Report D1.15
"Industry Commons Translator resources (Profile, Best Practice, Directory) and report on cooperation for furthering the role of the Industry Commons Translator v2"

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Report D1.15
"Industry Commons Translator resources (Profile, Best Practice, Directory) and report on cooperation for furthering the role of the Industry Commons Translator v2"

Work Package	WP1 | Cooperation
Task	T1.6 | Knowledge Management Translator
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0.5.	09/10/2023	Hedi Karray (ENIT)	Technical Lead Review
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Glossary of terms

Item	Description
AI	Artificial Intelligence
BDSS	Business Decision Support System
CPD	Continuous Professional Development
EMMC	European Materials Modelling Council
ICT	Information and Communication Technologies
KBS	knowledge-based system
KE	Knowledge Engineering
KGA	International Semantic and FAIR Knowledge Graph Alliance
KM	Knowledge Management
LOT	Linked Open Terms methodology
ML	Machine Learning
NMBP	Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing
OCES	Ontology Commons EcoSystem
R&D	Research and Development
RDA	Research Data Alliance
RoDI	Review of Domain Interoperability (RoDI)

Keywords

Knowledge Management Translator – Role – Skills – Continuous Professional Development – Best Practises - Cooperation

Disclaimer

Executive Summary

In this deliverable we report our findings regarding the Industry Commons Translator resources (Profile, Best Practice, Directory). The content of this deliverable is based on stakeholder consultations and involvement of experts in bilateral exchanges, a Translator Session each in the first and second OntoCommons Horizontal workshops and two dedicated expert meeting on the Translator role and profile and sources for their education.

Soon after the 1st expert meeting, the preliminary name used in the OntoCommons DoA (Industry Commons Translator) has been changed to "Knowledge Management Translator for Innovation", to both limit the role to a more manageable scope (focussed on ontology-based data documentation) and to make it easier to understand for communities less familiar with the Industry Commons concept.

It has been recognised that the **profile** of a Knowledge Management Translator involves an extensive skillset covering a good understanding of the more technical Knowledge Engineering, as well as relevant innovation domain knowledge and business awareness, all combined with excellent communication and team working skills. Given that the wide range of skills and tasks involved, it is likely that in practical terms the role will likely be fulfilled by a team of consultants, knowledge engineers and data experts, which need to be guided by the best practices and workflows of knowledge management translation.

Best practises have been proposed by adapting those elaborated for the Materials Modelling Translators. They involve a workflow consisting of six steps and have been described in a first whitepaper. A second whitepaper deals with further elaboration of the tasks and roles involved in translation as well as education and training for current and future Translators.

Many stakeholders have found cooperation opportunities beyond OntoCommons and will further the role via a range of projects and initiatives including the OntoTrans and DOME 4.0 projects, EMMC and RDA associations as well as bilateral engagements in the spirit of Materials and Manufacturing Commons. We recommend that the forthcoming CSA on "Coordination and knowledge sharing across materials development communities (HORIZON-CL4-2023-RESILIENCE-01-39) will build on and further develop these resources.

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1. Profile and Role

The journey to give discuss the profile and role started with the first Horizontal workshop[1] where we conducted a session with three expert speakers from the realm of translation and knowledge engineering: Peter Klein (Fraunhofer ITWM), Michael Noeske (Fraunhofer IFAM) and Nicolas Matentzoglu (independent consultant). They brought together the background from the Materials Modelling Translator field with the first hand understanding of knowledge engineering projects.

Peter Klein and Michael Noeske are practising Materials Modelling Translation[2] and advancing this role. Peter Klein sees the Materials Modelling Translator become a part of an Open Innovation Platform (OIP) and taking part in a co-creation process as will be demonstrated in the H2020 Project VIPCOAT.[3] Michael Noeske, a beneficiary of the H2020 Project OntoTrans,[4] sees the advancement of this role in translating whole Innovation Challenges. Hence, the Materials Modelling Translator moves on from translating a scientific challenge into a modelling workflow to process and innovation workflows. The latter will happen using innovation infrastructures comprised of interoperable digital tools. Digital tools require digitised workflows so the Materials Modelling Translators do not only have to talk in natural language to their clients but in some other form to a machine, and facilitate that machines in an interoperable digital environment can talk to each other. This will require knowledge of semantics and ontologies. One single person cannot provide all these services so Translation will be performed by a team.

When using digital tools such as Machine Learning (ML), Artificial Intelligence (AI), Business Decision Support Systems (BDSS)[5], etc. we expect machines to mimic knowledge finding, i.e., we want to engineer knowledge. What we need here is a Knowledge Engineering (KE) Translator who focuses on bridging the gap between business problems and knowledge engineering activities such as building and maintaining ontologies and taxonomies. This role was introduced by Nicolas Matentzoglu at our session in the 1st Horizontal workshop.

After this first event we were left with many ideas but also many questions which we posed to a range of expert on our 1st Expert Meeting in 2022.

We needed to discuss

- Requirements for a role to support reaping the benefits of OntoCommons in materials and manufacturing industry.

[1] OntoCommons (2021). Industry Commons Translator. In: OntoCommons. Global Workshop: Ontology Commons addressing challenges of the Industry 5.0 transition. Online Horizontal Workshop, 02.-05.11.2021. https://www.youtube.com/watch?v=vQrmnsLjVRM&list=PL-cwgiwYXckPOatW5dGBK_wDr0ZoP72L3&index=16

[2] Klein, Peter, Konchakova, Natalia, Hristova-Bogaerds, Denka G., Noeske, Michael, Simperler, Alexandra, Goldbeck, Gerhard, & Höche, Daniel. (2021). Translation in Materials Modelling – Process and Progress (Version 1). Zenodo. https://doi.org/10.5281/zenodo.4729918

[3] https://cordis.europa.eu/project/id/952903; https://ms.hereon.de/vipcoat/

[4] https://cordis.europa.eu/project/id/862136; www.ontotrans.eu

[5] Dykeman, Donna, Hashibon, Adham, Klein, Peter, & Belouettar, Salim. (2020). Guideline Business Decision Support Systems (BDSS) for Materials Modelling. https://doi.org/10.5281/zenodo.4054009

- Subject Matter experts with the ability to interface to new protagonists such as data scientists, ontologists, software developers
- How to evolve and keep the translator role contemporary
- Existing roles/persons we could use to hit the ground running
- Existing best practices we could evolve
- Concerns and Gaps

The participants from OntoCommons were **GCL** (organiser), **ENIT**, **UNIBO**, **UiO**, **BOSCH**, and **TU-Wien**, and as external participants we welcomed Composites Evolution Limited (UK), Nanolayers Research Computing (UK), SciBite Limited (UK), Semanticly (Greece), Fraunhofer IFAM (GER), and Datastories International (B).

Both the efforts from the 1st Horizontal Workshop and the 1st Expert workshop led to a whitepaper[6]

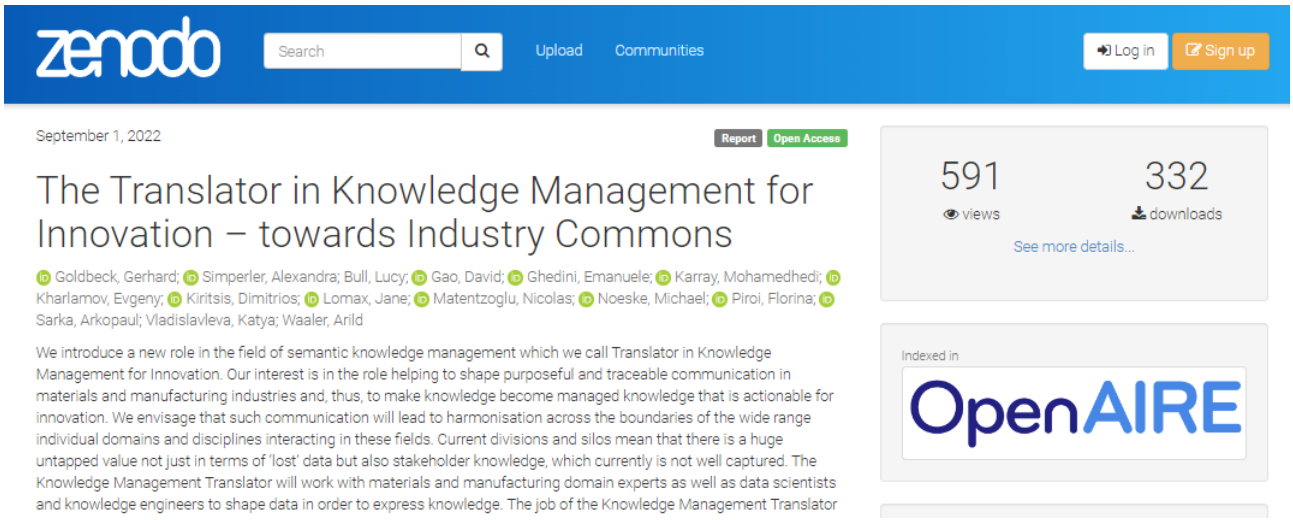

Figure 1. Screenshot of first whitepaper entry in Zenodo

One of the first outcomes was to change the name from Industry Commons Translator as Industry Commons is very wide and includes more aspects than covered here.[7] As the Translators will support industry adoption of ontologies for data documentation and knowledge management (KM) we opted for "Knowledge Management Translator for Innovation" as the perfect term to capture the role and its function.

We defined their role to advise companies on the adoption, use and benefits of ontology-based data and knowledge management and to help companies to bridge skills and capabilities gaps in the application of such technologies. They will be located at the intersection between

[6] Goldbeck, Gerhard, Simperler, Alexandra, Bull, Lucy, Gao, David, Ghedini, Emanuele, Karray, Mohamedhedi, Kharlamov, Evgeny, Kiritsis, Dimitrios, Lomax, Jane, Matentzoglu, Nicolas, Noeske, Michael, Piroi, Florina, Sarka, Arkopaul, Vladislavleva, Katya, & Waaler, Arild. (2022). The Translator in Knowledge Management for Innovation – towards Industry Commons (Version 1). Zenodo. https://doi.org/10.5281/zenodo.7041697

[7] Michela Magas & Dimitris Kiritsis (2021): Industry Commons: an ecosystem approach to horizontal enablers for sustainable cross-domain industrial innovation (a positioning paper), International Journal of Production Research, DOI: 10.1080/00207543.2021.1989514

materials/manufacturing R&D, data engineering (data, ontology engineering) and business management.

A KM Translator requires a complex range of skills based on expertise spanning across the Information and Communication Technologies (ICT), analytical philosophy, logic, and science/engineering domains.

Their **role** will be to advise a client on:

- the benefits of applying ontologies
- the selection of existing ontologies to employ
- developing tailored domain ontologies
- translating business challenges into solutions based on ontologies and related systems.

Therefore, the **profile** of a KM Translator comprises:

- A strong advocate of ontology-based solutions and an excellent communicator
- A good 'auditor' and benefits advisor
- Skilled in ontologies and knowledge engineering
- Knowledgeable in the industrial domain they are working for
- An unbiased project manager

2. Best Practises

The 1st Expert Workshop elaborated on best practises that can be summarised in six steps:

- Step 1: Elaborate on the benefits of adopting semantic technologies, identify innovation case
- Step 2: Conceptualise the Innovation or Data-to-Knowledge Governance Case
- Step 3: Determining relevant existing vocabularies, taxonomies, ontologies, and standards as well as required data and sources
- Step 4: Propose potential knowledge engineering solutions.
- Step 5: Implementation work (for knowledge engineer, etc.)
- Step 6: Client adoption including training

These are elaborated in more detail in a White Paper.[6]

In the 2nd Expert Workshop, we elaborated on how already established roles in organisations can aid the translator with the six steps listed above.

If a company is already data-aware and has persons working in data related roles, the KM Translator wants to onboard them as soon as possible and join forces. Possible roles include (i) Data Custodians, who are responsible for the safe storage, maintenance, and retrieval of data, (ii) Data Stewards, who act as subject matter experts with in-depth knowledge of specific data domains or business areas, (iii) Data Shepherds, who operate throughout the data lifecycle, and (iv) Knowledge Engineers, who have the task to build a knowledge-based system (KBS), i.e., building a computer model with problem-solving capabilities comparable to a domain expert.

KM translation processes go beyond "just KM" and range from the KM translators gaining a client's attention and confidence to understanding the innovation challenges. KM translator will have to work out relevant questions towards providing results and answers that comply with the clients' expectations and needs. Hence, they will need to advance both their respective skills in ontology-based knowledge management processes and their expertise and competence in the relevant business environment.

3. Education

Especially in session at the 2nd Horizontal workshop, we elaborated on how to educate persons to become a KM Translator. We had amongst the speakers with Florina Piroi and Umutcan Serles two educators from academia, as well as Nicole Vasilevsky who is active also in the OBO Foundry, which includes a wide range of training resources. Henriette Harmse was sharing experience working with academics without KE expertise on ontologies and Clair Johnson is responsible for client training at a commercial provider of semantic analytics solutions.

Furthermore, during the 2nd Expert meeting, we took stock of existing training materials and opportunities for persons who would like self-train as KM Translators. We collected the outcome in a second whitepaper, also to be published on Zenodo.

The session at the 2nd Horizontal workshop revealed that students will encounter ontologies and semantics only if they stay on past their BSc and take up an MSc or a PhD. Students seem more enthusiastic about programming than working with ontologies and semantics as they require too much manual intervention. That lack of background and training becomes evident in academic communities that have the need to connect disparate data but lack the skills to work with semantic technologies that could help do the job. Even when working with an expert, they find the job difficult due to the not very user-friendly tools available. Industrial researchers also typically lack the skills but there are more professional tools and training available to them. However, they still lack basic appreciation and understanding of the benefits and reasons behind using ontologies.

Some universities, such as University of Manchester, have been offering ontology engineering[8] for some time. More universities with great and contemporary offers on computer sciences, IT and Machine Learning are starting to incorporate knowledge engineering and knowledge management, also utilising the outcomes of OntoCommons, in particular the OCES. At TU Vienna,[9] computer science students engage during their studies with data science and deep learning. Also, an MSc programme "Data Science" has emerged and offers, amongst the expected subjects data science, ML, Statistics, High Performance Computing, Data Analysis, etc. Another example is the STI Innsbruck [10] where semantics technologies are part of MSc courses including lectures and practical training on Knowledge Graphs, Semantic Web, and Smart Data within one semester.

[8] http://owl.cs.manchester.ac.uk/about/ontology-engineering/
[9] https://www.tuwien.at/en/
[10] https://www.sti-innsbruck.at/

After accomplishing their education students may know KM but lack the knowledge and challenges of the materials and manufacturing domains. A remedy could be internships and joint industry PhD which could be achieved via a Marie Sklodowska Curie Action.[11]

When looking into the landscape of available self-training and professional development sources, we find them so far especially in the biosciences. For example, the **OBO Academy**[12] has gathered rich resources and materials for training which are open to everyone. Also, high quality training in both the underlying concepts and methods as well as in the use of software tools is available to industry when licensing commercial software.

A valuable source of self-training are **textbooks**, which were suggested as material found most useful by some of our experts to learn about KM. Also of importance are **blogs**, for example one by Henriette Harmse[13], who has come across some challenges and gives advice how they could be overcome. Companies, such as SciBite[14], Stardog[15], Ontotext[16] and CambridgeSemantics[17] do offer also blogs, whitepaper, and publication hubs to inform about the latest developments around KM. Another training source of interest are interactive massive open **online courses** (MOOCs). Providers worldwide offer these online courses, and trainees can participate from their home or a place of their choice with a decent internet connection. KM requires knowledge about FAIR data and for this the FAIRCOOKBOOK[18] is a good starting point. The OBO Academy is a community resource that was formed from a consolidation of materials. The communities stem from the Bio/Biomedical sectors and the Open Biological and Biomedical Ontology (OBO) Foundry[19] is the umbrella organisation.

The **OntoCommons project** added several methodologies which can serve as background for future education knowledge sources such as the OntoCommons Eco System (OCES) (d'Aquin, 2021) which provides a more integrated and harmonised system of Top- and Middle-Level Ontologies as well as related, widely agreed domain ontologies in a framework that supports a pluralistic view of the world, making it more easily adaptable to the end user requirements. As there is great interest to apply KM within the NMBP (Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing) application domains, a report of Slaughter et al. (Slaughter & Otten, 2022) may be useful for KM Translators to check which well supported ontologies are used in relevant NMBP domains. With a report by Le Franc (Le Franc, 2022) and the implementation of IndustryPortal by OntoCommons, KM Translator can check for terminologies and existing domain ontologies (and their FAIRness) and assess them regarding suitability for their work. Skjæveland et al. (Skjæveland, Slaughter, & Kindermann, 2022) are listing software systems which are evidently used in practice. A Review of Domain Interoperability (RoDI) is being developed within OntoCommons (D3.8, D4.6), and it is meant for developers (at domain level) of ontologies and tools/components that use them. RoDI

[11] https://marie-sklodowska-curie-actions.ec.europa.eu/
[12] https://oboacademy.github.io/obook/
[13] https://henrietteharmse.com/
[14] https://scibite.com/
[15] https://www.stardog.com/
[16] https://www.ontotext.com/
[17] https://cambridgesemantics.com/
[18] https://faircookbook.elixir-europe.org/
[19] http://obofoundry.org/

addresses all aspects of interoperability and especially focuses on semantic data interoperability. It includes pointers to existing terminologies and classifications of interoperability types, pointers to recommendations, a list of tools to support interoperability and an analysis of relevant scenarios. M. Poveda-Villalón and her colleagues[20] propose the Linked Open Terms (LOT) methodology, an overall and lightweight methodology for building ontologies based on existing methodologies and oriented to semantic web developments and technologies. Their methodology includes lessons learnt from more than 20 years in ontological engineering and its application on 18 projects.

OntoCommons has conducted a multi-day training and hands-on sessions[21] from 19th to 20th September 2023, at Tarbes, France, aiming to introduce the OntoCommons Ecosystem (OCES) to a wider audience, including ontology practitioners and data modelers from industry and academia. The training session has been conducted by several prominent ontology engineering experts from within and outside of the OntoCommons project. These sessions provided a unique opportunity for the participants to learn using the OCES-recommended ontology engineering methodology and tools for building professional ontologies. At the same time, some sessions focused on top-level ontology and some reference ontologies, demonstrating their relevance and ways of adoption in the industrial domains. The provided training has used practical industry-relevant use cases and data using various tools that make ontology development journey smoother. Furthermore, training on how to make ontologies sustainable and FAIR also has been included. The training was attended physically by 22 trainees from Academia and Industry from different EU countries and with different backgrounds.

4. Directory

While it has been too early to launch a directory due to the low number of KM Translators today, OntoCommons has a Focus Area[22] where people can register and resources such as the white papers are posted. Going forward, we expect more than one location to host a directory of KM Translators.

We engaged with our beneficiaries from STFC and BOSCH, who are also on the NMBP-40 marketplace **DOME4.0**.[23] This may be an excellent platform to host a directory of experts who could offer KM Translation services. At the time of writing this deliverable the DOME 4.0 technology stack was still under development. The contact between DOME4.0 and OntoCommons beneficiaries is expected to outlast the end of this project so an implementation later is likely.

[20] Poveda-Villalón, M., Fernández-Izquierdo, A., Fernández-López, M., & García-Castro, R. (2022). LOT: An industrial oriented ontology engineering framework. Engineering Applications of Artificial Intelligence 111, 104755.

[21] https://ontocommons.eu/news-events/events/training-ontology-engineering-using-ontocommons-ecosystem

[22] https://ontocommons.eu/focus-areas/translator-knowledge-management-innovation-kmi

[23] https://cordis.europa.eu/project/id/953163; https://dome40.eu

OntoTrans[4] is also a possible platform to host a directory and one of their KERs build around the Elementary Multiperspective Material Ontology (EMMO)[24] is planning on offering KM Translation for the Materials and Manufacturing industries.

Finally, **MarketPlace**[25],[26] is soon to emerge as a non-profit association and will host "Knowledge Services" which comprises information on software tools, models, experts and expertise, communities, educational materials (including webinars), lectures and tutorials. Hence, it will be technically possible to host KM Translators as experts.

5. Cooperation for furthering the role

5.1 Cooperation with the Materials Modelling Community

This will happen with the **EMMC ASBL**[27] -who continuously elaborated on the Translator role in novel, contemporary context. One of these re-interpretations currently happens in the EU H2020 project **OntoTrans**[4], where an "OntoTransLator" was introduced who needs to know about simulation ontologies, to keep their subject matter expertise up to scratch and to research what global use a product may have. Furthermore, the EMMC is continuing this line with a Benefits Analysis and Method Comparison tool. A necessary skill will also be how a translator can interface with other roles as they will have to work with many stakeholders to make innovation FAIR on all its many facets. Hence, as this evolving is happening, we are confident that the state of the art is a superb basis to launch the "Knowledge Management Translator" as a new job role.

5.2 Cooperation with DOME 4.0

DOME 4.0 could enable to register persons and organisations who wish to offer their services as Knowledge Management Translators. DOME 4.0 is expected to launch a marketplace as a viable business and could profit from OntoCommons' definitions of the KM Translator role.

5.3 Cooperation with Workshop Participants

During the Expert and Horizontal Meetings, we forged cooperation between beneficiaries and external experts. They will live on in several projects such as OntoTrans and OpenModel. Also, several participants are member of the EMMC and there will be focus groups and synergies with future Horizon Europe projects towards a Materials Commons. For the latter, we see the KM Translator as relevant human resource to implement this.

[24] formerly European Materials & Modelling Ontology, https://github.com/emmo-repo/EMMO
[25] https://cordis.europa.eu/project/id/760173, https://www.the-marketplace-project.eu/
[26] Goldbeck, Gerhard, et al. (2023). MarketPlace - a Digital Materials Modelling Marketplace. Zenodo. https://doi.org/10.5281/zenodo.8330333
[27] www.emmc.eu

Several beneficiaries showed interest in a Marie Skłodowska-Curie Action with regards to a Doctoral Training Centre and this will be strongly suggested in the OntoCommons roadmap.

5.4 Cooperation in a new international alliance

In order to sustain OntoCommons results, the main project partners have created an international Alliance called KGA (International Semantic and FAIR Knowledge Graph Alliance) that will continue the work on building the Knowledge translation role by providing training and building training materials through a dedicated service called KGA Academy. KGA Academy will develop cooperation with universities to develop an Erasmus Mundus[28] master degree on Semantic Knowledge Graphs.

[28] https://erasmus-plus.ec.europa.eu/opportunities/opportunities-for-individuals/students/erasmus-mundus-joint-masters

6. Conclusions

The beneficiaries of OntoCommons and external stakeholders got together in four workshops leading to two whitepapers. They elaborate on the role and profile of a Knowledge Management Translator and its best practises. Starting from the six steps of translation for Materials Modelling Translators the equivalent six steps of best practice guideline was established for the KM Translators. Especially in larger, data-mature organisations there will be roles such as data custodians, data stewards, data shepherds, and knowledge engineers to collaborate with the KM Translators and help them with their translation to come alive and jointly tackle complex innovation challenges.

Many of our stakeholders self-trained or found knowledge sources they encountered during their university time and shared this experience in a second whitepaper. It provides budding KM Translators with access to Continuous Professional Development resources and materials for self-training.

Key to the successfully establishing the Knowledge Management Translator role more widely will be training of the next generation and the availability of good tools. Current experience working with domain experts, whether in industry or academia, shows a lack of background knowledge and appreciation of the potential and opportunities of semantic technologies, as well as a lack of user-friendly tools that non-experts can use.

OntoCommons OCES provides a solid basis for training ontology practitioners and data modellers from industry and academia and is starting to be used in university education. However, there is still the need to bring together semantic data scientists with domain experts and their challenges in materials and manufacturing. Hence in the OntoCommons Roadmap we suggest that stakeholders set up a Marie Skłodowska-Curie Action.

There is strong interest from both our academic and industrial stakeholders to collaborate in training the next generation of KM Translators. The International Semantic and FAIR Knowledge Graph Alliance (KGA) will provide a means for further developing the Knowledge Translation role via its proposed KGA Academy.

Regarding a directory, OntoCommons established a Focus Area[29] where people can register and resources such as the white papers are posted. Going forward there are several places to host a directory of translators such as EMMC, MarketPlace, and/and DOME 4.0, all of which have a suitable ecosystem to house such expert data bases.

In summary, the role of KM Translator is crucial to the adoption and long-term success of semantic knowledge management. The role, best practices, stakeholder interactions as well as training resources (both existing and required) have been elaborated. Going forward, the role will be furthered via the KGA, EMMC, OntoTrans, Marketplace, and DOME 4.0 stakeholders, building on the network created by OntoCommons.

[29] https://ontocommons.eu/focus-areas/translator-knowledge-management-innovation-kmi

7. Appendix: Evidence base

The findings presented in this Deliverable are based on the following stakeholder interactions:

7.1 Industry Commons Translator Session of the First OntoCommons Global Workshop

https://ontocommons.eu/news-events/events/global-workshop-ontology-commons-addressing-challenges-industry-50-transition

Date: 2nd – 5th Nov 2021, online

Objectives:

The session heard from stakeholders involved and interested in defining the profile and role of an Industry Commons Translator and the potential steps involved in a Translation task performed by such a role.

- Learn from experience in other sectors: Materials Modelling Translator, Analytics Translator
- Discuss the need and requirements for an Industry Commons Translator
- Describe the role of the Translator/Team of Translators
- How can the Translator contribute to industry adopting ontologies into their day-to-day work?
- How can the Translator enable changes within an organisation to path the way for adopting ontologies?

Agenda of the Translator Session on 2nd Nov 2021

	Room 1		
1st break out		**Industry commons translator**	Chair: Gerhard Goldbeck (GCL)
	11:45 - 11:55	Advancing Translation in Materials Modelling	Peter Klein (Fraunhofer ITWM)
	11:55 - 12:00	Q&A	
	12:00 - 12:10	Translation of Innovation challenges	Michael Noeske (Fraunhofer IFAM)
	12:10 - 12:15	Q&A	
	12:15 - 12:25	Knowledge Engineering Translation - early experiences from the Biomedical Domain	Nicolas Matentzoglu (Independent Contractor)
	12:25 - 12:30	Q&A	
	12:30 - 13:15	Discussions	Chair: Gerhard Goldbeck (GCL)

7.2 Industry Commons Translator Expert Meeting

https://ontocommons.eu/news-events/events/industry-commons-translator-1st-expert-meeting

Date: Monday, 21st Feb 2022, online

Objectives of the 1st Expert Meeting

The experts were challenged to define the profile and role of an Industry Commons Translator and the potential steps involved in a Translation task performed by such a role.

- **Discuss the requirements** for an Industry Commons Translator
  - Describe the role of the Translator/Team of Translators
  - How can the Translator contribute to industry adopting ontologies into their day-to-day work?
  - How can the Translator enable changes within an organisation to path the way for adopting ontologies?

- **Discuss the challenges** of the role of the work of an industry commons translator in terms of existing tools, lack thereof, training, continuous professional development (CPD), the environment they will work in, who will they work with (report to, team up with), etc.

The **participants were invited to become authors of a Whitepaper** which will be published in Zenodo. The idea is to preserve the outcome of this very first meeting and capture vital ideas and be able to share these with the global community under a creative commons license.

Findings of this workshop will contribute to the **OntoCommons Road Map.**

The meeting will take place online on, in consensus with all invited participants.

Agenda

Time	Actor	Topic	Expected Outcome
09.30 – 09.45	Gerhard Goldbeck, All	Welcome and Introductions	The Participants will learn about each other's backgrounds
09.45 – 10.00	Gerhard Goldbeck	Setting the scene	The Participants will be exposed to the critical issues where their input is appreciated
10.00 -11.10	All	Discuss the Requirements: Job Description	The Participants will bring their ideas and professional knowledge in to shape the role of an Industry commons translator.
11.10 – 11.30	All	Break	

11.30 – 12.55	All	Discuss the Challenges	The Participants will raise their concern why such a role may be hampered and outline possible solutions and where to find them.
12.55 – 13.00	Gerhard Goldbeck	Closure of the meeting	

15 Participants (OntoCommons Beneficiaries are printed in blue)

Gerhard Goldbeck and Alexandra Simperler, (Goldbeck Consulting Ltd., UK)

Lucy Bull (Composites Evolution Limited, UK)

David Gao (Nanolayers Research Computing, UK)

Emanuele Ghedini (Alma Mater Studiorum - Universita di Bologna, Italy)

Mohamedhedi Karray and Arkopaul Sarkar (Ecole Nationale D'ingenieurs de Tarbes, France)

Evgeny Kharlamov (Robert Bosch GmbH, Germany)

Dimitrios Kyritsis and Arild Waaler (University of Oslo, Norway)

Jane Lomax (SciBite Limited, UK)

Nicolas Matentzoglu (Semanticly, Athens, Greece)

Michael Noeske (Fraunhofer IFAM, Germany)

Florina Piroi (Technische Universität Wien, Austria)

Katya Vladislavleva (Datastories International, Belgium)

In addition to the meeting itself, there has been feedback and collaborations with the experts on our joint draft White Paper.

7.3 The Knowledge Management Translator for Industry Commons -The Second Expert Meeting

https://www.ontocommons.eu/news-events/events/knowledge-management-translator-industry-commons-second-expert-meeting

Date: 28th Feb 2023, online

Objectives of the 2nd Expert Meeting

The first Expert Meeting and White Paper note that today not many people have the experience or training to fulfil the requirements of a Knowledge Management Translator. There is a need to develop training and professional development in order to industry to benefit from the opportunities of semantic technologies. Furthermore, the role itself needs to be better established and its value communicated to enable Translators to be successful. The recommended Actions for the Knowledge Management Translator were also discussed in the OntoCommons Roadmap, see Section 5.3.5, including actions on Education, Translator Tools, Community of Practice and Directory.

Hence the 2nd Expert Meeting focussed on training and professional development and as well as on building the Translator community and value proposition to industry.

- **Training and professional development for Translators**
  - The landscape of available training materials
  - Free training materials (teaching websites, youtube, companies, …)
  - Paid-for training materials
  - University courses
  - Continuous Professional development

- **Translator role, community, and value to industry**
  - Address and define all the aspects of establishing the Knowledge Management (KM) Translator as a critical role in Industry Commons, including:
  - The Value proposition of working as a KM Translator
  - Creation of a database of expert KM Translators.
    - Who shall we enlist?
    - What neds to be comprised?

What the meeting offers to the participating experts:

- Get first-hand access to the OntoCommons best practices, guidelines, and training material for the professional development of experts to become Knowledge Management (KM) Translators.
- Enlist in the database of expert KM Translators to offer your services.
- Network with experts in the field.
- Possibility for the experts to participate in the application for a Marie Sklodowska Curie grant to establish a doctoral training centre.

The **participants were invited to become authors of a Whitepaper** which will be published in Zenodo. The idea is to preserve the outcome of this second meeting and capture vital ideas and be able to share these with the global community under a creative commons license.

Findings of this workshop will contribute to the final **OntoCommons Road Map.**

Agenda

Time/CET	Actor	Topic	Expected Outcome
09.30 – 09.45	Gerhard Goldbeck, All	Welcome and Introductions	The Participants will learn about each other's backgrounds
09.45 – 10.00	Gerhard Goldbeck	Setting the scene	The Participants will be exposed to the critical issues where their input is appreciated
10.00 -11.15	All	**Training and professional development for Translators** Discuss existing Training Materials; show provisional interest to work with us in a Marie Sklodowska Curie Effort.	The Participants will bring their knowledge of existing training options and discuss how the Expert Database should look like. The OntoCommons Team will suggest

			where and how materials and database will be hosted.
11.15 – 11.30	All	Break	
11.30 – 12.45	All	**Translator community and value to industry** Who could be a translator now? Discuss the Challenges. Value to Industry and possible business models.	The Participants will raise their concern why such a role may be still be hampered and outline possible solutions and where to find them. Possible business models shall be outlined.
12.45 – 13.00	Gerhard Goldbeck, All	Conclusions and Next steps	Work to prepare the second White Paper, input to the final OntoCommons Roadmap and a session at the OntoCommons Global Workshop (13-16 June, Oslo) with be discussed.

13 Participants (OntoCommons Beneficiaries are printed in blue)

Gerhard Goldbeck and Alexandra Simperler, (Goldbeck Consulting Ltd., UK)

Nadja Adamovic (TU Wien)

Sten-Erik Björling (Industry Commons Foundation, Sweden)

Silvia Chiacchiera (STFC, UK)

Irini Furxhi (University of Limerick, Ireland)

David Gao (Nanolayers Research Computing, UK)

Ernst-Dieter Janotka (TU Wien)

Mohamedhedi Karray and Arkopaul Sarkar (Ecole Nationale D'ingenieurs de Tarbes, France)

Jane Lomax (SciBite Limited, UK)

Nicolas Matentzoglu (Semanticly, Athens, Greece)

Michael Noeske (Fraunhofer IFAM, Germany)

Florina Piroi (Technische Universität Wien, Austria)

Katya Vladislavleva (Datastories International, Belgium)

In addition to the meeting itself, there has been feedback and collaborations with the experts on our joint draft White Paper.

7.4 Industry Commons Translator Session of the Second OntoCommons Global Workshop

https://www.ontocommons.eu/news-events/events/second-global-workshop-ontocommons-addressing-challenges-industry-50-transition

Date: 13th – 16th June 2023, hybrid Oslo, Norway

Objectives:

This session at HWII spawned from the industrial needs when it comes to semantic technology and these are, as expressed in the OntoCommons Roadmap

- How to turn the promises of semantic technology into business benefits.
- Information on what to expect when deploying semantic technologies and the best practises to do so.
- Reducing uncertainty and risks of investing into semantic technologies.
- Getting high quality, reliable advice on ontology-based knowledge management/engineering
- Bringing skills and capabilities into industry

The objectives of this session were to establish:

- what the status quo of skills and education in semantic technologies is.
- what the needs of industry regarding new skills are.

- what the landscape of available training and professional development sources are.
- what the experience regarding education training and up-skilling is.
- what is to be considered as "best practice".

Agenda of the Translator Session on 14th June 2023, 4.15pm – 5.45 pm

Moderator: Gerhard Goldbeck (GCL)

Speakers:

- Florina Piroi (Technische Universität Wien, Austria)
  Title: Educating Across Domains: Experiences from TU Wien, Faculty of Informatics
- Umutcan Serles (STI Innsbruck, Austria)
  Title: How to train Computer Scientists in the Alpine Region
- Henriette Harmse (EMBL-EBI, UK)
  Title: Experience in teaching researchers to construct their first ontology
- Nicole Vasilevsky (Critical Path Institute, Tucson, Arizona USA)
  Title: OBO Academy: Training materials for Bio-ontologists
- Claire Johnson (SciBite Limited, UK)
  Title: Unleashing Software Superheroes in Industry: Training Professionals in Ontology Management

7.5 OntoCommons beneficiaries' discussions

Involving UiO, GCL, ENIT, ICF, UPM, UIBK, TU Wien, and UKRI

These happened in ad-hoc meetings and during the biweekly WP1 meetings.