

**13th International Association for Sport Information World  
Congress  
11-13 March, 2009 - Canberra, Australia**

**Barcelona to London – A Broadcast Science and Training  
Experience.**

**Mr Josep Escoda**

Technology Director of Centre d'Alt Rendiment (CAR)  
Sant Cugat, Spain



# CAR - Centre d'Alt Rendiment - Sant Cugat High Performance Sports Training Centre - Barcelona - SPAIN

Josep Escoda - IT Manager

IASI Congress  
Canberra March 09





# HPTC in SPAIN



**Barcelona -  
Sant Cugat**  
200m asl

**Madrid**  
600m asl

**Sierra  
Nevada**  
2200m asl

**Multisport with full athletes services**



# HPTC in SPAIN



**Sailing - Santander**

**Cycling - Valencia**

**Shooting - Granada**

**Rowing - Sevilla**

**One Sport only**



# **AIM OF OUR CREATION**

**Created to provide athletes with all the facilities, human, technical and scientific resources to reach the highest sports levels**

**Integrate resources to provide integral training in a multisport and multidisciplinary environment**

**Equilibrate size and resources**



# **MILESTONES & KEY POINTS I**

**Established in 1987, On the context of the  
Barcelona 92 Olympic Games**

**A Public Company supported by Catalan  
Government with an agreement with the  
Spanish Sports Council**

**Adapting an already built facility to  
minimize initial costs, and grow  
progressively with new sports.**



## **MILESTONES & KEY POINTS II**

**Special agreements with Education and Health Dept. of the Catalan Government**

**Hosting the Barcelona 92 Olympic Games as an official training venue**

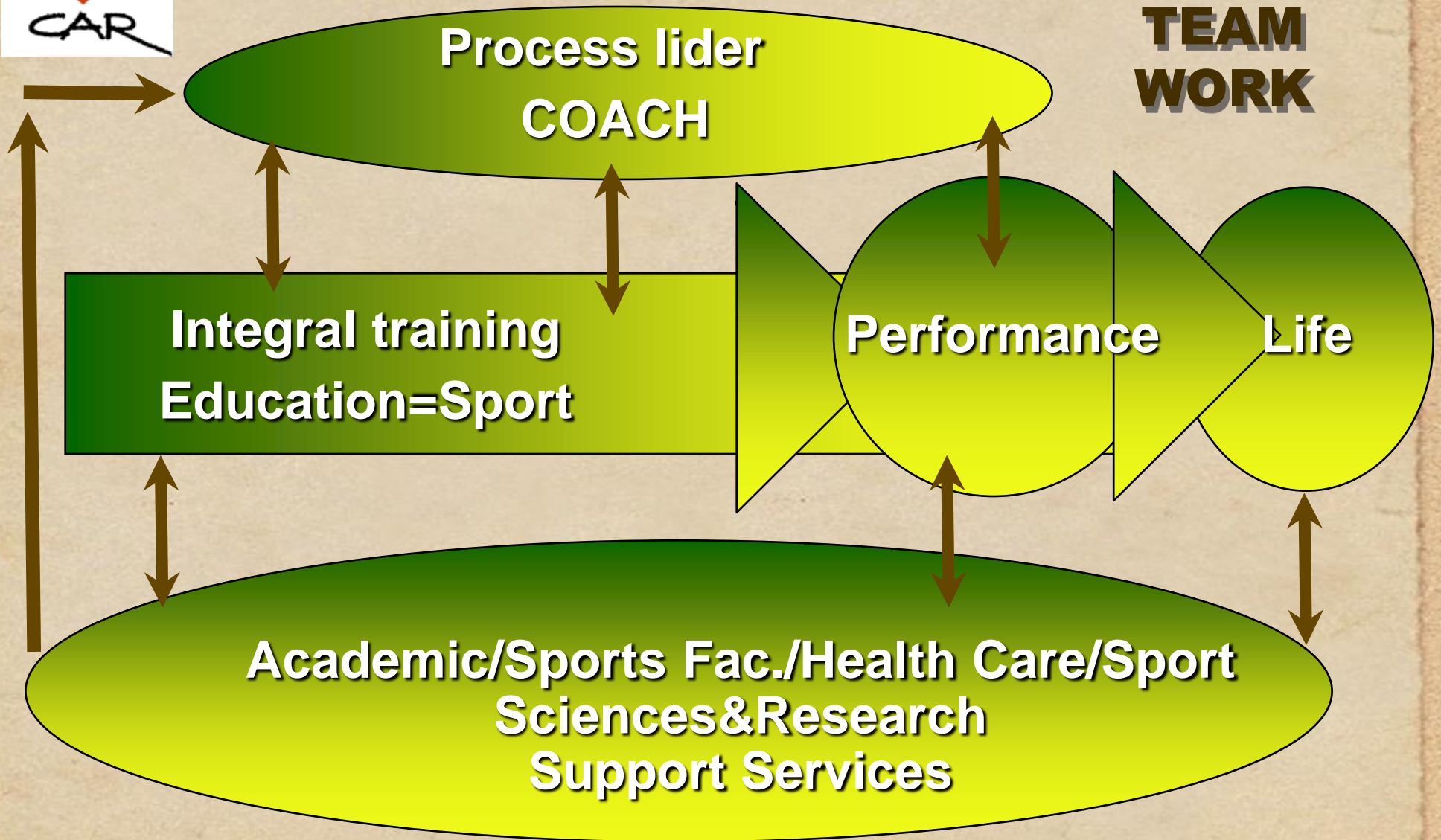
**Agreement to support the Olympic Solidarity Program for athletes and coaches**

**International Research Projects**



# WORKFLOW INTEGRAL TRAINING

**TEAM  
WORK**







# **BUDGET AND STAFF**

**Running Cost without investment**

**€12 million Total Yearly Budget**

**30% from Catalan Government**

**25% from Spanish Sports Council**

**45% from own incomes, costumers services.**

## **Staff**

**86 own staff**

**50 high school teach.from Education Dept.**

**16 Medical Staff from Health Dept.**

**58 Coaches and P.F from Federations**

**35 General services subcontractors**



# **OUR COSTUMERS**

**400 athletes / 600 students**

**197 Permanent Residents athletes**

**120 Permanent Non Resident athletes**

**30-50 On camp athletes and coaches**

**Provided by**

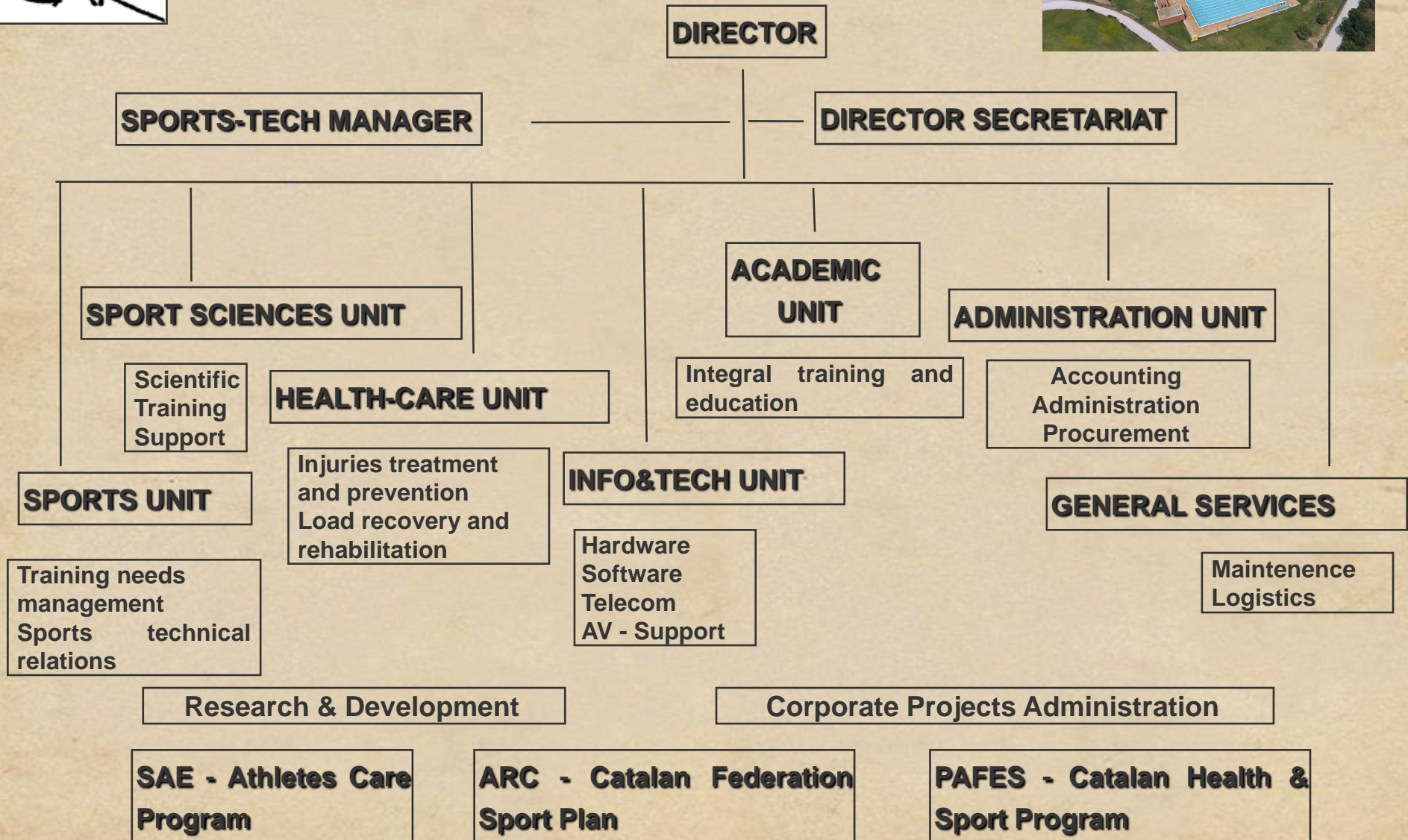
**National and International Federations**

**I.O.C., N.O.C.'s, Clubs and Sports Associations**

**Private Companies and Institutions for General  
Services and Research Projects**



# OUR ORGANISATION





# SPORTS

**MOD.PENTHATLON**

**TENNIS**

**TAEKWONDO**

**AUTO - MOTORCICLYNG**

**RYTHMIC GYMNASTICS**

**ROLLER HOCKEY**

**GYMNASTICS M & W**

**GOLF**

**CYCLING**

**SWIMMING**

**FENCING**

**VOLLEYBALL**

**WRESTLING**

**BEACH VOLLEY**

**WEIGHTLIFTING**

**ALPINE SKI**

**TRACK & FIELD**

**WATERPOLO**

**ALL EVENTS**

**INDOOR / OUTDOOR**

**DANCE SPORT**

**TABLE TENNIS**

**BASQUETBALL**

**SINCRONIZED SWIMMING**

**TRAMPOLINE**

**PARALIMPICS**





# Sport Facilities - I

- \* 4 Fitness rooms
- \* Track and Field (all events outdoor, with indoor facilities for high jump, pole vault, speed and hurdles)
- \* Swimming (one 50m. heated outdoor, other 25m. indoor)

- \* Tennis courts (4 Synthetic floor courts indoor, 4 clay courts, 2 synthetic outdoor courts)
- \* Table tennis
- \* Weightlifting
- \* Taekwondo
- \* Fencing (13 lanes)
- \* Shooting (14mx10m)



# Sport Facilities - II

- \* Judo
- \* Men Artistic Gymnastics
- \* Women Artistic Gymnastics
- \* Trampoline
- \* Rhythm Gymnastics
- \* Basketball
- \* Handball
- \* Volleyball
- \* Beach Volleyball
- \* Roller Hockey
- \* Field Hockey (synthetic grass)
- \* Soccer/Rugby
- \* Golf (putting green)
- \* Wrestling
- \* Softball
- \* Running circuit (2km.)



# Grass and Tartan Outdoor Tracks





# Table Tennis Hall







# Fitness Rooms





# Fencing Hall





# Shooting Range





# Indoor Tennis Courts





# Outdoor Tennis Courts





# Outdoor Swimming Pool





# Trampoline Hall





# Gymnastics Hall







# Men & Women Artistic Gymnastics





# ATHLETES RESIDENCE

**325 Beds Capacity**  
**Recreation Area**  
**Library**





## ReNewed Residence



## DTV-Sat Room Wireless Network





## Dinning Hall - Restaurant (400p)





## Free Flow Dinning Facility



## HIGH SCHOOL INSIDE THE CAMPUS

600 Students Capacity

Regular studies

Adapted to training  
schedules



Latest education programs



## HIGH SCHOOL OUTSIDE THE CAMPUS



Sport-specific studies linked with Sport Federations and Education Dept. of Catalan Gov.  
CAR Athletes + Community



# HEALTH CARE UNIT

Medicine and Sports  
Medicine  
Traumatology and  
Orthopaedics  
Imaging diagnosis  
Blood analysis  
Physiotherapy  
Chiropody  
Optometrist



•HOSPITAL TERRASSA





# SPORTS SCIENCES UNIT

## PHYSIOLOGY AND FUNCTIONAL EVALUATION

Nutrition



PSYCHOLOGY

BIOMECHANICS



COACHING SUPPORT



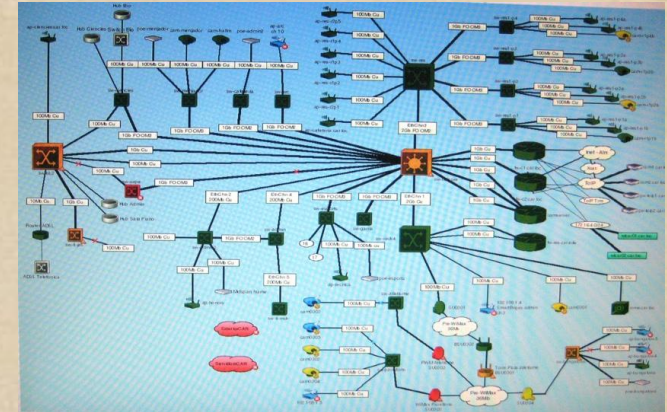


# TECHNOLOGY UNIT

## Hardware & Software

## Telecom IP V6 100mb Broadband

## Audiovisual



NOTÍCIES ESPORTS PERSONES RESULTATS CALENDARI L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) Jocs Paralímpics (6-17 SET)

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

18  
PSS 100 37 35

07.09.2008 Diploma olímpic (56) per a Sarai Gascón en 100 m papallona 59 i rècord d'Europa.

07.09.2008 Diploma Olímpic per a Jordi Gordillo

07.09.2008 Primera medalla d'argent per al ciclista català Christian Venge a Tàndem persecució.

06.09.2008 Els Jocs Paralímpics de Beijing 2008 ja han començat.

17.08.2008 Ja han finalitzat els Jocs Olímpics de Beijing 2008.

24.08.2008 35 esportistes catalans amb medalla als Jocs Olímpics de Pequín 2008 i altres 37 amb diploma (locs del quart al vuitè).

24.08.2008 Argent que sembla or en una final de basquetbol del màxim nivell (118-107).

24.08.2008 La Selecció d'Handbol s'emporta el Bronze.

24.08.2008 Cinquena posició per a la Selecció de Waterpolo.

La flama olímpica s'ha apagat i caldrà esperar quatre anys per a Londres 2012.

Els Jocs Olímpics de Beijing 2008, considerats per Jacques Rogge, president del COI, com els més excepcionals, han finalitzat amb música i focs artificials.

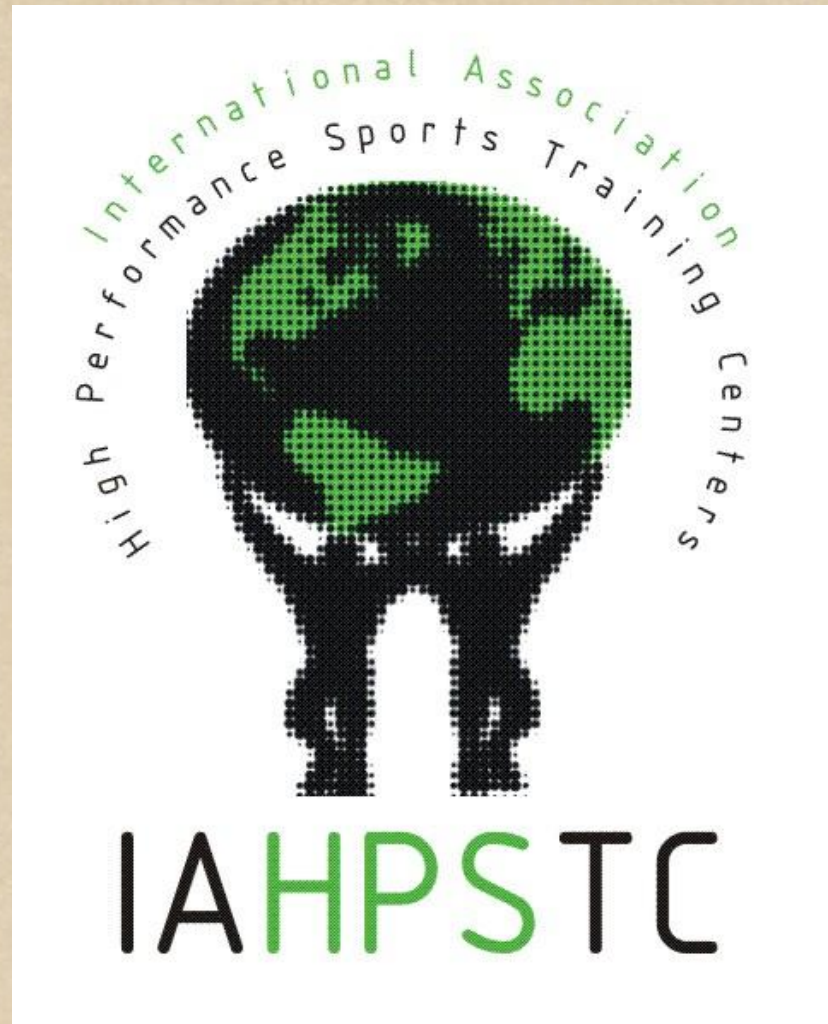
La dada positiva d'aquests jocs és la lluita contra el doping, amb només 6 casos (A Atenes van ser més de 20).

<http://del.interoute.com/Id=52376b02-8f42-4ba1-e762-1d27c1ad90d8&del...>

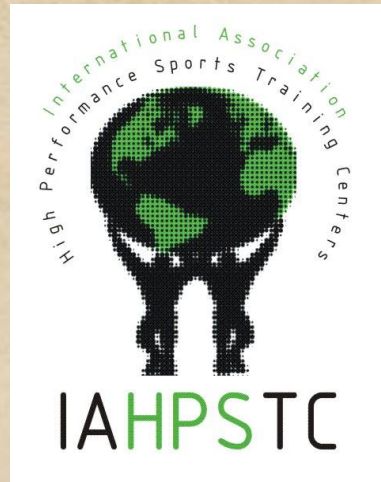
Logo de Beijing 2008. (imatges cedides per TVI).

CAR web ARC Beijing 2008 Beijing 2008 L'Esport mou Catalunya Departament de la Universitat i Recreació Secretaria General de l'Esport

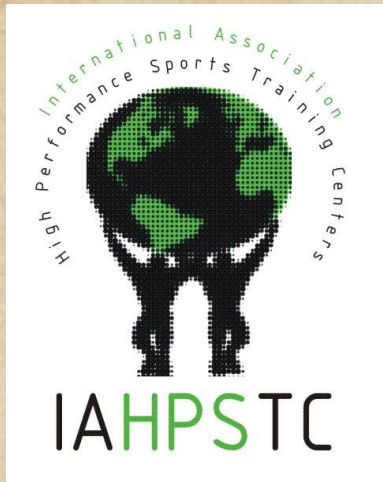




# FORUM ON ELITE SPORT



- **The general aim of the Forum is to establish routes of communication and mutual collaboration between the different High Performance Centres around the world**



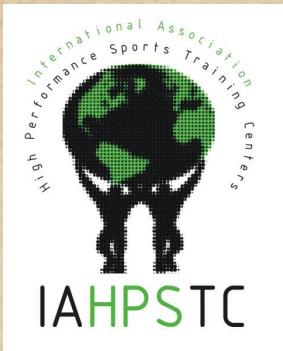
# FORUM ON ELITE SPORT

[www.forumelitesport.org](http://www.forumelitesport.org)

- 1st: Sydney 1999
- 2nd: Barcelona 2001
- 3rd: Loughborough 2003
- 4th: Montreal 2005
- 5th: Beijing 2007
- 6th: Colorado 2009



- **The II Forum in Barcelona 2001 starts the future International Association of High Performance Sports Centres**



# Worldwide BoD Meetings

- Barcelona 2001
- Paris 2002
- London 2003
- Athens 2004
- Paris 2005
- Malaga 2005
- Melbourne 2006
- Madrid 2007
- Beijing 2007
- Barcelona 2008
- Colorado 2008





# Forums and Association web-site

## ICCE Col.laboration

IAHPSTC International Association High Performance Sports Training Centers

International Forum on Elite Sport

Association Centers Forums News Docs Links Gallery FAQ

You are here: » Centers

Staff Exchange

Centers

IAHPSTC International Association High Performance Sports Training Centers

International Forum on Elite Sport

Association Centers Forums News Docs Links Gallery FAQ

You are here: Home » Centers » Australian Institute Of Sport (AIS)

IAHPSTC International Association High Performance Sports Training Centers

International Forum on Elite Sport

Association Centers Forums News Docs Links Gallery FAQ

You are here: Home » Forums

Forums

- Forum I
- Forum II
- Forum III
- Forum IV

User login

User:

Pass:

Log in

Request new password

Search

Search

**Forums**

After the success of the I Forum, held at Sidney on September 1999 and the II Forum, held at Barcelona on September 2001 -in which assistants could hear and share in interesting presentations and also could share the great motivation and enthusiasm of the organizers- is clear that we need to keep having a common place for the people and the organizations that work in the elite sports' field, in order to exchange experiences and information.

The Forum's philosophy is to provide a means of putting ideas in common and a place of discussion for all the people working in the elite sports' field. In this time in which globalization affect all aspects of our lifes, we need to find ways of enlarging the bonds between Centres devoted to elite sports and of involving all the people working in this activity.

The general aim of the Forum is to establish routes of communication and mutual collaboration between the different High Performance Centres around the world and the people and organizations interested in elite sports.

Other aims are to promote the establishment of a place to exchange information and experiences between people, organizations and institutions interested in elite sports; to provide all assistants a suitable environment in order to establish collaboration agreements between High Performance Centres and to help the creation of common initiatives that will benefit all High Performance Centres and that will provide reliable and true information about elite sports to the society.

Australian Institute of Sport (AIS)

Address: Leverrier Crescent, Bruce Act 2617 (Australia)  
 City: Canberra  
 Main phone: 61 2 6214 1111  
 Phone: 61 2 6214 1238  
 Fax: 61 2 6251 2680  
 email: ais@ausport.gov.au  
 Reservation email:  
 Year of foundation: 1981  
 Institutional dependency: Australian Sports Commission  
 Name of the director: Peter Fricker

[www.forumelitesport.org](http://www.forumelitesport.org)





# INTERNATIONAL PROJECTS

## 3D Motion Capture





# INTERNATIONAL PROJECTS

## DTL Project

Long Jump Technology Development

Supported by I.O.C. IAAF and ONCE

New proposals for the  
touchdown zone. High  
Definition photocell  
Sensors to determine  
null and valid jumps

QuickTime™ and a  
H.263 decompressor  
are needed to see this picture.



# INTERNATIONAL PROJECTS

## MARES Project

### Muscle Atrophy Research and Exercise System Supported by NASA & ESA

MARES is a physiological  
research  
facility, to be used on board the  
International Space Station (ISS).

CAR advised NTE (Aerospace  
Company) from the Sports  
Sciences and Health Care  
perspective.

QuickTime™ and a  
H.263 decompressor  
are needed to see this picture.



# INTERNATIONAL PROJECTS

## SPEED GLUES PROJECT

Supported by  
ITTF International table  
Tennis federation



Advising International Table  
Tennis Federation to control of use  
of prohibited speed glues



CAR is an accredited support Center of the ITTF since  
Sydney 2000 renewed in Beijing 2008 until London 2012



# INTERNATIONAL PROJECTS

ABAT/GEST Project

High Tech Biomechanical Analysis

Applied in Barcelona 92 and Atlanta 96

Agreement with CANAL + France in Paris





# INTERNATIONAL PROJECTS

## Broadcasting Olympics



QuickTime™ and a  
DV - PAL decompressor  
are needed to see this picture.

**\*14 scientific  
projects of IOC-  
Medical  
Commission  
were performed  
\*On site  
recordings**



# INTERNATIONAL PROJECTS

## Broadcasting Olympics



QuickTime™ and a  
DV - PAL decompressor  
are needed to see this picture.

- \*Processing time in 72h or 24h**
- \*Promotional reports for TV provided to all Broadcasters for free**



# INTERNATIONAL PROJECTS

## Broadcasting Olympics



QuickTime™ and a  
DV - PAL decompressor  
are needed to see this picture.

- \*Development of  
DMC - Digital  
Motion Capture
- \*Agreement with  
Canal + France in  
Paris





# INTERNATIONAL PROJECTS

## Broadcasting Olympics



QuickTime™ and a  
DV - PAL decompressor  
are needed to see this picture.

Prerecorded  
material  
Virtual Real Time  
on stage  
Recorded in 3  
months before  
the games in  
France



# INTERNATIONAL PROJECTS

## Broadcasting Olympics



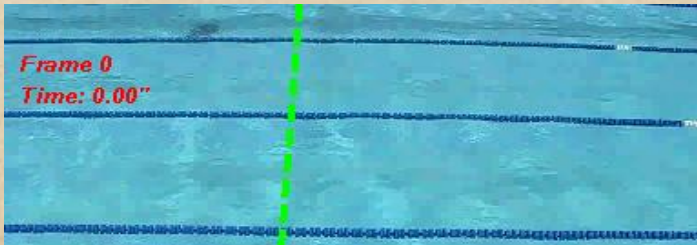
QuickTime™ and a  
DV - PAL decompressor  
are needed to see this picture.

Total 3D  
Dossiers = 61  
Total 3D  
Models = 177  
Total 3D  
production  
time for TV =  
5h



# INTERNATIONAL PROJECTS

## IMAGING SYSTEM FOR SWIMMING EVENTS



# BCN03



barcelona03

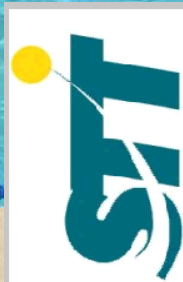
X FINA World Championships



FOUNDED IN 1944

Real time  
autotracking

4 zenital  
Cams on  
Palau S.Jordi



	Braz.	Cad.
Calle 1:	■	---
Calle 2:	■	---
Calle 3:	■	---
Calle 4:	■	---
Calle 5:	■	---
Calle 6:	■	---
Calle 7:	■	---
Calle 8:	■	---

Website link

<http://www.car.edu/finabcn03/>



# INTERNATIONAL PROJECTS

## IMAGING SYSTEM FOR SWIMMING EVENTS

# BCN03



barcelona03

X FINA World Championships



FEDERATION  
INTERNATIONALE  
DE NATATION



FOUNDED IN 1944

Real time  
autotracking

Average Velocity  
turns and Stroke  
length and  
frequency.





# INTERNATIONAL PROJECTS

[www.olimpics.cat](http://www.olimpics.cat)

Beijing 08 web site for Catalan athletes  
100% on Flex and Air Technologies



NOTÍCIES ESPORTS PERSONES RESULTATS CALENDARI

L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) Jocs Paralímpics (6-17 SET)

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

PARTICIPANTS: 196 FINALISTES: 37 MEDALLISTES: 25

[26.06.2008] L'Executiu del Comitè Olímpic Espanyol (COE) va aprovar les quantitats assignades als medallistes olímpics de Beijing 2008.

[25.06.2008] El 17 de juliol sortirà la llista definitiva dels esportistes que participaran als Jocs Olímpics de Beijing 2008.

[23.06.2008] Avui dilluns parteixen cap a la Xina la Lala Tutzó i Natàlia Via-Dufresne

[20.06.2008] Felicitació de la secretària general als esportistes

[20.06.2008] El vicepresident del Govern anima els esportistes i tècnics catalans que participaran als Jocs Olímpics i Paralímpics de Beijing 2008.

[20.06.2008] Com navegar pel Web "L'esport català a Beijing 2008"

[20.06.2008] Esperit ARC (Alt Rendiment Català)

[20.06.2008] Un web innovador

[05.09.2009] MÒBILS. Per primera vegada els Jocs

Recepció a esportistes i tècnics catalans que participaran als Jocs Olímpics i Paralímpics de Beijing 2008 (2ª part)

En aquest mateix acte, la secretària general ha felicitat als esportistes perquè són "els millors" i ha afegit que "estem orgullosos de tots vosaltres, no només per on heu arribat, i per la vostra carrera i potencial esportiu, perquè projecteu també l'esport català al món, sinó perquè també sou referents cadascú en l'esport que li pertoca i això de ben segur que engrandeix l'esport català". Precisament, la secretària ha destacat que aquests esportistes representen l'esperit ARC (el programa d'Alt Rendiment Catalunya), de "treball, disciplina i esforç".

Durant l'acte també s'ha presentat el web [www.olimpics.cat](http://www.olimpics.cat), una iniciativa de la Secretaria General de l'Esport, que s'ha desenvolupat amb col·laboració del CAR de Sant Cugat i que permetrà seguir amb el màxim detall la participació dels esportistes catalans.

<http://www.olimpics.cat>

CAR web ARC

Beijing 2008

Beijing 2008

Mail: [oarc@car.edu](mailto:oarc@car.edu) Avis legal

L'esport mou Catalunya

Generalitat de Catalunya  
Departament de la Vicepresidència  
Secretaria General de l'Esport



# INTERNATIONAL PROJECTS

NOTÍCIES
ESPORTS
PERSONES
RESULTATS
CALENDARI

L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) ▶

◀ Jocs Paralímpics (6-17 SET)

0809101112131415161718192021222324

17

RSS

PARTICIPANTS

0000

FINALISTES

0000

MEDALLISTES

0000

### Atletisme


■ Participació Catalana

### National Stadium

Beijing. Anella Olímpica

08/19/2008	10:00	1.500m Qualificació Dones
08/21/2008	19:00	1.500m Semifinals Dones
08/23/2008	19:50	1.500m Final Dones

F	1.500 m LLISOS (Atletisme)	■
M	1.500 m LLISOS (Atletisme)	■
F	10.000 m LLISOS (Atletisme)	■
M	10.000 m LLISOS (Atletisme)	■
F	100 m LLISOS (Atletisme)	■
M	100 m LLISOS (Atletisme)	■
F	100 m TANQUES (Atletisme)	■
M	110 m TANQUES (Atletisme)	■
F	20 Km MARXA (Atletisme)	■
M	20 Km MARXA (Atletisme)	■
F	200 m LLISOS (Atletisme)	■
M	200 m LLISOS (Atletisme)	■

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Generalitat de Catalunya  
Departament de la Vicepresidència  
Secretaria General de l'Esport



# INTERNATIONAL PROJECTS

NOTÍCIES
ESPORTS
PERSONES
RESULTATS
CALENDARI

L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) ▶

◀ Jocs Paralímpics (6-17 SET)

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

57

RSS

PARTICIPANTS

10

FINALISTES

10

MEDALLISTES

10

Sincronitzada (Natació)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

■ Participació Catalana

	Rodríguez Álvarez, Irina CLUB NATACIO KALLIPOLIS
	Fuentes Fachè, Andrea CLUB NATACIO KALLIPOLIS
	Mengual Civil, Gemma CLUB NATACIO KALLIPOLIS
	Moron Rovira, Gisela CLUB NATACIO KALLIPOLIS
	Tarrès Campa, Anna SELECCIONADORA ESTATAL NATACIÓ SINCRONITZADA
	Amorós Romagosa, Laura ENTRENADORA EQUIP OLÍMPIC DE NATACIÓ SINCRONITZADA

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Generalitat de Catalunya  
Departament de la Vicepresidència  
Secretaria General de l'Esport



# INTERNATIONAL PROJECTS

## Olympics and Paralympics events

NOTÍCIES
ESPORTS
PÈRSONES
RESULTATS
CALENDARI

L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO)

Jocs Paralímpics (6-17 SET)

06 07 08 09 10 11 12 13 14 15 16 17

ada F12. [14.09] Christian Venge, vuitè, diploma olímpic en la prova de ruta. [14.09] RSS

PARTICIPANTS	FINALISTES	MEDALLISTES
05	05	05

Atletisme (Discapacitats Físics)		Q.			
	1.500 m T46 (A6) (Atletisme - Discapacitats Físics) Ait Khamouch, Abderrahman <span style="float: right;">09/08/2008</span> <span style="float: right;">2</span> <span style="float: right;">4:08.67</span> <span style="float: right;">medalla JJPP</span>				
	1.500 m T54 (T4) (Atletisme - Discapacitats Físics) Madera Jiménez, Jorge <span style="float: right;">09/08/2008</span> <span style="float: right;">Part</span> <span style="float: right;">3:18:22</span> <span style="float: right;">Ronda 1</span> Botello Jiménez, Rafael <span style="float: right;">09/08/2008</span> <span style="float: right;">Part</span> <span style="float: right;">3:11:30</span> <span style="float: right;">Semis</span>				
	5.000 m T54 (T4) (Atletisme - Discapacitats Físics) Botello Jiménez, Rafael <span style="float: right;">09/08/2008</span> <span style="float: right;">25</span> <span style="float: right;">10:54.43</span> Puigbó Verdaguer, Roger <span style="float: right;">09/08/2008</span> <span style="float: right;">9</span> <span style="float: right;">10:25:78</span> Madera Jiménez, Jorge <span style="float: right;">09/08/2008</span> <span style="float: right;">11</span> <span style="float: right;">10:23.80</span>				
	800 m T46 (A6) (Atletisme - Discapacitats Físics) Ait Khamouch, Abderrahman <span style="float: right;">09/08/2008</span> <span style="float: right;">3</span> <span style="float: right;">1:53:68</span> <span style="float: right;">Medalla JJPP</span> 800 m T53 (T3) (Atletisme - Discapacitats Físics) Pulgbó Verdaguer, Roger <span style="float: right;">09/08/2008</span> <span style="float: right;">5</span> <span style="float: right;">1:37:49</span>				

■ Participació Catalana

● Medalla d'Or
 ● Medalla d'Argent
 ● Medalla de Bronze
 ● Diploma Olímpic
  Participació

web ARC

Beijing 2008

Beijing 2008

Mail: oarc@car.edu    Avis legal

L'esport mou Catalunya

Generalitat de Catalunya  
 Departament de la Vicepresidència  
 Secretaria General de l'Esport





# INTERNATIONAL PROJECTS

[NOTÍCIES](#)
[ESPORTS](#)
[PERSONES](#)
[RESULTATS](#)
[CALENDARI](#)
L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) ▶
◀ Jocs Paralímpics (6-17 SET)

0809101112131415161718192021222324

10  
RSS

PARTICIPANTS  
098

FINALISTES  
37

MEDALLISTES  
25

Sincronitzada (Natació)
Q


■ Participació Catalana

▼ DUET (Natació Sincronitzada)

Fuentes Fache, Andrea	08/18/2008	2	<input type="radio"/>	98.334
Mengual Civil, Gemma	08/18/2008	2	<input type="radio"/>	98.334
▼ EQUIPS (Natació Sincronitzada)				
Mengual Civil, Gemma	08/18/2008	2	<input type="radio"/>	98.251
Fuentes Fache, Andrea	08/18/2008	2	<input type="radio"/>	98.251
Rodríguez Álvarez, Irina	08/18/2008	2	<input type="radio"/>	98.251
Moron Rovira, Gisela	08/18/2008	2	<input type="radio"/>	98.251

● Medalla d'Or
● Medalla d'Argent
● Medalla de Bronze
● Diploma Olímpic
○ Participació

Mail: oarc@car.edu
Avis legal

Generalitat de Catalunya  
Departament de la Vicepresidència  
Secretaria General de l'Esport



# INTERNATIONAL PROJECTS

NOTÍCIES
ESPORTS
PERSONES
RESULTATS
CALENDARI

## L'Esport Català a Beijing 2008

Jocs Olímpics (8-24 AGO) ▶

◀ Jocs Paralímpics (6-17 SET)

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

45

RSS

PARTICIPANTS

00

FINALISTES

00

MEDALISTES

00

**Sincronitzada (Natació)**

🏊	🏊	🏊	🏊	🏊	🏊	🏊
🏊	🏊	🏊	🏊	🏊	🏊	🏊
🏊	🏊	🏊	🏊	🏊	🏊	🏊
🏊	🏊	🏊	🏊	🏊	🏊	🏊
🏊	🏊	🏊	🏊	🏊	🏊	🏊

■ Participació Catalana

(17.08) 08:00	(17.08) 14:00	(17.08) 20:00	(18.08)
10:00 (F) EQUIPS (Tennis Tau) Partit per la medalla de Bronze	16:00 (M) INDIVIDUAL (Tennis) Final 1-2 Homes	20:10 (F) 400 m TANQUES / 400m T Qualificació Dones	
10:00 (M) 4 Km PERSECUCIÓ Qualificació Homes	16:00 (M) INDIVIDUAL (Tennis) Lliurament de Medalles	21:00 (M) HOQUEI SOBRE HERBA GER-ESP. Ronda Preliminar	
10:06 (F) RELLEUS 4x100 m Lliurament de Medalles	16:00 (F) DOBLES (Tennis) Final 1-2 Dones	21:30 (F) 3.000 m OBSTACLE 3.000m Obst. Final Dones	
10:37 (F) RELLEUS 4x100 m Final Dones	16:00 (F) DOBLES (Tennis) Lliurament de Medalles	21:55 (M) 1.500 m LLISSOS / 1.500m Semifinals Homes	
	13:00 (F) LASER RADIAL (Vela) Regata 9. Dones	18:00 (M) TERRA M (Gimnàs) Final Homes	22:45 (M) 10.000 m LLISSOS / 10.000m Final Homes
	13:00 (F) LASER RADIAL (Vela) Regata 10. Dones	18:00 (M) TERRA M (Gimnàs) Lliurament de Medalles	
	13:00 (F) WATERPOLO Quarts de Final Dones	19:00 (F) EQUIPS (Tennis Tau) Partit per la medalla d'Or	
	16:30 (M) 4 Km PERSECUCIÓ Ronda 1 Homes	19:00 (F) EQUIPS (Tennis Tau) Lliurament de Medalles	

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# INTERNATIONAL PROJECTS

NetworkBCN



[www.olimpics.cat](http://www.olimpics.cat)

The screenshot shows a website interface for 'L'Esport Català a Beijing 2008'. At the top, there are navigation tabs for 'NOTÍCIES', 'ESPORTS', 'PERSONES', 'RESULTATS', and 'CALENDARI'. The main header features the title 'L'Esport Català a Beijing 2008' and the Catalan flag. Below this, there are two buttons: 'Jocs Olímpics (8-24 AGO)' and 'Jocs Paralímpics (6-17 SET)'. A horizontal timeline shows dates from 08 to 24. The main image is a swimmer in action. To the right of the image, there are three columns: 'PARTICIPANTS' (0007), 'FINALISTES' (0007), and 'MEDALLISTES' (0007). Below the image, there is a search bar with the text 'Sincronitzada (Natació)'. A grid of 25 icons represents different sports. On the right, a video player shows a woman, Gemma Mengual Civil, with the text 'Mengual Civil, Gemma' and 'CLUB NATACIÓ KALLIPOLIS'. Below the video player, there are links for 'Agenda', 'Presentació', 'Palmarés', and 'Media'. At the bottom, there are logos for CAR web ARC, Beijing 2008, Beijing 2008 Paralympic Games, and L'esport mou Catalunya, along with contact information: 'Mail: oarc@car.edu' and 'Avis legal'.

Digital Recording of TV Channels + Data stream  
 Proactive SMS Platform for results and scheduling  
 Geolocalized video stream with rights of TVE



# CAR SANT CUGAT AN APPROACH TO THE FUTURE





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

A new technological approach in Sports Facilities

22.000 m<sup>2</sup>

€ 36 million

Sant Cugat, 2009-2010-2011



Thanks to the efforts of the Governing Bodies



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.



## Multi-Sport Venue Principles:

- Balance Health vs Performance
- Modularity (Grow with User Loop Commitment)
- Integration
- Non Invasive
- Instant Feedback
- Control
- Quality
- Ecology



## Multi-Sport Venue Generic Technology Requirements

- TTU - Training Units
- Coach / Athlete / Sport Facility / Tech Equipment
- Differs between specific events





## Multi-Sport Venue Generic Technology Requirements

- TTU - Training Units Characterization
- Technologically adapted sport equipment
- Information Systems based on IP
- Continuous multidimensional recording
- Permanent Biofeedback
- Wireless based
- ( Gathering / Display / Control )



# Multi-Sport Venue Generic Technology Requirements

- TTU - Training Units Components
- Audiovisual ( Audio Video )
- Biological ( HR / EMG / ECG / TEMP / TISSUE )
- Physics ( Strength / Positions / Speed / Acceleration )



## Multi-Sport Venue Generic Technology Requirements

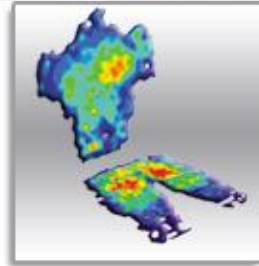
- Environmental parameters under IP control
- Light (Recording Requirements)
- Sound (Modularity personalized sound)
- Temperature
- Ventilation
- Humidity



( Able to reproduce competition situations)

# Innovation - concept of the project

## Instant local review !



Gathering - RfId  
Full HD HS IPCam  
IP Sensoring  
Mpeg7



High output delivery - 10G Technology



Servers storage



analysis through the net, anywhere !



# A new technological approach in Sports Facilities



## . Key point GOALS

- flexibility, free mobility, friendly gathering (RFiD)
- capacity, accessibility
- innovation
- Proper instruction of coaches and sport staff
- integration (IP V6 and Advanced XML Sport standards - Mpeg7)
- international collaboration (share the experience worldwide)
  - Sport Videoconference HD Applications  
Remote Real Time International Jury Evaluation
- Full HD High Speed IP CAM

# INTEGRATED ROOM CONTROL MANAGEMENT PROPOSAL

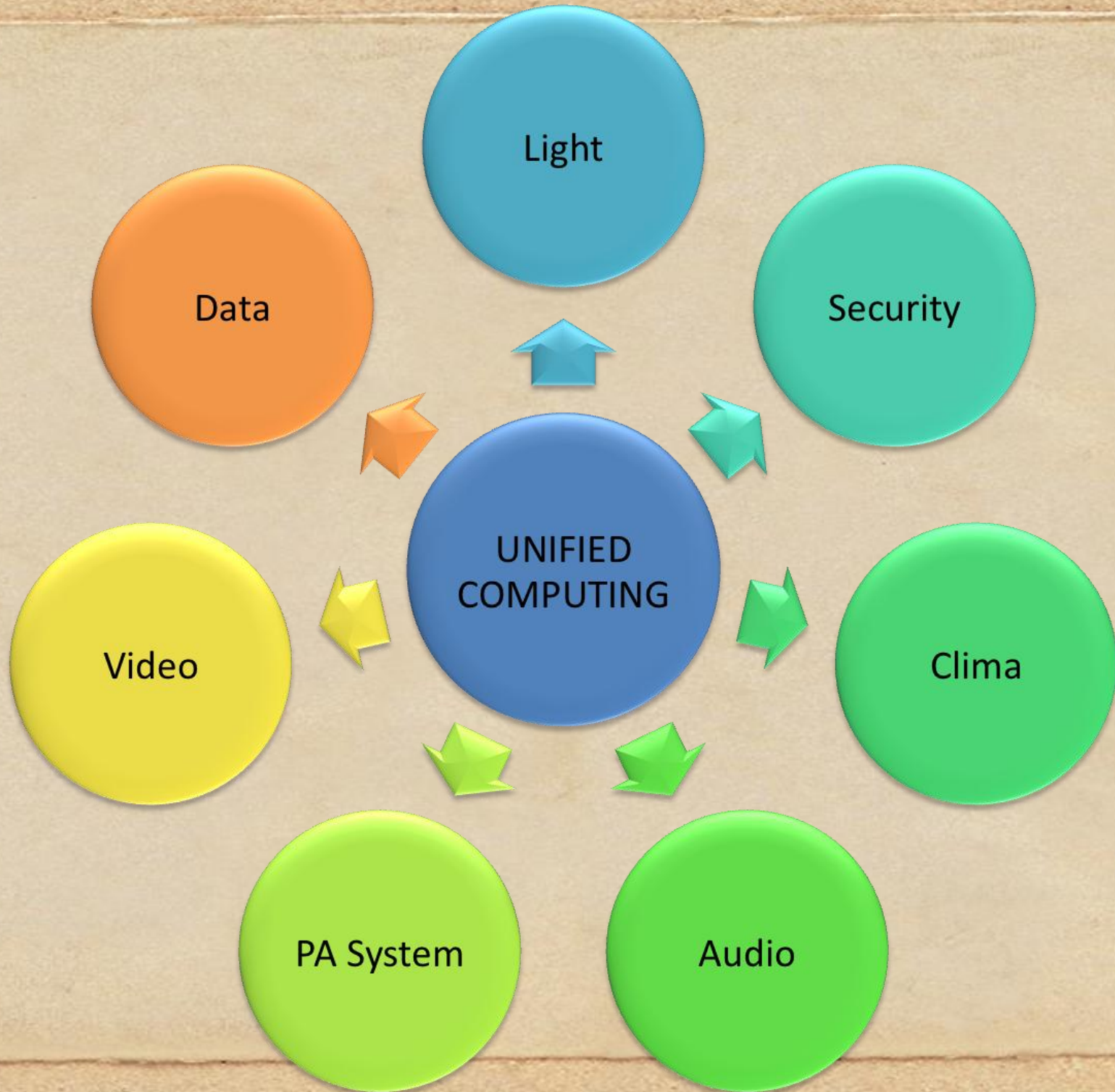


A NEW ERA OF  
CONTROL

- Energetic Expenditure
- Management Time
- + Time for ATHLETES
- + Performance



Ingeniería Integral Inteligente S.L.





# HANDHELD ROOM CONTROL



# HANDHELD ROOM CONTROL



HOME



HOME



CONFIG



VIDEO

POWER

MEDIA

GUIDE

SELECT YOUR VIDEO INPUT

VOL

MUTE

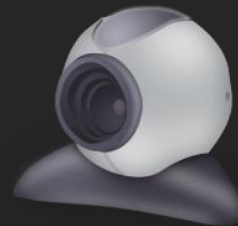
LIGHTS



DVD



IPOD



CCTV



V.CONF

INFO

EXIT

**CRESTRON**

# HANDHELD ROOM CONTROL

SELECT CAMERA PERFORMANCE AND LOCATION

HOME

MEDIA

VOL

MUTE

LIGHTS

RES - SPEED  
LW 320 - SLW 1  
ST 640 - STD 10  
HD 720 - STD 50  
FHD 1080 - HS 100  
HS 250  
HS 500

Funciones  
Adicionales



EXIT

POWER

GUIDE

INFO

EXIT

Seleccionar  
Cámara



+ Zoom

Zoom  
Máximo

Color

Autopatrol:

Backlight  
Compensation

- Zoom

Zoom  
Mínimo

Automático

ON

ON

Enfoque

Rotar 90°

B & W

OFF

OFF

CRESTRON

# HANDHELD ROOM CONTROL



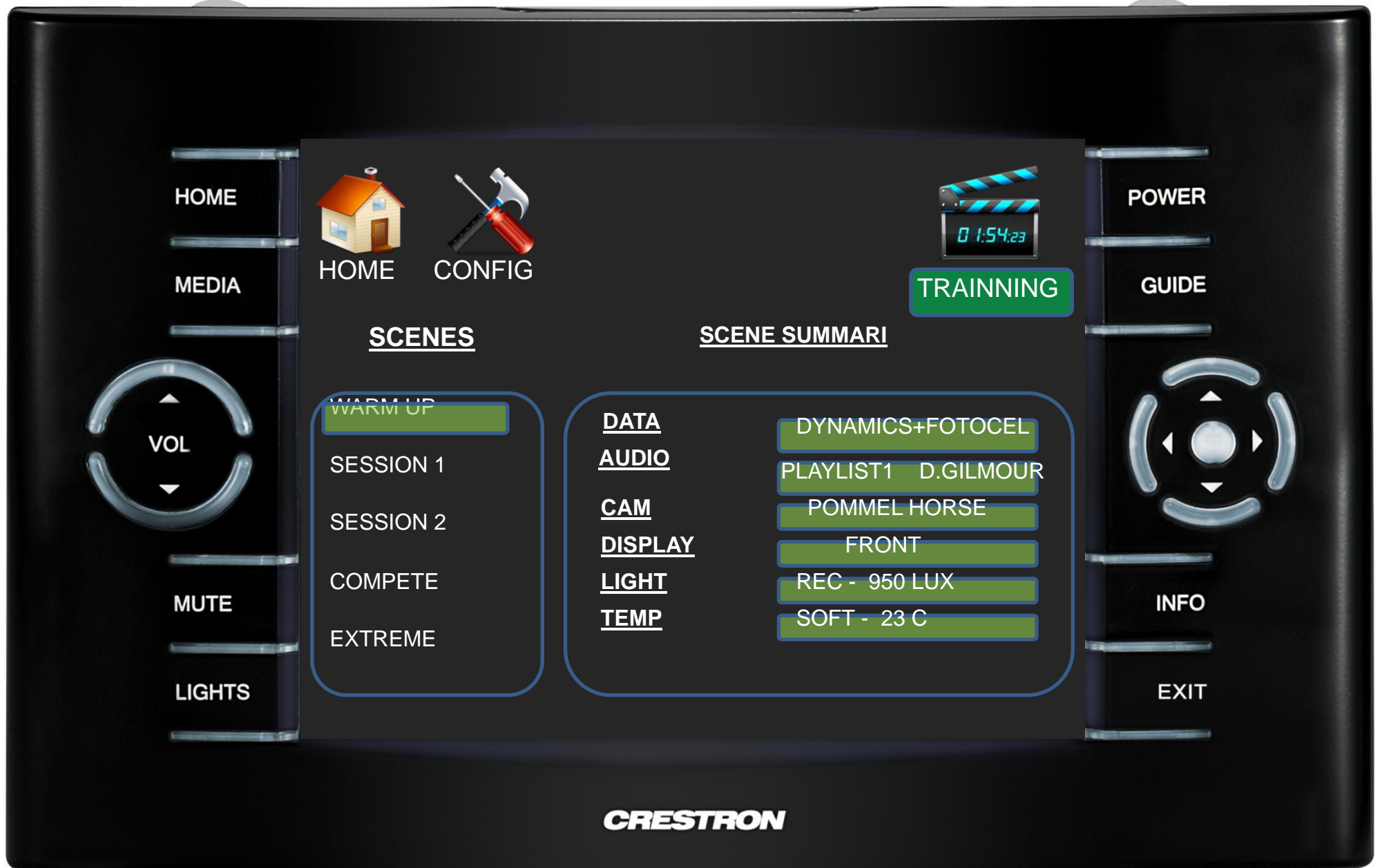
**CRESTRON**

# HANDHELD ROOM CONTROL

## PLAYLIST CONTROL



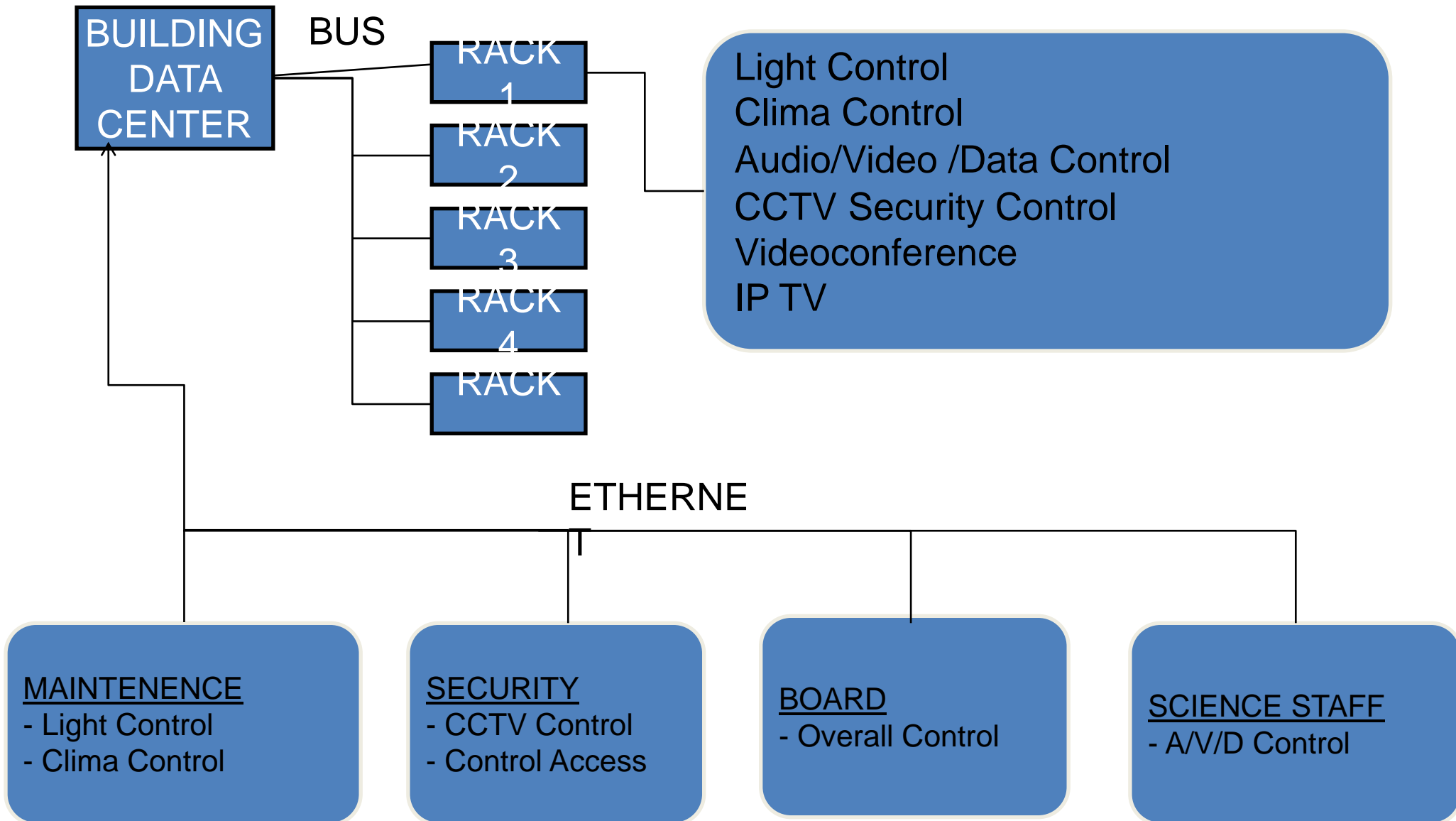
# HANDHELD ROOM CONTROL



# HANDHELD ROOM CONTROL



# SECURED CONTROL ACCESS



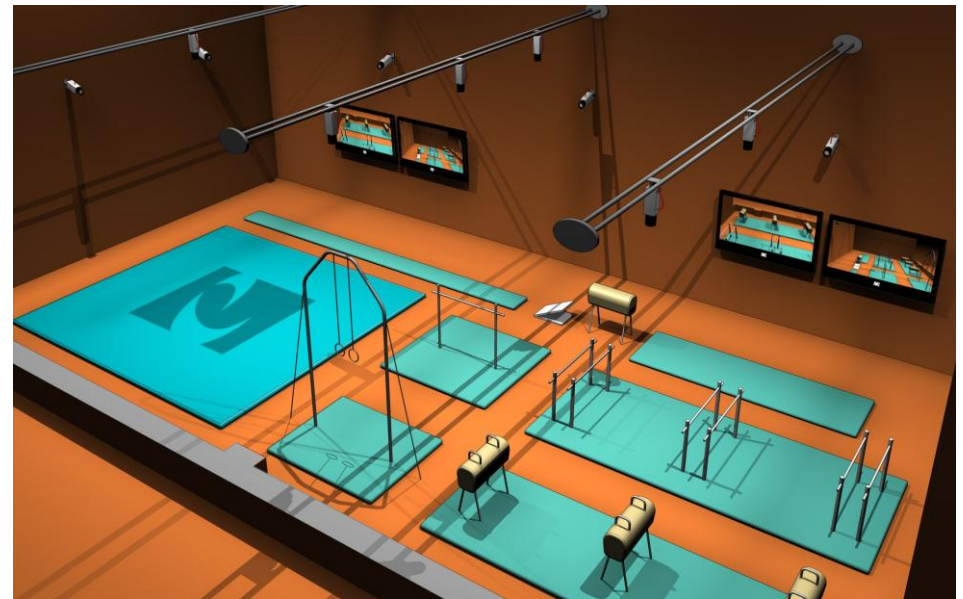
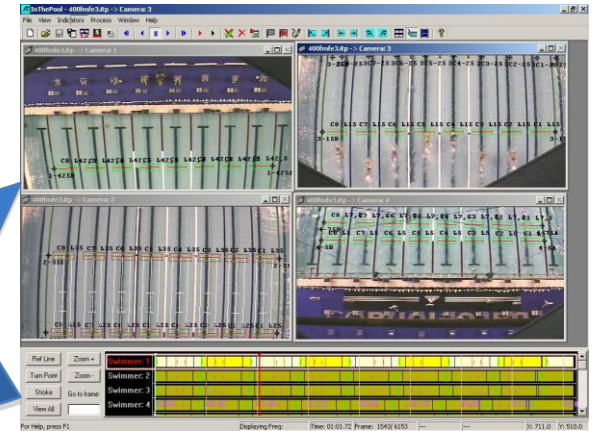
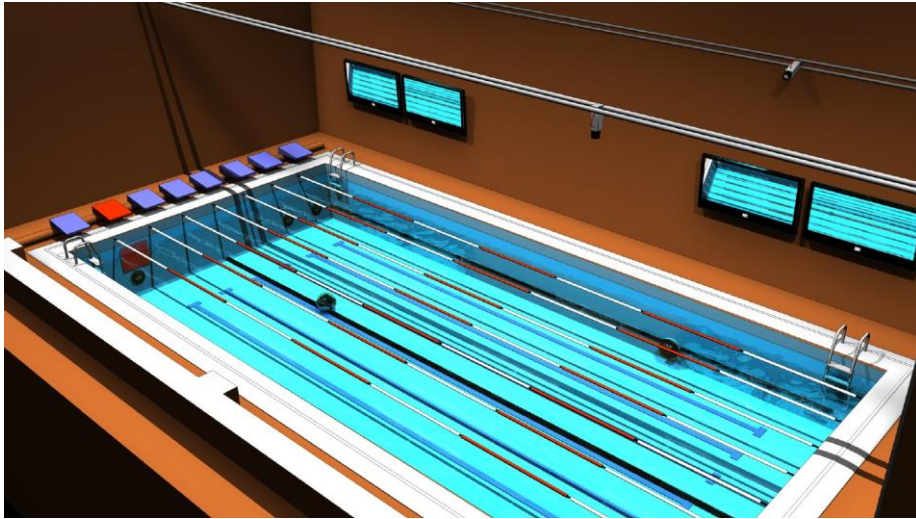


# VIDEO CONFERENCE APPLICATIONS

## REMOTE TRAINING REAL TIME INTERACTION

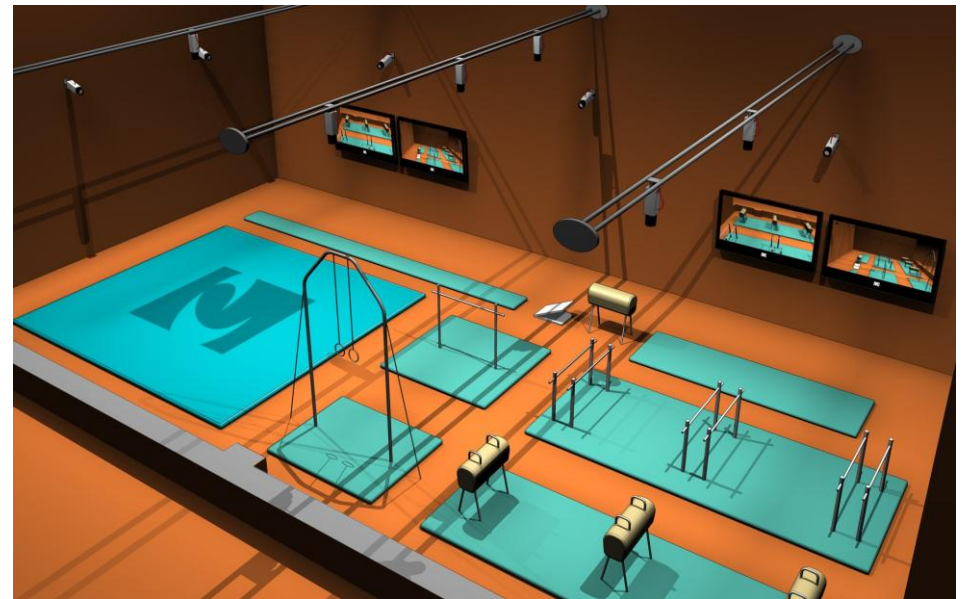
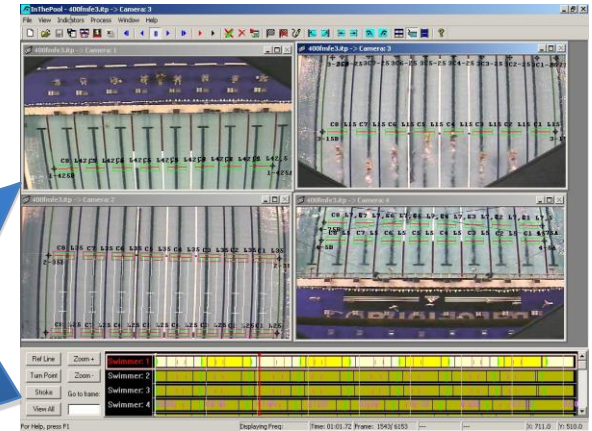
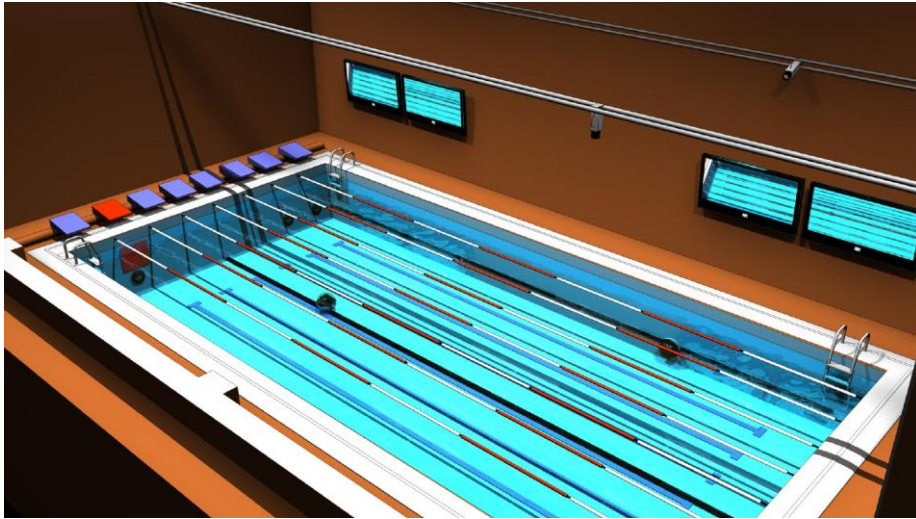


# REAL TIME CONTROL AND REMOTE TRAINING



## WELCOME TO THE FUTURE OF TRAINING

# REAL TIME CONTROL AND REMOTE TRAINING



WELCOME TO THE FUTURE OF TRAINING



**THANK YOU**



International  
Association for  
Sports  
Information (IASI)

**WELCOME TO THE FUTURE OF TRAINING**  
**with Information**