The OAIS standard is becoming a reality

Communauté Française de Belgique
Communauté Wallonie-Bruxelles
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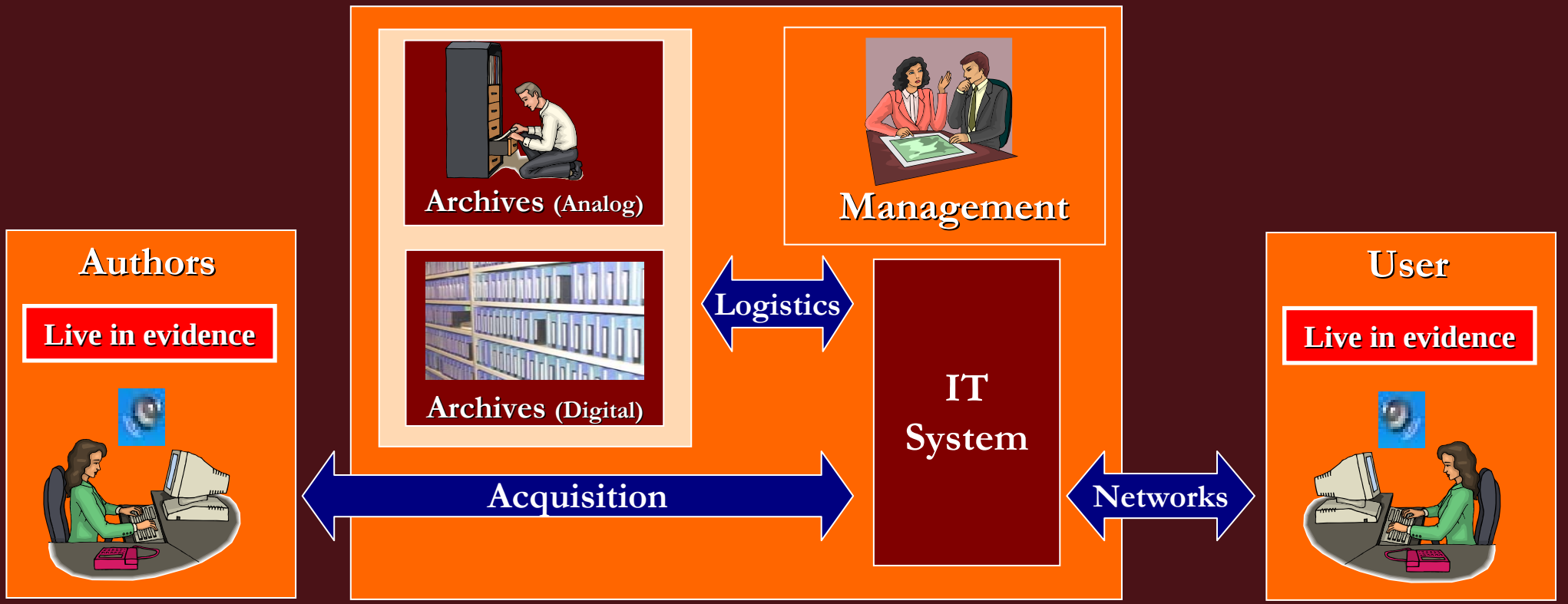
Prepared by: **Guy Maréchal**
guy.marechal@memnon.be

PERSISTENCE: the ability of a technology system to ensure to the **citizen of today** that the **citizen of tomorrow** will be capable of **enjoying** the current cultural, sociological … **assets.**

Abdelazis Habid (*Memory of the World*) UNESCO



The abstract model of the IASA

Focus on education and training

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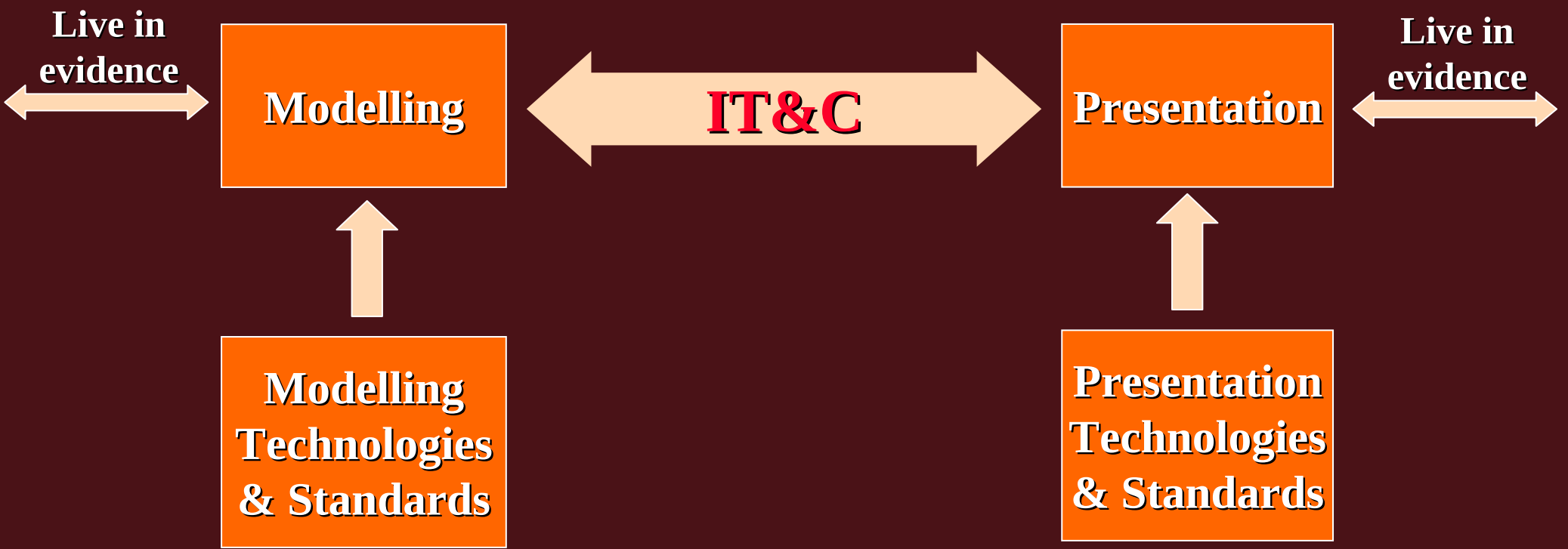
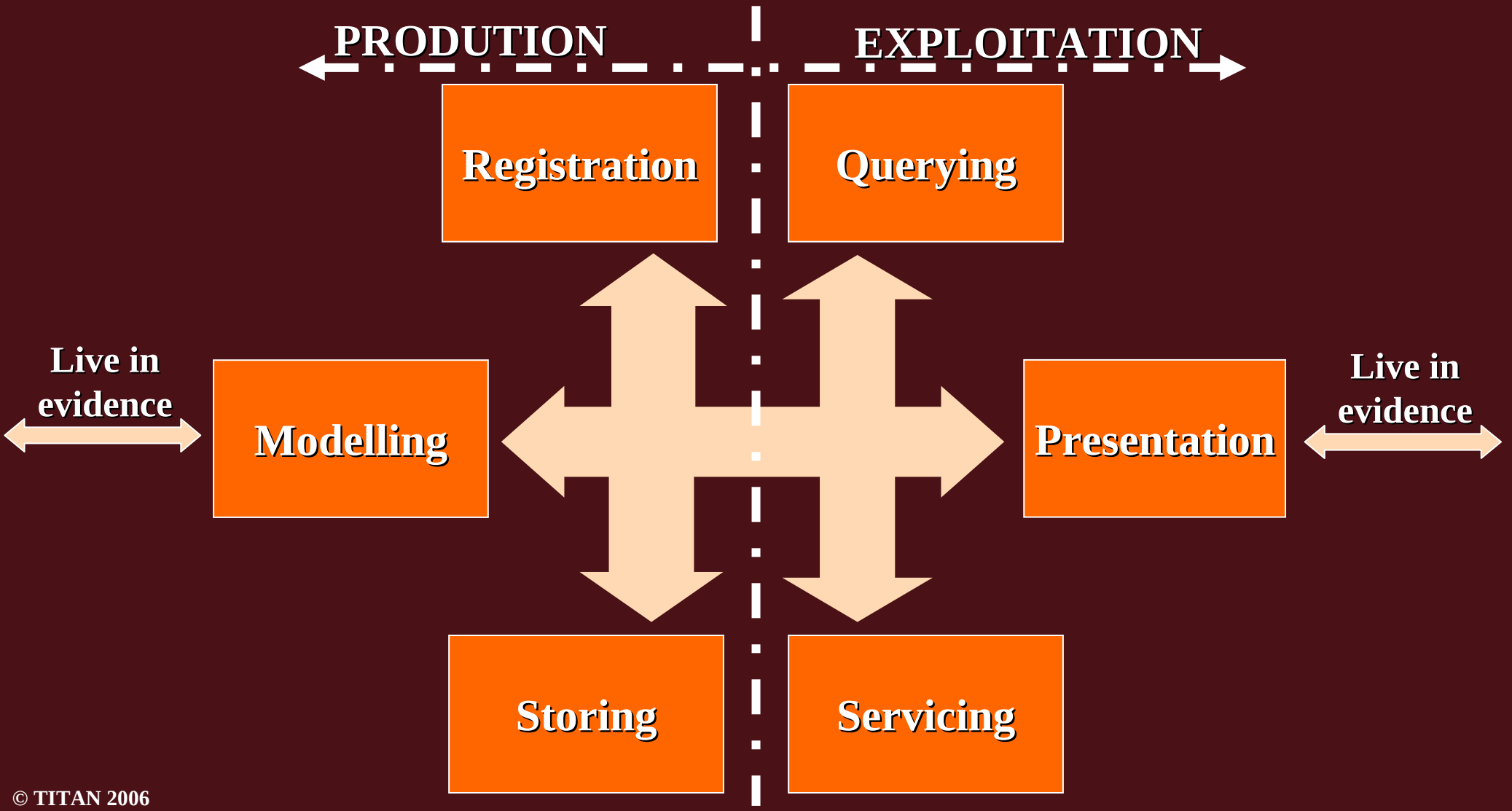
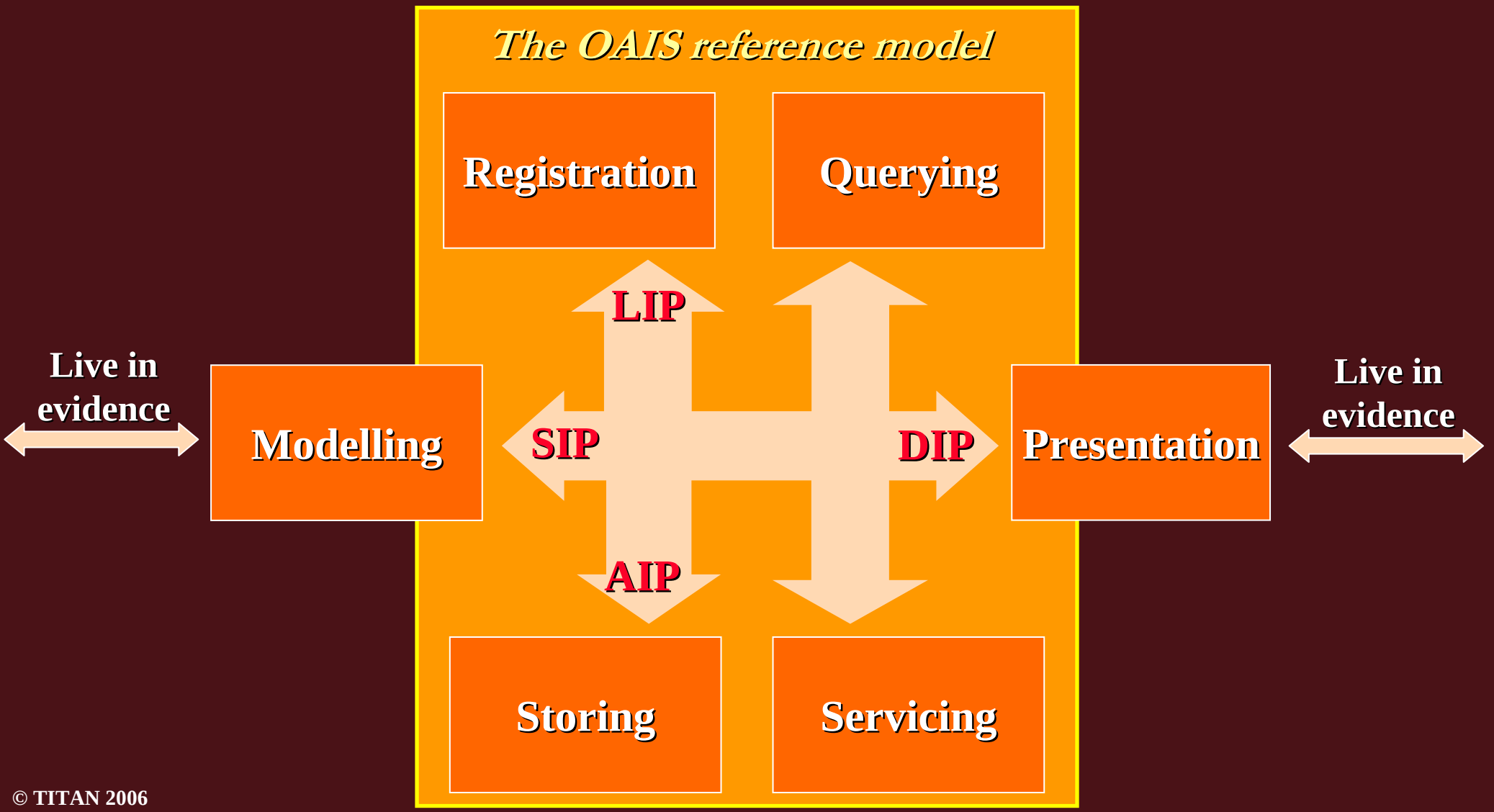


The abstract model of the IASA

Focus on education and training



The OAIS model on the abstract model of the IASA



The open exchange approach

The OAIS functional model

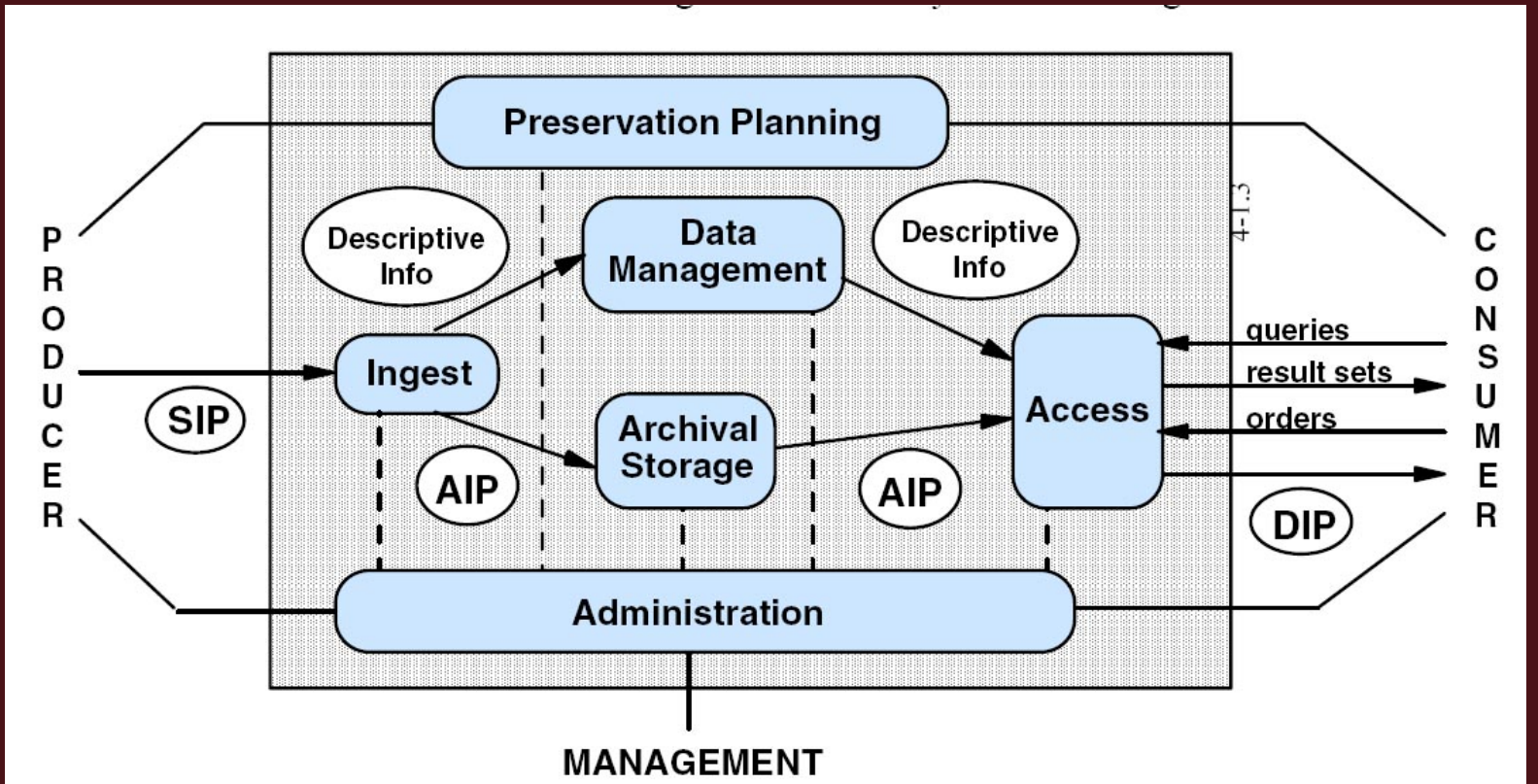


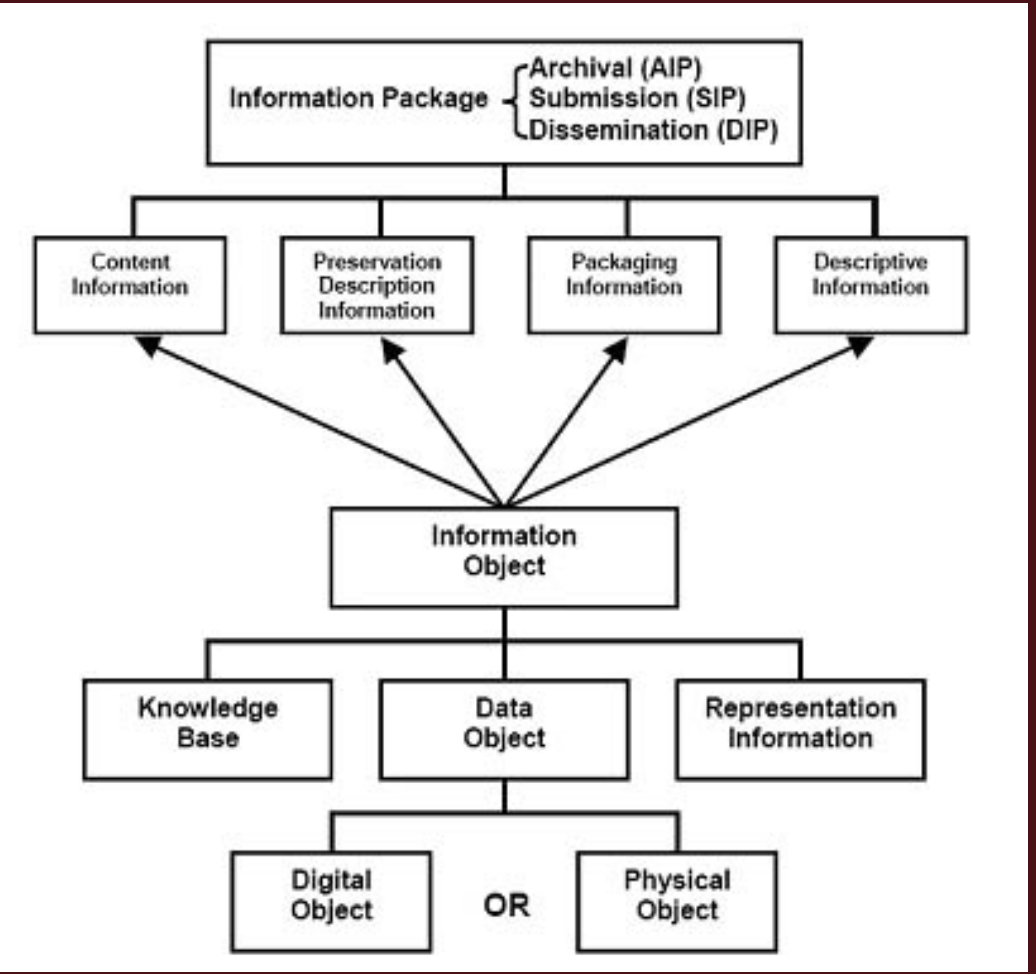
Figure 4-1: OAIS Functional Entities

The open exchange approach

The "Open Interfaces" of the OAIS model

OAIS : Open Archival Information System
SIP : Submission Information Package
AIP : Archival Information Package
DIP: Dissemination Information Package

The OAIS Data reference model



The open exchange approach

The detailed OAIS functional model

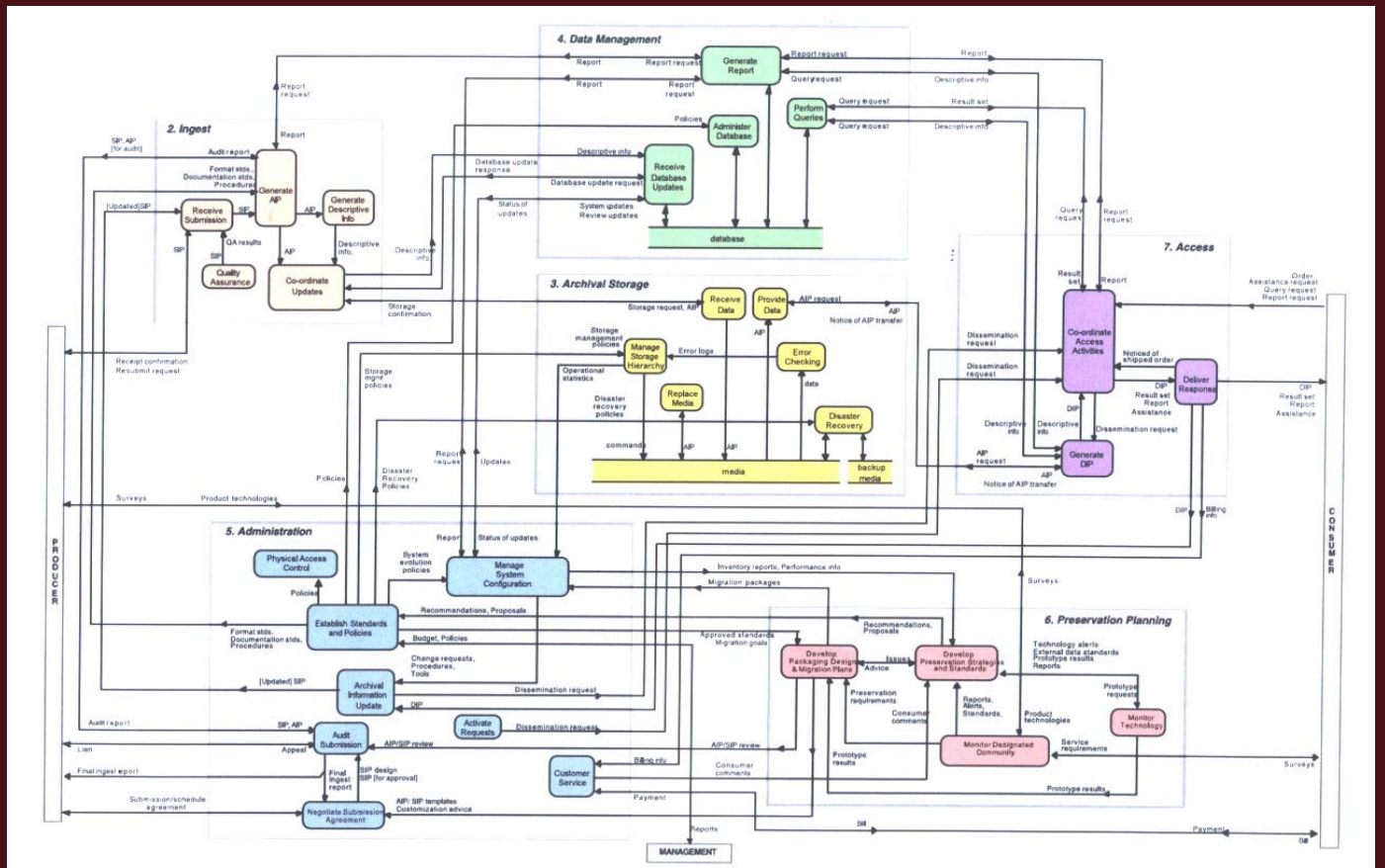
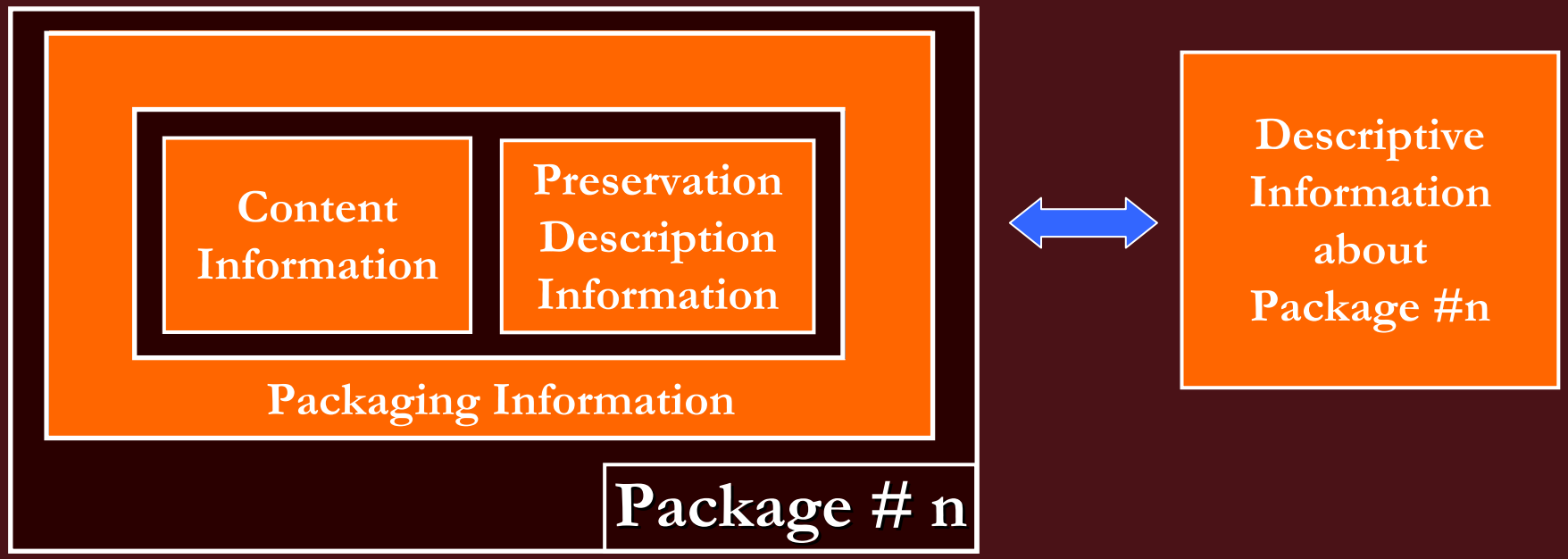


Figure F-1: Composite of Functional Entities

The open exchange approach

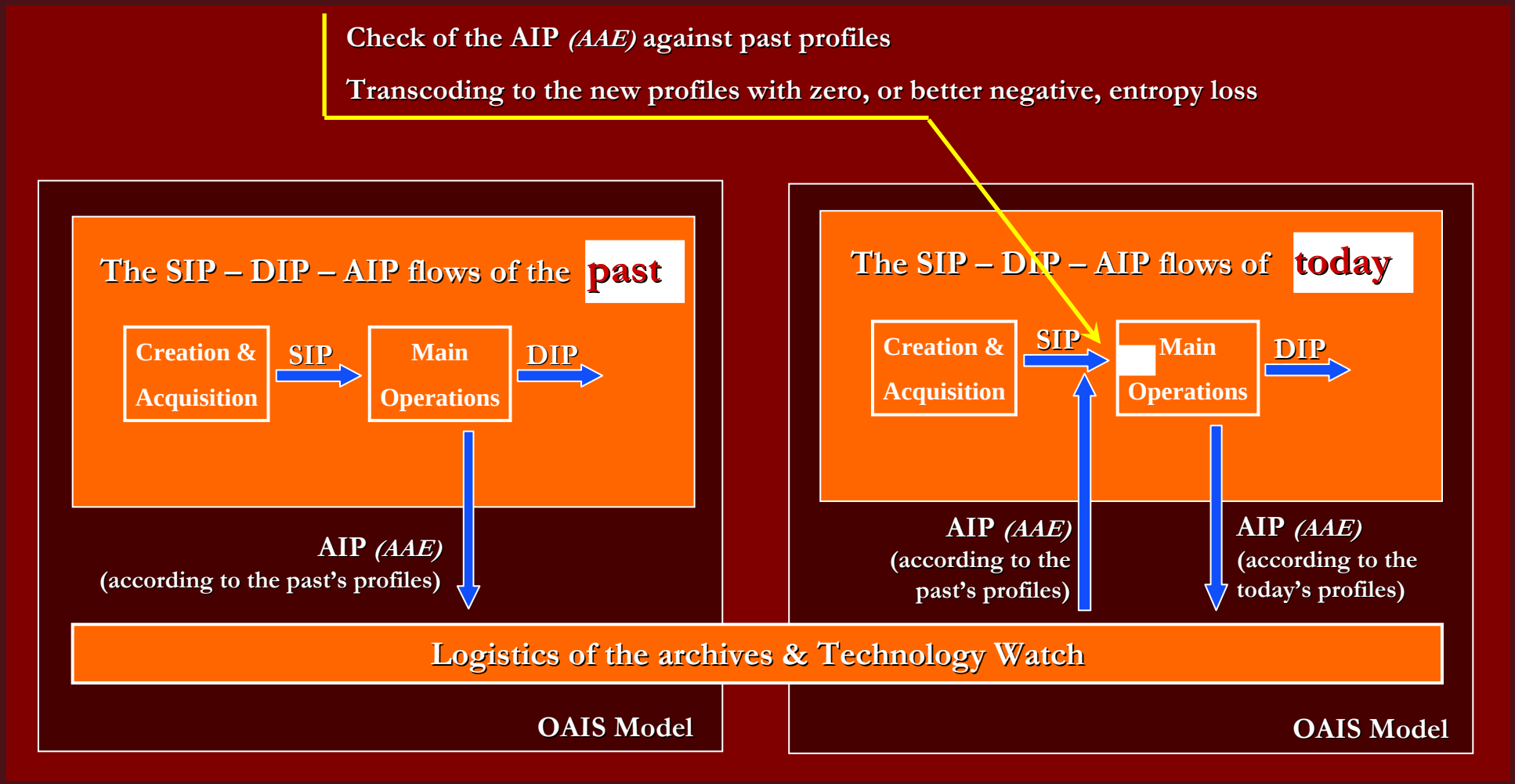


The AXIS approach:

Define how to construct SIP's having the properties of AIP's and being "Autonomous eXchange Entities" (OAIS – X-AXIS)

The persistence management:

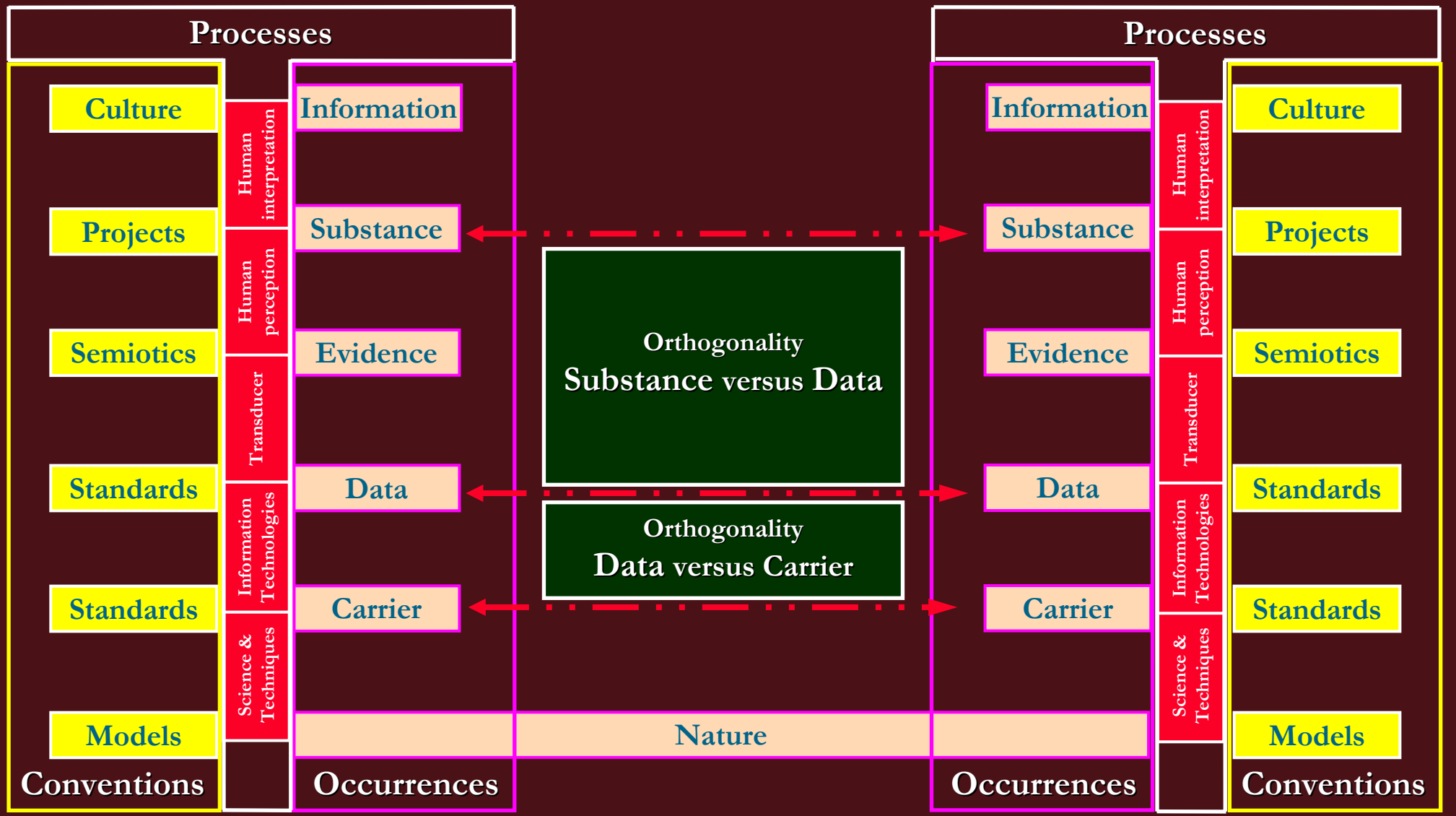
The AIP of the past are the SIP of today



Questions ?

1. OAIS model?
2. Which “CARRIERS” winners of the persistence challenge?
3. Which “FORMATS” for the representations of the ESSENCES / CONTENTS?
4. Which “FORMATS” for the representation of the METADATA?
5. Which “FORMATS” for the WRAPPING?

The orthogonalities & AIP to DIP transforms



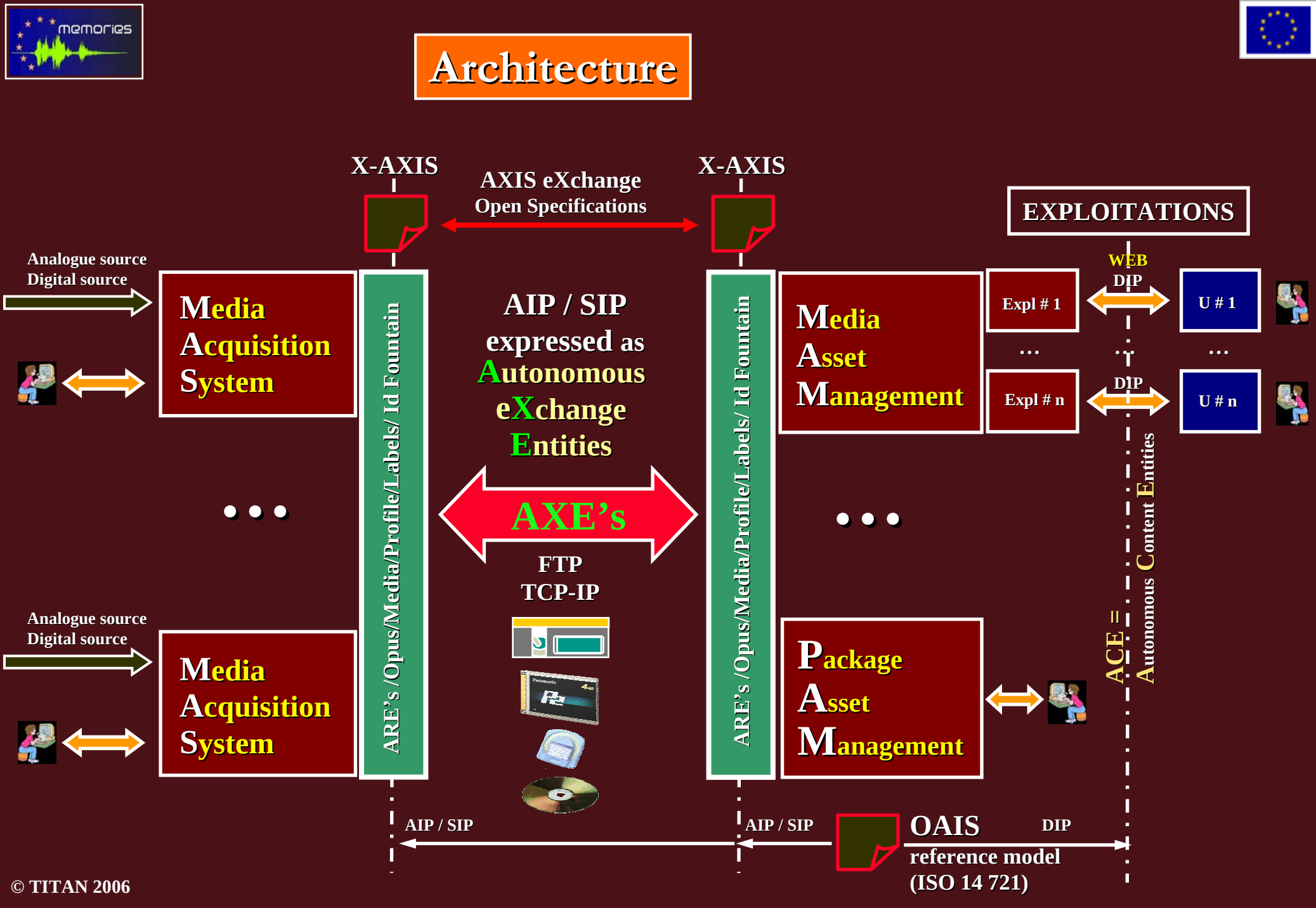
www.memories-project.eu

AXIS

Acquisition, eXchange, Indexing, Structuration

The AXIS reference model

Architecture



AXIS in "Open Licence"

MEMNON, as member of TITAN *(a Non Profit Association)*, is in charge of the finalization of the AXIS effort.

The intention is to make AXIS freely available in "Open License"

- **On the UNESCO site**
- **The technical maintenance being ensured by MEMNON**

The "AXIS bundle" would include:

1. **The architectural specifications of AXIS**
2. **The technical specifications of the open interchange format X-AXIS**
3. **A small SDK "Software Development Kit" *(a parser / assembler of X-AXIS)***
   "The Import / Export functions"

Construct ‘Logical Entities’ from ‘Physical Entities’ using ‘Proxies’ & vice-versa

‘Physical Entities’

are physical objects carrying ‘Logical Entities’ or part of them

‘Logical Entities’

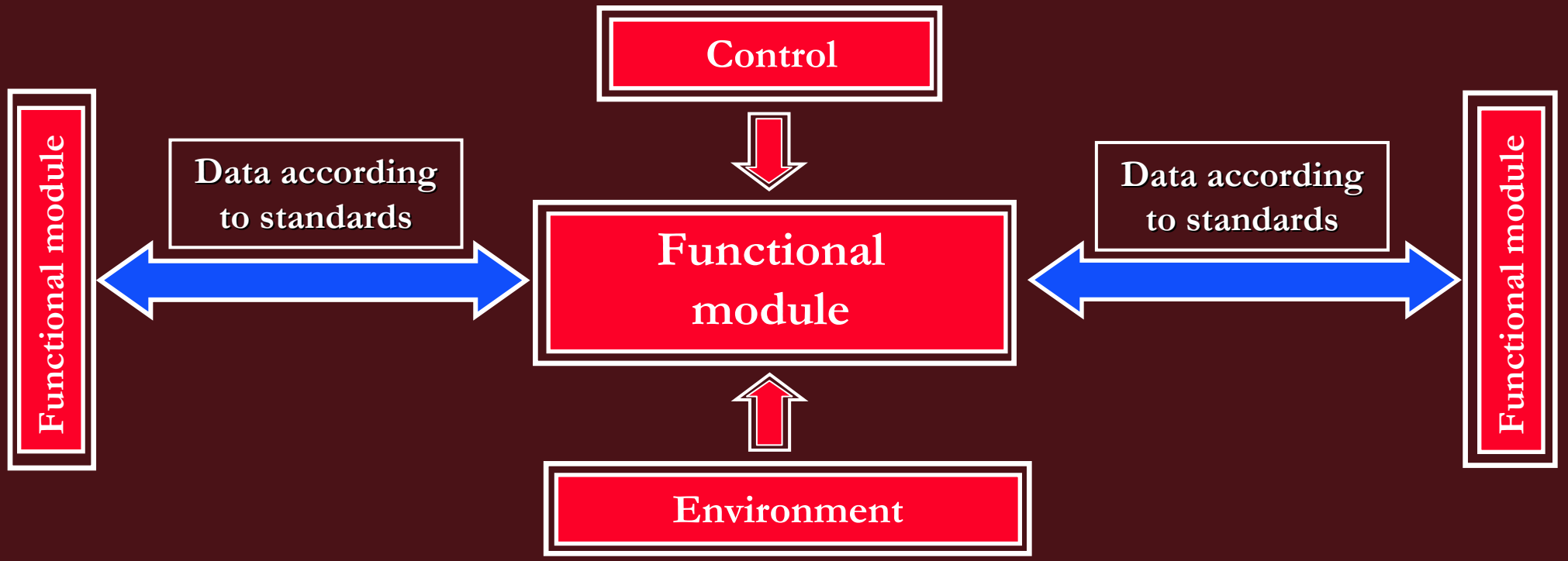
are semantic objects *(usually called ‘OPUS’ or ‘Works’)* modeled and represented independently of any “data carrier”

For example:

- On a Microgroove disk (Physical object) could be recorded pieces of music composed by W. A. Mozart and by J.S. Bach.
  Themselves, they could have two movements on face and the last one on the other face
  The Microgroove disk have its metadata printed on its container
- The "Toccata & fugue in d-moll of J.S. Bach is an 'OPUS' (Logical object) with three movements.

The open exchange approach

The open exchange approach



Domain of the industrial **proprietary technologies**

Interchange formats defined on the basis of **standards** and under local **control**

The open exchange approach

By standards it is meant :

1. International standards **(ISO, ETSI, …)**
2. National standards **(DIN, AFNOR, ANSI, …)**
3. Industrial & Community standards
   (DVD-R, CD-R, RDF, Dublin Core, OAIS, METS, MXF, AAF, …):
   They are standards backed by a large number of major actors of the domain
4. Industrial standards backed by International or National Standards **(DVB → ETSI), (Dublin Core → ISO), (OAIS → ISO), …**
5. Local standards: ***They are standards valid in a specific environment*** **(BLAP-S is a local standard of the British Library for the creation of metadata in the Audio sector; it is the definition of a Dublin Core Profile with possible MARC relators)**

Remark: ***If 'proprietary formats' have to be included in the exchanges between modules, they will be encapsulated and cloned by a proxy.***

The Export / Import & Acquisition of Contents

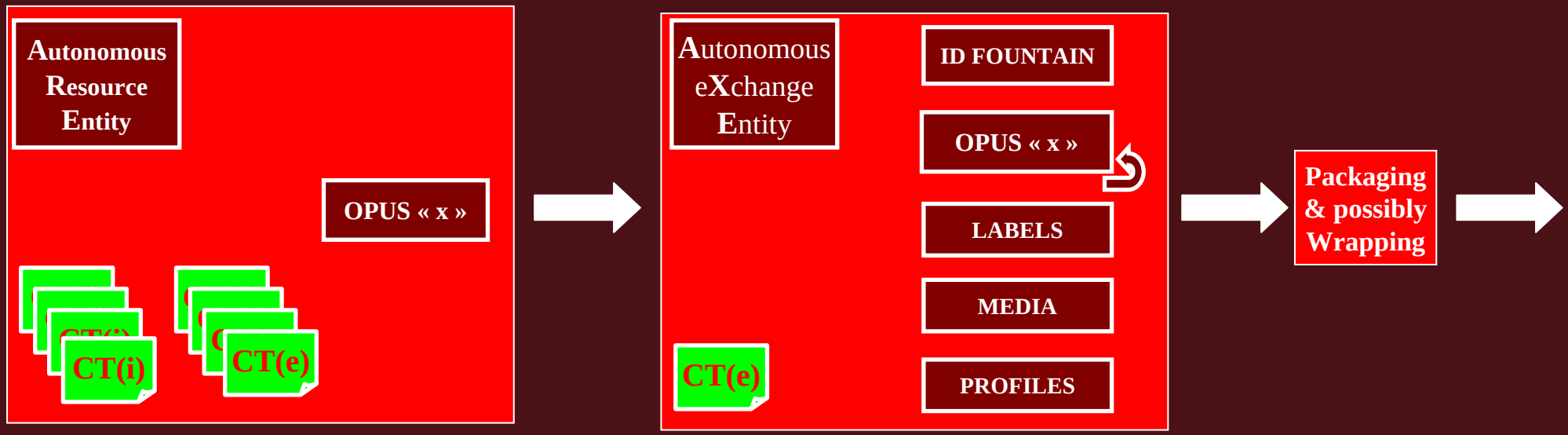
Architecture *(acquisition of contents)*

The acquisition concerns the attachment of contents, media, and other files defining the 'entities' but in a transient situation.

Examples:

- *The acquisition of a "Wave" file implies its inclusion to the appropriate entity in the "Media" entity. But its liaison to an Opus (Clip in an opus) remains yet to be done.*
- *The acquisition of an "Opus" implies the inclusion of a set of files (starting by a .afp. file) to the existing "Opus" structure. But the media could not yet have been attached. This situation is typical when a concert is planned and that all the metadata are already ready but the recordings will only occur the next day; or when you know that you have the recordings but you don't know on which tape it is.*

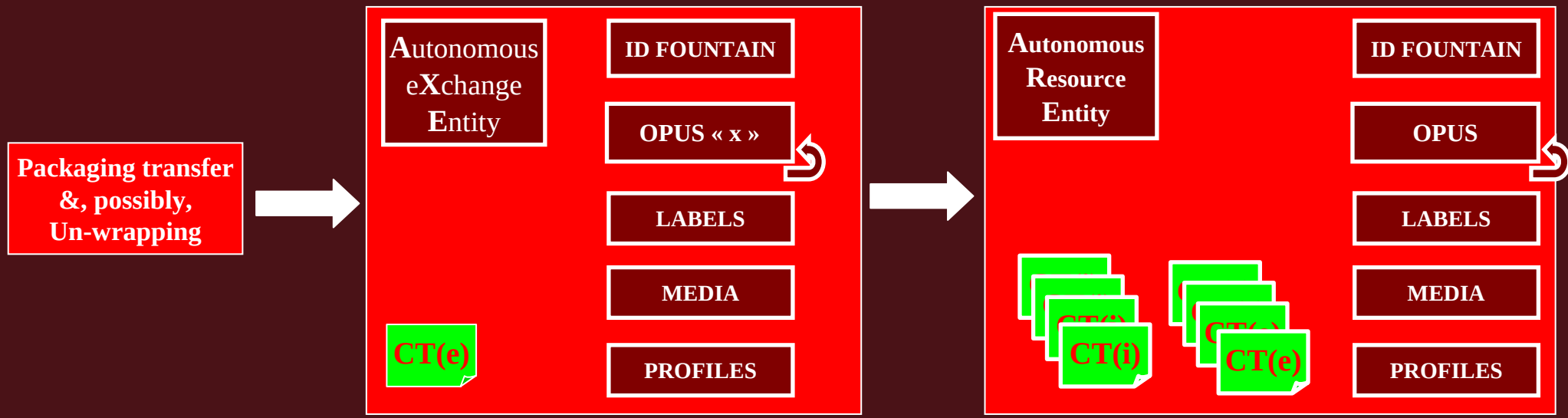
Architecture *(Export)*



EXPORT

1. An OPUS is designated in an "Autonomous Resource Entities"
2. The EXPORT facilities extract all the required information to construct an "Autonomous eXchange Entity" and its associated "Certificate of Traceability" (export side).
3. The AXE is packaged using the appropriate carrier and casing (Tape, DVD, Disk, FTP…) and, if needed / required, wrapped using one of a number of possible tools *(ZIP, METS, MXF / AAF, …)* resulting in a document of the .awa. format.

Architecture *(Import)*

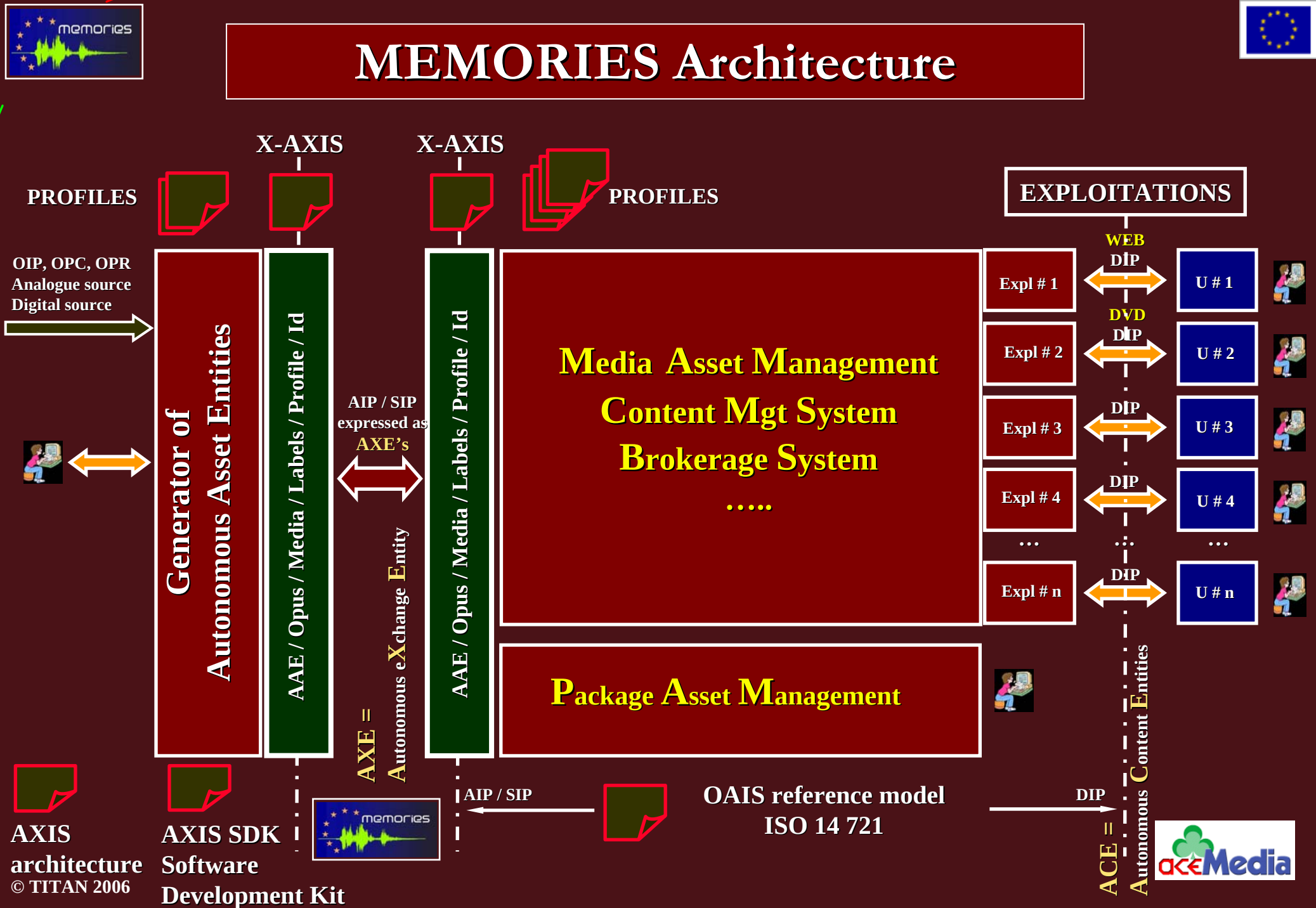


IMPORT

1. The AXE is transferred from its package to the ARE carrier and, if present, the .awa. file will be un-wrapped using the appropriate tool *(ZIP, METS, MXF / AAF, …)*
2. The Opus defined by the AXE is imported in the "Autonomous Resource Entities", hooked at the designated place in the "OPUS" section; the Media, Labels and Profiles items are added and
3. The IMPORT facilities insert the associated "Certificate of Traceability" (import side) to the list of CT of the ARE.

Conclusions on the reference model

MEMORIES Architecture



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