

TRIEME

DIGITAL & GREEN SKILLS TOWARDS FUTURE
OF THE MOBILITY ECOSYSTEM

OPETUSHALLITUS, Autoalan ammatillisen koulutuksen Erasmus+ -webinaari 28/1/2026

TRIEME projekti

Auto- ja kuljetusalan sekä liikkumisen tulevaisuuden osaaminen Euroopassa



Co-funded by
the European Union

Teemu Mäenpää, Vamia

Projektin info

DigiTal & GReen Skills TowarDs FuturE of the MObility Ecosystem (TRIEME)

4-vuotinen [ERASMUS+ Blueprint](#) -projekti
3/2024 – 3/2028

Auto- ja kuljetusalan sekä liikkumisen
tulevaisuuden osaamisen kehittäminen
Euroopan alueella (Automotive-Mobility
Academy)

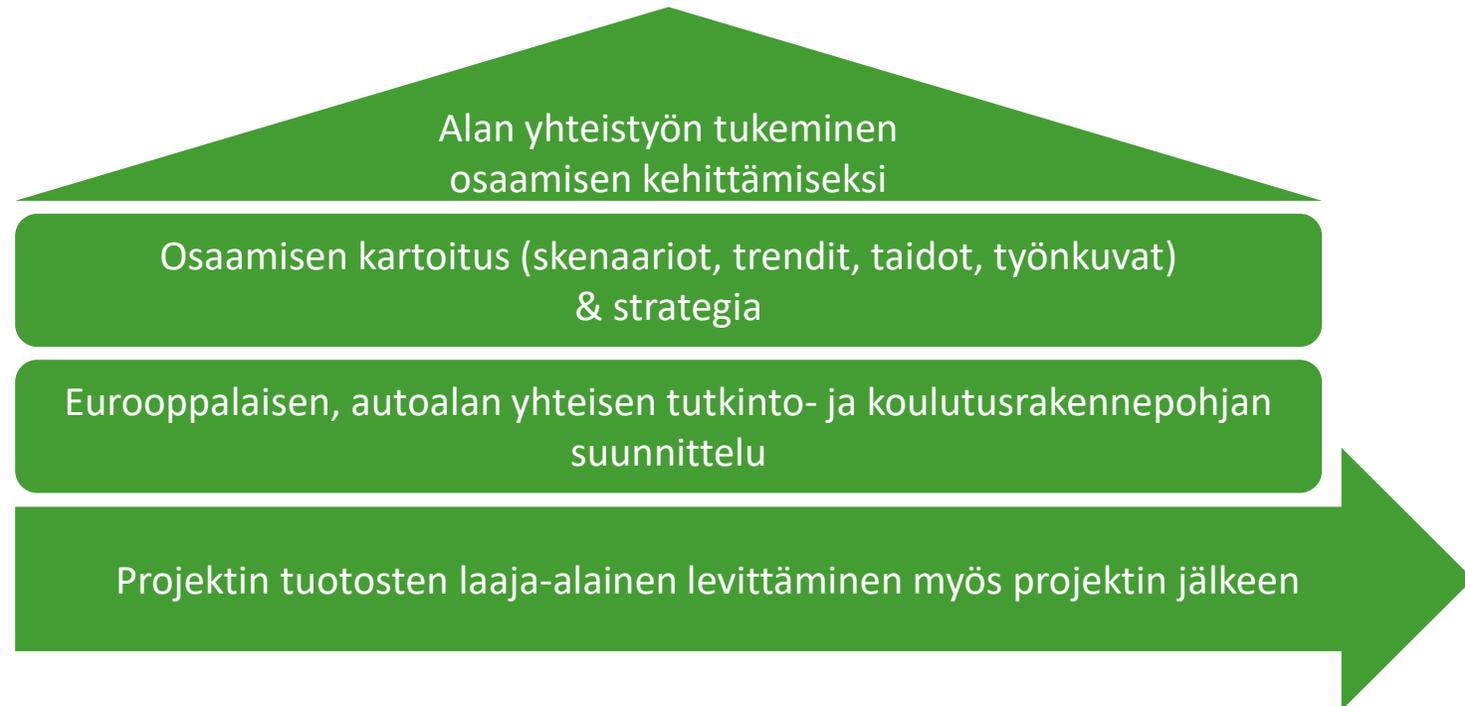
Yhteensä 31 partneria [Automotive Skills
Alliance](#) -verkostosta



TRIEME



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.



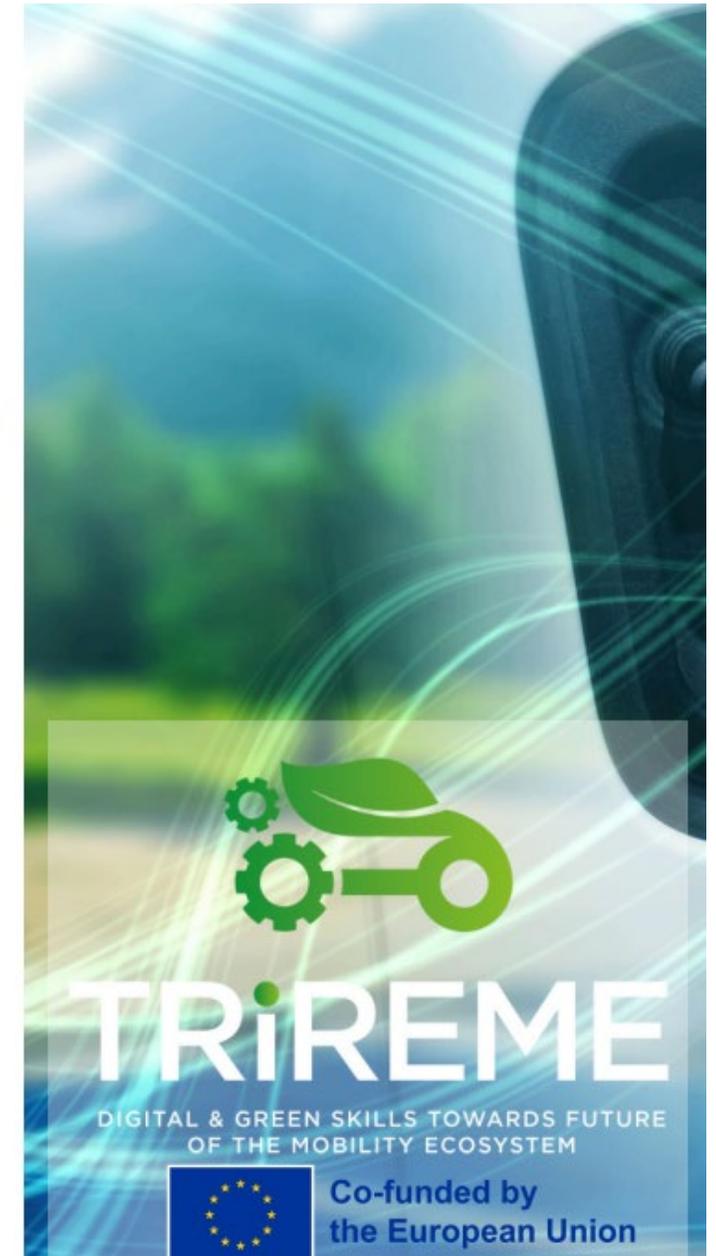
**Support skills agenda in the Automotive-
Mobility Ecosystem through the Large-scale
Pact for Skills Partnership**



**AUTOMOTIVE
SKILLS
ALLIANCE**

TRIREME-projektin parissa työskentelee 31 kumppania 14 eri maasta:

- 6 korkeakoulua (HE)
- 4 ammatillisen koulutuksen järjestäjää (VET)
- 7 teollisuuden edustajaa EU:n tai kansallisella tasolla
- 1 aluehallinto
- 3 työmarkkinaosapuolta
- 5 pk-yritystä
- 5 muun tyyppistä kumppania, kuten koulutuksen tarjoajia, konsulttiyrityksiä ja kansalaisjärjestöjä.
- Belgia, Espanja, Italia, Itävalta, Portugal, Puola, Romania, Ruotsi, Saksa, Slovenia, Suomi, Tanska, Tsekki ja Unkari



Tutkimuskohteet: Alaan vaikuttavat trendit

Digitalisaatio

- Connected vehicles (Internet of Things, V2X coms, Cloud)
- Autonomous Driving (ADAS, Full Autonomy, sensors)
- AI, Machine Learning, Data Analytics
- Cybersecurity (vehicle security, data privacy)
- Digital twins and simulation
- Industry 4.0/5.0
- Virtual/augmented reality (VR/AR)

Vihreä siirtymä ja kiertotalous

- Electromobility (electric vehicles)
- Hybrid Vehicles (PHEVs, mild hybrids)
- Other alternative fuels and propulsion (hydrogen, e-fuels, CNG, etc.)
- Circular economy
- Charging Infrastructure
- Eco-Friendly Innovations
- Corporate sustainability goals
- Public perception of Green Transition
- Supply chain sustainability

Arvoketjujen joustavuus

- Supply Chain Optimisation
- Local Sourcing and Production
- Inventory Management
- Risk Management (scenario planning, strategic stockpiling)
- Manufacturing and production technologies innovation
- Predictive maintenance
- Testing and approval

Uudet yritystoimintamallit

- Digital Retail
- Subscription Services (vehicle subscriptions, flexible leasing options)
- Mobility as a Service
- Tyre as a Service
- Maintenance as a Service
- Aftermarket Services
- Dynamic customer preferences (Total Cost of Ownership/Mobility, infotainment)
- Customer services innovations and adaptations
- Fleet management



Tutkimuskohteet: Koulutuksen haasteet ja tarpeet

- **Miten opetusta/koulutusta tarjotaan:** esim. VR/AR, yhdistelmäoppiminen, mukautuva oppiminen, osallistava koulutus ja muut
- **Opetuksen tehostaminen:** esim. ajankäyttö, rakenne, multimedia, opetusalustat, jne
- **Järjestelmän joustavuus ja sertifiointi:** osaamisen ja koulutuksen kattavuus EU:n tasolla, micro-credentials, micro-learning, jne
- **Yhteistyö keskeisten sidosryhmien välillä:** myös eritasoilla, esim VET/HE
- **Muutoksen vaikutukset myös sosiaalisesta näkökulmasta:** esim. työmarkkinaosapuolet ja politiikka



Projektin tuotosten käyttäminen

Tuotokset vapaasti saatavilla

Eurooppalainen **Automotive-Mobility Academy**:

- **Osaamistarpeiden analysointi** (Sectoral skills intelligence survey – julkaistu)
- **Osaamisen ja työtehtävien kuvaukset** (Skills cards, - nyt 30kpl valmiina, joista 13 pt/at-tasolla)
- **Osaamisstrategia**: yhteinen **opetussuunnitelma ja koulutusmodulit** koulutusrakenne, -materiaali, kokeet, jne. – yli 60 koulutusmodulia. Nyt 9 modulia saatavilla ASAn ylläpitämällä koulutuslupustalla (learning platform): learn.skills-hub.eu
- Koulutusten tunnistaminen/hyväksyntä (osaamismerkit) – pohjautuu “**micro-credentials (digital certificates)**” sekä osaamis- ja työtehtäväkuvauksiin (Skills cards and Job roles)
- EU:n kattavan osaamisen ja koulutusmodulien datapankin päivitys – **Learning Path/Journey** (combination of different providers, etc.) ASAn ylläpitämä osaamisalusta (skills hub): skills-hub.eu
- **Tiekarttana osaamisen kehittämisen ja uudelleen kouluttamisen parhaat käytänteet** koko autoalalla Euroopan alueella (yli sadan eri projektin toimintamallin arviointi käynnissä)



Higher-Education

Energy Transition Expert

Leads the adoption of sustainable energy solutions within automotive operations and supply chains. Focuses on integrating renewable energy, electrification, and decarbonisation strategies aligned with corporate sustainability goals.

SUMMARY **SKILLS CARD**

Higher-Education

Sustainability Analyst

Monitors and evaluates sustainability performance across operations, products, and suppliers. Supports ESG strategy implementation and ensures alignment with corporate responsibility and EU sustainability regulations.

SUMMARY **SKILLS CARD**

VET

Electric Vehicle Technician

Maintains and repairs electric and hybrid vehicles, ensuring optimal performance, safety, and energy efficiency. Works on high-voltage systems and components following strict safety protocols.

SUMMARY **SKILLS CARD**

VET

Hydrogen Maintenance Mechanic

Performs maintenance and safety inspections on hydrogen-based systems, including fuel cells, tanks, and refuelling infrastructure. Ensures safe operation and adherence to strict safety protocols.

SUMMARY **SKILLS CARD**

VET

Automotive Mechatronics Specialist

Combines expertise in mechanics, electronics, and software to diagnose and repair complex automotive mechatronic systems. Works on hybrid, electric, and connected vehicle technologies requiring integrated diagnostics.

SUMMARY **SKILLS CARD**

VET

Automotive Maintenance Specialist

Performs advanced maintenance, diagnostics, and repairs on vehicles and automotive systems. Ensures compliance with manufacturer standards and contributes to improved service quality and vehicle reliability.

SUMMARY **SKILLS CARD**

TRIEME Skills Cards Feedback Form

This survey will take approximately 5 minutes to complete.

It was designed to have your feedback on the list of Skills Cards that is developed under the ERASMUS+ co-funded project TRIEME.

The TRIEME Skills Cards describe newly defined occupational profiles - and corresponding competencies - within the scope of automotive.

You will be asked to give your feedback on 5 different categories of competencies, as well as on the overall level regarding specific Skills Cards.

Should you have any questions, do not hesitate to contact us: info@trieme.eu

Kun lähität tämän lomakkeen, se ei kerää automaattisesti tietojasi, kuten nimiä ja sähköpostiosoitteita, ellei anna niitä itse.

* Pakollinen

Contact Information

1. Email Address *

Kirjoita vastaus

2. Organisation

Kirjoita vastaus

3. Organisation Type *

- Industry
- Education and Training Provider
- Policy Maker

4. I would like to be contacted to collaborate on the skills cards development. *

- Yes
- No

5. GDPR Consent *

- I authorize the use of my data to receive information regarding the activities of the ALBATS Project.

Seuraava

Sivu 1/4

Älä emään luovuta salaisuksia kellekään: [lue lisää](#)





New Business Models

Change Management

Focuses on change management in the automotive sector, offering strategies to navigate the green and digital transitions, build resilience, and drive sustainable innovation.

[GO TO COURSE](#)



Digitalisation

Introduction to Automotive SPICE * 4.0

Provides an overview of Automotive SPICE * 4.0, its structure, and impact. Includes the latest updates, VDA Guidelines 2.0, and introduces new process groups for Machine Learning and Hardware Engineering.

[GO TO COURSE](#)



Digitalisation

Automatism Fundamentals

Explores the essentials of industrial automation, with a focus on interpreting and applying control logic in real-world contexts. Emphasises hands-on understanding of electromechanical systems and their role in driving efficiency, safety, and reliability in modern industry.

[GO TO COURSE](#)



Digitalisation

Electricity Fundamentals

Introduces the core principles of electricity, covering circuits, components, and key concepts that form the basis for more advanced technical training. Provides a solid foundation for learners aiming to build confidence in electrical theory and its practical applications.

[GO TO COURSE](#)



Digitalisation

Industrial Sensors I

Provides a practical introduction to industrial sensing, covering temperature, pressure, level, and flow sensors. Learners will study sensor operation, compare technologies, and learn to select and apply sensors to monitor and optimise automation systems.

[GO TO COURSE](#)



Digitalisation

Industrial Sensors II

Advances knowledge of industrial sensors and their integration into automation systems. Covering proximity, position, and force/torque sensors, learners will learn to select, configure, and assess sensors for precise, high-performance, and safe industrial applications.

[GO TO COURSE](#)

ELECTRICITY FUNDAMENTALS

PERFECT FOR

- **Beginners & Enthusiasts** – Get a clear, hands-on introduction to how electricity really works.
- **Students & Trainees** – Build a solid base for future studies in electronics, energy, or automation.
- **Technical Professionals** – Refresh your electrical knowledge and strengthen your technical foundation.
- **Curious Learners** – Understand the power behind everyday devices, industry, and modern technology.
- **Future Innovators** – Start your journey toward energy systems, sustainability, and digital tech.

UNLOCK THE BENEFITS

- **Power Up Your Knowledge** – Grasp the essential principles that keep the world running on electricity.
- **Build a Strong Foundation** – Prepare for advanced learning in electronics, power systems, and renewable energy.
- **Simplify the Science** – Make sense of Ohm's Law, electrical power, energy, and the Joule Effect with step-by-step clarity.
- **See the Bigger Picture** – Discover how single-phase and three-phase systems power homes, industries, and technology.

INSIDE THE COURSE

- **Direct Current (DC) Basics** – Explore core electrical quantities and how simple circuits behave.
- **Alternating Current (AC) Fundamentals** – Apply key relationships like Ohm's Law to real-world electrical systems.
- **Single- & Three-Phase Systems** – Learn how electricity is generated, distributed, and applied across sectors.
- **Neutral Conductors & Star-Delta Connections** – Understand how system design affects performance and efficiency.

All TRIEME courses are freely available!

www.project-trieme.eu



THANK YOU!



TRiREME

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communication@project-trireme.eu



<https://www.project-trireme.eu>



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