EUROPÄISCHE FAHRSCHUL-ASSOZIATION
FÉDÉRATION EUROPÉENNE DES AUTO-ÉCOLES
EUROPEAN DRIVING SCHOOLS ASSOCIATION

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THE FUTURE OF DRIVER TRAINING IN EUROPE

EFA POSITION PAPER

NOV 2026

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EXECUTIVE SUMMARY

Directive (EU) 2025/2205, which Member States must transpose by 26 November 2028, offers an opportunity to rethink driver training in Europe, not merely as a regulatory adjustment but as a chance to enhance the quality of the system. In this context, EFA identifies driving schools as the cornerstone of the training process: it is through the expertise and experience of professional instructors that the new areas of knowledge required by the Directive – risk perception, the safety of vulnerable road users, managing distractions, and interacting with advanced driver-assistance systems – can be effectively imparted to the learner, observed and assessed over time, rather than merely tested in a one-off examination.

Driving schools welcome technological innovation, including simulators and artificial intelligence-based tools, but for EFA, these must complement – not replace – the role of the professional. The added value of technology depends on how it is integrated into the objectives, methods and assessment of learning; decisions requiring observation, interpretation and adaptation to the individual candidate remain a professional responsibility that no tool can replace. In line with this approach, the Directive sets out a clear direction: in specific areas (progressive access to motorcycle categories, removal of the restriction on automatic gearboxes), it provides for the possibility of replacing a specific test with a dedicated, certified and supervised training programme. EFA welcomes this approach and calls for its further development through clear training standards, quality control systems and a clear allocation of responsibility to the bodies authorised to certify, both theoretically and practically, the delivery of the training.

In summary, EFA proposes that Member States use the transposition of the Directive to establish a system based on clear and verifiable learning outcomes, in which certified training provided by driving schools, the professionalism of instructors and the targeted use of technology all, in their own ways, contribute to the training of safe and responsible drivers.



1 A NEW FRAMEWORK FOR DRIVER TRAINING IN EUROPE

The adoption of Directive (EU) 2025/2205 gives Member States the opportunity to review aspects of their national driver training and assessment systems. The new framework, among the requirements relating to knowledge, skills and behaviour, provides a more detailed treatment of topics such as risk perception, the safety of vulnerable road users, distraction and the use of advanced driver assistance systems. The transposition of the Directive may therefore encourage reflection not only on the content of training, but also on its integration into the various national models (European Parliament & Council of the European Union, 2025).

For the EFA, this reflection forms part of a process initiated by the EFA Matrix, which proposes an approach in which theoretical preparation, practical experience and behavioural aspects all contribute to developing the skills required for driving (Lijarcio et al., 2021). Several years later, developments in vehicles, training technologies and forms of mobility make it appropriate to assess how this approach can be further developed, taking into account the new regulatory framework and the various choices that will accompany its implementation in the

Member States.
The EFA Matrix was developed as part of a broader EFA–INTRAS initiative to compare European driver training and testing systems and to identify shared educational priorities (Lijarcio et al., 2021). The present position paper builds on that earlier work by focusing on how common competences can be translated into verifiable learning outcomes under the new Directive.

1.1. Directive (EU) 2025/2205 and the new European framework

Directive (EU) 2025/2205 replaces Directive 2006/126/EC and updates the common European framework for driving licences. Key changes include the introduction of the European digital driving licence, a probationary period of at least two years for new drivers, the option of accompanied driving for category B from age 17, and provisions to improve the cross-border recognition of decisions on the right to drive. Member States must transpose most provisions by 26 November 2028 and apply them from 26 November 2029.

For the EFA, the provisions on training and assessing future drivers are particularly important. Annex II explicitly includes knowledge and skills relating, amongst other things, to vulnerable road users, risk factors, distraction, driver assistance systems and the ability to recognise potentially dangerous situations. The Directive sets out common requirements whilst leaving Member States scope to shape their own training systems. For the EFA, this mix of European standards and national implementation makes it particularly important to discuss how to translate the new requirements into coherent, verifiable training programmes.

1.2. National transposition as an opportunity for driver training

Transposition can be used to re-examine the relationship between learning objectives, learning methods and assessment criteria. Differences between national systems make it possible to identify solutions compatible with their respective contexts while maintaining the competences required at European level as a common reference point. From this perspective, training quality does not necessarily depend on programme uniformity but on the ability to ensure consistent and verifiable learning outcomes.

One important aspect concerns the competences that underpin a driver's preparation yet are difficult to observe in full during an examination. In this regard, the EFA Matrix proposes distinguishing between what must be formally assessed and what can be acquired through structured and certified training. The transposition therefore offers an opportunity to review the training programme, ensuring that its content is not determined solely by what can be measured in the final test.

1.3. The Safe System and the role of training

The Safe System approach recognises that people can make mistakes and that the human body has limits to its ability to withstand the forces generated by an impact. The prevention of deaths and serious injuries is therefore not attributed solely to individual behaviour, but to the ability of the various components of the system – infrastructure, speed, vehicles, road users and safety management – to operate in a coordinated manner. This gives rise to a principle of shared responsibility between those who use the road system and those who design, regulate and manage it (International Transport Forum, 2022; World Health Organization, 2023).



Figure 1. Driver training within the Safe System approach: a contribution to road safety based on shared responsibility

From this perspective, driver training is a component of the system, not an isolated solution to safety problems. Its contribution can be understood as preparing individuals to act responsibly in an environment where safety and responsibility are shared. For EFA, situating driver training within the Safe System framework means that, alongside the skills required for driving, it includes understanding one's own limitations, those of other road users, and how individual behaviour interacts with the other components of the system.

Training should therefore strengthen individual competence without suggesting that responsibility for preventing death and serious injury rests primarily with the driver. Safe speeds, forgiving infrastructure, safe vehicles and effective institutional management remain essential safeguards when human error occurs.

IN BRIEF

KEYWORDS

Directive (EU) 2025/2205 · National transposition · Competences · EFA Matrix · Safe System · Shared responsibility

EFA RECOMMENDATIONS

- Use the transposition of the Directive as an opportunity to ensure consistency across the required competences, training and assessment.
- Maintain common competence outcomes whilst allowing national systems the flexibility to define the pathways through which these outcomes are achieved.
- Recognise that certain safety-related competences require structured training and cannot be assessed solely on what can be verified during the examination.
- View driver training within the context of the Safe System approach, as a component of a system grounded in shared responsibility.

KEY FINDINGS

Directive (EU) 2025/2205 broadens and clarifies the knowledge, skills and behaviour required of drivers, explicitly including the perception and anticipation of hazards, vulnerable road users, distraction, and safe interaction with advanced driver assistance and automation systems.

2 MOBILITY IN A STATE OF CHANGE

Driver training today is part of a mobility system characterised by technological, social, and economic changes unfolding at different speeds and in different ways across European countries. The evolution of vehicles goes hand in hand with the spread of new forms of mobility, the digitalisation of services and the emergence of different ways of accessing training.
These developments do not necessarily imply a single future model, but they require us to consider whether and how training systems can adapt to a context in which the relationship between the driver, the vehicle, the trainer and the road environment is becoming increasingly complex.

2.1. Technological transformation: ADAS, automation, artificial intelligence, connected vehicles and electrification

Technology is gradually reshaping the relationship between the driver and the vehicle. In the European Union, Regulation (EU) 2019/2144 has made a range of advanced systems mandatory on new vehicles, including Intelligent Speed Assistance, drowsiness and distraction detection systems, reversing detection, and, for certain categories, automatic emergency braking and lane-keeping systems (European Parliament & Council of the European Union, 2019). At the same time, connectivity and automation are expanding the possibilities for exchanging information between vehicles, infrastructure, and other elements of the transport system (European Commission, n.d.). In this scenario, the driver continues to bear operational responsibility but may increasingly interact with functions that assist or automate specific aspects of driving.

This development raises specific training issues. Awareness of a system does not necessarily mean understanding how it works, its limitations, or when it should be used. Therefore, drivers must be prepared to interpret the vehicle's information correctly, maintain an appropriate level of supervision, and recognise when human intervention remains necessary. Artificial intelligence and increasing connectivity may make this relationship even more complex, so training should cover not only how to use available technologies but also a realistic understanding of their capabilities and limitations.

Driver education should clearly distinguish driver assistance from automated driving. The presence of advanced functions does not, in itself, mean that a vehicle can drive autonomously in every context; training should explicitly address operational limitations, driver responsibilities and potential misunderstandings about system capabilities.

Electrification is also changing the driving experience and is expected to continue to affect an increasing share of European drivers. In 2025, electric cars, including battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), accounted for about 28% of new car sales in Europe, up from about 20% in 2024 (IEA, 2026). The proliferation of different propulsion systems therefore suggests that driver training should also account for the relevant operational characteristics of the vehicles used. Taken together, these developments point to a possible shift in the role of training: from learning solely how to control the vehicle directly to developing the ability to drive mindfully even when part of the driving task is mediated by technology.

2.2. Mobility and societal evolution: new users, new behaviours and new ways of learning

The growing diversification of transport modes is changing the contexts in which drivers must interact with other road users. Walking, cycling, e-biking, using micro-mobility devices and taking public transport can all be combined within a single journey, whilst European policies on urban mobility are assigning an increasingly important role to active and multimodal mobility. For driver training, this suggests viewing the driver not only as a vehicle user, but also as a participant in a shared road space alongside road users characterised by different levels of protection, visibility and predictability (European Commission, 2021).

Younger generations' relationship with mobility is not uniform. Modal choices depend on individual and social factors, as well as the availability of transport alternatives and the local context. The literature also highlights that mobility experiences during childhood and adolescence can shape habits, norms, and attitudes associated with car use in early adulthood (Haustein et al., 2009). This makes it advisable to avoid portraying the driving licence applicant as an individual isolated from the social context in which they have developed their relationship with mobility.

In addition to this diversification, there is a growing focus on diverse learning profiles and specific educational needs. European education systems are increasingly called upon to address diverse cognitive and learning needs through inclusive approaches and targeted forms of support (European Commission, 2023). For driver training, this suggests adapting teaching methods, tools, and approaches to the learner's characteristics, while maintaining the required competence outcomes.

At the same time, digitalisation has broadened how learners can access training content and activities. At the European level, the Digital Education Action Plan recognises the potential of digital tools, while linking their use to content quality, trainer skills, and the availability of adequate infrastructure (European Commission, 2020). For driver education, the key point is therefore not to assume that the younger generations necessarily require digital training, but to consider how different learning methods can be integrated in line with the training objectives. This distinction becomes particularly important when assessing changes in training delivery models, which the following section addresses.

2.3. Transforming education: digitalisation, new business models, accessibility and quality

The digitalisation of driving instruction now also extends to service organisation, the relationship with the learner, and training programme management. This development is taking different forms across European countries and does not necessarily mean replacing the physical driving school with an online platform. In fact, face-to-face and distance learning can coexist alongside digital management of activities, new organisational arrangements with instructors, and different ways of accessing services. The issue therefore relates more broadly to how training, professional, and administrative functions are integrated.

EMERGING TREND	IMPLICATIONS FOR DRIVER TRAINING
ADAS and vehicle automation	Understanding system capabilities, limitations and driver responsibilities
Electrification	Adapting training to the operational characteristics of different vehicle technologies
Multimodal mobility	Developing awareness of vulnerable road users and shared road environments
Diverse learning profiles	Adapting teaching methods whilst maintaining common competence standards
Digitalisation of training	Integrating digital tools according to pedagogical objectives and learning outcomes

Table 1. Emerging trends in mobility and their implications for driver training

France is a particularly significant case. Online driving instruction platforms have also entered the parliamentary debate on the sector's development, the transparency of offers, and the conditions of competition between different organisational models (Assemblée nationale, 2026). At the same time, the French regulatory framework still requires an 'agrément' for driving schools to operate, along with specific obligations to inform candidates. The French authorities explicitly draw consumers' attention to price, service content, the contract, and the conditions for sitting the test (Direction générale de la concurrence, de la consommation et de la répression des fraudes [DGCCRF], 2022). The French experience therefore shows how innovation in delivery models can simultaneously raise issues of accessibility, regulation, transparency, and candidate protection.

In Italy, too, new models of training delivery and digital tools for candidate preparation have emerged in recent years. These initiatives represent different approaches to integrating technology and training. However, they are not used

here to assess their quality or effectiveness: the information currently available does not provide a sufficient basis for an evidence-based comparison of training models. Their presence does, however, signal a market shift that warrants monitoring with independent data.

In Germany, the relationship between innovation and affordability has become a direct focus of public policy. The reform proposal presented by the Bundesministerium für Verkehr in 2026 is based on the assessment that current regulations only partially account for modern learning methods and that predominantly analogue processes may contribute to administrative burdens and training costs. The proposed measures include greater use of digital learning formats and simplified administrative processes, while maintaining road safety as one of the reform's explicit objectives (Bundesministerium für Verkehr [BMV], 2026a, 2026b).

Spain offers another point of comparison. The Directorate-General for Traffic (DGT) considers the quality of training – not merely exam preparation – a key criterion in choosing a driving school, and states that comprehensive theoretical and practical training is essential (Directorate-General for Traffic [DGT], 2021). At the same time, the 24th National Collective Agreement for Driving Schools of 2026 expressly includes both online and face-to-face teaching within the sector, covering theory and practice (Ministry of Labour and Social Economy, 2026). This shows how digitalisation can be incorporated into the existing professional framework, rather than necessarily being presented as an alternative model.

Slovakia is also gradually modernising its driver training and testing system. Slovakia introduced electronic theoretical driving tests in 2023, followed by the development of a new curriculum model in 2024. The proposed training framework allows up to 50% of general theoretical instruction to be delivered through e-learning, with a minimum knowledge assessment threshold of 90% for completing individual lessons. Learning outcomes and course completion are to be recorded in a unified information system, supporting greater transparency and control over the training process. Further regulatory changes, including the requirement to pass the theoretical test before starting practical driving training, are scheduled to take effect in September 2027. The Slovak approach illustrates how digital learning, standardised assessment and administrative monitoring can be integrated into the existing driving school system while maintaining the role of professional instructors in practical training (Vrábel & Jurík, 2026).

These experiences suggest that three objectives should remain distinct: innovation, affordability, and training quality. Greater digitalisation may change the organisation and costs of certain processes, but it does not, on its own, allow conclusions about the quality of learning. For EFA, it is therefore important to gradually shift the focus away from the contrast between 'traditional' and 'digital' models towards defining quality criteria applicable to the various methods of delivering training. In this way, innovation can be assessed on the basis of its educational outcomes, regardless of the organisational model through which it is implemented.



IN BRIEF

KEYWORDS

ADAS · Automation · Multimodal mobility · Learning profiles · Digitalisation · Quality of education

EFA RECOMMENDATIONS

- Update training so that drivers know how to use new technologies, whilst also understanding their limitations and the conditions under which they should be used.
- Design training methods capable of catering for different learning styles, whilst maintaining common standards of competence.
- Evaluate digital training and new delivery models on the basis of learning outcomes, avoiding a dichotomy between 'traditional' and 'digital' training.
- Consider innovation, affordability and quality together, without assuming that an improvement in one area automatically guarantees improvements in the others.

KEY FINDINGS

The transformation is already underway: new driver assistance systems have been incorporated into the regulatory framework for vehicles, whilst digitalisation and new training models are taking different forms across European countries. The available evidence therefore points to the need to assess innovations based on their pedagogical quality and the results achieved, rather than the technology itself.

3 WHAT KIND OF DRIVERS SHOULD EUROPE BE TRAINING?

The evolution of mobility calls for us to consider the skills profile that training should develop in future drivers. The ability to control the vehicle remains essential, but it is part of a broader set of activities that also requires recognising risks, making appropriate decisions, interacting with different road users, and using available technologies. The central issue, therefore, is to define which skills are necessary for driving safely and responsibly in the current context and in the one that is gradually taking shape.

3.1. Beyond vehicle control: skills, behaviour and responsibility

Driving competence is not the same as the ability to perform the required manoeuvres correctly. For inexperienced drivers, acquiring operational skills should go hand in hand with developing higher-order competences, including self-assessment, awareness of personal and situational risk factors, and the ability to apply what has been learnt to situations beyond those encountered during lessons. Recent studies on young driver training suggest that instruction explicitly focused on these aspects can contribute to safer behaviour (Watson-Brown et al., 2021; Senserrick et al., 2023).

This perspective also alters the meaning of driver responsibility. Being technically capable of performing an action does not necessarily mean knowing when it is appropriate to do so. Training should therefore support the development of progressive decision-making autonomy, in which the learner learns to recognise the consequences of their choices and regulate their own behaviour without constantly relying on the instructor's guidance. In this sense, preparation for independent driving can be understood as a transition from knowing how to control the vehicle to knowing how to consciously manage one's own driving behaviour (Watson-Brown et al., 2021).

3.2. Risk perception, anticipation and decision-making processes

Perceiving a hazard is not merely identifying it once it becomes apparent. Competent driving requires using available clues to anticipate how the situation will develop and to create the time needed to formulate an appropriate response. Recent studies show that anticipation can influence a driver's response to

a foreseeable hazard and that specific training strategies can improve risk perception in inexperienced drivers (Kerautret et al., 2023; Zhang et al., 2022). Training should therefore focus not only on hazard recognition but also on the processes of anticipation and decision-making that precede it. Assessment tools based on computer-generated imagery (CGI) traffic scenarios, similar to those used in UK tests and developed with the contribution of Jellylearn, have also demonstrated the ability to distinguish between drivers with different levels of experience, confirming the value of structured scenarios for assessing hazard perception and hazard prediction (Crundall et al., 2021).

Risk perception should also be distinguished from risk acceptance. Recognising a hazard does not always lead to a safer decision: attitudes, social norms, perceived control, overconfidence and situational pressures may influence whether drivers translate what they know into what they do.

The EFA Matrix already includes hazard perception and risk awareness among the skills to be developed in driver training, placing them within a framework that goes beyond mere technical mastery of the vehicle. Evidence gathered since its publication reinforces this approach and supports further development: training should systematically develop the ability to interpret situations dynamically, identify relevant information, anticipate how they might unfold, and adapt decisions promptly.

Experimental evidence shows that these skills can be trained. Programmes dedicated to hazard perception have improved the ability to recognise and anticipate hazards, as well as certain behaviours associated with safer driving (Horswill et al., 2021). Subsequent studies have also shown that these benefits can be sustained for about two months after training (Horswill et al., 2023). These findings therefore provide further empirical support for the EFA Matrix approach and for systematically integrating hazard perception into training programmes, rather than treating it as a skill acquired primarily through driving experience.

3.3. Interaction with other road users

Safety in interactions depends not only on the application of rules, but also on the ability to correctly interpret the behaviour of other road users and to understand how one's own actions may be perceived by those sharing the same space. Recent research shows, for example, that motorists, cyclists and pedestrians may assess the safety of the same situation differently and that, in interactions between motorists and cyclists, informal modes of coordination are also used which are not fully described by formal rules (von Stülpnagel & Rintelen, 2024; Parnell et al., 2024).

The EFA Matrix already devotes specific attention to vulnerable road users and their relationship with drivers. Going forward, EFA can treat interaction as a skill to be developed: observing from the other road user's perspective, maintaining

adequate safety margins, and communicating one's intentions in a comprehensible and predictable manner. Attitudes can also be the focus of intervention: a recent experimental study found improvements in drivers' attitudes towards cyclists and horse riders following exposure to short, specially designed videos (Crundall & van Loon, 2023). This suggests that preparing to share the road may involve not only knowledge and operational skills, but also training interventions that improve perceptions of other road users.

3.4. Managing human–technology interaction

Integrating technology into driving requires drivers to understand what the systems can do, the conditions under which they operate, and the limits within which human intervention remains necessary. A survey of Norwegian driving schools shows that certain technologies requiring active driver interaction, such as adaptive cruise control, lane-keeping assist, and touchscreens, still receive inconsistent attention in training, highlighting the need to update training for both learner drivers and driving teachers (Saetren et al., 2024). The EFA Matrix had already identified the safe use of ADAS as a specific component of driver training; the next step is to treat human–technology interaction as a skill that must evolve alongside the systems fitted in vehicles.

As driving automation progresses, the human factor does not disappear; rather, its functions and responsibilities evolve. Training should therefore address overreliance, inappropriate trust, reduced vigilance and the ability to recognise when a system reaches its operational limits. The objective is calibrated trust, not unconditional confidence in technology (Parasuraman & Riley, 1997).

COMPETENCE AREA	EXPECTED DRIVER CAPABILITIES
Vehicle control	Operate the vehicle safely and appropriately
Risk perception and anticipation	Identify relevant information, anticipate hazards and adapt decisions
Behavioural self-regulation	Recognise personal limitations, assess risks and make responsible decisions
Interaction with road users	Understand different perspectives, maintain safety margins and communicate predictably
Human–technology interaction	Use driver assistance systems appropriately, recognising their capabilities and limitations

Table 2. Core competences for safe and responsible driving

The same logic should guide technology use in training. Simulators, digital platforms, virtual reality, and artificial intelligence-based tools can broaden educational possibilities, but their value depends on how they integrate with learning objectives, methods, and assessment. The European framework on digital education also emphasises linking technological innovation to pedagogical quality, trainers' competences, and outcome assessment (Council of the European Union, 2023). For EFA, the position is therefore clear: support technological innovation in driver education while promoting criteria that distinguish pedagogical value from the mere availability of new tools. Technology should enhance training quality and the professional's role; it should not be treated as an end in itself.

IN BRIEF

KEYWORDS

Skills · Decision-making autonomy · Hazard perception · Anticipation · Vulnerable road users · Human-technology interaction

EFA RECOMMENDATIONS

- Focus training beyond the technical control of the vehicle, developing self-assessment, risk awareness and independent decision-making.
- Systematically integrate hazard perception, anticipation and decision-making processes into training programmes.
- Develop the ability to interact with other road users, whilst also taking into account their different perspectives, vulnerabilities and behaviours.
- Treat interaction with ADAS and other technologies as a specific driver skill, to be updated as vehicles evolve.

KEY FINDINGS

Hazard perception is a skill that can be trained: specific training programmes have improved the ability to recognise and anticipate hazards, and some of these benefits were still observable about two months after training (Horswill et al., 2021; Horswill et al., 2023). Furthermore, structured CGI scenarios have demonstrated the ability to distinguish between drivers with different levels of experience in hazard perception and prediction (Crundall et al., 2021).

4 RETHINKING TRAINING AND ASSESSMENT

Defining the driver's competences is only the first step; it is also necessary to identify the conditions under which they can be developed and assessed effectively. Different competences require different learning methods, and not all can be adequately assessed through a single final test.
Directive (EU) 2025/2205 provides, in specific areas, the option to use either a skills and behaviour test or a dedicated training programme, subject to approval and supervision by the Member States. This principle, already in place for progressive access to motorcycle licence categories, also applies to removing the restriction on driving vehicles with automatic gearboxes, for which the Directive allows dedicated training of at least seven hours as an alternative to the specific test.
For EFA, these provisions offer an opportunity to reflect on the relationship between training and assessment, and on the role that structured and certified training programmes can play within the driving licence system. The new European framework can therefore be seen as an opportunity to develop programmes in which objectives, learning experiences, certification and assessment methods are consistent with one another.

4.1. From the EFA Matrix to an updated educational model

Updating the EFA Matrix may be less about adding new content and more about translating existing content into effective learning experiences. Recent research on novice driver training highlights the value of approaches that combine an explicit theoretical foundation with strategies such as coaching, feedback, self-assessment and reflective questions, which encourage learners to actively process the meaning of their own choices (Watson-Brown et al., 2021; Bailey et al., 2022). The Matrix can therefore evolve from a representation of what is relevant to learn into a tool that also guides how to facilitate that learning.

This evolution also calls for explicit attention to metacognition: learners should be encouraged to examine not only whether a manoeuvre was completed correctly, but why a decision was made, what alternatives were available and how their own limitations may have influenced the outcome.

EFA's contribution could lie in developing, based on the Matrix, pedagogical guidelines associated with the various competences: not a single teaching method, but a more explicit link between the expected outcome and the appropriate training strategies. In this way, updating the Matrix would also address the quality

of the process through which a competence is developed, offering driving schools and instructors a useful reference for planning training programmes.

Training design should also account for the growing diversity of learning profiles without lowering required standards. For candidates with specific learning difficulties, the key issue is adapting how information, instructions, and feedback are presented and organised. Recent evidence shows that, even in driver training, certain specific difficulties may require compensatory strategies and more personalised pathways (Cohen Zada, 2026). From this perspective, the EFA Matrix could provide a useful reference for distinguishing more clearly between common competence outcomes and differentiated training approaches.

4.2. Skills that require experience, practice and reflection

Certain driving skills develop through gradual exposure to different situations, where the learner driver can experiment, receive feedback, and compare their own assessment with what actually happens. The experiences reported by young drivers highlight, amongst the critical aspects of the journey towards independent driving, the ability to realistically assess one's own skills, training needs and the difficulties encountered in different driving contexts (Watson-Brown et al., 2025). This suggests that simply accumulating experience is not, in itself, sufficient: part of its educational value stems from the ability to interpret it and use it to guide subsequent behaviour.

The EFA Matrix includes situations that cannot be systematically replicated in real-world driving during training, such as adverse weather conditions or other infrequent scenarios. EFA's contribution may lie in promoting a model in which real-world experience, simulation, and guided reflection are used complementarily, with the tool chosen according to the skill to be developed. Evidence on simulators, for example, points to potential benefits for certain skills in a simulated environment, but does not yet support their use as a substitute for on-road training (Krasniuk et al., 2024).

However, the amount of experience does not necessarily correspond to the quality of learning. Some European systems allow a significant proportion of practical training to be delivered by private instructors; in Finland, for example, the 2018 reform reduced compulsory training and increased flexibility in teaching methods (Uusitalo, 2021). This makes it particularly important to distinguish between exposure to driving – which is useful for building familiarity and experience – and practice that is deliberately designed to develop specific skills.

In this second context, the value of professional training becomes most apparent. In the more advanced stages, the instructor can gradually guide the learner to face situations that require reading the road, anticipating events, making decisions and managing the unexpected, observing not only their ability to control the vehicle but also their ability to independently recognise signs of risk

and choose an appropriate response. From this perspective, private practice and professional training are not necessarily alternatives: they can fulfil different and complementary roles in the learning process.

As a well-known aphorism reminds us, there is never good practice without good theory: practice without a solid theoretical foundation risks being reduced to a mere repetition of exercises, incapable of being applied to new situations.

TRAINING APPROACH	EDUCATIONAL CONTRIBUTION	MAIN CONSIDERATION
Theoretical instruction	Establishing knowledge and conceptual understanding	Connecting theory to practical situations
Professional on-road training	Developing operational and higher-order driving competences	Providing structured practice and professional feedback
Private driving practice	Increasing exposure and familiarity with driving situations	Experience alone does not guarantee learning quality
Simulation	Practising specific situations that may be difficult to reproduce on the road	Complementing rather than replacing on-road training
Guided reflection and feedback	Developing self-assessment and understanding of decisions	Linking experience to future behavioural improvement

Table 3. Complementary approaches to developing driving competences

4.3. Integrating training and assessment throughout the process

Assessment can play an educational role even before the final test, helping candidates identify the skills they have already mastered and those that require further development. Research on young drivers shows that concise, clear feedback, paired with practical guidance on areas for improvement, can increase motivation to refine performance (Ward McIntosh et al., 2022). From this perspective, assessment not only determines whether a standard has been met but also provides useful information to guide subsequent stages of learning.

Evaluation should distinguish between knowledge acquisition, demonstrated competence and transfer to everyday driving. Where feasible, follow-up measures should examine whether safer decisions and behaviours are maintained beyond the training and examination setting; reductions in crashes should not be assumed from improvements in test performance alone.

The EFA Matrix distinction between certified content within the training programme and content subject to assessment by the authorities provides a basis for this approach. EFA's contribution may lie in promoting systems in which observation, feedback and assessment progressively accompany the candidate, whilst keeping the training function distinct from the certification function of the final examination. This would allow assessment to be used not only as a point of arrival, but also as a tool to make the path towards independent driving more targeted.

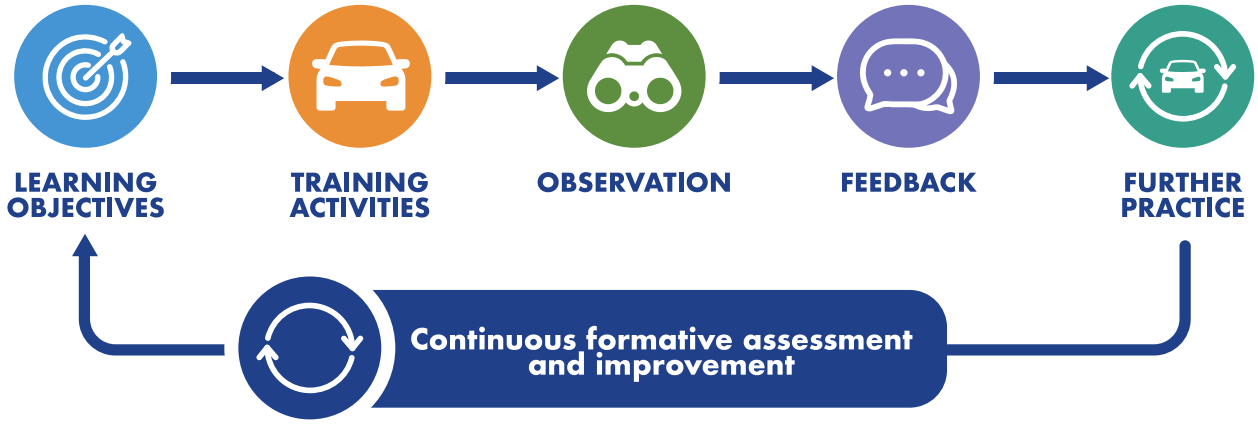

Figure 2. Integrating training, observation and formative assessment into a continuous learning process.

Driver training should be understood as a continuous process that extends beyond knowledge acquisition and successful completion of the driving test. As illustrated in Figure 3, structured professional training should promote the development of behavioural competences, including risk anticipation, self-regulation and decision-making. However, acquiring these competences does not automatically guarantee their application in real-world driving. Therefore, evaluating training effectiveness requires examining not only learning outcomes but also the transfer of acquired competences to everyday driving behaviour, supported by appropriate follow-up and feedback mechanisms. This approach provides a basis for continuous improvement and reinforces driver education's contribution to the Safe System.



Figure 3. From driver training to safer driving behaviour: a competence-based framework integrating professional training, behavioural development, transfer to real-world driving and continuous evaluation.

4.4. Flexibility of study programmes and guaranteed learning outcomes

Flexibility may relate to the timing, sequence, tools and methods used to acquire a competence, without implying a reduction in educational expectations. At the European level, the principle of more flexible pathways is linked to the explicit definition of learning outcomes and to quality mechanisms that ensure their achievement can be recognised (Council of the European Union, 2022). When

applied to driver training, this approach distinguishes between standardising expected outcomes and standardising the methods used to achieve them.

The EFA Matrix provides a suitable basis for this approach, as it identifies common learning areas without prescribing a single teaching sequence. The EFA's contribution can therefore be to define European learning outcomes that are sufficiently clear to be achieved through different pathways, provided they are supported by transparent quality and assessment criteria. Flexibility would thus become a feature of the pathway, whilst the required level of competence would remain the common benchmark.

IN BRIEF

KEYWORDS

Certified training · Learning outcomes · Experience · Vocational training · Formative assessment · Flexibility

EFA RECOMMENDATIONS

- Promote certified training as a recognised means of acquiring skills, including as an alternative to specific tests where provided for by the Directive.
- Link each skill to the most appropriate training methods, combining theoretical training, on-road practice, simulation, feedback and guided reflection.
- Distinguish between mere exposure to driving and professionally designed practice aimed at developing the ability to anticipate, read the road, make decisions and manage the unexpected.
- Allow flexible training pathways whilst ensuring that the required competence outcomes remain common and verifiable.

KEY FINDINGS

Directive (EU) 2025/2205 recognises approved and supervised training programmes in specific areas as an alternative to certain tests, strengthening the role of certified training. Scientific evidence also highlights the value of coaching, feedback, self-assessment and reflection in learning, and shows that simulation and on-the-road training can play complementary roles without treating the simulator as a substitute for real-world experience.

5 THE PROFESSIONAL DRIVING TEACHER IN THE NEW LANDSCAPE

The transformation of driver training inevitably affects those who design and deliver it. If candidates must develop more complex skills, the instructor's role cannot be limited to imparting knowledge or teaching practical skills. For EFA, it is therefore essential to consider the professional profile required to support more diverse learning pathways, whilst maintaining the human and professional contribution as a defining feature of the training.

5.1. The evolving role of the driving teacher

The instructor's role is increasingly seen not as preparing the trainee to perform a series of tasks correctly, but as supporting the development of competence over time. Research highlights that the instructor can influence not only operational skills but also how the trainee interprets risk, evaluates their own behaviour, and utilises the experience gained during training (Watson-Brown et al., 2021). Added to this is the need to recognise individual factors that may affect the learning and assessment process: recent evidence shows, for example, that targeted psychological interventions can help trainees with high levels of exam anxiety manage this condition more effectively, suggesting the value of complementary professional skills and, where necessary, collaboration with specialist professionals (Biassoni et al., 2026).

This function is already implicit in the EFA Matrix, which assigns safety-related content to vocational training that does not necessarily require examination. For EFA, the next step may be to recognise the trainer more explicitly as the guarantor of quality for this part of the programme, by valuing their autonomy, responsibility and ability to identify diverse training needs. From this perspective, strengthening the instructor's role also means defining their contribution and professional boundaries more precisely within a training system that may require diverse and complementary skills (Senserrick et al., 2023; Biassoni et al., 2026).

5.2. Pedagogical, behavioural and technological skills

As the skills required of drivers expand, so too must the professional skills of those who teach them. From a pedagogical perspective, instructors should use methods that actively involve learners in the learning process through questions, reflection, and analysis of experience, rather than relying primarily on instruction delivery. The analysis of driving lessons conducted by Ainjärv and Laas (2024) highlights, in this regard, the potential of constructivist approaches in instructor training. From a behavioural perspective, it is important to observe not only what the learner does, but also how they interpret situations and evaluate their own decisions, in line with the EFA Matrix's emphasis on the non-exclusively technical dimensions of driving.

COMPETENCE DIMENSION	PROFESSIONAL REQUIREMENTS
Pedagogical	Apply learner-centred methods, coaching, questioning and constructive feedback
Behavioural	Observe risk perception, decision-making, self-assessment and individual learning needs
Technological	Understand ADAS capabilities and limitations and integrate relevant technologies into training
Professional development	Maintain and update competences in response to educational and technological developments

Table 4. Key dimensions of professional driving teacher competence

Technological expertise represents a third, distinct yet complementary dimension. It is not enough for the instructor simply to be aware of the existence of ADAS: they must be able to explain how they work, their limitations and their implications for driver behaviour, and integrate them correctly into the training programme. A survey of 333 Norwegian driving schools reveals significant differences in how instructors handle systems such as ACC, lane keeping assist, and touchscreens, and it also identifies the need to update their training (Saetren et al., 2024). For EFA, these three dimensions – pedagogical, behavioural and technological – can form the basis of a European profile of instructor competences, capable of evolving alongside the content and tools of driver education.

Instructors should also be prepared to identify overconfidence and misconceptions about automation, invite learners to explain their decisions and provide individualised feedback. These are pedagogical and behavioural competences as well as technological ones.



5.3. Continuing professional development, professional standards and recognition of the profession

If the skills required of an instructor are constantly evolving, professional qualification cannot be regarded as complete upon entry into the profession. At the European level, too, the importance of keeping teachers' and trainers' skills up to date is emphasised, particularly in relation to technological and pedagogical changes (Council of the European Union, 2023). In the driving instruction sector, the need for continuous professional development is also evident in differences in how instructors use technologies such as ADAS and touchscreens (Saetren et al., 2024).

The EFA Matrix can provide a common framework for linking the evolution of drivers' skills to that of instructors' professional skills; the EFA project on international standards for instructors, presented in 2025 at the United Nations Global Forum for Road Traffic Safety, also forms part of this initiative: the initiative provides a pathway for instructors already qualified in their respective countries, comprising theoretical training and an assessment of basic knowledge, and includes further levels of certification involving specific practical tests. For EFA, this experience can help develop recognisable and progressive professional standards without replacing national qualification systems.



IN BRIEF

KEYWORDS

Professionalism · Instructor skills · Responsibility · Teaching methods · Technology · Continuing professional development

EFA RECOMMENDATIONS

- Recognise the trainer as a professional responsible for developing the candidate's skills, not merely for exam preparation.
- Ensure that the increased use of certified training is accompanied by appropriate qualifications and accountability for the professionals responsible for certifying its implementation.
- Incorporate pedagogical, behavioural and technological skills into the instructor's profile, including those required to teach the responsible use of ADAS.
- Strengthen continuing professional development and promote professional standards that can evolve alongside driver training.

KEY FINDINGS

The evidence shows that instructors can influence not only operational skills but also candidates' perceptions of risk, self-assessment, and how they process their experiences. Recent studies also highlight specific needs for instructors to receive further training on ADAS and the potential of active and reflective pedagogical approaches in vocational training (Watson-Brown et al., 2021; Ainjärv & Laas, 2024; Saetren et al., 2024).

6 EFA'S POSITION

For EFA, Directive (EU) 2025/2205 is not only a regulatory change to be transposed but also an opportunity to set out shared guidelines for the future of driver training. In a sector characterised by differing national systems and ongoing change beyond the current legislative cycle, EFA identifies principles to guide the European dialogue.

- **Start with the outcomes that training is intended to produce.**
  Decisions on duration, organisation, tools, and delivery methods should be based on a definition of the skills the trainee actually needs to acquire. It is the expected learning outcome – not the model through which it is achieved – that should serve as the primary benchmark for quality.
- **Assess innovation on the basis of the value it adds.**
  EFA supports innovation in driver education, whilst avoiding the view that technological or organisational change is an indicator of quality in itself. Assess new solutions based on their contribution to learning, safety, accessibility, and the efficiency of the training programme.
- **Avoid having to choose between technology and professional expertise.**
  The future of driver education should not be based on a dichotomy between technological tools and professional intervention. EFA considers a model in which each resource is deployed where it can offer the greatest value to be more promising, while preserving professional responsibility in decisions that require observation, interpretation, and adaptation to the learner.
  A human-centred transition should ensure that technological progress is accompanied by an equally deliberate development of drivers' judgement, responsibility and capacity for adaptation. The relevant question is not only what vehicles will be able to do, but what people will need to understand and decide when using them.
- **Consider accessibility as part of the system's sustainability.**
  High-quality training must be genuinely accessible to the public. For EFA, the search for more accessible solutions should go hand in hand with safeguarding quality and safety, whilst avoiding treating cost, duration or ease of access as criteria separate from the learning outcome.
- **Build a system capable of learning.**
  The transposition of the Directive should not be the endpoint of training evolution. EFA advocates an approach in which scientific evidence, professional experience, technological developments, and observed outcomes can periodically inform updates to training programmes. The central principle is therefore not to anticipate every future change today, but to create the conditions that enable the system to adapt when such changes occur. EFA recognises the importance of distinguishing evidence supported by research from emerging educational practices and institutional recommendations.

New approaches should be assessed against defined learning outcomes and, where feasible, behavioural indicators and longer-term safety outcomes, while acknowledging the limits of the available evidence.

- **Promote certified training as a means of acquiring skills.**
  EFA welcomes the possibility, provided for by the Directive in specific areas, of recognising approved and supervised training programmes as an alternative to certain tests. This approach, designed to facilitate progressive access to different categories of motorcycling licences and to specific extensions to driving licences, gives training a direct role in acquiring and certifying skills. EFA believes that its development requires clear training standards, quality control systems, and clear accountability for those authorised to certify the training programme.
- **Expand the educational and social role of driver training.**
  The Directive allows Member States to exempt candidates from theoretical questions on basic first-aid knowledge if they have completed a certified practical training course that includes cardiopulmonary resuscitation (BLS/CPR). This provision broadens the role of driver training beyond skills strictly related to vehicle control and road traffic. For EFA, this is an opportunity to strengthen the role of driving teachers and training centres in preparing drivers who not only know how to behave in a crash but also, through practical experience, acquire the skills needed to respond in emergencies.



Figure 4. The complementary pillars supporting EFA's vision for quality driver training in Europe.

7 RECOMMENDATIONS FOR RELEVANT MINISTRIES

REGARDING THE TRANSPOSITION OF DIRECTIVE (EU) 2025/2205

The principles set out by EFA require, during the transposition phase, practical decisions that will enable implementation within the respective national systems. EFA therefore proposes a number of concrete measures that Member States may wish to consider when reviewing the training, assessment and related quality assurance mechanisms provided for under the new European framework.

- **Carry out a mapping exercise of national systems against the new European requirements.**
  Before amending curricula and examinations, Member States should systematically compare the requirements of Annex II to the Directive with existing content, delivery methods and assessment systems, identifying any areas requiring integration or updating. The EFA Matrix can serve as a technical tool to support this analysis, particularly to distinguish what must be taught from what can be assessed through examination.
- **Define national learning outcomes linked to the Directive's requirements.**
  For each area of competence introduced or reinforced by the new framework, Member States should specify the outcomes expected at the end of the training. This would enable general regulatory provisions to be translated into practical guidelines that driving schools, instructors, candidates, and assessment bodies can use.
- **Determine which competences require compulsory training even when they cannot be fully assessed in the examination.**
  When reviewing national systems, it should be explicitly identified what must necessarily be covered in the training programme, regardless of whether it can be fully assessed in the final examination. At an operational level, this approach would build on the distinction already proposed by the EFA Matrix between content that is taught and certified and content that authorities directly assess.
- **Introduce verifiable quality requirements for new training methods.**
  Where transposition allows greater use of certified training, including as an alternative to specific examinations, Member States should accompany this option with systems that verify whether the training has taken place and whether the required standards have been met. Activity traceability, trainer and candidate identification, and, where appropriate, tools to document training times and locations can improve certification reliability. Define similar quality criteria for digital training, simulators, and other technological

solutions, aligned with the expected learning outcomes.

- **Update the professional requirements for instructors at the same time.** Introducing new content into candidate training should be accompanied by an assessment of the skills instructors need to deliver it. Pay particular attention to the technologies integrated into vehicles and how they are used during training, an area where specific professional development needs have been identified (Saetren et al., 2024; Senserrick et al., 2023).
- **Provide for a trial phase for the most significant innovations.** Before widely introducing new training models, tools, or assessment methods, Member States could run pilot projects with defined objectives, duration, and indicators. The results should be evaluated in terms of the skills acquired and the quality of the programme, to allow any necessary adjustments before large-scale implementation. Such pilots should specify in advance how educational quality, demonstrated competence, transfer to everyday driving, and implementation feasibility will be assessed. Where possible, follow-up should examine whether observed changes are sustained beyond the examination setting.
- **Introduce a mechanism for the periodic review of the system.** The transposition should provide for arrangements to review curricula, training tools, and professional requirements in light of technological developments, scientific evidence, and observed outcomes. This would ensure that training updates do not depend solely on future revisions of European legislation.
  Periodic review should consider a small set of comparable indicators, including demonstrated hazard anticipation, appropriate use of assistance systems, learner self-assessment and, where research designs permit, subsequent driving behaviour. Such measures would help distinguish participation in training from evidence of educational effectiveness.
- **Systematically involve training professionals in the implementation process.** EFA recommends involving driving schools, instructors, and their representative bodies, alongside the authorities, the research community, and other relevant stakeholders, in the design, piloting, and review of national measures. Professional input can help verify the practical applicability of solutions before implementation and highlight operational needs that the regulatory process alone may not identify.



CONCLUSION

Directive (EU) 2025/2205 comes at a time when driver training cannot merely adapt to change: it must drive that change forward. New technologies, new behaviours, new learning models and a different approach to professionalism require the ability to innovate, as well as clear criteria for distinguishing between progress and mere novelty.

EFA is ready to contribute to this transition. Its experience, the EFA Matrix and ongoing dialogue with European associations and professionals provide a foundation for the next step. The aim is not to defend an existing model but to help build a driver training system capable of evolving without compromising quality, professional identity or safety objectives.

The transposition of the new Directive therefore serves as a starting point. For EFA, the challenge is not to predict how we will drive in the future, but to ensure that Europe is ready to train those who will be driving.

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