



FEDERAÇÃO  
DE ANDEBOL  
DE PORTUGAL

**Visit of  
Michael Wiederer  
Secretary General of the  
European Handball Federation**

*Handball infrastructure*

Lisbon, 27<sup>th</sup> April 2015

# Welcome Note

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We would like to welcome to Portugal, our friend Michael Wiederer, Secretary General of the European Handball Federation and thank him very much for sparing the time for this visit.

We are also very grateful for the support that the European Handball Federation have given to the Portuguese Federation, during these last four years of difficult time and very hard financial restrictions.

Also thank you for the understanding you have showed by the occasion of our withdrawal of the organization of the Women's 19 European Championship that will take place this year in Spain, for which we had a lot of work done, and the proof of this is a promotional video that we had already prepared for the event. Your understanding was very important to us. Further ahead we would show you some figures that show the development of the activities in our Federation, highlighting the following:



1. Executive summary
2. **Infrastructure**
3. The future

# Welcome Note

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- More than fifty thousand registered players;
- The most popular women's team sport;
- The main beach sport;
- The best and most innovative project for the mental and physical handicapped and for reclusive citizens;
- Website that has more than one hundred and eighty thousand viewers per year with almost three million page views.

But the focus of our meeting is to be able to show all developments we are currently doing concerning our information systems as well as other projects that the Portuguese Federation have in the field of communications and promotion of our sport.

The project is going to be shown in detail, and I would like to draw your attention to the following points:



1. Executive summary
2. **Infrastructure**
3. The future

# Welcome Note

---

- The complete computerized processes of players registration, registration forms, referee nominations, match bulletins, match occurrence reports, classifications and share of match videos;
- To physically eliminate paperwork in the Federation's procedures;
- Online results of all matches played in the Country, which are over twelve thousand each year;
- The creation of a match center for the most important competitions providing simultaneously detailed statistic online information;
- The development of a new webpage that can meet all these requirements;
- The launching of ANDEBOL TV with hundreds of live transmissions and reports along the season, with growing audiences;
- And all other details considered as fundamental working tools for the development of our sport.

We wish to lose as less time as possible, to diminish the costs and to increase the efficiency and the general interest for Handball. We want more people, more people mainly playing Handball.



1. Executive summary
2. **Infrastructure**
3. The future

# Welcome Note

---

All these processes are currently being developed but we need support for their improvement.

And therefore we would like to invite the European Handball Federation to be our partner in this project, having as main goal, the sharing of this tool with any other National European Federations that wish to use it.

The process will be disseminated, shared and of course, adapted. Such innovating process in our Country, has the support of the Portuguese Government.

We would like to have this process concluded by year 2017 and for that we would like to have the support of the European Handball Federation.

Again, Thank you Michael for your visit !



1. Executive summary
2. **Infrastructure**
3. The future



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DE ANDEBOL  
DE PORTUGAL

# 1. Executive Summary

## Briefing

This document highlights the work Portuguese Handball Federation undertook to develop a strong support to the national competitions. The initial configuration of FAP IT infrastructure proved, with last developments in technology and the dramatically climbing in users access, that we need to accomplish an important effort to stabilize and protect “the core” of the National Federation: The IT process that manages all official competitions from draws to the finish line of each championship.

1. **Executive summary**
2. Infrastructure
3. The future

## 2. FAP – The infrastructure - Now

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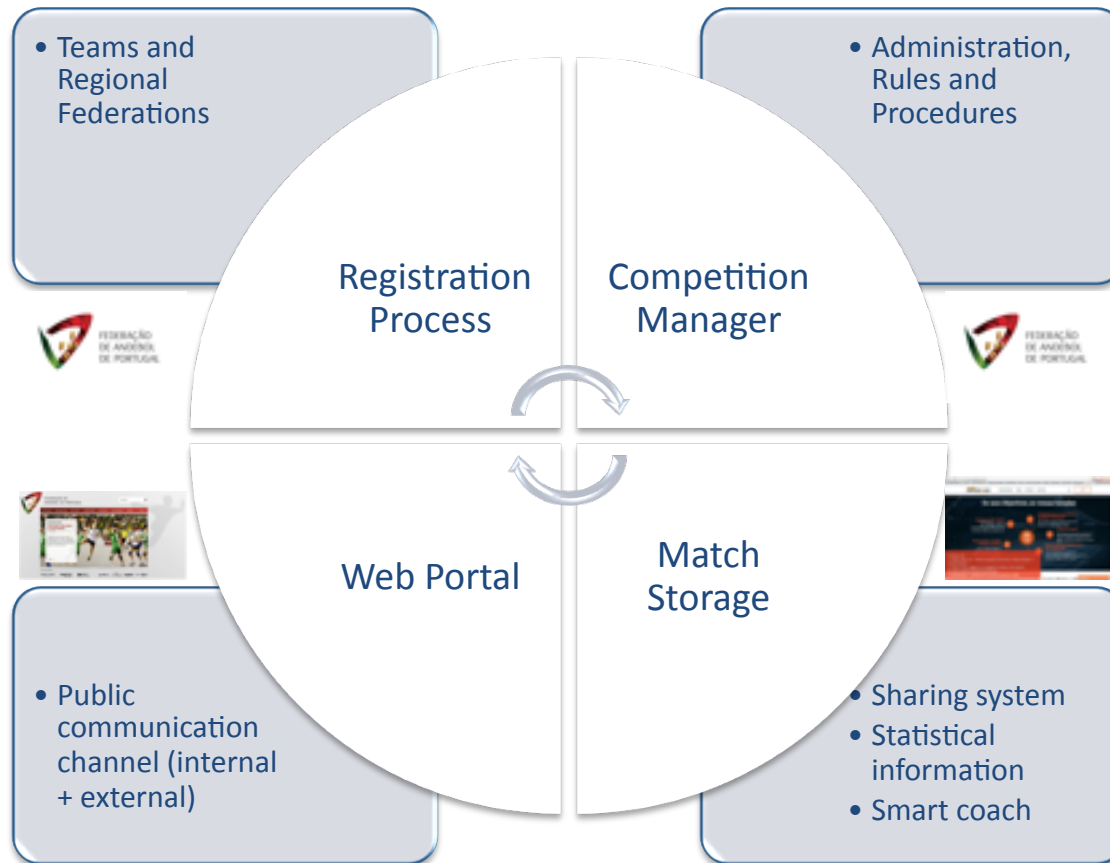
### Competition eco-system

The system in place, responsible to manage over 12,000 matches per year, needs a very careful and responsible analysis. After enrolling in the National Federation we scheduled a set of milestones that would lead to the stability and scalability of the entire IT infrastructure. We have looked into the system and understood how the community was being served. If we are satisfied and proud of having a system that allows managing a huge amount of competitions from A to Z, with referee management, online registration, competition calendars, competition modeling, training and coaching programs, it has been very painful to stabilize and scale the infrastructure.



1. Executive summary
- 2. Infrastructure**
3. The future

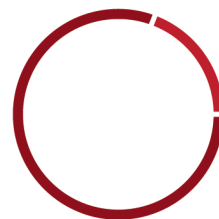
## 2. FAP – The infrastructure





## 2. FAP – infrastructure

### WEB Reach



105.227 OLD VISITORS  
24.053 NEW VISITORS

**50.065**

VISITORS

**81.19%**

**18.81%**

VISITS

**180.767**

PAGE VIEWS

**2.738.726**

WEB PORTAL

GOOGLE ANALYTICS

INFO – MAY'13



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DE ANDEBOL  
DE PORTUGAL

1. Executive summary
2. **The infrastructure**
3. The Future

# New Layout for the public user: New site



1. Executive summary
2. Infrastructure
3. The future

## Customer

**Unknown customer**  
(without account)

Public

**Known customer** (with account)

Handball Agent

Association

Clubs

## FAP

Frontends

**Site** (publisher for PLSqL)

**Internal SI**  
(PLSqL)

Competition  
Manager  
- Internal  
data from SI

**CMS (PLSqL)**

Back-office for publishing  
the site. -News, and official  
info from Back-office

**Matchcenter**

VO software

Match -  
transactional  
service

**Social Networks**

Facebook

Twitter

Instagram

**Other  
Channels**

Andebol TV

Andebol Store

WP – Coach  
programs

Backend

Oracle IAS + dad

Elo kernel

Business Layer

Project Packages + Triggers

Rules and database tables

Layout  
defs. +  
Business  
rules

DB rules

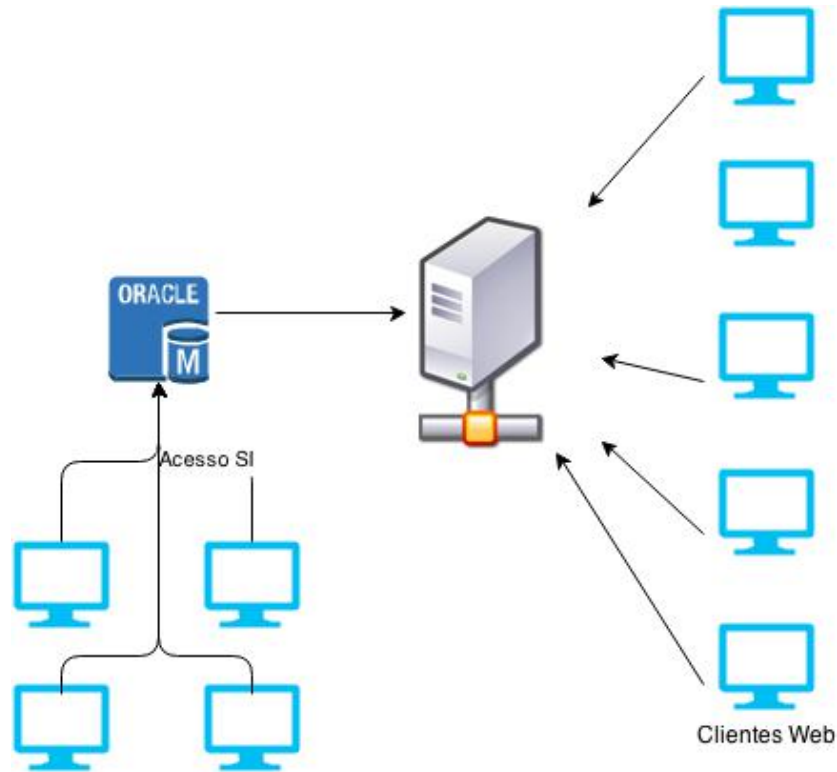
DataBase Layer (Oracle DB)

3th Party

Webservices (out) to serve  
the online community. Ex:  
Blogs, TV, Handball sites

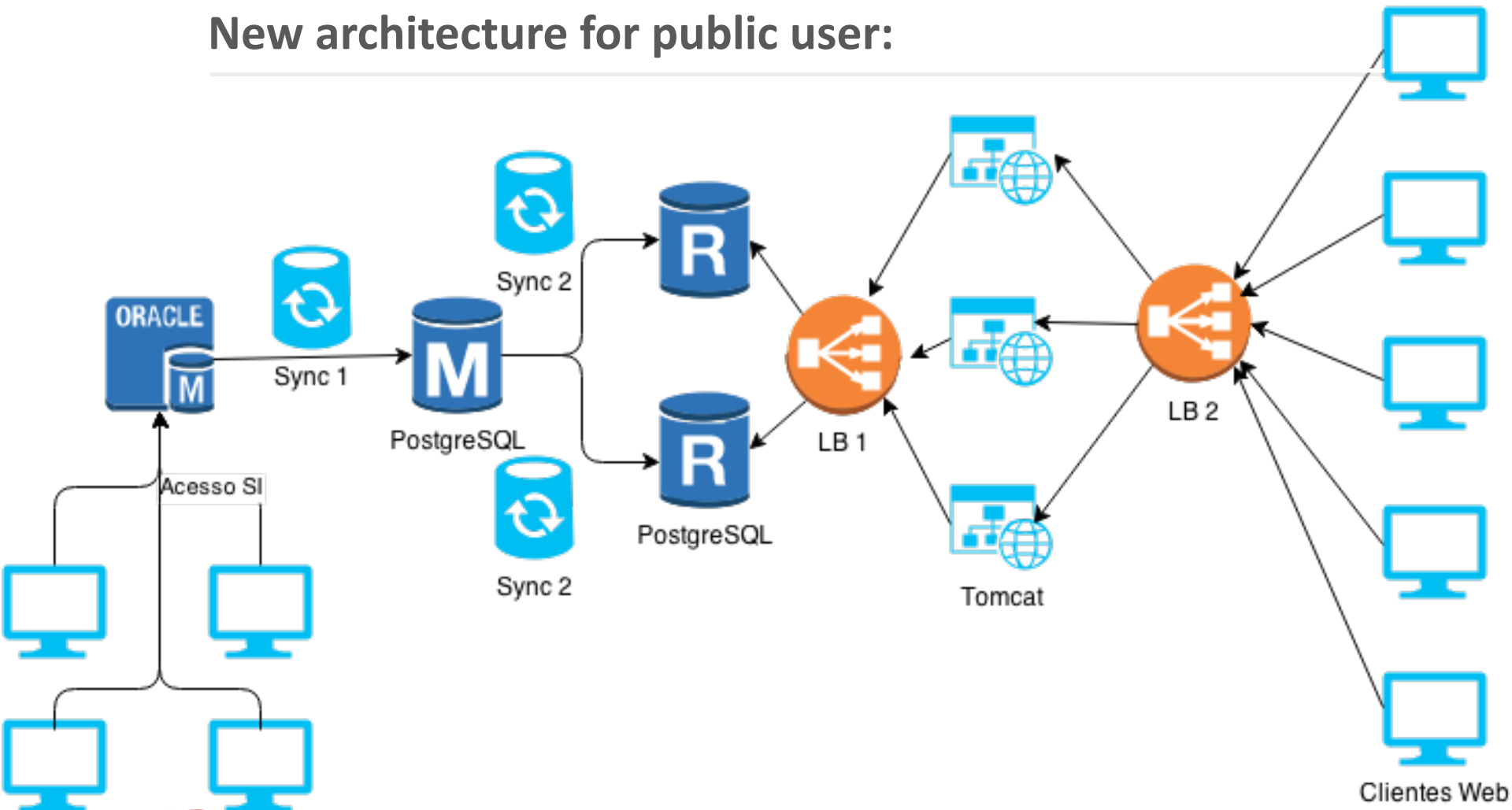
# Architecture for serving public users:

## Old architecture



DB server was receiving queries directly, without any control, balance or cache.

## New architecture for public user:



1. Executive summary
2. **Infrastructure**
3. The future

## 2. FAP – The infrastructure - Context

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### Competition eco-system

- Standards used in 2004 – Oracle DB + Windows OS;
- Back in 2004 the implementation stage was not perfect because it did not predict the upgrade of the system, which limited the horizontal scalability of the resources required to serve a bigger community;
- Over the past 2 years we were struggling to maintain everything online, during the weekends, because of the number of accesses, the limitation of the infrastructure and the complexity of the application which was requiring a lot of resources (more than the expected) to operate with minimum standards of usability;
- Now we can offer a wide range of solutions in Portugal and abroad.



1. Executive summary
2. **Infrastructure**
3. The future

## 2. FAP – The infrastructure

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### Competition eco-system - What we did

We started to isolate the problem! It was not an easy task given that:

- The BD started to register online 30 matches per weekend, and today is registering **350 matches** in some cases;
- We found evidence related to different urls for the exact same queries which complicated a lot the process of building a proxy solution to manage the pressure we were having in the DB server;
- To build the proxy solution to maintain accessibility and control of traffic without « killing » the server;
- To start to separate the components which were condensed in the DB layer, has you can see in the macro-bloques approach, which is a complex, hard and expensive work, which we can not undertake internally;



1. Executive summary
2. **Infrastructure**
3. The future

## 2. FAP – The infrastructure - Now

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### Competition eco-system - What we did

- We are finishing the development of a new site, which isolates the public traffic from reaching the DB layer directly. The new site uses a postgres DB which replicates our original DB (for writing) and is just available for reading
- We controlled the charge in CPU usage of the DB server, caused by internal usage, administrative procedures and complexity that arises from the initial architecture, by changing the OS from Windows to Linux and scaling in the hardware requirements to a server with 4 CPU's and 4GB of RAM
- We developed a MatchCenter, which publishes the statistics of the main men's championship in real-time and where users can have a great interface to consume real-time results. This solution will incorporate streaming (when available).



1. Executive summary
- 2. Infrastructure**
3. The future



## 2. FAP – The infrastructure - Now

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- Along with the core system, we need to support SAGE, the accounting system, Andebol.TV and Andebol Store, ambitious projects that need people and minimum structure.
- We are also working FAP's internal network, accessibility and security.
- We are trying to stabilize every system in place, which is not easy, mainly because the lack of technical people required that are too expensive for FAP's possibilities, given the actual, social and financial context.



1. Executive summary
2. **Infrastructure**
3. The future

## 2. FAP – The infrastructure - Now

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### Game education

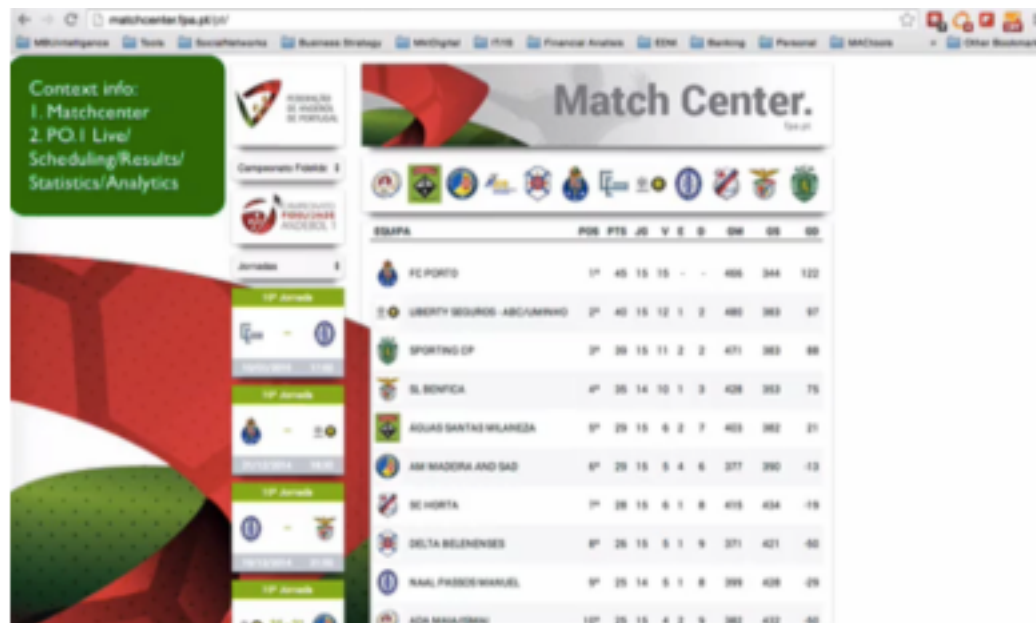
- Along with the competition system we offered our main clubs the possibility of having their games observed by a new application called Smartcoach, which allows multi-dimensional analysis to the game, combining video observation, statistics, technical and tactical analysis. This helped us to market handball in a different and more powerful approach to the GAME.



1. Executive summary
2. **Infrastructure**
3. The future

## 2. FAP – Serving the handball family

### Matchcenter



The screenshot shows the Matchcenter website interface. On the left, there is a sidebar with a green box containing the text: "Context info: 1. Matchcenter 2. PO.1 Live! Scheduling/Results/ Statistics/Analytics". Below this, there are sections for "Comparto Faltas", "Análisis", and "Análisis". The main content area features a header with the "Match Center." logo and a row of team logos. Below this is a table with the following columns: EQUIPA, POS, PTS, JO, V, E, D, GO, GS, GO. The table lists the following teams and their statistics:

EQUIPA	POS	PTS	JO	V	E	D	GO	GS	GO
FC PORTO	1ª	45	15	15	-	-	466	344	122
LIBERTY SECOURS ABC/LAMNHO	2ª	42	15	12	1	2	480	363	87
SPORTING CP	3ª	38	15	11	2	2	471	363	88
SL BENFICA	4ª	35	14	10	1	3	428	353	75
AGUAS SANTAS WLAREZA	5ª	29	15	6	2	7	403	362	21
AM MADRGA AND GAD	6ª	29	15	5	4	6	377	390	-13
SC HORTA	7ª	28	15	5	1	9	415	434	-19
DELTA BELENENSES	8ª	26	15	5	1	9	371	401	-30
NAAL PRINCE WAZEL	9ª	25	14	5	1	8	399	428	-29
ACA MARAVIMH	10ª	25	15	4	2	9	382	432	-50



1. Executive summary
2. Infrastructure
3. The future

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Smart Coach



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### Game statistics



DELTA BELEENSES  
EQUIPA VISITANTE

Nº	NOME	POS	TOTAL			GOLOS / REMATES						DISCIPLINA				
			GOLOS	RMTS	%	CA	7M	6M	PNT	9M	ASST	AD	FT	AM	2M	VM
3	VASCO PINTO	CT	0	3	0%	0/0	0/0	0/0	0/1	0/2	1	1	2	0	0	0
6	BRUNO FERREIRA	CT	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
7	ROME HEBO	UNI	2	4	50%	0/0	0/0	0/0	1/1	1/3	1	0	0	0	1	0
9	CARLOS SIQUEIRA	PV	5	7	71%	0/0	0/0	5/6	0/1	0/0	0	0	0	0	0	0
10	FILIPE PINHO	PE	5	8	63%	1/1	0/0	1/2	3/5	0/0	0	0	2	1	2	0
11	RUBEN PEREIRA	PD	0	0	0	0/0	0/0	0/0	0/0	0/0	1	0	0	0	1	0
14	RUI SILVA	PV	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	1	0	0
15	LUÍS NUNES	LE	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
16	VASCO RIBEIRO	GR	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
17	TIAGO SILVA	LD	1	2	50%	0/0	0/0	0/0	0/0	1/2	0	0	0	0	0	0
20	JOÃO VALADAS	LE	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
22	JOÃO PINTO	LD	1	5	20%	0/0	0/1	1/2	0/0	0/2	2	0	1	1	0	0
23	ANDRÉ ALVES	PD	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
24	HENRIQUE CARLOTA	GR	0	0	0	0/0	0/0	0/0	0/0	0/0	0	0	0	0	0	0
29	FELISBERTO LANDIM	PV	1	3	33%	0/0	0/0	0/1	0/0	1/2	0	1	0	0	0	0
31	EDVALDO FERREIRA	UNI	10	14	71%	0/0	3/3	1/3	0/1	6/7	4	4	1	0	0	0
<b>TOTAL</b>			<b>25</b>	<b>46</b>	<b>54%</b>	<b>1/1</b>	<b>3/4</b>	<b>8/14</b>	<b>4/9</b>	<b>9/18</b>	<b>9</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>0</b>

Nº	NOME	TOTAL				GOLOS / REMATES				
		GOLOS	DEF	RMTS	%	CA	7M	6M	PNT	9M
16	VASCO RIBEIRO	0	0	0	0	0/0	0/0	0/0	0/0	0/0
24	HENRIQUE CARLOTA	31	7	38	18%	9/9	2/2	4/4	7/8	9/15
<b>TOTAL</b>		<b>31</b>	<b>7</b>	<b>38</b>	<b>18%</b>	<b>9/9</b>	<b>2/2</b>	<b>4/4</b>	<b>7/8</b>	<b>9/15</b>

#### Legenda

<b>Gols</b>	Gois	<b>Rmts</b>	Remates	<b>Def</b>	Defendidos	<b>7m</b>	7 Metros
<b>6m</b>	6 Metros	<b>9m</b>	9 Metros	<b>Pnt</b>	Ponta	<b>2m</b>	2 Minutos
<b>AM</b>	Cartões Amarelos	<b>VM</b>	Cartões Vermelhos	<b>CA</b>	Contra-ataque	<b>AD</b>	Acção Defensiva
<b>FT</b>	Falta Técnica						



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DE PORTUGAL

1. Executive summary
2. Infrastructure
3. The future

## 2. FAP – Serving the handball family

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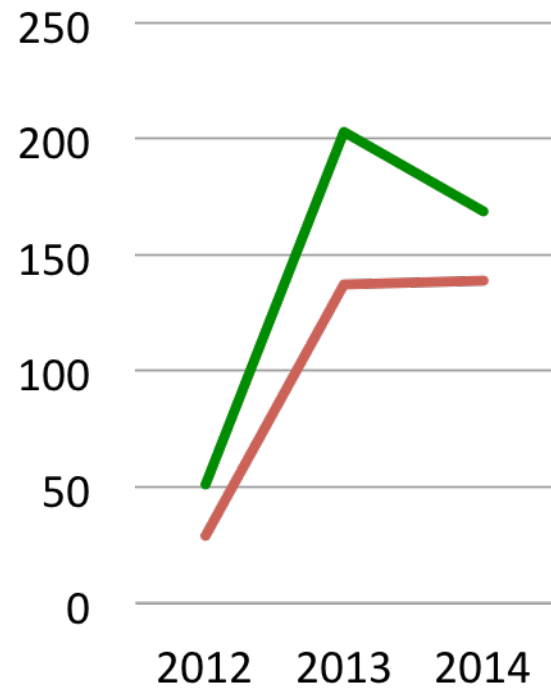
Andebol.TV



1. Executive summary
2. Infrastructure
3. The future

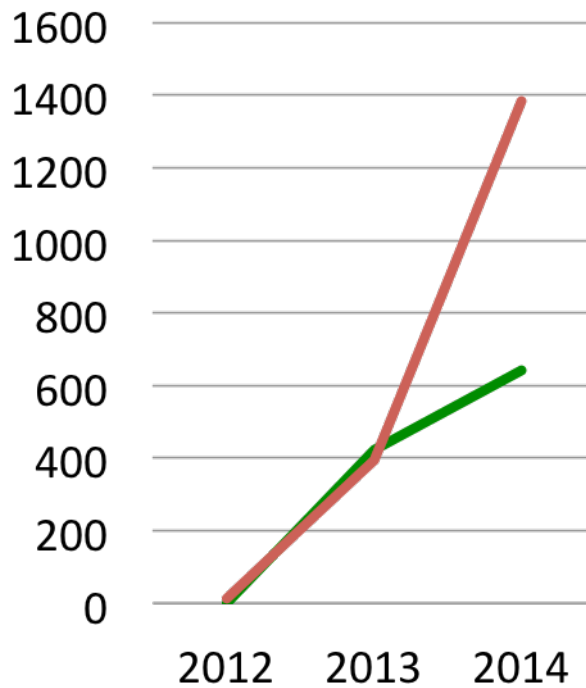
## 2. FAP – Andebol.Tv

### Activities



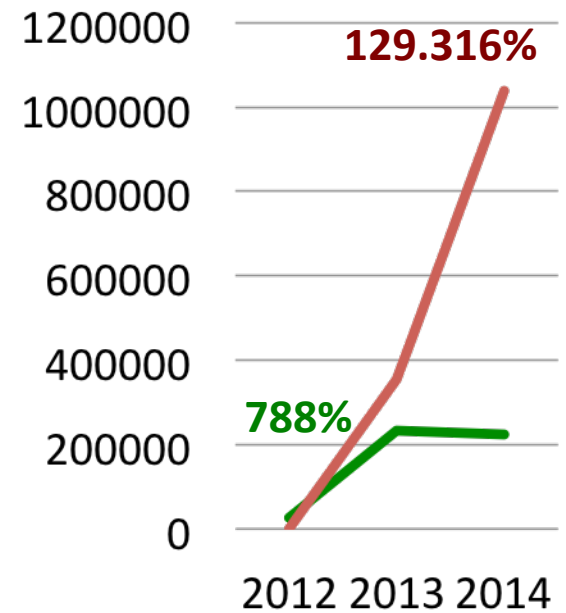
— Matches — Reports

### Subscribers



— Livestream — Youtube

### Reach



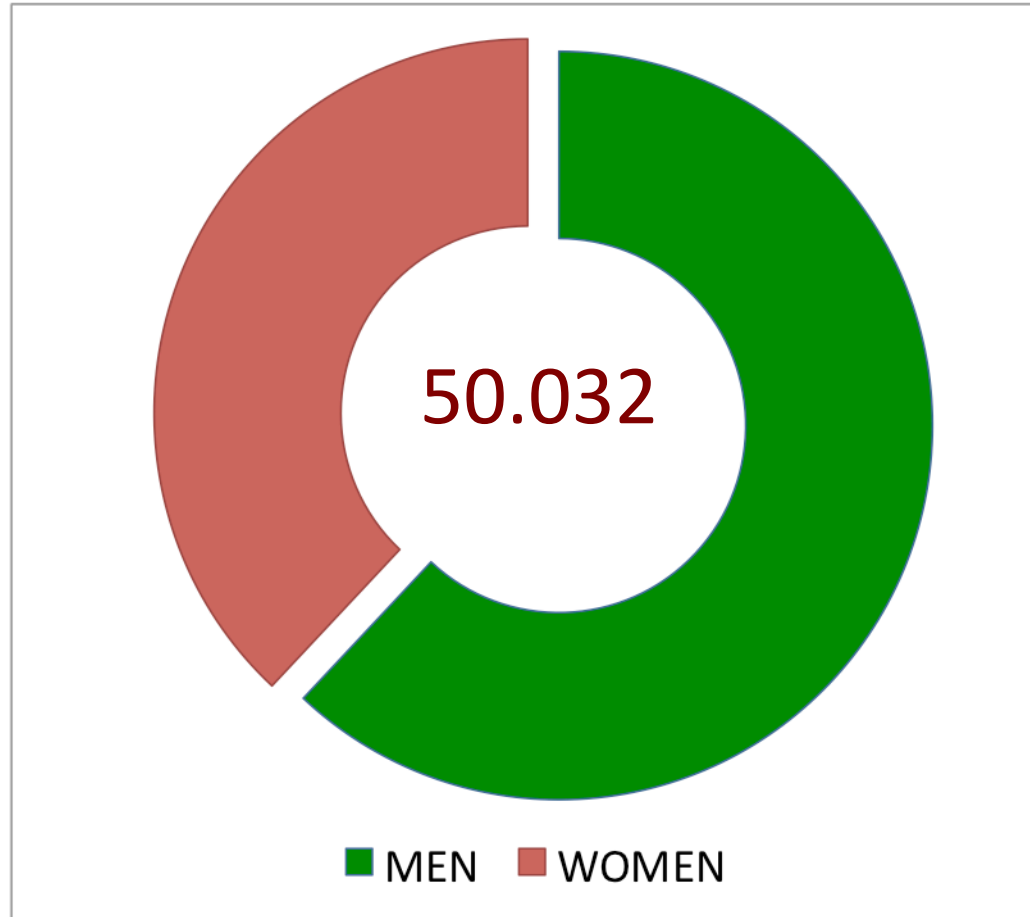
— Visualizations  
— Youtube minutes



1. Executive summary
2. Infrastructure
3. The future

## 2. FAP – Some Numbers

### NUMBER OF ATHLETES



**Nº2**

2<sup>ND</sup> MOST PLAYED  
SPORT BY MEN

**62%**

MEN

**38%**

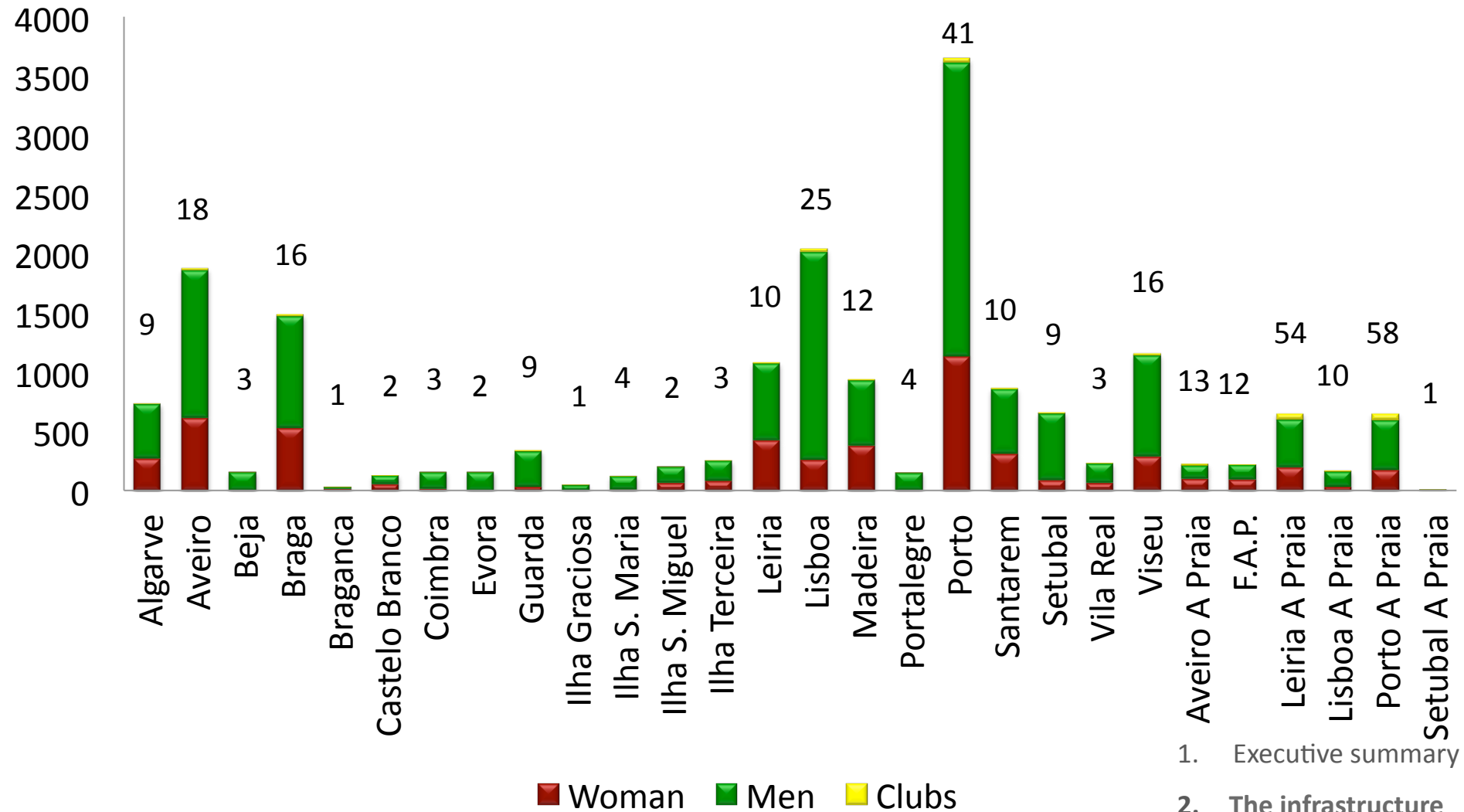
WOMEN

**Nº1**

1<sup>ST</sup> MOST PLAYED  
SPORT BY WOMEN



## 2. FAP – Atheles and Clubs per Regional Federation



1. Executive summary
2. The infrastructure
3. The Future

## 2. FAP – Some Numbers

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# INDOOR

**12.258** matchs per season

**232** registered clubs

**741** registered teams



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1. Executive summary
2. **The infrastructure**
3. The Future

## 2. FAP – Some Numbers

— ATHLETES



YEAR 11/12

YEAR 12/13

YEAR 13/14



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# Beach Handball

Per season

1.747 Athletes

300 Kids

1.000 Matches

151 Teams

5 Regional Federations

1. Executive summary
2. The infrastructure
3. The Future

## 2. FAP – Some Results: National Teams

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### SENIOR MEN

5 EUROPEAN CHAMPIONSHIPS  
3 WORLD CHAMPIONSHIPS

### JUNIORS MEN (U-21)

6 EUROPEAN CHAMPIONSHIPS  
5 WORLD CHAMPIONSHIPS

### JUNIORS MEN (U-18)

5 EUROPEAN CHAMPIONSHIPS

### SENIOR WOMEN

1 EUROPEAN CHAMPIONSHIP

### JUNIORS WOMEN (U-21)

1 EUROPEAN CHAMPIONSHIP  
2 WORLD CHAMPIONSHIP

### JUNIORS WOMEN (U-18)

1 EUROPEAN CHAMPIONSHIP  
1 WORLD CHAMPIONSHIP



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1. Executive summary
2. **The infrastructure**
3. The Future

## 2. FAP – Main 3 out of 22 National Competitions

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### ANDEBOL1

NATIONAL MEN CHAMPIONSHIP  
12 PARTICIPATING TEAMS  
22 ROUNDS – Regular phase  
PLAY-OFF SYSTEM

### SUPERCUP

NATIONAL MEN SUPERCUP  
2 TEAMS  
CUP and ANDEBOL1 WINNERS

### PORTUGAL CUP

NATIONAL MEN CUP  
73 PARTICIPATING TEAMS  
7 KO MATCHES



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DE ANDEBOL  
DE PORTUGAL

1. Executive summary
2. **The infrastructure**
3. The Future

## 3. The Future

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### Vision

We envisage a great future for enrolling and aggregating individuals, teams and sport agents, around the national Handball activities, through the channels and the systems in place. We are working in a wide range of services with the goal of providing highly competitive solutions for our community. Although this work is extremely poor if not used by other countries and being opened to help others with the same exact goals.

### What we need to accomplish the vision

Support the core and peripheral infrastructure with human resources, systems and a powerful network that requires this investment.



1. Executive summary
2. The infrastructure
- 3. The Future**