End-user consumption

Introduction to OCEAN requirements

Joint EBU – OCEAN Workshop on Internet Content Delivery
EBU Headquarters, Geneva, 7 September 2010

www.ict-ocean.eu

Agenda

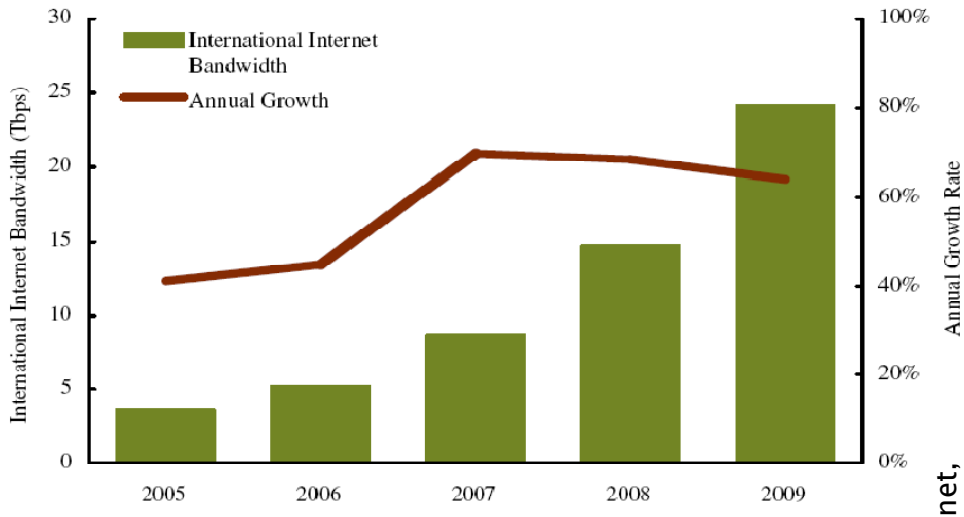
- Introduction on Internet traffic and video habits
- Analysis of the 5 use cases selected in OCEAN
- Discussion

Introduction

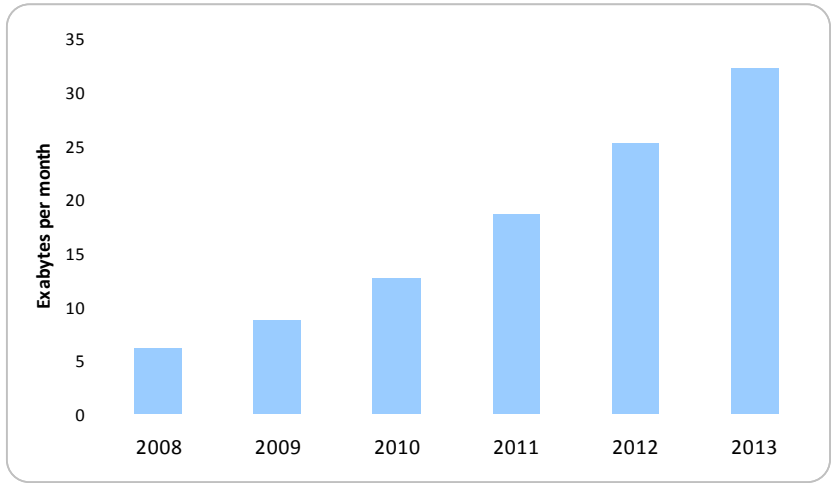
Overall Traffic Evolution

- Growth of global traffic is huge
  - between 45 (Arbor) to 75% (Level3) according to different sources (average at 50 to 60%)
- Online video (on PC) is growing even faster
  - Above 100% for video

International Internet bandwidth evolution



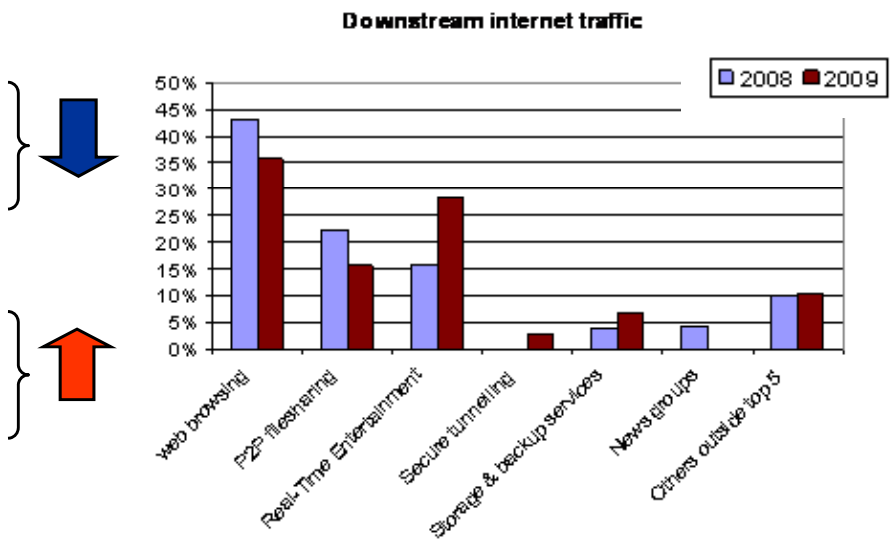
Open Internet traffic in EB per month



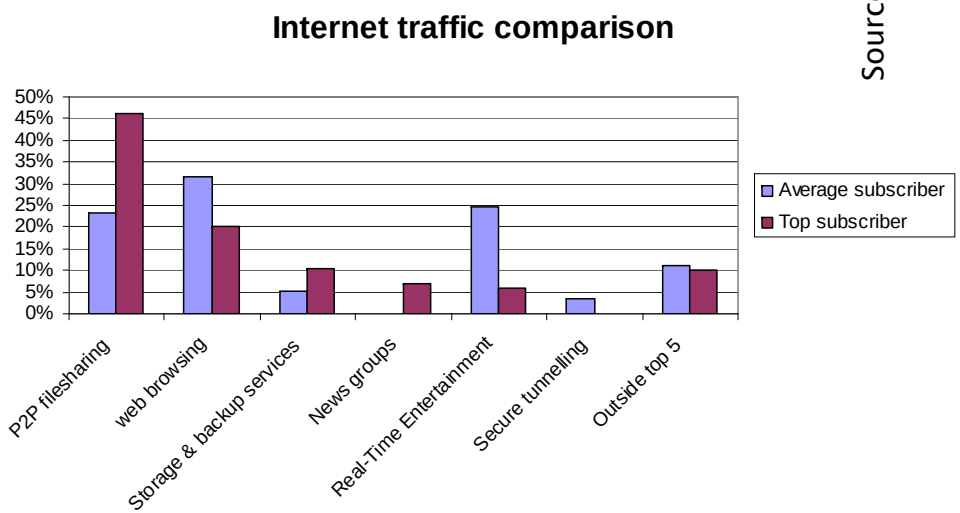
Source. Telegeography State of the Internet, Cisco Visual Networking Index

Evolution of consumer habits

- Disparate growth of internet traffic from 2008 to 2009 (in relative share of traffic)
  - Web browsing
  - P2P file sharing
    (but both still growing in absolute value)
  - Real time Entertainment (mostly video)
  - Secure tunnelling
  - Storage & back-up services
- Top user vs. average user: Digital divide
  - 1 top user = 200 average users (in data consumption)
  - Different usage of techniques according to user profiles
- Video to represent 70% of Internet traffic by 2013 (Cisco)
  - Currently between 25 to 35% of traffic

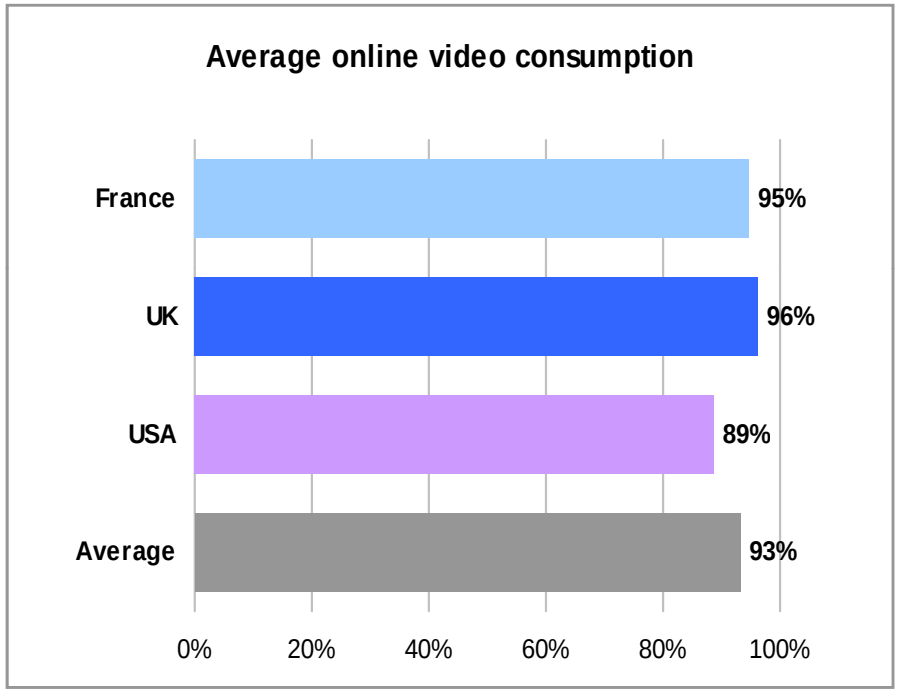


Source. Sandvine



Online video consumption

- Online video has now hit mainstream, with over 9 Internet users out of 10 watching videos on their computer in average



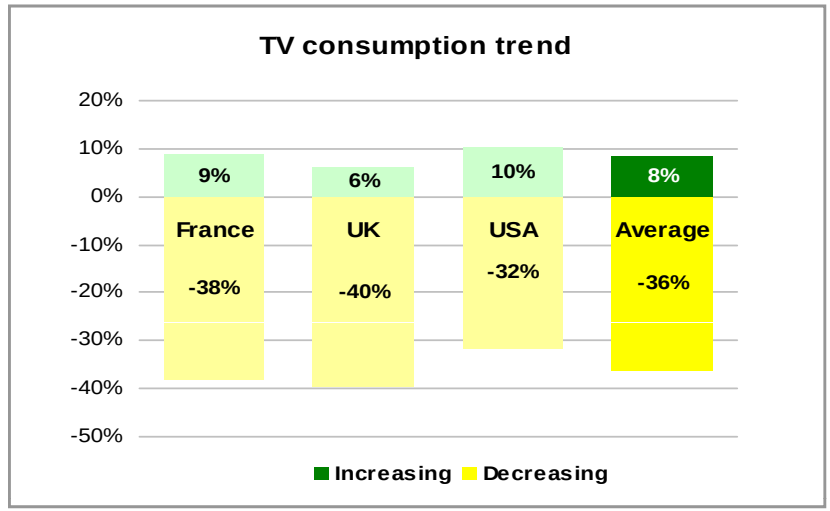
Base: whole sample, n=1 200, based on the results of the 5 use cases

Do you watch videos on a computer, at home or elsewhere?

Source. End-user demand survey. OCEAN project. June 2010.

TV consumption

- In average, people think that the time they spend in front of television is decreasing
  - This trend is the most important in the UK, followed by France and the USA
- In reality, TV audience is almost flat
  - But gives some insights on the perception of users (underestimation of time of consumption)



Base: people who have a TV set at home, n=1 146

For you, is the time you spend watching TV...?

Source. End-user demand survey. OCEAN project. June 2010.

OCEAN Use cases

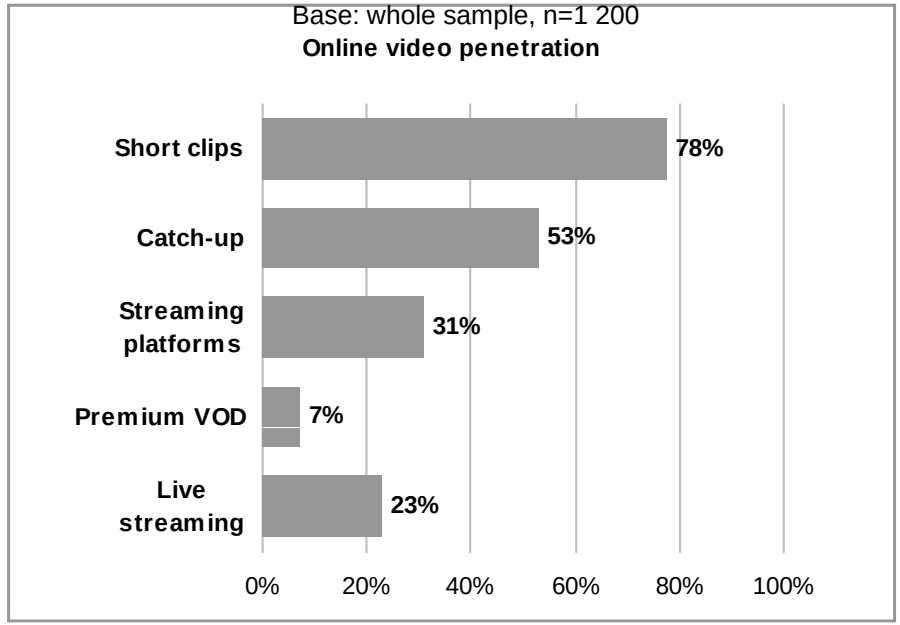
5 Use cases for OCEAN

- Use Case 1 : Free short clips
  - Eg : YouTube, Facebook, etc…
- Use Case 2 : Catch-up TV
  - Eg : BBC iPlayer, M6 Replay, Hulu, 4oD,
- Use Case 3 : Streaming Platforms
  - Eg : Megavideo, …
- Use Case 4 : Premium VOD
  - Eg : Netflix, CanalPlay, Lovefilm, etc…
- Use Case 5 : Live streaming
  - Eg : Olympics, Justin.tv, ESPN3, etc…

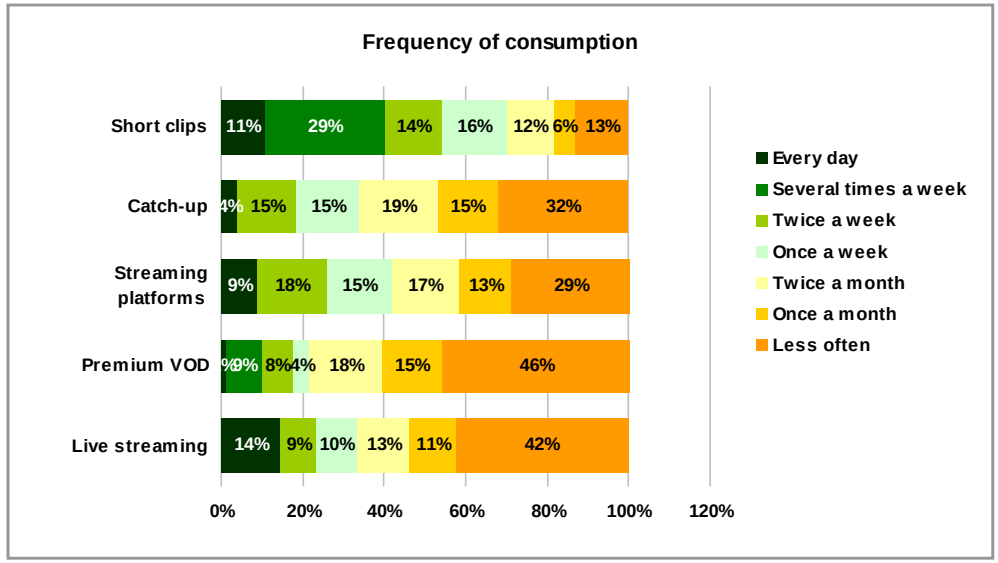
- Reasons for selection
  - Scalability issues : Overall level of current or expected traffic (large number of users and/or generating a lot of traffic)
  - QoS : Important requirements in terms of QoS
  - Adapted business models, especially transaction-based models with more potential

Overall penetration of services

- Penetration per use case (usage in the last year)
  - Short clips = mainstream usage
  - Catch-up growing fast
  - Other are still niche, corresponding to some type of content and/or users only



- Frequency very different per use case
  - Some services are almost not used by half of users

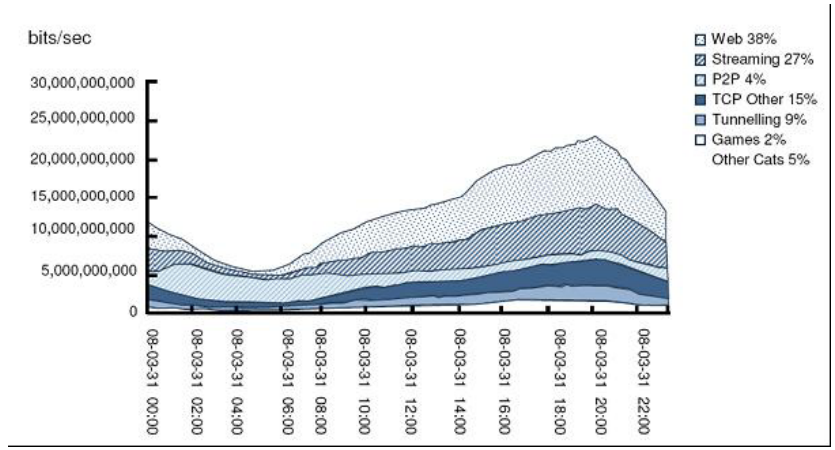


Source. End-user demand survey. OCEAN project. June 2010.

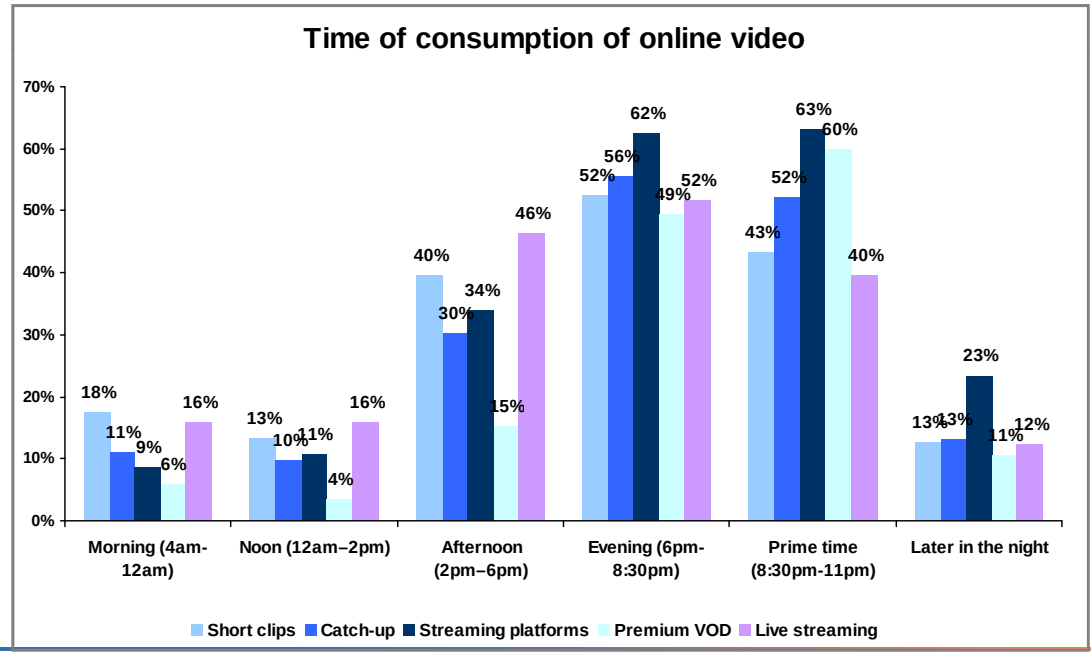
Time of consumption

- Different peaks of traffic for Internet, TV and online video
  - But online video more and more consumed in traditional TV primetime or access primetime
  - Major exceptions : live (often in afternoon), streaming platform (important use in the night)

Traffic during the day



Source: TalkTalk



Source. End-user demand survey. OCEAN project. June 2010.

Base: for each use case, people consuming such videos

Do you usually watch online videos...?

Nature of video content

- Types of video viewed
  - Different catalogues of online video
  - Different interests per use case

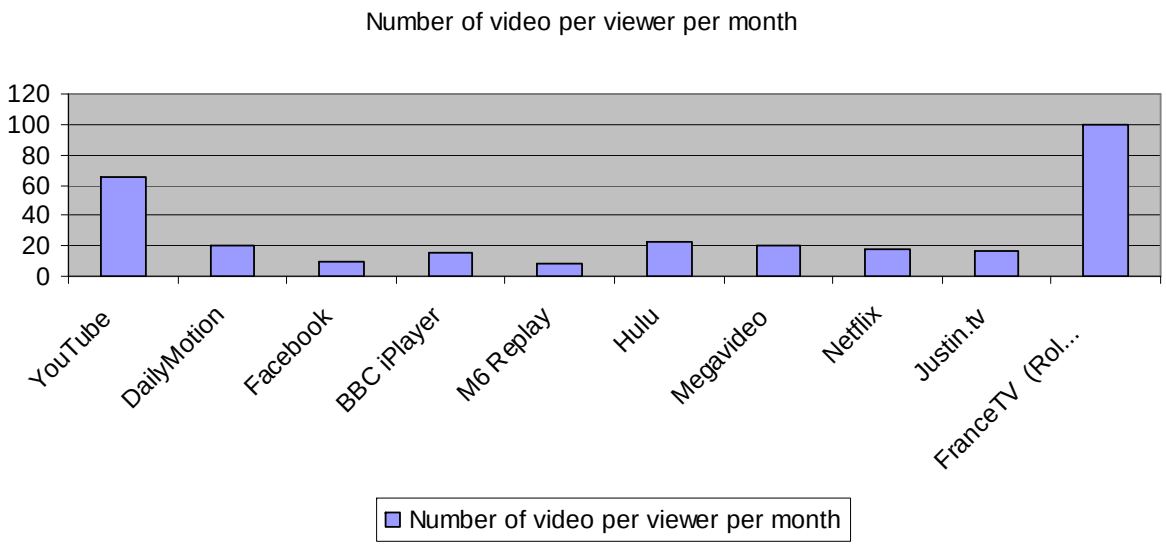
Use case	Very popular (at least 50% of users)	Popular (at least 30% of users)	Other content with significant usage
Free short clips	Comedy, entertainment	Music, Trailers	News, Sports
Catch-up TV	TV Series	Documentaries	Reality TV
Streaming platforms	TV Series	Movies	
Premium VOD	Movies	TV series	Sports (UK only)
Live streaming	Sports	News	TV Series

Source. End-user demand survey. OCEAN project. June 2010.

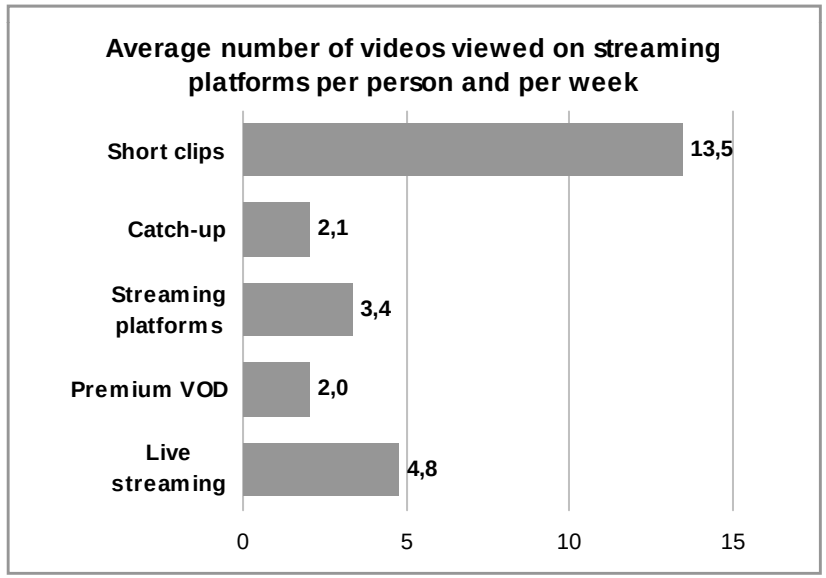
Video consumption

Number of videos

- Number of videos viewed
  - Real number of videos from 6 to above 100 per service
  - Perception seems close to traditional metrics
    - But takes in account only one provider
    - Underestimated by end-users



Source. Comscore, Nielsen, providers

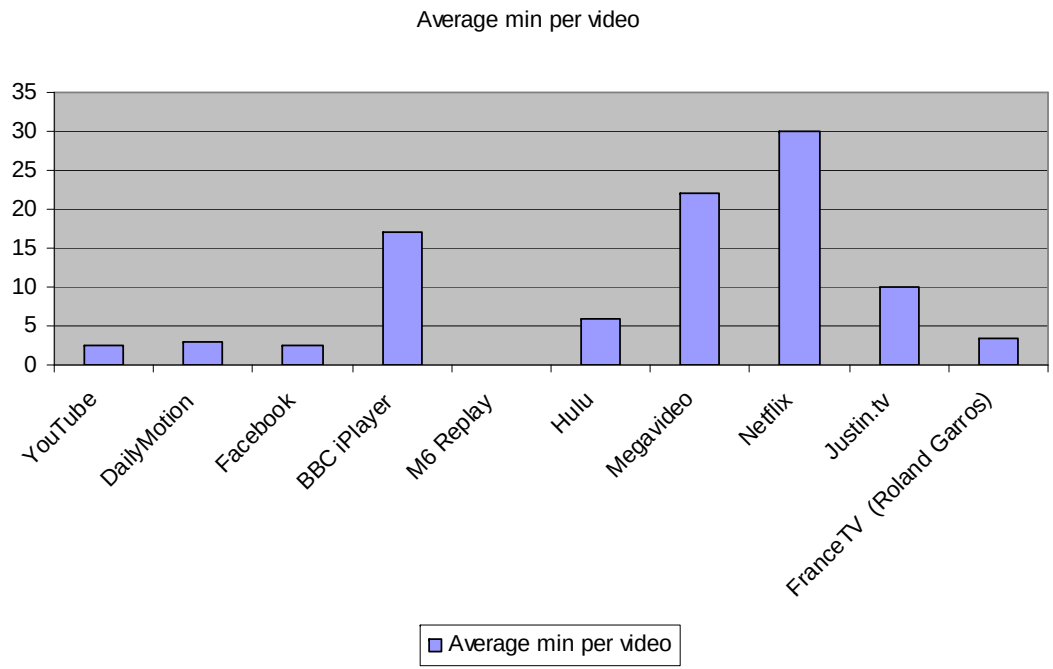


Source. End-user demand survey. OCEAN project. June 2010.

Video consumption

Time of consumption

- Time of videos viewed
  - Minutes per video ranging from 2 minutes to 30 minutes
  - Perception of end-users ranging from 6 min to almost an hour on average
    - Huge bias (x2 to x3)! Viewers not taking in account very short videos stopped very early
    - Bias in Hulu measurement ?



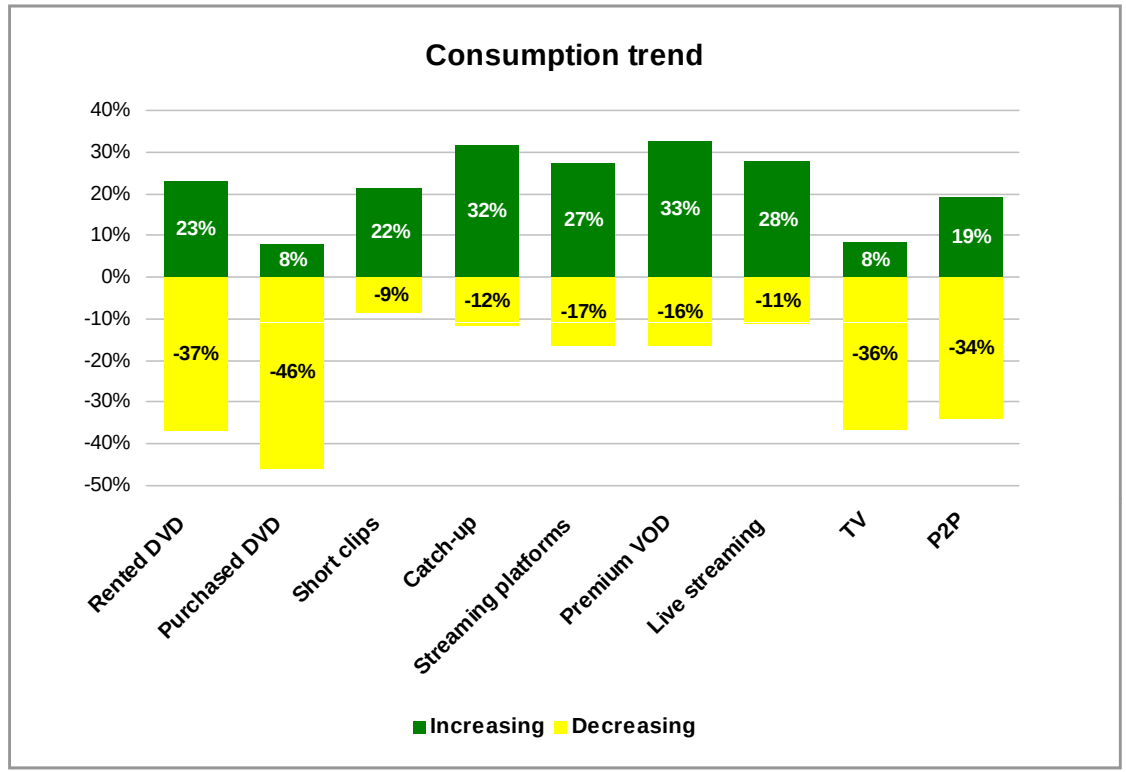
Source. Comscore, Nielsen, providers

Source. End-user demand survey. OCEAN project. June 2010.

Evolution of usage

Trends

- Consumption trends
  - More and more usage on online video, especially catch-up TV and premium VOD
  - Traditional video (TV and DVD) declining
  - P2P also declining (Hadopi effect)

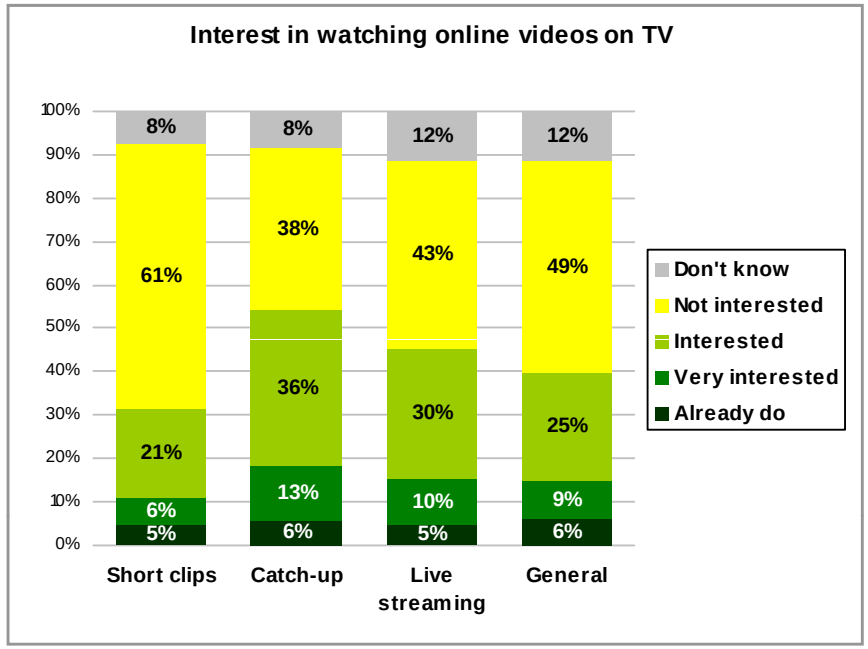


Source. End-user demand survey. OCEAN project. June 2010.

Evolution of usage

Internet TV

- Internet TV interest
  - More interest for catch-up content
  - Around 6% of the persons interviewed already watch online videos on their television
  - These persons watch online videos on their television instead of watching them on a computer mostly for the following reasons
    - They can watch them with other people (almost two thirds of them)
    - They find it more comfortable (more than half of them)
  - Less than 2 persons out of 5 watch online videos on their television because they find the display better on television



Base: people who have a TV set at home, n=1 136

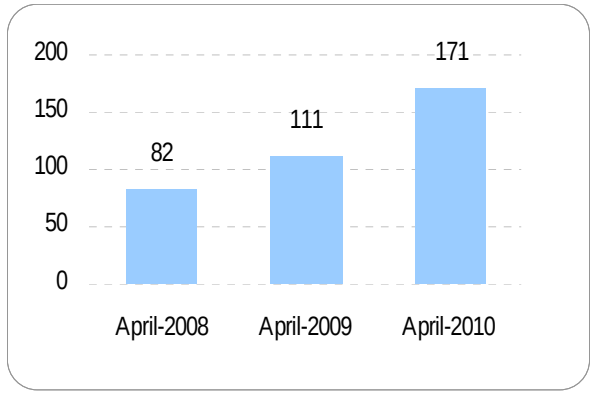
Would you be interested in accessing online videos on your TV set?

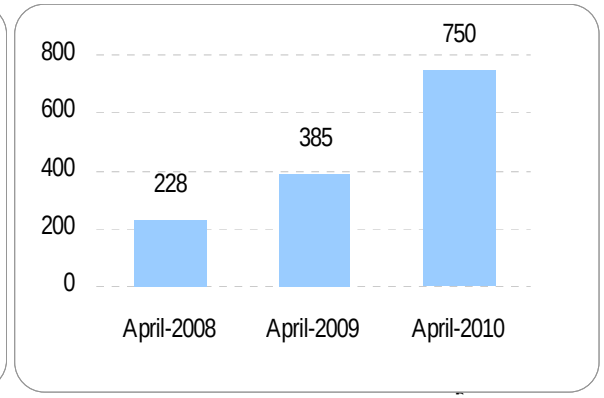
Source. End-user demand survey. OCEAN project. June 2010.

Evolution of traffic

- Past trends showing fast growth
  - More users watching videos
  - Number of videos x2 per user in 2 years
  - Overall time per user x3 in 2 years
- Many key factors behind traffic evolution
  - Higher encoding bitrates (especially for Internet TV in the medium term)
  - Higher consumption per user
  - Availability of new contents
- YouTube not growing anymore in the US on metrics (but not on traffic)

Videos viewed per user and average time of video per user in the USA





Service Use Case	Overall growth (2010-2015)
1 - Free short clip	+ 40-50%/year
2 - Catch-up TV	+ 60- 70 %/year
3 Streaming Platforms	+60%/year
4 - Premium VOD	Above 100%/year
5 - Live streaming	+ 100%/year

Source. "Preliminary Requirements for OCEAN" OCEAN Milestone MS2.1. May 2010.

Open Questions for Discussion

- Feedback of providers on their service usages
  - Similar metrics ?
  - Similar usage (time, place, content nature, etc…)?
- Comments on results
- Overall expected evolution
  - in volume ? (number of users, overall time, etc…)
  - in minutes per video?
  - in number of videos per user (per provider or use case)
  - in traffic ?
  - Internet TV?
- Key trends for development of usage?
  - Recommendation systems
  - EPG
  - Multi-view
  - HD/3D
  - Push VOD

Ocean

Q&A

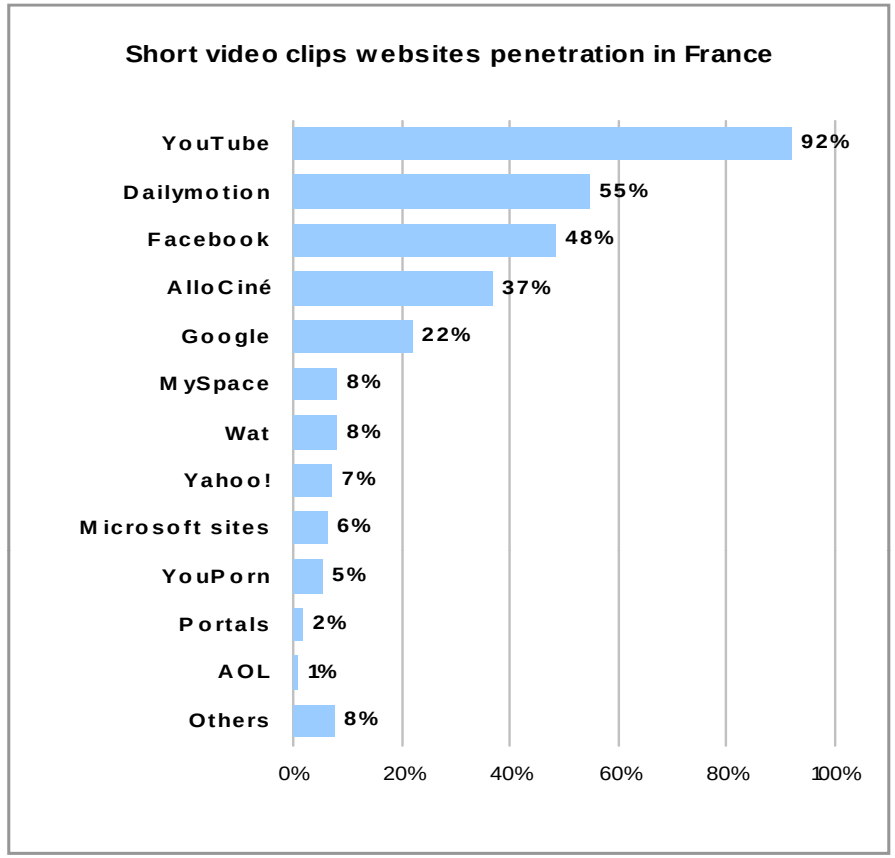
Back-up

OCEAN Use cases

Detail on Use case 1 : Free short clip

Free short clips

- The real mainstream offering
- Top players (in penetration)
  - YouTube (by far)
  - DailyMotion, only in France
  - Facebook
    - Becoming a major player very recently
    - … But already #2 or #3 in penetration
  - Yahoo! and Microsoft to a lesser extent
    - More time spent and videos per user than Facebook but less video users
- Top content
  - Comedy, entertainment, music, trailers
  - News, personal content to a lesser extent



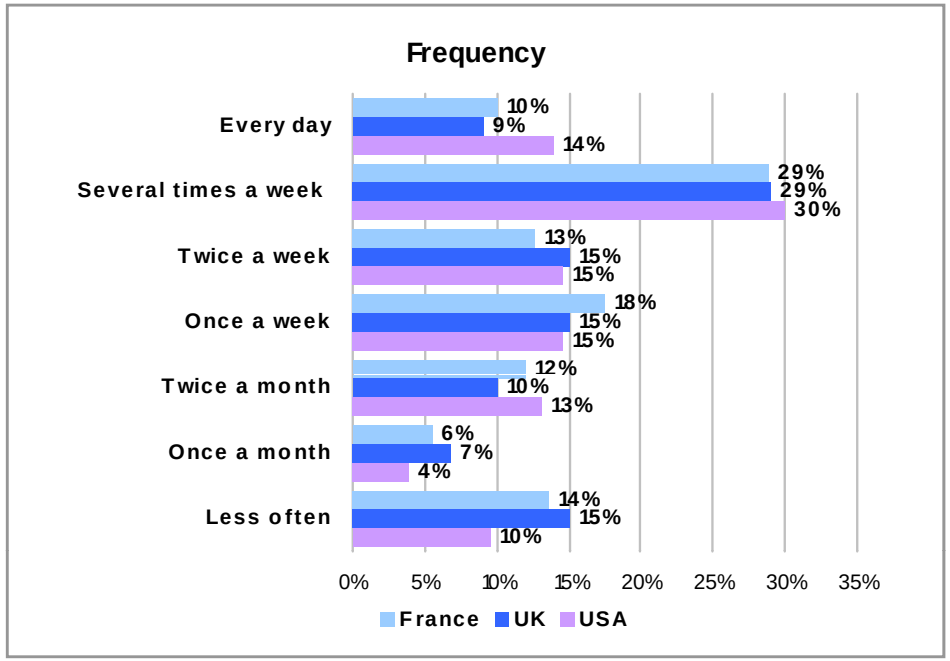
Base: French people watching short video clips online, n=317

On which websites do you watch short videos?

Free short clips

Consumption of services

- Very short content
- A lot of videos per viewer for traditional services
  - Less intensive on Facebook
- In average, almost every day

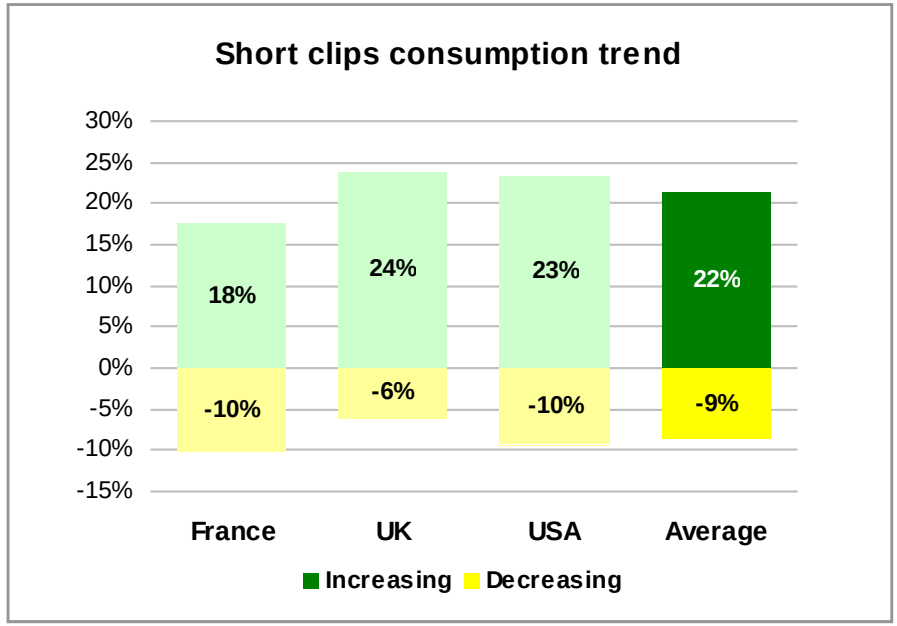


Consumption of services

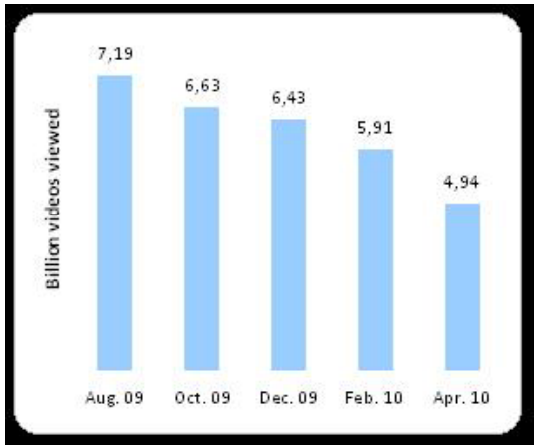
	Average per video	Number of video per viewer per month
YouTube	2 to 3 minutes	55 in the US, 80 in France
DailyMotion	3 minutes	25 in France (15 worldwide)
Facebook	2 to 3 minutes	6 (USA) to 15 (France)

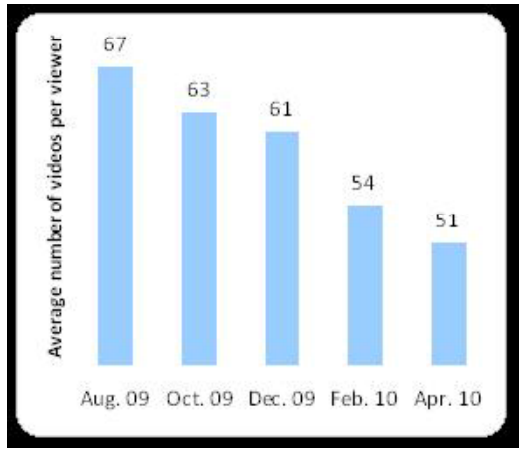
Free short clips

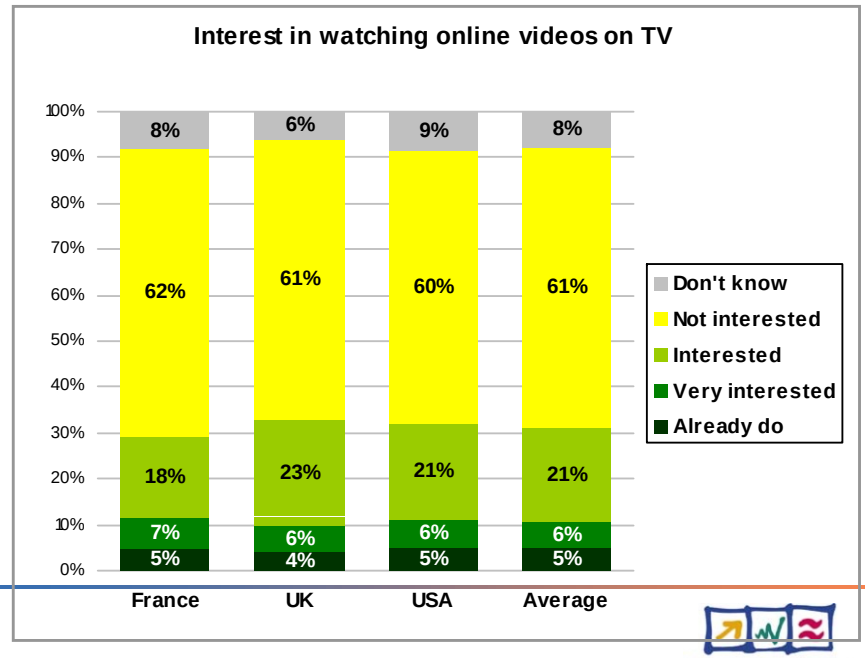
- Evolution
  - Still growing, but a slower pace than other forms of video
    Youtube declining in the USA ?
  - Some interest for Internet TV, but clearly more limited than for other contents



YouTube in the USA







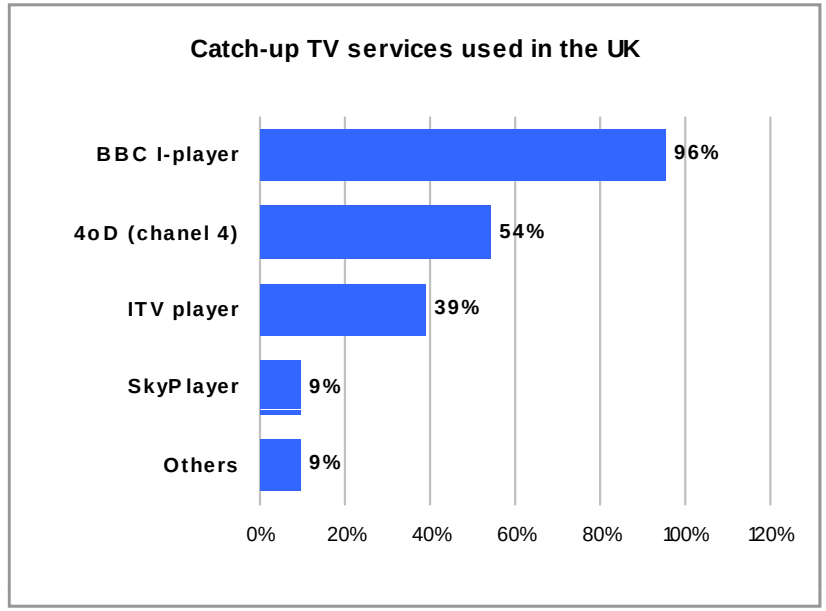
Source: Nielsen

OCEAN Use cases

Detail on Use case 2 : Catch-up TV

Catch-up TV

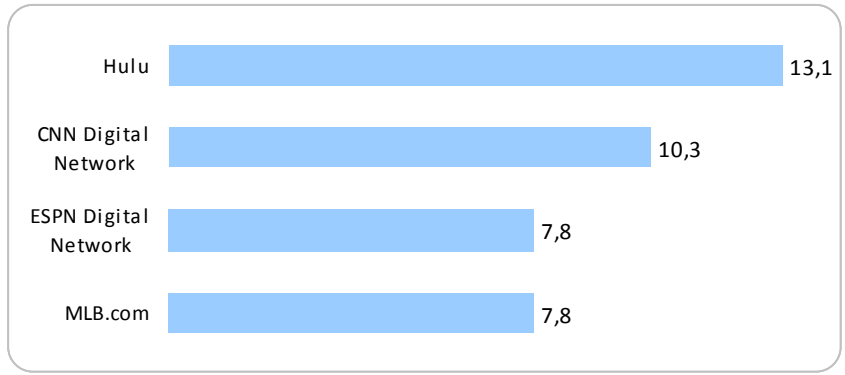
- Almost mainstream
  - Already the case in the UK
- Top players (in penetration and overall time)
  - BBC is by far the reference in the UK
  - Top TV providers (but not with the same ranking than broadcasters like M6 in France)
  - Hulu leading in the USA
    - Challengers are specialized rather than generalists (ESPN, MLB, etc..)
- Top content
  - TV series
  - Documentaries (except in the US)
  - Reality TV, sports (in the UK) to a lesser extent
  - Around 50% of the TV programs available in catch-up



Base: British people who watch catch-up TV online, n=288

On which websites?

Top catch-up in the USA (April 2010)



Source: Nielsen

Catch-up TV

Consumption of services

- Medium lenght content (Bias in Hulu measurement)
- Many videos per viewer
- More in access primetime than primetime

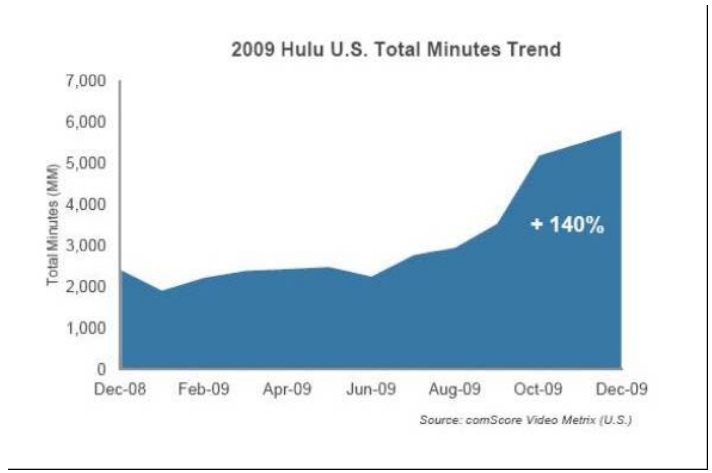
- Overall more time per viewer on catch-up TV than on Youtube (especially BBC users)

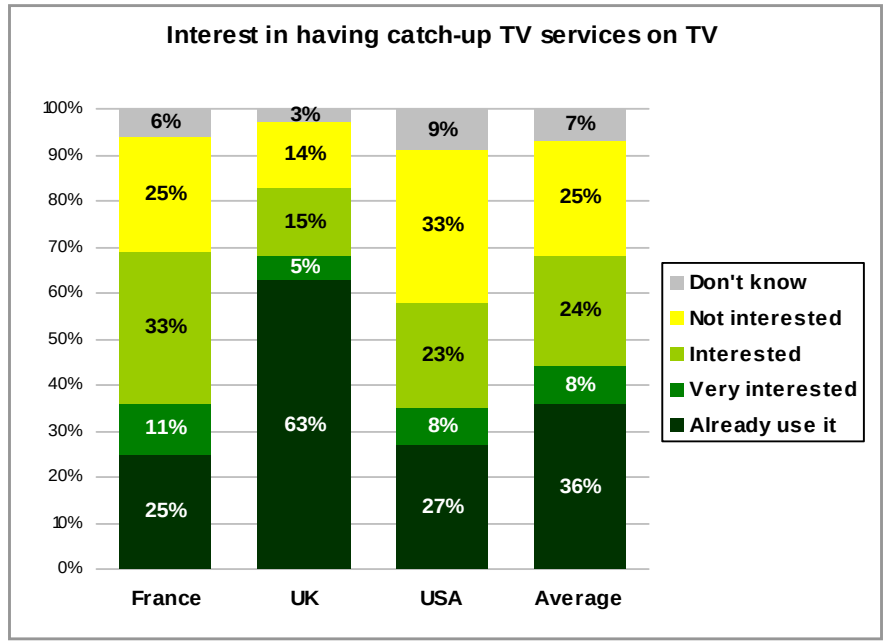
Consumption

	Average per video	Number of video per viewer per month
BBC iPlayer	17 minutes	16 (UK only, but both PC and TV set)
M6 Replay	N/A	8 (France only)
Hulu	6 minutes	23 (USA only)

Catch-up TV

- Explosive growth on PC
- Strong potential for migration to the TV set
  - UK setting the tone





Base: people who get IPTV (cable or DSL) or have a connected TV, n=701

Would you be interested in having direct access on your TV set to TV programs previously broadcasted?

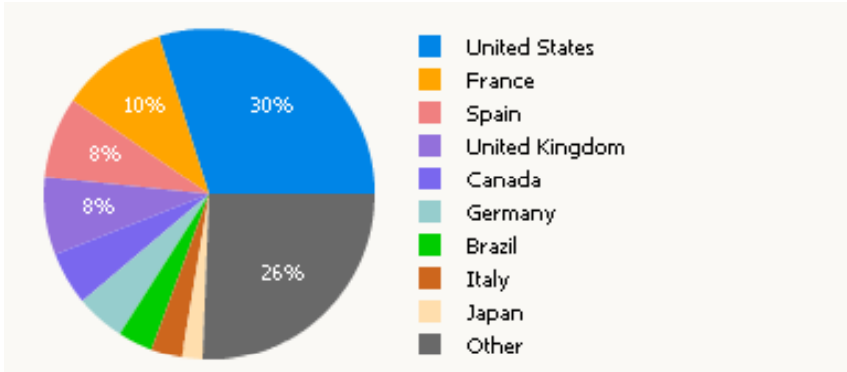
OCEAN Use cases

Detail on Use case 3 : Streaming platforms

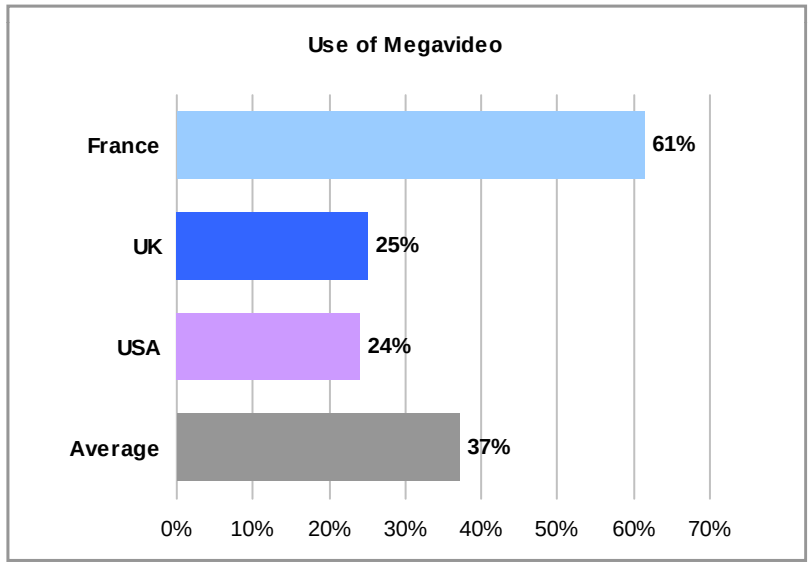
Streaming platforms

- Emerging as a major type of video
  - Still used only by a subset of users
- Top players (in penetration and overall time)
  - Megavideo, already very popular in France (HADOPI effect)
- Top content
  - Mostly infringed content
  - TV series very popular
    More adapted to the time limitation
  - Movies
  - Documentaries to a lesser extent

Geographical distribution of Megavideo users



Megavideo use by streaming platform users



Base: people using streaming platforms, n=372

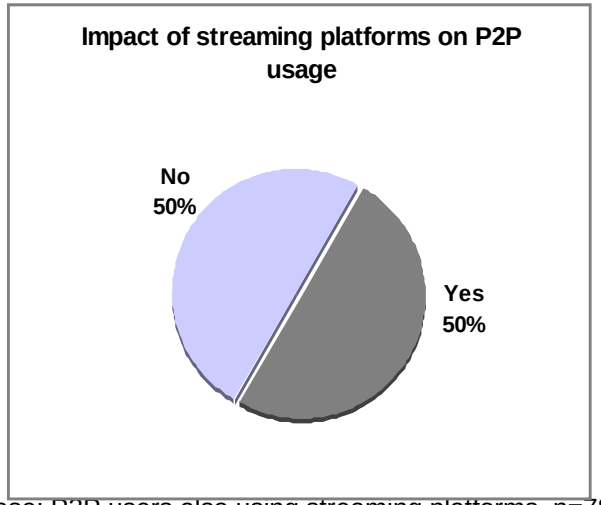
Do you use the Megavideo website?

Streaming platforms

Consumption of services

- Long content
  Shorter than VOD (time limit)
- A few videos per viewer (except in France)
- Higher level of usages in primetime and later in the night than other services

- Getting bigger
  - Overall more time per viewer on Megavideo than on Youtube (in US or France)
  - More overall time than Dailymotion for French users !
  - Transfer from P2P



Base: P2P users also using streaming platforms, n=78

Since you use streaming platform services, have you reduced your usage of peer-to-peer services (such as Emule, Bitorrent)?

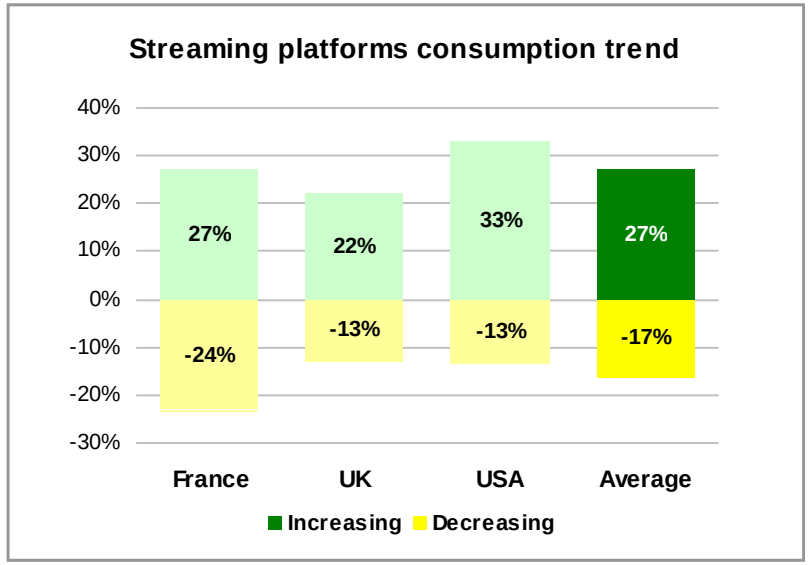
Consumption of Megavideo

	Average per video	Number of video per viewer per month
Megavideo	20 to 25 minutes	38 in France (6 in the USA)

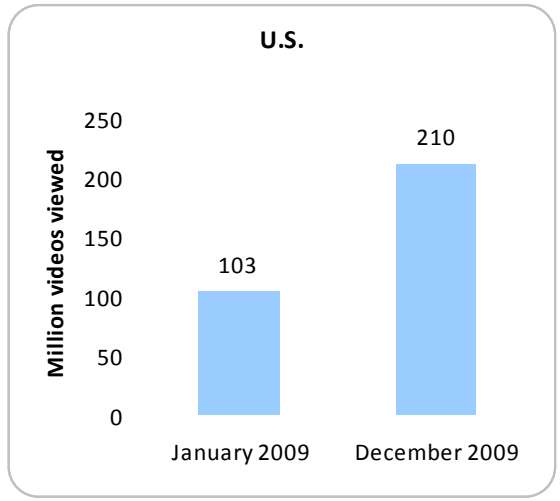
Streaming Platforms

Evolution

- Growth still expected, except in France (already widely developed)
- A few users moving gradually to premium accounts
  - Getting rid that way of time limits



Evolution of Megavideo in the USA

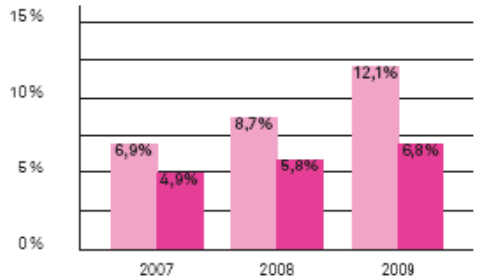


OCEAN Use cases

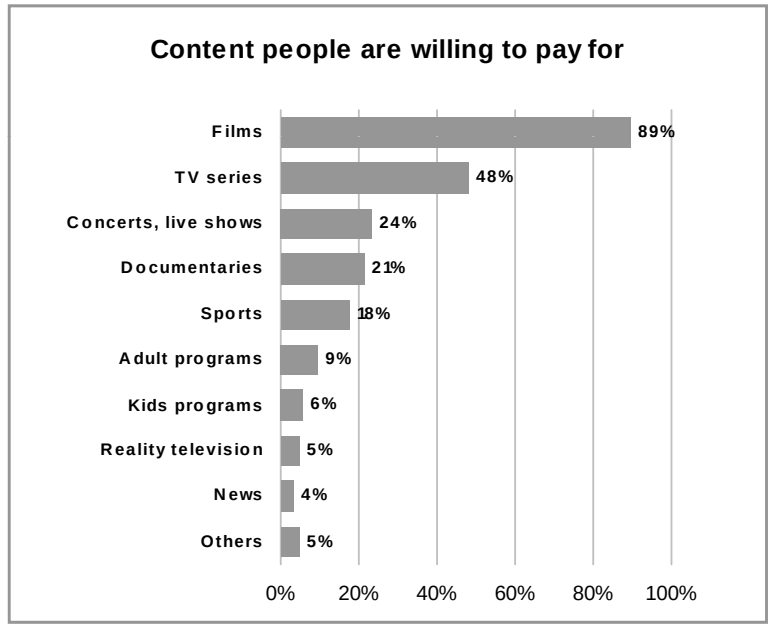
Detail on Use case 4 : Premium VOD

Premium VOD

- A niche on PC
  - More popular on the TV set (but still small)
- Top players (in penetration)
  - Netflix in the US
    Only VOD player in the top 20
  - Stores of TV channels (CanalPlay, BBC, etc…)
  - A few other retailers like Fnac, Blockbuster, iTunes, Amazon
- Top content
  - Movies
  - TV series to a lesser extent
  - Most people not ready to pay for other contents



E Évolution de la pénétration de la VàD payante (% d'internautes)
TVIP Internet
Source : CNC – Harris Interactive.



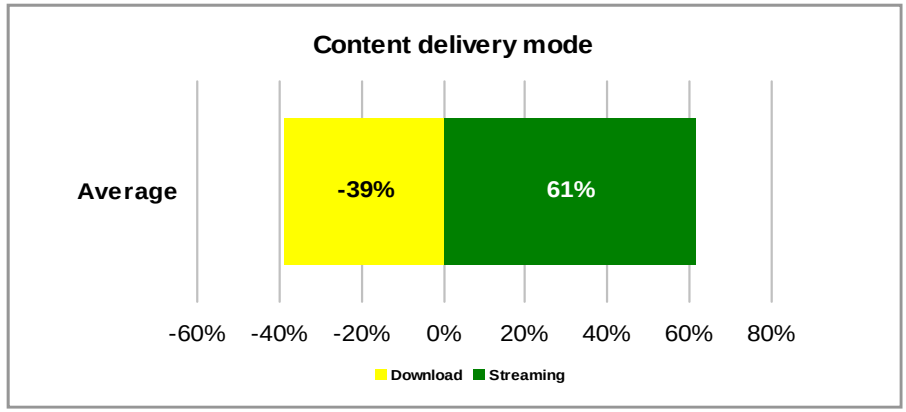
Base: people who use premium VOD services online, n=85

Which kinds of content would you be willing to pay for?

Premium VOD

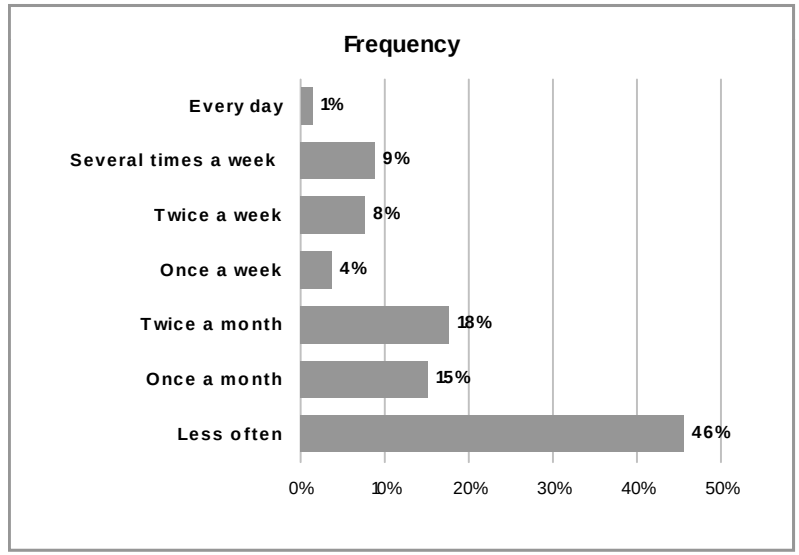
- Consumption
  - Long videos
  - During primetime (and access primetime to a lesser extent)
  - More streaming than download
    - Rental is anyway the dominant usage
  - Mostly less than twice per month
    - Netflix still an exception

	Average per video	Number of video per viewer per month
Netflix	30 minutes	18 (USA only)



Base: people who use premium VOD services online, n=75

Do you mostly download the videos or watch them in streaming mode (with immediate access)?

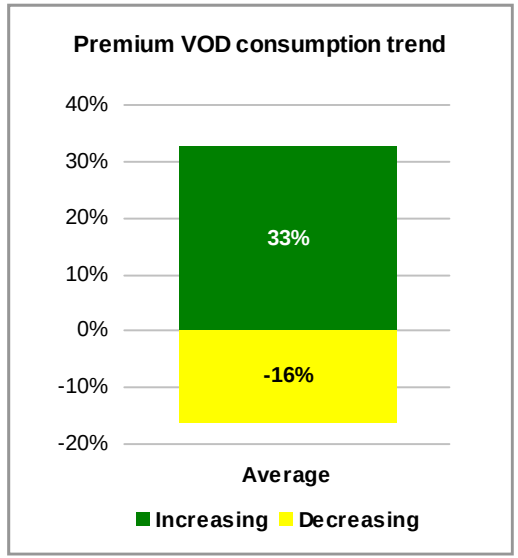


Base: people who use premium VOD services online, n=79

How often do you watch paid videos?

Premium VOD

- Moderate growth expected on PC



Base: people watching paid videos at least once a month, n=43

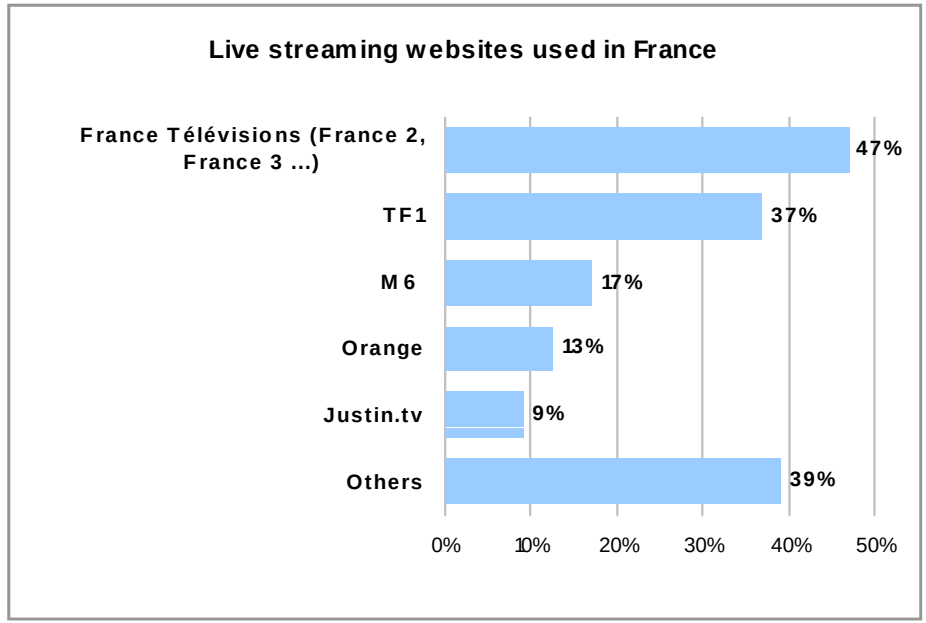
Is the time you spend watching paid videos increasing or decreasing?

OCEAN Use cases

Detail on Use case 5 : Live streaming

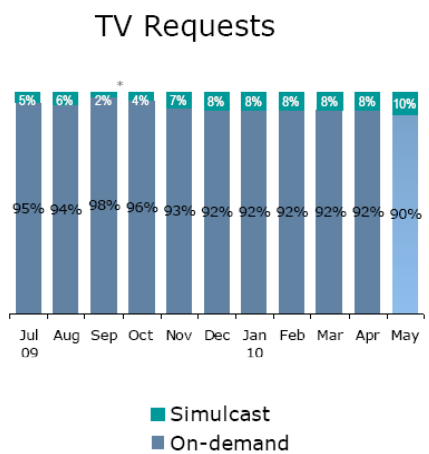
Live streaming

- Limited penetration
  - 140 000 viewers for 2009 Roland Garros
- Top players (in penetration)
  - TV broadcasters live channels, especially those broadcasting major sport events
    - BBC offering live also through iPlayer
  - Justin.tv competing with Tier2 players
- Top content
  - Sports, especially events with simultaneous games
  - News to a lesser extent



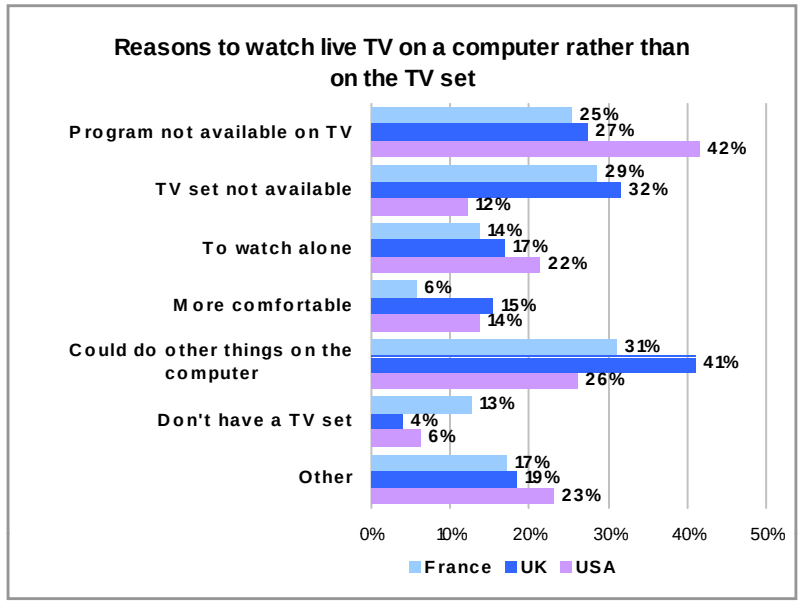
Base: French people watching live TV online, n=87

On which websites?



Live streaming

- Consumption
  - A lot of usage in the afternoon compared to other use cases
  - Short content (snacking and/or connectivity issues)
  - A lot of videos during a major event
    (but not many programs)
  - Significant time of use per month
  - Good solution if program/TV non available and also for multitasking



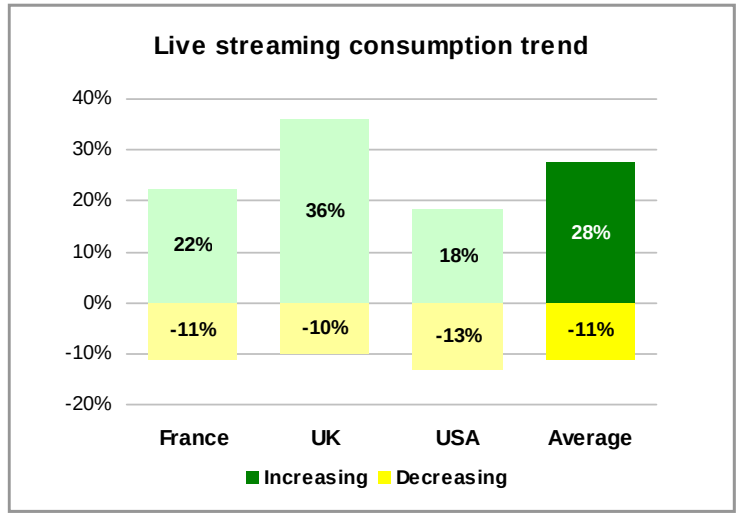
Base: people watching live TV online, n=276

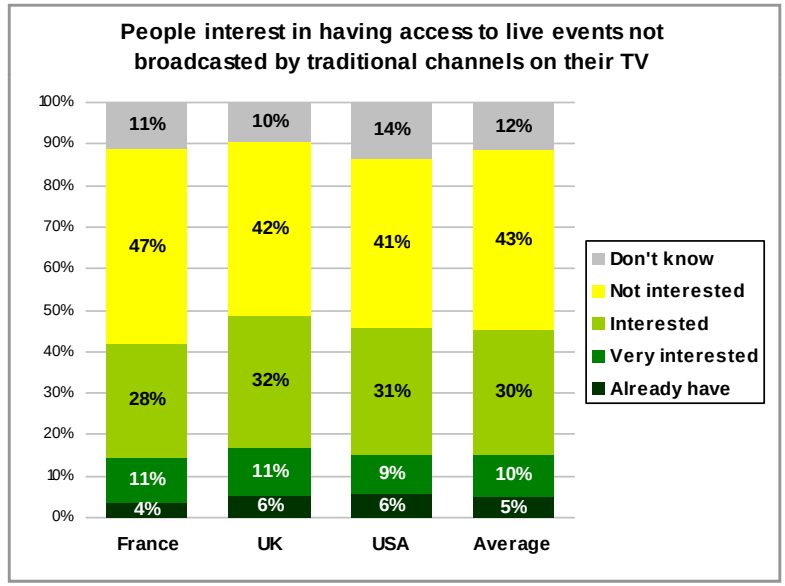
Why do you prefer to watch live TV on a computer rather than on your TV set?

	Average per video	Number of video per viewer per month
Justin.tv	10 minutes	17 (US only)
FranceTV (Roland Garros)	3 to 4 minutes	50 over 2 weeks (Roland Garros only), ie 40 to 80 min per day

Live streaming

- Strong growth in the UK
  - Where consumption is already high
- Clear interest to have access to more content





Base: whole sample, n=1 200

On your TV set, would you be interested to have access to live events not broadcasted on traditional channels, such as Olympic events?