



## Translation in practice

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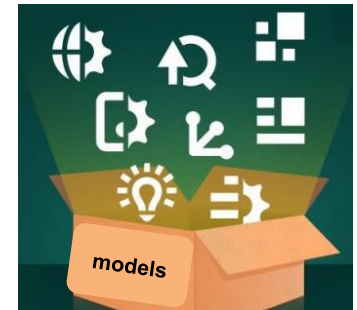




# Translation = bridging the gap between modellers and industry

## Industrial world:

- Often not aware of the full potential of modelling or/and
- Often needs guidelines in selecting the suitable modelling workflow(s) for their problem



## Academic modelling world:

- Often not fully aware of the nature of the industrial problems

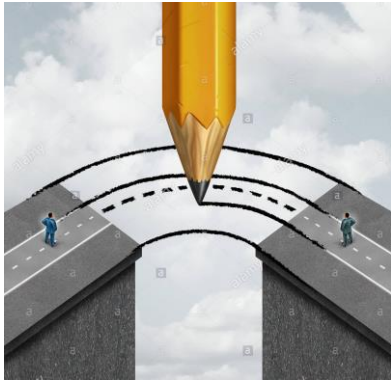
## Translators:

- ✓ Understand both worlds and speak both languages!

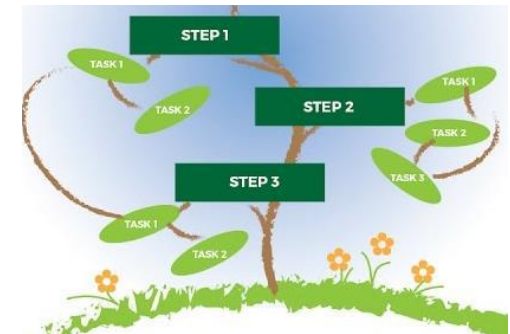


# Translation process

Analysis of the industrial problem



Translation into parts that can be simulated



Building modelling workflows

# Tasks of the Translator

**1) Understands the business case**

**2) Understands the industrial case**

**3) Analyse the experimental (and modelling) data available within the client**

**4) Translate to (preferably more than one) modelling workflows**

**5) Propose to the client modelling executor(s) and strategy for model validation**

**6) Translate the modelling results to information that is understandable, reliable and usable by the client**



# Translation case

- To use it as a reference for your expertise and experience as translator
- To share it with other translators
- To document (keep a track on) your own activity and external relations

## **How to prepare your translation case?**

- 1) Read the Translators Guide and review the Translation cases on the EMMC open/restricted site
- 2) Download the translation case template from EMMC website
- 3) Document your case, guided by the template. If needed, discuss in advance with the client if/what information from the case can be publicly shared
- 4) Send your case to the Translators WG leaders





# Translation case template



## EMMC Translation Case

### Title of the Translation Case

- Please fill-in the title of your Translation Case

### Introduction

#### Translator

- Name, affiliation and contact details
- What type of Translator is your institution: TTI (Technology Transfer Institute), Academic group, Software Company, Manufacturing Industry, Other (Consultancy, etc.).
- What is your field of translation expertise: specify type of material or type of models according to RoMM (please see [Review of Materials Modelling](#)).

#### Client

- Who is the client? Is the client a large company, SME or a consortium thereof?
- Which value chain segment (e.g. material producer, convertor, end-user) it is positioned?
- Did you have existing collaboration with the client?

### Industrial/Business Case

- Describe briefly the industrial problem.
- Indicate involved budget or preferred time to solution (duration).
- Indicate what was the expected outcome of the translation process.

### Translation to modelling solution

- What type of model(s) did you use propose and use?
- Explain arguments and criteria used to propose and choose a specific modelling approach and modelling executor for the specific industrial problem. **If you proposed your own (institution) model and modelling executor, explain why you thought that this was the best solution for the client's problem.**
  - Include inventory and data quality assessment. Was it necessary to realize dedicated experiments prior to simulation? Describe the required validation steps.
  - Were model accuracy and necessary investments discussed? If so - please describe.
  - Who made the final choice for the model and for the modelling executor? Based on which criteria?
  - Explain the involvement of the client in the case.

### Evaluation of the translation case

- Indicate eventual bottlenecks encountered in the translation process or any suggestion for improvement of the process.



## EMMC Translation Case

### Client's benefits from the modelling

- How did the client use the modelling results?
- What were the benefits for the client of using modelling?

### Economic impact of the modelling project

- When possible, estimate the **Total Client Investment (TCI)** in this modelling project as the sum of all Direct Costs. Direct Costs are, for example: Software cost/ licenses, Hardware cost, IT support, Labour/ Material cost, Training, Staff cost, Computing cost.

Direct Costs	EUR
<b>Total Client Investment (TCI)</b>	<b>EUR</b>

- Estimate the **Total Client Benefit (TCB)** from this modelling project. Please consider certain KPIs (e.g. costs for saved number of experiments, cost for saved materials, costs for personnel saved for experimental work, improved processing etc. For more information please look in the attached document on KPIs or at [Economic Impact of Materials Modelling](#)).

Client Benefits (e.g. based on certain KPIs)	EUR
<b>Total Client Benefit (TCB)</b>	<b>EUR</b>

### Return on investment (ROI)

- Calculate the ROI as a ratio of the Total Client Benefit (TCB) and the Total Client Investment (TCI):  
ROI= TCB/ TCI

ROI	
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# What you need to consider...

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- How was the contact with the client established?

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- Describe briefly the industrial problem.
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Total Client Benefit (TCB)	EUR

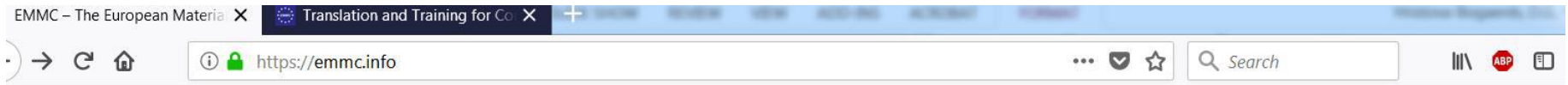
- Calculate the **Return of Investment (ROI)** as a ratio of the Total Client Benefit (TCB) and the Total Client Investment (TCI):  $ROI = TCB / TCI$

ROI	
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# Translators on the EMMC Market Place



## SPECIAL TOPICS

*Advice for LEIT Proposers*

## EVENTS

*8th KMM-VIN Industrial Workshop (IW8):*

*Modelling of composite materials and composite coatings*

09/10/2018 - 10/10/2018

*EMMC-Training for Translators within Joint*

*ECCOMAS Conferences ECCM-ECFD 2018*

14/06/2018

*EMMC-CSA: Workshop on "Materials and*



# EMMC-CSA TRAINING

## Training for Translators

June 14, 2018 11:00-13:00, 16:30-18:30  
MS147, ECCM-ECFD 2018, Glasgow, UK



Joint ECCOMAS Conferences  
6th European Conference on Computational Mechanics (Solids, Structures and Coupled Problems) - ECCM 6  
7th European Conference on Computational Fluid Mechanics - ECFD 7  
ECCM - ECFD 2018  
11 - 15 June 2018, Glasgow, UK



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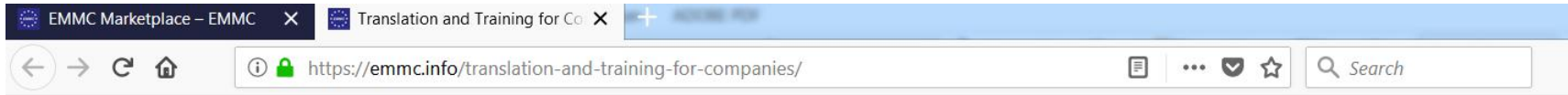
11/06/2018 - 13/06/2018

Close and accept





# Translators on the EMMC Market Place



## Translation and Training for Companies Resources

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**+ General Resources**

**+ Translation Cases**

**+ Training for Industry**



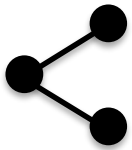


# EMMC-SHOWROOM (Expert App including Translators)

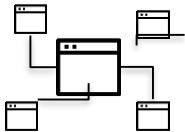
# About



An application to **search**, **offer** and **showcase** services exclusive for EMMC members



Integrated with EMMC website for user profile database and authorization



Design taking account future EMMC Marketplace “suites”



# EMMC Translation: outlook

## Upcoming (2018-2019):

- EMMC report on translation methodologies
- EMMC workshop: industrial view and requirements for translation (November 2018)
- Transition training sessions at different events (2018-2019)
- Focused trainings:
  - economic impact of modelling
  - translation for SMEs
  - translation and Business Decision Support System
  - technical training for models selection criteria
  - translators skills





# The next step: Open Translation Environment (OTE)

**Open Translation Environment** - a platform with:

- ✓ Search possibilities for all necessary information
- ✓ Decision mechanism on when to use simulations
- ✓ Tools to link models and databases
- ✓ Tools to link Translators with modellers and with industry
- ✓ Tools to share among Translators (non-confidential) best and worst practices

Features of the **OTE**:

- ✓ Can accommodate commercial, closed source as well as freely available open tools
- ✓ Considers managing of IP rights, data openness and interoperability
- ✓ Makes use of the Translators Database and Modelling Market Place

