Solar Park Emergency Response Standard

Standard Document v1.0

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Developed by

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1. Executive Summary

SPERS — Solar Park Emergency Response Standard — is an independent, international identification and location standard developed for solar energy installations. The standard provides a universal framework for identifying, locating, and communicating about solar park infrastructure during emergency situations and routine operational activities.

The core premise is simple: every solar park entry point carries a unique SPERS-ID. This ID becomes the single, unambiguous reference used by operators, security services, and emergency responders to identify and locate the correct facility instantly.

Core Problem Statement
Solar parks are frequently located in remote areas, often clustered near one another, and may have multiple access points. When incidents occur, callers must verbally describe their location — leading to confusion, misdirected responders, and delayed emergency response. SPERS eliminates this ambiguity.

2. Definitions

The following terms are used throughout this document. Definitions are provided for clarity and to support readers across different countries and sectors.

112	The unified European emergency telephone number for police, fire, and ambulance services. Equivalent to 999 (UK) or 911 (US). Calls are handled by regional emergency dispatch centres operated by national authorities.
Alarm Monitoring Centre	A privately operated security control facility that monitors alarm systems and coordinates security response for commercial clients, including solar park operators. Equivalent terms used in different countries include: security control room, private alarm centre, monitoring station.
CAD	Computer-Aided Dispatch. Software used by emergency dispatch centres and alarm monitoring centres to manage, log, and coordinate incident response. SPERS-IDs can be stored as location objects within CAD systems.
CEN / CENELEC	European Committee for Standardisation / European Committee for Electrotechnical Standardisation. The official bodies responsible for developing and publishing European technical standards (EN standards).
EENA	European Emergency Number Association. An NGO that promotes effective emergency services across Europe and works with 112 operators, public authorities, and industry on emergency response standards.
Emergency Dispatch Centre	A public facility that handles emergency calls (112) and coordinates response from police, fire, and ambulance services. Operated by national or regional authorities in each member state.
EPC Contractor	Engineering, Procurement & Construction contractor. The company responsible for designing and building a solar park. Distinct from the O&M operator who manages the park after construction.
GPS	Global Positioning System. A satellite-based navigation system providing precise geographic coordinates (latitude and longitude) used to identify and map physical locations.
O&M Operator	Operations & Maintenance operator. The company or entity responsible for the day-to-day management, monitoring, and maintenance of a solar park after it has been constructed and commissioned.
QR Code	Quick Response code. A two-dimensional barcode that can be scanned by a smartphone camera to open a specific web address. On SPERS boards, the QR code links directly to the digital location page for that SPERS-ID.
Security Control Room	Generic term used in this document to refer to any control facility — public or private — that receives incident reports and

	coordinates response for solar park sites. Includes both alarm monitoring centres and emergency dispatch centres.
SPERS-ID	The unique alphanumeric identifier assigned by the SPERS Foundation to each registered solar park entry point. Format: SPERS-[Country Code][Type Code][Index]. Example: SPERS-NLSOL00001.
Stichting	Dutch legal form for a non-profit foundation. The SPERS Foundation is registered as a Stichting with the Dutch Chamber of Commerce (Kamer van Koophandel). A Stichting has no shareholders and cannot distribute profits. This legal form is used solely for the governance of the SPERS Foundation and does not affect the international applicability of the standard.

3. The Problem

3.1 Current Situation

The rapid expansion of solar energy infrastructure across Europe has created a significant operational and safety gap: the absence of a standardised location identification system. The following conditions combine to create a persistent emergency response challenge:

- Solar parks are frequently situated in remote or semi-rural locations, far from visible landmarks or well-known addresses
- Multiple solar parks are often geographically proximate, creating confusion when a location is described verbally or by general address
- Individual solar parks often have multiple access points — gates, service entrances, maintenance roads — each requiring distinct identification
- Security control rooms and emergency dispatch centres manage large geographic areas and cannot be expected to maintain detailed knowledge of individual park layouts
- Callers reporting incidents are often required to explain their location in their own words, leading to inconsistency and error

3.2 Consequences

Misdirected Response	Emergency services or security personnel are dispatched to the wrong location or wrong entrance
Response Delay	Time is lost during the call while the caller attempts to describe their position
Caller Distress	Individuals in emergency situations experience additional stress when unable to clearly communicate location
Operational Inefficiency	Security operators must maintain separate, non-standardised location records for each client site
Elevated Risk	Delays in emergency response increase risk to personnel, equipment, and the public

3.3 Scale of the Problem

The Netherlands alone has over 500 operational solar parks, with hundreds more under construction or in planning. Across Europe, this number exceeds 50,000 installations. As grid-scale solar deployment accelerates under EU energy policy, the absence of a location identification standard becomes an increasingly critical infrastructure gap.

3.4 Real-World Incidents

The following four cases are drawn from direct field experience by Gerard Mulder, Founder & Standard Developer of SPERS Foundation, during his 1,500+ operational days working on solar park sites across the Netherlands. All site names and operator identities have been anonymised to protect the parties involved. The incidents themselves are factual.

Case 1 — Copper Theft: Responders Unable to Locate Correct Entrance

Incident type: Active theft in progress | Emergency service: Dutch 112 (Police) | Location: Solar park, province of Friesland (anonymised)

Situation: During a security patrol, the standard developer — working alone — encountered three active copper thieves removing multiple copper cables from a solar park site. Police were called via 112. Despite providing the site address, the 112 dispatch centre was unable to locate the correct entry point. The solar park's primary entrance was concealed within a working agricultural contractor's yard. A second entrance existed at the end of an unmarked grass track, obscured behind dense vegetation — not visible from the public road. The security officer, alone on site and facing three perpetrators, was entirely dependent on a rapid police response. Result: Several minutes were lost while the caller attempted to verbally guide police to the correct access point. By the time officers arrived, the perpetrators had fled the site. No arrests were made. The stolen copper cables could not be recovered or attributed to the individuals identified at the scene.

Follow-up failure: In the days following the incident, police officers returned to the site and manually recorded the access point locations in their own system. This was not correctly processed or retained. When police were required at the same location several months later, the identical problem occurred — responders were again unable to locate the correct entrance. The manual, one-time recording had not produced a lasting, reliable solution.

Root cause: No standardised, persistently maintained entry point identification. Even ad-hoc attempts to record access points manually failed to produce a reliable, reusable location reference. This is precisely the structural gap SPERS is designed to close.

Case 2 — Multi-Field Park: Security Dispatched to Wrong Field

Incident type: Unauthorised access | Security service: Alarm Monitoring Centre | Location: Multi-field solar installation, province of Noord-Holland (anonymised)

Situation: An incident was reported at a solar park consisting of four adjacent fields (Field A through D). The alarm monitoring centre dispatched the attending security officer to Field A. The incident was occurring on Field B — the immediately adjacent field. The security officer, upon arrival at Field A, reported that he could not identify which field he was required to attend, as the entire multi-field installation was registered in the alarm monitoring centre's system as a single location object with a single address reference. Result: Significant time was lost while the officer and the alarm monitoring centre attempted to determine the correct field by radio. The unauthorised individuals present on Field B were able to leave the site unobserved during this period.

Root cause: The alarm monitoring centre system registered the entire installation as one object. Individual fields had no distinct identifiers. A SPERS-ID per field entry point would have enabled immediate, unambiguous dispatch to the correct location.

Case 3 — Wrong Site: Surveillance Repeatedly Called Police on the Wrong Person

Incident type: Misidentification — wrong site | Security service: Mobile Security Patrol | Location: Solar park, province of Groningen (anonymised)

Situation: Two adjacent solar parks. One had a permanent security guard on site. The other was included in a mobile surveillance route operated by a security company — a route that was regularly subcontracted to different officers and third-party firms. Because the two parks were not clearly identified at their entry points, patrolling officers repeatedly stopped at the wrong site. On multiple occasions, a surveillance officer encountered an unknown person on the premises and called police — not realising the individual was the permanent guard of the neighbouring park. Police were dispatched unnecessarily, time and resources were wasted, and the correct park went unpatrolled during those periods. The problem recurred frequently precisely because the route was carried out by different people who were unfamiliar with the area. Without clear, standardised identification at each entry point, every new officer made the same mistake.

Root cause: No visible identification at either park entrance. A SPERS-ID board at each entry point would have made immediately clear which site was which — eliminating confusion for every officer, regardless of whether they had been there before.

Case 4 — Copper Theft Discovery: Police Could Not Identify the Responsible Party

Incident type: Copper theft discovery | Emergency service: Police | Location: Solar park, Kop van Noord-Holland (anonymised)

Situation: A large quantity of copper cable was found in front of a solar park. Police suspected it had been taken from the installation, but the site carried no identification — no operator name, no contact details, nothing that indicated who was responsible for it. Despite their efforts, police were unable to trace the park's responsible parties through official channels. They contacted the SPERS founder directly, who was able to provide the correct contact details for the site. Only then could the owner be notified and action taken.

Root cause: No operator identification at the site. A SPERS board displays the park name, operator, and 24/7 emergency contact at every entry point. Police would have had a direct line to the responsible party within seconds.

What SPERS Would Have Changed

In all four cases, a SPERS-ID board at every registered entry point would have provided the security control room, alarm monitoring centre, or police with an immediate, pre-registered, GPS-verified location reference — including park name, operator, and 24/7 emergency contact. No verbal description. No wrong site. No missing contact details. The call becomes: 'I am at SPERS-NLSOL00001' — and the dispatcher already knows exactly where that is, who is responsible, and who to call.

4. The SPERS Solution

4.1 Solution Philosophy

The solution to location confusion is not more text, more instructions, or more complex systems. The solution is a single, standardised identifier — the SPERS-ID — that eliminates the need for verbal location description entirely.

SPERS is designed on three principles:

- Simplicity — one code, one location, no ambiguity
- Universality — works across all languages, systems, and organisations
- Independence — governed by a neutral foundation, not a commercial entity

4.2 What SPERS Is Not

To avoid misunderstanding, the following clarifications are provided:

SPERS is not a security system	SPERS does not detect intrusion, trigger alarms, or monitor sites. It identifies and locates. Security systems remain the responsibility of the operator.
SPERS is not an alarm installation	SPERS does not replace existing alarm infrastructure. It works alongside it by ensuring that when an alarm is triggered, responders can find the location.
SPERS is not a replacement for emergency procedures	SPERS is an identification layer. Existing emergency response procedures, evacuation plans, and safety protocols remain in force and are not superseded by SPERS.
SPERS is not a guarantee of response time	SPERS reduces location confusion. It does not guarantee or influence the speed of response by police, security, or other services.
SPERS is not a monitoring service	SPERS Foundation does not monitor registered sites or respond to incidents. It maintains the registry and the standard.

4.3 The SPERS-ID

The SPERS-ID is the core of the system. It is a unique alphanumeric code assigned to each registered entry point. Every gate, access road, or field entrance receives its own individual SPERS-ID. A solar park with two entrance gates has two SPERS-IDs. The relationship between entry points belonging to the same park is recorded in the registry — it does not need to be visible in the ID itself. The ID follows a defined structure:

SPERS-ID Format
SPERS - [Country Code] [Type Code] [Unique Index] Example: SPERS-NLSOL00001 A solar park with two entry points is registered as SPERS-NLSOL00001 and SPERS-

NLSOL00002. The link between entry points belonging to the same park is recorded in the SPERS registry, not in the ID itself.

Prefix	SPERS — identifies the standard
Country Code	ISO 3166-1 alpha-2 country code (e.g. NL, BE, LU, DE, FR, ES)
Type Code	SOL = Solar. Additional types may be added in future revisions
Unique Index	Zero-padded sequential number, minimum 5 digits (00001, 00002 ... 99999+). Each entry point or access gate receives its own unique index, regardless of how many entry points belong to the same park.

4.4 Entry Point Registration Rules

The following rules govern which entry points must or may be registered with SPERS:

Core Rule
Every operational entry point receives its own SPERS-ID. An entry point is considered operational if it can be used to access the site by personnel, vehicles, emergency services, or security operators — regardless of how frequently it is used.

Multi-field installations	A solar park consisting of multiple separate fields — such as a four-field installation — must register each field individually. Fields that form part of the same installation may never share a single SPERS-ID. Each field is a distinct location object in the SPERS registry.
Primary entry points	The primary entry point of every field or zone must carry a valid SPERS-ID. This is mandatory.
Secondary access points	Secondary access points such as emergency doors, maintenance gates, or service tracks may be registered at the operator's discretion. Registration is recommended but not mandatory for secondary access points, provided that the primary entry point of each field or zone carries a valid SPERS-ID.
Permanently closed access points	Gates or access points that are permanently sealed and inaccessible do not require registration.
New access points	Any new operational entry point added after initial registration must be registered with SPERS before it is brought into use.

The principle is straightforward: if a responder could arrive at that gate, it needs a SPERS-ID. If it cannot be opened or accessed by anyone, it does not.

5. System Architecture

SPERS operates as a four-layer system. Each layer reinforces the others and can function independently while contributing to the whole.

Layer 1 — Physical Identification Board

A standardised physical sign is installed at every registered entry point of a solar park. The board is the physical manifestation of the SPERS-ID and serves as the primary touchpoint for anyone on-site. The board specification is fixed — no deviation in size, content, or pictogram set is permitted for a board to be considered SPERS-compliant.

Dimensions	80 x 70 cm — fixed standard size. No deviation permitted.
Orientation	Landscape (width greater than height)
Position	At every registered entry point, at eye level, visible from road or access track
Durability	Weather-resistant materials rated for permanent outdoor use
Reflectivity	Minimum Class 2 high-intensity retroreflective material (equivalent to European traffic sign standard). Class 3 diamond-grade is permitted. Class 1 basic reflective is not permitted.
Thickness	3mm
Surface finish	UV-resistant anti-graffiti laminate — mandatory
Surface	Single-sided print
Shape	Rectangular — no contour cutting permitted
Language	English — the SPERS standard is international

Mandatory board content — all fields are required:

- SPERS-ID — displayed prominently at the top, large format
- Solar park name
- Owner
- O&M Operator
- Maintenance provider
- Security provider
- 24/7 emergency contact number — displayed prominently
- Physical address and GPS coordinates
- Eight ISO-standardised safety pictograms — mandatory, fixed set:

1. ISO M014 — Protective Cap
2. ISO M008 — Safety Footwear
3. ISO M015 — High-Visibility Vest

4. ISO M004 — Safety Glasses
5. ISO M010 — Long Sleeves
6. ISO W027 — Warning: Do not touch / electric shock hazard by contact
7. ISO W012 — High Voltage
8. ISO E003 — First Aid Point

- QR code linking to the SPERS digital location page

Layer 2 — Digital Location Page

Each SPERS-ID is associated with a dedicated digital page hosted on the SPERS registry. This page is accessible via the QR code on the physical board or by direct URL lookup.

Standard content:

- GPS coordinates — clickable link to Google Maps / Apple Maps
- Exact entry point location with approach route
- Primary and secondary contact persons
- Security control room (alarm monitoring centre) contact details
- Site status (active / under maintenance / decommissioned)

Optional extended content (operator-configurable):

- Technical site specifications
- Site layout / floor plan
- Emergency response procedures
- Key holder information

Layer 3 — SPERS Registry

The SPERS Registry is the central database that governs all ID assignments. It is maintained exclusively by the SPERS Foundation and is publicly accessible at https://registry.spers.foundation.

Governance	SPERS Foundation — independent, non-profit
ID Authority	Only SPERS issues valid SPERS-IDs. Third-party ID generation is not recognised
Data Fields	SPERS-ID, location GPS, site name, operator, contact details, status, validation date
Access	Public lookup (by ID), restricted management access (operators)
Integrity	Each ID is validated and linked to a verified physical location

Layer 4 — Operational Protocol

SPERS defines the standard communication flow for incident reporting and response coordination:

9. Individual is present at a solar park entry point
10. Individual reads the SPERS-ID from the physical board
11. Individual reports: 'I am at SPERS-[ID]'
12. Security control room operator or emergency dispatcher looks up the ID in the SPERS registry
13. Dispatcher confirms exact location, approach route, and contact details
14. Responders are dispatched directly to the correct location

Operational Result
No location discussion. No verbal description required. No errors. Responders arrive at the correct entry point on the first attempt.

5.1 Offline-First Design Principle

SPERS is designed so that the core system functions without internet connectivity. This is a deliberate architectural decision reflecting the reality that solar parks are frequently located in areas with limited or no mobile data coverage.

Core function (always available)	The SPERS-ID and 24/7 emergency number are physically present on the board. A caller can report their ID and be located without any digital component functioning.
Enhanced function (online)	The QR code provides direct access to the digital location page, GPS coordinates, approach routes, and extended site information when connectivity is available.
Dispatch centre integration (optimal)	Security control rooms and 112 dispatch centres store SPERS-IDs as pre-registered location objects in their own systems. When a caller reports an ID, the dispatcher has instant access without requiring an internet lookup.

This hierarchy ensures that SPERS works in all conditions. The physical board is the foundation. Digital tools are an enhancement, not a dependency.

5.2 Dispatch Centre Integration

The long-term operational model for SPERS is integration into the systems of alarm monitoring centres and public emergency dispatch centres (112). In this model, SPERS-IDs are stored as named location objects — equivalent to a registered address or grid coordinate — directly within the dispatcher's software.

When this integration is in place, a caller stating 'I am at SPERS-NLSOL00001' produces an immediate match in the dispatcher's system: the correct park, the correct field, the correct

entrance, with GPS coordinates and approach route pre-loaded. No lookup required. No verbal navigation needed.

SPERS will publish a technical integration guide for alarm monitoring and emergency dispatch software providers as part of Phase 3 of the rollout roadmap. In the interim, dispatchers can access location data via the SPERS registry website using the ID as a search key.

6. Adoption Model

6.1 Primary Adoption Pathway

SPERS adoption follows a bottom-up model. The primary target for initial adoption is the solar park owner and operator — not the security control room or emergency services. Operators register each entry point individually, receiving one SPERS-ID per gate or access point.

This is a deliberate strategic choice. When a sufficient number of solar park operators implement SPERS, security control rooms and emergency services will encounter SPERS-IDs in regular operation. Adoption by those organisations follows organically, as the standard has already demonstrated practical value.

6.2 Adoption Sequence

Phase 1	Solar park owners and operators implement SPERS at their facilities — one SPERS-ID per entry point
Phase 2	Callers report incidents using SPERS-IDs — control rooms begin encountering the standard
Phase 3	SPERS proactively engages alarm monitoring centres, police, and emergency dispatch centres with integration guidance
Phase 4	Industry associations, insurers, or regulators reference SPERS in standards or requirements
Phase 5	SPERS becomes the de-facto or mandated standard for solar park identification

6.3 Target Markets

- Solar park owners and asset managers
- EPC contractors and O&M operators
- Private security companies and alarm monitoring centres
- Police and national 112 dispatch systems (primary emergency users)
- Energy sector insurers and risk managers

7. Business Model

7.1 Foundation Principles

SPERS is developed and governed by a non-profit foundation. The business model is designed for sustainability and scalability, not profit generation. The registration structure is set to ensure the long-term continuity of the SPERS Foundation while maintaining the lowest viable barrier to adoption.

7.2 Registration Structure & Rationale

SPERS registrations are issued on a 10-year basis. This reflects the long-term nature of solar park infrastructure and ensures the continuity and stability of the SPERS registry. A 10-year registration commitment strengthens the standard itself — it signals that registered operators are committed to maintaining accurate, reliable location data for the full operational lifecycle of their installation.

The 10-year registration fee is payable in full at registration. This structure allows the SPERS Foundation to maintain and develop the standard without dependency on annual renewal cycles, and provides the financial stability required to invest in registry infrastructure, international expansion, and institutional engagement.

10-Year Registration — The Logic
EUR 100.00 per entry point for 10 years — less than EUR 10.00 per year. Paid once, valid for a decade. Solar parks are long-term investments. Your SPERS registration should be too.

7.3 Fee Structure

SPERS Basic	EUR 100.00 per entry point for 10 years, payable in full at registration. Includes SPERS-ID, digital location page, and registry listing. No physical board.
SPERS Complete	EUR 100.00 per entry point for 10 years + EUR 115.00 per board (one-time), payable at registration. Includes SPERS-ID, digital location page, registry listing, and physical board with installation coordination.
Renewal	After 10 years, registration renews at the then-current standard rate.
Founding Partner	Free — see Section 7.4 for full details.
Payment	Full payment due at time of registration. Invoice issued by SPERS Foundation.
Alarm monitoring centres	Integration and data access are free of charge for alarm monitoring centres and emergency dispatch centres.

7.4 SPERS Founding Partner Programme

To accelerate initial adoption and build a verified base of reference sites, SPERS has established a Founding Partner Programme for the first 25 solar parks in the Netherlands, 25 in Belgium, and 25 in Luxembourg — 75 in total.

Eligibility	First 25 parks in the Netherlands, first 25 parks in Belgium, and first 25 parks in Luxembourg to register with SPERS
Registration fee	Fully waived — no payment required at registration
Physical boards	All boards for entry points registered at the time of joining are provided at no cost
Ongoing fee	The 10-year registration fee is permanently waived for all entry points registered at founding. Founding Partners never pay the standard registration fee for their founding entry points.
Additional entry points	Any new entry points or boards added after the founding registration are charged at standard rates
Recognition	Founding Partners are listed by name on the SPERS website as official Founding Partners
Availability	Limited to 75 parks total (25 NL + 25 BE + 25 LU). Programme closes once filled.

Why become a Founding Partner?
Founding Partners receive permanent registration at no cost, full board coverage for their initial entry points, and public recognition as organisations that helped establish the SPERS standard from the ground up. This is a one-time opportunity available only during the launch phase.

8. Rollout Roadmap

Phase 0 — Foundation (Now)	Standard v1.0 finalised. Domain live. ID structure formalised. Founding Partner Programme open.
Phase 1 — Pilot: BeNeLux (Months 1–6)	First 25 parks in the Netherlands, 25 in Belgium, and 25 in Luxembourg recruited as Founding Partners. Physical boards installed. Registry and digital pages live. First alarm monitoring centres engaged.
Phase 2 — Validation (Months 6–12)	Pilot results documented. Response time improvements measured. Industry association engagement. First sector publication.
Phase 3 — European Rollout (Year 2)	Full EU rollout following BeNeLux pilot. Country code activation across Europe. PAC API specification published. SPERS available to any European operator.
Phase 4 — 112 Integration (Year 3)	EENA engagement for 112 emergency dispatch integration. SPERS-IDs recognised by public emergency services across European member states.
Phase 5 — Institutional (Year 4+)	ISO or CEN normalisation process. Integration in solar park permitting requirements. Insurance industry adoption.

9. Standard Governance

9.1 Legal Entity

SPERS is governed by a Dutch foundation (Stichting) registered with the Dutch Chamber of Commerce (Kamer van Koophandel). The foundation structure ensures organisational independence from commercial interests and establishes SPERS as a neutral standard-setting body.

The foundation is currently led by its founding director, Gerard Mulder. The governance structure is designed to accommodate board expansion as the standard grows. Additional board members with expertise in energy infrastructure, security, and emergency response will be appointed as SPERS scales across Europe. This structure ensures the long-term independence and continuity of the standard beyond any single individual.

9.2 Standard Development Authority

The SPERS standard is developed and maintained by Gerard Mulder, Founder & Standard Developer of SPERS Foundation and HSE & Physical Security Specialist utility-scale solar farms, with over 1,500 operational days of direct solar park experience. Version control and revision history are maintained in the SPERS Registry.

9.3 Version Control

Current Version	SPERS Standard v1.0
Release Date	April 2026
Developed by	Gerard Mulder — Founder & Standard Developer, SPERS Foundation — HSE & Physical Security Specialist utility-scale solar farms
Review Cycle	Annual, or upon significant operational or regulatory change
Change Process	Proposed revisions reviewed by advisory panel before adoption

9.4 ID Issuance Authority

SPERS-IDs are issued exclusively by the SPERS Foundation. No third party is authorised to assign SPERS-IDs. IDs assigned outside the official registry are not recognised as valid SPERS identifiers. This exclusivity protects the integrity of the system and ensures that every ID in circulation corresponds to a verified, registered location.

9.5 Continuity of the Standard

The SPERS Foundation is structured as a non-profit with a governance model designed for long-term continuity. The Foundation is committed to formalising continuity provisions in its governance documentation as the standard matures, including data transfer obligations to an appropriate successor body — such as a sector association or public institution — in the event that the Foundation ceases to operate.

In the interim, the operational integrity of the SPERS system does not depend on the continued availability of the digital registry. The physical board and SPERS-ID remain valid as on-site identification regardless of registry availability, in line with the offline-first design principle set out in Section 5.1. Continuity governance is an active priority and will be reflected in future revisions of this standard.

10. Privacy & Data Protection

10.1 Data Collected

Location data	GPS coordinates and physical address of each registered entry point
Operator data	Name of the solar park, owner, O&M operator, and security provider
Contact data	Names, phone numbers, and email addresses of designated contact persons
Operational data	Site status, number of entry points, registration date, and renewal history

10.2 Legal Basis & Purpose

Data is collected and processed on the basis of contractual necessity. Data is used exclusively for: publishing location information to authorised users who look up a SPERS-ID; maintaining the accuracy and integrity of the SPERS registry; and communicating with registered operators regarding their account and updates to the standard.

SPERS Foundation does not use registered data for commercial purposes, does not sell data to third parties, and does not use data for profiling or marketing.

10.3 Data Retention

Registered location data is retained for as long as the park is active in the SPERS registry. Upon deregistration or site closure, data is archived for a period of 12 months and then permanently deleted, unless retention is required by applicable law.

10.4 Rights of Registered Operators

- Right of access — request a copy of all data held about their registered sites
- Right of rectification — request correction of inaccurate data
- Right of erasure — request deletion of their data, subject to legal retention requirements
- Right to object — object to any processing beyond the core registry function

Requests can be submitted to info@spers.foundation. SPERS Foundation will respond within 30 days.

10.5 Data Security

SPERS Foundation applies appropriate technical and organisational measures to protect registered data against unauthorised access, loss, or disclosure. Registry updates submitted by operators are processed using AI-assisted workflows under the supervision of the foundation's data controller.

11. Liability & Data Responsibility

11.1 Principle of Operator Responsibility

The SPERS Foundation operates as a registration and publication service. It records and displays location data as provided by the solar park owner or operator. The accuracy, completeness, and currency of all registered data is the sole responsibility of the registering party.

By registering a location with SPERS, the operator accepts the following obligations:

- All submitted data must be accurate at the time of submission
- Any change to the registered site that affects location data must be reported to SPERS without undue delay — including changes of ownership or operator, closure of access points, relocation of entrances, decommissioning of the site, or significant layout changes
- SPERS must be notified before a registered site is sold or transferred to a new owner, so that registry records can be updated or transferred accordingly

Registry Role — Important
SPERS does not independently verify, audit, or guarantee the accuracy of registered location data. The registry publishes what operators submit. Emergency services and security operators relying on SPERS data do so on the understanding that data accuracy is the sole responsibility of the registered operator, not the SPERS Foundation.

11.2 10-Year Registration & Continuity Obligations

SPERS registrations are issued for a period of 10 years. During this period, the registered operator remains responsible for the accuracy of their data and must notify SPERS of any changes. The 10-year registration structure reflects the long-term nature of solar park infrastructure and supports the continuity of the SPERS standard.

In the event that a registered park is sold or transferred during the registration period, the registration passes to the new owner. The new owner assumes all data accuracy obligations from the date of transfer. SPERS must be notified of the transfer promptly so that contact details and operator information can be updated.

In the event that a registered park is decommissioned or permanently closed during the registration period, the operator must notify SPERS. The SPERS-ID will be marked as inactive in the registry. No refund of the registration fee applies.

11.3 Data Updates & AI-Assisted Processing

SPERS is committed to maintaining the currency of its registry. When an operator notifies SPERS of a change, registry updates are processed rapidly using AI-assisted workflows. In most cases, changes to location data, contact details, and site status are reflected in the registry within minutes of notification.

11.4 Limitation of Liability

The SPERS Foundation accepts no liability for consequences arising from:

- Inaccurate, outdated, or incomplete data submitted by operators
- Failure by an operator to notify SPERS of changes to a registered location
- Technical unavailability of the SPERS registry or digital location pages
- Use of SPERS data by emergency services, security operators, or third parties

Nothing in this section limits the liability of solar park owners or operators under applicable health and safety, security, or emergency response legislation in their respective jurisdiction.

Change Log

Version	v1.0 — April 2026
Date	April 2026
Author	Gerard Mulder — Founder & Standard Developer, SPERS Foundation
Status	Initial release — public document
Changes	First publication. Establishes SPERS-ID structure, four-layer system architecture, governance framework, 10-year registration model, Founding Partner Programme, liability provisions, privacy & data protection framework, and rollout roadmap with success criteria.

Future revisions will be recorded below in chronological order.

Version	Date	Author	Summary of Changes
v1.0	April 2026	G. Mulder	Initial release.

Annex A — SPERS Board Reference Design

This annex contains the official SPERS board reference design as approved by the SPERS Foundation. This design is the mandatory visual standard for all SPERS-compliant boards. Any board installed at a registered entry point must conform to this reference design in layout, colour, content, and pictogram set.

Production Specifications

Dimensions: 800 x 700 mm | Thickness: 3mm | Shape: Rectangular | Reflectivity: Minimum Class 2 high-intensity retroreflective | Surface: Single-sided | Finish: UV-resistant anti-graffiti laminate | Material: Weather-resistant for permanent outdoor use

A.1 — Reference Design (example shown with demonstration park SPERS-DKSOL0051)

A.2 — Mandatory Pictogram Set

All eight pictograms are mandatory and must appear on every SPERS-compliant board. No substitution or omission is permitted. Additional pictograms may be added at the operator's discretion but do not replace the mandatory set.

1. ISO M014	Protective Cap
2. ISO M008	Safety Footwear
3. ISO M015	High-Visibility Vest
4. ISO M004	Safety Glasses
5. ISO M010	Protective Clothing (long sleeves)
6. ISO W027	Warning: Do not touch / electric shock hazard by contact
7. ISO W012	High Voltage
8. ISO E003	First Aid Point

This annex will be updated in v1.1 to include a photograph of the first physically produced SPERS board as a production reference, confirming that the physical board meets all specifications defined in this standard.

13. Contact & Registration

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The foundation is structured for board expansion as SPERS grows across Europe.