

**HOW HBBTV
WILL IMPROVE
YOUR AUDIENCE
KNOWLEDGE**

**CCMA BIG DATA
EXPERIENCES**



Corporació Catalana
de **Mitjans Audiovisuals, SA**



About the CCMA

- **Corporació Catalana de Mitjans Audiovisuals (CCMA) is the Catalan public Broadcaster.**

- **Its audiovisual offer includes:**

- TV: TV3, 33, Super3, 3/24, Esport3 and TV3Cat.



- Radio: Catalunya Ràdio, Catalunya Informació, CatMusica & iCat.cat



- Digital Media: website, mobile apps, Connected and Hybrid TV, social networks, etc...



CCMA and Interactive Services

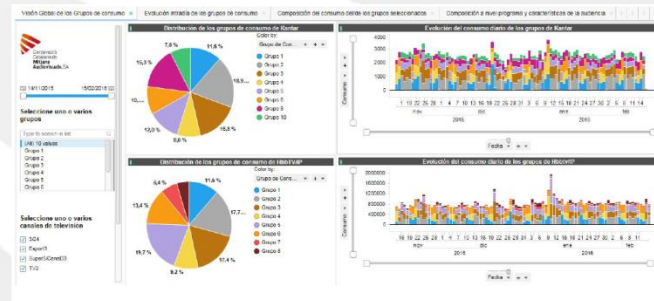
- Since the beginning of DTT broadcasting, CCMA has been very aware to latest technologies to offer interactive services.
- CCMA has developed and progressively deployed interactive services, since firsts **mhp** TV applications to nowadays “TV3alacarta” service on proprietary platforms such as PS4 or proprietary SmartTV markets.
- Thanks to the introduction of **HbbTV**, CCMA has deployed new innovative services including VoD and accessibility services to the TV audience.

CCMA & Big Data

- **Why Big Data**
 - Today, an audience of many is becoming an audience of one, forcing the media industry to become more data-driven. Media and digital groups need to understand changing patterns of consumption, including what programs and content are viewed across digital and traditional channels, as well as other content sources. (GFK)
- **What to do**
 - Capture and analyze media consumption patterns and behavior of our users on all products, platforms and devices to better understand what, how and when is consumed our content in order to provide the most appropriate content for each user in our broadband products (web, apps) and influence the program schedule in DTT

CCMA & Big Data

- In Mid-2015 CCMA started its first steps with Big Data analysis.
- Focused to generate a content recommendation system for individual users.
- Two different projects aligned to content recommendation system:
 - User profiling.
 - Measure Real-Time Audience.



CCMA & Big Data

- In fact the main objective of the first steps in Big Data was **TO LEARN** about:
 - Machines needed. How much process strength is really needed
 - Cloud vs in-house
 - How to scale the system when it needs to grow
 - What specific software will work
 - How to use
 - How to monitor
 - How to load and process large volume of information



CCMA – Big Data – Data Ingest

KANTAR MEDIA

Since 1st Jan 2004

- Disaggregated
- Minute detailed



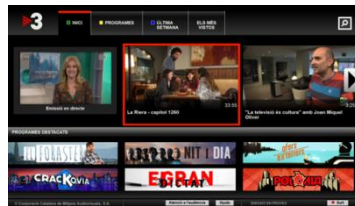
Since 1st Jan 2009



CCMA broadcast programming & productions since Jan 2010

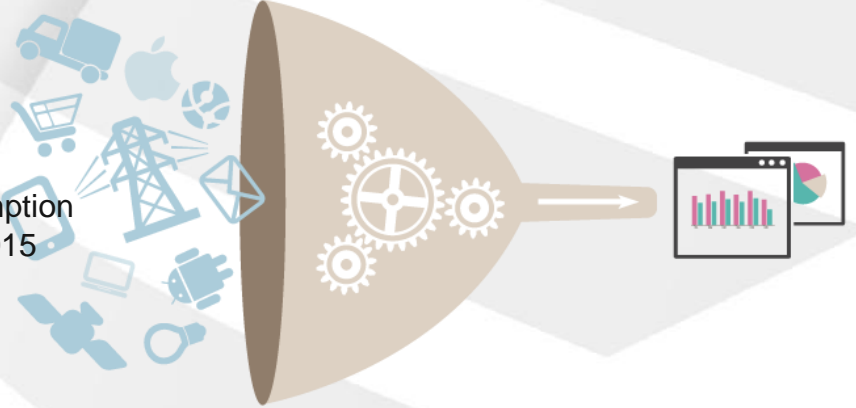


TV3alacarta web IP consumption
Live & VoD since 14 Nov 2015



HbbTV Service since 14 Nov 2015
Live DTT (Radio work in progress)

TV3alacarta VoD



CCMA & Big Data Projects

- **Project 1 – User profiling**
 - Consumer groups – applied on traditional audience measurements & HbbTV to better knowledge of our audience.
 - Abandonment / bounce analysis
 - Abandonment – user change TV channel and never comes back
 - Bounce – user comes back after changing channel
- **Project 2 - Real-Time Audience**
 - LIVE TV: On HbbTV to analyze broadcast consumption, and Live IP to analyze broadband.
 - VoD : On “TV3alacarta” service to analyze broadband consumption (Web, Mobile Apps & HbbTV App)

CCMA – Big Data - HbbTV lessons learned

HbbTV SmartTV validation

- **Before gather information from HbbTV SmartTV it must be validated as ‘Cookie friendly’**
 - Some SmartTV’s do not allow a unique identification (about 3%)
 - Not valid for some data measurements/conclusions
 - Most of SmartTV allow unique identification
 - Valid for data gathering
 - All SmartTV’s are valid for real time audience because unique identification is not really needed



CCMA – Big Data - HbbTV lessons learned

- **HbbTV → Channel Analyzing (1/3)**
 - Sorting Channel List – recurrent analysis allows monitoring statistics about **channel list order**.

Note: Only a very few users take time to order the channels list
Depending on TV brand, channel list is ordered by frequency number, alphabetically or predetermined by manufacturer.

CCMA – Big Data - HbbTV lessons learned

- HbbTV → Channel Analyzing (2/3)
 - Positioning CCMA channels analysis

Channel 1

Mes Març			Maig (fins el 26)		
1	273.245	100%	1	288.425	100%
1	La 1 HD_	123.180 45%	La 1 HD_	127.371 44%	
2	atreseries HD	43.871 16%	atreseries HD	50.392 17%	
3	Altres	39.853 15%	Altres	41.694 14%	
4	La 1	28.464 10%	La 1	28.706 10%	
5	antena3 HD	10.631 4%	antena3 HD	11.128 4%	
6	Programa 1	10.002 4%	Programa 1	9.714 3%	
7	TV3HD	4.232 2%	TV3HD	4.416 2%	
8	tdp	3.786 1%	tdp	4.152 1%	
9	Cuatro HD	3.769 1%	Cuatro HD	4.035 1%	
10	La 2	2.784 1%	proximamente	3.508 1%	
11	Energy	2.673 1%	13 Tv Definitivo	3.309 1%	
2	272.934	100%	2	288.110	100%
1	La 2	148.584 54%	La 2	152.577 53%	
2	Altres	34.780 13%	BeMad tv HD	42.174 15%	
3	BeMad tv HD	30.376 11%	Altres	36.435 13%	
4	ENERGY HD	11.639 4%	atreseries HD	12.016 4%	
5	atreseries HD	11.435 4%	24h	8.291 3%	
6	24h	7.158 3%	ENERGY HD	6.257 2%	
7	Cuatro HD	5.401 2%	Cuatro HD	5.810 2%	
8	Programa 2	4.852 2%	Programa 2	4.620 2%	
9	tdp HD	4.119 2%	tdp HD	4.476 2%	
10	antena3	3.506 1%	La 1 HD_	3.787 1%	
11	La 1 HD_	3.438 1%	antena3	3.550 1%	
12	Boing	2.910 1%	Boing	3.029 1%	
13	3_24	2.439 1%	3_24	2.617 1%	
14	Super3_33	2.297 1%	Super3_33	2.471 1%	

Channel 2

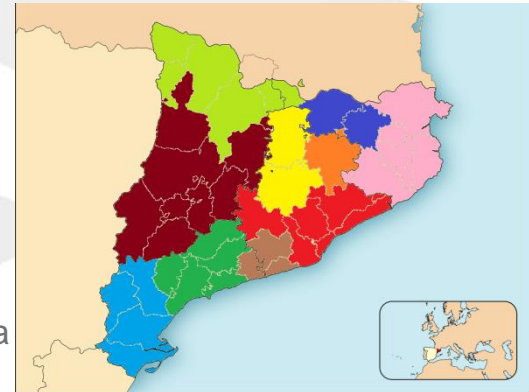
3	272.923	100%	3	288.106	100%
1	TV3HD	99.866 37%	TV3HD	103.251 36%	
2	Altres	62.089 23%	Altres	65.091 23%	
3	antena3 HD	26.053 10%	Realmadrid TV HD	33.763 12%	
4	Realmadrid TV HD	24.070 9%	antena3 HD	27.066 9%	
5	Realmadrid TV	15.738 6%	antena3	13.923 5%	
6	antena3	13.747 5%	Realmadrid TV	12.123 4%	
7	TV3	10.331 4%	TV3	10.276 4%	
8	3_24	6.170 2%	3_24	7.094 2%	
9	Programa 2	5.713 2%	Programa 2	5.627 2%	
10	Programa 3	4.660 2%	BeMad tv HD	5.218 2%	
11	laSexta HD	4.486 2%	La 1 HD_	4.674 2%	
4	272.908	100%	4	288.104	100%
1	Cuatro HD	72.219 26%	Cuatro HD	75.146 26%	
2	Altres	67.489 25%	Altres	68.903 24%	
3	Super3_33	43.745 16%	Super3_33	44.902 16%	
4	antena3 HD	18.231 7%	BTV	20.706 7%	
5	Cuatro	17.336 6%	antena3 HD	20.339 7%	
6	BTV	16.779 6%	Cuatro	17.413 6%	
7	3_24	11.603 4%	3_24	12.155 4%	
8	DKISS	4.968 2%	DKISS	5.965 2%	
9	Programa 4	4.605 2%	BeMad tv HD	5.233 2%	
10	BeMad tv HD	4.146 2%	7Discovery MAX	4.598 2%	
11	7Discovery MAX	3.947 1%	Programa 4	4.385 2%	
12	TV3HD	3.921 1%	TV3HD	4.187 1%	
13	Esport3	3.919 1%	Esport3	4.172 1%	

Channel 3

Channel 4

CCMA – Big Data - HbbTV lessons learned

- **HbbTV → Channel Analyzing (3/3)**
 - Regionalization of SmartTV devices
 - Channel list allows extract information about regionalization
 - Allows 'region fragmented' audience analysis
 - IP geolocalization is discarded because of high error rate
 - Catalonia divided in different areas
 - (1) Barcelona metropolitan area
 - (2) Osona
 - (3) Bages i Berguedà
 - (4) Tarragona i Reus
 - (5) Terres de l'Ebre
 - (6) Comarques Lleida
 - (7) Vall d'Aran i Pirineu
 - (8) Gironés, Pla de l'Estany i Empordà
 - (9) Garraf i Penedès
 - (10) Ripollès i Garrotxa
 - (11) Balears.

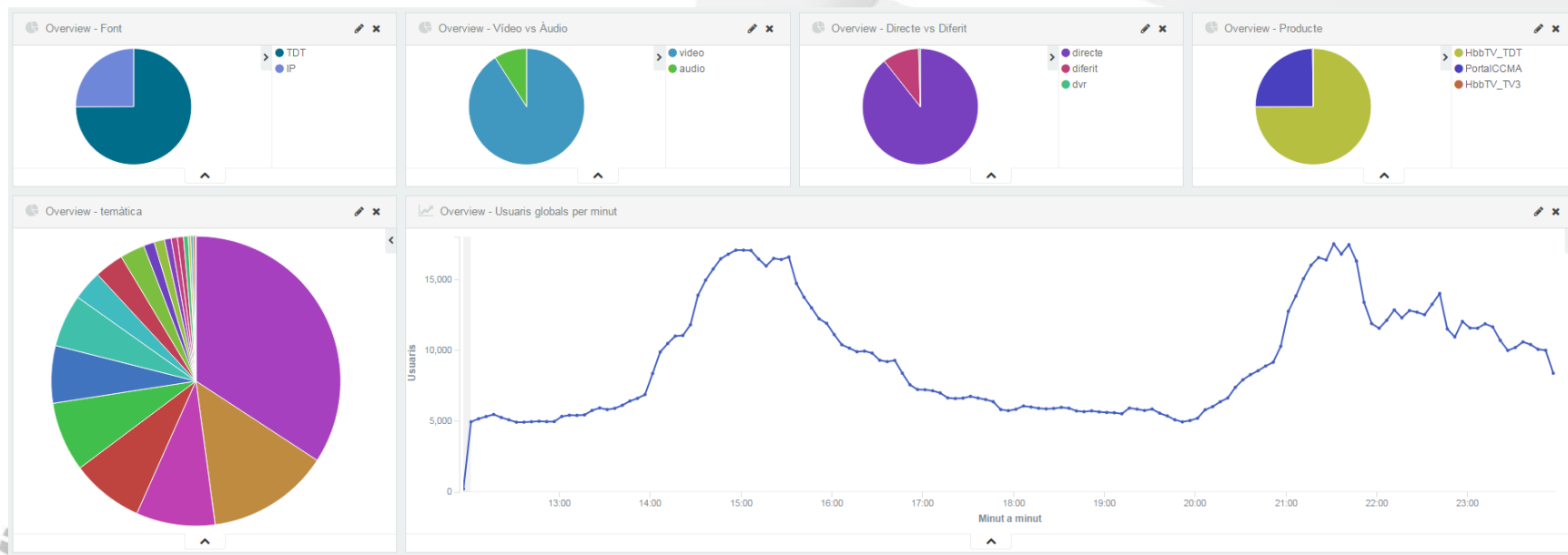


CCMA – Big Data - HbbTV lessons learned

- **HbbTV → Real-time audience analysis**
 - Traditional DTT audience measurement is not Real-Time
 - HbbTV allow broadcasters to gather real-time data from SmartTV's
 - Audience Analysis based on ONID, TSID & SID parameters extracted from multiplex data allows:
 - Audience based on unique devices. Unit precision
 - Audience per channel, SD & HD (as TV3 is simulcast broadcast)
 - Audience synchronized with real-time program scheduler
 - Audience by thematic
 - Added Audience (DTT, HbbTV app & VoD)
 - Audience 'region fragmented'

CCMA – Big Data - HbbTV lessons learned

- HbbTV → Real-time audience analysis



CCMA – Big Data



- **HbbTV & data gathering – Regulation**
 - **Directive 2009/136/EC** of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (...)
 - **Regulation (EU) 2016/679** of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

CCMA - Big Data – HbbTV projects

- **CCMA Projects in Progress**
 - HbbTV VoD service “TV3alacarta” Recommendation
 - Based on multiple-source data ingested and analysis, that will allow to improve the knowledge of individual users, the system will allow a precise and appealing recommendation of audiovisual contents (VoD) to the end user.
 - Login project
 - Logged “TV3alacarta” users will have a better experience with multi-device recommendation to consume the best content for every owned device, with engaging added features.

CCMA – Big Data - HbbTV future projects

- **CCMA is working on new project proposals**
 - **TVInterest Project** – TVInterest apps on SmartTVs, mobile devices and desktops offer users links to relevant content on one device for what they are consuming on another synchronized device, while retaining memory of the backlinks (e.g. the original TV program scene).
 - **PICAE Project** – Project to recommend the most appropriate content to a user according to different parameters (history, location, device, ...) in audiovisual and publishing environments (ex. Catalan encyclopedia)

CCMA

- Interactive Services
- Big Data - HbbTV
 - Ingest
 - Projects
 - HbbTV Lessons Learned
 - European Regulation
 - New projects
 - Future projects

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Chronological History of Big Data:

<http://www.winshuttle.es/big-data-historia-cronologica/>