S1000D User Forum

www.thalesgroup.com

S1000D Issue 4.0/4.1 project: FILOMAIN

Thales solution for common interactive electronic technical publication and e-Learning publication

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OPEN

THALES

Agenda

- Context
- Design introduction
- Development of the solution
- Viewer presentation
- Benefit of the solution
- Next steps of the solution

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Thales Group

Technological leader in the service of safety and security

Worldwide company with 68 000 employees and euros 13,1 billion in revenues

- **2 main domains**

Aerospace and Transport

40 %

Defence and Security

60 %

- **50 countries**

2020 strategy: euros 20 billion in revenues

With a part dedicated to the Services representing 25% of the activity

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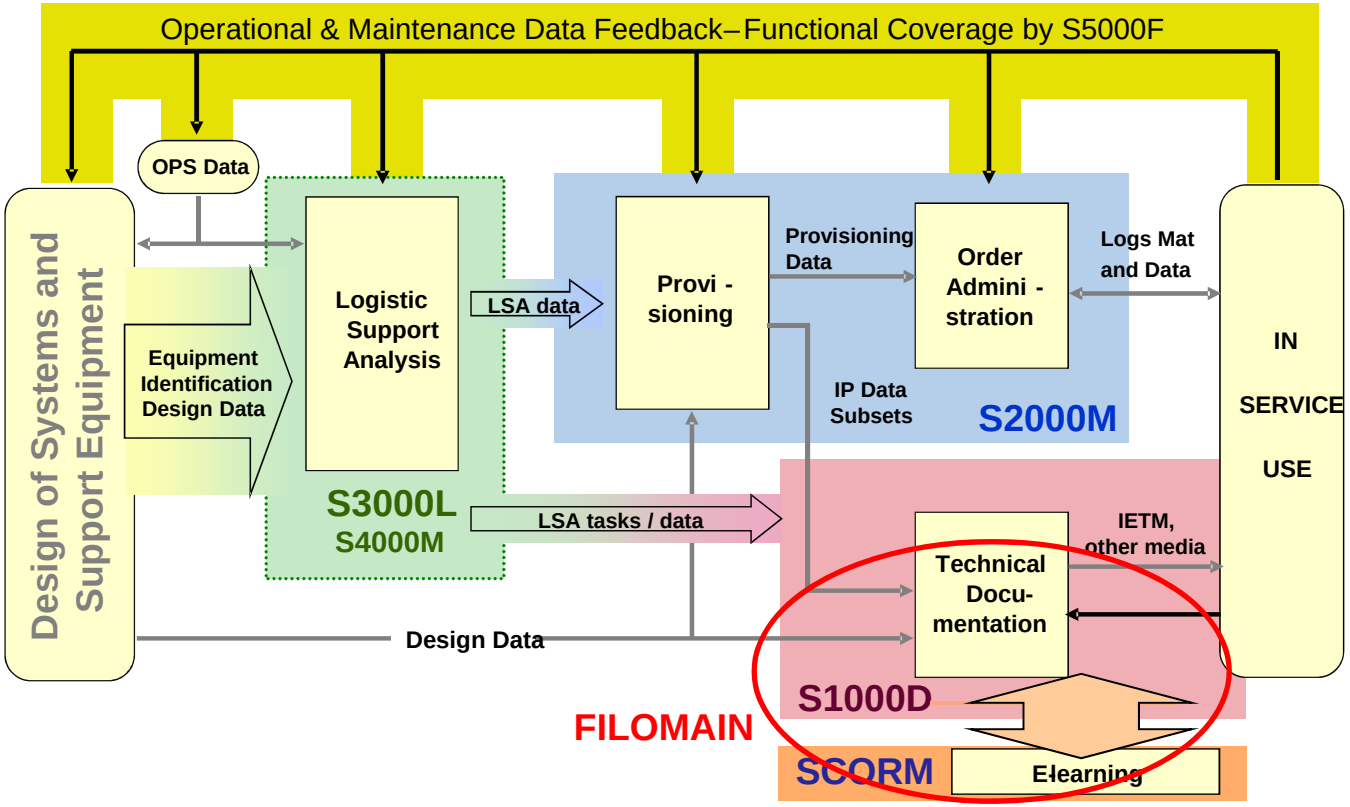
Context

Coherent solution stemming from an information logical chain

Filomain is part of the S1000D solution deployed inside the Thales group for Thales and customers



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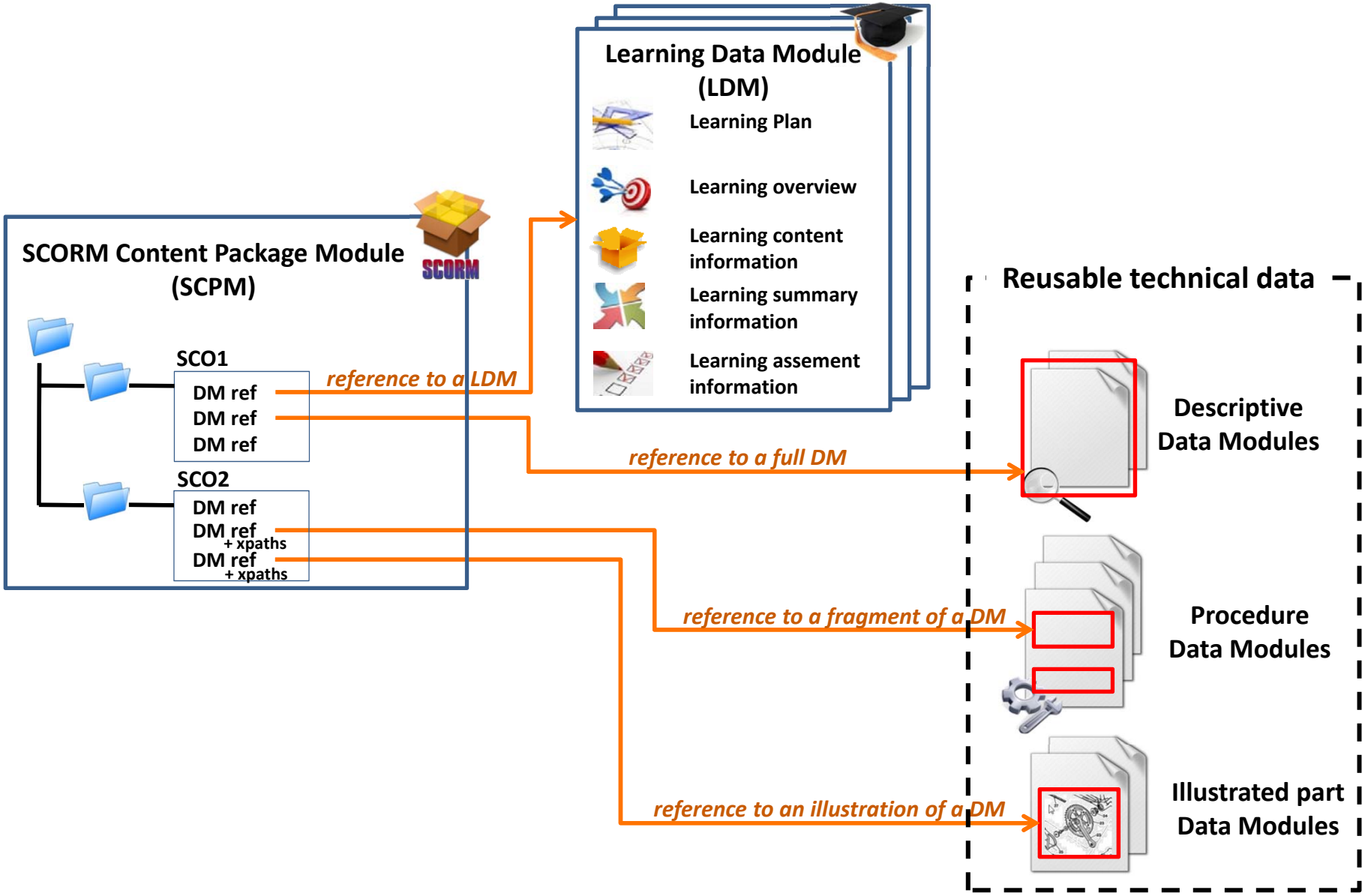
Design: Learning objects in S1000D issue 4.0.1



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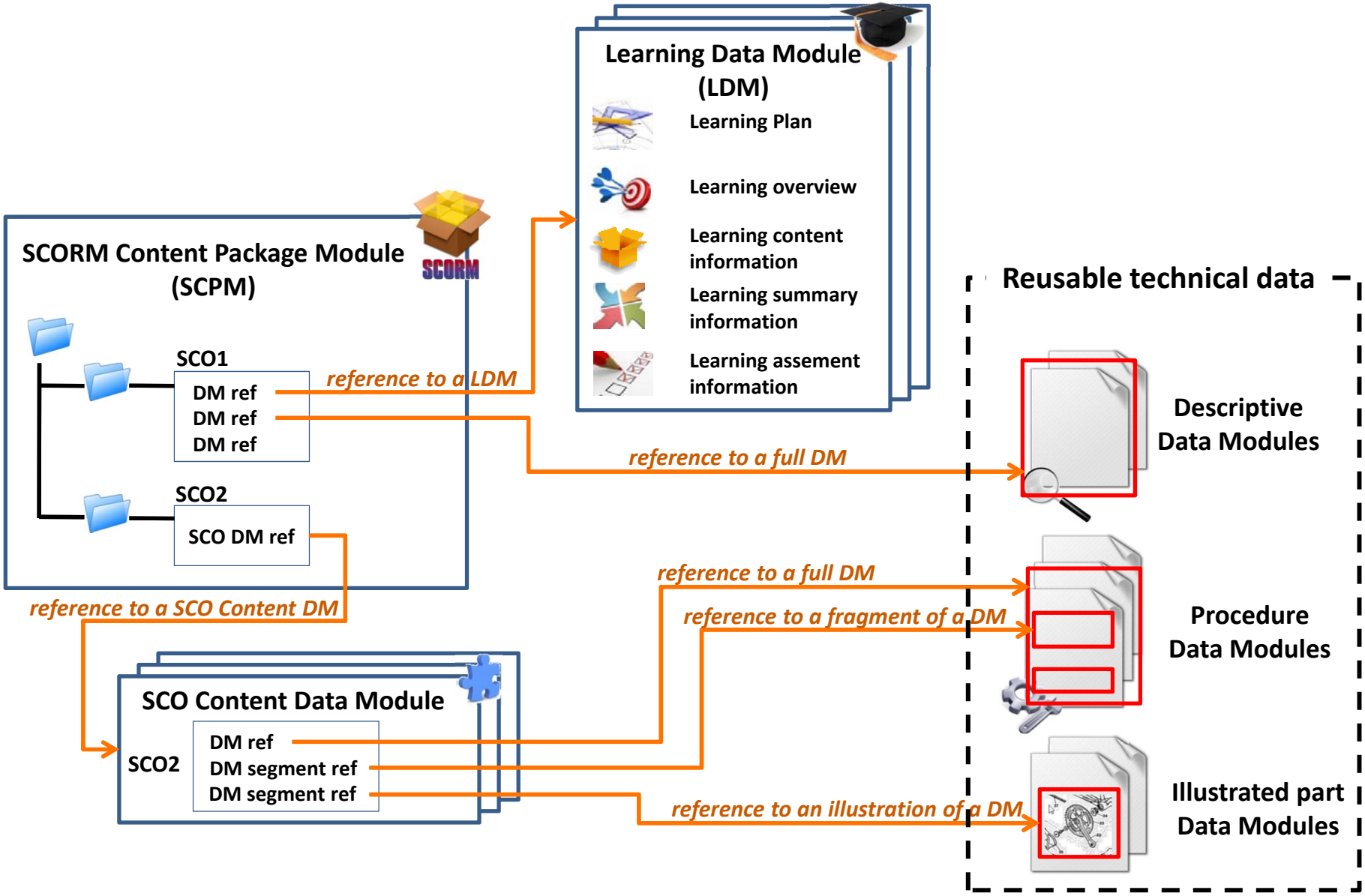
Design: Learning objects in S1000D issue 4.1



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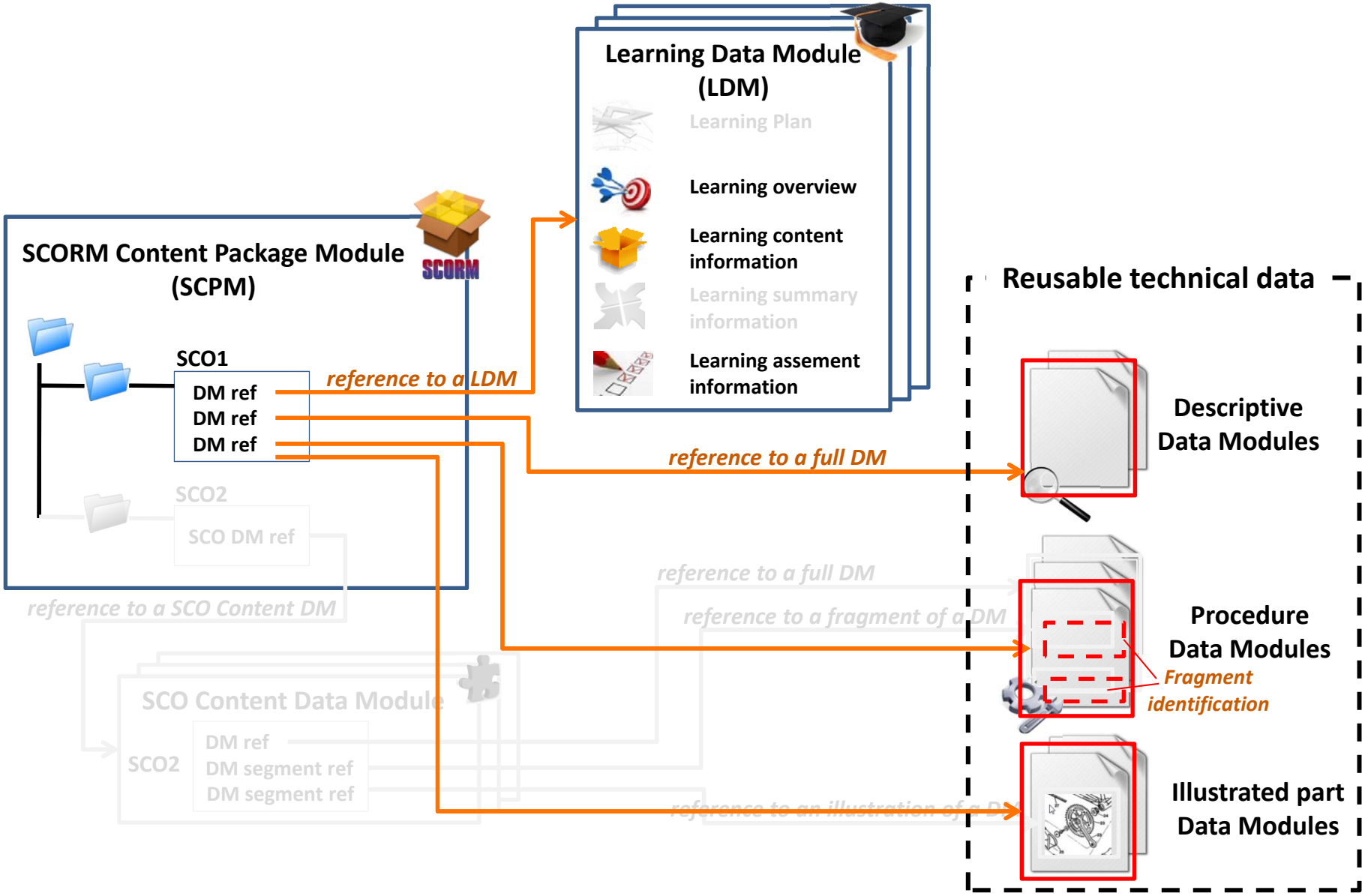
S1000D 4.1 learning objects used in Filomain project



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Design introduction

Innovative approach:

unique publication mixing the IETP and the e-learning views

- **Federator** — **LSA/Provisioning data /Techpub/Training fusion**
- **Easy** — **Intuitive navigation on a touchscreen device (tablet, etc)**
- **Portable** — **Light & mobile solution**
- **Open** — **Can be connected to our products and customer portal**
- **Pedagogic** — **Self training with multimedia approach**

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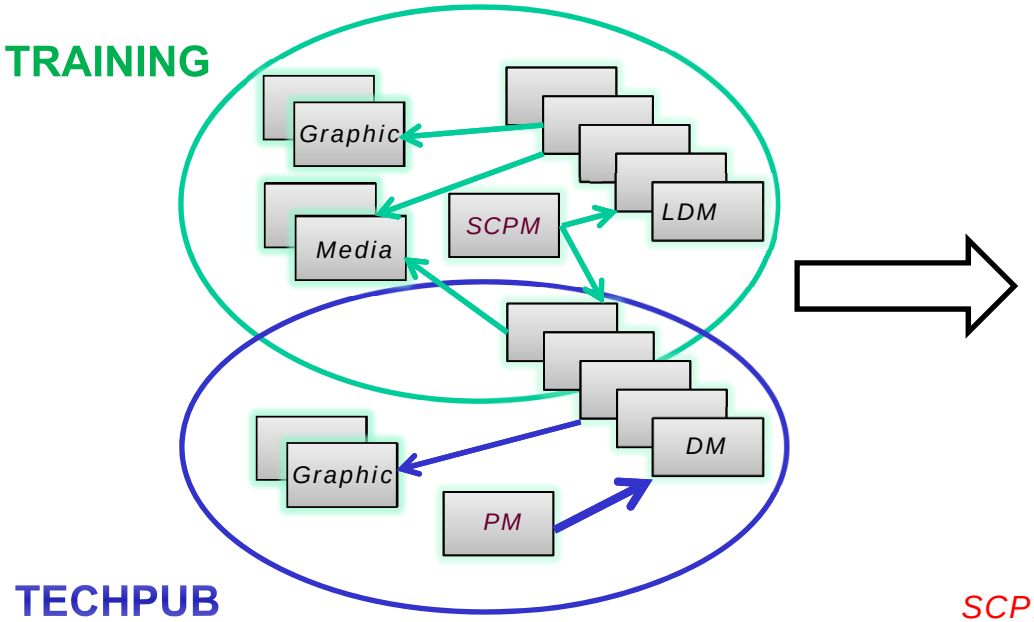
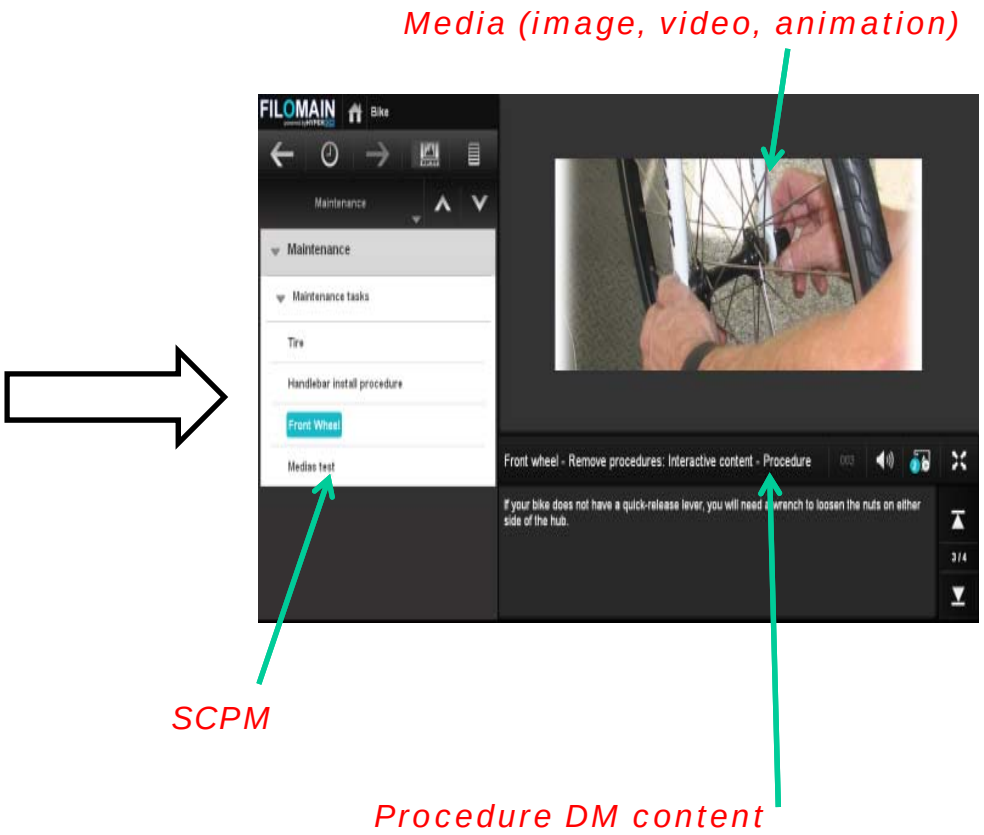
Development of the solution: Principle

DM : Data Module
LDM: Learning Data Module
PM: Publication Module
SCPM: SCORM Content Package Module





Use S1000D Data Modules when you create e-learning

Data exchange between learning content authoring environment and techpub authoring environment using the same CSDB during the production of learning information

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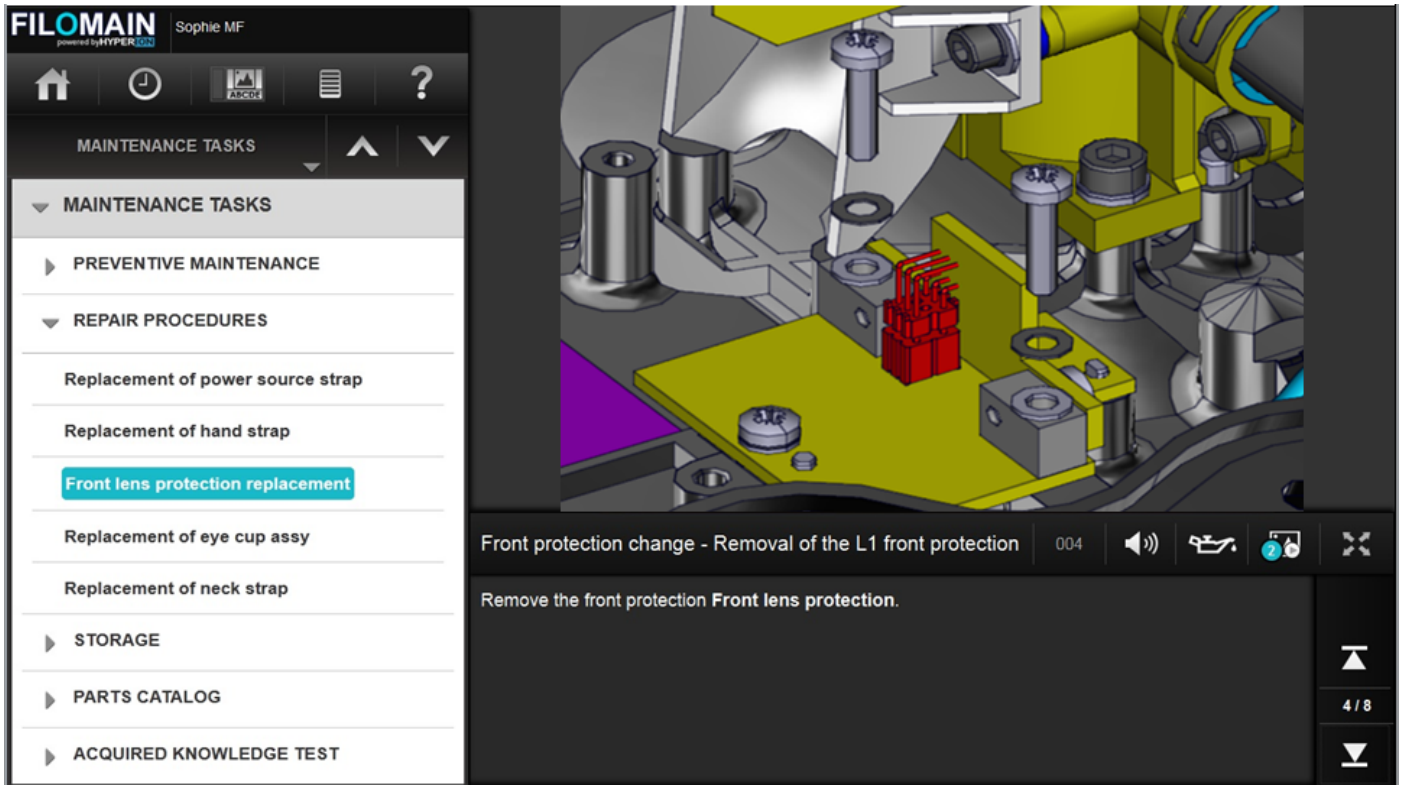
Publication

- **Descriptive, procedural, IPD & Learning data modules**
- **3D animations and videos:**
  - to illustrate the maintenance procedures
  - for an interactive training
- **Synchronization between text and medias**



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SCPM use

- **Several SCPM files can be used in the application**
- **They are associated with the equipment configuration and the catalogue for the content structure to generate the viewer**
- **The SCPM file can be displayed in regard to a “training” or a “pub” type.**
  - A SCPM with a “training” type is opened in TRAINING view.
  - A SCPM with a “pub” type is opened in TECHPUB view.

(equipment/catalogues/catalogue/references/smc)

```
<catalogues>
    <catalogue lang="en">
        <references>
                <smc id="smcBIKE-overview-t" link="SMC-A1-M0000-00000-00-BIKE" type="training"/>
                <smc id="smcBIKE-doc-p" link="SMC-BIKEXXXXXXXXXX-F6170-S0001-01" type="pub"/>
    </references>
```

SMC: SCORM Content Package Code of the SCPM

SCPM: SCORM Content Package Module

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Information tagging in DMs

- **Specific LDMs (Learning Data Module) are performed.**
- **Existing DMs from the techpub are used for training.**
- **A training layer can be integrated in a DM used for techpub.**
- **A content (text, illustration, media) can be added or removed.**
- **To display a content only in TRAining view or only in PUBlication view, we use an ID with the suffix _TRA or _PUB.**
  - Examples :
    - <para id="para-001_TRA"> is not displayed in publication view.
    - <para id="para-001_PUB"> is not displayed in training view.

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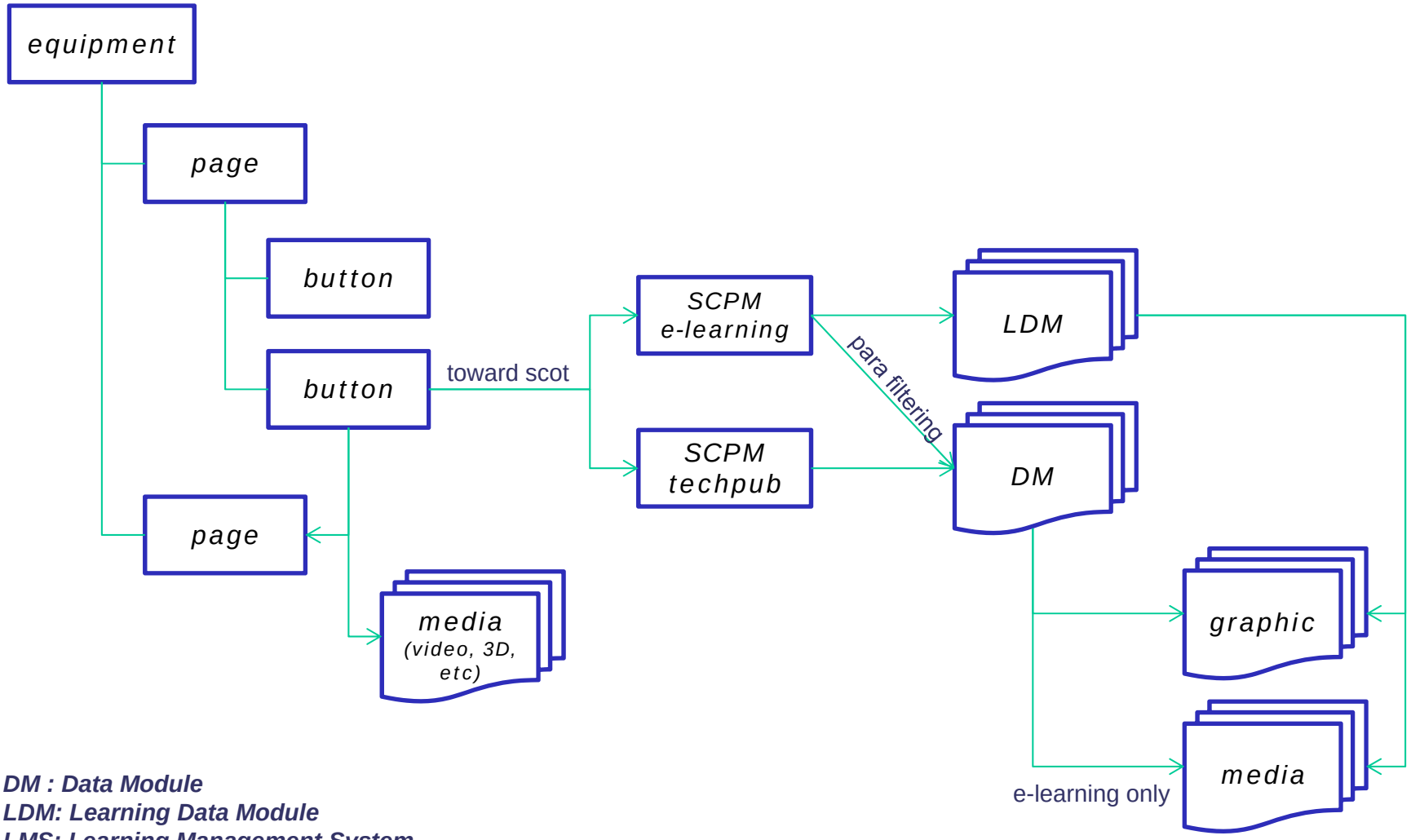
S1000D Authoring



DM : Data Module
LDM: Learning Data Module
LMS: Learning Management System
SCPM : SCORM Content Package Module
PM: Publication Module
SCOT: Sharable Content Object entry Type

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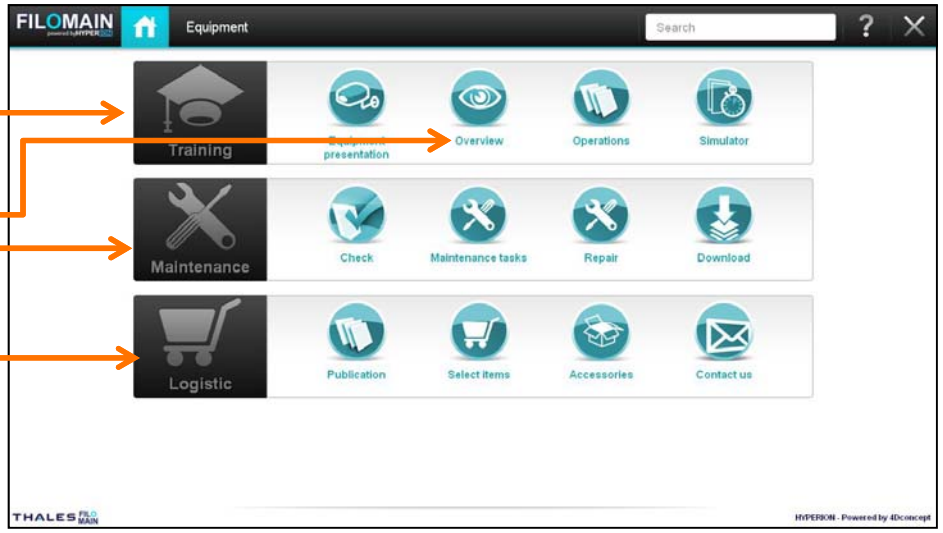
Buttons principle

- **Catalogues associated to each equipment**
- **Example: one catalogue and one equipment**

```xml
<equipements>
    <equipement id="equipment">
        <nom>Equipment</nom>
        <image>equipment_icon</image>
        <catalogues>
            <catalogue lang="en">
                <references>
                    <smc id="smc-training-t" link="SMC-A1-M0000-00000-00-EQUIPMENT_41" type="training"/>
                    <smc id="smc-doc-p" link="SMC-EQUIPMENTXXXXX-F6170-S0001-01_41" type="pub"/>
                </references>
                <page id="index" type="choix">
                    <titre>Main page</titre>
                    <boutons>
                        <categorie type="training">
                            <texte>Training</texte>
                            <image>training</image>
                            <bouton> ...
                            </bouton>
                            <bouton tree="smc-training-t">
                                <texte>Overview</texte>
                                <lien type="externe">typeDM=scot51</lien>
                                <image>overview</image>
                            </bouton>
                            <bouton tree="smc-training-t"> ...
                            </bouton>
                            <bouton> ...
                            </bouton>
                        </categorie>
                        <categorie type="maintenance"> ...
                        </categorie>
                        <categorie type="logistic"> ...
                        </categorie>
                    </boutons>
                </page>
                <page id="6" type="choix"> ...
                </page>
                <page id="acc" type="choix"> ...
                </page>
            </catalogue>
        </catalogues>
    </equipement>
</equipements>
```



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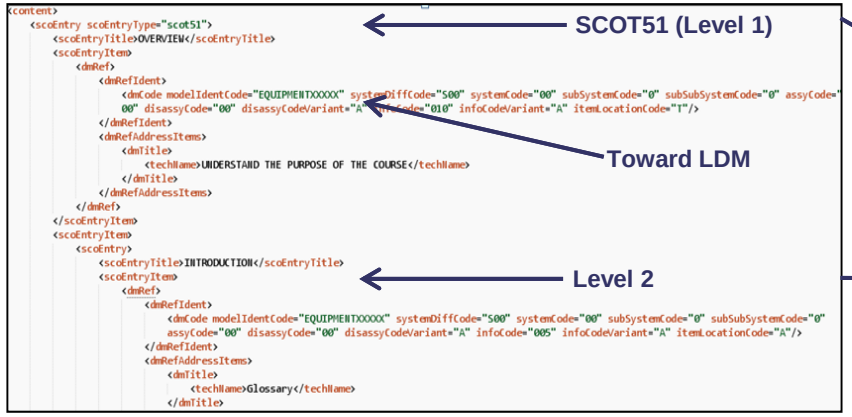
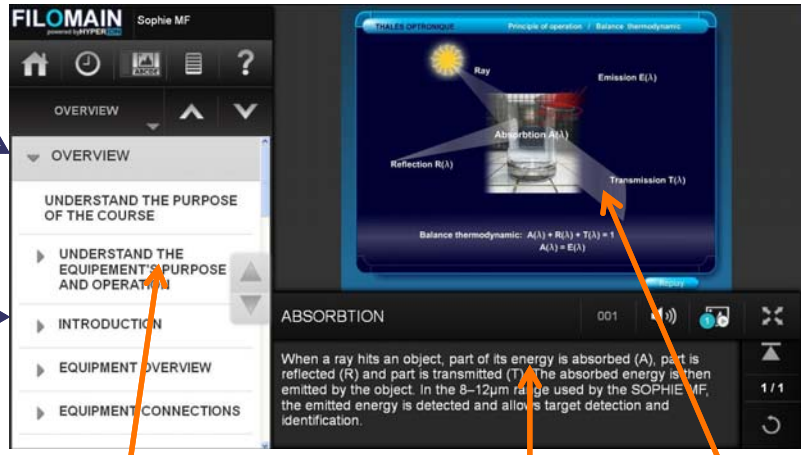
SCPM principle

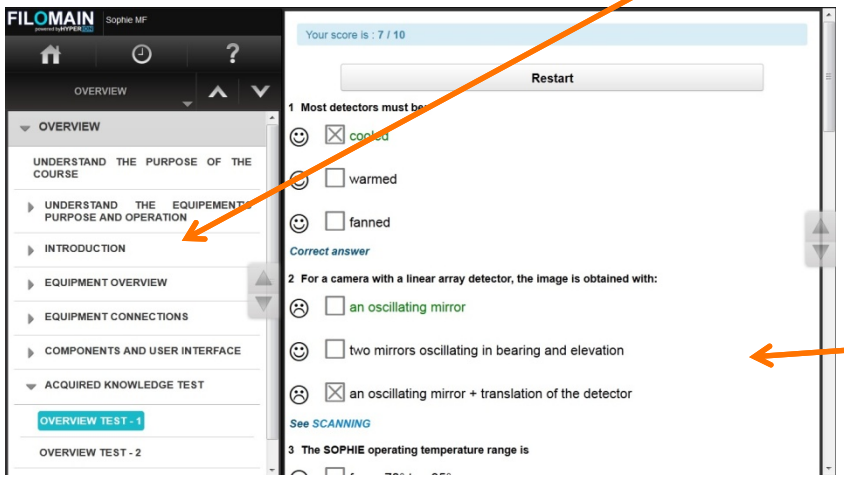




SCPM training

Learning DM content

Animation



Assessment Learning DM

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Viewer technologies

- **A mobile application using web technologies**
  - New technologies: HTML5/CSS3
  - JavaScript for dynamic pages
  - Client oriented technologies supported by modern web browsers
  - No need for a local server => portability
- **Portability on mobile platforms**
  - Android 4.0
  - Windows 7/8
- **Portability on web browsers**
  - Internet Explorer 9/10
  - Firefox 20+
  - Chrome 26+
- **Minimum resolution: 1280 x 800**

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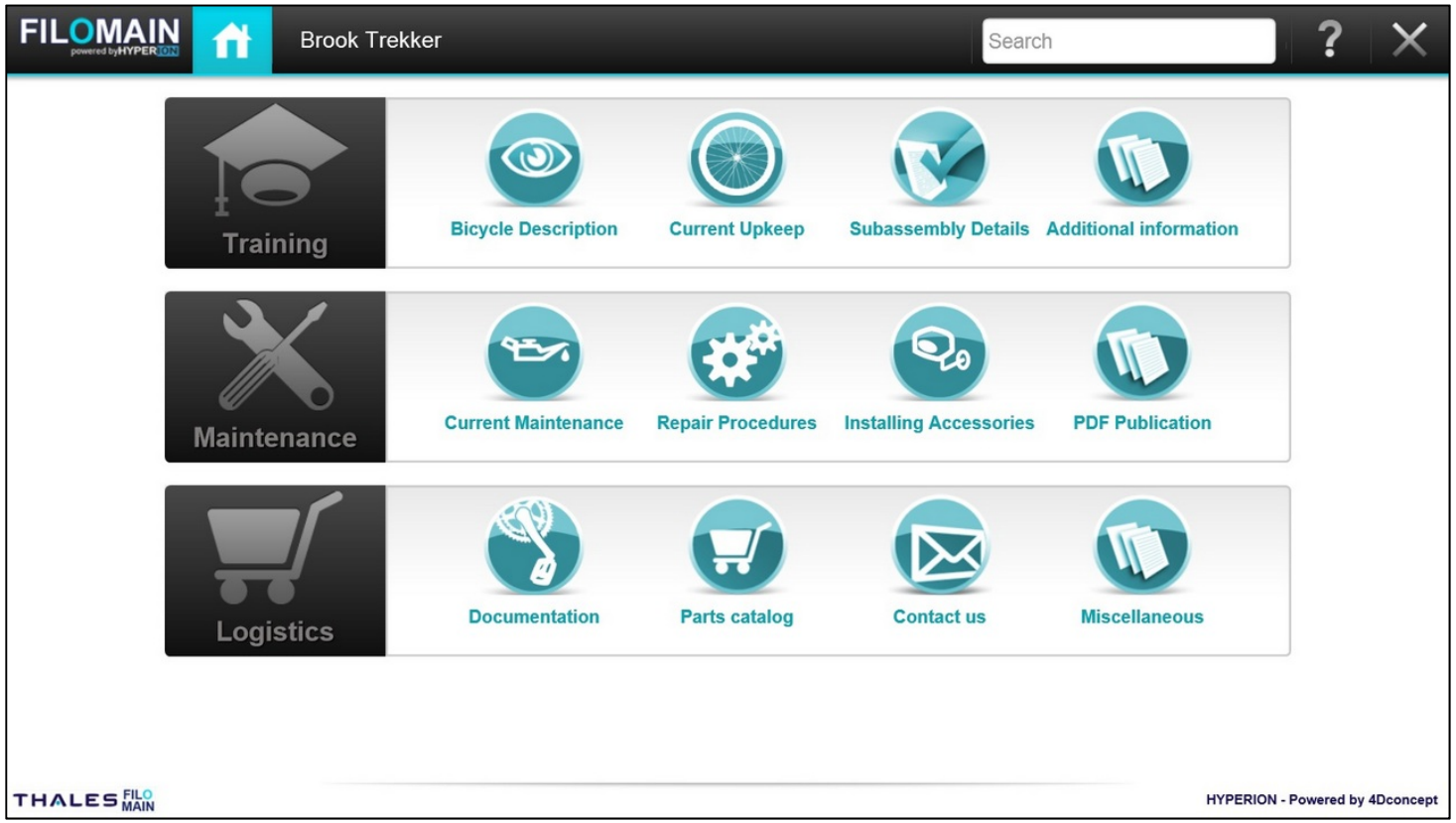
Presentation



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Benefits of the solution

- Integration in services offer
- Standard Media & easier navigation on tablet
- Training duration ↘
- Development cost ↘
- Logistic chain upstream coherence ↗
- Customer progressive self training
- LSA/Techpub/Training fusion
- Change control
- Cross-discipline re-use

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Next steps of the solution

- Extension of DM types
- Use of the new SCO Content Data Module
- Client/server architecture
- Users access restrictions (login, publication filtered)
- Use of TEOPAD to secure access
- SCORM packaging for integration in a Learning Management System (LMS)

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Thank you for your attention...

... Any question?

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