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Analysis of the joint training and translation survey

Training Requirements for Translators (EMMC)

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VIMMP Project: Virtual Materials Marketplace

VIMMP will provide a genuine **two-sided virtual marketplace**, comprising service providers and service consumers, serving all stakeholders from materials development.

VIMMP participates in the creation of an single open and interoperable **European Virtual Marketplace Framework** on the basis of jointly agreed and managed semantic assets.

**VIMMP Marketplace** concept: To serve its participants and facilitate exchange between materials **model providers**, industrial & academic client **end users**, and **translators**.
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For this purpose, a **joint survey on translation and training requirements** was conducted by the EMMC-CSA, VIMMP, and MARKETPLACE projects.
Joint training and translation survey: Participants

**Organization type**

- Academic: 35%
- Research & Technology Center: 33%
- Private company: 23%
- Academic:Private company: 6%
- Academic:Research & Technology Center: 2%

**Prospective role**

- Service user: 10%
- Service provider: 48%
- Both: 42%

**Country**

- 9 Spain
- 8 Germany
- 6 UK
- 5 Italy
- 4 Netherlands
- 3 France
- 3 Greece
- 2 Austria
- 2 Belgium
- 2 Israel
- 1 Denmark
- 1 Finland
- 1 Norway
- 1 Portugal
- 1 Romania
- 1 South Korea
- 1 Sweden
- 1 Switzerland
Joint training and translation survey: Results

What **computational and data technology infrastructure** should marketplaces provide?

Suggested development focus:
1) Conversion between file formats
2) Tools for coupling different codes
3) Uncertainty quantification
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Joint training and translation survey: Results

What **translation-related material** should be available at a virtual marketplace?
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What **translation-related material** should be available at a virtual marketplace?

Three major desiderata:
1) Tutorials (as training material)
2) Case studies (as training material)
3) Tools for screening models
Joint training and translation survey: Results

What features should a **personalized translator profile** at a virtual marketplace provide?

Main features to be implemented:

1) Searchable translator database
2) Catalogue of model providers
3) Personal pages for translators

![Graph showing approval and disapproval ratings for various features](image)
Joint training and translation survey: Results

At what level should the technical and economic training be conducted predominantly?

Technical training:

It is expected that the acquisition of intermediate to advanced competencies will be facilitated.

Economic training:

It is expected that the acquisition of basic to intermediate competencies will be facilitated.
Training ontology: Operators for learning outcomes

“After successfully completing $X_1$, participants can $X_2$ with respect to $X_3$ by doing $X_4$; for example, $X_5$.” (Note: $X_4$ and $X_5$ are not required, and $X_1$ is not an outcome.)

1XX – Operators to be predominantly used for **basic competencies**:
“to name/label” (code 120), “to outline/present” (code 130),
to list/give” (code 140), “to write a lab report/data log” (code 150), ...

2XX – Operators to be predominantly used for **intermediate competencies**:
“to compare” (code 215), “to deduce” (code 220), “to estimate” (code 225),
to analyse and identify” (code 230), “to apply” (code 235),
“to calculate” (code 240), “to describe” (code 245) ...

3XX – Operators to be predominantly used for **advanced competencies**:
“to propose a hypothesis” (code 320), “to evaluate” (code 330),
“to justify/give reasons” (code 340), “to comment on/assess” (code 350) ...

4XX – Operators to describe **expert competencies**, beyond usual learning outcomes.
Training ontology: Topics in materials modelling

OTRAS: Ontology for Training Services based on EVMO, CCSO, IAO, and ICAIHZD

The training ontology will include **topic** and **operator** catalogues.

**mm_topic_basic** (codes 1XXX and 2XXX):
Basic prerequisites for materials modelling, including contents from undergraduate or secondary education.

**mm_topic_computational** (codes 3XXX):
Computational and numerical aspects of materials modelling.

**mm_topic_data** (codes 4XXX):
Data science and technology aspects.

**mm_topic_materials** (codes 5XXX):
Topics related to materials, including fluids.

**mm_topic_social** (codes 6XXX):
Social, economic, and community aspects.

**mm_topic_theoretical** (codes 7XXX):
Non-computational theoretical aspects.

**mm_topic_interdisciplinary** (codes 8XXX)

**mm_topic_side** (codes 9XXX):
Topics from other disciplines
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Lausanne – Ignacio Pagonabarraga
London – Kwang-Leong Choy
Torino – Pietro Asinari, Luca Bergamasco

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