Deep Space Plant & Asset Management — Deployment, Configuration and User Guide

Audience: customers (asset managers, site supervisors, field operators) + the Deep Space implementation team. **Status:** describes the live solution as deployed and verified (2026-08). This document is the product contract: *this is how Deep Space Plant & Asset Management works.*

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1. What the solution is

Deep Space Plant & Asset Management tracks every piece of plant and equipment your company owns or hires — as a **QR-coded physical asset with a living digital record** — across two connected surfaces:

- **DS Site (mobile capture)** — what your field team touches. Every asset carries a QR sticker. Scanning it opens that asset's page with one-tap access to its information record, prestart checks, inspections and work orders. Works on any phone; the master register page is offline-safe for remote sites.
- **Horizon (management)** — what your office sees. A live, company-wide **Asset Register** (search, filters, Location column, CSV export), a detail drawer per asset (details, field kit, full activity timeline), and workspace-level controls in **Company Settings → Assets**.

The two stay in sync automatically: field submissions update Horizon within about a minute, and management data (project lists, location structures, stock lists) flows down into the field forms' pickers. No double entry in either direction.

The core objects

Object	What it is
Asset number	The permanent identity, e.g. `PLT1001`. Auto-allocated at registration (sequential per company prefix), printed in every historical record, encoded in the QR workflow. **Locked once issued** — see Renumbering.
Asset Page	The QR target: one mobile page per asset with its number and one-tap links (information record, new prestart, new inspection).
Asset Information record	The 1:1 living record: description, type, supplier, location, project assignment, reference links. Edited over time; every edit syncs to Horizon.
Asset Register (Horizon)	The company-wide live table — *all* assets regardless of project ("My Company" scope), because assets are company-owned and merely *assigned* to projects.
Capture forms	Prestarts (general + per-equipment variants), inspections, work orders — every submission is stamped with the asset number and project, building the asset's history.

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2. Customer workflows — "How do I…?"

How do I create a new asset?

Two ways, same result:

1. **From the field (phone):** open the **Register New Asset** form (linked from your channel's menu, or the **+ Register New Asset** button on the Horizon register). Enter the asset description (required), type and supplier, pick the project — submit.
2. **That's it.** The platform allocates the next asset number and, within about a minute, builds the complete kit for it automatically: the QR asset page, the 1:1 information record, the register entry, and the Horizon register row (marked *Registered*).

Then: open the new asset in the Horizon register → drawer → **Field Kit** → **Download QR PNG** → print and sticker the physical asset. Done — it's live for prestarts immediately.

> You never type an asset number at registration. Numbering is allocated by the platform to guarantee uniqueness — one number, one asset, forever.

How do I update asset information?

- **Field:** scan the asset's QR → Asset Page → **Asset Information** → edit → save.
- **Office:** Horizon register → click the asset → drawer → **Update Asset Information**.

Both open the same living record. Changes (description, supplier, location, project assignment…) appear in the Horizon register within about a minute — the drawer also re-reads the live record on open, so what you see is always current. Changing the **Project** field is how an asset is reassigned between projects; changing the **description** also updates what every form picker displays next to the asset number.

How does my team do prestarts?

Scan the QR → Asset Page → **New Prestart** — the form opens *pre-filled with that asset's number and project*, so the operator only completes the checks and signs. Companies can run a single general prestart or **per-equipment prestart variants** (forklift, excavator, telehandler…, each with its own checklist); every variant's asset picker shows the asset number *and description* so the right machine is unmistakable. Submissions are stamped with the asset number — they become part of that asset's permanent history and are reportable per asset, per project, or company-wide.

Inspections work identically (**New Pre-Site Inspection** on the asset page).

How do work orders work — and can they integrate with a stock list?

Yes. The **Work Order** form is a full digital work-order initiation:

- **Asset + project pickers** (asset picker shows number + description),
- work type (preventive / corrective / inspection / breakdown), fault description, photos with mobile annotation, priority and required-by date, safety controls (isolation / permit / shutdown), requested-by details,
- **Stock / Consumables:** a repeatable line-item section whose **item picker reads your maintained stock list** — pick an item, enter planned quantity, unit, store/location, and record actual quantity used on completion. The stock list is a managed company list (updateable by the implementation team or a nominated admin), structured for future inventory reservation and consumption integration.
- **Supervisor sign-off:** selecting the supervisor notifies them (email + device) and shares the submission with them; a hidden status field (Requested → Approved → In Progress → Completed → Cancelled) supports the review workflow.

From the Horizon drawer, **New Work Order** opens the form pre-filled with the asset and project. Work orders join the asset's history like every other capture.

How do I find, filter and export assets?

The Horizon **Asset Register** shows every company asset live: search (number, description, type — any recorded detail), filter by assigned project, columns for details, **location**, project, status and last update. ⬇ **Export CSV** downloads exactly the current view (search + filter applied) — columns mirror the table (number, description, type, supplier, location, project, status, updated).

How do asset locations work?

Locations come from your **Location Breakdown Structure (LBS)** maintained in Horizon Project Settings. The LBS syncs automatically to the field side, where the Asset Information form's **Asset Location** field becomes a picker over it. Pick a location on any asset's record and it appears in the register's Location column and the asset drawer — management defines the structure once; the field just picks from it.

Can I change (renumber) an asset's number?

Yes — as a **renumber**, because asset numbers are deliberately permanent (they're printed in every historical prestart/inspection/work order and encoded in the QR workflow). The platform renumbers by **archive-and-create**, preserving everything:

Horizon register → asset drawer → **Field Kit** → **Renumber asset…** → enter the new number (any format — e.g. a hire company's own fleet number; it won't interfere with auto-numbering) → **Renumber and archive previous**. In about a minute:

- the **new number exists as a complete asset** carrying all the details, with its first timeline entry *"Created from asset PLT1014 by renumber"* and a link back to the old asset's page;

- the **old number is archived** — hidden from the register and pickers, but its full history stays viewable forever (timeline: *"Archived — renumbered to …"*), and its old page tells anyone scanning a stale sticker where the asset went;
- you **print the new QR** from the new asset's Field Kit and re-sticker the machine.

Renumbering is Manager-only. Nothing is deleted, ever.

What does my team see vs. what does management control?

Action	**Who**
Submit prestarts / inspections / work orders, register assets, view + edit asset information	Any channel member (field team)
View the Horizon register, drawer, export	Any Horizon user with the register in their menu
Renumber assets, change workspace asset settings	Horizon **Managers**
Kit deployment, form/checklist changes, stock & type list updates, batch loads	Deep Space implementation team (with your admin)

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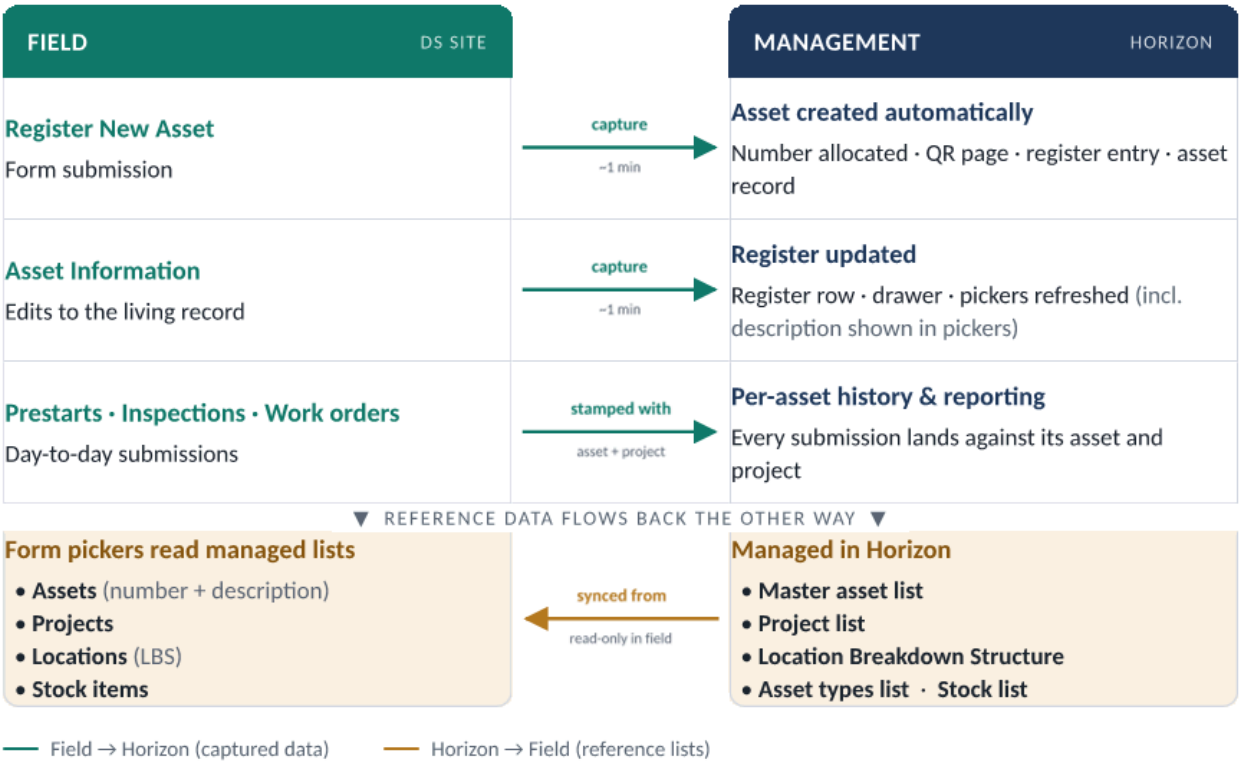
3. Company Settings → Assets (workspace administration)

Horizon **Company Settings** → **Assets** is the solution's front door (workspace-wide — no project selection applies):

- **"Always use the Asset Kit on all projects"** — the recommended switch once the kit is your source of truth. When ON, the Asset Register opens *instantly* in plant mode on every project and never loads the legacy single-form register. Manager-only; its state is also shown on the kit card.
- **Asset kit card** — the live wiring of your deployment: DS Site channel, asset number prefix, every kit form (information / prestarts / inspection / registration / work order) with direct links, the mobile register page, the backing lists, home project, and when the configuration last changed.
- **Forms bound to the asset register** — a live-scanned list of *every* form in your channel whose asset picker reads the master asset list. It grows and shrinks as forms are added or retired, and badges whether each picker shows asset descriptions — instant visibility that a newly added checklist is wired correctly. Rescan on demand.

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4. How data flows (the sync contract)



Guarantees behind the contract

1 The master asset list drives every picker

It carries number + description and is maintained automatically — registration adds a row; every information edit refreshes the description. Every asset-related form reads it, so pickers can never disagree with the register.

2 History is immutable

Submissions are locked to the form version they were made on. Changing a form never rewrites what was previously submitted.

3 Identity is stable

Project names may be renamed freely — assignments follow the project's `id`. Asset numbers never change in place: renumber = archive-and-create.

4 Archived ≠ deleted

Archived assets leave the register and pickers but keep their full record and history.

5 Offline-capable field register

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5. Data operations

Asset export

- **Self-service:** Horizon register → **Export CSV** — the current filtered view, columns matching the table. Use project filter + search to scope, then export.
- **Full-detail export (implementation team):** the complete register with every information field and system reference (pages, records, QR resources) can be produced on request — the same dataset used for batch-update round-trips (below).

Batch import / batch update

Handled by the implementation team from a spreadsheet, in two flavours:

1. **Batch REGISTER (new assets):** one row per asset (description, type, supplier, location, project; optional forced number for special cases). Each row runs the same automated build as a field registration — numbers allocated sequentially, QR pages and register entries created, ready for sticker printing.
2. **Batch UPDATE (existing assets):** an export sheet enriched by the customer (descriptions, suppliers, locations, …) is loaded back onto each asset's information record exactly as if edited in the app — synced to Horizon, pickers refreshed, history preserved. This is the standard route for onboarding data cleanups.

Batch renumbering (e.g. moving a hire fleet onto contractor numbers) follows the same pattern using the renumber flow per row — old→new mapping sheet in, archived-and-created out, with the full provenance trail on every asset.

Checklist / form changes

Prestart variants, inspection checklists and work-order sections are DS Site forms — the implementation team adds or amends them without downtime. Two platform rules apply: new

form versions affect **new** submissions only (history stays as-submitted), and any new asset-related form is automatically picked up by the Company Settings bound-forms list, with its picker wired to numbers + descriptions.

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6. Deployment (implementation team)

> Operator-level detail lives in the internal runbook (`DEPLOY-ASSET-KIT.md`, kit rules 1–13, plus `KIT-DEPLOYMENT.md` for the log and rationale). This section is the customer- visible shape of a deployment.

A deployment ("mobilising the asset kit") installs the standard kit into the customer's workspace + DS Site channel:

1. **Pre-checks** — channel linked to the workspace, webhook live, project list synced, Horizon menu carries the Asset Register.
2. **Provision the kit objects** from the golden template: the Asset Information form, prestart form(s), inspection form (optional), Register New Asset form, Work Order form (optional lane), asset page / register templates, the single mobile register page, and the managed lists (assets, asset types, stock — plus the auto-synced projects and LBS lists). Every copied form's pickers are re-pointed at the customer's own lists, and the information record is opened to channel members (view + edit).
3. **Audit** — an automated health check validates every form, field, picker binding, page and list before go-live (and any time after, on demand).
4. **Activate** — writing the workspace's kit configuration is the switch that turns the whole solution on (and removing one key of it is the instant rollback).
5. **Verify + hand over** — register in plant mode, a live end-to-end registration test, Company Settings kit card green, and finally the **"Always use the Asset Kit"** switch ON. Existing asset data is brought in via batch import (above); QR stickers are printed from each asset's Field Kit.

Standard configuration decisions per customer (captured in the kit config): asset number prefix (e.g. `PLT` → `PLT1001`), home project for default assignment, which capture lanes are in scope (prestarts / inspections / work orders), per-equipment prestart set, and the initial asset types + stock lists.

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7. Frequently asked

Do asset numbers ever get reused? No. Numbers are allocated sequentially and never reissued; even archived assets keep their number forever.

What happens if someone scans an old sticker after a renumber? The old asset page still opens — annotated with the new number — and the old record remains readable. Replace the sticker with the new QR at the earliest opportunity.

Can an asset belong to two projects? An asset has exactly one *assignment* at a time (changeable any time via its information record), but its history keeps every submission from every project it ever worked on.

Does the field app work offline? The QR register page is offline-safe; form submission requires connectivity (submissions made at the edge of coverage sync when the device can).

Who maintains the stock list / asset types? They're managed company lists — your nominated admin with the implementation team today, with self-service editing on the Company Settings roadmap.

Can we bring our own numbering for some assets (e.g. hire vehicles)? Yes — the renumber flow accepts any format (e.g. a contractor's fleet numbers). Foreign-format numbers coexist safely with the automatic sequence.

Where do I see everything that has ever happened to an asset? The drawer's **Activity** tab: registration, every information edit, renumber provenance, archival — plus every prestart/inspection/work order stamped with its number in the capture forms' registers.

Internal cross-references: `DEPLOY-ASSET-KIT.md` (operator runbook + rules 1–13), `KIT-DEPLOYMENT.md` (deployment log + decisions), `TOUCHPOINTS.md` in `jobs/20260817-asset-renumber/` (renumber design), `TRACE-DSSITE-JM-ASSET-PATTERN.md` (field pattern origin).