

2011 WORLD ROWING COACHES CONFERENCE

DIGITAL DATA ACQUISITION DAA



*Presented by
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What is it?



- Standard size oar
- Up to 2 hours of recording
- All internal sensors, no special setting up
- Sensors record load on oar and orientation of oar
- Software shows shape of strokes
- Extensive range of statistics
- An unbiased source of athlete performance

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Who's involved?

- Talon Technology
- Croker Oars
- Australian Institute of Sport



Arondight

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Why do you need it?

- Team selection can be subjective, Arondite provides objective and unbiased measurements
- Record athlete technique that boat observation cannot
- Progress of athletes can be tracked
- No special rigging, no need for technicians
- Share the oar among all the rowers without changing seat positions.

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Good for coaches -

- Coaches can see technique issues and target their coaching to the athlete
- Comparing results over time gives an unbiased view of athlete progress
- Quick to deploy, no time spent getting it ready before launching the boat
- Simple easy to use software, doesn't require degree in bio-mechanics to understand.

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Good for team selectors -

- ◆ Recordings can be emailed to district or national team selectors for evaluation
- ◆ Simple tables of athlete statistics
- ◆ Standardising of athlete testing procedures gives everyone an equal chance

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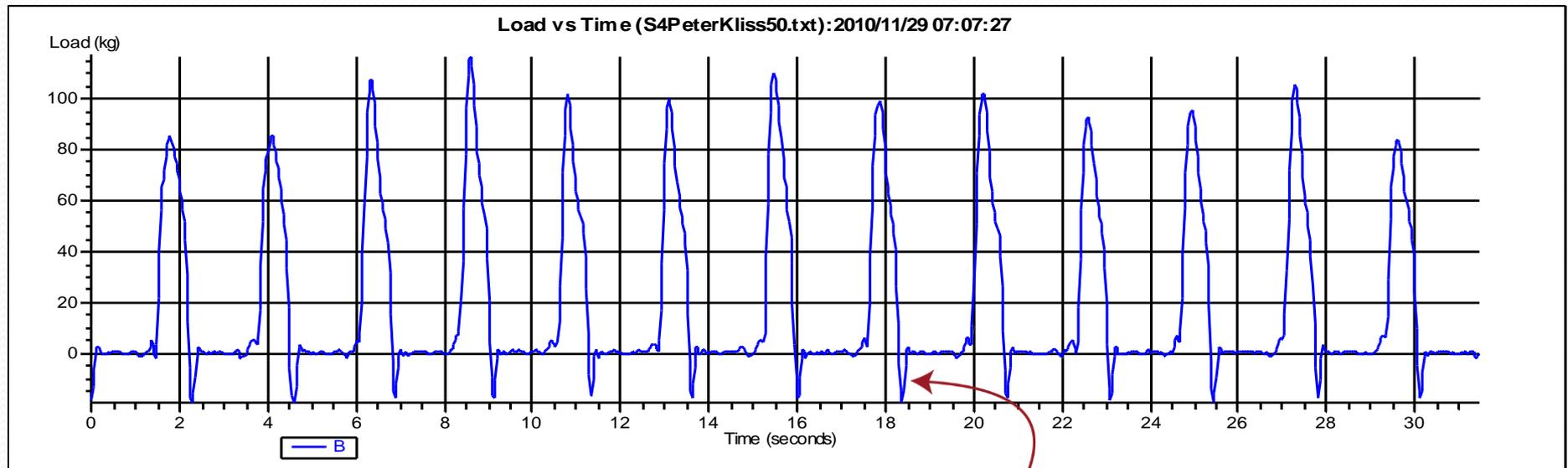
How is it different?

- Other instrumentation systems require special rowlocks/pins and time to setup
- Doesn't require wiring or boxes in the boat. Everything is in the oar itself
- Measures loading on the oar directly, other systems infer this from their rowlock sensors
- Measures orientation directly with reference to water surface (gravity).
- Oars can be quickly moved about the boat without going into shore.

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Recording example -



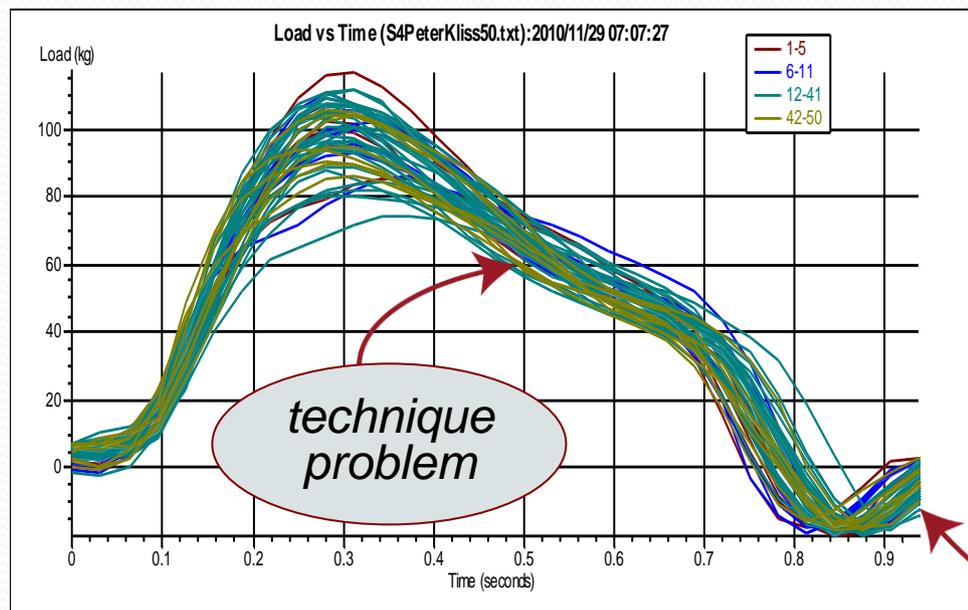
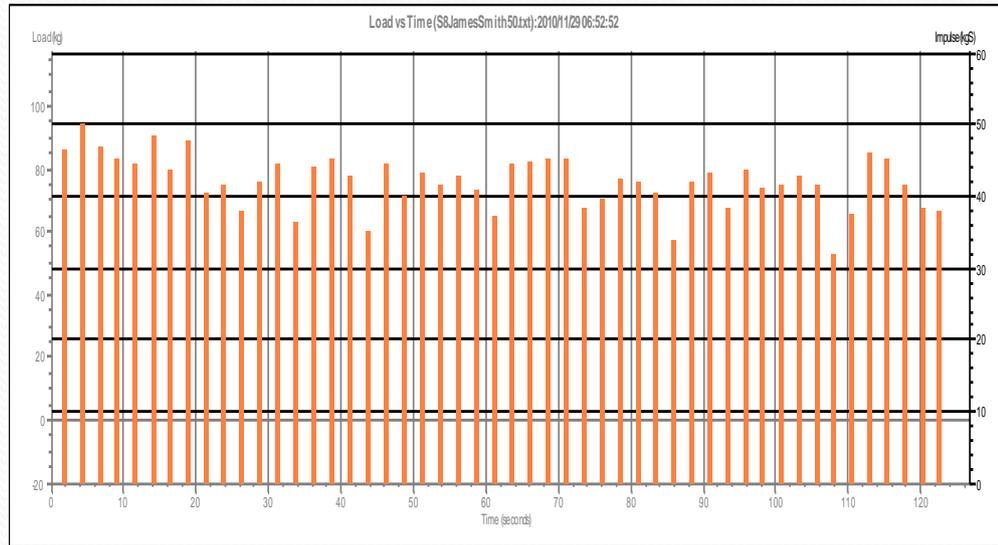
- Peak loadings
- Negative loadings
- Shape of effort
- Consistency of effort

*negative
strokes*

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Analysis of a recording -

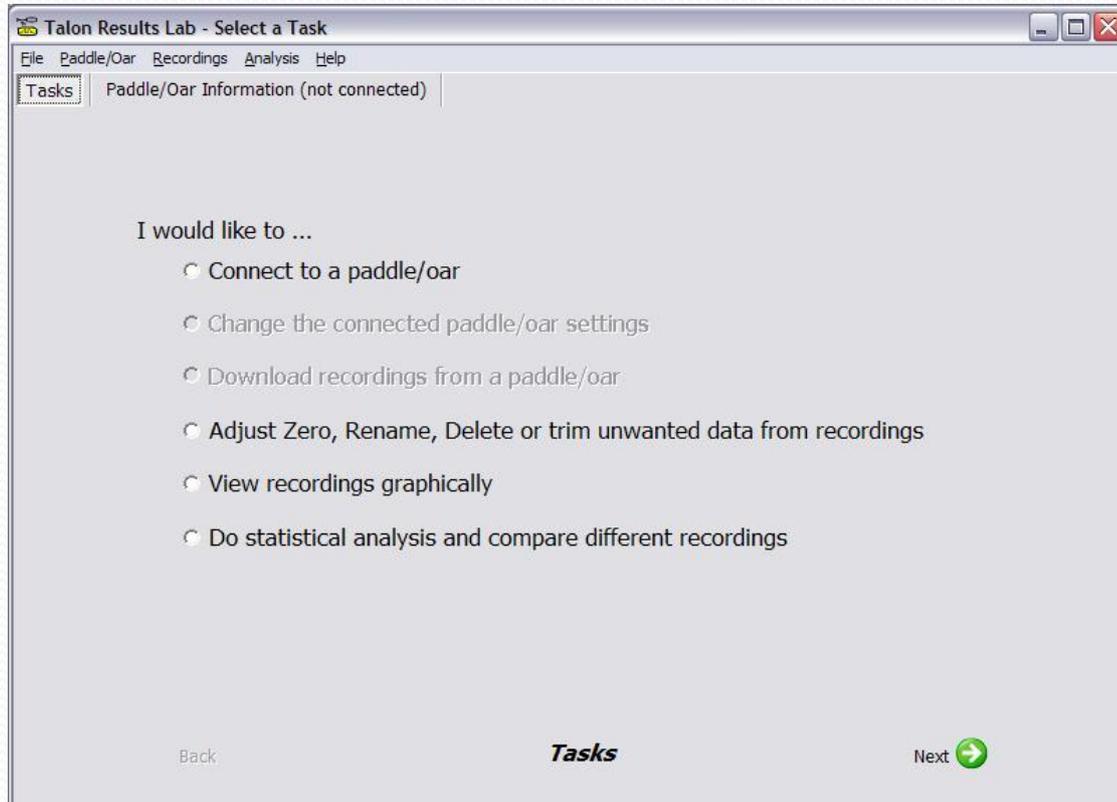


- Impulse and stroke shapes shown
- Data calculated by software using load and width of stroke
- Many more statistics available
- Orientation provides information

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Easy to use software -



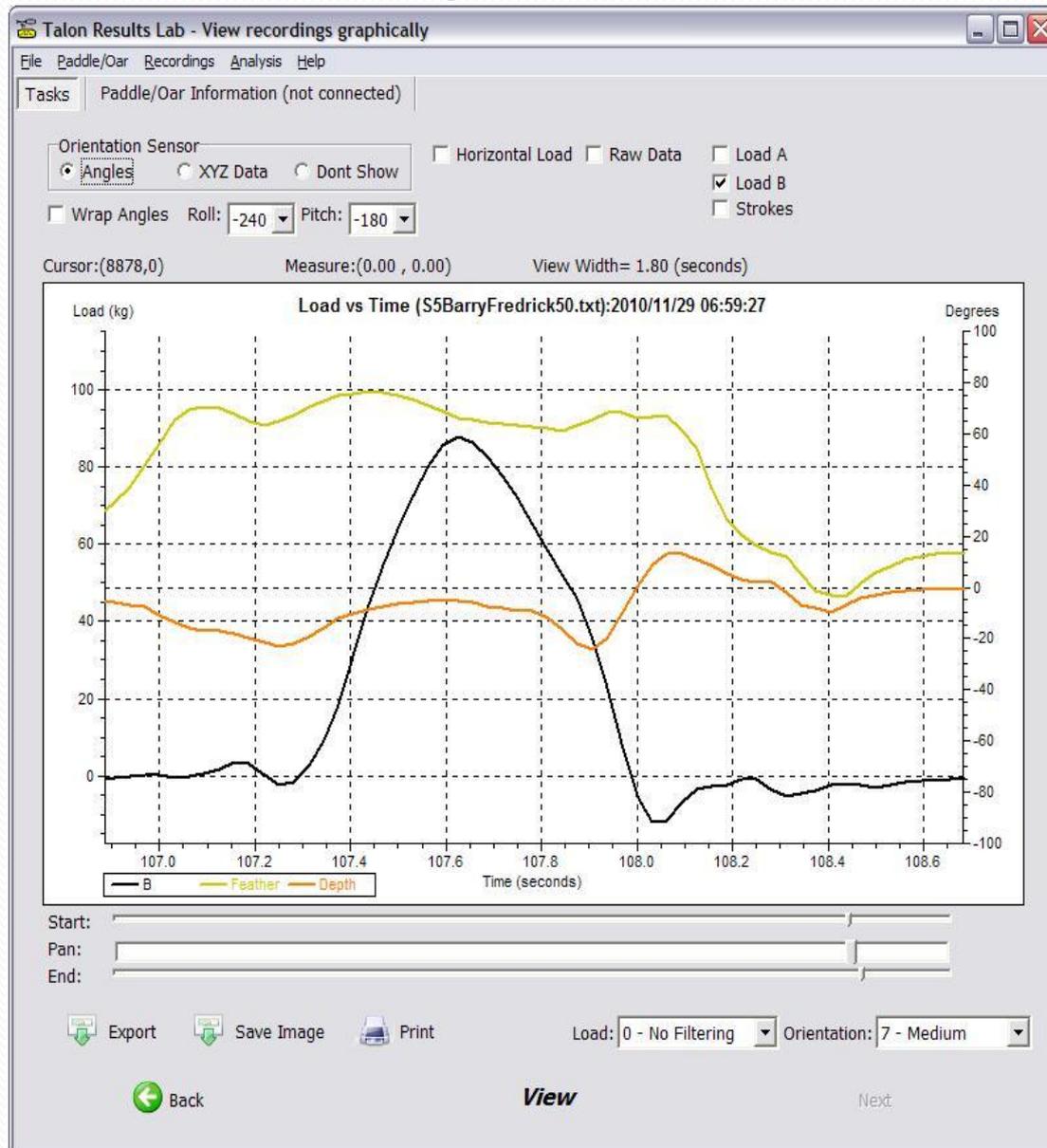
- Task based layout
- Export to CSV or image formats for your own reports
- Dozens of statistics
- Printout graphs or tables
- Save, rename, edit and resample data

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Close up detail -

- Zoom to individual strokes
- Measure data on screen
- Print and export what you see



Tabular data -

Talon Results Lab - Show summary statistics of selected recordings

File Paddle/Oar Recordings Analysis Help

Tasks Paddle/Oar Information (not connected)

Name	Strokes	Ave Peak Load	Ave Impulse	Ave Efficiency
S8DanOmalley50	50	104.751	42.06	82.436
S7BenWainright50	50	99.814	44.357	89.524
S6SamTibbertsma50	50	88.273	35.678	83.879
S5SamDuitallis50	50	82.907	32.387	86.522
S4SamRobertson50	50	98.664	41.992	84.386
S3JoshDonald50	50	78.396	37.225	88.917
S2HenryDavidson50	50	74.861	34.796	81.221
S1JoeDruce50	50	86.414	32.662	87.188

Use buttons below to select statistics to view, manipulate the list, print or export the statistics.

Choose Statistics Export Print Copy To Clipboard Remove Row

Back **Summary** Next for

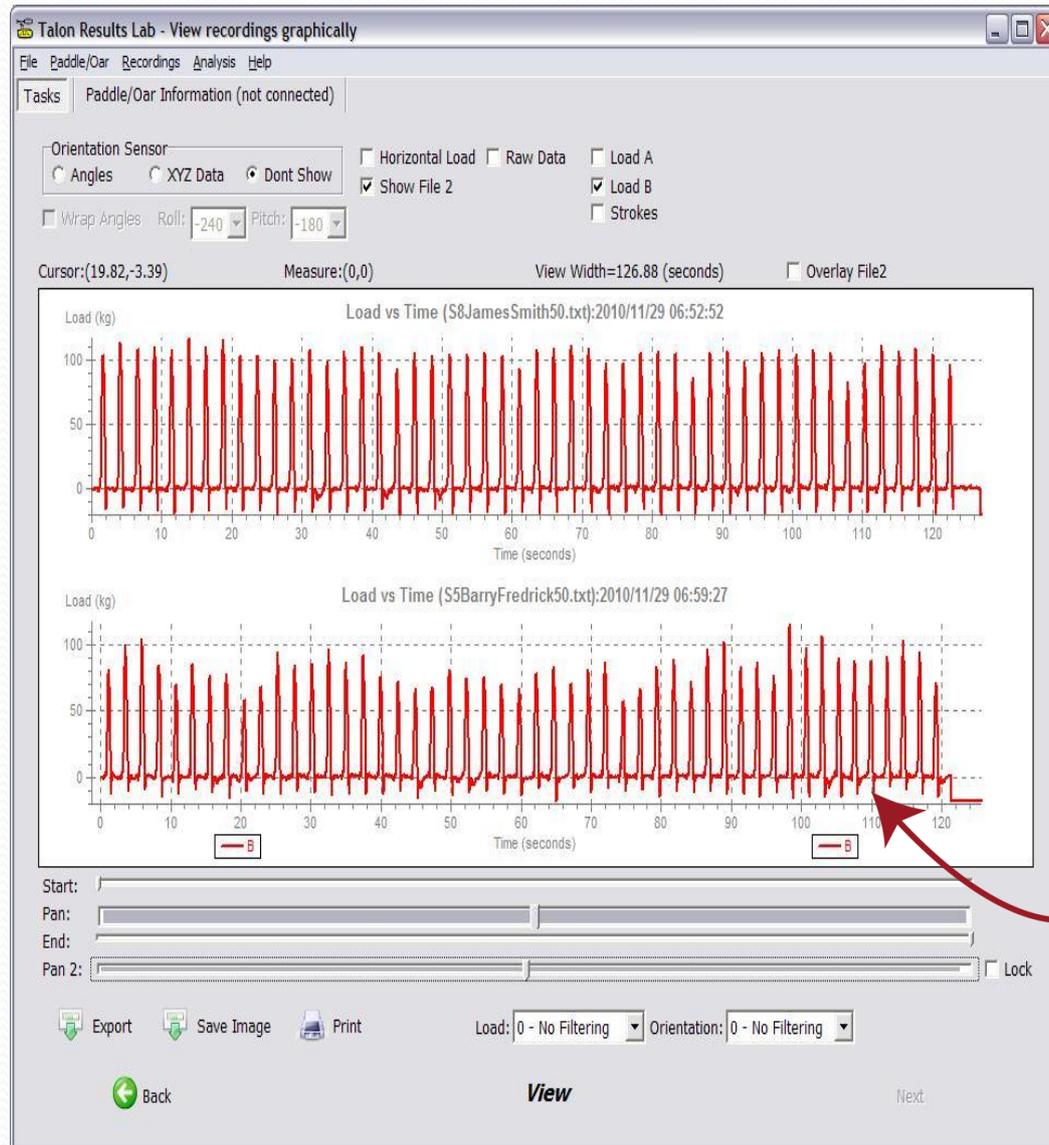
- See tabular data
- Rank by any stat
- Export to CSV
- Print
- Clipboard

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Compare rowers -

- Show two results together
- Spot who is stronger
- See who is more consistent
- Zoom into details



second rower less consistent

MEASURING -

- The data oar measures the force applied to the oar at the fulcrum (sleeve);
- A timed data file is created;
- The data file is stored showing the force applied to the oar;
- The sampling frequency is factory set at 128 hertz, however this can be altered;
- One oar is required per rower but oars can be shared;
- We are currently working on a more advanced model which will integrate with video.

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RECORDING -

- Data recorded on a logger can only be viewed after it has been downloaded to a computer;
- At present the data is unable to be viewed during the session;
- There are normally 5 channels however these are not available to any external sensors.

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REPORTING -

- The recorded data can be viewed by anyone after it has been downloaded;
- The data can be compared for different rowers in the same session, weather will have an effect on different days;
- Results can be viewed graphically or numerically;
- The data is stored as a standard Excel text file;
- There is over 2 hours memory available in the handle.

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OPERATING -

- The data oars can record up to 80 minutes continuous;
- This is not recommended due to the amount of information to download and edit;
- A competent computer user is required to download the data;
- The oars are approximately AUD 5,000 per pair, including software;
- We prefer to deliver in person to provide instruction;
- World wide back up services are available;
- Generally only the handles need servicing and are easily transportable.

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