

# Multi-Sport Venue - High Performance Training Center of Catalonia (CAR) Sant Cugat

Report about technological needs of coaches and sport technicians



Sant Cugat, July 2007

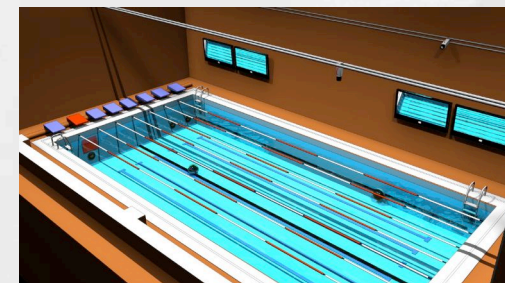
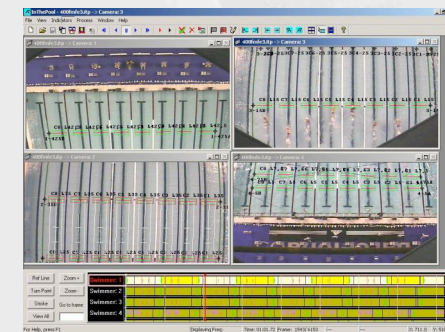
## Objective of the Multi-Sport Venue

-To offer coaches and sport technicians a state-of-the-art venue with world reference functionalities and useful technology.



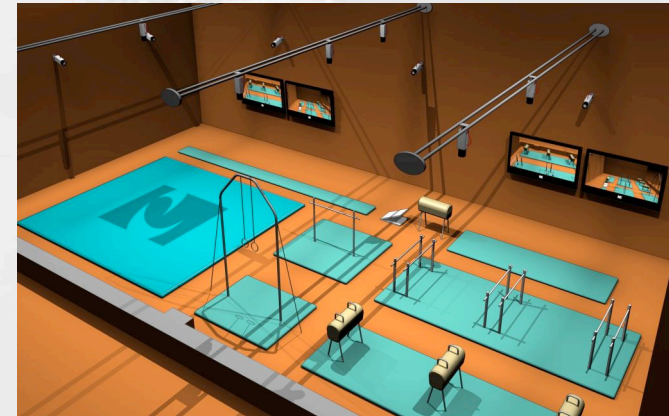
## Water Sports: Swimming, Water-Polo, Synchronized Swimming and Diving

- . visualization
  - sub-aquatic cameras
  - rail cameras (sub and supra)
  - supra-sub camera on rail
  - monitors (1 video-wall)
- . start
  - high speed cameras
- . time control
  - competition pads
- . feedback
  - sub-aquatic panels, stroke counter
- . cinematic
  - vertical cameras
- . start/turn forces
  - force platforms,
  - accelerometers, strain gauges
- . reaction time
  - starters
- . v. intra-cycle
  - speedometers
- . scouting
  - robotic cameras
- . scoreboard
  - countdown, results and statistics
- . audio
  - speakers supra and sub /
  - on-line editing & playback



## Men and Women Artistic Gymnastics

- . visualization      **robotic cameras**  
                             **monitors**
- . audio                **speakers and audio editing**
- . force                **apparatus instrumentation**  
                             **force platform & surface**  
                             **sensors**
- . vaulting speed    **photocells & array banners**
- . cine. + din.        **photogrametric analysis**



## Trampoline

- . visualization      **cameras**  
                             **monitor**
- . audio                **IP Speakers and**  
                             **Audio editing**
- . synchro. comp.   **photocells**



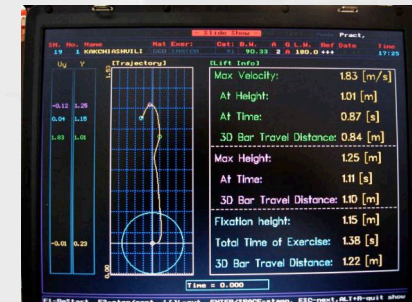
## Taekwondo, Wrestling, Judo

- . visualization      **robotic cameras**
- . audio                **monitors, projector**
- . taekwondo         **speakers and editing audio**
- . com. simulation   **electronic pads (FIT)**
- . antrop. control    **chronometer and scoreboard**
- . antrop. control    **weight and height measurement**



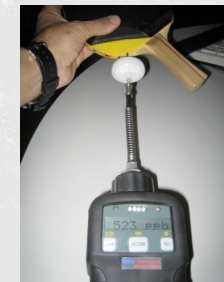
## Weightlifting

- . visualization      **robotic cameras**
- . forces               **monitor**
- . audio                **platforms (1 big size)**
- . antrop. control    **speakers and editing audio**
- . antrop. control    **weight measurement**
- . weight disp.        **position / displacement sensors**
- accelerometer**



## High Jump, Table Tennis

- . visualization     **robotic cameras**
- monitor**
- . audio                **speakers and editing audio**
- . force                 **force platforms big size**
- . specific testing    **force platform / legs machine trainer**
- . cine. + din.         **automatic protogrametric analysis**  
**(high speed)**
- . simulator           **ball spin simulator**
- . glues control       **ITTF banned VOCs as of 2008**



## Shooting

- . visualization     **telemetric robotic cameras & monitors**
- . pressure distr.    **instrumented platforms (1 hard i 1 soft)**  
**- Tekscan**
- . com. simulation   **electronic scoreboard**
- . targets             **electronic targets + target monitors**
- . arms adjust        **adjustment of armament (potro)**
- . shot training      **Scatt - precision**
- . lighting             **ambience creation**
- . audio                **IP speakers and audio editing**



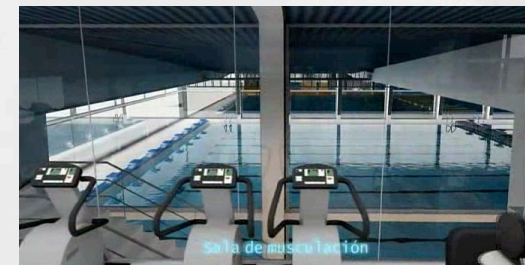
## Multi-Sports Room

- . visualization **robotic cameras on rails**
- . audio **monitors**
- . scouting **speakers and editing audio**
- . comp. simul. **radio-frequency**
- . cin. + din. **multi-sports scoreboard**
- . **high speed photogrametry analysis**

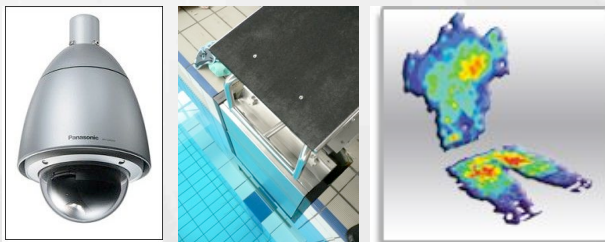


## Weights Room

- . visualization **robotic cameras on rails**
- . audio **monitors**
- . series / repts. **speakers and editing audio**
- . qualitative work **quantitative control system**
- . **speed control and power execution**



# Innovation - concept of the project



register

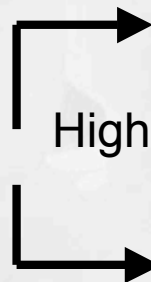


Servers storage

Instant local review !



High output delivery



analysis through the net, anywhere !



## . Key points

- flexibility, free mobility, friendly gathering
- capacity, accessibility
- innovation
- instruction of coaches and sport technicians
- integration (all IP with independency of domotics)
- international collaboration (share the experience worldwide)

