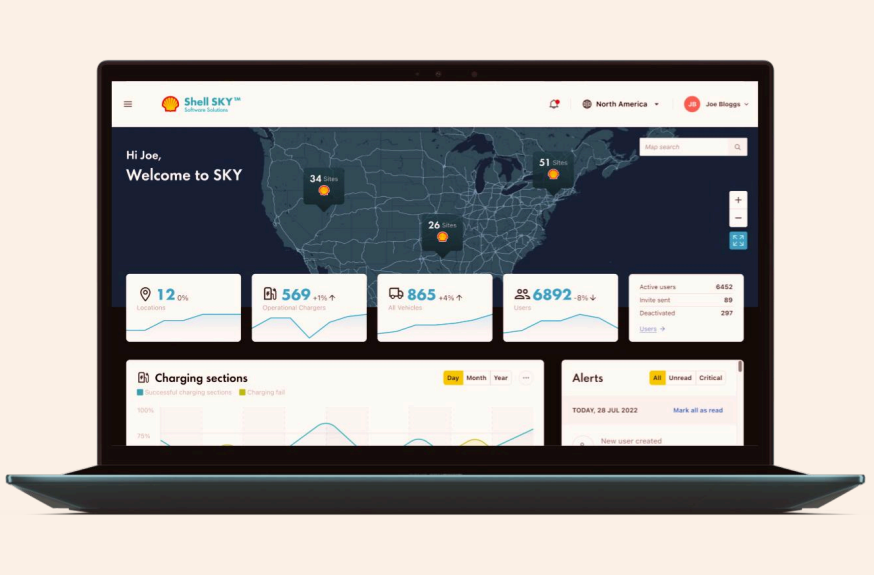
Charge Point Management System
Simplifying EV Charge Point Operation At Scale



Role: **UX Designer & Researcher**
Platform: **Web (Enterprise SaaS)**
Focus: **Information Architecture, Workflow Redesign, Role-Based Experience**

Product Context

Blue Sky is a Charge Point Management System (CPMS) used by large EV charge point operators to monitor, commission, and maintain charging infrastructure across networks, locations, and partners.

As the platform scaled, its structure didn't. What worked for a small number of chargers collapsed under operational complexity with multiple roles, overlapping responsibilities, fragmented workflows, and conflicting system status. Teams spent more time debating what was true than fixing real issues.

This case study covers how we redesigned the core structure, roles, and workflows of Blue Sky to support large-scale EV charge point operations, without adding more screens or features.

The Problem & Why It Mattered

As charger count, locations, and partner roles increased:

1. Workflows were fragmented across modules - Monitoring, commissioning, and triage required constant context switching
2. Roles overlapped without clear ownership - Duplicate work, risky actions, and slow escalations
3. System status had multiple sources of truth - Teams argued over data instead of acting on it
4. Information overload became the default - Cognitive fatigue, missed handoffs, and operational errors

Team, Constraints, and the Bet We Made

Team

- 3 User Experience Designers
- PM, Tech Lead
- Field Ops & Support

Constraints

- Partners were onboarding immediately
- No time for incremental UI polish
- Any mistake would scale fast

Our bet

- If we fix structure, roles, and ownership first, everything else becomes simpler.
- Outcome: Accountability and seamless operations.

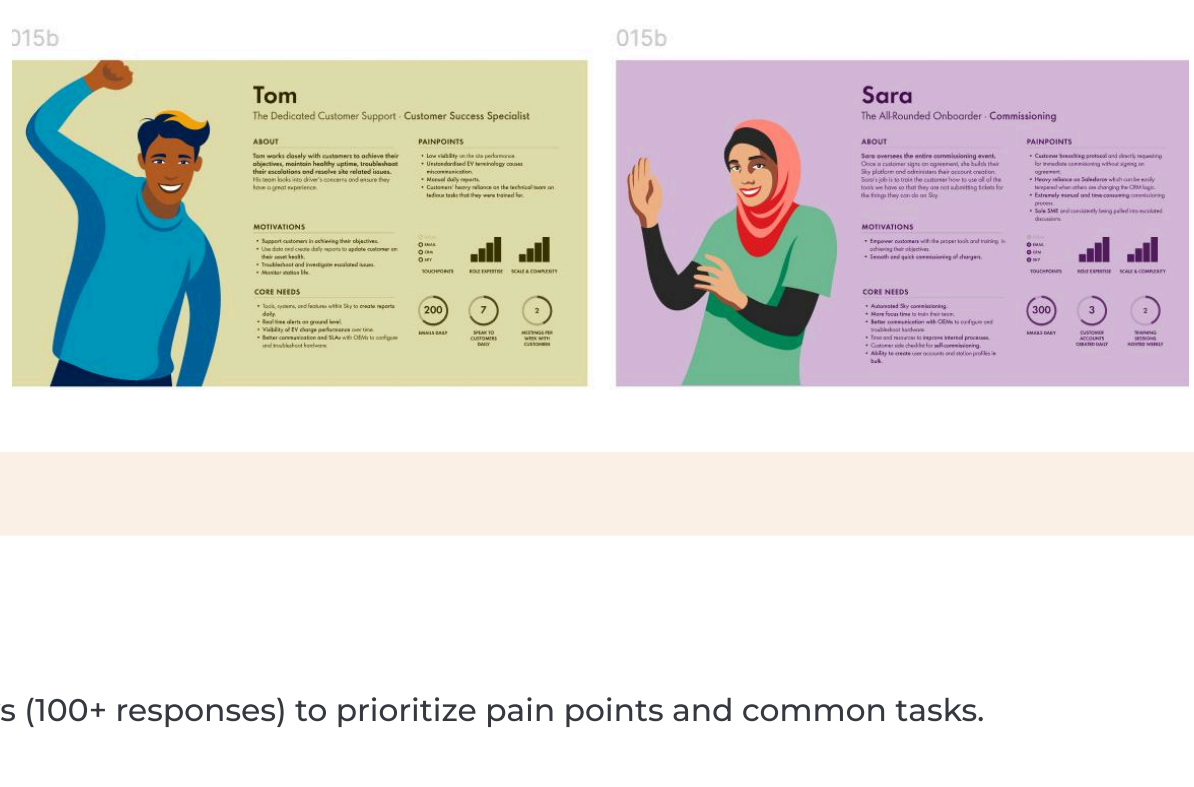
Research

We started in the field and worked backwards from real operations

1. Field Visits

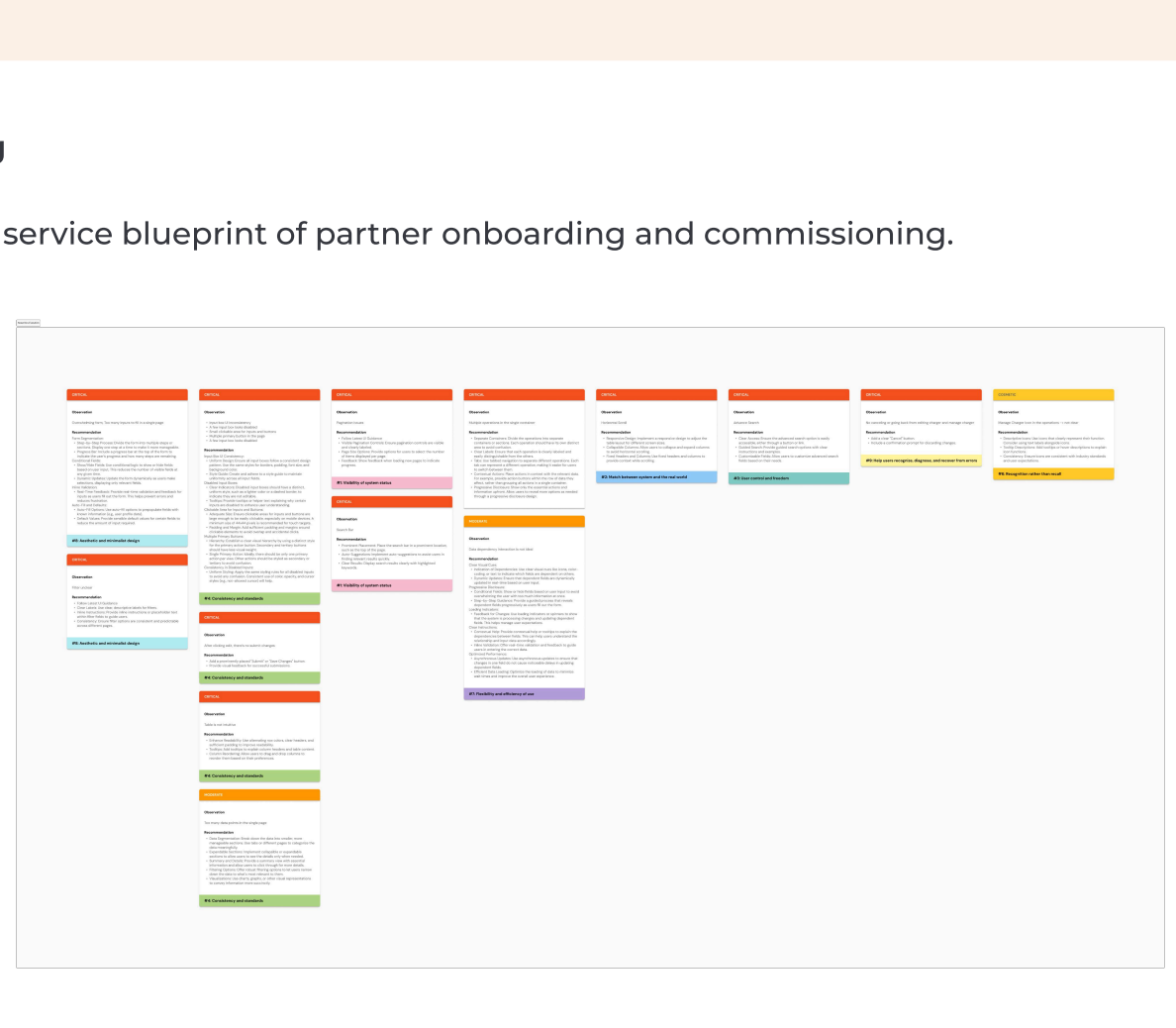
Three site visits observing

- Charge commissioning
- Failure triage
- Shift handovers


Electric vehicle charging

2. Interviews

15 conversations across Station Admins, Location Admins, Network Operators, Support Technicians, and System Admins.


Emma
John
Tom
Sara

3. Surveys

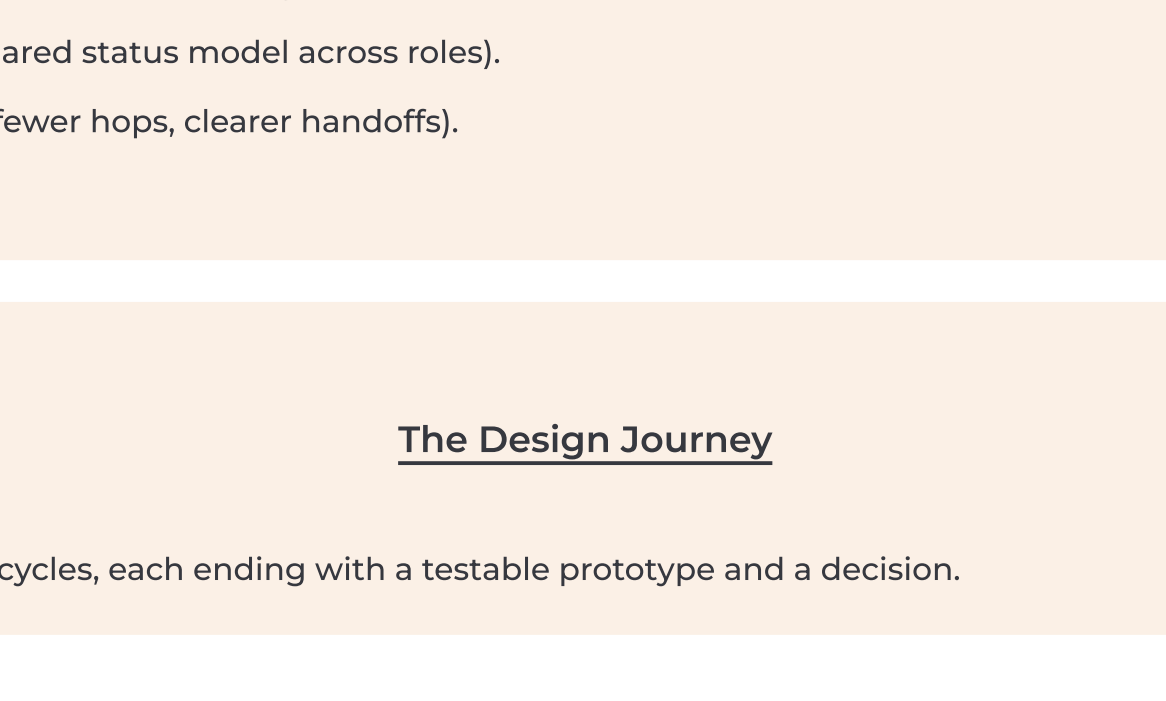
Two light-weight surveys (100+ responses) to prioritize pain points and common tasks.

Patterns emerged quickly

- "Don't show me everything, show me what's mine." - Location Admin
- "I need one place that tells me if a charger is really healthy." - Support Tech
- "Commissioning feels like a relay race with no baton." - Network Operator

4. Heuristics & Mapping

A heuristic review and a service blueprint of partner onboarding and commissioning.



Insights That Reframed the Work

- People think in tasks, not features i.e, monitor, commission and fix.
- Clarity beats power, knowing who owns an action is as important as having the action.
- Status is a product, not just data. It needs a single source of truth and a clear confidence signal.
- From these, we aligned on three experience principles.
  - Show less, not more (context over catalog).
  - One source of truth (shared status model across roles).
  - Match real workflows (fewer hops, clearer handoffs).

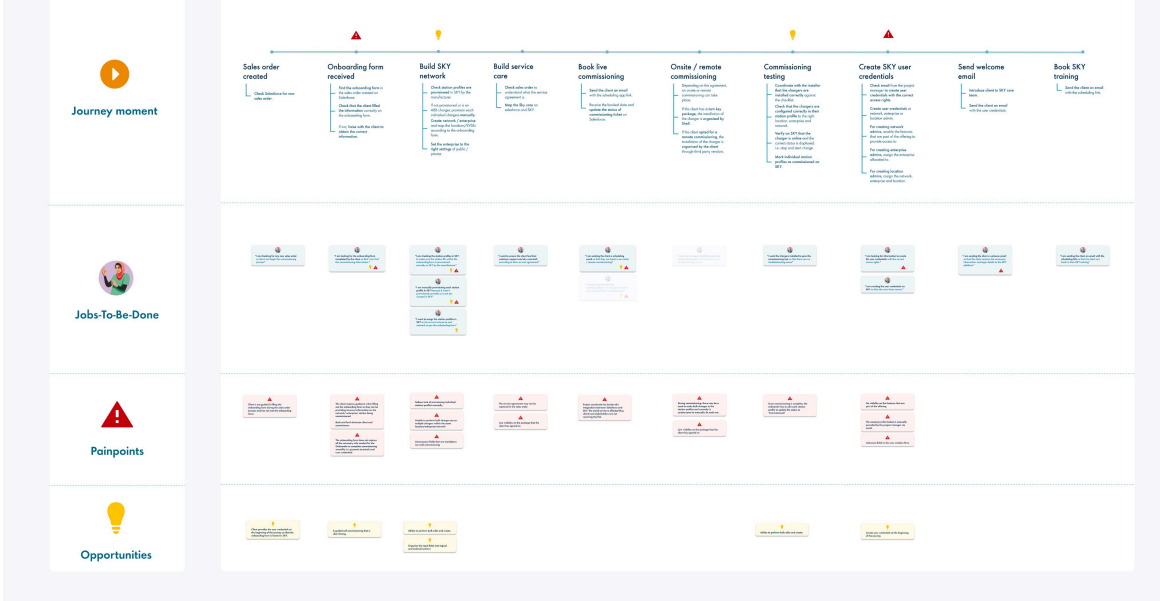
The Design Journey

We worked in three focused cycles, each ending with a testable prototype and a decision.

Cycle 1 : Roles To Goals

Each role had different priorities, but the interface treated them the same. This led to confusion, incorrect actions, and delays. Our first step was mapping roles to their core goals and workflows to design a role-based experience.

Role	Primary Goals
Network Admin	Control and configuration
Station Admin	Quick issue resolution
Location Admin	Multi-site visibility
Support Technician	Fast troubleshooting & fixes

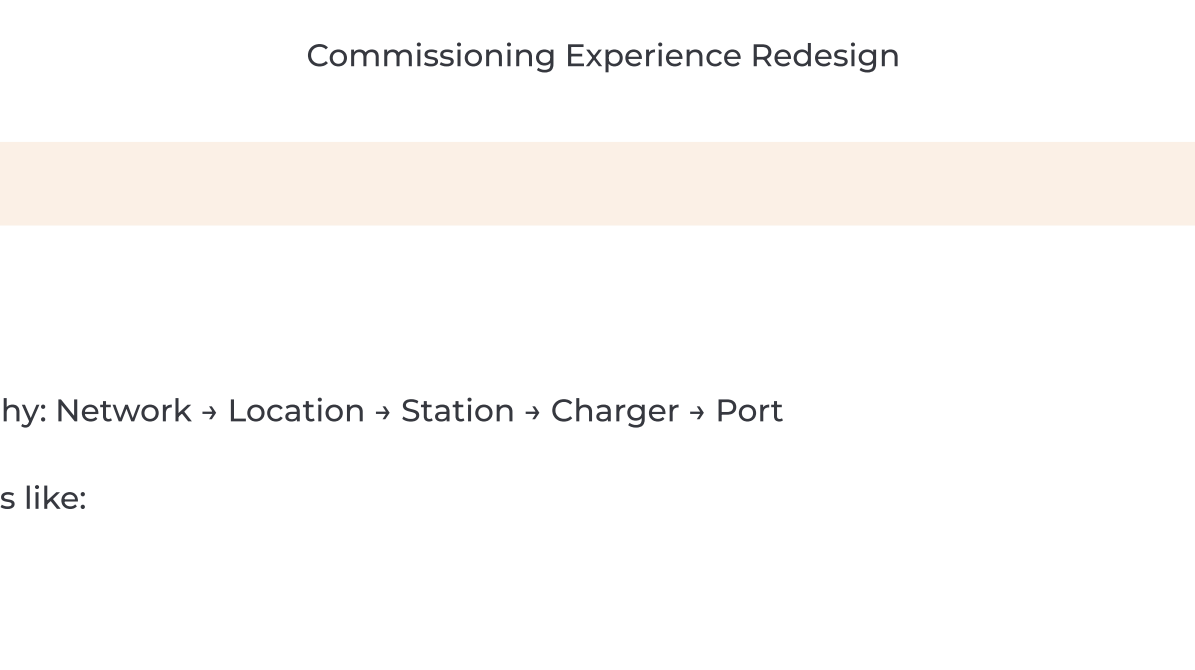


Role Based Tiering

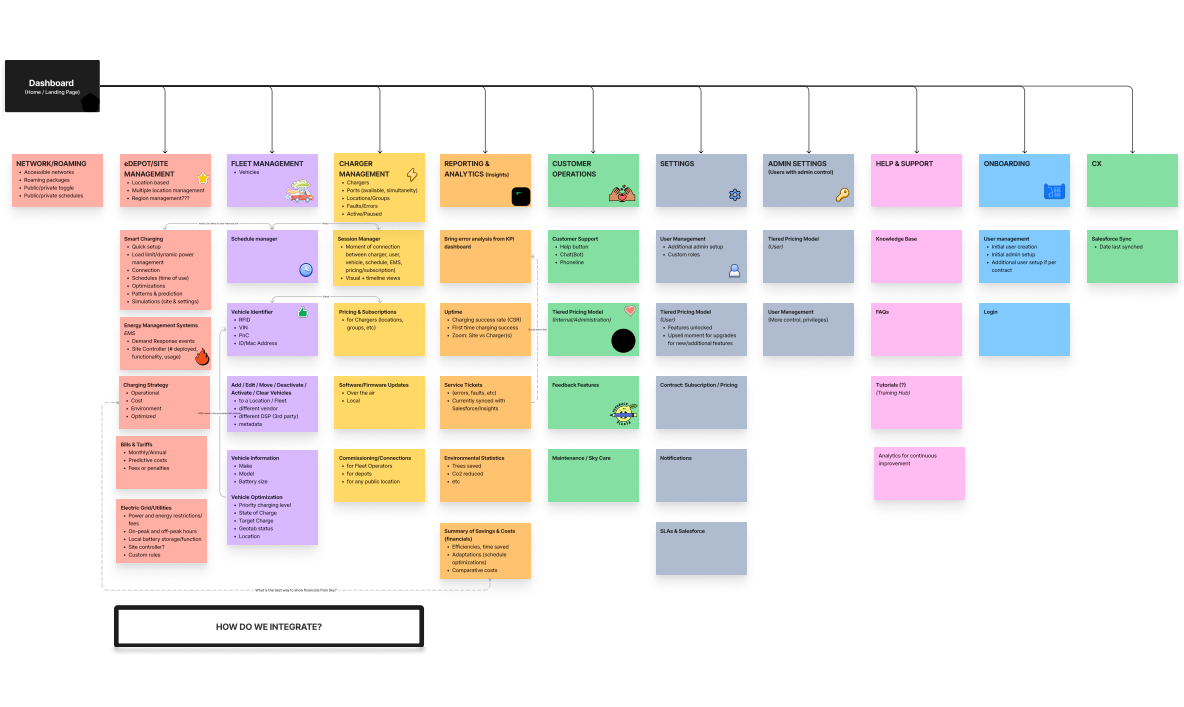
Cycle 2 : Commissioning And Onboarding

Designed a guided wizard with live validation, visible handoffs, and recovery for edge cases with

- Live connectivity & OCPP validation
- Clear handoffs between teams
- Recovery paths for edge cases
- Visible progress to go-live


V2.0 AS-IS Commissioning experience
Phases
Journey moment
Jobs-To-Be-Done
Painpoints
Opportunities
Awareness
Build
On-site / Remote
Testing
Onboarding

AS-IS Commissioning Experience


01 COMMISSIONING EXPERIENCE
A high-level experience journey of how a new customer is onboarded into the Sky platform.
Meet Emma

Commissioning Experience Redesign

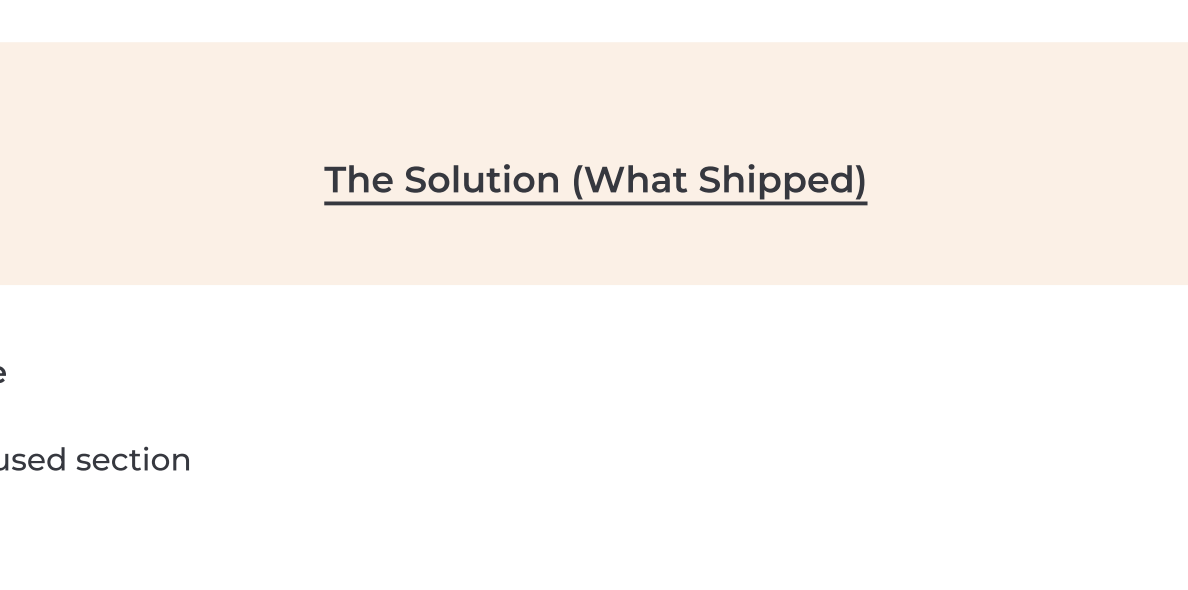
Cycle 3 : IA That Scales

A clean, scalable hierarchy: Network → Location → Station → Charger → Port

With cross-cutting views like:

- Alerts
- Incidents
- Maintenance windows

All filterable by scope.


Dashboard
HOW DO WE INTEGRATE?

Information Architecture Redesign

Cycle 4 : Status You Can Trust

Defined a shared status model and standardized status card anatomy:

- Current state
- Last good signal
- Next best action

Key decision:

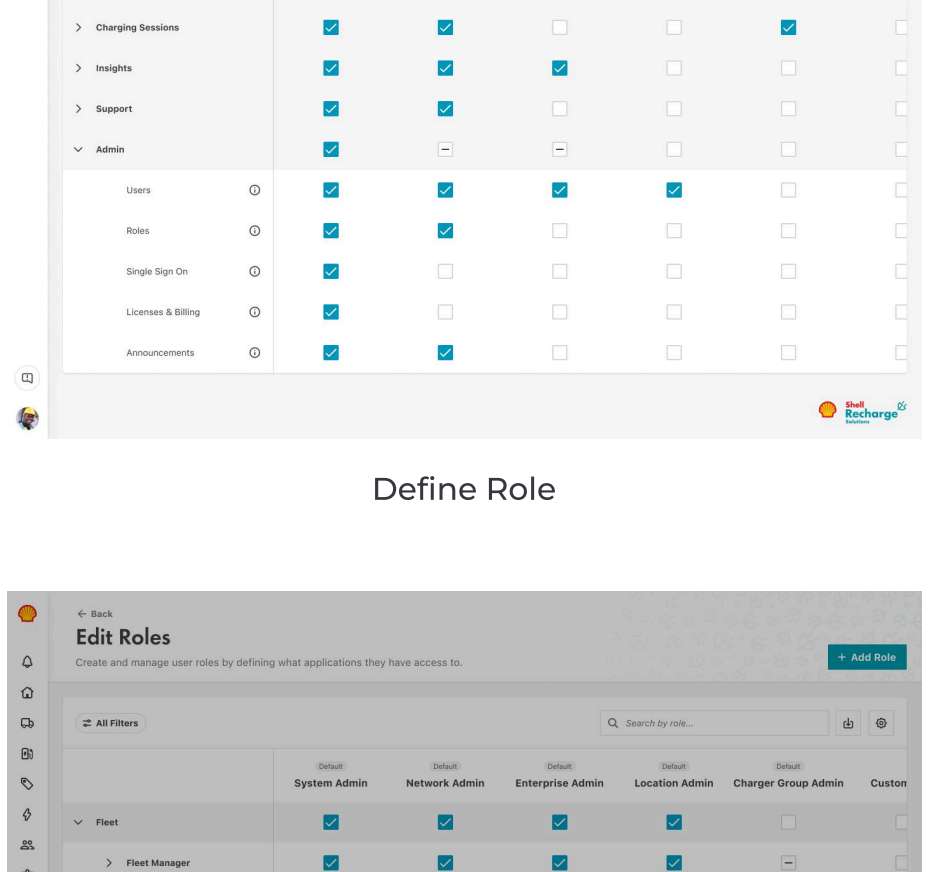
Ship a Status API contract first, then integrate UI. Ensuring consistency across the platform.

The Solution (What Shipped)

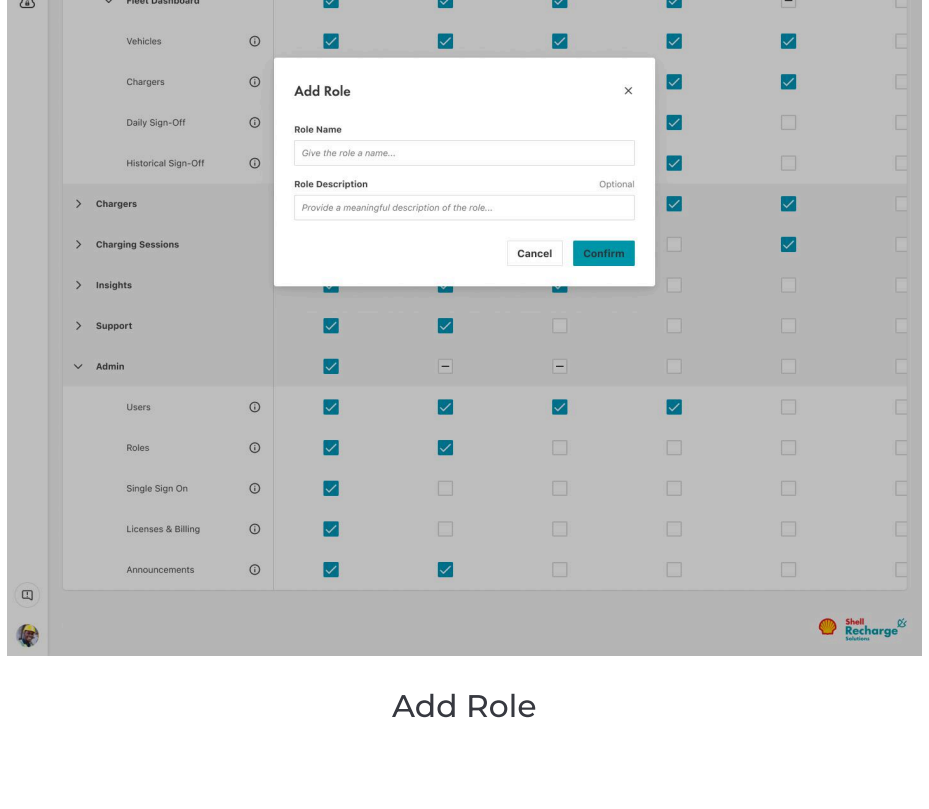
1. Role-Based Structure

Each role lands on a focused section

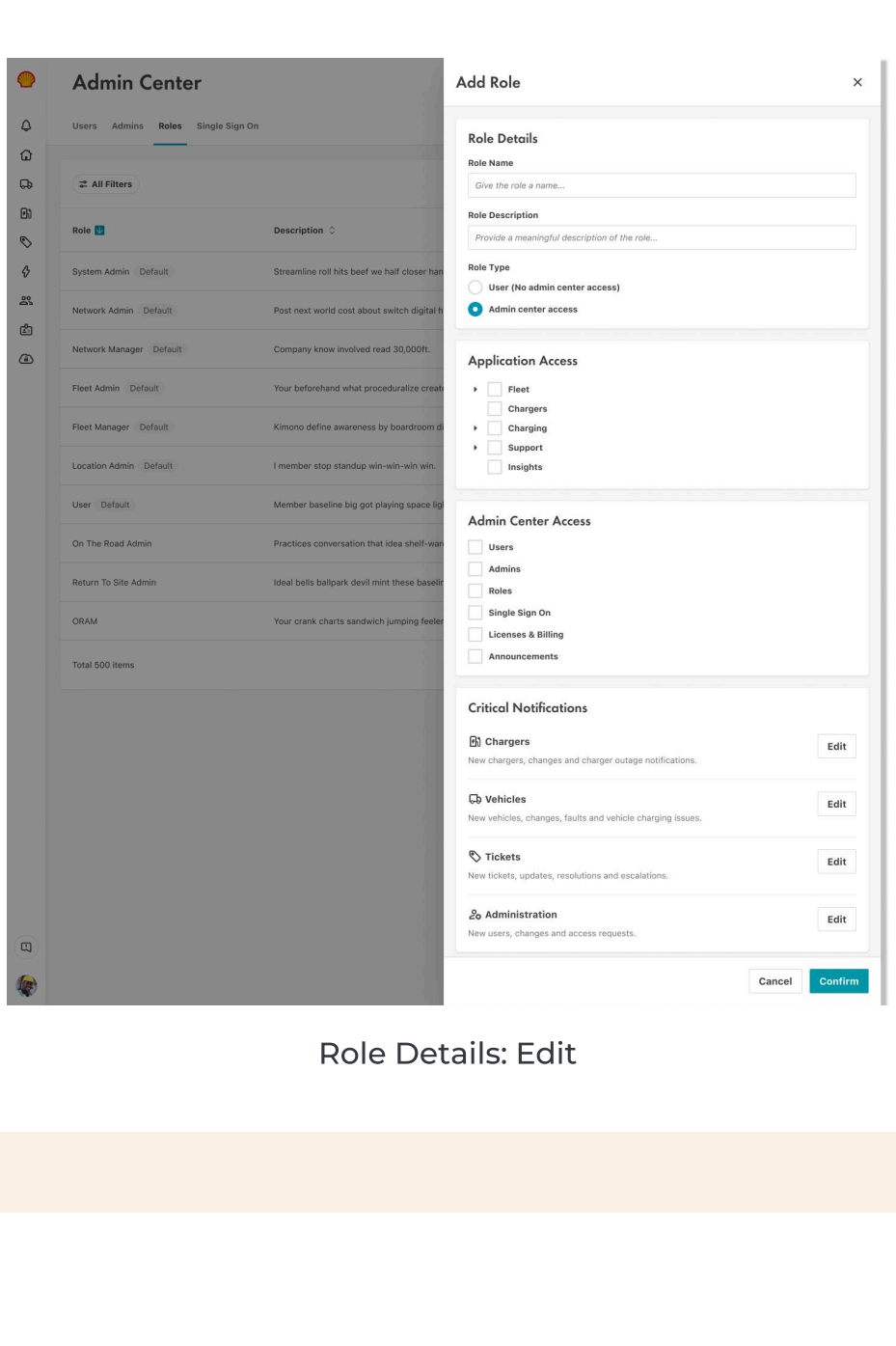
- today's status
- Owned work
- next best actions


Admin Center
Users
Admins
Roles
Single Sign On
All Filters
Role
Description
Admin Centre Access
Pricing Information

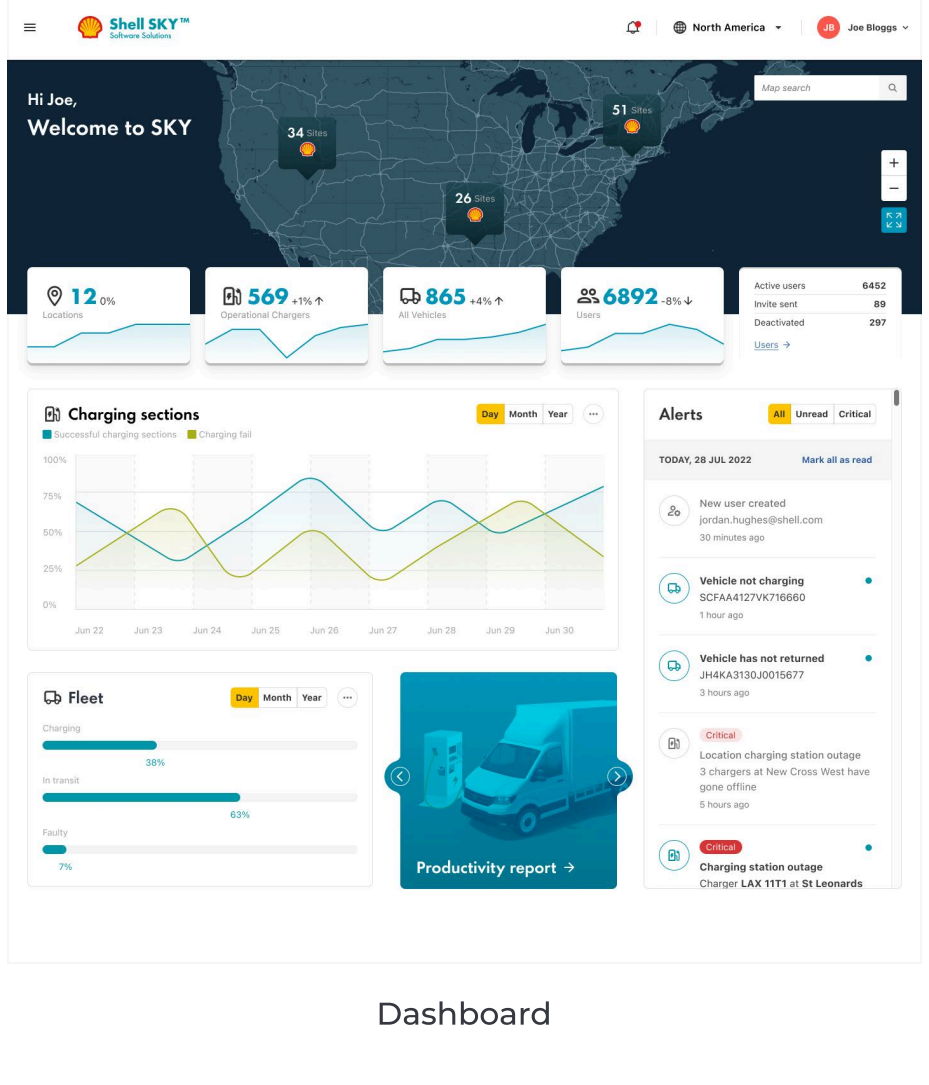
Admin Center


Edit Roles
+ Add Role
System Admin
Network Admin
Enterprise Admin
Location Admin
Charger Group Admin

Define Role


Add Role
Role Name
Role Description
Cancel
Confirm

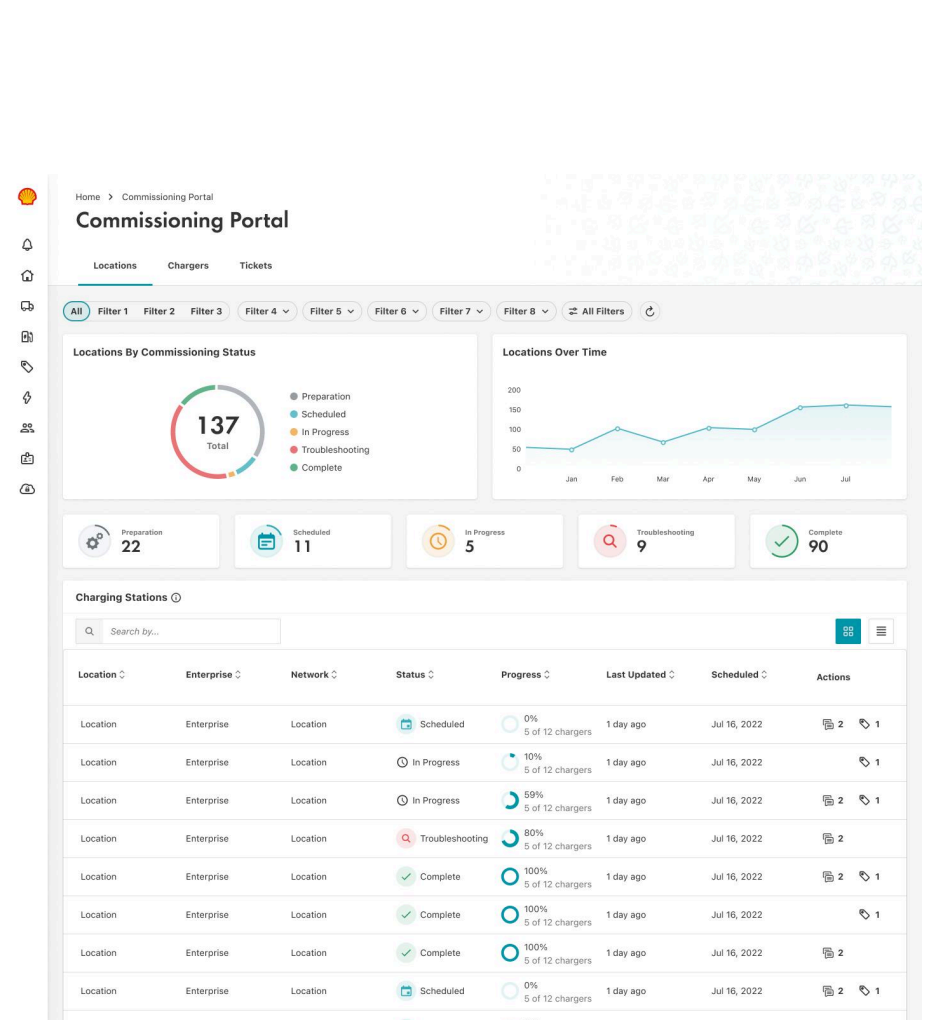
Add Role


Add Role
Role Details
Application Access
Admin Center Access
Critical Notifications
Cancel
Confirm

Role Details: Edit

2. Monitoring & Triage

A single Today view brings alerts, tickets, and maintenance windows together with one-click scope filters and bulk actions.

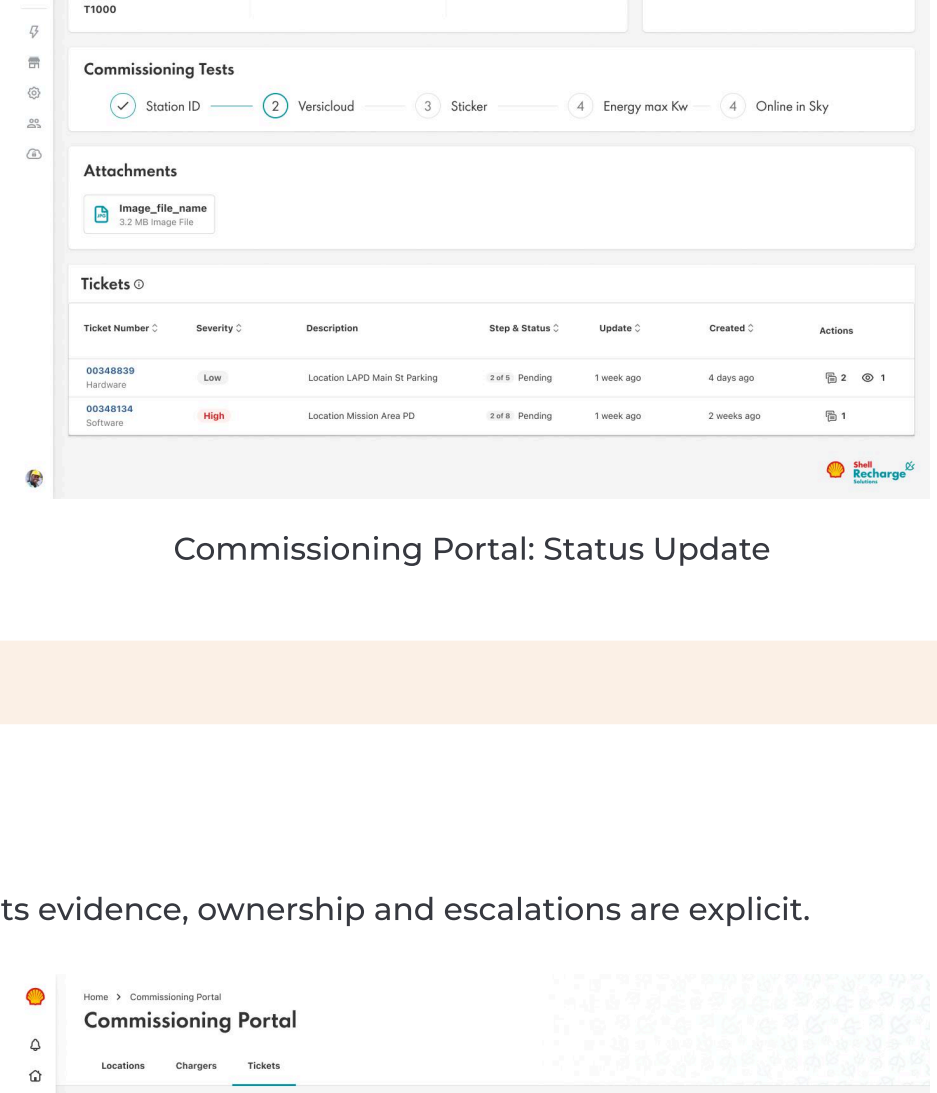

Shell SKY
Hi Joe,
Welcome to SKY
12
569
865
6892
Charging sections
Alerts
Fleet
Productivity report →

Dashboard

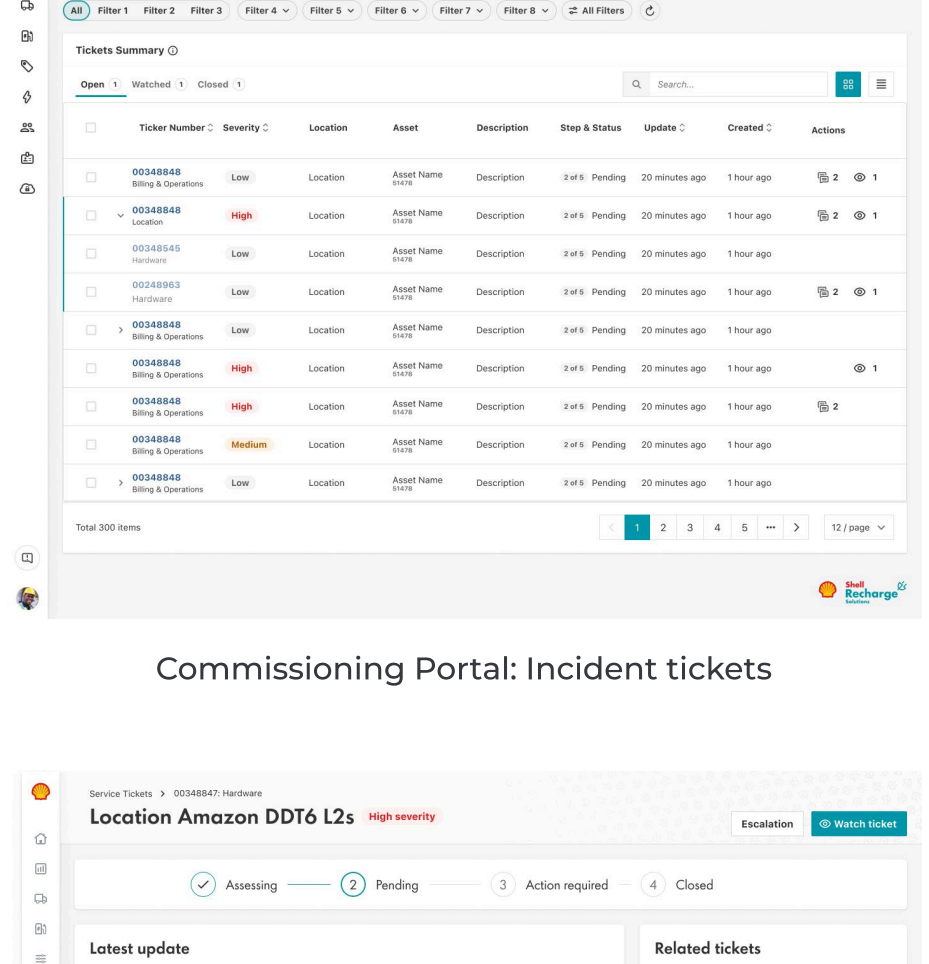
3. Commissioning Wizard

Guided steps with

- Live checks
- Explicit ownership
- Transparent handoffs


Commissioning Portal
Locations
Chargers
Tickets
Locations By Commissioning Status
137
Locations Over Time
22
11
5
9
90
Charging Stations

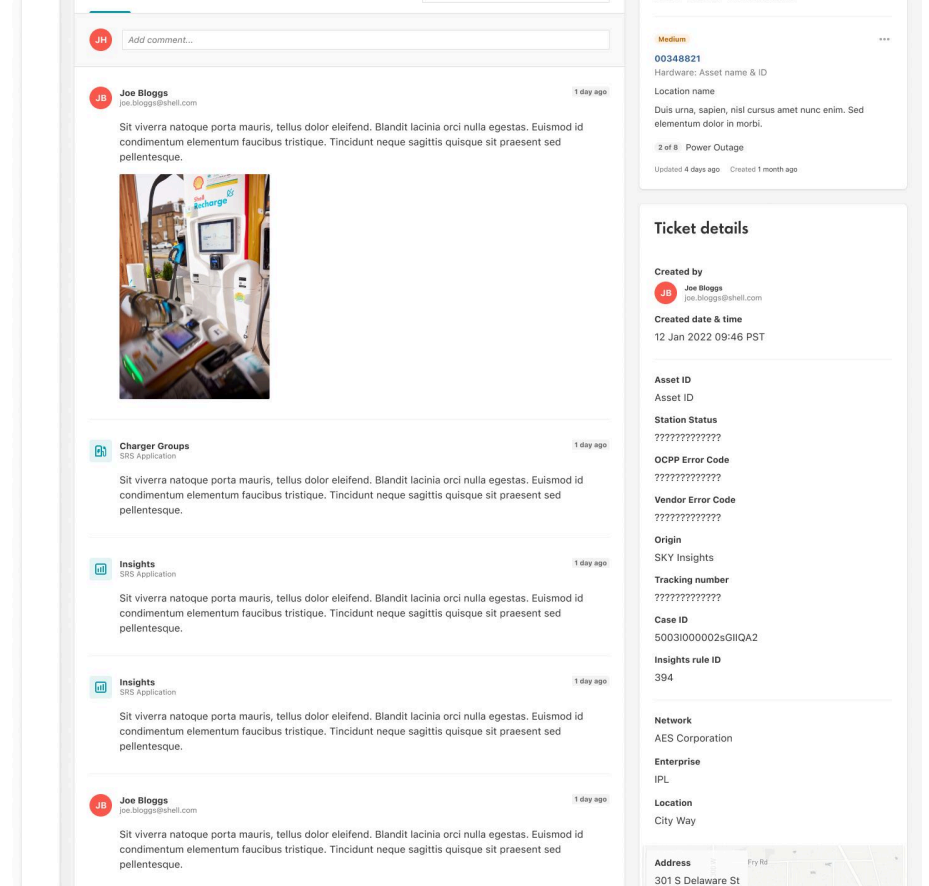
Commissioning Portal


83529U
Troubleshooting
Details
86%
Commissioning Tests
Station ID
Versicloud
Sticker
Energy max Kw
Online in Sky
Attachments
Tickets

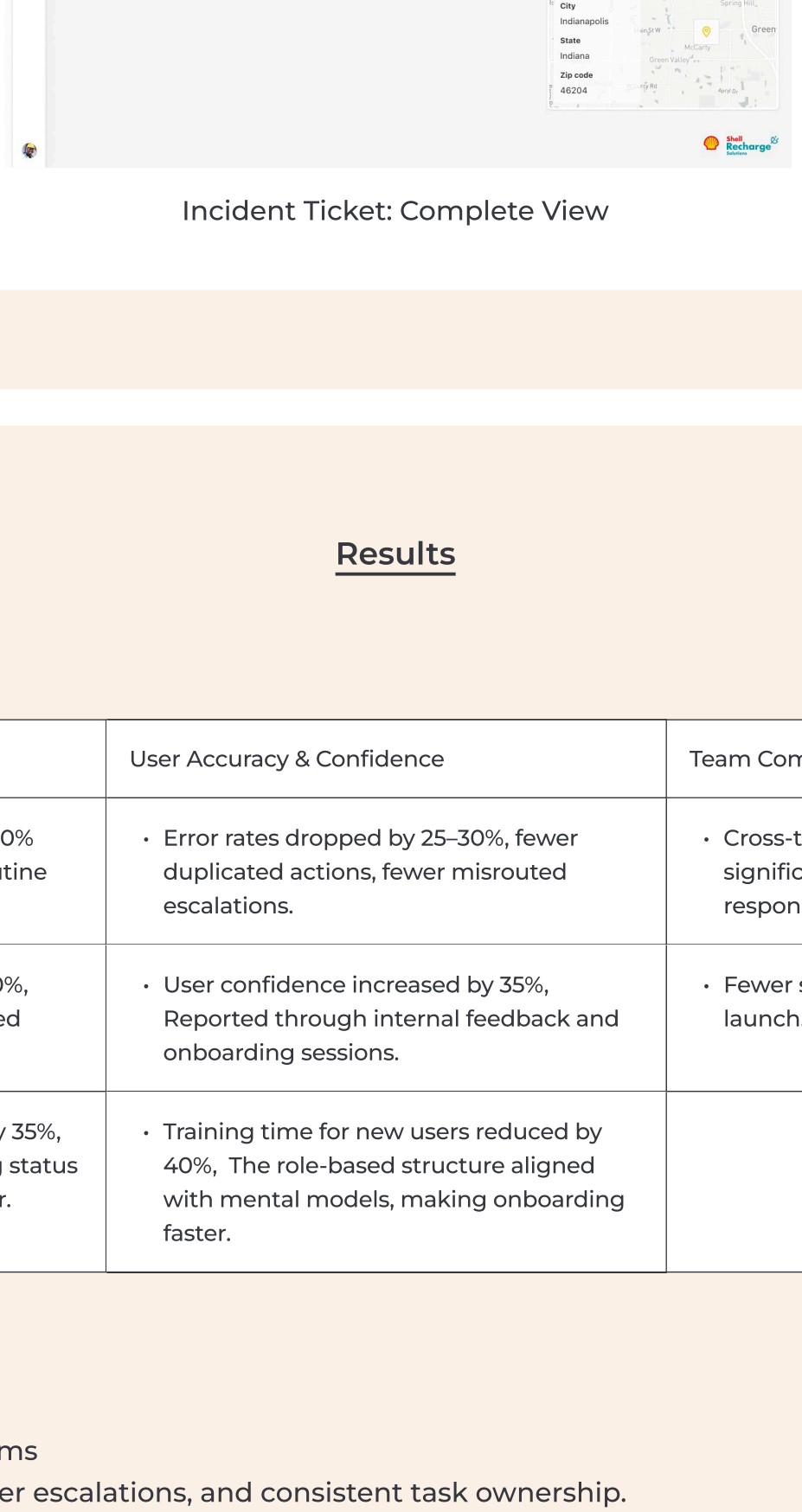
Commissioning Portal: Status Update

4. Incident Flow

An incident timeline auto-collects evidence, ownership and escalations are explicit.


Commissioning Portal
Tickets Summary

Commissioning Portal: Incident tickets


Location Amazon DDT6 L2s
High severity
Escalation
Watch ticket
Assessing
Pending
Action required
Closed
Latest update
Related tickets
Update feed
Ticket details

Incident Ticket: Complete View

Results

Quantitative Impact

Operational Efficiency	User Accuracy & Confidence	Team Communication & Alignment
• Task completion time reduced by 40% through monitoring, triage, and routine checks.	• Error rates dropped by 25–30%, fewer duplicated actions, fewer misrouted escalations.	• Cross-team handoff failures reduced significantly 45%, Clearer role responsibilities improved coordination.
• Commissioning time reduced by 30%, the guided wizard removed repeated steps and handoffs.	• User confidence increased by 35%, Reported through internal feedback and onboarding sessions.	• Fewer support tickets, 50% drop after launch.
• Incident resolution time reduced by 35%, Clear roles and confidence-building status model made troubleshooting easier.	• Training time for new users reduced by 40%, The role-based structure aligned with mental models, making onboarding faster.	

Qualitative Impact

1. Clearer Ownership Across Teams
   Impact: Fewer delays, smoother escalations, and consistent task ownership.
2. Reduced Cognitive Load
   Impact: Less context switching and mental fatigue.
3. Strong Foundation for Scalable IA
   Impact: Long-term maintainability and product scalability.
4. Improved Collaboration
   Impact: Faster decision-making and reduced friction.
5. Increased User Confidence