1. Positioning Hanna Correctly (Strategic Framing)

Hanna should not be marketed or architected as a generic e-commerce platform. It should be positioned internally and externally as:

A Solar Lifecycle Operating System
Managing sales → installation → warranty → monitoring → service → repeat business.

Every feature and portal should ultimately support **four core solar objectives**:

1. Faster sales conversion
2. Controlled, auditable installations
3. Reduced warranty risk and call-outs
4. Long-term customer retention and upselling

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2. Core Principle: Solar Installation as the "Anchor Workflow"

All portals should orbit a **single master object** in the system:

Solar System Record (SSR)
A unique digital file per installation that includes:

- Customer profile
- System size (3kW / 5kW / 6kW / etc.)
- Equipment serial numbers
- Installer & technician assignments
- Installation photos & commissioning checklist
- Warranty status
- Remote monitoring ID
- Service history

Every portal interacts with the **same SSR**, but with **role-based permissions**.

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3. Portal Roles & Responsibilities (Clear Separation of Duties)

3.1 Admin Portal (System Control Tower)

Primary role: Governance, oversight, risk control.

Functions

- Master dashboard: total installs, active warranties, fault rates
- Approval of:
    - New installations

    - Warranty claims
    - Installer payouts
- Configuration of:
    - Product bundles (3kW, 6kW, 8kW, etc.)
    - Warranty rules
    - SLA thresholds
- Financial linkage (Zoho / accounting layer)

Critical rule
Admins do **not** fix problems — they **authorize, audit, and escalate**.

3.2 Client Portal (Customer Ownership & Self-Service)

Primary role: Reduce inbound support and increase trust.

Functions

- View:
    - Installed system details
    - Warranty validity
    - Monitoring status (basic KPIs)
- Raise:
    - Fault tickets
    - Service requests
- Download:
    - Warranty certificates
    - Installation reports
- Receive:
    - Automated alerts (faults, maintenance reminders)

Key value
Clients see transparency → fewer disputes → higher confidence in Pfungwa.

3.3 Technician Portal (Execution Layer)

Primary role: Field operations and data capture.

Functions

- Job assignments (install / service)

- Step-by-step digital checklists:
    - Pre-install
    - Installation
    - Commissioning
- Upload:
    - Photos
    - Serial numbers
    - Test results
- Log faults and resolutions

Hard control
A job cannot be marked “Complete” unless all required fields are submitted.
This protects warranties and limits future liability.

3.4 Manufacturer Portal (Warranty & Product Intelligence)

Primary role: Upstream accountability.

Functions

- Visibility into:
    - Installed serial numbers
    - Failure rates by model
    - Warranty requests
- Receive:
    - Structured warranty claims (no WhatsApp chaos)
- Provide:
    - Firmware updates
    - Fault codes guidance
    - Repair reports linked to the warranty request and customer ID
    - Scan products in and out brought on warranty

Strategic value
Positions Pfungwa as a serious data-driven partner, not just an installer.

3.5 Retailer Portal (Sales Distribution Engine)

Primary role: Expand reach without operational chaos.

Functions

- Sell standardized solar packages
- Submit:
    - Customer orders
    - Customer order history
    - Payment or loan approval confirmation
- Track:
    - Installation status
    - Warranty activation
    - View warranty records and reports
    - View scanned products in and out during warranty repair cycle and

Key constraint
Retailers sell only **pre-approved system bundles** to avoid undersizing risks.

3.6 Branch Portal (Operational Visibility)

Primary role: Decentralized execution, centralized standards.

Functions

- Local job tracking
- Installer allocation
- Stock visibility (if enabled)
- Regional performance metrics
- Barcode scanning in and out of the branch products moving through warranty process

Branches execute; Admin governs.

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4. Remote Monitoring Integration (Critical Differentiator)

Hanna should integrate with inverter and battery monitoring platforms to enable:

Automated fault detection

- Low battery health
- Grid anomalies
- Inverter errors
- System downtime

How it flows

1. Monitoring system flags an issue
2. Hanna creates a fault ticket automatically
3. Client receives notification
4. Technician is assigned
5. Resolution logged back into the SSR

Business impact

- Fewer emergency calls
- Predictive maintenance
- Proof-based warranty claims
- Reduced truck rolls

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5. Digital Shop as a Controlled Entry Point (Not Just Sales)

The **Digital Shop** should:

- Sell mainly **solar packages**, loose component sales will be initially limited for additional material required by internal installers purchased by client
- Force compatibility logic (battery ↔ inverter ↔ system size)
- Automatically generate:
    - Installation job
    - Warranty record
    - Client portal access
    - Payment processing and e-reciept

Every sale = an SSR is created instantly.

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6. End-to-End Data Flow

Digital Shop / Retailer Sale

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Solar System Record Created

↓

Technician Assigned

↓

Installation & Commissioning

↓

Warranty Activated

↓

Remote Monitoring Linked

↓

Ongoing Service & Upsell

This Creates a Robust Digital Ecosystem

- **Operational discipline**: No undocumented installs
- **Warranty protection**: Evidence-backed claims
- **Scalability**: More installers ≠ more chaos
- **Data leverage**: Failure trends inform procurement
- **Customer lock-in**: Hanna becomes the system of record

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8. Strategic Outcome for Pfungwa Technologies

Hanna transforms Pfungwa from:

- A solar installer
  into
- **A solar infrastructure operator**

This positions the business for:

- National scale
- Manufacturer partnerships
- Financing and insurance integrations
- Long-term recurring service revenue