Co-funded by the European Union

EuroS@P

WP4. Pilot training with an evaluation of the prepared didactic-training materials, methodology

T4.1 Pilot training in Croatia (Zagreb)
T4.2 Pilot training in Germany (Weimar)
T4.3 Pilot training in Poland (Gdansk)

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1 ABOUT THE EUROSAP-NWRSA PROJECT

The main objectives of the **European Road Safety Partnership - Network Wide Road Safety Assessment** project are for students to gain knowledge and improve the competence and skills of road authorities, auditors, and road safety inspectors, as well as lecturers and experts (teaching staff) in the area of Network Wide Road Safety Assessment (NWRSA) as part of Road Infrastructure Safety Management (RISM).

To achieve this goal, international cooperation within the project will be necessary to increase the quality of education, allow for the exchange of knowledge between partners, and implement and disseminate innovative solutions.

Achieving the project's main objective will increase the possibilities of solving such a socially significant problem as road safety. The main aim will be achieved through the implementation of sub-objectives:

- Prepare the methodological basis and develop didactic and training materials for six courses, including competence certification.
- Building a knowledge base of stakeholders and professionals in RISM for European Union countries.
- The participants of the pilot training courses verified, evaluated and recommended the prepared didactic and training materials and methodologies.
- Disseminate information about the project and its results using digital tools.

Work packages 4

The main goal will be achieved through the implementation of specific objectives:

- recruitment of employees from road authorities, auditors and road safety inspectors,
- selection of pilot training participants based on developed criteria,
- conducting a pilot training of participants with the use of the developed didactic-training materials and developed methodology,
- assessment and evaluation of the developed materials and methodologies,
- development of recommendations for necessary changes in materials and methodologies.

The number of participants at each training will be 10-15 people, and the duration of the training is five days. In WP4, three target groups can be distinguished:

1. Civil and transportation engineering students from all over Europe.
2. Employees of national, local government and regional road authorities and traffic engineers from Europe.
3. Auditors and road safety inspectors.

2 SPRING SCHOOL IN WEIMAR

25–27 March 2026 | Bauhaus-Universität Weimar, Europe Hall (Room 2.02), Schwanseestraße 13, Weimar, Germany | Three training days / 18 hours



2.1 Objectives

The school aimed to equip participants with methodological knowledge and practical skills for planning, conducting and interpreting NWRSA. It also piloted the EuroS@P training materials, learning concepts and methodological approaches in an applied setting.

2.2 Participants

Eleven participants took part. The group included road infrastructure professionals, Master's and PhD students, and lecturers from Poland, Italy, Syria, Ethiopia, Croatia, Sweden, and Germany. Ten lecturers from Gdańsk University of Technology, the University of Catania, the University of Zagreb, Lund University and Bauhaus-Universität Weimar delivered the programme in English.

2.3 Programme and methodology

The three-day programme combined lectures, practical exercises and guided discussions. It covered the assessment process from data preparation and network segmentation to risk identification, countermeasure selection and feedback.

Table 2.1 Spring School in Weimar program

Day	Main topics	Format
Day 1	Introduction to RISM and NWRSA; crash data; accident-based network safety analysis; road-network segmentation.	Lectures, discussion and practical introduction
Day 2	Identification of hazardous sections; reactive and proactive data collection; risk assessment.	Lectures and practical exercises
Day 3	Integration of reactive and proactive approaches; selection of countermeasures; evaluation and closing.	Lectures, practical exercises and final discussion

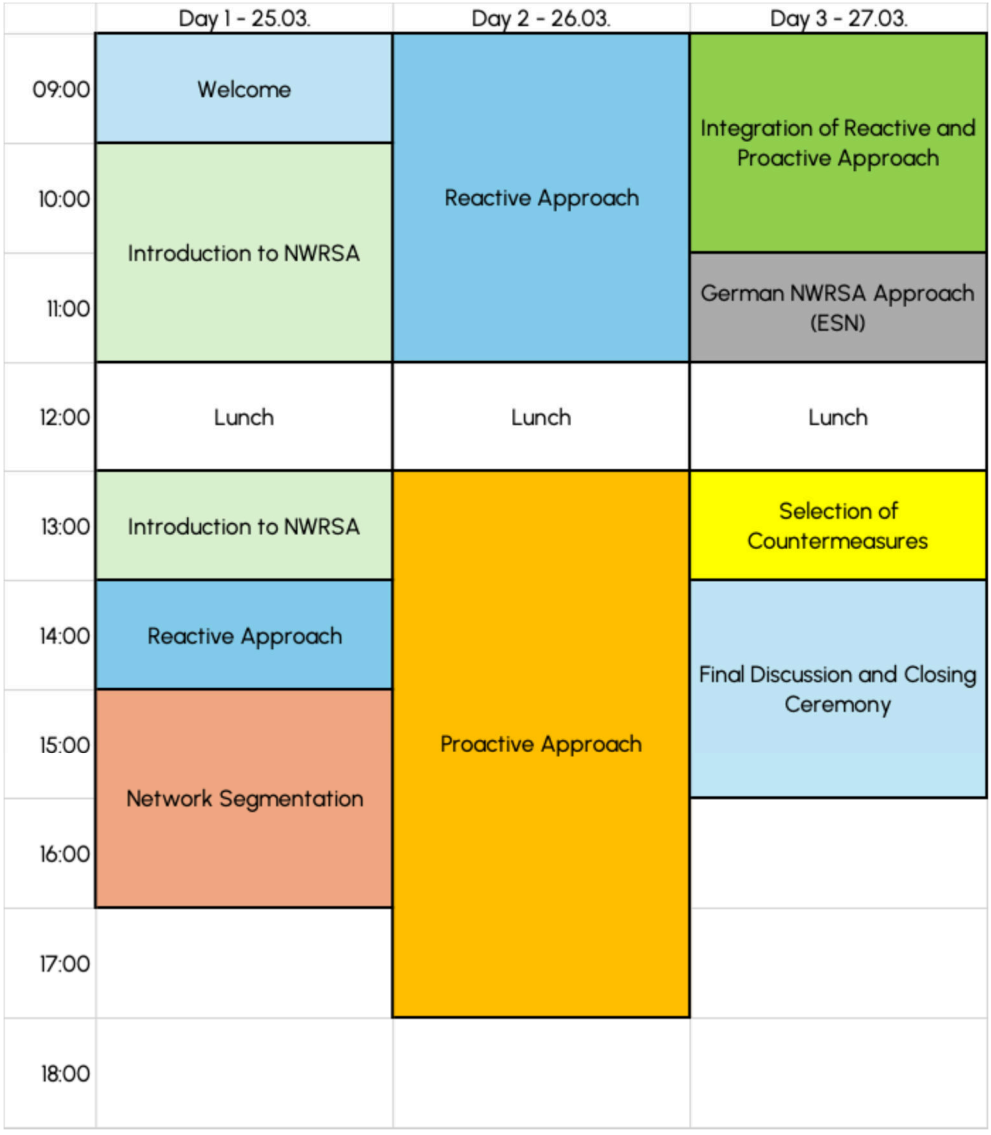


Figure 2.1 Spring School in Weimar program

2.4 Outcomes and conclusions

The pilot generated concrete input to revise the EuroS@P training package and to prepare the Spring School in Croatia. Feedback from participants, trainer observations and final discussions identified effective elements as well as areas requiring further development.

Key findings included:

- Training materials: Clarification of selected contents, terminology and instructions; revision of examples and practical templates where needed.
- Training methodology: Strengthening the logical flow between modules and improving links between lectures, exercises and discussions.
- Target-group alignment: Adjusting the entry level and difficulty of individual sessions to participants' diverse professional backgrounds and prior knowledge.
- Theory–practice balance: Reviewing the appropriate share of theoretical input, case studies, group work and practical application.
- Time planning: Evaluating the planned duration of presentations, exercises, feedback sessions and discussions to improve the overall agenda.
- Trainer preparation: Identifying the need for trainer guidance and rehearsal opportunities to support consistent delivery and effective facilitation.
- Practical exercises: Refining tasks, instructions and supporting tools to ensure that they are understandable, feasible and transferable to professional practice.

These results will inform the finalisation of the EuroS@P training package, trainer preparation and the design of future capacity-building and knowledge-transfer activities.

2.5 Conclusion

The EuroS@P Spring School 2026 successfully piloted a comprehensive training course on network-wide road safety assessment. The three-day programme demonstrated that the course provides a structured and practice-oriented learning format for conveying the key principles and methods of Network-Wide Road Safety Assessment.

Participant feedback and trainer observations provided a sound basis for quality improvement. The findings relate in particular to the clarity and consistency of the course materials, the methodological sequence of modules, the appropriate level of complexity, the balance between theory and practice, the timing of individual programme elements and the guidance required for trainers. These lessons will be incorporated into the revised EuroS@P training package

2.6 Illustrative materials

Three spaces are provided for selected images from the presentations or training recordings. Replace each image field and caption when preparing the final report.

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European Road Safety Partnership - Network Wide Road Safety Assessment
KA220-HED - Cooperation partnerships in higher education
Form ID: 2023-1-PL01-KA220-HED-000156844



Figure 2.2 Examples of training material

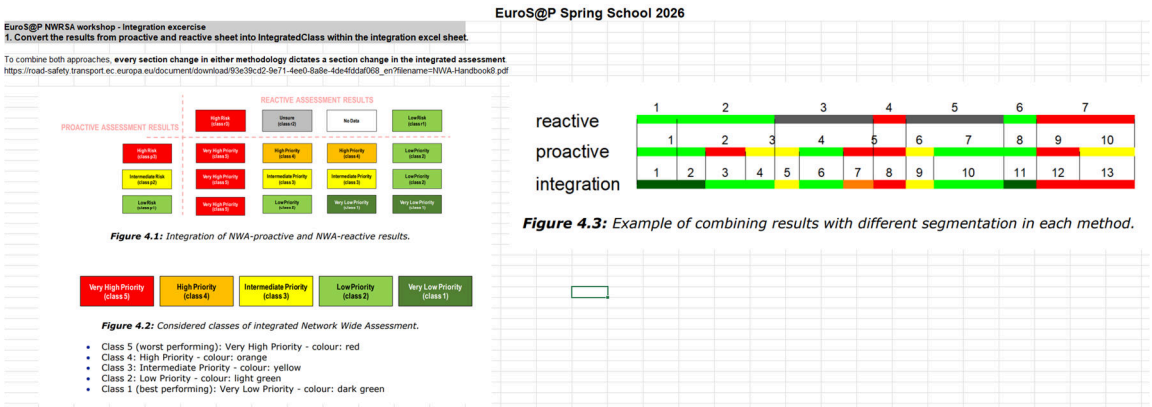


Figure 2.3 Examples of training material



Figure 2.4 Examples of training material

2.7 Participant questionnaire evaluation

Eight completed questionnaires were available for analysis. The report records 11 people attending the school, so the survey reflects responses from eight attendees. Respondents rated eight aspects on a numerical 1–5 scale. The source data do not provide verbal labels for the scale; results are therefore reported as numerical ratings.

2.7.1 Quantitative results

The mean across all eight rating items was 4.50 out of 5. The highest mean ratings were for improved understanding of the difference between reactive and proactive assessment and for the integration of both approaches into the NWRSA process (4.88 each). All eight respondents rated the relevance of the training to their needs, the introductory RISM/network approach module, and the integration module at 4 or 5. The balance between lectures, practical work and discussion received the lowest mean (3.88), although six of eight respondents rated it 4 or 5. No response below 3 was recorded.

Table 2.2 Spring School in Weimar - Evaluation results

Evaluation aspect	Mean (1–5)	Ratings 4–5
Clarity of training objectives	4.38	87.5%
Alignment with professional or academic needs	4.62	100.0%
Value of the RISM and network approach introduction	4.62	100.0%
Understanding of reactive and proactive approaches	4.88	100.0%
Clarity of the reactive approach sessions	4.12	87.5%
Practical usefulness of the proactive approach	4.62	87.5%
Understanding the integrated NWRSA process	4.88	100.0%
Balance of lectures, practice and discussion	3.88	75.0%

2.7.2 Open-ended feedback

Respondents most often highlighted the proactive approach, practical risk assessment, QGIS work, and exercises that combined reactive and proactive methods. They valued the practical application of the methods and said that seeing them together helped clarify their differences and uses. Suggestions for future editions included extending practical exercises, adding more Excel and GIS practice, using a sample network to demonstrate the steps, and explaining more explicitly how to interpret and use the outputs of each method. One response also suggested adjusting the daily schedule and providing short breaks.

2.7.3 Conclusion

The questionnaire feedback supports retaining the applied and integrated structure of the Weimar school. For the next edition, the main improvement priorities are to allow more time for practical work and to strengthen the worked examples and explanations of method outputs. These findings are indicative of the eight respondents and should be read alongside trainer observations and the wider evaluation recorded in the report.

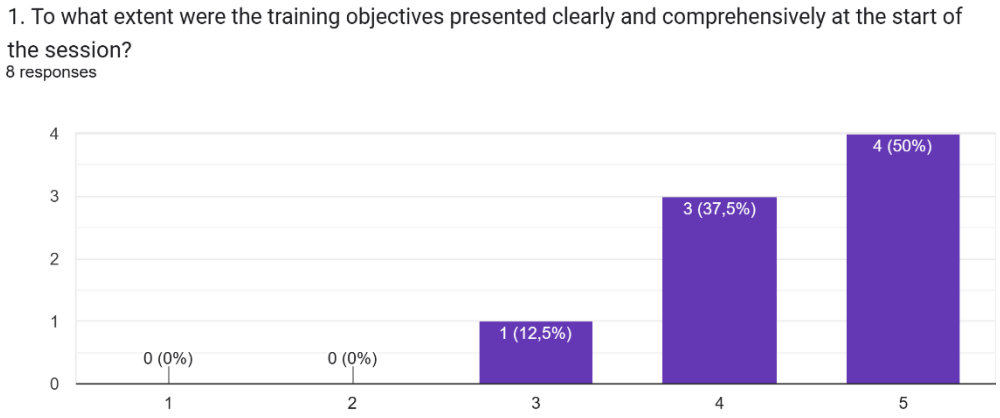


Figure 2.5 .Clarity of the training objectives

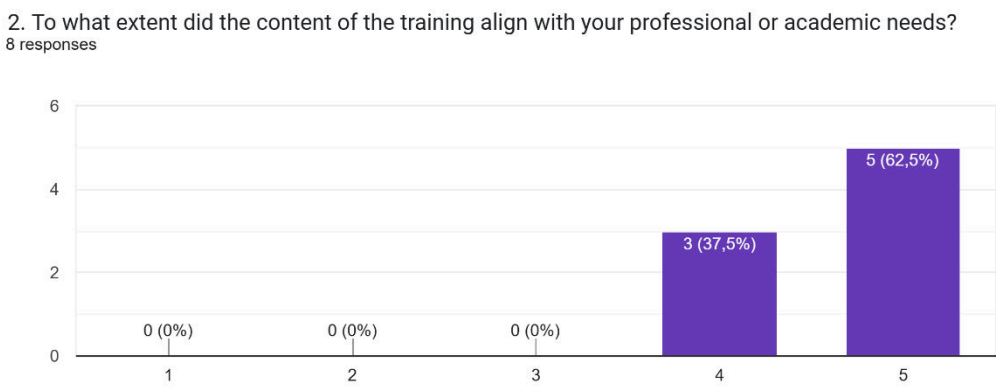


Figure 2.6 Alignment with professional or academic needs

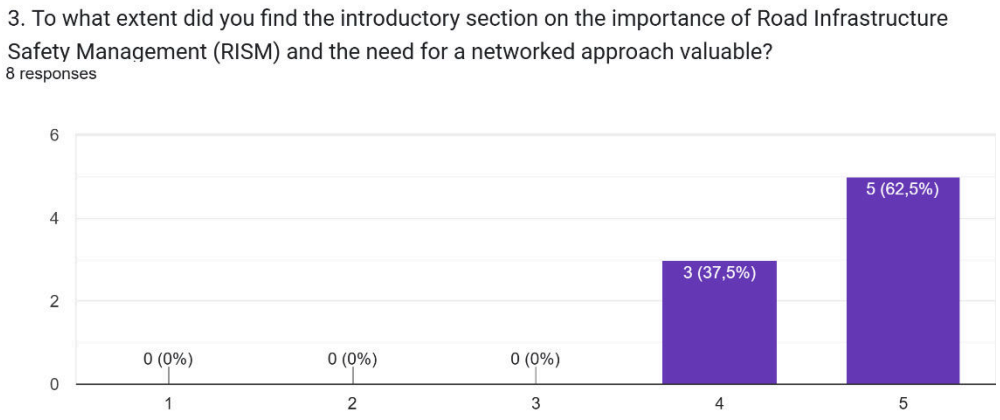


Figure 2.7 Value of the RISM and network approach introduction

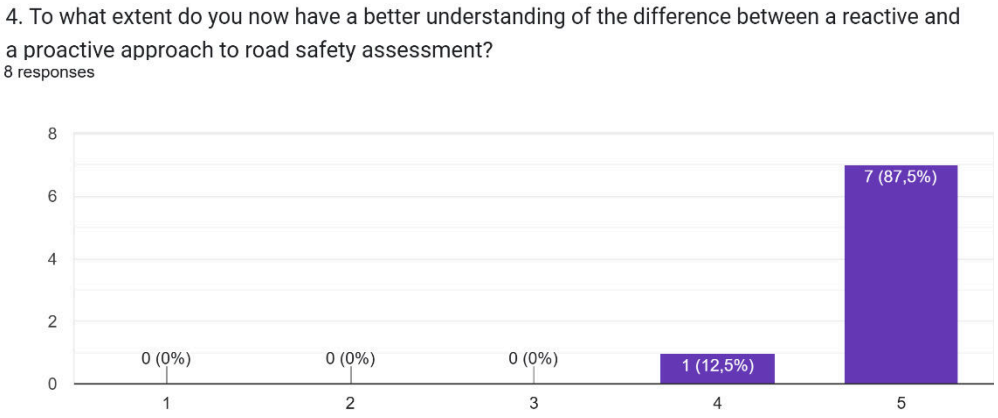


Figure 2.8 Value Understanding of reactive and proactive assessment

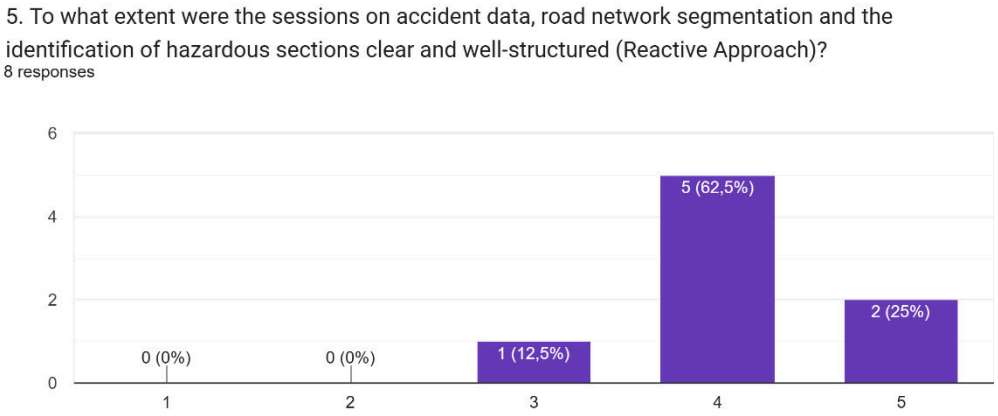


Figure 2.9 Clarity of the reactive approach sessions

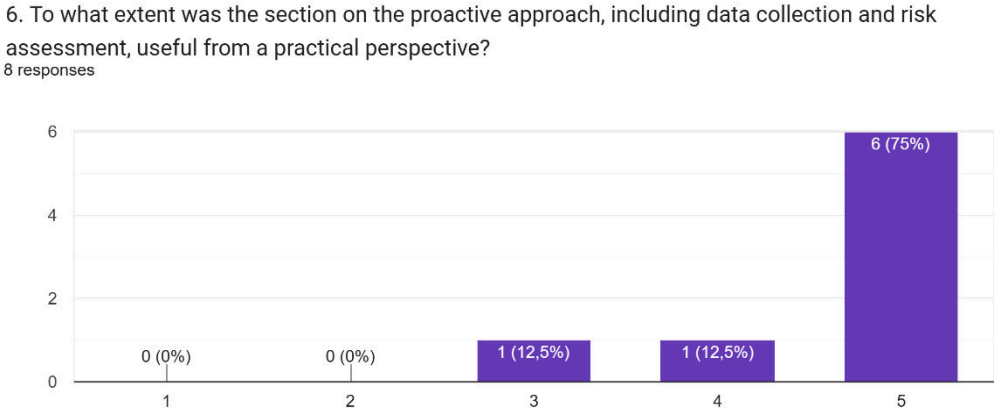


Figure 2.10 Practical usefulness of the proactive approach

7. To what extent did the module on integrating the results of the reactive and proactive approaches help you understand the full NWRSA process?
8 responses

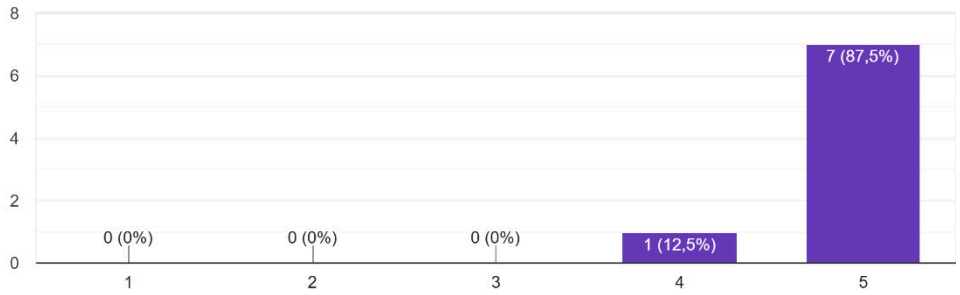


Figure 2.11 Understanding of the integrated NWRSA process

8. To what extent was the balance between lectures, practical sessions and discussion appropriate?
8 responses

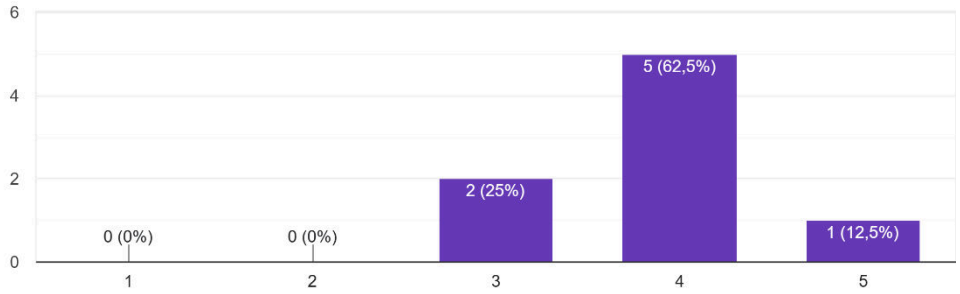


Figure 2.12 Understanding of the integrated NWRSA process

3 SCHOOL IN ZAGREB

16–18 June 2026 | University of Zagreb, Zagreb, Croatia | Three training days | Hybrid delivery

3.1 Objectives

The school formed part of the WP4 pilot training and evaluation. It aimed to develop a practical understanding of NWRSA methods and to evaluate the training materials and methodology through a hybrid programme combining lectures and applied work.

3.2 Participants

Nine participants took part: four attended in person and five joined online. The online group included three participants from Poland and two from Germany. Participants were mainly university students and PhD candidates.

3.3 Programme and methodology

The planned three-day programme moved from Road Infrastructure Safety Management (RISM) and Network-Wide Road Safety Assessment (NWRSA) fundamentals to reactive and proactive assessment, followed by the integration of both methods and the selection of countermeasures. Lectures were paired with practical work on a selected road, including Excel and QGIS exercises, as well as a final discussion and feedback session. The school was delivered in a hybrid format.

The Zagreb duration column in the supplied programme assigns 18 hours 45 minutes to scheduled learning activities: 8 hours 15 minutes of lectures, 9 hours 45 minutes of practical work and 45 minutes of discussion. Lunch, breaks, and the closing ceremony are excluded from these totals.

Table 3.1 Zagreb school programme

Day	Main topics	Format
Day 1	RISM and NWRSA introduction; network segmentation; accident data; accident-based assessment and identification of hazardous sections.	Lectures and practical exercises
Day 2	Proactive data collection and risk assessment; QGIS analysis and map visualisation of proactive assessment results for a selected road.	Lectures and practical exercises
Day 3	Integration of reactive and proactive approaches; selection of countermeasures; German NWRSA approach; wrap-up and feedback.	Lectures, practical exercises and final discussion

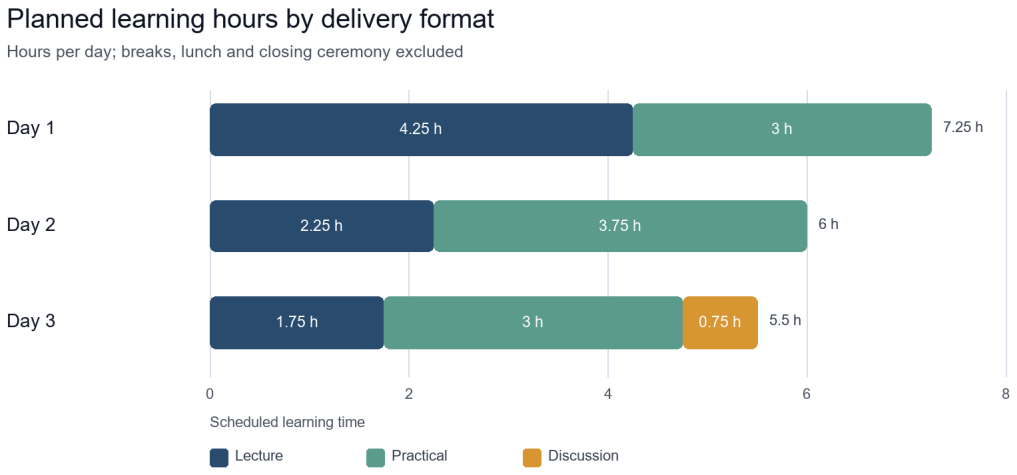


Figure 3.1 Planned learning time by delivery format and training day

The timetable below follows the session order and suggested Zagreb durations in the Excel programme. Day 2 start and end times have been calculated sequentially from the 09:00 start because the source formulas display the first two sessions out of order.

3.4 Outcomes and conclusions

The Zagreb Summer School focused on the practical implementation of the EuroS@P training materials and NWRSA methodologies, building on the experience gained during the Weimar Summer School.

The main outcomes included:

- Methodological application: Presentation and demonstration of the main stages of NWRSA, covering road network segmentation, reactive and proactive safety assessment, integration of assessment results and identification of priority road sections.
- Practical implementation: Demonstration of Excel- and QGIS-based procedures for preparing input data, conducting road safety analyses and visualising assessment results using a selected road network.
- Integration of assessment approaches: Illustration of how crash-based and infrastructure-based safety assessments can be combined to support the identification and prioritisation of road sections requiring further investigation or safety improvements.
- Training material implementation: Practical delivery of the developed lectures, exercises and supporting datasets, providing an additional opportunity for lecturers to review the structure, technical content and applicability of the training materials.
- Digital training resources: Recording of the first two training days, providing audiovisual documentation of the delivered sessions and supporting the potential reuse of selected educational content in future training activities.

The school contributed to the practical review and documentation of the developed training programme, providing a basis for further refinement and future educational applications.
Illustrative materials

Three spaces are provided for selected images from the presentations or training recordings. Replace each image field and caption when preparing the final report.

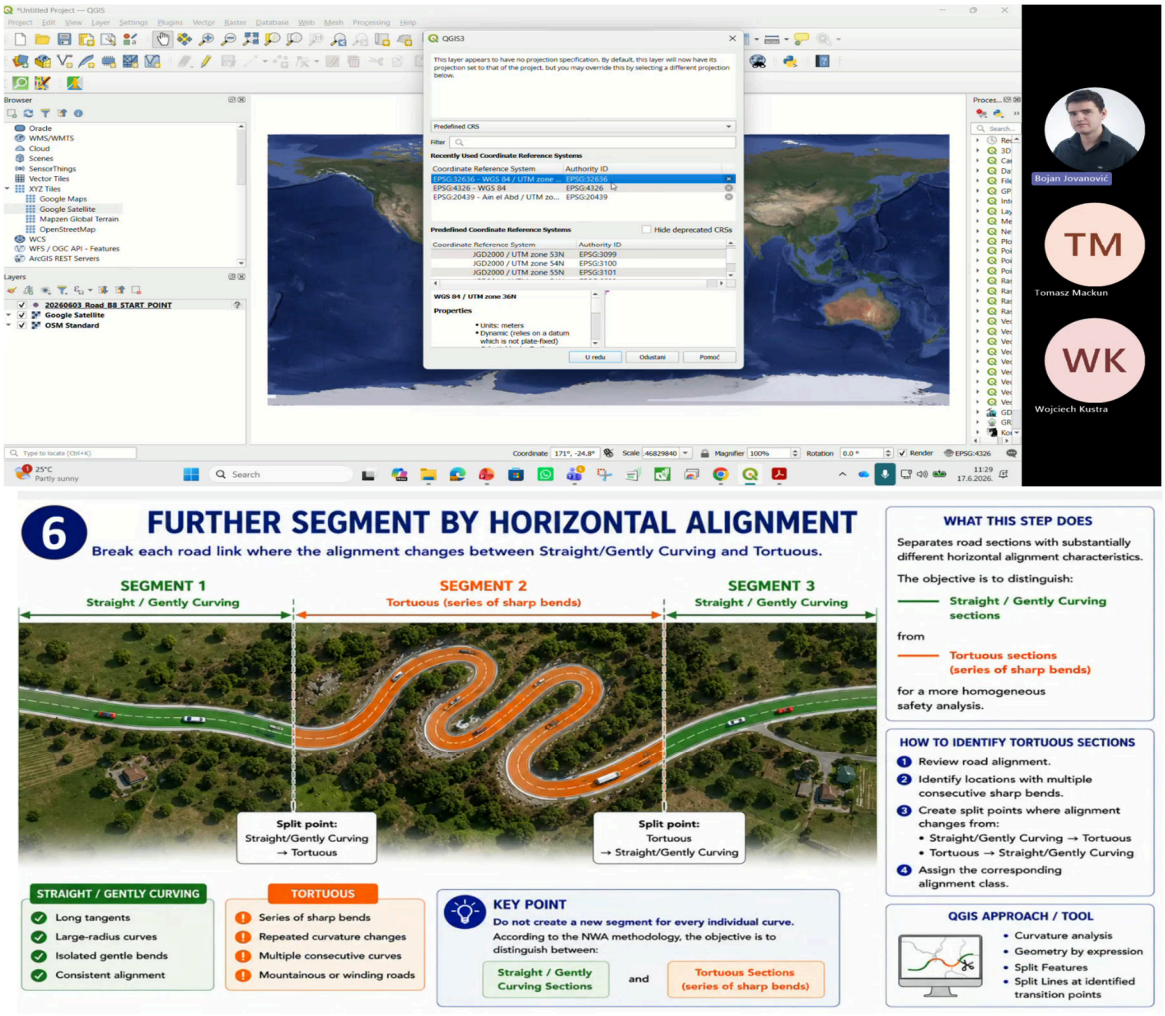


Figure 3.2 Examples of training material

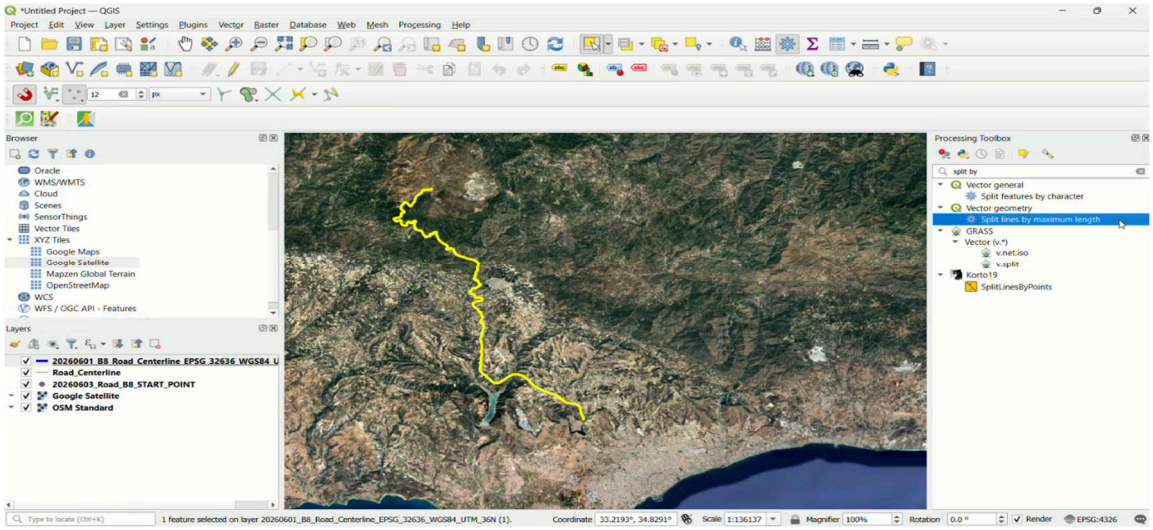


Figure 3.3 Examples of training material

4 SPRING SCHOOL IN GDAŃSK

23 May 2025 | Gdańsk University of Technology, Gdańsk, Poland | One-day school/workshop associated with XV International Road Safety Conference GAMBIT 2025.



4.1 Objectives

The school introduced participants to network-wide road-safety assessment and provided practical experience in segmenting and assessing a regional road. It also shared EuroS@P-NWRSA work during the XV International Road Safety Conference GAMBIT 2025 and tested the use of Polish guidance and training materials in a practical exercise.

4.2 Participants

48 people signed up for the spring school; in the end, 21 took part. The GAMBIT 2025 conference itself had more than 150 participants; this is a separate attendance figure and is not included in the school total.

4.3 Programme and methodology

The one-day school/workshop took place on 23 May 2025 at Gdańsk University of Technology, in connection with the XV International Road Safety Conference GAMBIT 2025 event (22–23 May). EuroS@P-NWRSA presentations were also delivered as part of the conference programme. The training used road DW764 as a practical case and combined explanatory presentations with mapping, video and spreadsheet materials.

- introduction to the regulatory context for network-wide assessment and the Polish regulation of 28 May 2024 on accident-risk assessment and road-safety categories;
- road segmentation using alternative approaches and criteria such as traffic volume, number of lanes, speed limit and terrain;

- practical segmentation of DW764 using maps, route videos and supporting spreadsheets; and
- assessment of selected road and roadside parameters, including roadside obstacles and clear-zone characteristics.

4.4 Outcomes and conclusions

The DW764 exercises and participant feedback indicated that implementation is difficult and requires precise, step-by-step instructions. Participants found the Polish government guidance difficult to understand and incomplete, and reported ambiguities that were difficult to interpret. The experience points to a need for clearer explanations, worked examples and practical templates to support consistent application of the assessment method.

4.5 Illustrative materials

Three spaces are provided for selected images from the presentations or training recordings. Replace each image field and caption when preparing the final report.

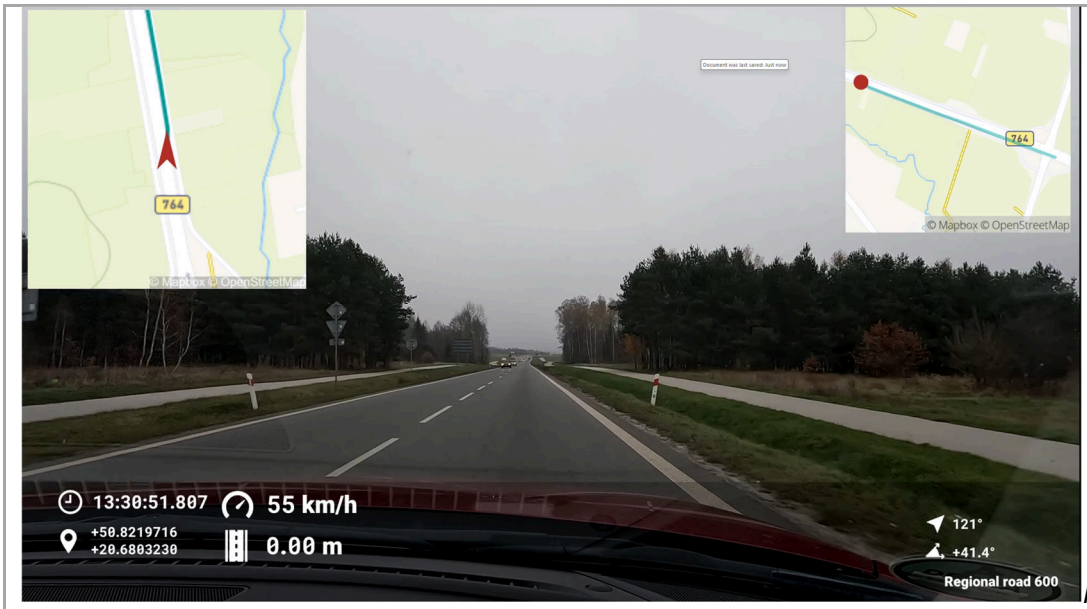


Figure 4.1 Examples of training material

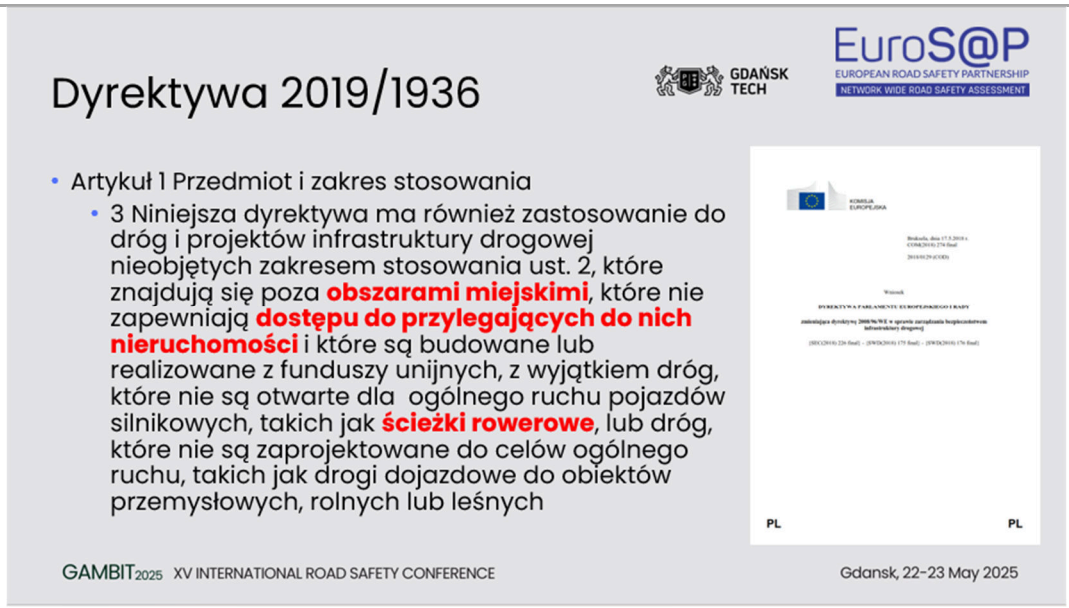


Figure 4.2 Examples of training material

Rodzaj drogi	Oznaczenie jezdni	Oznaczenie segmentu	Kilometraż początkowy segmentu	Kilometraż końcowy segmentu	Długość (m)	Natężenie ruchu SDRR	Wynik punktowy	Klasa bezpieczeństwa wg wyniku punktowego	Klasa bezpieczeństwa po uwzględnieniu SDRR
D pozostała jednojezdniowa		1	4.66	5.37	710	7,406	70	średnio bezpieczna	średnio bezpieczna
D pozostała jednojezdniowa		2	12.00	12.70	700	7,406	79	średnio bezpieczna	średnio bezpieczna
D pozostała jednojezdniowa		3	15.65	16.73	1080	3,915	92	bezpieczna	bezpieczna
D pozostała jednojezdniowa		4	54.19	55.47	1285	3,343	64	średnio bezpieczna	średnio bezpieczna
D pozostała jednojezdniowa		5	75.55	78.00	2450	10,853	84	bezpieczna	bezpieczna
D pozostała jednojezdniowa		6	0.10	1.40	1300	3,668	67	średnio bezpieczna	średnio bezpieczna
D pozostała jednojezdniowa		7	3.60	5.05	1450	6,271	63	średnio bezpieczna	średnio bezpieczna
D pozostała jednojezdniowa		8	5.05	7.50	2445	3,591	92	bezpieczna	bezpieczna
D pozostała jednojezdniowa		9	7.50	9.46	1960	3,591	71	średnio bezpieczna	średnio bezpieczna

Figure 4.3 Examples of training material

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EuroS@P
EUROPEAN ROAD SAFETY PARTNERSHIP
NETWORK WIDE ROAD SAFETY ASSESSMENT

Project name: European Road Safety Partnership - Network Wide Road Safety Assessment

Project ID: 2023-1-PL01-KA220-HED-000156844

EuroS@P Spring School 2026

State: March 23th

Date	Time	Topic	Format	Duration	Room	Lecturer
25/03/2026	09:00	Welcome and Introduction		90 min.	S13 - 2.02	Uhlmann
	10:30	Importance of Road Infrastructure Safety Mangement	Lecture	60 min.	S13 - 2.02	Uhlmann
	11:30	Introduction to Network-Wide Road Safety Assessments	Lecture	45 min.	S13 - 2.02	Kustra / Pappalardo
	12:15	*Lunch*		*60 min.*		
	13:15	Introduction to Network-Wide Road Safety Assessments	Discussion	60 min.	S13 - 2.02	Kustra / Mackun
	14:15	Reactive Approach - Introduction to Crash Data	Lecture	45 min.	S13 - 2.02	D'Agostino
	15:00	*Coffee Break*		*15 min.*		
	15:15	Reactive Approach - The process of accident based network safety analyis	Lecture	45 min.	S13 - 2.02	Varhelyi
	16:00	Segmentation of the road network, Linking accidents to the individual road sections	Lecture	45 min.	S13 - 2.02	Wachnicka
	16:45	*End of Day 1*				

Date	Time	Topic	Format	Duration	Room	Lecturer
26/03/2026	09:00	Segmentation of the road network, Linking accidents to the individual road sections	Practical	60 min.	S13 - 2.02	Wachnicka
	10:00	Reactive Approach - Identifying hazardous sections	Lecture	30 min.	S13 - 2.02	Varhelyi
	10:30	*Coffee Break*		*15 min.*		
	10:45	Reactive Approach - Identifying hazardous sections	Practical	90 min.	S13 - 2.02	Varhelyi
	12:15	*Lunch Break*		*60 min.*		
	13:15	Proactive Approach - Introduction	Lecture	30 min.		Cafiso
	13:45	Proactive Approach - Data Collection	Lecture	45 min.	S13 - 2.02	Pappalardo
	14:30	Proactive Approach - Data Collection	Practical	90 min.	S13 - 2.02	Pappalardo
	16:00	*Coffee Break*		*15 min.*		
	16:15	Proactive Approach - Risk Assessment	Lecture	60 min.	S13 - 2.02	Cafiso
	17:15	Proactive Approach - Risk Assessment	Practical	30 min.	S13 - 2.02	Cafiso
	17:45	*End of Day 2*				

Date	Time	Topic	Format	Duration	Room	Lecturer
27/03/2026	09:00	Methodology of proactive and reactive activities integration	Lecture	45 min.	S13 - 2.02	Jovanović
	09:45	Methodology of proactive and reactive activities integration	Practical	60 min.	S13 - 2.02	Jovanović
	10:45	*Coffee Break*		*15 min.*		
	11:00	German NWRSA approach (ESN)	Lecture	45 min.	S13 - 2.02	Hamel
	11:45	Selection of Countermeasures	Lecture	30 min.	S13 - 2.02	Varhelyi
	12:15	*Lunch Break*		*60 min.*		
	13:15	Selection of Countermeasures	Practical	60 min.	S13 - 2.02	Varhelyi
	14:15	Workshop Wrap-up and Feedback	Discussion	60 min.	S13 - 2.02	Uhlmann
	15:15	Closing Ceremony		30 min.	S13 - 2.02	
	15:45	*End of Workshop*				

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EUROPEAN ROAD SAFETY PARTNERSHIP
NETWORK WIDE ROAD SAFETY ASSESSMENT

Project name European Road Safety Partnership - Network Wide Road Safety Assessment

Project ID 2023-1-PL01-KA220-HED-000156844

EuroS@P School 2026 - Zagreb

Date	Time	Course	Topic	Format	Suggested Duration Zagreb	Room	Lecturer
16/06/2026	11:00		Welcome and Introduction of Participants	Lecture	30 min.	-	
	11:30		EuroS@P project introduction	Lecture	15 min.	-	Kustra
	11:45	1.1 /1.2/1.3	Importance of Road Infrastructure Safety Mangement, Levels and Applications of RISM procedures	Lecture	45 min.	-	Hamel
	12:30	2.1/2.2./2.3	Introduction to Network-Wide Road Safety Assessments	Lecture	30 min.	-	Cafiso
	13:00		*Lunch*		*45 min.*		
	13:45	3.2	Segmentation of the road network, Linking accidents to the individual road sections	Lecture	45 min.	-	Kustra/Mackun
	14:30		EU NWA approach: Segmentation of road network (Excel/QGIS Excercise for selected road)	Practical	90 min.	-	Jovanović/Vertlberg
	16:00		Reactive Approach - Introduction to Crash Data	Lecture	30 min.	-	D'Agostino
	16:30	3.1	Reactive Approach - The process of accident based network safety analyis	Lecture	30 min.	-	Varhelyi
	17:00	3.4	Reactive Approach - Identifying hazardous sections	Lecture	30 min.	-	Varhelyi
	17:30		EU NWA approach: Crash data analysis and visualization of NWA reactive analysis results on maps (QGIS Excercise for selected road)	Practical	90 min.	-	Jovanović/Vertlberg
	19:00		*End of Day 1*				
Date	**Time**	**Course**	**Topic**	**Format**	**Suggested Duration Zagreb**	**Room**	**Lecturer**
17/06/2026	09:00	4.15-4.24	Proactive Approach - Data Collection	Lecture	60 min.	-	Pappalardo
	10:45	4.15-4.24	Proactive Approach - Data Collection (Excercise for selected road)	Practical	90 min.	-	Pappalardo
	10:00	4.15-4.24	Proactive Approach - Risk Assessment	Lecture	45 min.	-	Cafiso
	12:15	4.15-4.24	Proactive Approach - Risk Assessment (Excercise for selected road)	Practical	45 min.	-	Cafiso
	13:00		*Lunch*		*60 min.*		
	14:00		EU NWA approach: Analysis and visualization of NWA proactive analysis results on maps (QGIS Excercise for selected road)	Lecture	30 min.		Jovanović/Vertlberg
	14:30		EU NWA approach: Analysis and visualization of NWA proactive analysis results on maps (QGIS Excercise for selected road)	Practical	90 min.		Jovanović/Vertlberg
	16:00		*End of Day 2*				
Date	**Time**	**Course**	**Topic**	**Format**	**Suggested Duration Zagreb**	**Room**	**Lecturer**
18/06/2026	09:00	5.2	EU NWA approach: Methodology of proactive and reactive activities integration (Excel/QGIS Excercise for selected road)	Lecture	30 min.	-	Jovanović/Vertlberg
	09:30	5.2	EU NWA approach: Methodology of proactive and reactive activities integration (Excel/QGIS Excercise for selected road)	Practical	90 min.	-	Jovanović/Vertlberg
	11:00		*Coffee Break*		*15 min.*		
	11:15	3.9	Selection of Countermeasures	Lecture	30 min.	-	Varhelyi
	11:45	3.10	Selection of Countermeasures	Practical	90 min.	-	Varhelyi
	13:15		*Lunch*		*45 min.*		
	14:00		German NWRSA approach (ESN)	Lecture	45 min.	-	Hamel
	14:45		Workshop Wrap-up and Feedback	Discussion	45 min.	-	Jovanović/Vertlberg
	15:30		Closing Ceremony		30 min.	-	
	16:00		*End of Workshop*				