

Project: TEST-4-SME  
 Activity: 3.4 Training of laboratory staff  
 Output: 3.4 **Training curriculum for laboratory staff**  
 Version: 4  
 Date: 07.05.2021  
 Page: 1(5)  
 Produced by: Riho Vendt, Tiia Lillemaa (UT)

Document status		Document confidentiality	
	working document		WP and task leaders
	to be reviewed		internal use only (direct partners only), distribution RESTRICTED
	proposal		entire project partnership (direct + associated partners)
	final		target groups (key target – 200 SMEs from the blue and green targeted sectors)
X	released	X	public in large, public distribution

## Training curriculum for laboratory staff

### 1. Introduction

In the framework of the TEST-4-SME project training and workshops were organised for laboratory staff in the network in order to improve the knowledge of international standards, and how to improve quality and efficiency while reducing testing costs. In order to maximise the benefits of trainings, the activity leader Tartu Observatory (TO) created a plan for the trainings, considering the sequence of project activities and the priorities that became evident during project activities (for example based on feedback from SMEs).

The trainings were aimed at staff of the competence centres as well as the laboratories who will cooperate with the TEST-4-SME network. These trainings were needed to improve the provision of services within the network. The speakers were testing experts from competence centres, also representatives of the major manufacturing companies of test equipment and organisations like ISO (International Organization for Standardization).

There were three workshops for laboratory staff during the project about 2-3 days long each for about 30 participants. The workshops took place in Estonia (TO), Latvia (UL) and Lithuania (ProTech). Each of workshops was two to three days long in order to provide time for learning about technical topics, standards and how to best provide services, as well as visiting laboratories, networking and teambuilding. Through trainings and workshops laboratory staff in the region increased their knowledge and competence. Networks are functioning based on face-to-face communication, so meeting staff from other competence centres and partnering laboratories was essential. The workshops included events and group works that helped to build strong and lasting relationships. This ensured that organisations actually started effectively cooperating and applying network procedures and principles in their work. If meaningful relationships are not established, each organisation continues to pursue its individual agenda without thinking about common goals and the network will not be sustainable. Our goal was that the network would become and stay operational also after the project.

Because of the importance of establishing such relationships, we invited external experts for teambuilding to help us.

The training curriculum for laboratory staff was worked out for the first workshop and necessary improvements were made in subjects for the next workshops. The curriculum include technical topics, knowledge on standards and how to best provide services as well as visits to labs and teambuilding elements.

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## 2. Scope

Participating laboratories will use their increased knowledge and competence to provide more efficient, higher quality services to SMEs. How to improve quality and efficiency while reducing testing costs. Building relationships will guarantee the longevity and effective operation of the network.

## 3. Schedule

Three workshops for laboratory staff in the network was organised. Agendas of these workshops are appendixes of the curriculum.



**1. LITHUANIA**  
**ProTech**  
**November 2018**



**2. ESTONIA**  
**University of Tartu**  
**October 2019**



**3. LATVIA/online**  
**University of Latvia**  
**June 2020**

## 4. Duration

The duration of the workshops was one to three days, one day if online event was held, 2 to 3 days when contact meetings were organized.

## 5. Target groups, participants

The target groups and participants of the trainings are:

- project WP and task leaders,
- laboratories of the project partners,
- laboratories of the regional competence centres,
- key laboratories cooperating within the TEST-4-SME network.

The workshops have target attendance of 20...30 participants.

## 6. Presenters

The presenters of the workshops will be:

- project WP and task leaders,
- testing experts of the project partners,
- testing experts of the regional competence centres,
- representatives of the major manufacturing companies of test equipment in the region,
- standardization organizations,
- experts of teambuilding.

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## 7. Contents of the curriculum

The workshops will handle the following topics.

- **Network procedures**
  - governing rules in the network input from A 2.2 (RTU),
  - customer relations / communication procedures (UT),
  - visibility, outreach, advert input from A 2.3 (Centria),
  - updates at the second and third workshop according to feedback from the network activities.
- **Technical topics**
  - best practice in testing (quality management) input from A 4.1 (MET),
  - relevant standards,
  - testing and calibration procedures,
  - testing reports and calibration certificates.
- **Networking and teambuilding**
  - face-to-face communication,
  - exchange of expertise,
  - networking and teambuilding exercises in groups,
  - teambuilding.
- **Visits to the local laboratories**

## 8. Outcomes

The outcomes of the workshops for the participants are:

- increased knowledge and competence on how to provide efficient and high quality services to SMEs,
  - ability to plan and reduce testing costs,
  - established common goals and smooth operation of the network,
    - effective cooperation within the network,
    - applied network procedures and principles,
    - supported sustainability of the network.
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## 9. Suggestions for further lab staff training organizers

We organized two in person and one online lab staff training. The format did not have an impact on the event's success. Feedback from attendees was collected right after each training and also at the end of the project. Here are some most valuable suggestions for future training organizers:

### Teamwork facilitation

- Teambuilding exercises, that seem ridiculous at first sight are actually really useful. However, you discover it years later.
- Joint dinner for all participants during in person meetings facilitates good communication and friendly atmosphere.
- Additionally, to gaining new knowledge, it is important that also laboratory staff meet each other and share experiences and approach to the tests they do. Involving into project events others than managers and main researchers are motivating also laboratory staff in ideation, learning new things, being more proactive.
- Participating in training in one country and receiving other countries training materials, an image was formed of what other network laboratories could propose for the market. Acquired basic knowledge in other areas of activity.
- It was good teambuilding as well as new knowledge from the training. The lab staff trainings have been very useful in terms of networking between different laboratories.

### Content and topics of the training

- Laboratory staff training should be organized in such a way that the main topic and topics of the presentations are really relevant to the listeners. Too narrow a topic is interesting only for a small group of participants, which does not allow to achieve the goals of the project.
- I have participated at two staff training events organized by partners and took part in organizing of third - online training. I have learned that trainings should include as much specific lectures as you can find experienced lecturers representing specific fields. Next time we need to think about demonstration of best products related with theme of trainings and produced in hosting country.
- All staff members must have something to do during training. Participation was really useful, it was good that for one part we had different topics and could choose in which participate.
- Staff training was very useful and made huge impact on the staff who participated letting them widen their professional view and gain international experience which improves the work of staff as well as work of labs.

- Exercises to learn collaborative teamwork are good. Also, when things touch the necessary things and help to understand theoretical things in practice there is a benefit.
- It is not easy and takes time to prepare useful practical training in the laboratory so that it is easy to understand and perform for partners including those not related to your topic.
- The training should have more information about the subjects since we all are experts in our fields and it can assume that we are able to find out the basics beforehand. Arranging the training for a group as heterogeneous as Test-4-SME project workers is difficult.
- In organizing it is necessary to consider the beginners and the more experienced. Offer different levels. Theories need to be thought through by target audience.
- Well, the lab staff trainings were quite diverse. Hence, it is not so easy to indicate all the detail things that were discussed and learned. However, there were many interesting technical topics that were quite important for receiving up-to-date information and knowledge about testing practice, which of course spurred the ideas for adaption within own test labs. Moreover, during the lab staff trainings many electronic product standards were discussed, which delivered an overview about even testing fields that are not covered by our own lab.
- Lab staff learned different testing approaches, new cooperation and networking tools. Look at Agenda and let participants have enough breaks to process new information to enforce deep learning and facilitate good communication. It's very useful and important at in-person and definitely during online events.

### Differences between in-person and online training

- When organizing an online staff training seminar without the direct presence of the most of participants, it is important to ensure an accurate, timely and intensive exchange of information between the participants and the training providers, i.e. a participant registration environment must be set up to ensure that reminders and participation documents are automatically sent to registered participants.
- Turning from one moderator to another during presentations and laboratory workshop made the conduction of the online staff training more effective.
- Using the online platform Zoom, in cases where there were several participants in the same room with the microphones on, there was an echo of the voice communication. It is possible that this problem could be solved by using a single sensitive microphone for all participants in the same room.
- It was a challenge to react in situations where technical issues arouse during the seminar and had to be resolved. The teamwork was a very positive experience. Working with colleagues, supporting each other, finding solutions together and working with our strong and weak sides in unusual situations was a positive and learning experience.