional information for the currently selected data.

In case of Projects / Sessions this is just a comment text.

For Players additionally the Email address of the player will be displayed.

For the Measurements the new Putter Data will be displayed.

If you do not want to see the info fields they can be switched off by pressing the info-button.

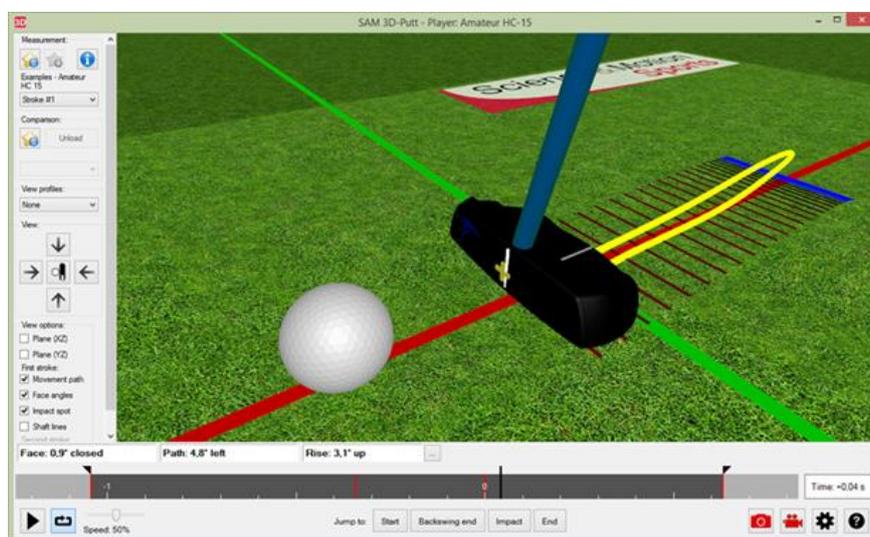
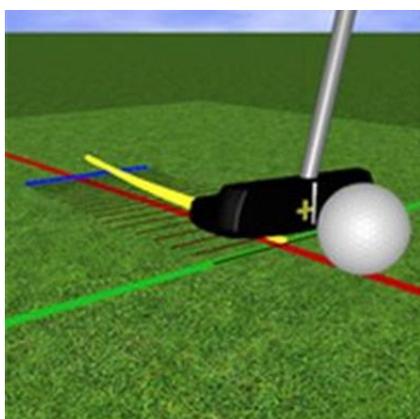
☞ A double click into any of the info fields will allow you to edit the content.

### 3. Interface for connection to SAM 3D-Putt application

In parallel to the PuttLab 5.1 version Science&Motion Sports has released the new application SAM 3D-Putt. This software acts as a plugin for the SAM PuttLab and displays recorded putts in a virtual 3D space.

Additional to just showing the putter movement in 3D there are different options for display of specific information like path line, face angles, hitting spot on the club etc. Interesting putts can be locally saved inside the 3D-Putt software as favorites. Actual putts can be compared to these favorite putts in a double view.

Some screenshots of the SAM 3D-Putt application:



SAM 3D-Putt is a stand-alone software which embeds into an existing PuttLab 5.1 software. The add-on is included in the Pro Edition of SAM PuttLab – for all other product editions a separate license has to be purchased to run 3D-Putt.

#### 4. PuttLab App - remote operation of PuttLab

Main functions of PuttLab 5 can be controlled by an App you can run on your tablet or smartphone. First release of the App will be on the iOS platform and supports iPad and iPhone. Besides the remote control features the iPad App also includes an "Offline Mode" which allows to store PuttLab reports on the iPad and review the data without connection to the PuttLab computer.



When you use the App to control the PuttLab you will still need a Windows computer connected to the PuttLab device by USB and a Wifi connection between computer/laptop and tablet.

##### **Main features of the PuttLab App control:**

###### a) Remote operation mode (iPhone and iPad):

The app enables your device to act as a remote control for the PuttLab software.

- Add new players + projects using the app instead of computer keyboard / mouse
- Start measurements and training sessions from the app
- Delete a putt directly after recording when you see there is something wrong
- Do system calibration by pressing a button in the app instead of need to hit a key on the keyboard
- Open and browse reports from the app – very helpful if you explain the results and don't need to step in front of the screen all the time
- Take photos or videos with your tablet/phone during a measurement and they will automatically be uploaded to the PuttLab software and stored to the session data

###### b) Offline operation mode (only iPad):

The iPad app includes offline data storage and additional features to edit report data and send it to social media storage (Facebook, Twitter, Dropbox, and Email).

- Screen reports can be downloaded to the local iPad. These reports will also be available after the app is disconnected from the PuttLab software
- Local report data can be edited with drawing tools, the whole editing process including audio can be recorded to a video
- Report data, photos or videos can be send by email or can be uploaded to Facebook, Twitter or Dropbox. This allows to share results with your clients.

## 5. New Report: Performance Report

The Performance Report presents a very easy to understand overview on the putting performance and is a good report to be given to the student without confusing him with too much details of the data. The Performance Report is very similar to the Competence Profile. The Performance Report shows only data for the currently selected data set.

### Performance Profile

Player	Session	File	Description	Date
Amateur HC-15	001	001	Amateur HC-15	10.03.2010
<b>Face Aim</b>				
closed		1.2° closed	Consistency	low  26 %
<b>Face Impact</b>				
open		0.4° open	Consistency	mid  70 %
<b>Putter Path</b>				
left		2.0° left	Consistency	mid  75 %
<b>Face to Path</b>				
open		2.5° open	Consistency	perfect  92 %
<b>Rotation Impact Zone</b>				
neutral		3.3° closing	Consistency	mid  62 %
<b>Impact Spot</b>				
toe		6.5mm toe	Consistency	high  79 %
<b>Backswing Tempo</b>				
slow		755 ms	Consistency	mid  56 %
<b>Impact Tempo</b>				
slow		363 ms	Consistency	mid  66 %
<b>Summary:</b>				
Tendency	Timing	Consistency	Overall Rating	
72.5%	79.8%	60.3%	68.2%	

The data on the left side correspond to the technical aspects of a putt stroke. In the left centre an image represents the average result for each aspect. The result is classified in 5 categories which are displayed at the left side. On the right side the numerical data value is displayed.

The traffic lights signs on the right side correspond to the Consistency of a player and represent the repeatability of a putting stroke. The more the data values for each putt are close together the higher is the consistency. The colours are red for a consistency lower than 50%, yellow for 50%-75%, green for 75% - 90%, and green-plus for the Tour Range with >90%.

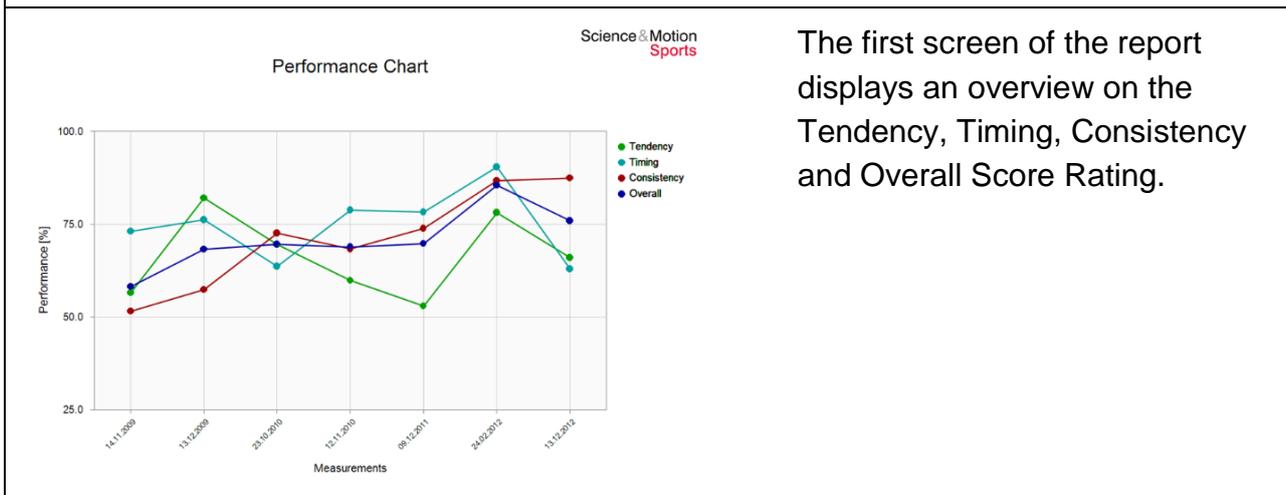
## 6. New Report: History Report

The History Report displays the performance of a player over the time. The Performance History report is started from the Profile menu. A checkbox allows to add up to 99 data sets to be displayed. The “Add all measurements” button directly adds all session data which are measurements to the selection. Trainings sessions and other data sessions will not automatically be added. With the “Add all session records” button all records of the actually selected session will be added to the selection. Single measurements can be added with the “Add selected” button or by double clicking onto a measurement.

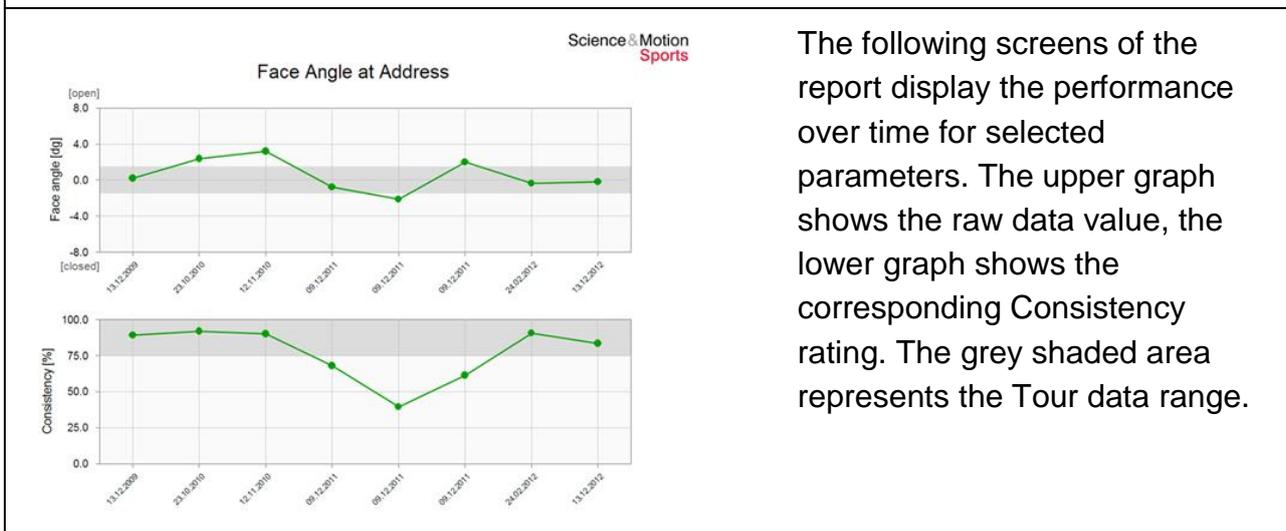
The displayed data will then be sorted due to the date of data recording. The dates are shown on the horizontal axis.



The data is displayed in sorted order, but each data session is equally spaced irrespective of the time difference between two sessions.



The first screen of the report displays an overview on the Tendency, Timing, Consistency and Overall Score Rating.



The following screens of the report display the performance over time for selected parameters. The upper graph shows the raw data value, the lower graph shows the corresponding Consistency rating. The grey shaded area represents the Tour data range.

## New Features SAM PuttLab 2010

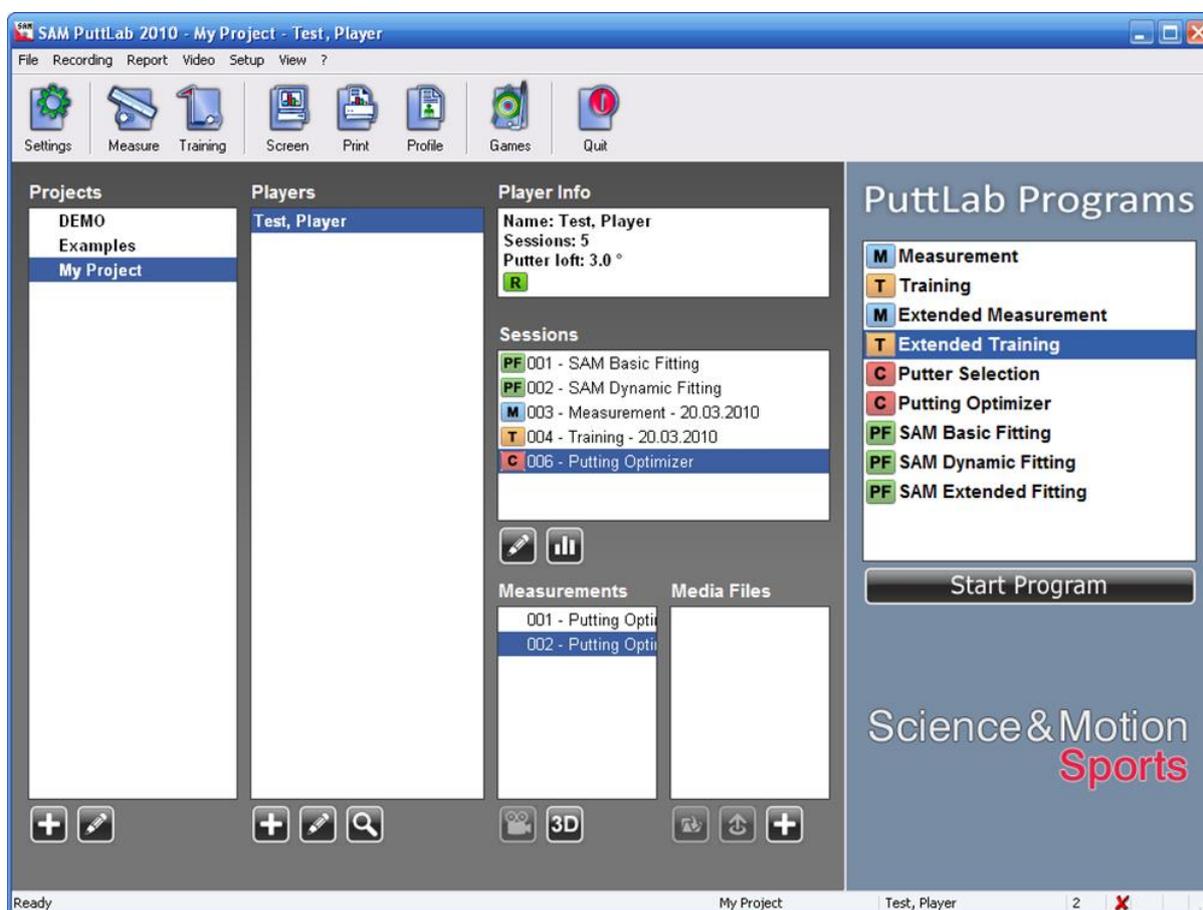
- New software main screen design
- New PuttLab "Programs" for different tasks
- Putter Fitting module (all Editions except Basic Edition)
- New and optimized reports
- New putting game: Closest to the Pin
- Improved Video and still images feature
- Online update check
- Putter database for Putter Selection mode
- Integration of SAM PuttStation into the software

### 1. New software main screen design

PuttLab version 2010 includes a lot of new features. The main differences to the previous version 2008 are listed in this chapter to give a quick overview.

## New Features SAM PuttLab 2010

PuttLab 2010 has a complete new design and functionality for the main software screen:



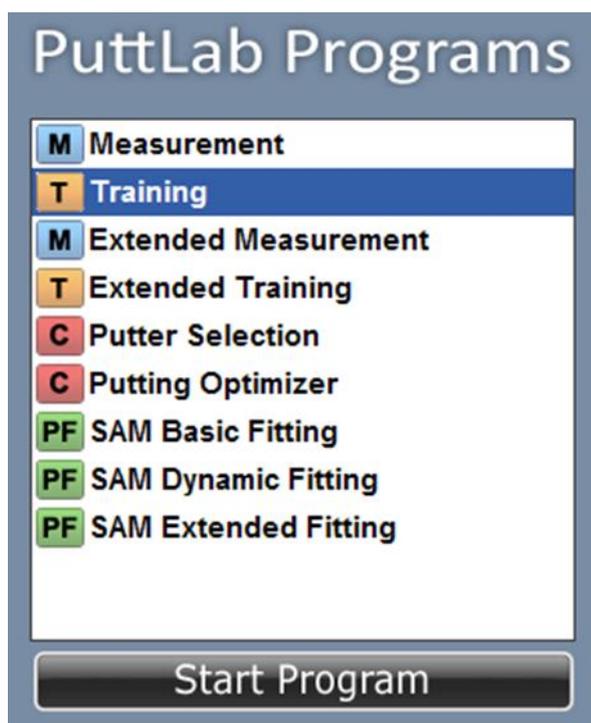
### Main improvements:

- Projects, Players and Sessions lists are bigger and always expanded to give a better overview
- Quick launch buttons allow direct access to most important functions
- Colored symbols show type of sessions (Measurement, Training, Comparison or Putter Fitting)
- Player info box shows basic information about selected player
- Move one or multiple players to different projects by drag and drop with mouse
- Double click on Session or Measurement will directly open the assigned report

## 2. New PuttLab "Programs" for different tasks

In PuttLab 2008 we introduced the PuttLab "Programs" as predefined putting training or analysis routines. These programs are now very much improved and completed for PuttLab 2010.

Completely new are the interactive Fitting programs (available in the Standard, Fitting and Pro Edition) and the "Putting Optimizer" Program.



### New Fitting Programs

#### SAM Basic Fitting

Basic fitting program for fitting of:

- Head type (Blade, Mallet)
- Offset (single shaft, double shaft, center shaft)
- Shaft length
- Putter loft
- Putter lie angle
- Grip type (normal, medium, thick)

#### SAM Dynamic Fitting

Fitting program for additional fitting of dynamic loft and lie and optimization of Basic Fitting results.

#### SAM Extended Fitting

Additional fitting program for extended shaft and head weighting.

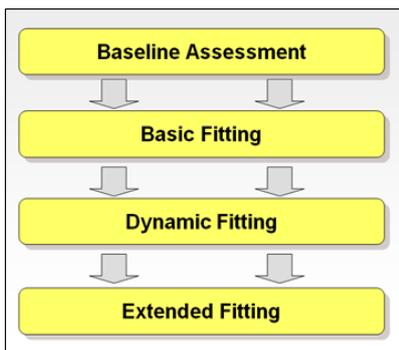
### Putting Optimizer

New comparison program to compare different putting conditions and to directly track and optimize your performance.

### 3. Putter Fitting module (all Editions except Basic Edition)

The Putter Fitting module provides a complete software aided process to determine all parameters to find or build the perfect putter for any individual player.

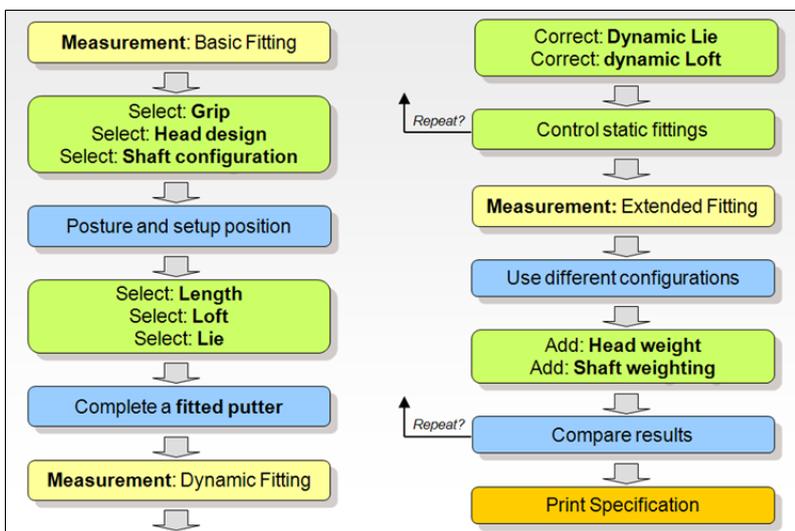
Fitting process main steps:



**Main Features:**

- The PuttLab Fitting Wizard will guide you step by step through the complete fitting process
- The software will explain all necessary steps in detail
- The different aspects are decided interactively
- The software will provide automatic data analysis with recommendations for each aspect (based on PuttLab measurements)
- After the fitting a complete fitting specification can be printed
- The Fitting result will be stored in the PuttLab data and can be reviewed or even optimized at any time later in the future

Fitting process detailed overview:

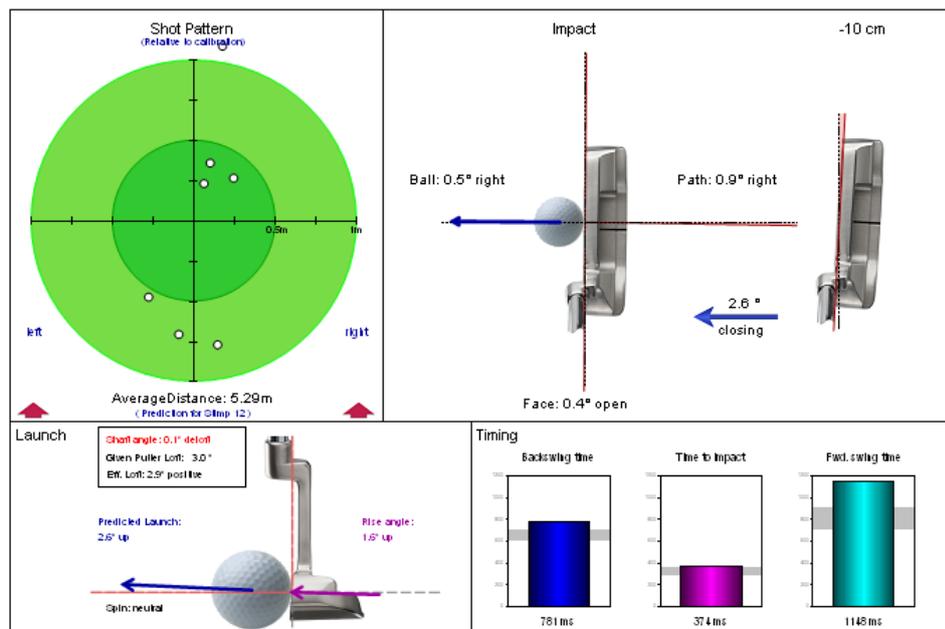


A complete description of the fitting process is provided in the "Fitting Manual.pdf" which can be opened from "?" section in the software main menu.

#### 4. New and optimized reports

##### One page screen report

The new one page screen report introduces the new "shot pattern" result and gives a lot of important information on a single page.



The new report shows the following information:

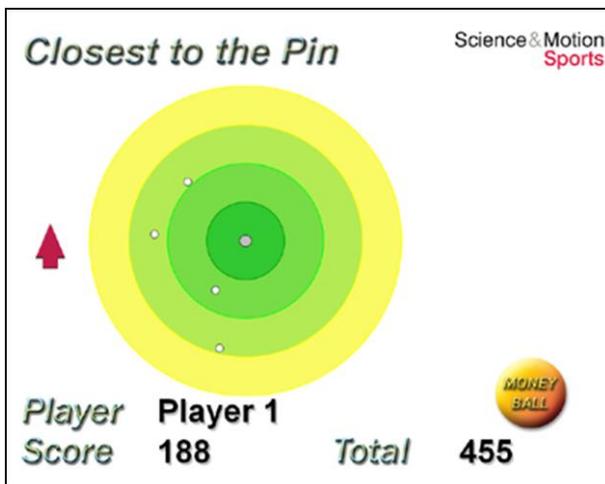
- Shot pattern – shows the spread of the ball positions based on assumption of ideal straight green a. Stim 12. Ideal ball position based on calibration direction.
- Face alignment for address and impact
- Amount of face change in backswing
- Path direction through impact
- Average ball direction
- Ball launch conditions including dynamic loft, rise angle and ball spin prediction
- Timing

**All other reports are revised and several optimizations are done.**

One example is the new overview start page of the Extended Screen report showing the average rating values as bar charts. This gives a good overview about technical, timing and consistency performance of the player without showing any details.

## 5. New putting game: Closest to the Pin

Based on the new "Shot Pattern" report PuttLab 2010 features also a new putting game.



### How the "Closest to the pin" game works:

- the first putt is taken as a reference for direction and length
- all further putts should be played to the same position
- based on distance to the reference putt a score is calculated for each putt
- the goal is to play all putts as close as possible to the position of the first one

The player with the smallest average distance of all balls to the first ball played is the winner and will get the highest score.

This game is very good for training distance control and ball direction - and it is more fun to do this in competition to others or against the existing high score.

## 6. Improved Video and still images feature

If you have a video camera attached it is now possible to save still shots of the putting strokes putting data. The shots will be attached to the Media Files as JPG image files.

The following still shots will be saved:

1. Start of putt movement
2. End of backswing
3. Impact
4. End of putt movement

This feature is also a good documentation of your putting data as you see the player, how the setup was and also which putter he used etc.

### 7. Online update check

As there will be released updates or fixpacks for the PuttLab software from time to time an automated update check function is build into PuttLab 2010 software.

The update check will be performed every 30 days after program startup.

In case an update or fixpack is available the software will display a window with further information and a button that opens a website related to this fixpack. On this website you can download the fixpack and get further information on how to install it.

If a major update is available (e.g. 2012 when you are running 2010) you will also get a notification and the option to visit a website with further information.

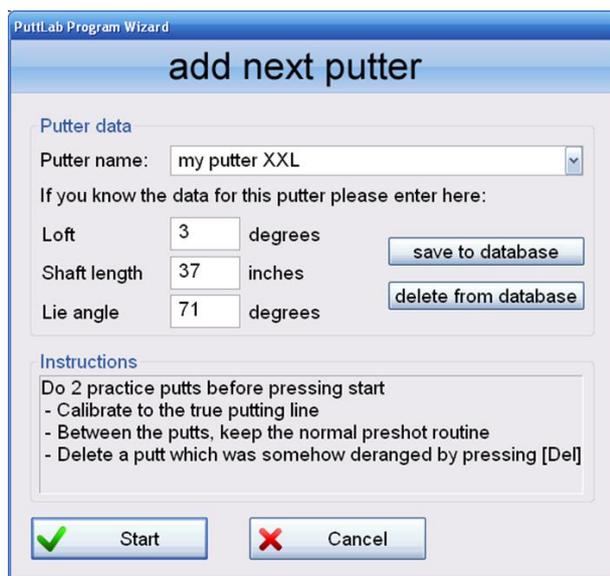


The update check can also be performed at any time from the "?" section in the main menu. You have to be connected to the internet for a successful update check.

## 8. Putter database for Putter Selection mode

The "Putter Selection" program is a great feature to test different putters for a player and to find the best one very quickly.

Customers told us they use this regularly but have to enter the putter data all the time when they start a putter selection.



The screenshot shows a dialog box titled "PuttLab Program Wizard" with a sub-header "add next putter". It contains a "Putter data" section with a dropdown menu for "Putter name" set to "my putter XXL". Below this, it asks "If you know the data for this putter please enter here:" and lists three fields: "Loft" (3 degrees), "Shaft length" (37 inches), and "Lie angle" (71 degrees). There are two buttons: "save to database" and "delete from database". An "Instructions" section lists: "Do 2 practice putts before pressing start", "Calibrate to the true putting line", "Between the putts, keep the normal preshot routine", and "Delete a putt which was somehow deranged by pressing [Del]". At the bottom are "Start" and "Cancel" buttons.

With PuttLab 2010 we now added a small putter database so that it is even easier to use this feature for putter testing and also as a standard putter sales tool.

Just enter your putter data and then press "save to database". For the next run you just have to select the putter from the list and you are ready to go.

## 9. Integration of SAM PuttStation into the software



The SAM PuttStation is a very useful extension for the PuttLab system.

Especially for fixed indoor installations it makes the work with SAM PuttLab even more convenient.

The main advantage of the PuttStation is the simplified and very accurate calibration using the extendable ruler of the station (see picture).

Just hold the putter against the ruler and press the calibration key and the system is perfectly calibrated.

The PuttStation is equipped with different sets of adjustable feet to ensure perfect adaption to the environment.

**If the PuttStation is activated for usage in the software there are two other advantages:**

- The Triplet does not have to be at the exact height on the putter shaft – so you don't need to measure the position when mounting the Triplet to the shaft
- Also the Triplet does not have to be perfectly aligned to the putting direction when the station is used for calibration.

This all makes the usage of PuttLab much more reliable and easy – especially for locations where quick change of putters or players happens (putter testing, putter fitting, multiple player evaluation in short time,...).

## New Features of SAM PuttLab 2008

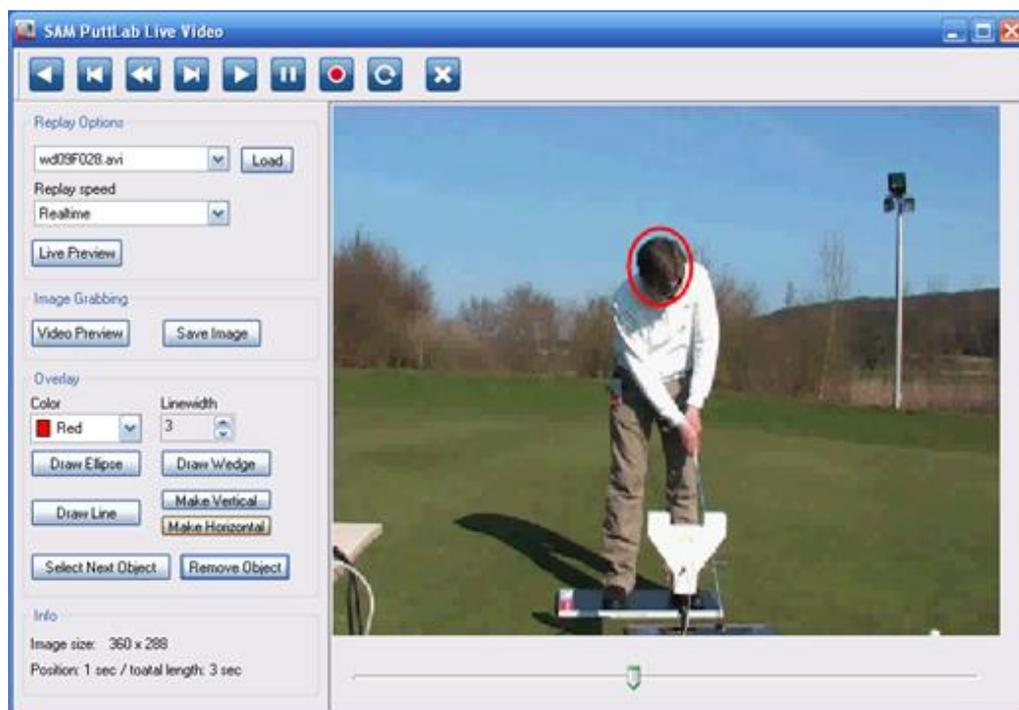
- Video Module
- Media File Attachment
- Predefined Putting Sessions
- Audio Feedback module in training mode
- Individual report logos
- Direct emailing of PDF reports
- Putter Selection module
- Improved report graphics and parameters

### 1. Video Module

PuttLab 2008 includes a Video Module for capturing video clips parallel to the putt recordings. You can use any Windows compatible camera like DV cameras (Firewire) and USB cameras (also Webcams). Also special cameras that come with a WDM Windows driver can be used.

## New Features of SAM PuttLab 2008

Screenshot of Puttlab 2008 Video Module:



The video module includes the following features:

- Automatic recording of video clips of all recorded putts (one video per putt will be automatically captured and saved together with the Puttlab data)
- Easy replay of the recorded videos, also directly from the report view
- Manual recording and disk storage of video clips
- Replay of video clips (AVI, WMV, MPEG)
- Saving snapshots as image files out of live video or replay video
- Different replay options like slow motion or single Step navigation
- Overlay drawing functions for lines, circles and wedges for angle measurement. Works in live recording and replay mode!

## 2. Media File Attachment

The "Media File Attachment" feature allows to add and archive any media or document files to your putt data easily. The different types of files will be detected automatically and can be opened just by clicking with the mouse.

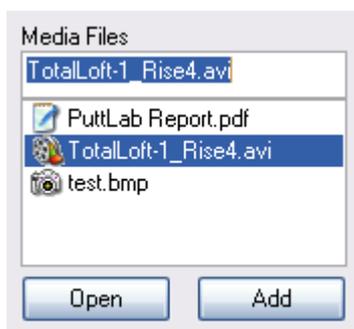
The files can be:

- Video files (avi, wmv, mpeg etc.)
- Audio files (wav, mp3)
- Pictures (jpg, bmp, etc.)
- Documents (pdf, doc, txt)

Example how to use the feature:

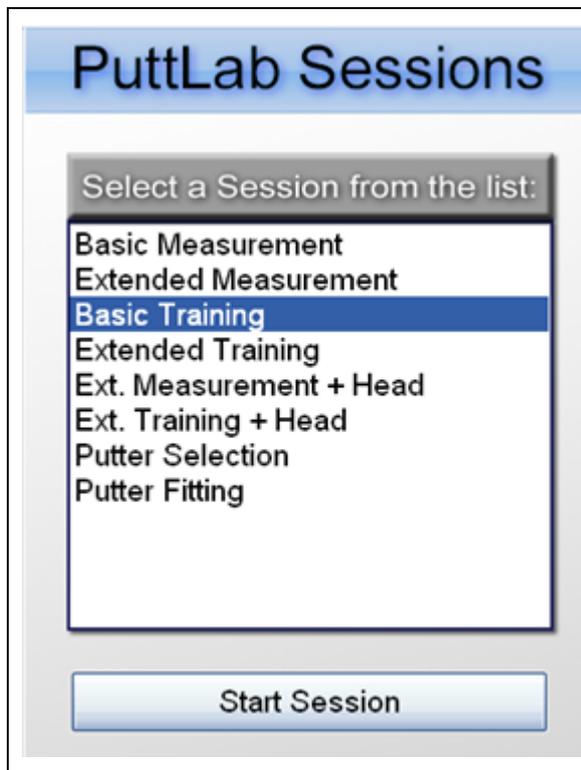
- Easily add text comments or pictures to your training sessions. This will be a great help remembering players and situations when you look up the data later in the future.
- Add videos for each putt and also get information on body movement together with the PuttLab recorded data.

Screenshot of "Media Files" section:



- Data type is shown by symbols
- Open any file by double-clicking
- Add files to the list by "drag and drop"
- Add as many files as you like for one session

### 3. Predefined Putting Sessions



PuttLab 2008 includes eight predefined putting sessions. These sessions cover different usage cases of SAM PuttLab, for example training, analysis, putter selection or putter fitting.

The advantage of the sessions is that they guide the user through the process, from data input to the result presentation in the reports.

It is also possible to add user specific sessions later to the program, for example a special training with report screens that are not available in the standard program.

### 4. Audio Feedback module in training mode

Training now with additional audio feedback.

In PuttLab 2008 the result output for the putts can also be an acoustic feedback for the most important training parameters

Example:

Training parameter is club face alignment at impact. After the putt you either hear:

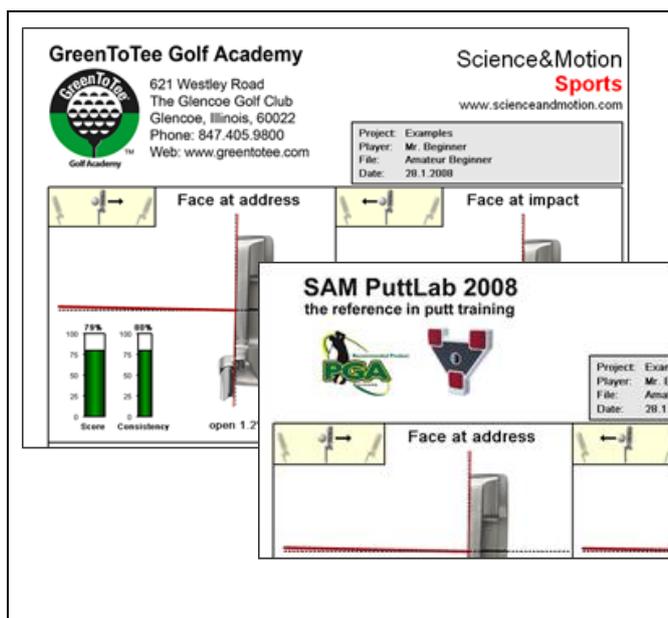
- "left" – the club face angle exceeds the given limit to the left
- "right" – the club face angle exceeds the given limit to the right
- "good" - the club face angle is inside the given limit

The sounds (sound files in wav format) and the limits are selectable for each parameter.

Advantages:

- training with direct feedback without having to look to a computer screen
- training of 2 parameters in parallel, 1 with visual feedback, 1 acoustic feedback
- clear feedback, no distraction by having to read numbers or graphs on the screen

### 5. Individual report logos



PuttLab 2008 allows to change the header graphics of the print report easily. Use the PuttLab for your personal advertising or as marketing tool for sponsoring! The left portion of this header can be replaced by any individual logo graphics:

- use your own logo or the club logo
- use a company logo for corporate events
- add as many logos you like and select one for the actual printout

## 6. Direct emailing of PDF reports

PuttLab 2008 allows to directly send print reports as PDF by email.

This feature will use an installed email client software like Outlook or Thunderbird to generate a complete email with the PDF report as attachment.

It is even possible to define the email text including the name of the player.

## 7. Putter Selection module

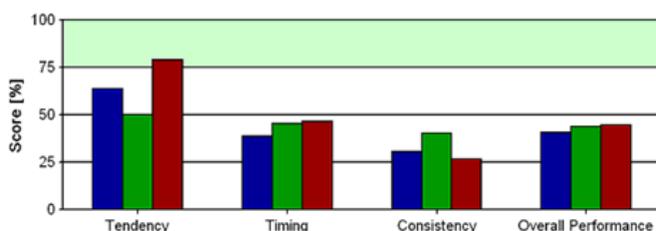
The Putter Selection Module is one of the predefined putting sessions. The ideal tool for selling putters!

**Putter Selection Report**

Project: Project 1		Player: Putter Selection		
Color	File / Putter	Loft (°)	Lie (°)	Shaft (inches)
<span style="color: blue;">■</span>	Putter 1	3.0	71	34
<span style="color: green;">■</span>	Putter 2	3.0	71	34
<span style="color: red;">■</span>	Putter 3	3.0	71	34

Summary:

Record	Tendency	Timing	Consistency	Overall Rating
<span style="color: blue;">■</span>	63.5%	38.4%	30.4%	40.7%
<span style="color: green;">■</span>	49.9%	45.1%	39.9%	43.7%
<span style="color: red;">■</span>	78.7%	46.2%	26.6%	44.5%



The putter selection process will automatically ask for all the data needed including data of the putter like loft, shaft angle and lie angle.

In the process up to 8 putters can directly being compared and the results will be shown in the new designed "Putter Selection Report".

The report shows all the overview data on the first page and the details on the following pages. So the putter selection process will be very much simplified and the customer gets a high quality printout with all the relevant and easy to understand information.

The "Overall Rating" number will directly show the putter with the best overall performance for the actual player!

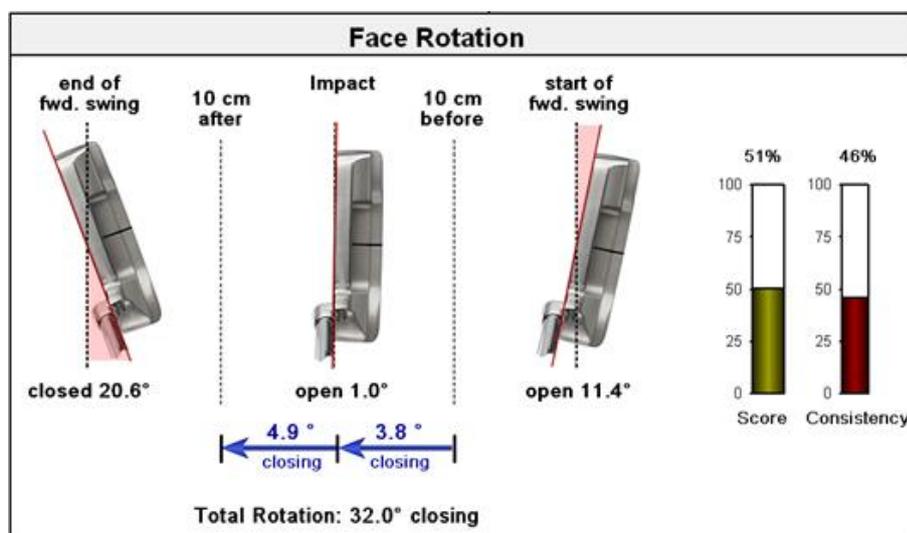
## 8. Improved report graphics and parameters

All reports are optimized in PuttLab 2008.

The one page "Amateur" report is replaced by the 2-page "Basic" report now and the 5-page "Pro" report is replaced by the 6-page "Extended" report now.

### The most important changes and improvements:

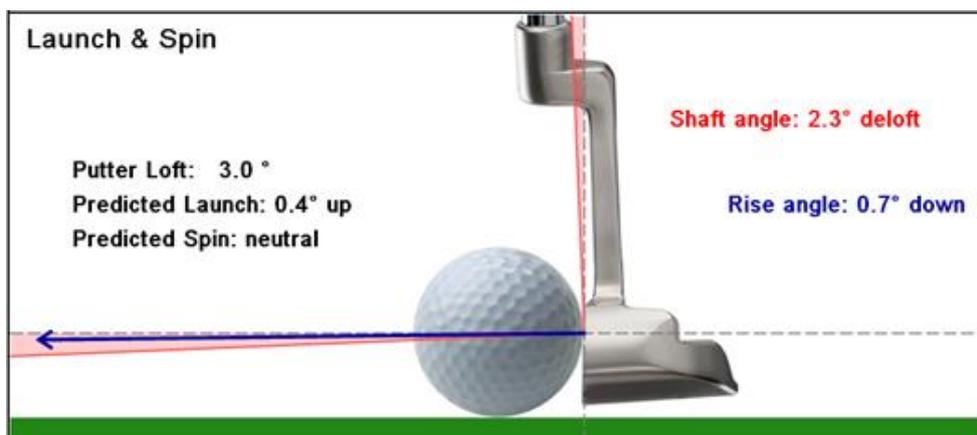
Optimized design for rotation graphs:



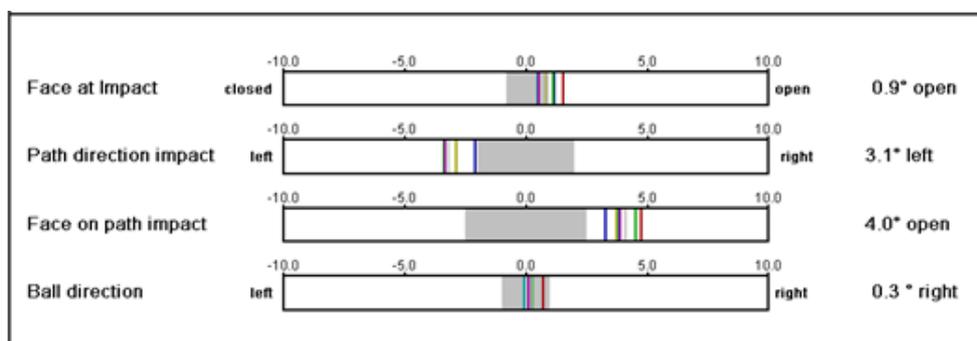
The most important area in regards to the rotation is the area of 20 cm or 8 inches around the impact point (ball position). The graphical output is more focused on this area now, the number for the total rotation is still available as text output.

This change makes it easier to compare players with different lengths of their putting stroke, as the rotation around the impact should not be affected by the length of the stroke.

Calculation of predicted ball spin and launch:



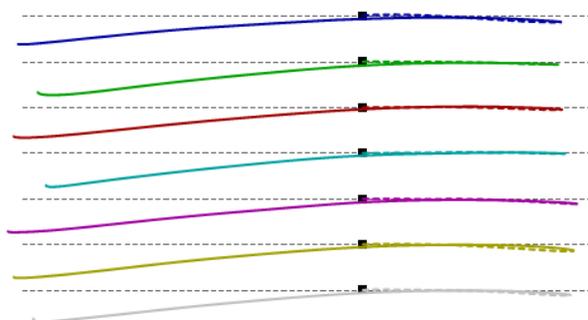
Calculation of predicted ball direction:



This new parameter is important for players having a compensation in their club alignment and path direction. For example a 1 degree open clubface at impact can be completely compensated by a 4 degree "outside in" direction.

So not ideal results for alignment and direction can still lead to a very good performance in ball direction if the player can repeat this strategy very consistently.

Display of target lines for path and side-view graphics:



The lines allow to better see if the path is off to left or right compared to target line.

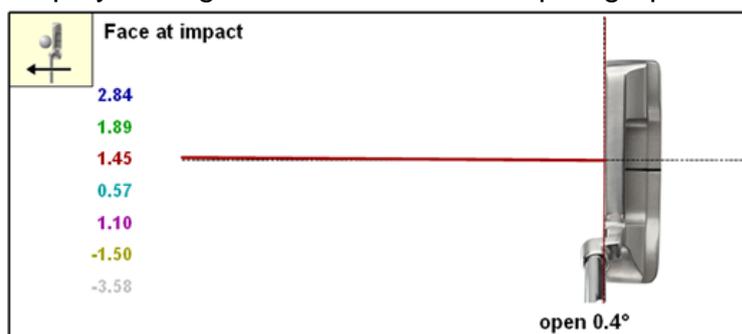
## New Features of SAM PuttLab 2008

Display of additional player details and "Overall Rating" also on the first page of the Extended Report:

SAM PuttLab Extended Reports			
<b>Project</b>		<b>Session</b>	
Name:	Examples	Name:	Consistent putting stroke
Description:	Example Project	Description:	Consistent putting stroke
		Date:	16.10.2006
<b>Player</b>		<b>File</b>	
Name:	Mr. Consistent	Name:	Consistent putting stroke
Born:	-	Description:	
Hand:	right	Date:	28.1.2008
Handicap:	-	Putts:	7
Playing since:	-		
<b>Technique</b>	<b>Timing</b>	<b>Consistency</b>	<b>Overall Rating</b>
73.7%	85.9%	85.4%	82.6%

This will allow easy quick-comparison of the actual performance to sessions from the past.

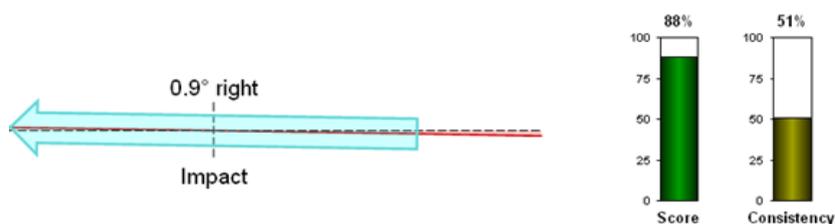
Display of single data values in the report graphs:



This allows to see the variance and the sequence of the putt strokes.

☞ The display can be shown or hidden by using the "F7" key.

Show or hide the bars for "Rating" or "Consistency":



☞ Show or hide the "Score" bar by pressing the "F5" key.

☞ Show or hide the "Consistency" bar by pressing the "F6" key.

☞ This works for Screen and Print reports.