

**THE OMiLAB NODE
MEMBERSHIP PACKAGE**

Includes:

- OMiLAB software package (open source)
- Knowledge transfer
- On-site training
- Student grants for participating at the NEMO Summer School
- Set-up support (e.g. templates for cost estimation for equipment and operations, expert advice on starting your OMiLAB)

For details on the OMiLAB Node package **contact**

office@omilab.org

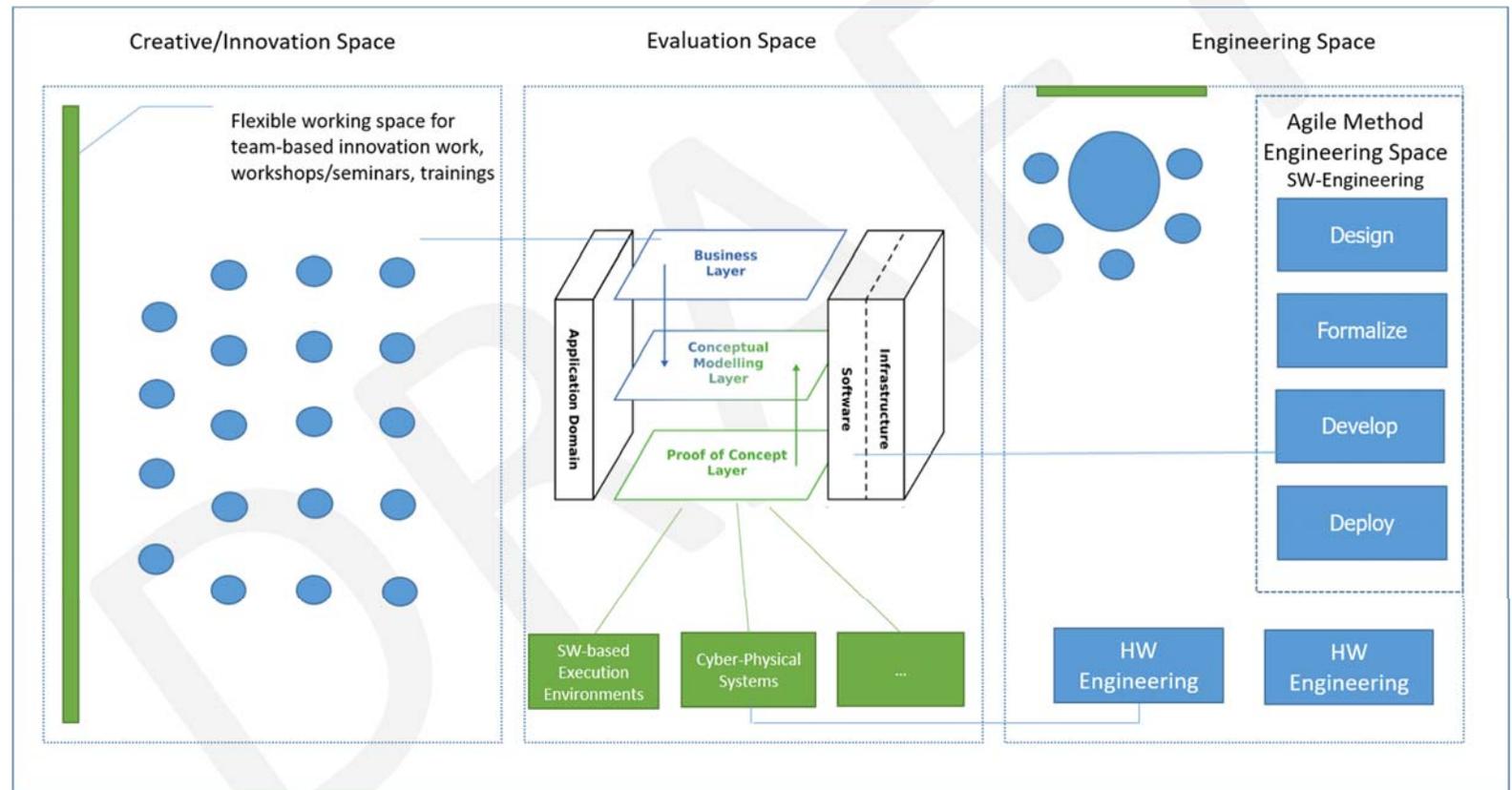
HOW TO ESTABLISH AN OMiLAB

- **Identify an institution/organization who will host/own the OMiLAB**
Hosts for OMiLABs could be any research and educational institution, governmental and non-profit institutions as well as research and training departments of enterprises.
- **Define the focus of your OMiLAB**
- **Identify the right leader for the OMiLAB**
Having the right person in charge of your OMiLAB is vital for its success. The responsible person must show commitment and enthusiasm for the topics and communities addressed in your institution's work with the OMiLAB.
- **Set-up partnerships and contractual agreements**
This might include a collaboration agreement with the OMiLAB NPO, as well as local partners, service providers etc.
- **Secure funding for the OMiLAB**
In your calculation you should consider the costs for securing a room, the equipment, the membership in the OMiLAB network as an OMiLAB Node.
- **Prepare the OMiLAB location**
The room you select should be suitable for the configuration you have in mind (see next chapter for ideas) and should be easily accessible as well as inviting for users and community members.
- **Procure and install furnishing and equipment**
Depending on the layout you have chosen for your OMiLAB we can provide you with a list of recommended items to support your configuration. You can opt for make or buy choices for the business and proof of concept layer if you plan to have an Evaluation Space.
- **Train staff**
The OMiLAB NPO can provide you with different trainings on how to use the ADOxx[®] platform and the Olive[®] framework for your purposes.
- **Open your OMiLAB**
You are now ready to launch your OMiLAB, attract projects, build a local community and interact with the global OMiLAB community. Having an opening event will give wider visibility to your facility and will help you communicate and demonstrate the OMiLAB concept and benefits to key stakeholders.



OMILAB LAYOUT

The lab layout form described hereinafter is an example of a perfect space. It has a rectangular form and contains all sections presented below. Depending on your community's focus you might want to design your lab similarly or combine the different parts at discretion. The ideal lab space is therefore more expensive than the usual OMILAB. Even if you want to use a light version of the OMILAB it might be good to use the principles laid out here as a model.



OMILAB LAYOUT

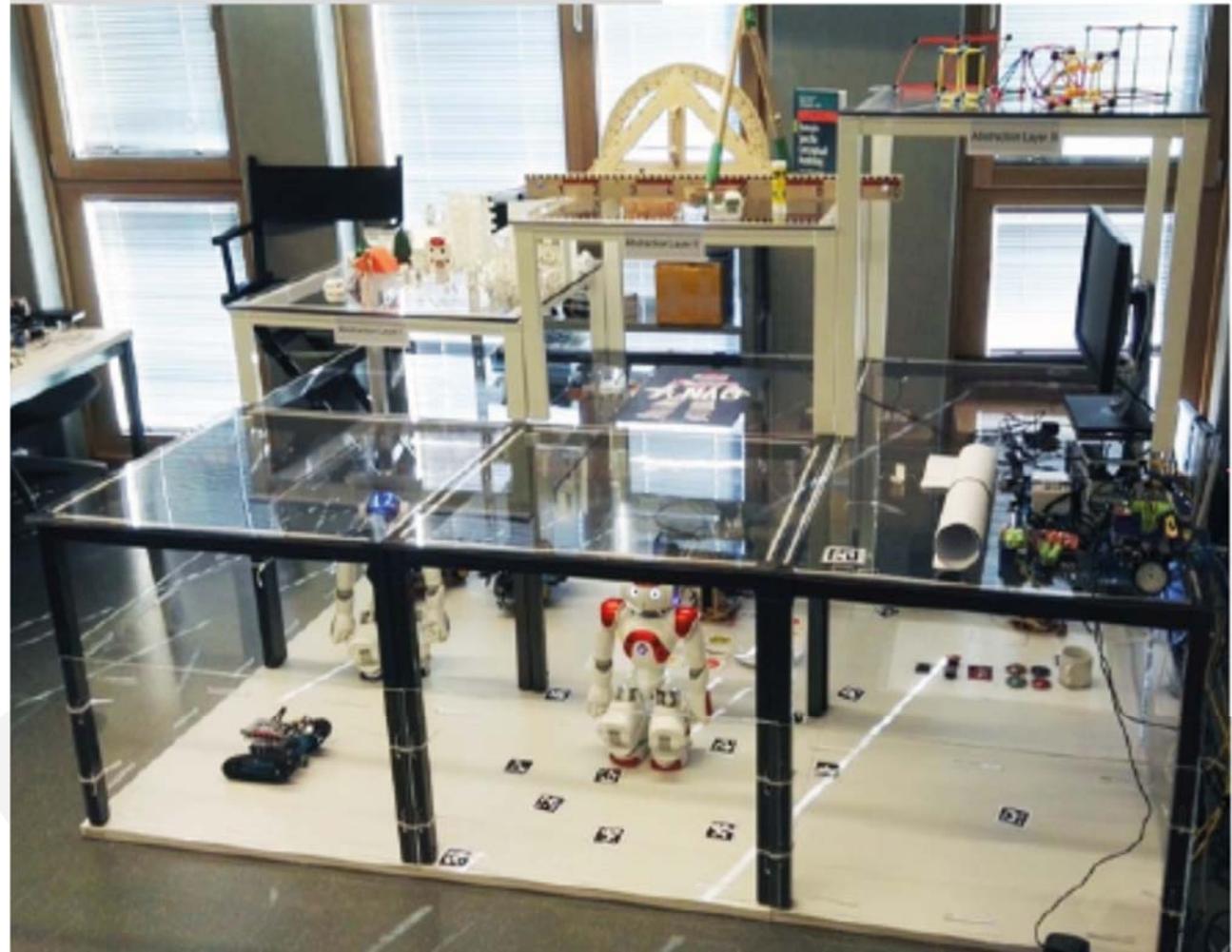
The ideal lab space:

- Rectangular room
- About 60 sqm
- Combines all 3 Spaces

Looking at the floor plan you will see three distinct sections which interact seamlessly with each other. They are each described in more detail in the following.



OMILAB LAYOUT: EXAMPLE EVALUATION SPACE



OMILAB LAYOUT

The ideal lab space:

- Rectangular room
- About 60 sqm
- Combines all 3 Spaces

The Proof-of-Concept Layer was instantiated for CPS in this concrete evaluation space.



OMILAB LAYOUT: EXAMPLE AGILE METHOD ENGINEERING SPACE



OMILAB LAYOUT

The ideal lab space:

- Rectangular room
- About 60 sqm
- Combines all 3 Spaces



THE OMILAB CREATIVE SPACE

Work in the Creative Space focuses on collaboration and communication in your OMILAB community.

It can be used for trainings and events as well as for Design Thinking workshops, innovation sprints etc. Furnishing and equipment can be chosen as to make the Creative Space easily reconfigurable. Possible equipment includes:

- ◇ about 25 conference chairs with foldable tables. Ideally the tables are easily removable (click-on system)
- ◇ 2-4 laptops which can be used for research during the workshops but also for presentation in a different layout choice
- ◇ 3 tables
- ◇ 1 speaker's lectern
- ◇ 1 video projector
Using a wall paint which makes it possible to project directly on the wall will save you the costs for a projection screen.
- ◇ 4-5 beanbags for the pitch corner. Alternatively you might choose to use part of the chairs to save costs.
- ◇ 1 meta-plan wall, moderation kit
- ◇ Design Thinking instruments like Serious Lego[®], Business Model Canvas, Storyboards, post-it notes, modelling clay
- ◇ Consumables



How the Creative Space Can Link to the Evaluation Space

On the business layer the Evaluation Space affords instruments which permit the collaborative creation and evaluation of ideas, new business scenarios, innovative product and service features.

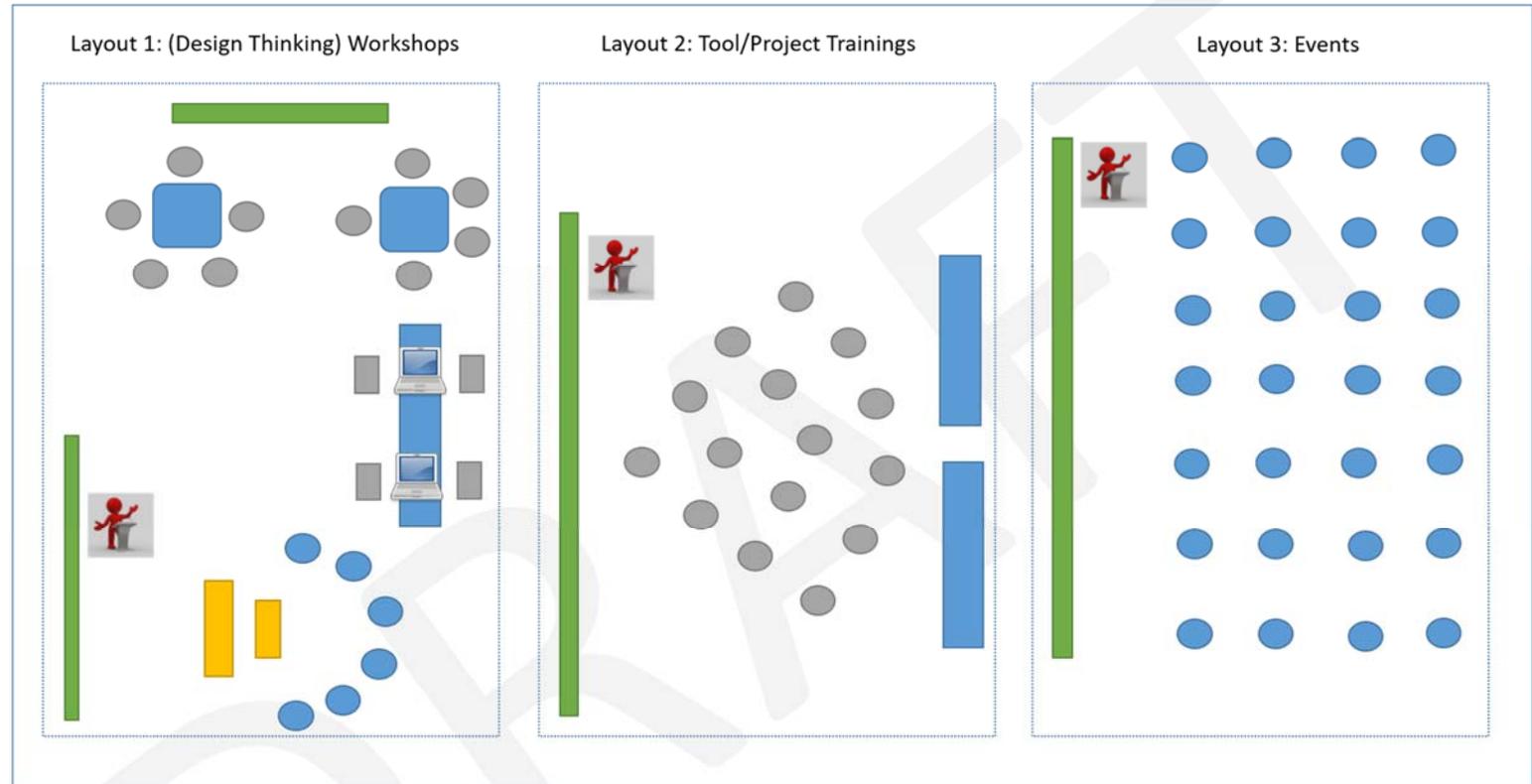
Example: Scene2Model Tool

Video: https://www.youtube.com/watch?v=kQoQtEME_ss

Scene2Model tool: <http://austria.omilab.org/scene2model>



THE OMILAB CREATIVE SPACE: LAYOUT IDEAS



Activities: workshops for ideation, analysis, early prototyping, user-centred innovation

Seats: 8-10 persons

Tools: e.g. Serious Lego[®], Business Model Canvas, Storyboarding tools etc, laptops for research, pitch-corner

Activities: conceptual or tool-based trainings, project meetings, small group seminars

Seats: 12-16 persons

Tools: video projector, speaker's lectern, conference chairs with foldable tables, flipchart, moderation kit

Activities: conferences, community-events, presentations, lectures

Seats: 22-26 persons

Tools: video-projector, speaker's lectern, conference chairs with foldable tables



THE OMiLAB EVALUATION SPACE

Work here focuses on evaluating the designed scenarios and/or engineered solutions in your OMiLAB.

The Evaluation Space is positioned in the centre of the lab. Depending on the focus of your OMiLAB the configuration of the “Proof of Concept” layer might be digital or physical. In the former case a two layered table space complemented by screens for the execution of your proofs might be sufficient. If your “Proof of Concept” layer is physical you should use all three layers.

Recommended equipment includes:

- ◇ Three layers of tables stacked on top of each other with a total height of about 1,20 m
If you need only two layers consider tables with higher legs to make working more comfortable.
- ◇ Size of each table is 80 cm x80 cm with a transparent (frosted plastic or break-proof glas) top
- ◇ One sector (80x80 cm) should be allocated to one experiment. Experiments can link any two layers (top down or bottom up) or go across all three layers, depending on your focus. The overall size of your Evaluation Space depends on the number of concurrent experiments you plan to realize.
- ◇ Objects suitable to execute the experiments which you plan to conduct in your OMiLAB (if applicable)
You may opt for make or buy objects used in the Business Layer as well as in the Proof of Concept Layer . We can provide you with a recommended list of experiment equipment and their functionalities for a range of scenarios.



How the Evaluation Space Can Link to the Other OMiLAB Sections

- If your experiment includes software or hardware for the “Proof of Concept” layer you might create/extend/modify these in the Engineering Space and subsequently execute in the Evaluation Space.
- If your experiment includes a socio-technical system with customer/user-interaction, *for example a service for a Smart City*, then you might execute the proof of concept in a human and technology mix.

CPS-SYSTEMS BEST PRACTICE EXAMPLE

A collection of experiments with Cyber-Physical-Systems (CPS) has been done by the OMiLAB Node Vienna. Documentation describing the experiments as well as the necessary hard- and software are available upon request.

For materials **contact**

OMiLAB Vienna Node
Prof. Dr. Dimitris Karagiannis
dk@dke.univie.ac.at



THE OMILAB EVALUATION SPACE: ARCHITECTURE

Application Domain: defines the requirements and constraints to be evaluated on each of the three layers. Experiments are always affiliated to at least one application domain.

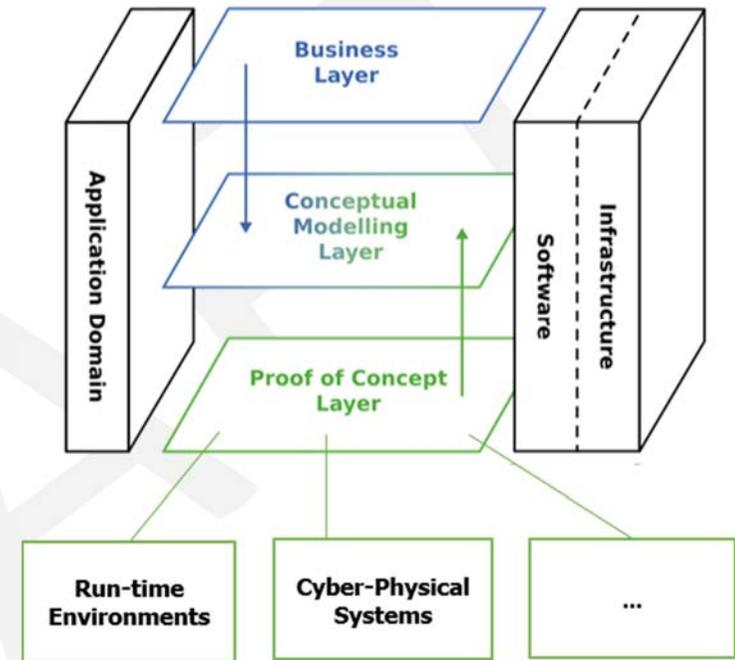
Business Layer: describes an internally consistent sequence of events, situations or actions expected to appear under specific conditions and which are to be evaluated in the specific experiment.

Conceptual Modelling Layer: affords appropriate representation, processing, as well as decomposition and abstraction capabilities to connect the top and bottom layers for the purposes of the experiment.

Proof of Concept Layer: off-the shelf or self-made objects encapsulating capabilities and wrapped in open-source software capable to execute the scenario requirements.

Software: includes all applications and systems necessary to run the experiment(s). The Olive (Open Source Integrated Virtual Environment) microservice architecture and software is included in the starting package of every OMILAB Node.

Infrastructure: all hardware and networks necessary to enable communication and execution both within the laboratory or remotely, depending on the experiment setup. Consider that if you do not have a computing center at your facilities which you can use (or which you might opt not to use) you will need at least one server. We can recommend what is commonly used in the OMILAB Nodes, but you might want to consider your specific experiments and focus to assess if this is suitable for you.





THE OMiLAB ENGINEERING SPACE

Work in the Engineering Space focuses on the designing, developing/extending/modifying and deploying technology in your OMiLAB.

You might opt to set-up the Engineering Space in your OMiLAB but you might not need the HW-Engineering workplaces (e.g. for making a CPS device). Alternatively your specific focus might require a larger section of workplaces for hardware. Possible equipment includes:

- ◇ 5-7 tables for engineering work
- ◇ 1 table for agile meetings (eventually with chairs)

- ◇ 5 desktop computers for software engineering arranged following the Conceptualization Lifecycle

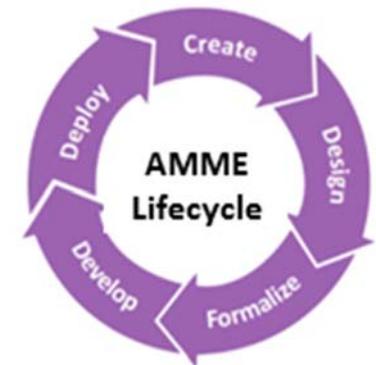
Soft- and hardware requirements are available upon request as well as imagery which depicts the logic of the lifecycle, making for a great “storyline” for modelling method /tool engineering work. Experience has shown us that this helps engaging the community in the respective OMiLAB Node work.

- ◇ 2 tables equipped with the necessary instruments to create the physical objects (if applicable in your case)
This might include 1-2 toolboxes with screwdrivers, soldering irons, pliers, rasps, a vice etc.

- ◇ 1 cupboard to deposit/lock away stuff

If you decide to go for a self-made approach and engineer your stuff the cupboard helps to keep order as well as to put away any items not needed. If you went for a buy approach you might want the possibility to lock-up some of the items.

- ◇ Consumables



AGILE MODELLING METHOD ENGINEERING — THE AMME FRAMEWORK

For details please have a look at the “Agile Modelling Method Engineering” paper by D. Karagiannis published at PCI Conference 2015
ISBN 978-1-4503-3551-5, DOI <http://dx.doi.org/10.1145/2801948.2802040>, ACM, 2015



HOW TO APPLY AS AN OMiLAB NODE

Guiding principles of the OMiLAB NPO are openness (to every type of institution, domain, and geography) as well as the self-governance of the community. Thus we encourage you to get in touch with us early on in the process of creating your OMiLAB.

What steps do you need to do to become an OMiLAB Node:

1. Complete the Application Form and send it to us. If you have questions during the process of establishing your OMiLAB we are happy to support you with our experience and the existing knowledge base like templates for cost estimation for equipment and operations etc.
2. Sign a Memorandum of Understanding (MoU) between your institution and the OMiLAB NPO agreeing on the terms and conditions of the cooperation.
3. The MoU includes an initial set-up package containing:
 - ◇ The OMiLAB software package with open source software
 - ◇ Grants for students participating at the NEMO Summer School
 - ◇ Knowledge transfer (manuals and materials)
 - ◇ On-site training

The costs for the initial set-up package are 10.000,00 EUR, an one off payment .

OMiLAB NPO

Lützowufer 1

10785 Berlin, Germany



office@omilab.org

We look forward to you getting in touch!

OMiLAB[®] NODE

APPLICATION FORM

[Datum auswählen]

[Should you wish to remove this field before submitting the application, mark the field and press BLANK].

Please submit this application form to Mrs. Elena Miron at elena.miron@omilab.org. In case of any questions please refer to the contact her at the same e-mail address, by skype (id: elena.teodora.miron) or cell phone (+43-699-14035497).

Institution Name	
Name of Department/ Research Group/Centre	
Website	
Contact Person (please include information below)	
First Name	
Last Name	
Academic Title	
Position	
Address	
E-Mail	
Phone	

PROFILE OF THE APPLYING ORGANIZATION/ENTITY

[Should you wish to remove this field before submitting the application, mark the field and press BLANK].

Describe shortly the profile of the organizational entity and the institution it belongs to with regards to its objectives and activities. Provide any additional information you deem necessary.