RESEARCH REPORT - ENGLISH EDITION

AI, surveillance and public space in Heerlen

How data, cameras, public reports and artificial intelligence may converge in the surveillance of neighbourhoods and residents

Factual investigation and legal analysis

Status as of: 25 July 2026

Compiled by: Michel Peen

English edition: 5 August 2026

This report distinguishes established facts, municipal intentions, technical possibilities and unproven assumptions. It does not allege that Heerlen tracks every resident individually.

Faithful English translation. If interpretation differs, the Dutch original is the reference edition.

Reading guide and key finding

Key finding
Heerlen is demonstrably a European frontrunner in developing a Social Digital Twin for quality of life and public safety. The city has also operated extensive camera surveillance for many years. The new PULSE-TWIN project aims to combine real-time safety and social data, professional information and resident reports, then use AI to identify patterns and predict outcomes. This creates a powerful infrastructure for area-based surveillance and interventions.

As of 25 July 2026, however, no public evidence was found that Heerlen uses facial recognition within PULSE-TWIN, places every resident in the digital twin as an individual profile, or predicts individual care, behavioural or criminal-risk profiles. The municipality explicitly denies doing so. The precise datasets and applications have not yet been finalised or published. It therefore cannot yet be independently verified whether the eventual technology will genuinely remain limited to neighbourhood patterns.

The main research question is therefore not merely: is someone being followed by a single AI camera? It is primarily: which information sources are linked, at what geographic level, for which interventions, by whom and under what controls?

Meaning of labels

Label	Meaning in this report
Established	Supported by an official source or public decision.
Intended	Described by Heerlen or the EU as part of the project, but not necessarily fully operational.
Unknown	Not specifically disclosed or not verifiable from the available sources.
No evidence found	No reliable public source was found confirming the claim; this is not proof that it is impossible.

Research method

- Review of official PULSE-TWIN and European Urban Initiative (EUI) project information.
- Analysis of council papers, municipal budget information and official camera-surveillance designation decisions.
- Review of the Dutch Algorithm Register and relevant guidance from supervisory authorities.
- Legal assessment under the GDPR, Police Data Act, Municipalities Act, EU AI Act and fundamental rights.
- Comparison with critical analyses and public concerns, including Amnesty International's warning as reported in the media.
- Use of the earlier Woo dossier: the request broadly covered AI, data analysis, monitoring, profiling, predictive systems, risk analysis and external parties; the limitation asserted by Heerlen to PULSE-TWIN was disputed by the requester.

1. What can demonstrably be established in Heerlen?

The surveillance landscape consists of two layers that must not be conflated. The first is existing camera surveillance in public space. The second is PULSE-TWIN's new and still-developing AI and data infrastructure. The potential connection between the two layers is precisely what requires scrutiny.

1.1 Existing municipal camera surveillance

Heerlen uses fixed and relocatable cameras for public-order surveillance. Official decisions confirm, among other things, fixed cameras in Hoensbroek-Centrum and broad authority to use relocatable cameras in Hoensbroek-De Dem and Maria Gewanden-Terschuren. Temporary mobile camera surveillance was designated for Gerard Doustraat in June 2026; the decision states that footage is viewed live by the municipal control room 24 hours a day, seven days a week, and is also recorded and stored.

Area / system	Publicly established	Duration / operation	AI link established?
Hoensbroek-Centrum	Fixed cameras for public order.	Existing camera area; no exact current camera list found in this investigation.	No.
Hoensbroek-De Dem	Relocatable cameras permitted in a broadly designated area.	Decision 12-12-2024; maximum five years. Relocation after consultation between municipality and police.	No.
Maria Gewanden-Terschuren	Relocatable cameras permitted.	Decision 12-12-2024; maximum five years.	No. This neighbourhood is a PULSE-TWIN focus area.
Gerard Doustraat and vicinity	Temporary relocatable camera; live monitoring and recording 24/7.	Decision June 2026; maximum three months.	No.
Police ANPR	Dutch police use fixed, flexible and mobile number-plate cameras; locations follow from camera plans.	Number plates may be read automatically within criminal-procedure frameworks.	No specific PULSE-TWIN link found.

Important distinction
An ordinary surveillance camera is not automatically an AI system. Live viewing, recording and later retrieval constitute surveillance, but become AI surveillance only when, for example, image analysis automatically classifies or predicts people, objects, behaviour, routes or events. No concrete evidence of such AI analysis of Heerlen camera footage was found in the public records reviewed.

1.2 Heerlen had many cameras at an early stage

A national evaluation of municipal camera surveillance identified an unusually high number of cameras per 10,000 residents in Heerlen many years ago. Parliamentary consideration of camera surveillance in 2005 even referred to approximately 130 cameras in Heerlen's city centre. Those historical figures must not be presented as the current situation without an up-to-date inventory, but they show that camera surveillance is not new in Heerlen.

2. PULSE-TWIN: the new data and AI layer

PULSE-TWIN stands for Proactive Urban Liveability and Safety Engine with Integrated Social Digital Twin. The project began in November 2025 and, according to the current project website, runs for 3.5 years until spring 2029. Public reporting places EU support at approximately EUR 5 million.

2.1 Official objective

Heerlen intends to bring together data about quality of life, crime, safety, and how public space is used and experienced. AI is intended to identify patterns and assess possible correlations,

simulate the effects of plans, and support professionals in making targeted choices. A council information letter dated 16 March 2026 expressly states that AI will be used to predict trends in quality of life, crime and neighbourhood safety and to support neighbourhood interventions.

2.2 The four technical building blocks

Building block	Official description	Possible influence on surveillance
Social Digital Twin	Interactive 3D model with social, spatial and safety data; visualises neighbourhoods and tests scenarios.	Area-based signalling and prioritisation; hotspots and trends may direct interventions.
AI copilot	Wearable and mobile AI tools with real-time insights for community police officers and care/frontline workers.	Information and predictions may become available directly in the street. Precise input and functions remain unknown.
Heerlen app module	Reports, warnings and resident participation in safety initiatives.	Resident observations become an additional data source; risk of selective reporting and distortion.
Public Smart Safety/Liveability Center	Central AI-driven data engine and visualisation centre.	May combine diverse data sources and support real-time interventions.

2.3 Focus neighbourhoods

The pilot focuses on Vrieheide, GMS and Maria Gewanden-Terschuren. These are the areas where residents will first encounter pilots, meetings, testing and potentially new data flows. Notably, Maria Gewanden-Terschuren also falls under a broad camera-surveillance decision. This does not prove a technical connection, but makes transparency about data separation especially important.

2.4 Timeline

Period / date	Official milestone or status
October 2025	Project launch and partner coordination.
November 2025	According to the project website, PULSE-TWIN begins in practice.
December 2025	EUI lists an alpha version of the Social Digital Twin as a milestone.
June 2026	Development phase and resident groups; EUI lists launch of an expanded app module.
December 2026	Planned start of the AI-copilot field test.
March 2028	EUI lists implementation of a definitive city-wide Social Digital Twin.
September 2028 - March 2029	Final evaluation and decision-making on continuation or broader use.

Timing distinction
The EUI milestones (city-wide version in March 2028) differ from the project website (pilot and evaluation until spring 2029). This need not be contradictory, but it requires clarification: technically deployed is not the same as administratively approved for definitive use.

3. How might a resident enter the picture?

Surveillance is not created only when a camera films a face. A resident may enter a model indirectly through locations, reports, police statistics, professional observations and information about the physical environment. Even after names are removed, very small areas, rare events or combinations of characteristics can sometimes point in practice to individuals or households.

Information route	Example	What AI might do	Important risk
Camera	Live images of a street or square.	Detect objects or events; identify hotspots.	Function creep without clear new decision-making.
Police data	Incidents, reports and registrations by area.	Patterns and predictions by time/location.	Historic enforcement bias is treated as future truth.
Municipal reports	Nuisance, waste, lighting and public-space reports.	Determine correlations and priorities.	Frequent reporters and low-reporting neighbourhoods distort the picture.
Professionals	Observations by community police, enforcement officers, youth workers and area managers.	Summarise text and combine signals.	Subjective impressions acquire an appearance of objectivity.
Resident app	Nuisance reports, alerts and neighbourhood feedback.	Rapid map layers and trend analysis.	Stigmatisation, neighbour disputes and selective reporting.
Spatial data	Lighting, greenery, sight lines, buildings and routes.	Test scenarios and propose environmental interventions.	Correlation may be described as causation without evidence.
Social data	Aggregated poverty, education, debt, care or demographic data.	Estimate vulnerability and intervention needs by neighbourhood.	Indirect discrimination based on origin or socioeconomic position.
Mobile AI copilot	Real-time advice to a professional in the street.	Organise information or propose action.	Automation bias: the advice is given too much authority.

3.1 From area profile to real impact on individuals

The municipality states that the digital twin does not concern individual persons. Nevertheless, an area-based score or prediction may have consequences for individuals. If additional enforcement officers, police checks, youth work or camera surveillance are directed to a particular street, people who live or spend time there are observed and checked more often. Legally and ethically, the issue is therefore not only whether a name appears in the system, but also whether the output influences the treatment of identifiable groups or residents.

3.2 The feedback loop

Predictive policing and risk-led surveillance carry a recognised feedback risk: where more checks take place, more incidents are recorded; those additional records may then appear to confirm that the model was right to direct more surveillance there. Without correcting for surveillance intensity, a self-reinforcing loop may arise.

Step	Mechanism
1	Historic records designate a neighbourhood as high risk.
2	More people and resources are deployed there.
3	More intensive surveillance produces more recorded facts and signals.
4	New data appear to confirm the earlier risk picture.
5	The neighbourhood remains a priority while less-surveilled areas produce less data.

4. What does Heerlen itself say about privacy and control?

The project website now contains relatively extensive assurances. They are relevant, but an assurance on a website is not an independent audit or proof that every technical choice has already been configured in accordance with that promise.

Municipal assurance	Assessment
No prediction of individual behaviour, care needs or risk profiles.	A strong substantive limit. It must demonstrably be embedded in requirements, architecture, contracts and tests.
Residents are not in the system; data are anonymised.	Anonymity must be demonstrated technically. Pseudonymous or fine-grained location data may still be personal data.
Human professionals always review the outputs.	Necessary, but human presence alone is insufficient; review must be meaningful, authorised and documented.
Personal accounts, logging and periodic access reviews.	A sound baseline. It is not yet public who reviews logs, how often or what sanctions apply.
The Data Protection Officer is involved from the start.	Positive; independent advice and follow-up must be public or verifiable.
Independent ethical committee and ELSA method.	Positive for governance. Composition, mandate, reporting and the ability to recommend stopping remain crucial.
A DPIA when high-risk personal data are processed.	A legal risk point: design choices can determine privacy effects early. A DPIA must precede high-risk processing and occur in time before irreversible choices.
Algorithms used will be entered in the national Algorithm Register.	Relevant, but no specific Heerlen PULSE-TWIN entry was found in public search results as of 25 July 2026.

4.1 No definitive dataset list yet

The municipality says that the datasets to be used must still be determined and assessed for each application. This is one of the most important open issues. Without a data catalogue, nobody outside the project can establish whether the promise of no individual profiles is technically sustainable.

4.2 Security and Solido

The project website identifies ICT partner Solido and refers to strongly secured systems. A general security claim is not enough for a high-impact public-safety platform. Relevant matters include encryption, separation of GDPR and police-data environments, role-based access, logging, penetration tests, incident response, the supplier chain, retention periods and deletion procedures.

4.3 Who receives access?

Heerlen names analysts, area managers, municipal enforcement officers and youth workers as possible users. This is a broad professional group with different legal tasks and confidentiality regimes. Access must therefore be delimited by application, purpose and data category. Collaboration is not an independent GDPR legal basis.

5. Legal framework

5.1 GDPR: lawfulness, necessity and transparency

Municipal processing of personal data is governed by purpose limitation, data minimisation, accuracy, storage limitation, security and demonstrable accountability. Heerlen cites Article 6(1)(c) (legal obligation) and (e) (task carried out in the public interest) as possible legal bases. For each specific application, however, the specific statutory task must be identified and necessity and proportionality demonstrated.

- Purpose limitation: safety data must not silently be reused for care, enforcement or social selection without an appropriate basis.

- Data minimisation: only data genuinely necessary for a specific purpose may be used.
- Accuracy: reports, professional impressions and police data may be incomplete or context-dependent.
- Transparency: residents must understand the sources, logic, consequences, retention periods and recipients involved.
- DPIA: mandatory before processing likely to create high privacy risk; large-scale monitoring, linkage and profiling are classic risk indicators.
- Automated decision-making: decisions with legal or similarly significant effects require additional safeguards; the human in the loop must be real.

5.2 Police Data Act (Wpg)

When data are processed for the performance of policing tasks, the Police Data Act may apply instead of the GDPR. Footage processed under Article 151c of the Municipalities Act for municipal public-order camera surveillance falls under the police-law regime. Linking police data to a municipal or social data environment is therefore legally complex and requires strict purposes, authorisations and separation.

5.3 Municipalities Act and camera surveillance

Article 151c of the Municipalities Act permits camera surveillance in public places when necessary to maintain public order, based on a council by-law and a mayoral decision for a defined area and period. Cameras must be clearly indicated. Under the statutory scheme, footage is generally retained for no more than four weeks unless needed for a specific investigation. An AI function that goes materially beyond observation may require a new assessment of necessity, proportionality and transparency.

5.4 EU AI Act

The EU AI Act applies in phases. Particularly relevant to PULSE-TWIN is the prohibition of certain AI-based assessments of a natural person's risk of committing a criminal offence when based solely or mainly on profiling or personality traits. AI used for law enforcement may also be classified as high-risk and become subject to extensive requirements on risk management, data quality, logging, transparency, human oversight, accuracy and fundamental-rights impact.

> Classification depends on the actual use
> A neighbourhood model for street lighting is legally different from a model that tells police where and against whom to act. Calling a system a pilot or a tool does not place it outside the law.

5.5 Fundamental rights

- Article 8 ECHR and Articles 7 and 8 of the EU Charter: private life and personal data.
- Article 14 ECHR and Article 21 of the EU Charter: non-discrimination.
- Article 11 of the EU Charter and Article 10 ECHR: freedom of expression; surveillance may have a chilling effect.
- Article 12 of the EU Charter and Article 11 ECHR: assembly and association; relevant when monitoring squares and gatherings.
- Article 47 of the EU Charter: effective judicial protection; residents must be able to understand and challenge an adverse outcome.

6. Risk analysis

Risk	Likelihood	Impact	Why relevant in Heerlen	Required control
Discrimination / ethnic profiling	Med-high	High	Safety data and neighbourhood characteristics may reproduce historic selectivity.	Bias measurement, fundamental-rights impact, independent review, complaints analysis.
Feedback loop from extra enforcement	High	High	Targeted deployment itself produces additional records.	Use surveillance intensity as a variable; compare with control areas.
Function creep	Medium	High	Infrastructure may later be used for other purposes or data sources.	Purpose register, change process, new DPIA and council decision.
False anonymity	Medium	High	Small areas, time and incident type may enable identification.	Re-identification test, minimum group size, aggregation and privacy techniques.
Incorrect AI correlations	High	Med-high	The municipality acknowledges that AI may find coincidental correlations.	Validation, error margins, explainability and stopping criteria.
Automation bias	High	High	AI-copilot advice may receive excessive authority in the street.	Training, mandatory reasoning when following or departing from advice, audits.
Reporting bias	High	Med-high	Residents do not report equally; reports may reflect conflicts.	Source weighting, abuse detection, right to respond when individuals are affected.
Data breach / unauthorised access	Medium	High	Many partners and user roles increase the attack surface.	Zero trust, logging, penetration tests, segmentation and incident exercises.
Unclear responsibility	Medium	High	Municipality, police, care and neighbourhood partners have different roles.	Joint arrangement, clear processing roles, contact point and audit right.
Democratic deficit	Med-high	High	Technology may develop faster than council and residents can follow.	Public milestones, council decisions, register and published audits.

6.1 Amnesty International warning

Public reporting quotes Amnesty International as warning that systems predicting nuisance or crime and used by police or enforcement authorities carry a serious risk of ethnic profiling. Amnesty therefore hoped that Heerlen would reconsider PULSE-TWIN. Data ethicist Iris Muis was also quoted as criticising the lack of proven effectiveness and the substantial privacy and discrimination risks. This criticism does not prove that PULSE-TWIN is unlawful, but places a heavy burden of proof on Heerlen: the municipality must demonstrate that each application is necessary, effective, fair and verifiable.

6.2 Children and vulnerable groups

Youth, poverty, debt, care and misunderstood behaviour appear in the project's social context and partner network. Minors and vulnerable residents face increased risks of stigmatisation and long-term consequences from inaccurate signals. Applications that directly or indirectly affect these groups require stricter data minimisation, participation and complaint routes.

7. What is not yet public or remains insufficiently clear?

Open question	Why this is essential	Status on 25-07-2026
Complete data catalogue	Shows which sources, fields, periods and geographic levels are linked.	Not found.
Technical architecture and data flows	Needed to assess data separation, reuse and access.	Only high-level outlines are public.
DPIA(s) and fundamental-rights impact	Shows risks, measures and residual risks.	Website says no DPIA was yet needed in the start phase; none found.
Composition and mandate of ethical committee	Determines independence and influence.	No concrete details found.
Model cards, error margins and validations	Needed to assess performance and bias.	Not found.
Exact AI-copilot function	Real-time advice may directly affect individuals.	Still described in general terms.
Link to camera footage / ANPR	Would materially intensify surveillance.	No evidence of a link; no explicit technical prohibition found either.
Suppliers and contractual requirements	Determines control, intellectual property, audit and vendor lock-in.	Solido is named; complete supplier chain unknown.
Retention periods per dataset	Prevents permanent historical profiles.	Not public per application.
Algorithm registration	Required for public transparency about impactful systems.	Future registration promised; no specific entry established.
Woo search results outside PULSE-TWIN	Determines whether other AI, monitoring or profiling systems exist.	Disputed / unresolved in earlier correspondence.

7.1 Main transparency problem in the earlier Woo dossier

The original, specified Woo request covered AI, algorithms, automated decision-making, data analysis, profiling, monitoring, signalling, risk selection, and predictive applications involving conduct, fraud, care, safety and enforcement, as well as risk analyses, legal assessments, suppliers, audits and evaluations. Heerlen later stated that the request had been limited by agreement to PULSE-TWIN and that this had been confirmed in writing. The requester expressly denied giving that consent and asked for the alleged written confirmation.

Unresolved scope
Until Heerlen provides concrete written consent and a traceable search, the Woo decision cannot reliably establish that PULSE-TWIN is the municipality's only relevant AI or monitoring activity.

8. Recommended control framework for Heerlen

A project of this reach is responsible only when controls operate before, during and after development. The following minimum requirements are consistent with privacy, fundamental rights, the AI Act and good governance.

Control layer	Minimum requirement
Democratic	Public decision-making for each application; the council receives the dataset list, purposes, performance, risks and stopping criteria.
Legal	DPIA before high-risk processing; fundamental-rights impact; specific statutory task and necessity for every data source.
Technical	Data-flow diagram, model card, error margins, bias and re-identification tests, security testing and logging.
Operational	Meaningful human review; no automatic enforcement; recorded powers and escalation routes.
Societal	Participation that influences design; extra safeguards for young people and vulnerable groups.
Independent	Ethical committee with public mandate and reporting; external audit with publishable conclusions.
Transparency	Algorithm Register before actual use; current privacy statement; data and supplier registers.
Legal protection	Accessible complaint, access, correction and challenge routes; human contact; no disadvantage for submitting a request.
Termination	Automatic end date; deletion plan; no broad continuation without fresh evaluation and decision-making.

8.1 Concrete stopping criteria

- Stop an application when it has no demonstrable added value over non-AI alternatives.
- Stop if error rates or adverse effects are structurally higher for particular neighbourhoods or groups.
- Stop if re-identification cannot reliably be ruled out while individual data are unnecessary.
- Stop when the legal basis is absent or data sharing between partners cannot be arranged lawfully.
- Stop when human oversight proves to be merely a formality in practice.
- Do not extend to other neighbourhoods or purposes without a previously published evaluation.

8.2 What residents must be able to see at a minimum

- A map of active municipal camera areas, including purpose and end date.
- For each PULSE-TWIN application: purpose, status, neighbourhood, datasets, supplier, users, retention period and contact point.
- Whether an output may lead to additional checks, visits, care contact, enforcement or police deployment.
- Known error margins and how a resident can challenge an inaccurate record or consequence.
- Advice from the Data Protection Officer and ethical committee, stating which recommendations were and were not followed.

9. Residents' rights and possible actions

9.1 GDPR request

Where the municipality processes personal data, a resident may, subject to conditions, request access, origin, purposes, recipients, retention period, rectification, erasure or restriction. For profiling and automated decision-making, information about the logic used and consequences may also be relevant. The municipality itself refers to its GDPR request procedure.

9.2 Police-data request

Police data are governed by a separate regime. A request must therefore distinguish whether the municipality acts as an ordinary controller or whether footage or data fall within policing duties. The project website refers to both the GDPR and the Police Data Act, confirming that both regimes may come into play.

9.3 Woo request

A targeted follow-up request may seek records concerning the data catalogue, DPIAs, ELSA assessments, ethical committee, architecture, contracts, testing, algorithm registration and council oversight. An effective search should identify relevant departments, partners, document categories and search terms.

9.4 Objection to a camera decision

A designation decision for camera surveillance is an administrative-law decision against which interested parties may object within the applicable period. Relevant issues include necessity, proportionality, subsidiarity, geographic scope, duration, evaluation and visibility. Even after objection periods expire, residents may request updating, evaluation or withdrawal.

9.5 Complaint and oversight

- Municipal Data Protection Officer: independent internal oversight and advice.
- Dutch Data Protection Authority: complaints or signals concerning GDPR, police data and algorithmic processing.
- Municipal council: political control, questions, motions and budgetary powers.
- Ombuds function or complaints procedure: review of improper government conduct.
- Courts: objection and appeal against decisions, plus civil or administrative protection depending on the situation.

10. Proposal for a targeted follow-up Woo request

The following record categories are the most promising for obtaining the missing accountability information. They should be formulated as a separate, precisely delimited request with a clear period, for example from 1 January 2024 through the date of the request.

- The complete grant application, project description, work packages, deliverables, milestones and amendments for PULSE-TWIN.
- All data catalogues, data dictionaries, source lists, data-flow diagrams and architecture diagrams.
- All DPIAs, pre-DPIAs, GDPR and police-data analyses, legal-basis memoranda and advice from the Data Protection Officer.
- All ELSA, human-rights, non-discrimination, bias and proportionality assessments.

- Decision establishing the ethical committee, its composition, mandate, agendas, advice and minutes.
- Model cards, technical specifications, test plans, error margins, validations, audits and stopping criteria.
- Records concerning links or intended links to municipal cameras, police cameras, ANPR, sensors, social media or location data.
- Contracts, processor agreements, joint arrangements, data-sharing agreements, procurement records and security requirements involving all partners and suppliers.
- Authorisation matrix, logging policy, retention periods, deletion protocol, incident response and penetration-test reports, insofar as disclosure is possible.
- Records concerning the AI copilot, wearable/mobile tools, Heerlen app module and Public Smart Safety/Liveability Center.
- All communications with the municipal council, resident groups and media concerning purposes, risks and changes.
- Intended or completed registrations in the national Algorithm Register.
- A separate search for other AI, data-analysis, profiling, monitoring, signalling and risk-selection systems outside PULSE-TWIN.

Specific verification question
Ask Heerlen explicitly for the alleged written consent by which the earlier Woo request was said to have been limited to PULSE-TWIN. If that consent does not exist, request reopening or a new complete search based on the original specification.

11. Final conclusions

Question	Conclusion
Is Heerlen a frontrunner?	Yes. Heerlen presents itself as the first European city to develop this Social Digital Twin; the EU describes the project as a scalable example for other cities.
Are people already being followed by AI in public space?	Not established. Extensive camera surveillance exists and an AI data infrastructure is being developed. No concrete AI connection to cameras, facial recognition or individual tracking has been demonstrated.
Can PULSE-TWIN affect residents without individual profiles?	Yes. Neighbourhood and street-level predictions may lead to more surveillance, police, enforcement, care or youth interventions and therefore affect individuals.
Is it sufficiently clear which data will be used?	No. The municipality itself says datasets will be selected and assessed per application.
Have safeguards been announced?	Yes. Privacy by design, Data Protection Officer involvement, ELSA, an ethical committee, human oversight, logging, DPIAs and algorithm registration are mentioned.
Can those safeguards already be independently verified?	Insufficiently. DPIAs, technical architecture, dataset list, committee advice, model performance and audits were not found in full public form.
Should the criticism be taken seriously?	Yes. Discrimination, feedback loops, function creep, false anonymity and automation bias are real risks.

Overall assessment

Heerlen is not simply building a smart map, but a potential decision infrastructure for safety and quality of life. Its power lies in combining sources and translating patterns into interventions.

That is precisely where the risk also arises: once a model determines where professionals look, real consequences arise for people even if the system displays no names.

Balanced conclusion
The correct conclusion is not that Heerlen has been proven to track every resident secretly with AI. The correct conclusion is that Heerlen is developing an exceptionally ambitious system that may determine where and how intensively government observes and acts. Such a system requires advance transparency, independent review, specific legal bases, demonstrable effectiveness, and a genuine ability for residents and the council to adjust or stop it.

Sources and accountability

Reviewed through 25 July 2026. The sources below support the principal factual findings. Where a source contains a proposal or the municipality's own statement, this report does not present it as independently proven operation.

1. PULSE-TWIN, official project website and FAQ
https://pulse-twin.com/

2. European Urban Initiative, Heerlen - project overview and milestones
https://www.urban-initiative.eu/ia-cities/heerlen/about-projects

3. Portico / EUI, Proactive Urban Livability and Safety Engine with Integrated Social Digital Twin
https://portico.urban-initiative.eu/european-urban-initiative/proactive-urban-livability-and-safety-engine-integrated-social-digital-twin-8294

4. Municipality of Heerlen, council information letter on safety, 16 March 2026
https://heerlen.bestuurlijkeinformatie.nl/Document/View/0be1d555-0c0a-4eea-91b7-89f430cd295e

5. Municipal Gazette 2026 no. 269154, temporary camera surveillance Gerard Doustraat
https://zoek.officielebekendmakingen.nl/gmb-2026-269154.html

6. Municipal Gazette 2024 no. 537693, mobile camera surveillance Hoensbroek-De Dem
https://zoek.officielebekendmakingen.nl/gmb-2024-537693.pdf

7. Municipal Gazette 2024 no. 537681, mobile camera surveillance Maria Gewanden-Terschuren
https://zoek.officielebekendmakingen.nl/gmb-2024-537681.pdf

8. Dutch Police, Where are ANPR cameras located?
https://www.politie.nl/informatie/waar-staan-anpr-cameras.html

9. Dutch Data Protection Authority, camera surveillance in public places
https://www.autoriteitpersoonsgegevens.nl/themas/cameratoezicht/cameratoezicht-op-openbare-plaatsen

10. Dutch Data Protection Authority, conditions for camera surveillance in public places
https://www.autoriteitpersoonsgegevens.nl/themas/cameratoezicht/cameratoezicht-op-openbare-plaatsen/voorwaarden-cameratoezicht-op-openbare-plaatsen

11. Dutch Data Protection Authority, Data Protection Impact Assessment
https://www.autoriteitpersoonsgegevens.nl/themas/basis-avg/praktisch-avg/data-protection-impact-assessment-dpia

12. Dutch Data Protection Authority, Algorithms and AI
https://www.autoriteitpersoonsgegevens.nl/themas/algoritmes-ai

13. Dutch Algorithm Register
https://algoritmes.overheid.nl/

14. EU AI Act 2024/1689, official text
https://eur-lex.europa.eu/eli/reg/2024/1689/oj

15. GDPR, Regulation (EU) 2016/679
https://eur-lex.europa.eu/eli/reg/2016/679/oj

16. Dutch Municipalities Act, Article 151c
https://wetten.overheid.nl/BWBR0005416/

17. Dutch Police Data Act
https://wetten.overheid.nl/BWBR0022463/

18. Security.NL, report on PULSE-TWIN and criticism by Amnesty and a data ethicist, 28 February 2026
https://www.security.nl/posting/926698/Gemeente+Heerlen+wil+met+AI+criminaliteit+in+de+stad+gaan+voorspellen

19. National evaluation of camera surveillance in public places (historical context)
https://zoek.officielebekendmakingen.nl/blg-109722.pdf

20. Parliamentary Papers 29 440 no. 6, rules on camera surveillance in public places (historic Heerlen context)
https://zoek.officielebekendmakingen.nl/kst-29440-6.html

English translation
This English edition is a faithful translation of the Dutch research report published on 25 July 2026. It has been prepared to make the dossier accessible internationally. If wording or interpretation differs, the Dutch original remains the reference edition.

Limitations. This investigation is based on publicly accessible information, official decisions and earlier Woo correspondence. Non-public technical documentation, internal datasets and source code could not be independently examined. No evidence found therefore does not mean that an application is technically impossible; it means that it cannot responsibly be presented as fact.

This report is informational and does not constitute individual legal advice.