



European e-Transport Network for Vocational Education and Training

2nd ETN4VET SNE report

26 – 30 September 2022

Gera (Germany)



Introduction

After the successful 1st ETN4VET Study and Networking Event (SNE) in May 2022 in Porto (PT) at the ATEC premises, we were all looking forward to the 2nd ETN4VET SNE organised by the [Chamber of Skilled Crafts for Eastern Thuringia](#) in close cooperation with the [Staatliche Berufsbildende Schule \(SBBS\) Technik](#) in Gera (Germany). A group of 29 participants from 13 organisations out of 10 countries could discuss and share the by the HWK Ostthüringen, SBBS Technik Gera and [BBS-Syke](#) presented e-Transport network and their used materials and methods.

This report describes the followed program and upbringings and will refer to several annexes (including the photo's). These can be found in the ['ETN4VET friends' MS TEAMS folder](#). The participants of all physical and online SNE's and all 'ETN4VET friends' from organisations outside of the conglomerate have access to these documents.



Participants

ORGANISATION	NAME	27 SEPT. 2022	28 SEPT. 2022	29 SEPT. 2022
Aventus	Durk van Wieren	√	√	√
Aventus	Mark Homan	√	√	√
Aventus	Richard van den Bosch	√	√	√
Kuressare Ametikool	Margus Kivi	√	√	√
Kuressare Ametikool	Toomas Kivi	√	√	√
Hyria koulutus/Hyria Education	Timo Hämäläinen	√	√	√
Hyria koulutus/Hyria Education	Mika Kinnunen	√	√	√
Salpaus Koulutuskeskus	Jani Heikka	√	√	√
Salpaus Koulutuskeskus	Teppo Anttola	√	√	√
Université Régionale des Métiers de l'Artisanat des Pays de la Loire	Alexandre Mairand	√	√	√
Université Régionale des Métiers de l'Artisanat des Pays de la Loire	Elise Petit	√	√	√
BBS Syke EUROPASCHULE	Silke Hillermann	√	√	√
BBS Syke EUROPASCHULE	Klaus Baasch	√	√	√
BBS Syke EUROPASCHULE	Jens Hacker	√	√	√
BBS Syke EUROPASCHULE	Stefan Arnold	√	√	√
Handwerkskammer für Ostthüringen	Ingolf Zupfer	√	√	√
Handwerkskammer für Ostthüringen	Tania Rodriguez Diaz	√	√	√
Handwerkskammer für Ostthüringen	Andreas Jörk	√	√	√
Ceipes	Roberto Conigliaro	√	√	√
Ceipes	Dario Lupo	√	√	√
Noorderpoort	Dennis van der Steen	√	√	√
Noorderpoort	Vincent Lubbers	√	√	√
Byåsen vgs/Trøndelag County	Helge Thronæs	√	√	√
Byåsen vgs/Trøndelag County	Per Magnar Skånøy	√	√	√
ATEC	Duarte Silva	√	√	√
ATEC	Carlos Isidro	√	√	√
Salesians	Marc Juvanteny Monforte	√	√	√
Salesians	Pere Gil Alba	√	√	√
Amledo & Co AB	Peter Gustafsson	√	√	√
Amledo & Co AB	Jonas Olofsson	√	√	√



Agenda

	Monday, 26 Sept.	Tuesday, 27 Sept.	Wednesday, 28 Sept.	Thursday, 29 Sept.	Friday, 30 Sept.
Morning	Arrival until 17:00	09:00 Welcome and Presentation of HWK für Ostthüringen (A. Jörk, T. Rodriguez Diaz) and SBBS Technik Gera (R. Günther, I. Zupfer) 10:00 Calculation of carbon footprint https://www.carbonfootprint.com/calculator.aspx 10:15 Visit SBBS Technik Gera (I. Zupfer) 10:45 Presentation partners e-Transport network - e-solutions GmbH (M. Franke, B. Wagenvoort) 11:30 SWOT analysis 13:15 Lunch 14:30 Excursion to 'e-mobility company FRAMO GmbH in Löbichau 17:00 End of the day	09:00 Presentations and studying best practice teaching material & methodology SBBS Technik Gera (I. Zupfer) 10:30 Finding answers on FAQ (Durk van Wieren) 11:30 Training 'How to improve my networking skills?' (Durk van Wieren) 13:15 Lunch 14:30 How to put SWOT into action? (Durk van Wieren) 17:00 End of the day	09:00 Presentation and studying best practice teaching material & methodology BBS Syke 11:00 Finding answers on FAQ (Durk van Wieren) 13:00 End of the project 13:00 Lunch Cultural program (Horch museum in Zwickau)	Departure
Afternoon					
Evening	19:00 Preparatory meeting & Informal dinner - "Rübezahl" restaurant		19:30 Informal dinner at "Köstritzer Bierhaus" Restaurant		

Welcome and Presentation of HWK für Ostthüringen (Andreas Jörk)

The used presentation can be found as 'HWK_Ostthueringen'.

SBBS Technik Gera (I. Zupfer)

The used presentation can be found as 'Introducing SBBS Technik Gera'.

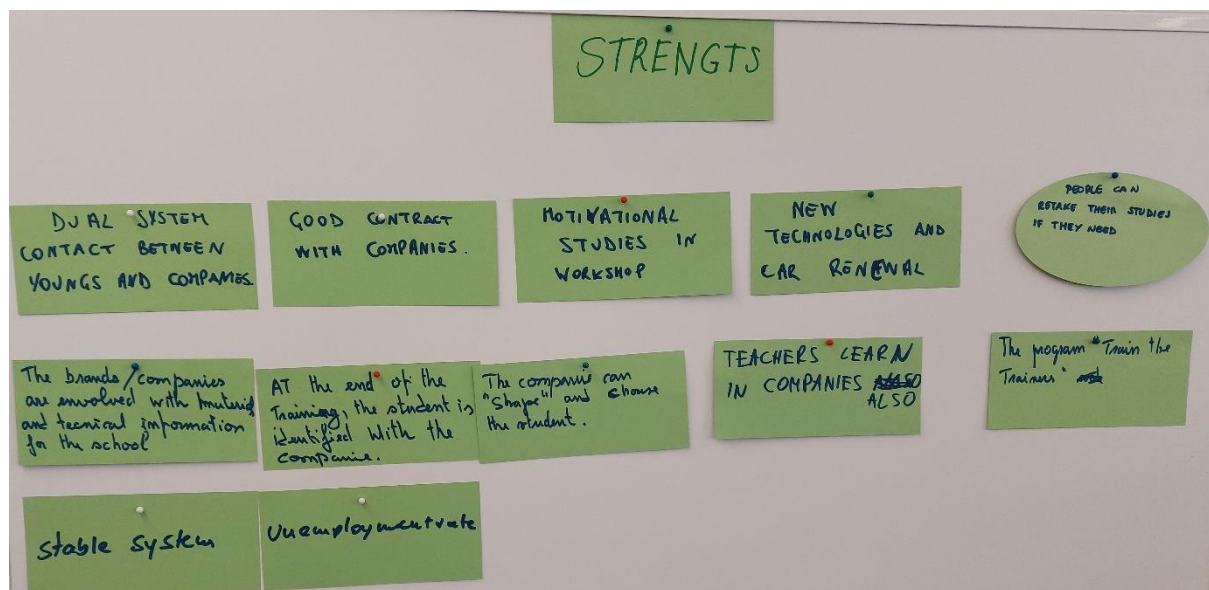
Presentation partners e-Transport network (e-solutions GmbH (M. Franke, B. Wagenvoort)

The used presentation can be found as 'e_solutions_e-bike_charge_systems'.

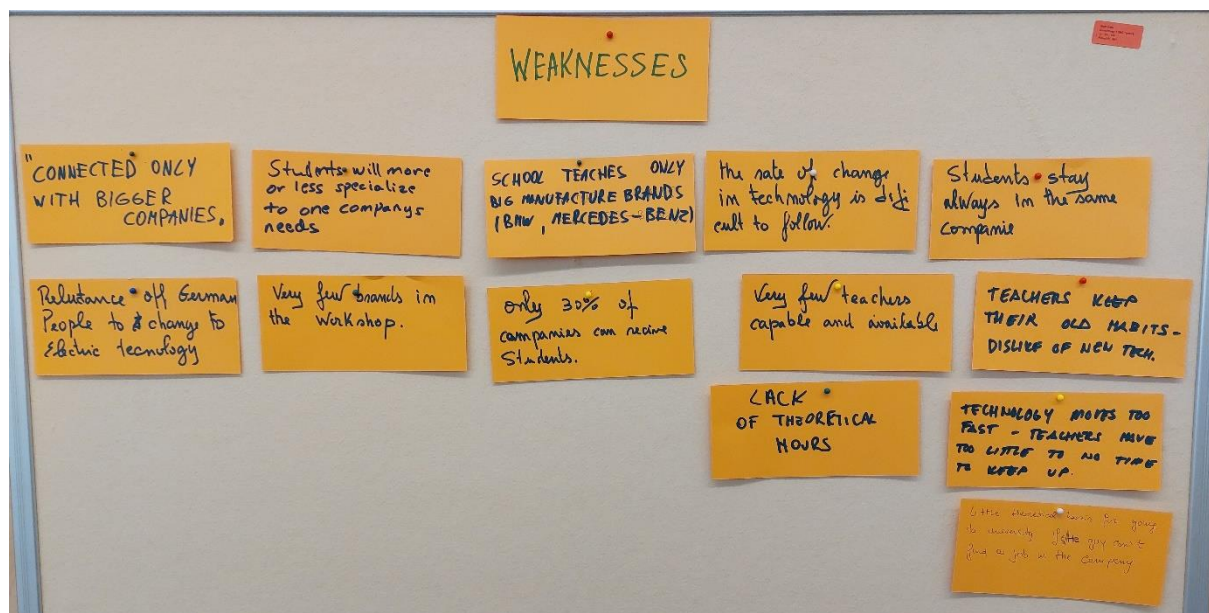
SWOT analysis

The following SWOT was made after analysing the presented and discussed e-transport network

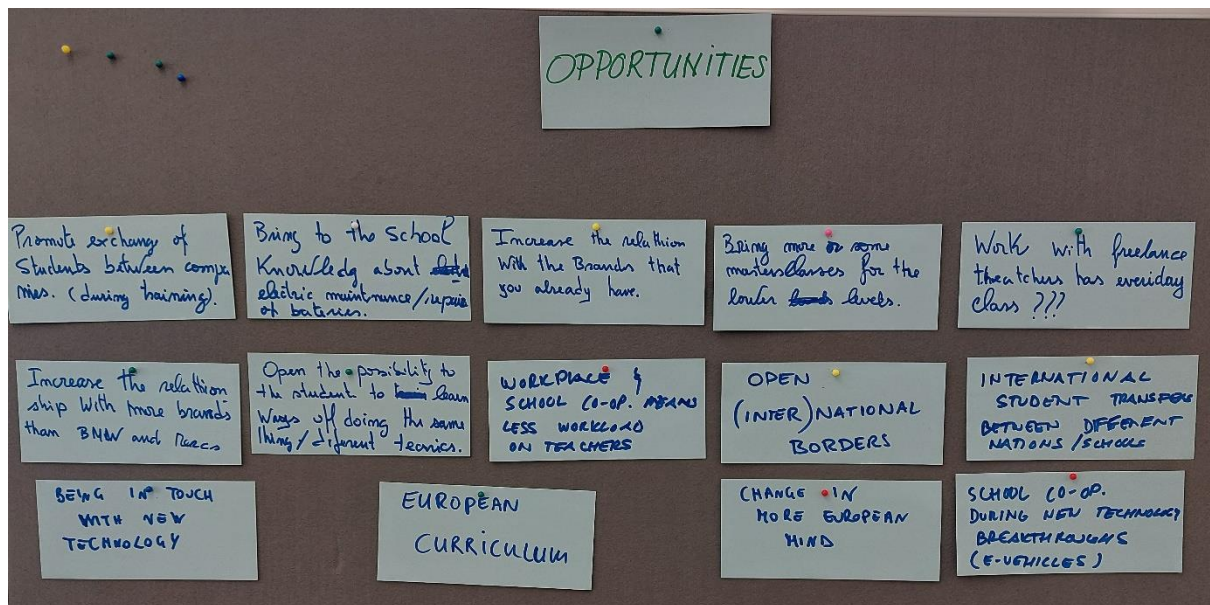
e-Transport network STRENGTHS



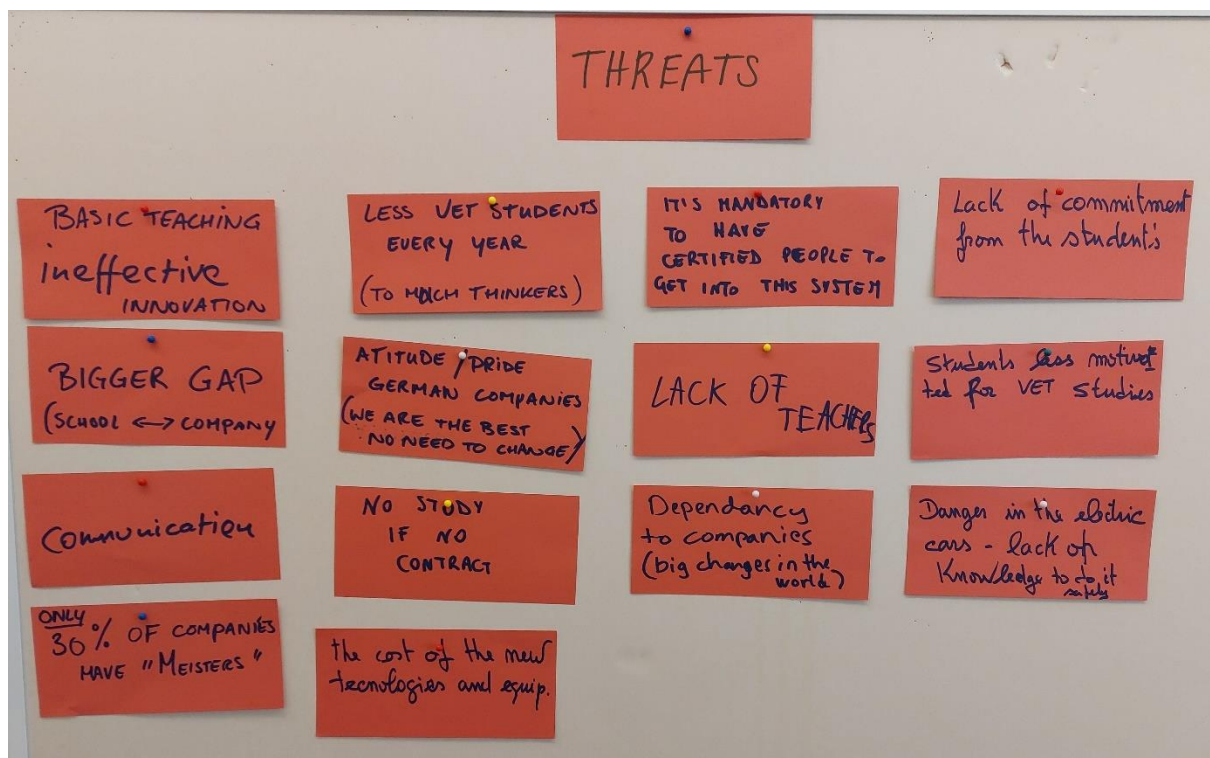
e-Transport network WEAKNESSES



e-Transport network OPPORTUNITIES



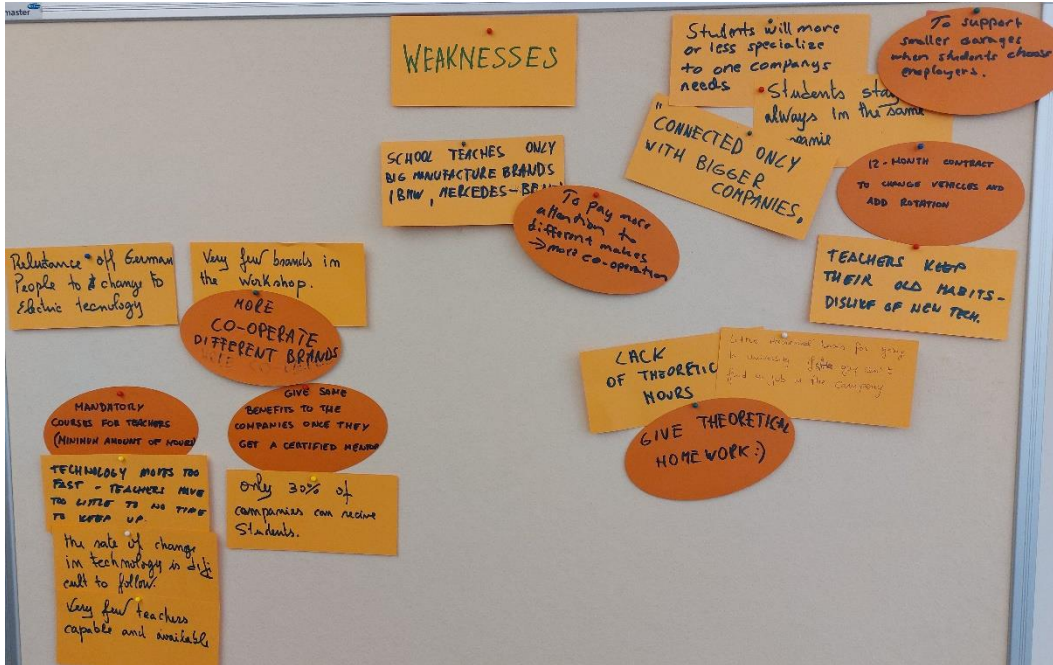
e-Transport network THREATS



How to put SWOT into action?

These are the tips for reducing the weaknesses and threats of the presented e-transport network.

Reducing WEAKNESSES



Reducing THREATS



Presentation and studying best practice (teaching material & methodology) SBBS Technik Gera

The used presentation can be found as 'Teaching e-mobility at SBBS Technik Gera'.

Answers on SBBS Technik Gera presented e-Transport teaching material and methodology FAQ

What questions do you have after seeing SBBS Technik Gera's presentation about their used methodology and training materials

 Mentimeter

Do you have a problems that students destroy or steals part from stands?	How many lab/workshop practices do you usually perform during a year?	Because the students are in school for one week a month, do they do practices or exams in school with the equipment shown on the campus tour with Ingolf? How are the students graded during their studies?
What is the price of the 135i if I want to buy it??	Where do you order the prepared truck and much was it?	Do you have problems with vandalism on the models?
What type of diagnostic tools are you using at the cars?	Mandatory curriculum, at what frequency is the curriculum updated? And do you feel there should be more room for creativity	How many students do you have in one class and do you teach the car- and truckmechanics together?

- Is normally not happening. Teachers are very strict.
- Each class 2-3 lessons a week during 13 weeks a schoolyear. Total education is 3,5 years.
- The theoretical part of the examination is done via computer at school. The practical examination is taken care of by the Handwerkskammer at their premises.
- Not for sale. If we don't need it anymore, we have to scrap it.
- We bought it from the local dealer and paid € 70.000 (including discount).
- Normally not.
- Curriculum is open if you are able to read between the lines. Update every 5 – 7 years.
- The Bosch and the Goodman diagnostic tools are used. Normally also used by universal workshops. Bought it with a discount because of teaching purposes.
- Maximum is 30 students in one theoretical classroom, 15 during practical classes. Students of both passenger cars and trucks are together in the 1st and 2nd year. The 3rd year is specialisation.

What questions do you have after seeing SBBS Technik Gera's presentation about their used methodology and training materials



When you get new vehicles from manufacturer, are you supplied with breakout boxes or other tools to ease the education? Or do you source them from somewhere else?	Is a difficult job to do the exercise material?	Students have any responsibility on material? (If they broke or anything disappear...)
How often do you replace laboratory materials? (Models, spare parts..)	Can you describe a typical day (schedule) of the apprentices?	Does every student have insurance that covers accidents during workshop hours such as carpentry?
Why 3.5 years (and not 3 or 4)	How do you combat the phone use at class?	Can we do a brake test (135i) now? 😊

- We normally get the cars for free for educational purpose. If we want to modify it with extra tools (for example breakout box) we have to organise and pay by ourself.
- Normally not. It's suitable for the level.
- Normally no problems. If it breaks on purpose, they have to pay.
- It hardly gets damaged. If so Lucas-Nülle repairs it. If we don't need it any more it is replaced by more modern equipment. We have this since 2012.
- They start at 8:00, followed by a double lesson, 20 min. break, double lesson again, followed by a 10 min. break, double lesson again, 30 min. lunchbreak. The days finishes with a double lesson again. Day ends at 15:20. 13 weeks a schoolyear.
- They are insured via the government.
- Determined by the government. This is what they think is necessary. Could be a compromise. If you can and want to go to the university after this education, you can shorten the education to 3 year for a better (time) connection.
- Most teachers collect the mobile phones at the beginning of a lesson. If they need it for the lessons, they can have it back.
- Unfortunately not.

What questions do you have after seeing SBBS Technik Gera's presentation about their used methodology and training materials



What happen in case of injury? Do you have an infirmary in the Institute?	How many teachers do you allocate per session of training at the workshop. Are there teachers who's only role is to be at the workshop?	Do you have to pay for spare parts?
Teacher have time to prepare practical material for lessons?	What sort off practical training on N Leaf?	Is there some organization difficulty in a workshops 's times if there are several groups at the same time
who makes your models normally	How much homework you give to the students?	Which month do you start the classes and when it ends?

- Each school building has a 1st aid room and every teacher has a 1st aid diploma
- There a special teachers for practical teaching. Normally 15 students per teacher for practical lessons. If necessary 2 teachers on 30 students.

- Yes, but we often get them with a discount or for free. If not, we have to ask the city of Gera for permission.
- No special time. You have to do that yourself outside of your lessons.
- Normally only disconnecting and connecting the high-voltage system including the use of safety tools.
- If there are 2 teachers working in the same workshop, they have to agree about not disturbing each other.
- Preparation of the cars (breakout boxes for example) is normally done by external companies.
- Depending on the teacher.
- Middle of August until the end of June.

What questions do you have after seeing SBBS Technik Gera's presentation about their used methodology and training materials

Mentimeter

Where is all your car students?	How do you get money for buying the lucas nuelle boards?	How many time you spend with one group for a lesson?
How often the students have lessons in main laboratory (garage)?	How much money do your government have to spend for the two laboratories?	How many hours are spent on technical lessons in a week?
When students work at workshop, works all on the same activity or one group do a different activity?	How did you get the BMW 4 serie Gran Coupe?	Who is keeping up the laboratories and workshops? Teachers or is there any special role like laboratory engineer etc.

- 3 Technical car student classes are in the main building because we needed this building for this project.
- The headmaster lobbied at the city of Gera, the state of Thuringia and the EU for renovation/updating the school and its tools. It took about 15 years before it was granted.
- Normally 2 – 3 lesson 'hours' of 45 minutes.
- 2 – 3 times per week during 13 weeks per schoolyear.
- Approximately € 500.000,-
- 32 lessons out of the 40 a week are technical lessons (theory and practical).
- Depending on possibilities. Normally they work together on the same activity
- We asked BMW and they approved
- Responsibility of the teachers.

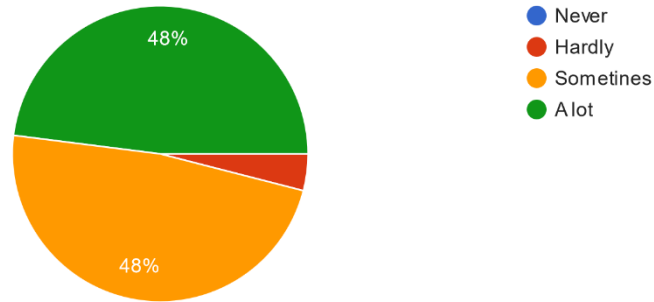


Training 'How to improve my networking skills?'

Outcomes of the survey 'How would you rate your professional network?'

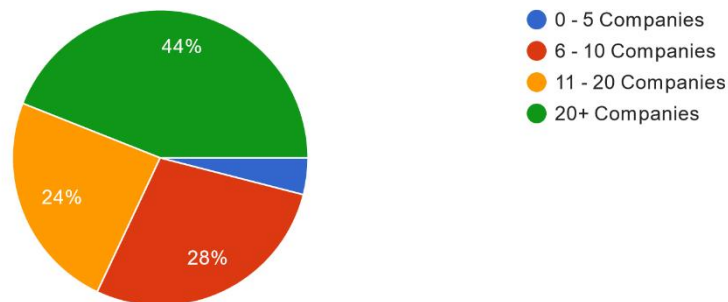
1. My organisation participates in networking opportunities

25 antwoorden



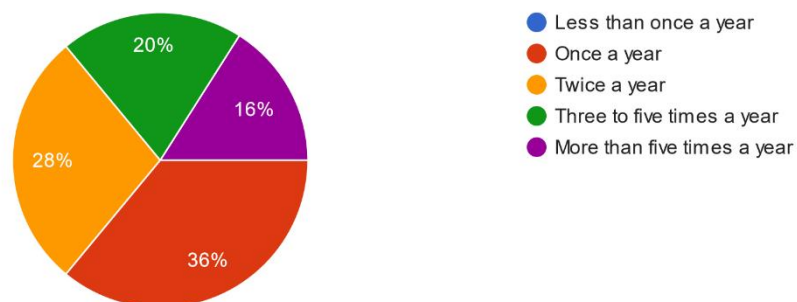
2. The size of my organisations professional network is

25 antwoorden



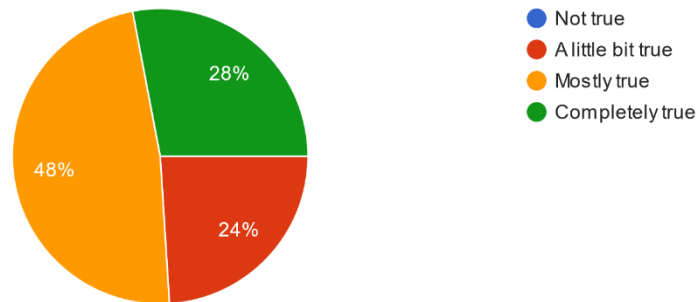
3. We meet our professional network partners on average

25 antwoorden



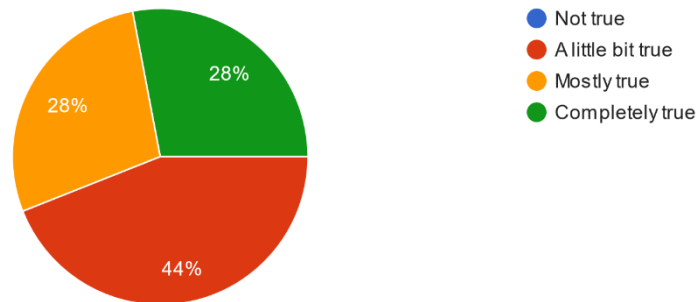
4. We know the contact person from each regional company by name

25 antwoorden



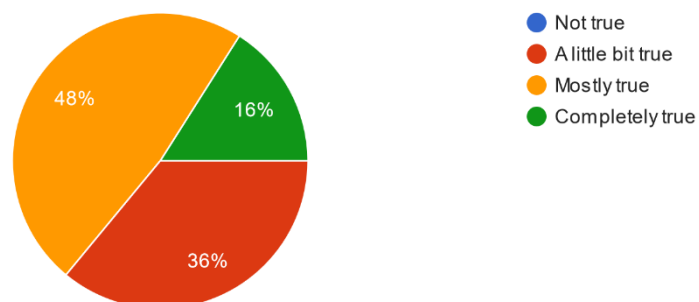
5. The contact person of each regional company knows how to find the right person within our organisation

25 antwoorden



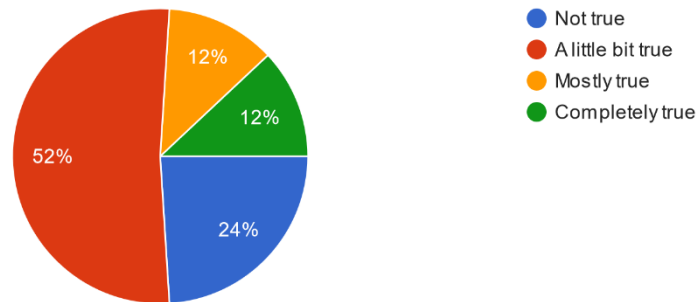
6. If my organisation can be of any use for a contact person, he/she will contact us

25 antwoorden



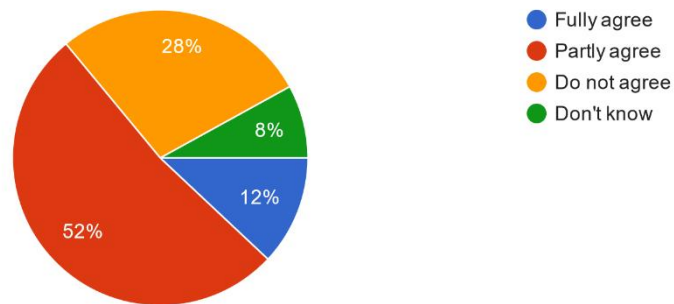
7. Companies will automatically inform us with the latest knowledge

25 antwoorden



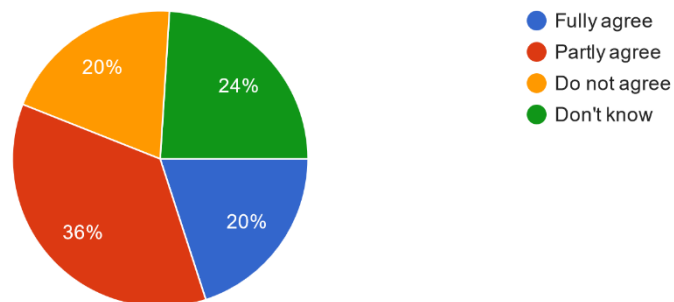
8. It is easy to get teaching materials from companies

25 antwoorden



9. It is easy to find a good workplace for a foreign student

25 antwoorden



10. Next to physical meetings we use the following to keep in touch with my network:

- LinkedIn
- Teams and Fb channel
- Exchange contact information
- Teams, newsletter, knowledge bank
- Via email

- WhatsApp, Viber, Teams and so one
- E-Mail, phone calls
- Social media, email, WhatsApp
- Via Teams, Zoom, email and telephone
- Teams
- Phone, e-mail, MS Teams
- Telephone and online meetings
- Telephone
- MS teams, Zoom, Google Meet
- Telephone and e-mail
- Teams group, Erasmus projects, cooperation projects, direct contact, webinars/workshops
- Phone
- Phone, Teams etc.
- Phone - Email - online meetings
- Email
- On-line meetings
- Phone calls, teams-meetings
- Teams, telephone, emails
- Organize an "open day" for our companies
- Email phone
- Telephone or email
- Phone, Teams
- Teams, mobile phone, email
- Email/phone call when needed
- E-mails or phone calls when we need it
- Using LinkedIn
- LinkedIn. E-mail newsletters social channels
- Telephone contact and exchange of knowledge and experiences
- Email, call
- Inform them about the latest news of the department in the school. Let them know that they important for the education and the vocational training.
- Telephone contact and exchange of knowledge and experiences
- Email, teams and call
- By telephone
- Telephone or email and visit.
- MS Teams, e-mail, phone exchange contact information
- Teams and Fb channel

Presentation and studying best practice (teaching material & methodology) (BBS Syke)

The used presentation about the used teaching methodology and content can be found as 'Teaching e-mobility at BBS Syke'.

Answers on BBS-Sykes' presented e-Transport teaching material and methodology FAQ

What questions do you have after seeing BBS Syke's presentation about their used methodology and training materials

Mentimeter

Most of the questions were already answered, but how and could student exchange be thought of?

How do they find the money to invest in materials? With government, factories, business partners...

no one

Was the short It's learning training sufficient?

What is the percentage of all the vehicle learners have chosen the specialisation in high voltage technology? How many teachers are involved in vehicle education at BBS Syke? Do learners have to pay licence

How much are the costs for the licence fee per learner and training year or for the duration of the whole training?

- We have each other's email addresses. If you want to start a student exchange, it is best to contact each other about the possibilities and start a cooperation.
- Our school has limited budget to for innovations (supplied by the local government). We had to make a plan which was discussed and approved by our board of the school.
- Nice.
- At BBS-Syke they have every year around 60-70 new students in car mechatronics. The last five years they had only approximately 2 students per year doing to high voltage education. BBS-Syke now has 8 teachers. 5 of them are responsible for the theoretical part and 3 of them are responsible for the practical part. We have around 450 students in 13 classes in the car mechatronics area. For now, the school (government) is paying for a Demo Electude license. See also the answer in green...
- The costs for Electude depends on the country. In Germany the package for Electude is between 250-400 Euros for the whole vocational time and per student, in general for 3,5 years. The package itself can be paid by the student or better the students company or the chamber. Or a division of the costs. However, if you reach this point, the school has to take the lead. You can get the licence to work with it first for free (maybe two years). After that for a fee of for example like € 3.000 per year for the whole school with a Demo-Version. The reason behind this is that the school after that process pays nothing...
The costs for the Lucas-Nülle room depends on what modules do you want to use. For example, for a class with 12 working places for students and one for the teacher we get an price between € 100.000 - € 300.000.
- Yes. It is not very complicated. Start doing it and you will learn by yourself.



The cultural program

