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Analysis of the joint training and translation survey

Training Requirements for Translators (EMMC)

VIMMP
VIRTUAL MATERIALS MARKETPLACE

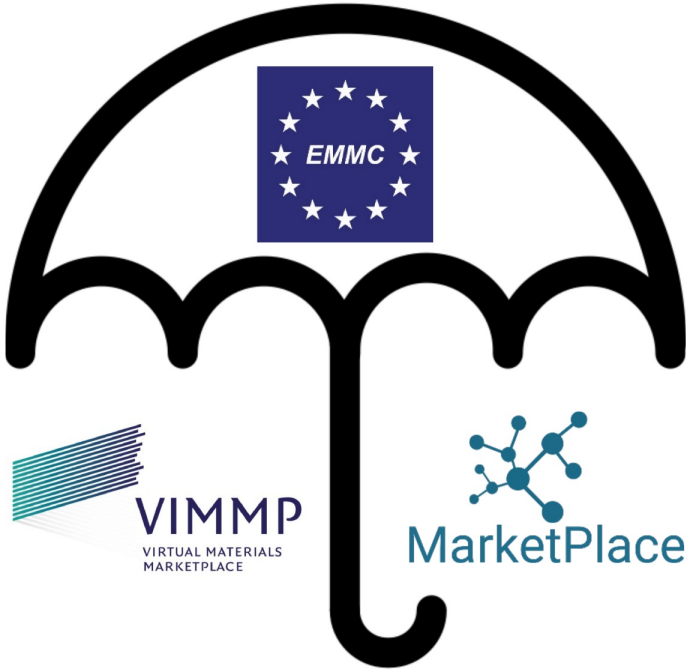
In collaboration with Pietro Asinari,
Luca Bergamasco, Welchy Leite Cavalcanti,
Kwang-Leong Choy, and Ignacio Pagonabarraga

27th March 2019

Hamburg

Science & Technology Facilities Council | UK Research and Innovation | Politecnico di Torino | cecam Centre Européen de Calcul Atomique et Moléculaire | UCL | Fraunhofer IFAM | VIMMP Virtual Materials Marketplace

VIMMP Project: Virtual Materials Marketplace



Coordination:

Fraunhofer IFAM

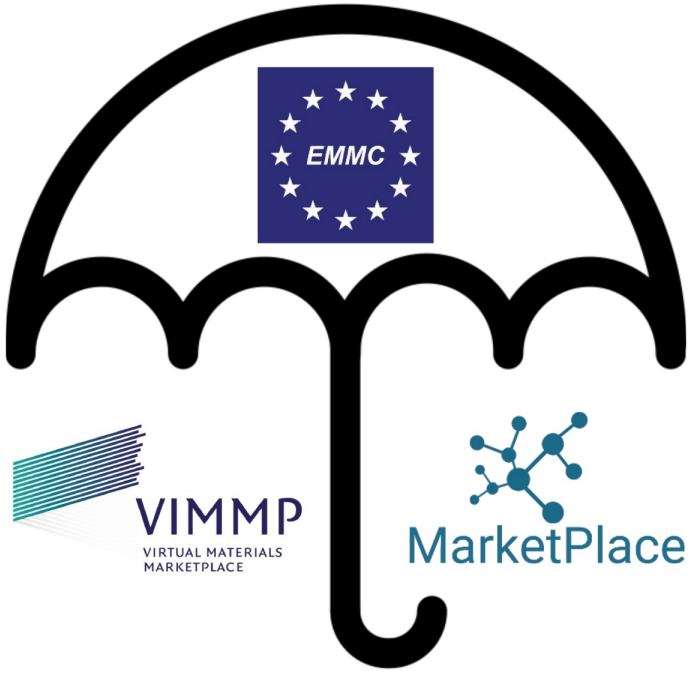
Funded by the Horizon 2020 Framework Programme of the European Union

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**.

Collaboration: European Virtual Marketplace Framework



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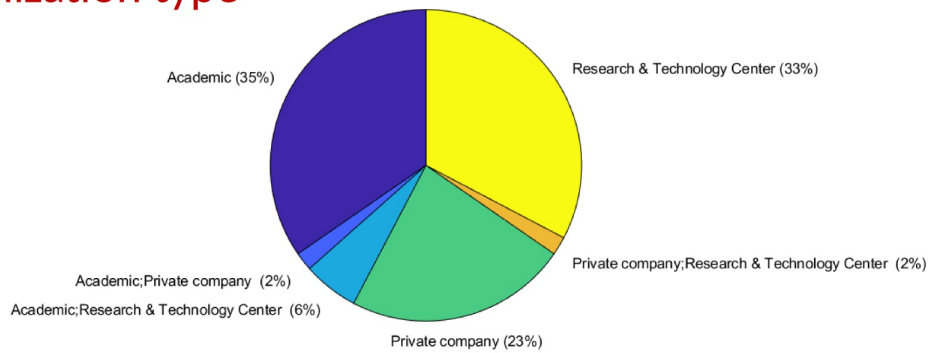
For this purpose, a **joint survey on translation and training requirements** was conducted by the EMMC-CSA, VIMMP, and MARKETPLACE projects.

Joint training and translation survey: Participants

Organization type



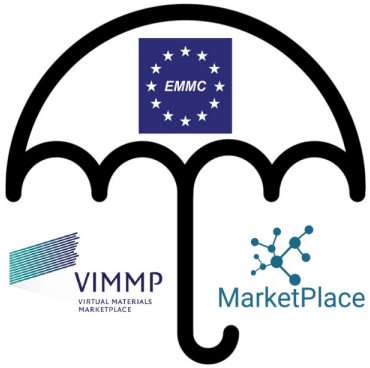
Type of your organization

Prospective role

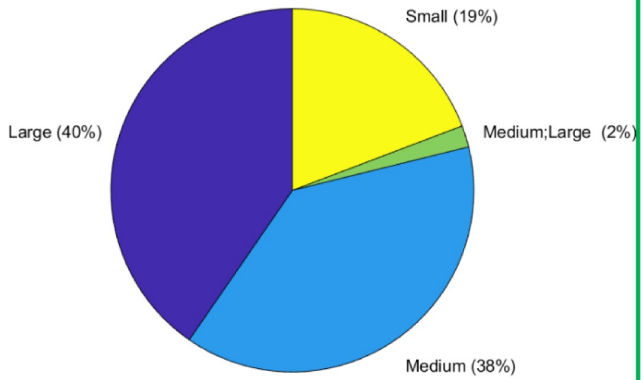
Service user: 10%
Service provider: 48%
Both: 42%

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



Organization size



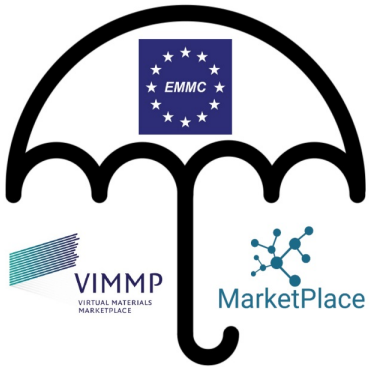
Size of your organization

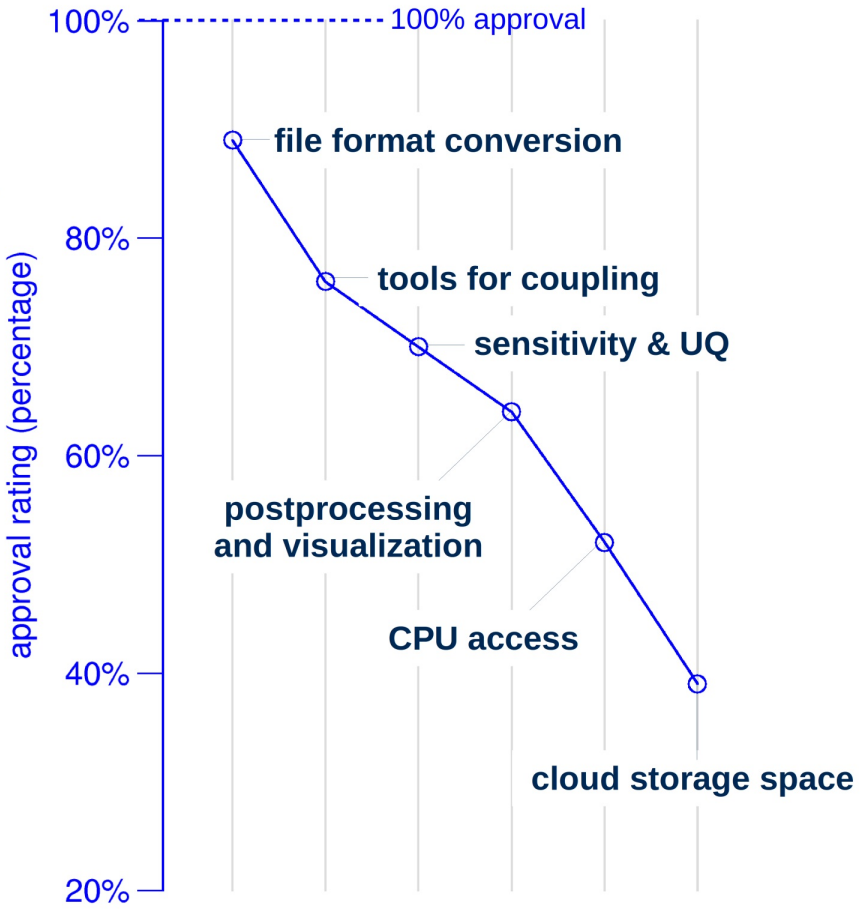
Joint training and translation survey: Results

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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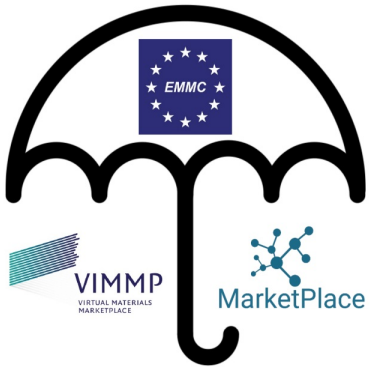
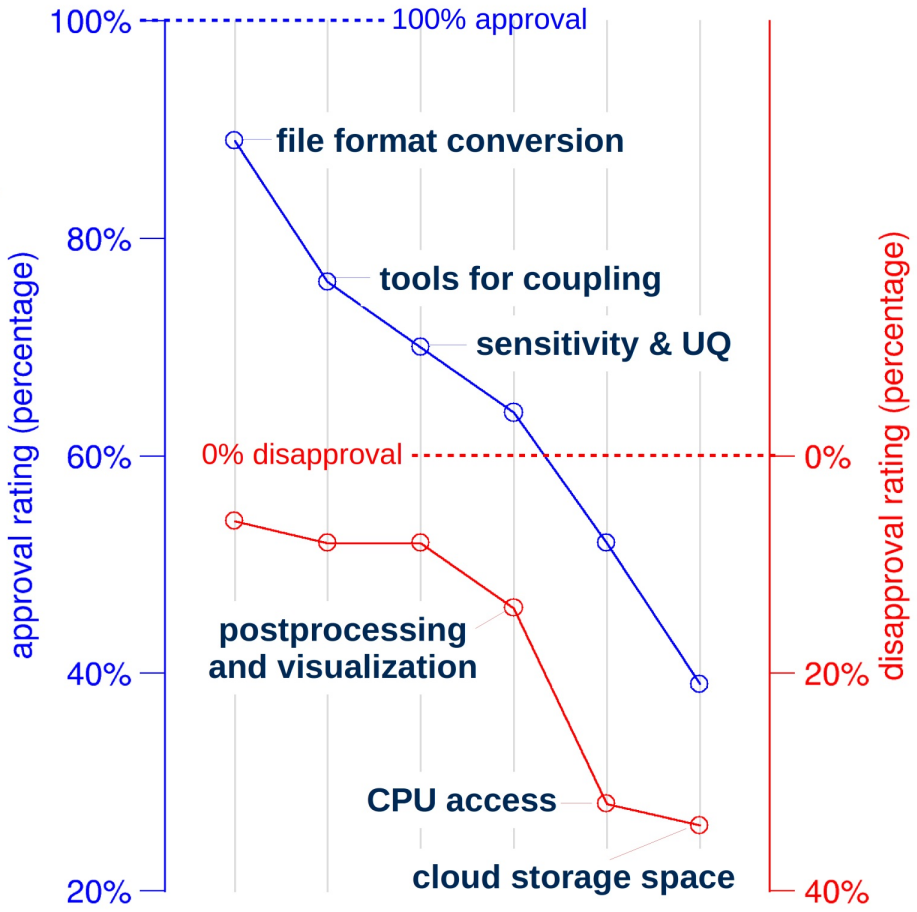
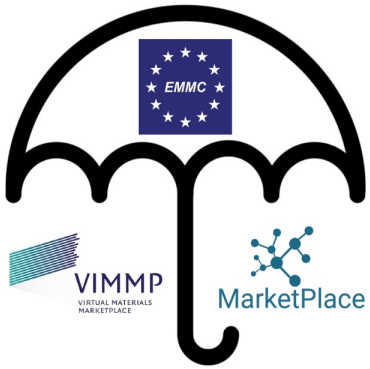
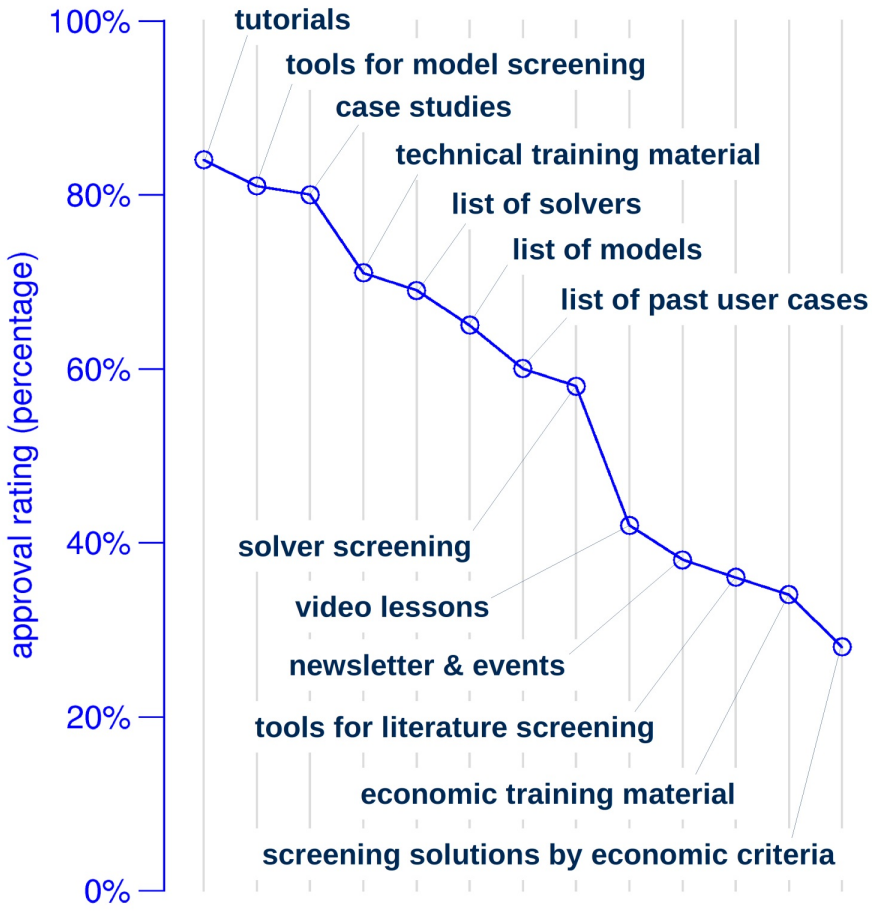




Joint training and translation survey: Results

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



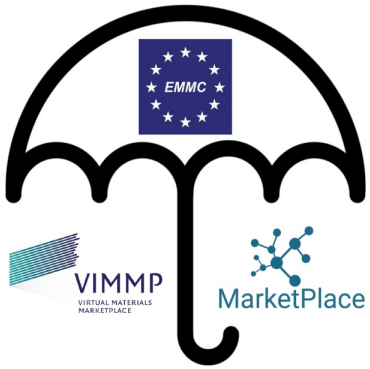


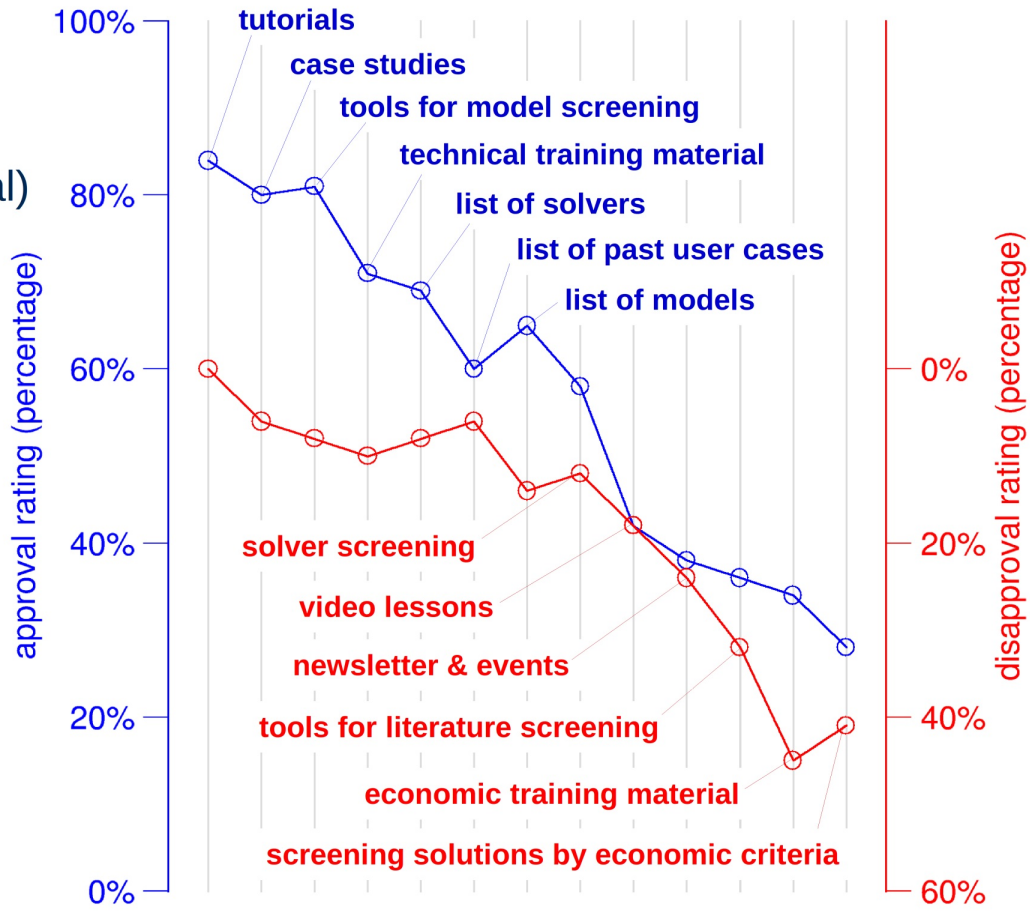
Joint training and translation survey: Results

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



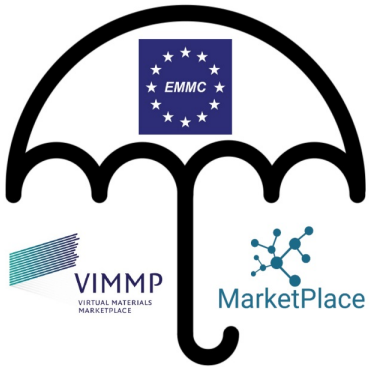


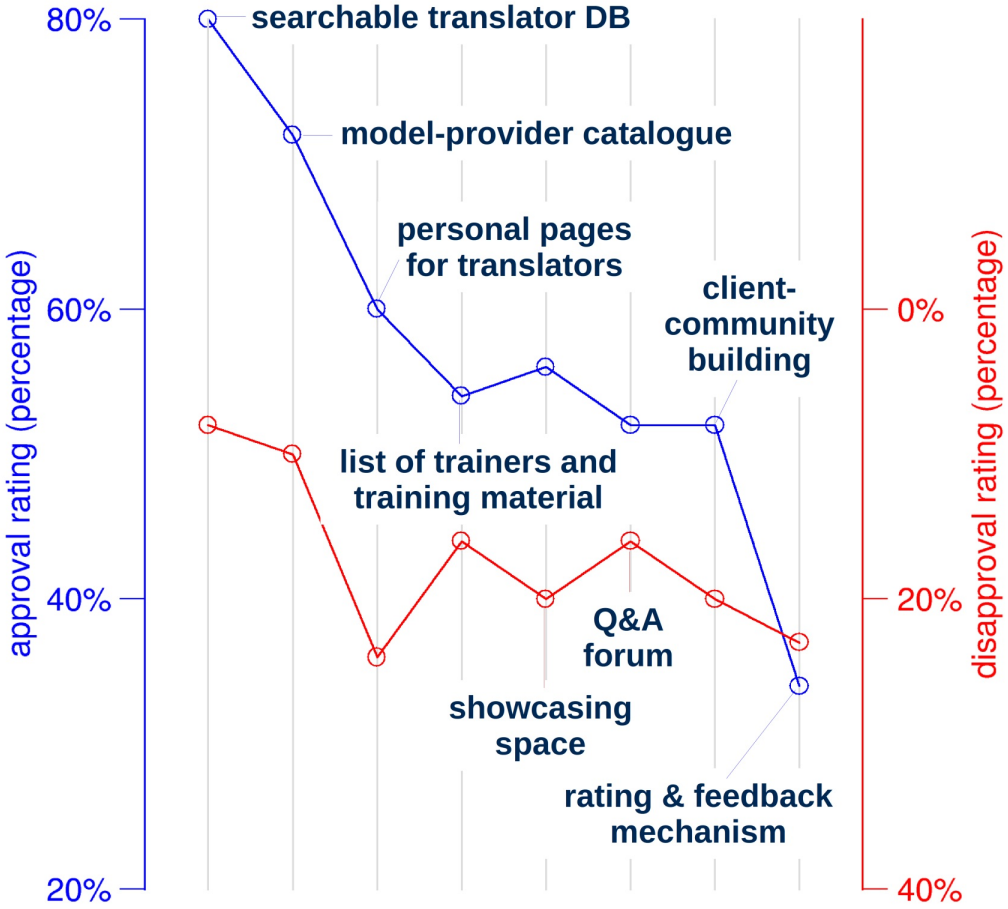
Joint training and translation survey: Results

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

Main features to be implemented:

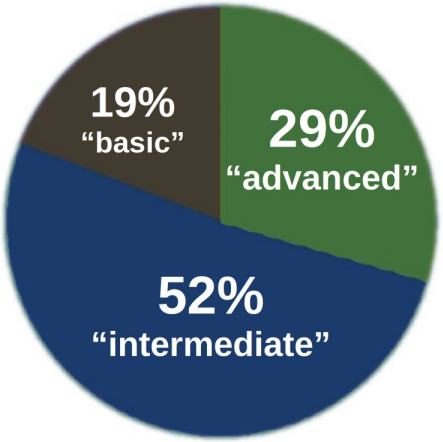
1) Searchable translator database
2) Catalogue of model providers
3) Personal pages for translators





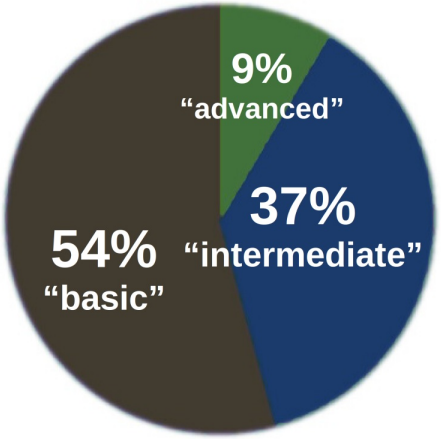
Joint training and translation survey: Results

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



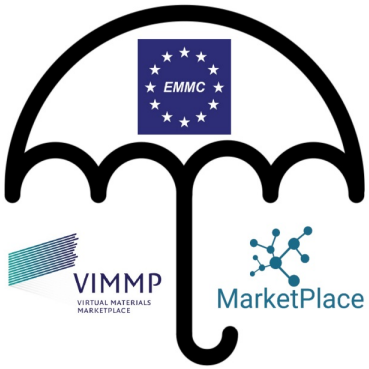
Technical training:

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 EVMPO, CCSO, IAO, and ICALTZD

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.

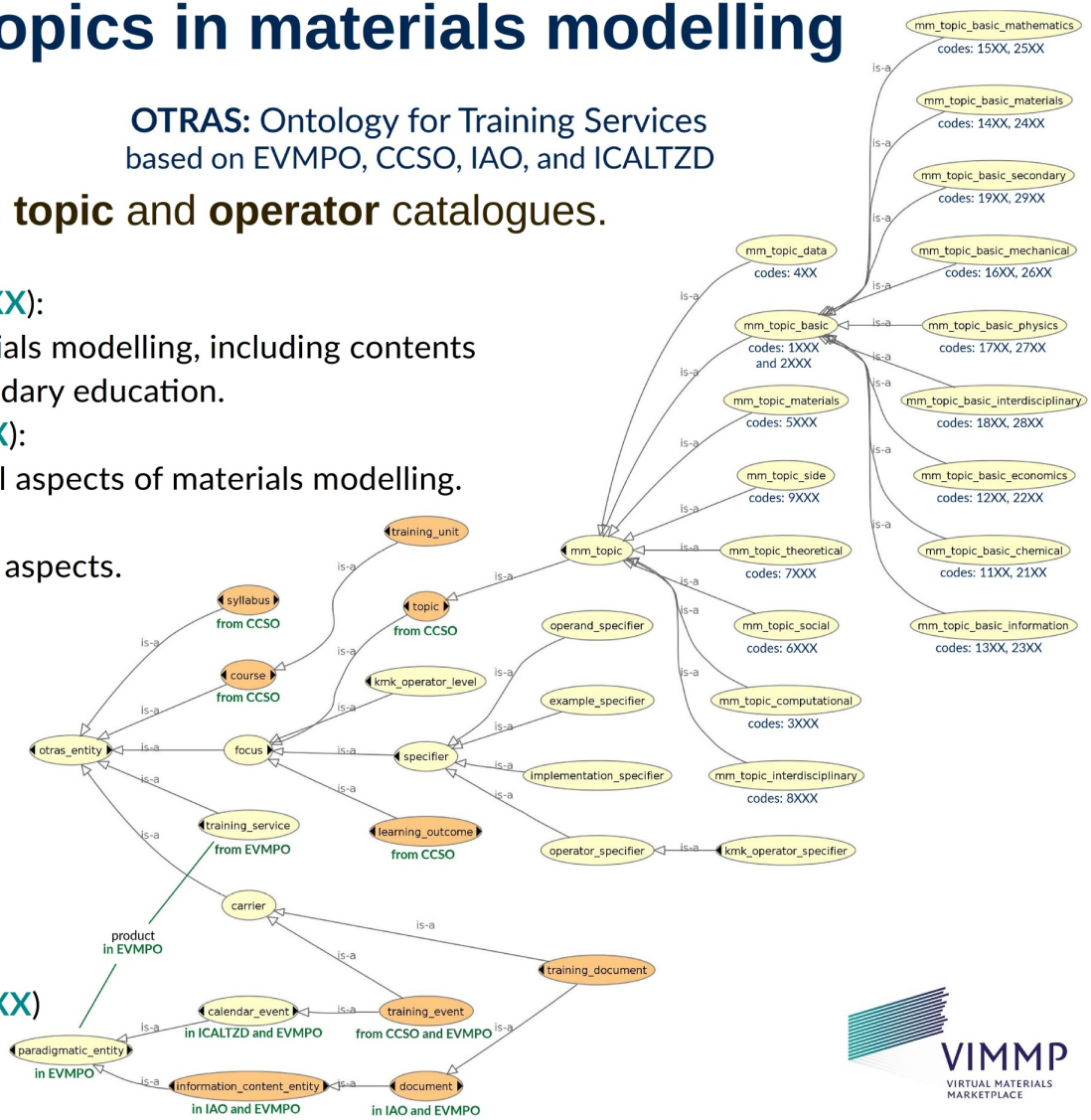
mm_topic_materials (codes **5XXX**):
Topics related to materials, including fluids.

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



Significant collaboration and contributions acknowledged:

Bremen	–	Welchy Leite Cavalcanti
Daresbury	–	Silvia Chiacchiera, Michael Seaton, Ilian Todorov
Lausanne	–	Ignacio Pagonabarraga
London	–	Kwang-Leong Choy
Torino	–	Pietro Asinari, Luca Bergamasco

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 760907.

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