



Twin Dolly

Aquatic sports analysis system

TwinDolly

TwinDolly is an autonomous device for the technique analysis of aquatic sports, allowing HD above and underwater video recording of the swimmer along the pool and the immediate review of the recorded sequences



1. Swimmer monitoring alongside the swimming pool.

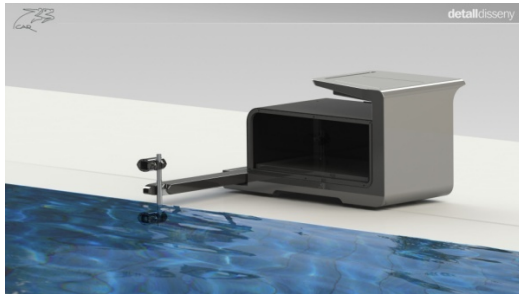
TwinDolly is equipped with a radio-controlled and speed adjustable electric motor that follows the swimmer along the whole swimming pool in both directions.

2. High Definition (HD) Video Recording.

Video recording in HD resolution (1280x720 and 50Hz) offers a more detailed analysis of the sports performance. TwinDolly mixes the images coming from 2 video cameras that simultaneously record the swimmer from above and under the water.

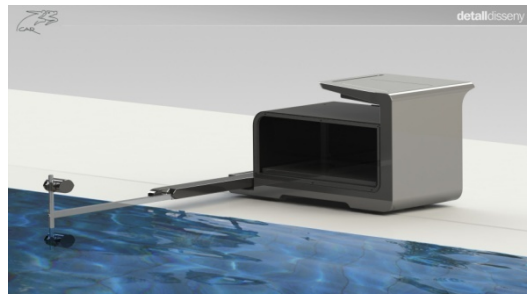
3. Multiple Setups.

The articulated and telescopic arm of the TwinDolly can be configured to observe the swimmer from 3 different points of view:



1 x Lateral view

From the swimmer's side



2 x Frontal views

Swimming towards and away from the camera

4. Image visualization at the pool's edge.

TwinDolly's recorded images are simultaneously shown on two TV monitors that can be immediately reviewed at the pool's edge.

5. Specific software for Sports Technique Analysis.

TwinDolly allows standard software for video capture and analysis.

A bespoke software is used at CAR for the remote control of cameras, recording and video mixing of sequences and video display.

Other associated tools are offered in our services: Velocity meter

6. Other specs.

- TwinDolly's power supply is provided by two independent 12v batteries:
 - One feeds the motor that is responsible of moving the system along the pool's side wall with an autonomy of 25 to 30km, equivalent to 500-600 pool lengths.
 - The electronic equipment is powered by a second battery that ensures a stable and continuous 12v electric power flow.
- Wheels are mounted on a rail that forces TwinDolly to move parallel to a the pool's wall.
- Remote control has 3 different options for 3 different speed ranges:

- First one will propel TwinDolly up to 3m/s and perfectly adapt to the swimmer's speed.
 - Second position can be used for higher speed of swimming starts.
 - Third position is only recommended for transportation purposes (from pool to lab). Is capable of moving the system up to 30km/h.
- As a security measure, motor will cut out when operator is out of a 2 meter range from the device or when the trigger of the remote control is released. Additionally, when trigger is pushed in the opposite direction, an electromagnetic brake blocks the device to avoid any collision.
- The operator of the TwinDolly should be properly trained.