

# International Standard Audiovisual Number

ISAN, the only ISO Identifier for audiovisual content



**ISAN**  
INTERNATIONAL AGENCY

INTERNATIONAL AGENCY

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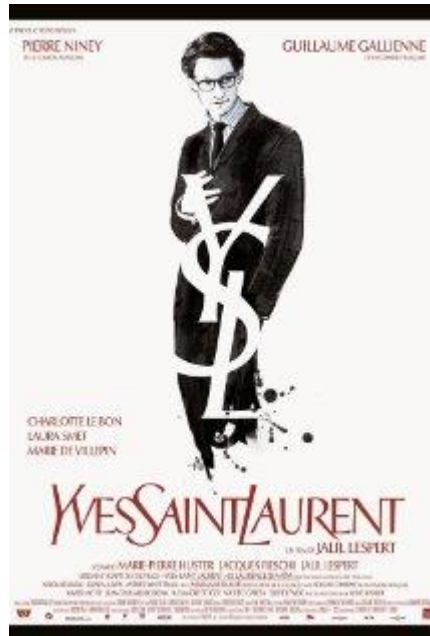
Tel.: + 41 22 545 10 00 Fax: + 41 22 545 10 40

Email: [regis.flad@isan.org](mailto:regis.flad@isan.org) [www.isan.org](http://www.isan.org)



## Why ISAN?

### Yves Saint Laurent



France  
Jalil Lespert

ISAN 0000-0003-7FF4-0000-U-0000-0000-L

2014

### Saint Laurent



France / Belgium  
Bertrand Bonello

ISAN 0000-0003-81D5-0000-E-0000-0000-W

## Why ISAN ?

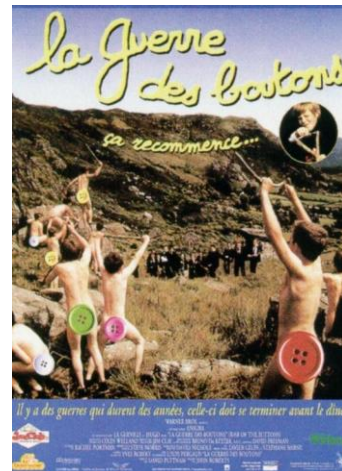
### La Guerre Des Boutons



**1961**

Yves Robert

ISAN 0000-0001-70CF-0000-9-0000-0000-A



**1994**

John Roberts

ISAN 0000-0000-3F04-0000-A-0000-0000-7



**2011**

Yann Samuel

ISAN 0000-0003-1021-0000-I-0000-0000-K

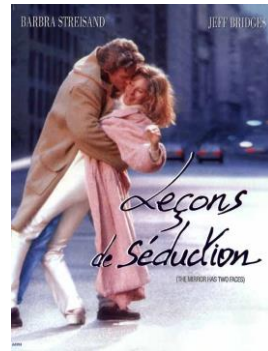
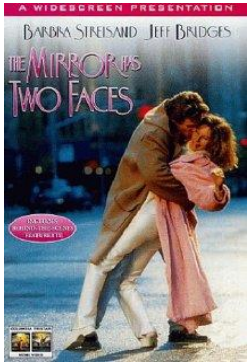
Christophe Barratier

ISAN 0000-0002-F2D8-0000-H-0000-0000-N

## Why ISAN?

### The Mirror has Two Faces 1996

ISAN 0000-0000-0BF1-0000-O-0000-0000-2



La Leçon de Séduction  
(France)

Le miroir a deux visages  
(Canada)



L'Amore ha Due Facce  
(Italy)

Lo Specchio a Due Facce  
(Switzerland)

### The Mirror has Two Faces 1958

ISAN 0000-0000-515A-0000-6-0000-0000-J



Le Miroir a Deux Faces  
(France)



Lo Specchio a Due Facce  
(Italia)



## Why ISAN?

# The Man Who New Too Much

**1934**

**Alfred Hitchcock**

**1956**



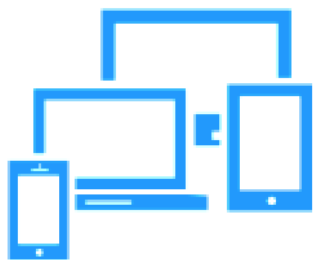
ISAN 0000-0000-50E4-0000-9-0000-0000-A



ISAN 0000-0003-F50B-0000-A-0000-0000-7

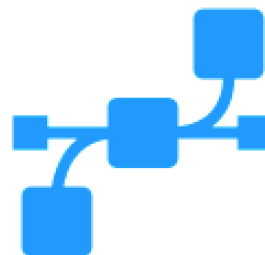
## Why ISAN?

### Three main trends are transforming the audiovisual market: Digitalization - Increase of Content - Multiplication of Stakeholders



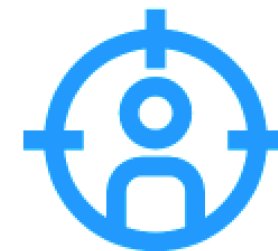
New consumption modes  
Streaming & Replay

6.4 screens per household in France\*  
65% of web surfers use VOD\*

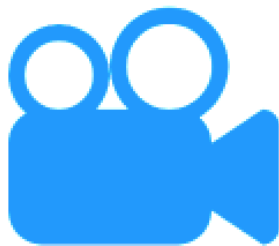


Multiplication of distribution channels

+49% of channels between 2009 &  
2015 in European Union \*



Audience fragmentation



Operators fragmentation

X2 #Production companies between 2000 & 2013 in France\*



Increasing number of digital native content

\*Sources: Médiamétrie, 2016, European Observatory of Audiovisual

## Why ISAN?

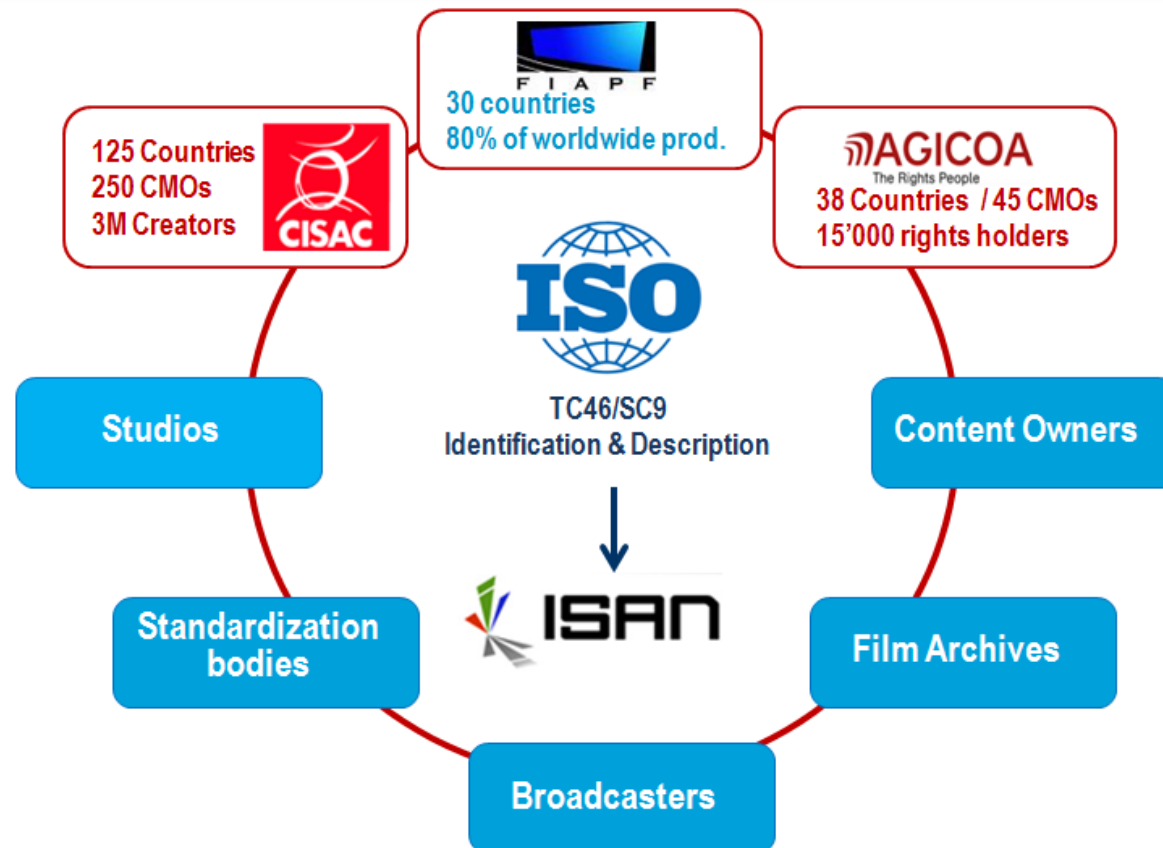
In the digital space, precise identification of audiovisual content is much needed:

- ✓ Automate digital audiovisual processes for content delivery, reporting, rights management...
- ✓ Help the content to meet its audience in digital distribution (discovery & suggestion)
- ✓ Collect and redistribute royalties to rights holders
- ✓ Help protecting content against piracy
- ✓ Aggregate fragmented sales information, perform analytics & market analysis
- ✓ Measure fragmented audience: TV, catchup, VoD, OTT, cinema, video ...

**ISAN helps to reduce errors and conflicts,  
ISAN brings efficiency and helps to save time & money**

# What is ISAN ?

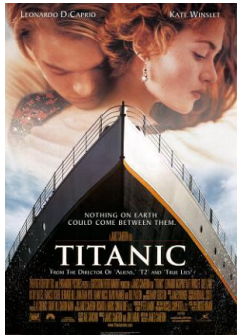
# International Standard Audiovisual Number





# ISAN applies to all audiovisual contents

## Works



## Versions of work

**Editing versions** : director's cut, localized, censored, ...

**Languages versions**: dubbing, subtitling, audio description...

**Media versions**: Digital files (VoD, OTT, EST), Digital Cinema (DCP), Blu-ray, DVD, Celluloid, Tape...

## Related content & related items

### Trailer



### Behind The Scenes



### Making Of



### Sound Track



### Closed Captions




### etc...



# One AV Work = One ISAN

## Core information

ISAN	0000-0001-68EC-0000-X-0000-0000-C 	
Type	Feature Film	Kind
Year of reference	2006	Year of 1st publication
Duration	90 MIN	
Colour	Yes	
Composite	No	

## Production information

Coproduction	No
Production companies	
Countries of reference	
Original languages	English

## Title information

Original	Language	Title
Yes	ENG	Casino Royale

## Participants information

Type	Firstname / Lastname
Producer	Barbara Broccoli
Producer	Michael G. Wilson
Director	Martin Campbell
Screenwriter	Neal Purvis
Screenwriter	Robert Wade
Actor	Daniel Craig
Actor	Judi Dench
Actor	Eva Green
Actor	Mads Mikkelsen
Actor	Jeffrey Wright
Scriptwriter	Paul Haggis



## Core information

ISAN	0000-0000-1C49-0000-4-0000-0000-P 	
Type	Feature Film	Kind
Year of reference	1966	Year of 1st publication
Duration	130 MIN	
Colour	Yes	
Composite	No	

## Production information

Coproduction	Yes
Production companies	Fam Artists Sa Famous Artists Prod
Countries of reference	United Kingdom
Original languages	English

## Title information

Original	Language	Title
Yes	ENG	Casino royale

## Participants information

Type	Firstname / Lastname
Producer	Jerry Bresler
Producer	Charles K Feldman
Director	John Huston
Actor	Woody Allen
Actor	Ursula Andress
Actor	W Holden
Actor	Deborah Kerr
Actor	David Niven
Actor	P Sellers
Actor	Orson Welles



# ISAN is linked to Metadata

**Original Title** + International Titles  
**Duration** (MIN / SEC)  
**Original language(s)**  
**Work Type** (Feature Film, Documentary, etc...)  
**Year of reference** (Copyright or production)  
**Country** (ies) of reference  
**Color Kind**  
 Year of first publication  
 Production companies  
 Full name of principal **director(s)**  
 Full name of **Cast** (actors scriptwriter, etc...)  
 External **IDs** (e.g. ISRC, UMID, EIDR, ...)  
 Work **Composites** (list of ISAN)  
**Episode #** (episodic works)  
**Season #** (eisodic works)

## 1 Work = 1 ISAN



Title: **Casino Royale**  
 Year: **2006**  
 Dir: **Martin Campbell**

?

=



Title: **Casino Royale**  
 Year: **1966**  
 Dir: **John Huston**

## ISAN is Unique – Global - Permanent



What is ISAN ?

# ISAN is a Global Standard Identifier



**Serie** 1234-5678-9101-0000-E-0000-0000-A

**Episode** 1234-5678-9101-0004-X-0000-0000-A

**Work** 1234-5678-9101-0000-E-0000-0000-A

**Version** 1234-5678-9101-0004-X-0000-00A1-Y

**URN:ISAN: 0000-0001-DB15-0000-X-0000-000C-N**

ISAN is a registered Namespace Identifier (NID) with IETF and IANA. ([IETF RFC 4246](#))

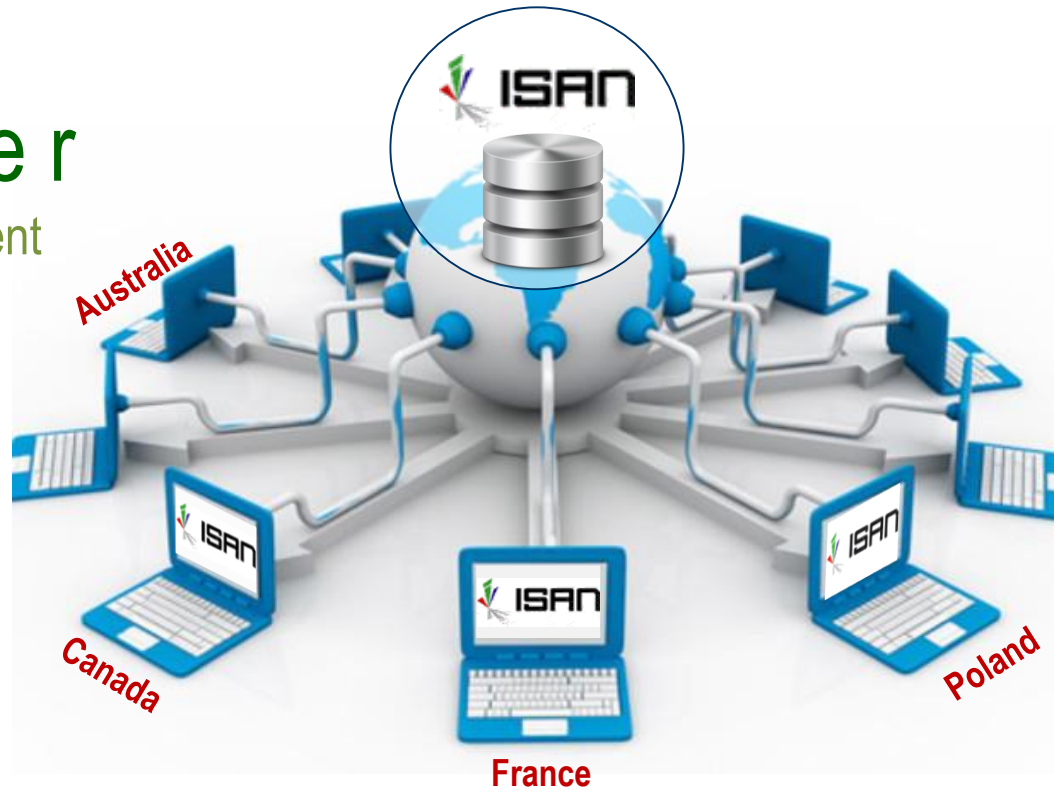


ISAN is operated by...

# A worldwide network of Registration Agencies

## Register

Audiovisual content



## Search Lookup

ISAN Identifiers

connected to the central ISAN registry







How does ISAN work?

# The producer\* creates the ISAN

\* or a trusted third party

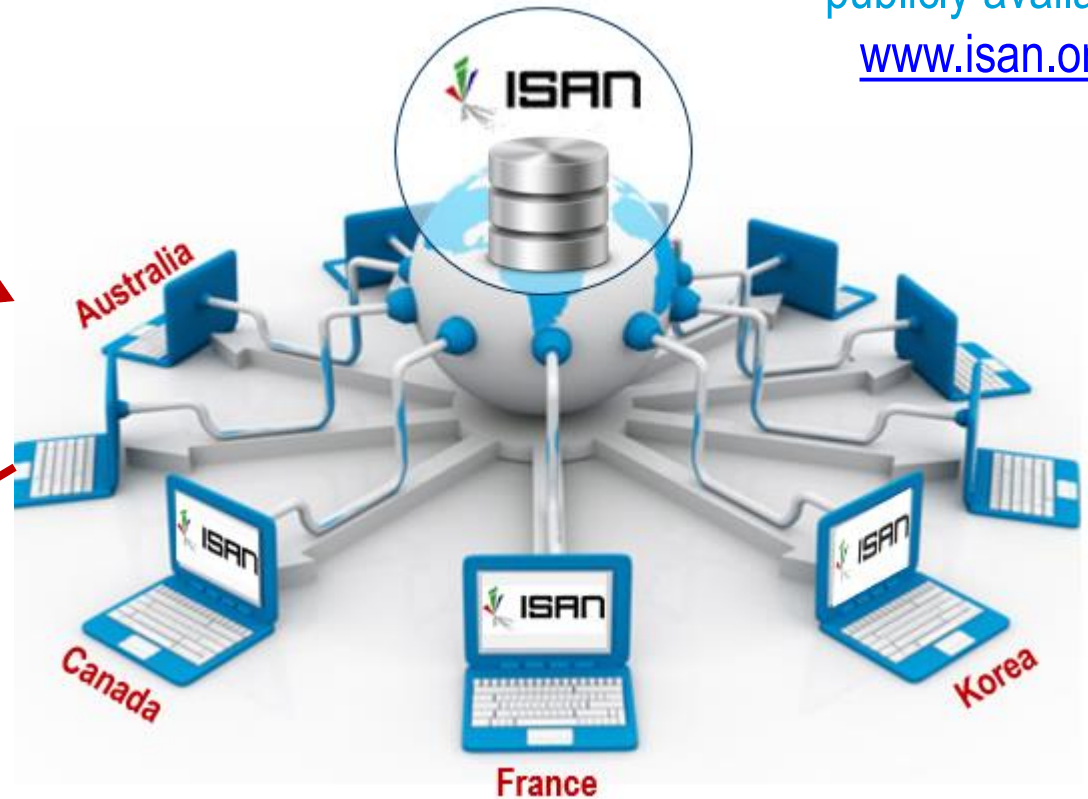


Title: **Casino Royale**  
Year: 1966  
Dir: John Huston

Broadcasters, Digital Platforms, etc..  
Create Version ISAN

ISAN and meta-data are publicly available

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



ISAN 0000-0001-6046-0000-T-0000-0000-O

...then, everyone can use it.



# ISAN in audiovisual standards

## Distribution



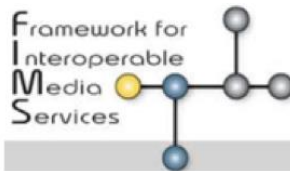
AMWA:  
AS-03  
AS-11  
UK DPP



Digital  
Cinema  
Package



BXF



## Delivery



a — t — s — c



www.tv-anytime.org



## Reporting



## Archiving



EN 15744:  
EN 15907:





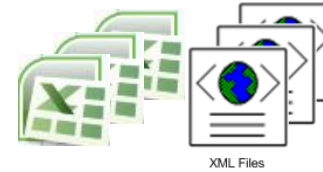
# Accessing the ISAN Registry

## Rest API



registration  
search  
lookup

## Files



Bulk registration  
Bulk search / matching

## Web interface



Web Application

registration  
search  
lookup



registry  
snapshots



User Copy

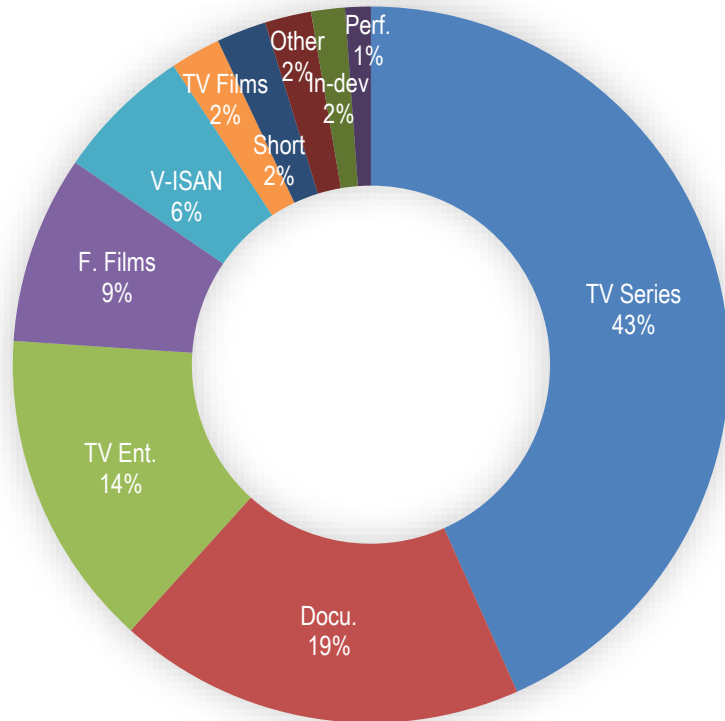
Local search  
& lookup





# ISAN in numbers: The ISAN Registry

**+1'300'000 ISAN**



ISAN identify productions from

**Europe (54%)**      Asia (3%)  
**N. America (40%)**  
 Lat. America (3%)

**33% produced after 2008**

**50% produced after 2002**

80% produced after 1985

**+1M Linked IDs**

- AGICOA
- EIDR
- ITV
- IMDB
- Lumiere
- Microsoft
- Netflix
- Procinema
- Wikidata
- CNC
- Le Film Documentaire
- Google
- etc ...

**80'000 New ISAN / Year**



## ISAN Users Worldwide

**14'000** ISAN Registrants from **81+** Countries

**+1500** new adopters every year



**15** Appointed ISAN Registration Agencies (RA)

**11** RA In Europe

**+ 4** Prospective agencies

**+16'000** ISAN Users







# ISAN Ecosystem of identified users or supporters

## Collecting societies



## Content production & Creation



## Content delivery



## Data providers, market analytics, ...



## Infrastructure & Post Production



## Cultural Funds



## Anti-piracy



## Regulators, Public Orgs



## Trade & Professional Organizations



## Archives



\* when required by CMOs



## ISAN use cases

## New European Regulations

### France (since 2017)

**CNC requires ISAN** for all AV projects they finance (25% international)

- Script writing & production
- Distribution
- Digital Platforms

### Switzerland (since 2017)

#### Legal obligation to report ISAN for Digital Platforms

- Domestic & foreign productions
- Domestic & foreign platforms that distribute content in the country
- **Platforms require ISAN for distribution in Switzerland (apple, ..)**

### European Union (since 2018)

- EU Commission engage work for the adoption of a Standard ID in Europe
- EC Promotes the interoperability between ISAN & EIDR.
- **Required an interoperable ID for all Media Program Funding**

## ISAN Use Case: AV projects identification & tracking by funding organisations

Public & private **Film Funds** use ISAN to identify and track the projects they finance (grants, tax credit, etc...)

- ✓ ISAN (or indev ISAN) is required for selected projects (creation, production, distribution...)
- ✓ Indev ISAN is activated (=> regular ISAN ) when the project is completed
- ✓ The funding org. collects usage statistics inc. ISAN on the distribution of the resulting works

**ISAN helps audiovisual funding organization to follow the projects they finance and measure their funding strategy!**



NL FILM  
FONDS



Canada  
Media Fund



PROCIREP

CINEFOROM  
Fondation romande  
pour le cinéma



Generalitat  
de Catalunya

COGECO FUND



OMDC

## ISAN Dissemination

### **Digital platforms:** report usage with ISAN

- European regulations (France, Switzerland): these ISAN are available worldwide
- Arte, Apple, Google, Netflix, Microsoft, FilmoTV, SFR Play, ...

### **International rights registries:** process international rights

- Producers (IRRIS – AGICOA)
- Authors (IDA – CISAC)
- Music (AVI – CISAC)
- Performers (VRDB – SCAPR)

### **Metadata & analytics:** deliver data enriched with ISAN to their customers

- **Broadcast logs** : Eurodata TV, Kantar media (Spain), INA (private copy -FR), Business Bureau (LatAm), ...
- **TV listing, EPG**: Plurimedia (FR), Mediapress TV (EU), Bindinc (NL), European Metadata Group
- **VoD Market analysis**: GfK, NPA, BFS, EAO
- **Fingerprint monitoring**: INA, BMAT, ALPA (Google)



## ISAN Use Case: Delivering Film Content for the iTunes Store

**NEW** ISAN mandatory in Switzerland



- Sales and income reports with ISAN (easy consolidation with data from other platforms)
- Usage reports to CMOs (DDEX) for automated rights management

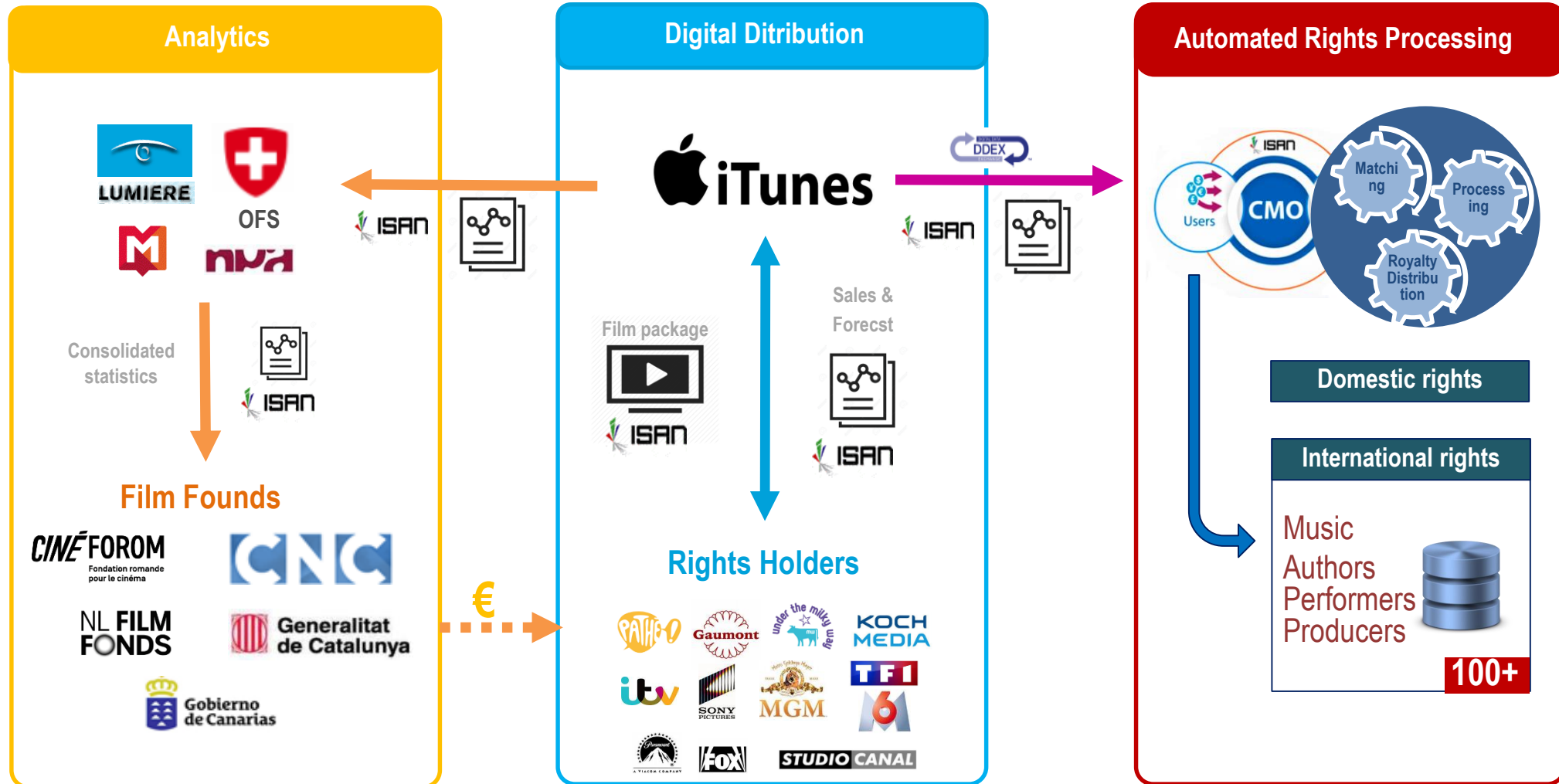
### iTunes Package Film Specification

```
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="film5.0">
  <provider>Paramount</provider>
  <language>en-US</language>
  <video>
    <type>film</type>
    <subtype>feature</subtype>
    <vendor_offer_code>408CH98720X103</vendor_offer_code>
    <vendor_id>09736156444</vendor_id>
    <isan>0000-0000-03B6-0000-0-0000-0000-2</isan>
    <upc>09736156444</upc>
    <country>US</country>
  ...
```

[learn more: itunespartner.apple.com](http://itunespartner.apple.com)

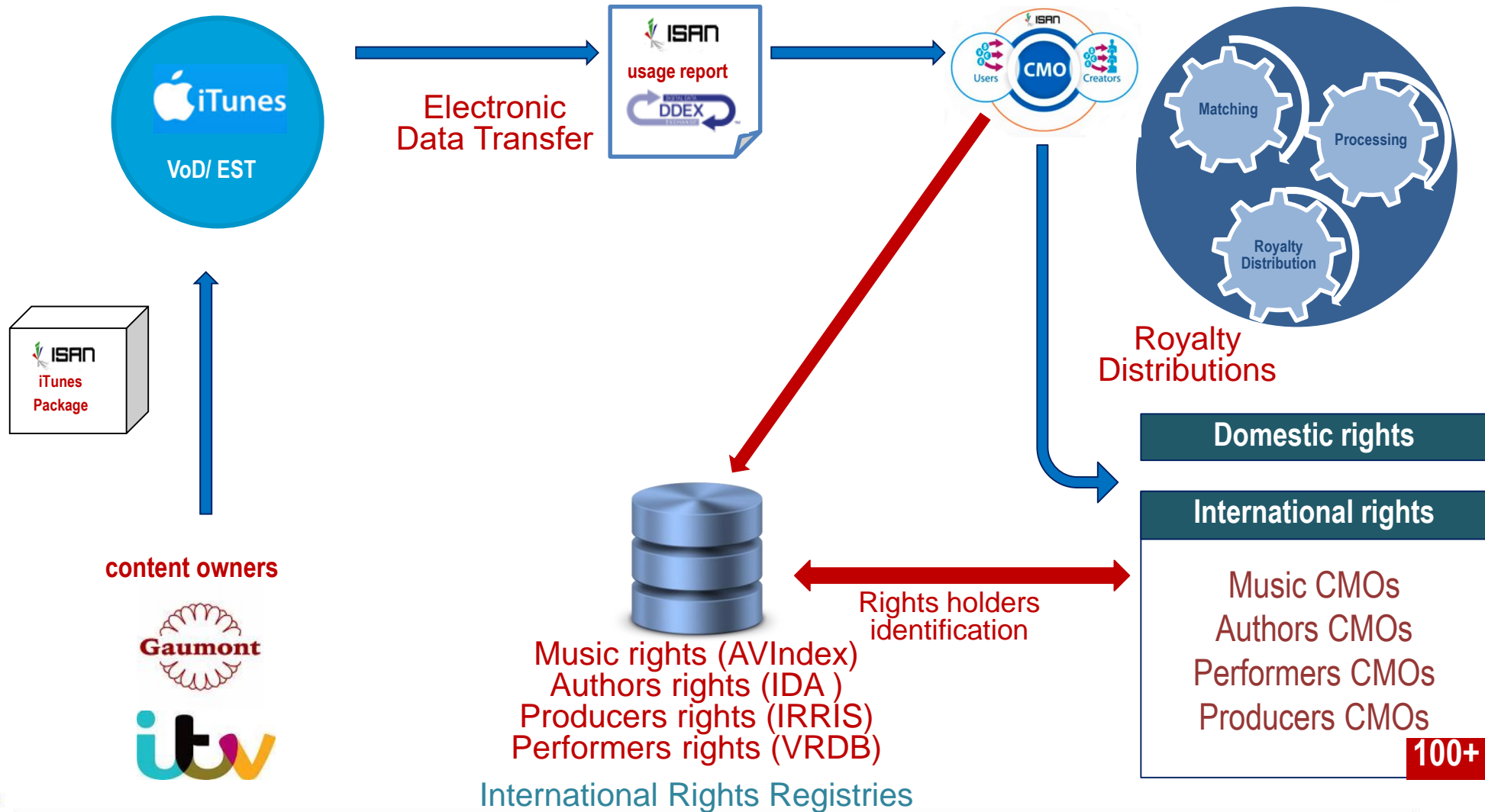


# ISAN Use Case: Use of ISAN in Digital Distribution





# ISAN Use Case: Workflow for automated rights processing using ISAN



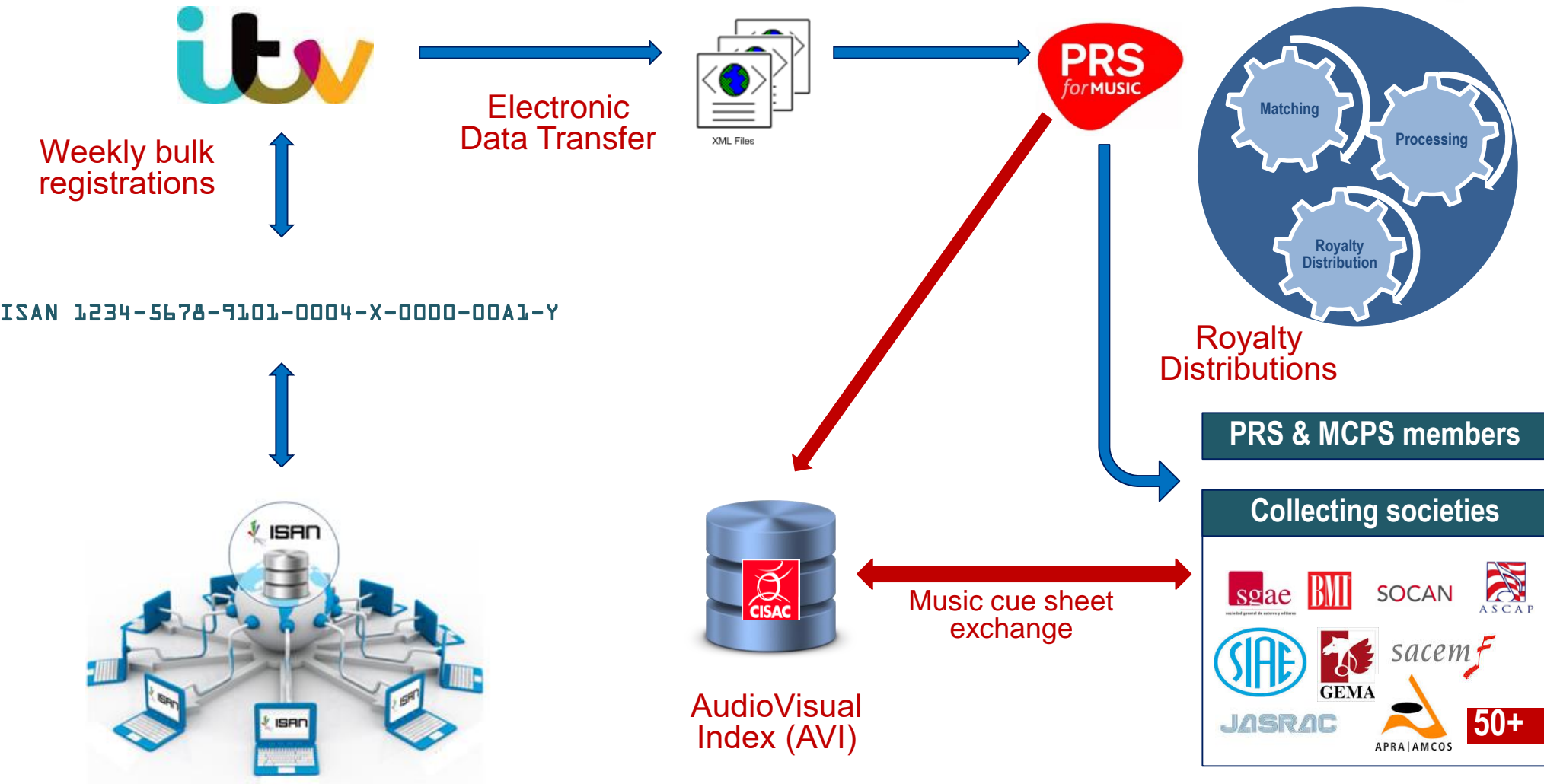
## Use Case: ISAN simplifies music reporting of TV productions

- With the shift to digital the amount of data to process by CMOs has dramatically increased
- ITV, major commercial broadcaster in UK, has registered +100'000 productions with ISAN
- ITV use ISAN as a key identifier for their productions and is using ISAN in business message transactions such as music reporting to PRS for Music (as a start)
- ITV's ISANs are being populated in CISAC's AudioVisual Index (AVI), an important source of music cue sheets (music rights in AV content) for music rights societies
- The first time a production is broadcast, the full metadata set (including music cue sheet) needs to be reported.
- Thereafter for repeats and catch-up services, the ISAN is reported without the need for music cue sheets (saving of 23 metadata fields replaced by one ISAN)
- This is particular useful for catch-up content on 3<sup>rd</sup> platforms in the UK (BT Vision, Virgin Media, iPlayer, ITV player, 4OD, YouView etc.)

**The use of ISAN brings greater automation to the music reporting process by ITV in the UK and reduces the cost for processing rights by PRS for music**



# ISAN Use Case: Automated workflow for music rights processing with ISAN







bmat provides ISAN in TV reports



Monitors 3000 radio & TV stations worldwide

channel	country	start date	start time	duration	program title	original title	release year	ISAN
AMERICA TV	PERU	20/03/2016	19:00	5400	El Juicio del Viejo Drum	The Trial of Old Drum	2000	0000-0000-3DA6-0000-1-0000-0000-Y
AMERICA TV	PERU	03/04/2016	21:00	7200	Rápido y furioso	The Fast and the Furious	2001	0000-0000-3FE7-0000-C-0000-0000-1
ARTE	GERMANY	03/02/2016	19:15	5400	Midnight in Paris	Midnight in Paris	2011	0000-0002-D005-0000-B-0000-0000-4
ARTE	GERMANY	03/02/2016	21:40	6900	Paradies: Liebe	Paradies: Liebe	2012	0000-0003-49C0-0000-G-0000-0000-Q
CANAL +	FRANCE	16/01/2016	13:15	5040	Papa ou maman	Papa ou maman	2015	0000-0003-F034-0000-B-0000-0000-4
CANAL +	FRANCE	17/01/2016	8:10	5400	Paddington	Paddington	2014	0000-0003-E90E-0000-S-0000-0000-R
CANAL 13	CHILE	07/02/2016	19:30	6600	Esto es guerra	This Means War	2012	0000-0003-110B-0000-V-0000-0000-I
CANAL 13	CHILE	07/02/2016	21:20	9600	El día de la Independencia	Independence Day	1996	0000-0000-5FED-0000-L-0000-0000-B
CANAL 5	MEXICO	05/01/2016	3:00	9000	La Mexicana	The Mexican	2001	0000-0000-F354-0000-J-0000-0000-H
CANAL 5	MEXICO	05/01/2016	16:00	3600	Tortugas Ninja	Teenage Mutant Ninja Turtles	2014	0000-0003-D5F5-0000-I-0000-0000-K
CANAL 7	ARGENTINA	30/01/2016	6:00	7200	Una vida difícil	Una vita difficile	1961	0000-0000-7854-0000-1-0000-0000-Y
CANAL 7	ARGENTINA	31/01/2016	6:00	9000	El gran atasco	L'ingorgo - Una storia impossibile	1978	0000-0000-AC77-0000-Y-0000-0000-9
CANAL 9	ARGENTINA	05/03/2016	21:00	7200	Punto de Exterminio	Termination Point	2007	0000-0001-D082-0000-6-0000-0000-J
CANAL 9	ARGENTINA	06/03/2016	18:15	7200	Sky Kids	The Flyboys	2008	0000-0002-637C-0000-7-0000-0000-G
CANAL CARACOL	COLOMBIA	13/02/2016	13:30	7200	Shrek 2	Shrek 2	2004	0000-0001-5F36-0000-P-0000-0000-0
CANAL CARACOL	COLOMBIA	13/02/2016	15:30	7200	Monsters vs. Aliens	Monsters vs. Aliens	2009	0000-0002-24BF-0000-1-0000-0000-Y
HBO	USA	27/01/2016	11:00	6600	Happy Feet	Happy Feet	2006	0000-0001-89FC-0000-W-0000-0000-F
HBO	USA	04/03/2016	5:00	9300	The Departed	The Departed	2006	0000-0001-981E-0000-S-0000-0000-R
ITALIA 1	ITALIA	27/01/2016	20:10	8700	Una notte al museo	Night at the Museum	2006	0000-0001-89FD-0000-5-0000-0000-M
ITALIA 1	ITALIA	03/02/2016	4:05	2700	Highlander	Highlander	1993	0000-0000-DOA2-0038-R-0000-0000-U



## Business bureau (Lat. Am) provides ISAN in TV reports



Suscripción a alertas



### Títulos identificados con Código ISAN

Mostrar  registros por página

	TÍTULO ORIGINAL ▲	PAÍS ◆	AÑO LANZAMIENTO ◆	PRODUCTORA ◆	CÓDIGO ISAN ◆	CUENTA DE PLATAFORMA ◆
+	\$9.99	Israel, Australia	2008	Lama Films, Australian Film Finance Corporation (AFFC)	0000-0001-FBBA-0000-6-0000-0000-J	9
+	1	USA	2013	Diamond Docs, Exclusive Media Group, Flat-Out Films	0000-0003-A137-0000-V-0000-0000-I	28
+	10 Items or Less	USA	2006	Reveal Entertainment, Revelations Entertainment, Mockingbird Pictures	0000-0001-F819-0000-G-0000-0000-Q	4
+	10 Things I Hate About You	USA	1999	Touchstone Pictures Mad Chance Jaret Entertainment	0000-0000-2AE7-0000-P-0000-0000-0	30
+	10 to Midnight	USA	1983	Cannon Group, City Films	0000-0000-E0A7-0000-B-0000-0000-4	3
+	101 Dalmatians	USA	1996	Walt Disney Pictures Wizzer Productions Great Oaks Entertainment	0000-0000-2AE8-0000-U-0000-0000-L	6
+	101 Dalmatians II: Patch's London Adventure	USA	2003	Disney Television Animation, Walt Disney Pictures	0000-0001-1526-0000-P-0000-0000-0	6

## Spain: Kantar Media provides ISAN in TV reports

# KANTAR MEDIA

# SPAIN

N	Título	COD ISAN	Cadena	AMBITO	Fecha	Hora	DUR	GEN	AM	CUOTA
1	CINE / LAS ENTRAÑAS DE LA BESTIA	0000-0000-EDCD-0000-3-0000-0000-S	PARAMOUNTCHANNEL	GEN	01/02/17	02:30:00	30	JAR	0,1	3,1
2	CINE / EL GUERRERO AMERICANO 2:LA CONFRONTACION		PARAMOUNTCHANNEL	GEN	01/02/17	02:59:43	85	JAR	0,1	4,6
3	CINE / EL LUTE,CAMINA O REVIENTA	0000-0001-C735-0000-7-0000-0000-G	PARAMOUNTCHANNEL	GEN	01/02/17	04:24:54	115	JAB	0,1	7,1
4	SIN LIMITES		PARAMOUNTCHANNEL	GEN	01/02/17	06:20:12	42	JFF	0,1	4,1
5	CINEXPRESS		PARAMOUNTCHANNEL	GEN	01/02/17	07:02:40	12	BDD	0,0	1,8
6	CINEXPRESS		PARAMOUNTCHANNEL	GEN	01/02/17	10:45:15	16	BDD	0,0	0,2
7	A UN PASO DEL CIELO / EL ESPIRITU DEL LOBO	0000-0002-B0A1-0001-J-0000-0000-H	PARAMOUNTCHANNEL	GEN	01/02/17	11:01:00	61	JEF	0,1	0,9
8	CINE / LOS JUSTICIEROS DEL OESTE	0000-0000-4336-0000-3-0000-0000-S	PARAMOUNTCHANNEL	GEN	01/02/17	12:10:02	101	JAJ	0,1	0,9
9	CINE / VILLA CABALGA	0000-0000-75BF-0000-J-0000-0000-H	PARAMOUNTCHANNEL	GEN	01/02/17	13:51:30	132	JAJ	0,2	0,8
10	CINE / LA HORA DE LOS VALIENTES	0000-0000-2B5D-0000-H-0000-0000-N	PARAMOUNTCHANNEL	GEN	01/02/17	16:07:02	133	JAM	0,4	1,5
11	CINE / SIETE DOLARES AL ROJO	0000-0000-0A48-0000-Z-0000-0000-6	PARAMOUNTCHANNEL	GEN	01/02/17	18:19:37	113	JAJ	0,5	2,1
12	CINE / JUGANDO CON LA MUERTE(2010)	0000-0002-A395-0000-O-0000-0000-2	PARAMOUNTCHANNEL	GEN	01/02/17	20:12:09	110	JAR	0,5	1,4
13	CINE / YO SOY LA JUSTICIA	0000-0000-FC42-0000-V-0000-0000-I	PARAMOUNTCHANNEL	GEN	01/02/17	22:02:20	103	JAI	1,2	2,8
14	CINE / MAXIMA CONDENA	0000-0003-D908-0000-R-0000-0000-U	PARAMOUNTCHANNEL	GEN	01/02/17	23:53:34	109	JAR	0,4	2,1
15	CINE / DAMAGE(2009)	0000-0002-5DAD-0000-5-0000-0000-M	PARAMOUNTCHANNEL	GEN	01/02/17	25:42:46	47	JAR	0,1	2,1
16	CINE / DAMAGE(2009)	0000-0002-5DAD-0000-5-0000-0000-M	PARAMOUNTCHANNEL	GEN	02/02/17	02:30:00	57	JAR	0,1	1,8

## ISAN Use Case: Content Recommendation

### Cisco Videoscape Media Suite EPG

Better monetize content with ISAN



ISAN binds linear content with recommended non linear content such as other episodes of a serie, supplemental material or similar movies ... for purchase or rental.

## ISAN Use Case: Linear & file based content delivery

### Imagine D-Series DSX™ Advanced Playout Automation



Linear & File based content delivery is empowered with open metadata exchange via BXF, MXF, AAF and ISAN.

Read more on [imaginecommunications.com](http://imaginecommunications.com) ...



## ISAN Use Case: Blu-ray Disk



ISAN is the recommended Content ID in AACCS (Advanced Access Content System) used to protect Blu-ray disks

AACCS helps to ensure content is secure accross devices and media while it maintains the highest standards and flexibility.

more on <http://www.aacsla.com/home>



# ISAN Use Case: Linguistic versions identification



## Subtitles



**MARCHÉ DU FILM**  
FESTIVAL DE CANNES

### Key features



#### Share & Monetize

- Share subtitles with more than 300 VOD platforms, 1.500 distributors and 1.700 festivals
- Monetize subtitles with no intermediaries and retain 100% of the revenues



#### Search & Find

- Browse referenced subtitles with advanced search tools
- Festivals & Distributors: find and acquire films subtitles in your language
- VOD platforms: find and acquire multi-language versions for a specific film



#### Check & Conform

- Subtitles providers approved by the Cinando team
- Quality check and conversion to TTML standard advanced format
- Unique ISAN number for each subtitle version



#### Archive & Protect

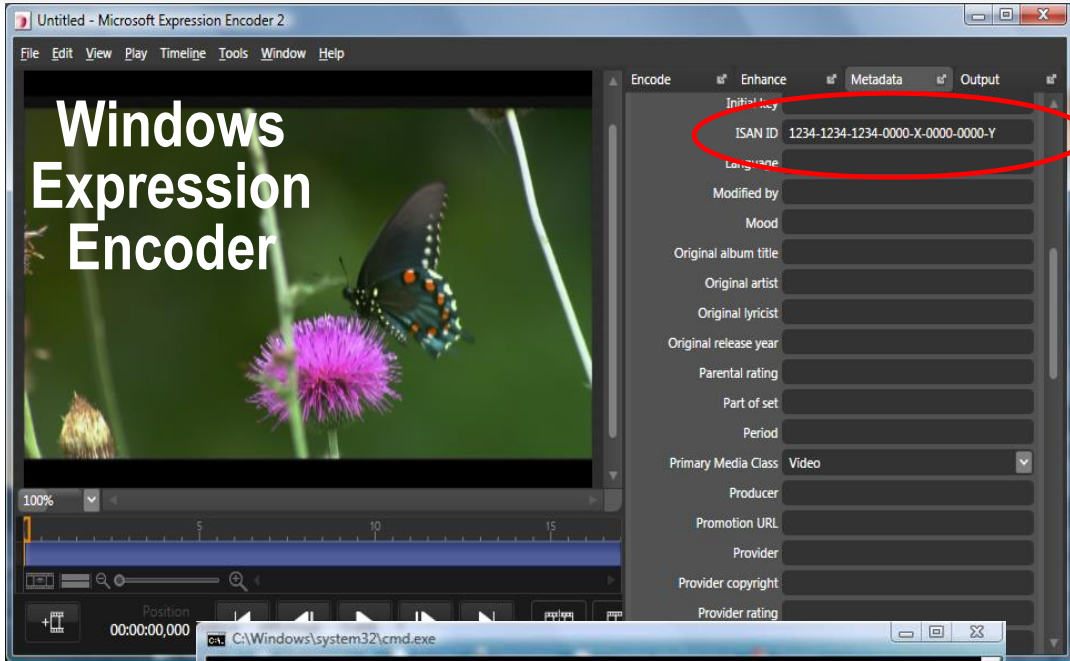
- Long-term, free and secure repository to archive subtitles
- Automatic notification to film rights-holders when subtitles are shared

Co-funded by the  
European Union



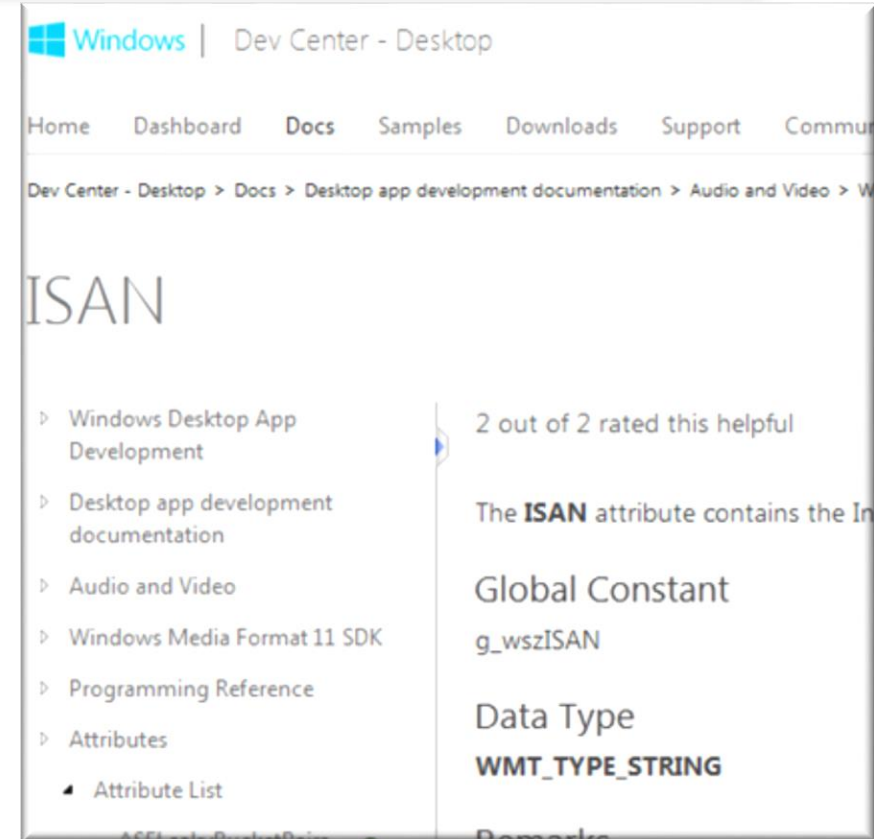


# ISAN Use Case: Embed ISAN in Windows Media files



```

C:\Windows\system32\cmd.exe
D:\ISAN\ISAN_injector>MetadataEdit.exe C:\Insects.wmv show 0
**
** Idx Name Stream Language Type Value
**
** 0 Duration 0 0 QWORD 169930000, 0x00000000a20ed1
**
** 1 Bitrate 0 0 DWORD 895000, 0x000da818
** 2 Seekable 0 0 BOOL True
** 3 Stridable 0 0 BOOL True
** 4 Broadcast 0 0 BOOL False
** 5 Is_Protected 0 0 BOOL False
** 6 Is_Trusted 0 0 BOOL False
** 7 Signature_Name 0 0 STRING ""
** 8 HasAudio 0 0 BOOL False
** 9 HasImage 0 0 BOOL False
** 10 HasScript 0 0 BOOL False
** 11 HasVideo 0 0 BOOL True
** 12 CurrentBitrate 0 0 DWORD 895000, 0x000da818
** 13 OptimalBitrate 0 0 DWORD 895000, 0x000da818
** 14 HasAttachedImages 0 0 BOOL False
** 15 Can_Skip_Backward 0 0 BOOL False
** 16 Can_Skip_Forward 0 0 BOOL False
** 17 FileSize 0 0 QWORD 1693208, 0x00000000019d618
** 18 HasArbitraryDataStream 0 0 BOOL False
** 19 HasFileTransferStream 0 0 BOOL False
** 20 WM/ContainerFormat 0 0 DWORD 1, 0x00000001
** 21 Title 0 0 STRING "Insects"
** 22 Author 0 0 STRING "Regis Flad"
** 23 WMFSKVersion 0 0 STRING "1.0.6000.6324"
** 24 WMFSKNeeded 0 0 STRING "0-0-0-0000"
** 25 IsUBR 0 0 BOOL False
** 26 WM/ISAN 0 0 STRING "00000001D1D0000200000000"
    
```



Windows Media SDK  
(encoder / decoder)

[more on msdn.microsoft.com](http://more.on.msdn.microsoft.com)

# ISAN Use Case: ISAN use in Media Asset Management

## Telescope DAM SW by North Plains Systems

### Asset Container Record

ISAN Schema Element  
(String Field)

Collateral Metadata  
Objects  
(Container Field)

SandBox : Gallery : "PIA03454.avi" (Info)

File: PDZ\_T01.wmv

Created: 07/23/2005 07:28:23 Modified: 04/22/2005 23:58:33

Type: WMV (Windows Media Video) Size: 10.48 Mb

Info: 320 pixels wide, 240 pixels high, 2 tracks, 27.74 (sec)

Contained in: Templates

Asset Type: Video

Accession ID: 59003.04.M

Title: Perfect Dark Zero Trailer

Title Notes:

ISAN ID: ISAN 0000-0001-6046-0000-T-0000-0000-0

ISAN Graphic: 17 Documents

Production Date: Feb 15, 2000

Production Staff: Joe Brown Charles Lyell

Production Source: MS Studios

SAL Project ID: 12345

Performers: Zed McFire Rev. Fordyse Eliz. Barrett Browning



**ISAN**

INTERNATIONAL STANDARD  
AUDIOVISUAL NUMBER

## ISAN Organisation Overview



## ISAN Organization Overview

# ISAN = ISO 15706

... 163 countries



- ✓ ISO is the owner of the ISAN standard and related IP (ISAN Registry, etc...)
- ✓ ISAN is maintained and reviewed by ISO with the approval of its members
- ✓ The management of ISAN and operational & implementation specification is delegated to ISAN-IA (via the Registration Authority Agreement) who reports to ISO.

**Registration Authority Agreement (RAA):** defines the Role, Responsibility and Obligations of ISAN-IA and ISAN RA



- ✓ Manage & Operate the ISAN Standard in compliance with the ISO RAA, report to ISO
- ✓ Operate the ISAN Registry and make sure it is accessible to all ISAN users.
- ✓ Appoint & support ISAN Registration Agencies (ISAN RA)
- ✓ Specifies with ISAN RA recommended practice.

**Registration Agency Agreement:** defines the Role, Responsibility and Obligations ISAN RA in accordance with ISO RAA



- The Registration Agency (RA) is established to serve a **specific country or region**
- ✓ Deliver the **ISAN Registration Service** to local audiovisual users
  - ✓ Facilitate the **access to the ISAN Registry**
  - ✓ Make sure that ISAN complies with local needs and practices



## ISAN is regulated by ISO

- ✓ **RAND Principle:** "reasonable and non-discriminatory" terms and conditions shall apply.
- ✓ **Accessibility of the ISAN Registry:** ISAN data shall be accessible to all ISAN users.
- ✓ **ISAN Service Fees** shall be reasonable and delivered on a strict Cost Recovery principle
- ✓ **Compliance with competition laws:**
  - ✓ Local ISAN Service fees are defined by each RA: harmonization of fees = illegal price fixing.
  - ✓ ISAN users are **free to be serviced by the ISAN RA of their choice** (not necessary the one appointed in their country).
  - ✓ ISAN users are **free to change for another ISAN RA**, anytime .
- ✓ **Reporting:** ISAN-IA is obliged to report to ISO on a yearly basis (activity, obligations fulfillment,...)
- ✓ **Audit:** ISO has an audit right on ISAN-IA (agreements, books, records, documentation etc...).
- ✓ **RAA Reassignment:** ISO is entitled to reassign the ISAN Registration Authority mandate to another organization if justified by a good cause (obligation violation, bankruptcy, etc...).

**ISAN-IA and ISAN RA are not for profit association created (by not for profit organizations)  
for the sole purpose of Managing / Operating the ISAN Standard**

## ISAN Intellectual Property

- ✓ ISO is the exclusive owner of the ISAN standard (ISO 15706-1 & ISO15706-2).
- ✓ All **intellectual property** related to the proper functioning of the ISAN standard, such as the [ISAN Registry](#), trademarks, documents, etc.. **is owned by ISO and licensed to ISAN-IA.**
- ✓ **Metadata** submitted by registrants in the ISAN Registry **are the property of the registrant** who grants a non exclusive, perpetual worldwide **license to ISAN-IA and ISO.**
- ✓ **ISAN identifiers are public** and can be stored, used, circulated for free and freely by anyone (irrespective of commercial and non commercial purpose).
- ✓ ISAN-IA can sub-license ISAN metadata to third parties: a cost recovery based contribution can apply for preparing data and processing scheduled updates.

## ISAN-IA & RA Governance

The ISAN-IA association is composed of 3 main bodies:

- ✓ The General Assembly: validates the accounts and nominates the auditors.
  - ✓ The Administration Committee: composed today by representatives of the founding Members: CISAC, AGICOA, FIAPF, and representatives of the ISAN RA.
  - ✓ The Registration Agency Committee (RAC): composed of representatives of all ISAN RA, the RAC coordinate local efforts and reports local experience, specification or requirement and propose evolutions of the ISAN system to the AC.
- ISAN-IA's bylaw enables to [accept other industry representatives in its governance structure](#) such as Archives, Broadcasters, Digital Platforms, Data providers, etc... [willing to play an active role](#) in the development of ISAN.
  - ISAN RA are distinct legal entities, not for profit associations created for this specific purpose.
  - ISAN RA are usually co-founded by several local constituents of the audiovisual industry:
    - ISO 15706 requires that local producers support or are represented in the RA
    - Artists, music societies, broadcasters, national archives, etc...



## ISAN metadata model



## Audiovisual Works & Versions

### Work / AV Work ⇔ ISAN

- ⊗ Distinct Intellectual Creation (Realization) with constant characteristics throughout all its versions
- ⊗ A Work refers to all its derived versions; it is **Abstract** (no one can point a particular medium for the Work)
- ⊗ A Work exist because it has been realized (1<sup>st</sup> manifestation). Unfinished projects (e.g. Clouzot's "L'Enfer" 1964) are not considered as works (Index ISAN)

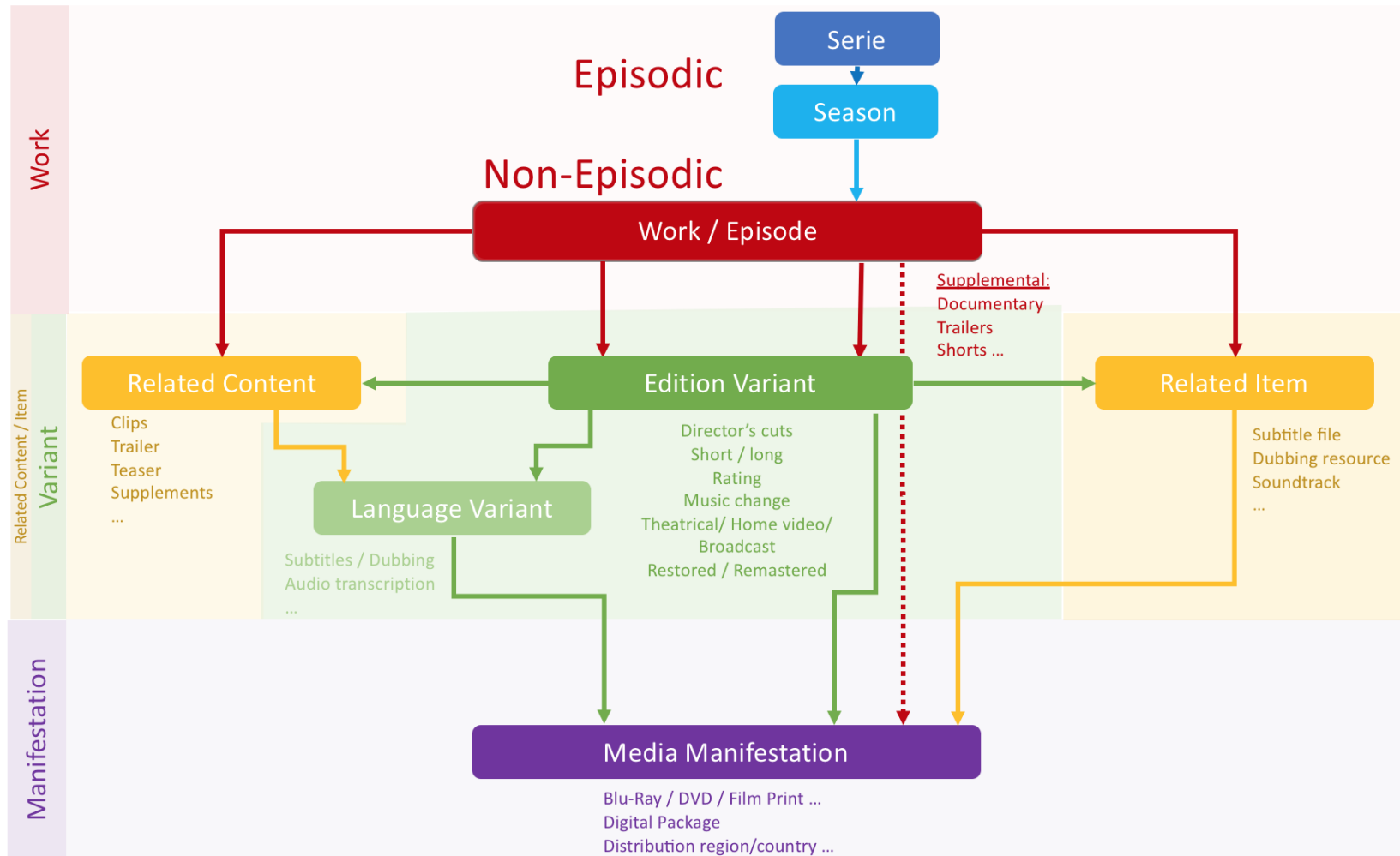
### Variant of the AV Work (version) ⇔ V-ISAN

- ⊗ Changes to the AV Work that do not significantly alter the nature of the intellectual Creation ( not a ≠ Intellectual Creation).
- ⊗ A Variant refers to all its derived manifestations, It is an **Abstract** thing.
- ⊗ Changes can be one or a combination of : *minor editions, dubbing, subtitling, alterations of the soundtrack, ...*

### Manifestation of a work or a variant (version) ⇔ V-ISAN

- ⊗ Fixation of the AV Work or a Variant on a **physical medium** (film print, tape, optical disk, ...) or a **logical medium** (i.e. without a fixed physical carrier) such as **digital files** or **streams**.
- ⊗ A manifestation points a specific version of the Work, it refers to a **Real** thing.
- ⊗ Defined with the technical properties of the media embodiment (Image Format, Encoding Details, Media of Fixation, ...)

# ISAN work & version relationship



## ISAN Work & Version Metadata Elements

### Minimal descriptive metadata required to unduplicate AV works

#### SINGLE AV WORK

**Title** of audiovisual work/content  
+ alternate titles (when applicable)

**Duration** (in minutes and/or seconds)

**Original language(s)**

**Work Type** (Feature Film, Documentary, TV entertainment, etc...)

**Year of reference** (Copyright or production)

**Country** (or countries) of **reference**

**Color Kind**

Year of first publication

Main production company

Full name of principal **director(s)**

Full name of **participants** (actors scriptwriter, etc...)

Linked **IDs** (e.g. ISRC, UMID, EIDR, ...)

Work **Composites** (list of ISAN



#### EPISODIC WORK

Title of the Serial

Episode Title

Episode Number

Season

#### VERSION of an AV Work

##### Version Type

- Language, Edition (Clips,...) (*Expression*)
- Media (*Manifestation*)
- Related Content (e.g. Bonus, Soundtrack ...)
- Related Item (e.g. *Boxed set, ...*)

##### Parent Relationship

Title & Descriptive Name

Release Year / Date

Version Running Time

Linked Identifiers (*ISRC, UPC, EIDR...*)

##### Spoken & Written Languages

Image Details (*Color, Definition, Ratio, 2D/3D*)

Media embodiment (*DVD, BR, EST, VOD,...*)

Audio & Video **codec** + encoding profiles

Distribution (*counties + channel/platform*)

Rating & Content Alert

Version **Composites** (*list of Version ISAN*)

Resolution Service Provider (*3<sup>rd</sup> party DB*)

Up to 3 **customizable** metadata fields



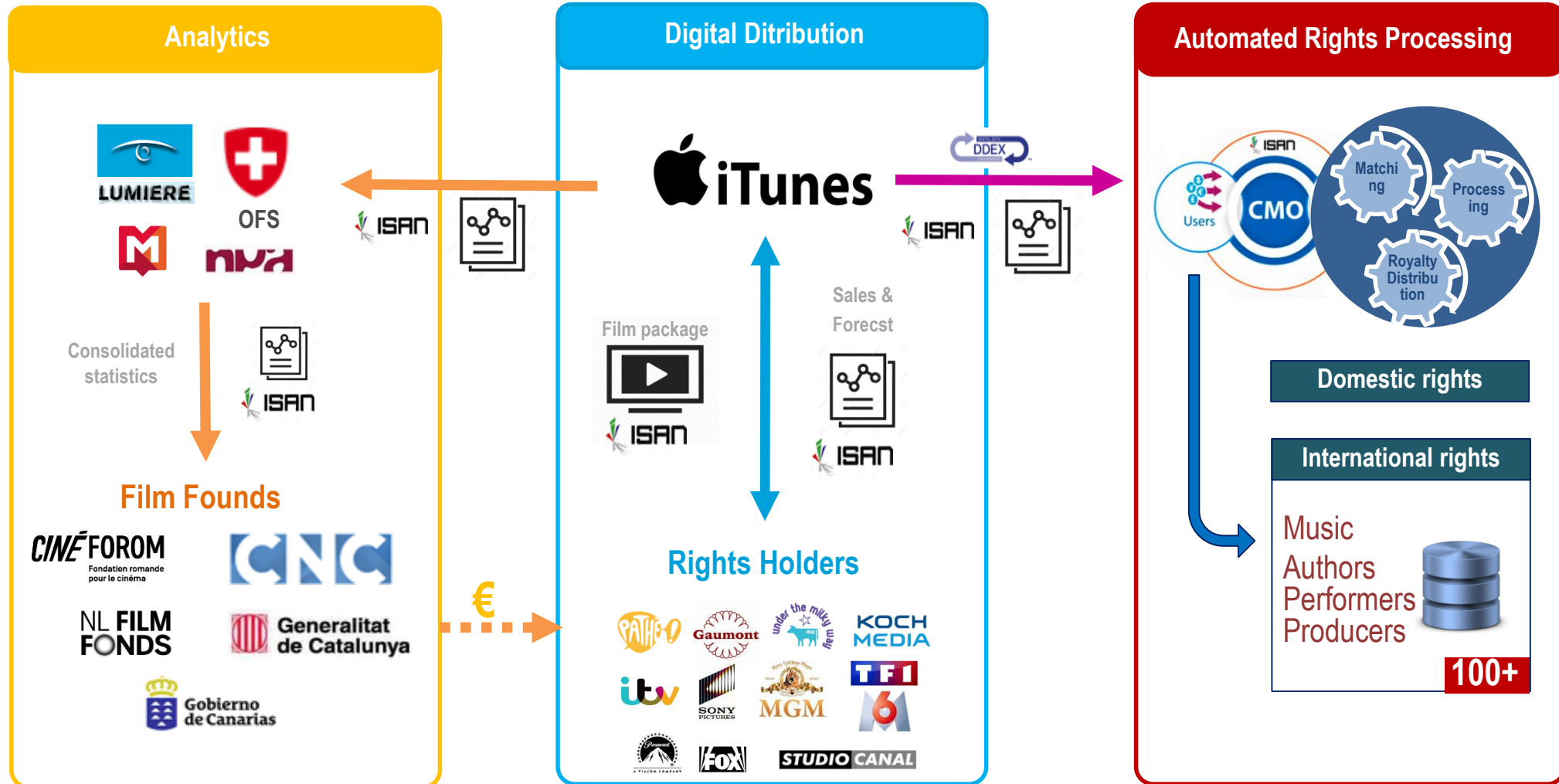
**ISAN**

INTERNATIONAL STANDARD  
AUDIOVISUAL NUMBER

## Using ISAN in distribution workflows



# ISAN Use Case: Use of ISAN in Digital Distribution



# ISAN in audiovisual standards

## Distribution



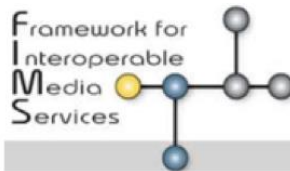
AMWA:  
AS-03  
AS-11  
UK DPP



Digital  
Cinema  
Package



BXF



## Delivery



a — l — s — c



www.tv-anytime.org



## Reporting



## Archiving



EN 15744:  
EN 15907:







## Standardized representations for ISAN

### Printed Form

**ISAN 1234-5678-9101-0004-X-0000-00A1-Y**

### URN Form

***URN:ISAN:0000-0001-DB15-0000-X-0000-000C-N***

ISAN is a registered Namespace Identifier (NID) with IETF and IANA. ([IETF RFC 4246](#) )

### Hexadecimal & Binary Form (ISAN prefix and check digits can be omitted)

**1234567891010004000000A1** 000...01110110110001010100 (96-bit binary number)

### XML Form

***<ISAN root="0000-0001-DB15" episode="0000" check1="X" version="0000-000C" check2="N" />***



## Retrieving existing ISAN

- Metadata Matching Service
- ISAN Rest API





# 9 Years Experience in Audiovisual Metadata Matching

**Core information**

ISAN: 0000-0001-486C-0000-X-0000-0000-C

Type: Feature Film, Kind: Live Action

Year of reference: 2006, Year of 1st publication: 1961

Duration: 90 MIN

Colour: Yes

Composite: No

**Production information**

Coproduction: No

Production companies: [Redacted]

Countries of reference: [Redacted]

Original language: English

**Original information**

Original Language: ENG, Title: Casino Royale

**Participants information**

Type	Firstname / Lastname
Producer	Barbara Broccoli
Producer	Michael G. Wilson
Director	Martin Campbell
Screenwriter	Neal Purvis
Screenwriter	Robert Wade
Actor	Daniel Craig
Actor	Judi Dench
Actor	Eva Green
Actor	Mads Mikkelsen
Actor	Jeffrey Wright
Screenwriter	Paul Haggis

?

**Participants information**

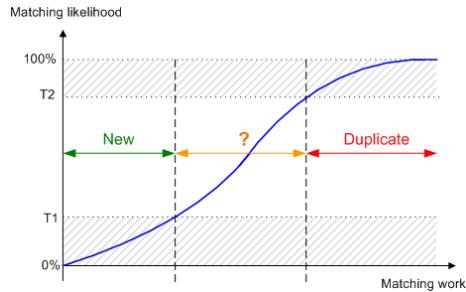
Type	Firstname / Lastname
Producer	Jerry Bresler
Producer	Charles K. Feldman
Director	John Huston
Actor	Woody Allen
Actor	Ursula Andress
Actor	W. Holden
Actor	Deborah Kerr
Actor	David Niven
Actor	Elia Kazan
Actor	Orson Welles



## Multilingual data Matching & Unduplication

Assistance and service in 81 countries  
15 local Registration Agencies

## Metadata Matching



Minimize the Human Work

Title information		Registrant PK: 0336329	List of Matching ISAN Candidates	
Original	Language	Title	Title	Score
Yes	FRE	Ruffi a tokyo	0000-0000-4F14-0000-0-0000-0000-2	82.35
No	ENG	Ruffi in tokyo	0000-0001-180C1-0000-7-0000-0000-0	69.25
Yes	FRE	Ruffi a tokyo	0000-0001-1817-0000-0-0000-0000-2	64.73
Yes	FRE	Ruffi a tokyo	Ruffi a Tokyo	64.73

**Core information**

Registrant PK: 0336329

Type: Feature Film, Kind: Live Action

Year of reference: 1961, Year of 1st publication: 1961

Duration: 89 min

Colour: No

Composite: No

**Legend**

- matching score: 100%
- matching score: 85%
- matching score: 70%
- matching score: 55%
- matching score: 40%
- matching score: 25%
- matching score: 0%

## Match confirmation tools

**1. Auto-Confirm matches**

Configure the match confirmation rules:

- Rule 1: at least one
  - Title
  - Director
  - Actor
  - Company
- Rule 2: Year diff. <
  - +1 year
  - +2 years
  - +3 years
  - +5 years
  - Ignore Year
- Rule 3: Duration diff. <
  - +10%
  - +15%
  - +20%
  - Same duration
  - Ignore duration
- Rule 4: at least one
  - Country
  - Language
  - Work Type
  - Substituted ISAN

**2. Save Confirmed Match Results**

Save all data with selected 'Actor' & 'Company'

ISAN	Color	Year of reference	Year of 1st publication	Country	Language	Work Type	Director	Actor	Company
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA
0000-0004-2-0000-0-0000-0000-0	FF	1961	75	GB	ENG	Director	JOSEPH WATSON	ROBERTO ST. JOHN	USA

## ISAN Dissemination Use Cases

### ✓ Matching Service

- ✓ IDA (International authors rights registry), BfS (Swiss statistic office), ICAA (Spanish ministry of culture), Lumière (EAO), CNC (FR)

### ✓ ISAN Registry API

- ✓ Plurimedia, Eurodata TV / Mediametrie, Agicoa (International producers rights registry), VRDB (International performers rights registry)

### ✓ ISAN Registry Snapshots

- ✓ GfK, Business Bureau (Lat Am.), BMAT (music monitoring), AV Index (International Music rights registry)

## ISAN Rest API

- ✓ REST API: read and write data in the ISAN Registry
- ✓ Data encoded in XML (Same schema as for file based data exchange) and JSON
- ✓ Double authentication:
  - ✓ API authentication : HTTP authorization header
  - ✓ ISAN registry authentication: custom X-ISAN authorization header

```
apiSignatureValue = Base64 (api_username:api_password)
isanSignatureValue = Base64 (isan_username : MD5 (isan_password))
```

- ✓ Swagger active documentation <http://web.isan.org/api/> (contact us for credentials)
- ✓ List of operations
  - ✓ Register a new work or version of a work
  - ✓ Search in the ISAN Registry (Query)
  - ✓ Update informations for existing works or versions
  - ✓ Resolve ISAN codes or external identifiers (Lookup)
  - ✓ List child versions from an ISAN (hierarchical Registry browsing)



## ISAN Registry API: Search & Lookup functions

### ✓ Lookup Service (ISAN resolutions / external IDs resolutions)

- ✓ Retrieve the metadata associated to an ISAN (all ISAN representations: classic, URI, ..)
- ✓ Validate an ISAN (check digits, existence, active/inactive)
- ✓ Translate ISAN ↔ External IDs

### ✓ Search Service

- ✓ Perform search in the ISAN registry (Oracle search: to be replaced soon by Solr)
- ✓ Filtering, Sorting, Pagination:

GET /api/works?**filter=string&sorting=string&limit=n&page=i**

- ✓ Search criteria (filter): « AND » combination between : Work Type, Serial Type, Title, Year, Duration, Participants (name / role), root ISAN (episodes of a serial)

To retrieve all feature films released on 2013  
 filter="setype::SW|wktype::FF|yor::2013"

To retrieve all documentaries or films where Clint Eastwood has participated  
 filter="any::Clint Eastwood|wktype::DO,FF"

=> supported operators: OR (|), exclusions (\_), numeric intervals( [xx-yy])

- ✓ Sorting: ascending (by default), descending (-) order, multiple fields are supported (**sorting**).
- ✓ Pagination: define the number of results per pages (**limit**) and call results page by page (**page**),