



The Field-First Digital Transformation Playbook

A step-by-step guide to rolling out new technology without alienating your pumper/lease operator workforce

WorkSync | Operational Intelligence for Energy Infrastructure

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Why This Playbook Exists

70% of oil and gas digital transformation projects never move beyond pilot phase. Why? They were designed for the boardroom, not for the pumper. Technology adoption requires a different approach built on field-first principles.

The 5 AM Test

Would a pumper open this tool at 5 AM on a cold morning, before coffee, standing next to a wellhead? If no, it won't get adopted. Every design decision must pass this test.

A Four-Phase, 90-Day Framework

Field discovery, data foundation, champion deployment, and scale-through-optimization. Measurable results within 90 days.

Phase	Timeline	Focus	Key Metric
Phase 1: Field Discovery	Weeks 1-2	Ride-alongs / workflow mapping / tribal knowledge	Problems cataloged
Phase 2: Data Foundation	Weeks 3-4	Connect SCADA / CMMS / ERP without replacement	Systems integrated
Phase 3: Champion Deployment	Weeks 5-8	Deploy with 3-5 champions / measure daily	6 AM app opens
Phase 4: Scale & Optimize	Weeks 9-12	Full field rollout / closed-loop / ROI measurement	Cash flow delta

Phase 1 — Field Discovery (Weeks 1-2)

Before You Deploy Anything

Phase 1 is your foundation. Spend two weeks in the field understanding how decisions are made, what data operators trust, and where friction exists. This phase often reveals systems operators rely on that management doesn't know exist.

Step 1: Conduct Ride-Alongs

Plan 3-5 full days with different operators in different areas. Your goal is NOT to evaluate performance—it's to understand the decision-making environment. Document: when they start, what tools they open, how they decide which wells to visit, what wastes their time.

Step 2: Map the Spreadsheet Morning

Before any operator hits the field, they spend 75-95 minutes doing data assembly. This routine is your fastest path to understanding what matters:

Activity	Typical Time	Systems Used
SCADA scan and alarm review	15-20 min	SCADA (ABB, Emerson, etc.)
Email triage and voicemail	15-20 min	Outlook, phone
Production data export	10-15 min	Aries, Excel, prod accounting
Spreadsheet route building	20-25 min	Excel, Google Sheets
Cross-system verification	10-15 min	CMMS, GIS, SCADA
Status assembly for management	10-15 min	PowerPoint, email

Total: 75-95 minutes of preparation before field work.

Phase 1 — Tribal Knowledge & Baselines

Step 3: Catalog Tribal Knowledge

Identify the 2-3 operators who drive disproportionate outcomes. Document their knowledge before it walks out the door: exception handling, unpublished well patterns, workarounds, service provider relationships, and diagnostic approaches. Tribal knowledge is the difference between good and exceptional operations.

Step 4: Baseline Your Metrics

Establish baseline metrics before deployment:

- Average daily deferred production (BOE and dollar value)
- Average drive miles per operator per day
- Mean time to diagnosis (days from anomaly to action)
- Percentage of planned vs. reactive work orders
- Inventory carrying cost for chemicals, parts, and fluids
- Monthly unplanned downtime hours

Step 5: Assess SCADA Readiness

Cloud SCADA now represents 64-66% of market share. Devon monitors 6.5M data points. Before deployment, verify: Are tags consistent? Can you map every tag to a physical asset? Is data flowing reliably? SCADA data quality is foundational.

SCADA Readiness Checklist:

- SCADA tags follow consistent naming convention
- Every tag maps to a physical asset
- Data historian collects every update
- Data freshness: <5 min for most wells
- Cloud SCADA gateway has reliable connectivity

Phase 2 — Data Foundation (Weeks 3-4)

Connect Systems Without Replacing Them

The single highest-risk decision is destroying existing systems. Use overlay architecture: read from SCADA via OPC UA/Modbus, CMMS via REST APIs, ERP via database connectors, GIS via spatial feeds. Advantages: deployment in weeks, zero disruption, proof of value before contracts. This is how the majors manage their operations.

Integration Priorities

Priority	System	Data	Protocol
1 (Critical)	SCADA/Historian	Production, pressures, temps, alarms	OPC UA, Modbus, MQTT
2 (High)	Production Accounting	Well economics, revenue, decline curves	REST API, DB connector
3 (High)	CMMS	Work orders, maintenance history	REST API, file export
4 (Medium)	GIS/Mapping	Well locations, lease boundaries	Spatial feed, shapefile
5 (Medium)	ERP/Finance	Cost centers, budget, vendor data	REST API, DB connector

Key Rule: All integrations should be read-only initially. Never write back to control systems during foundation phase.

Phase 2 — The Technology Stack Context

Industrial operations data flows through a 7-layer stack. WorkSync sits at Layer 2 (Field Mobile & Intelligence), connecting across all layers:

- Layer 1 (SCADA): CygNet (Weatherford), Ignition (Inductive Automation), ABB, Emerson, Honeywell
- Layer 2 (Field Mobile & Intelligence): WorkSync, eVIN (IFS/Merrick), P2 Suite (IFS), PakEnergy, Quorum
- Layer 3 (Ticketing & Dispatch): Enverus OpenTicket, FieldEquip, Engage Mobilize
- Layer 4 (Route Optimization): Route4Me, NextBillion.ai, Skedulo
- Layer 5 (Artificial Lift): ChampionX XSPOC, Ambyint, Weatherford
- Layer 6 (Safety & Compliance): Blackline Safety G7, Verizon Connect, Geotab
- Layer 7 (Analytics & Decision Support): AVEVA PI (OSIsoft), Spotfire, Power BI, Databricks
- Layer 8 (ERP & Production Accounting): SAP IS-Oil/PRA, Oracle Cloud ERP, Avocet (SLB)

WorkSync as the Intelligence Layer: WorkSync sits above all eight layers, ingesting data from each — CygNet SCADA, Ignition HMI, XSPOC pump cards, eVIN field data, SAP/Oracle financials, AVEVA PI historians — and providing economic prioritization that no single-layer tool delivers. You own the integrations; WorkSync amplifies their value through AI-driven optimization. This is the critical difference from point solutions.

Phase 3 — Champion Deployment (Weeks 5-8)

Prove Value with Your Best Operators

Select 3-5 champion operators: respected by peers, open to technology, and representative of your lease cross-section. These operators become your peer trainers during scale-up and proof points for adoption.

Daily Execution Rhythm

Champions receive a full economically prioritized route at 6 AM — typically 20-30 stops ordered by economic impact, with Tier 1 wells first and escalation flags highlighted. This replaces the morning spreadsheet entirely and ensures the highest-value work gets done first. The 6 AM delivery time is critical — it's when operators plan their day.

The Exception-Based Operations Shift

Modern operations use SCADA-driven exception-based surveillance:

Metric	Traditional	Exception-Based
Well visits	Every well daily	Exception-based
Wells per operator	20 wells/day	30-40 wells/day
Deferred production	15-20% typical	4-8% with system

Champion Selection Criteria

Not every willing operator is the right champion. The ideal champion has three qualities: peer respect (other operators trust their judgment), moderate tech comfort (uses a smartphone daily, not necessarily tech-savvy), and geographic representation (covers a lease area typical of your operations). Avoid selecting the most tech-forward operator — they'll adopt anything, so they don't prove the system works for everyone.

The First Week Protocol

Week 1 with champions is critical. Run the new system in parallel with their existing routine — don't replace anything yet. Let champions compare their manually-built route against the optimized route. When they see the optimized route would have saved 45 minutes and caught a missed exception, they become advocates. Never force the switch; let the data make the argument.

Phase 3 — Weekly Measurement & Feedback

Real-world results: Devon Energy achieved 100-120% improvement in pump times (40% to 80%+ running). Ambyint's pilot generated 200+ additional barrels/day (~\$5M annualized). Standard outcomes when shifting from time-based to exception-based surveillance.

Weekly Measurement Cadence

Measure champions every Friday across:

- App opens before 6:30 AM (target: 90%+ of days)
- Route adherence to optimized plan (target: 80%+ stops)
- Deferred production recovered vs. baseline
- Drive miles per operator vs. baseline
- Feedback submissions and quality

The Feedback Diagnostic

- "Useful but frustrating" = UX problem (design issue)
- "Easy but wrong" = data quality problem
- "Stopped opening it" = relevance problem

Course Correction Framework

If champion metrics are flat after two weeks, diagnose before escalating. Check data quality first — are SCADA tags mapping correctly? Are production numbers current? Then check route relevance — do the optimized stops match what the operator would choose independently? Finally, check timing — is the 6 AM delivery actually reaching the operator before they leave? Most early problems are data or connectivity issues, not system design problems.

Building the Business Case with Champion Data

By Week 8, you need hard numbers for the scale decision. Document three metrics from your champions: windshield time reduction (target: 20-30% fewer drive miles), deferred production recovery (target: 2-5% improvement), and morning prep time savings (target: 60+ minutes per operator per day). Multiply by operator count to project full-field ROI. This becomes your Phase 4 business case.

Phase 4 — Scale and Optimize (Weeks 9-12)

Full Field Rollout and Closed-Loop Optimization

Use champions as peer trainers. Peer endorsement from someone working the same wells is exponentially more powerful than executive mandates. Champions demonstrate daily, showing real results. Peer-to-peer adoption is the fastest path to field acceptance.

Closed-Loop Feedback Loop

Every field outcome feeds back into the optimization model. Predicted correctly? Model reinforced. Missed something? Model learns. Nightly retraining ensures improvement daily. This continuous cycle separates sustainable operations from one-time deployments.

ROI Measurement

Metric	Typical Improvement	Measurement
Cash flow uplift	10-15%	Revenue delta vs. baseline
Site visit reduction	30-40%	GPS tracking/logs
Deferred prod recovery	4-5% of portfolio	SCADA response time
Inventory reduction	40-70%	Carrying cost
Drive miles reduction	20-30%	Fleet GPS
Time to diagnosis	5-10x improvement	Anomaly-to-action days

** Ranges based on published operator data from Devon Energy (6.5M data points, 500+ well portfolio), Ambyint ESP optimization pilots (~\$5M annualized from 200+ bbl/day recovery), and ConocoPhillips digital twin deployments (\$30K/well, 4x ROI). Measured over 12-month periods post-deployment. Your results will vary based on portfolio size, well mix, and baseline efficiency.*

Phase 4 — Well Tiering & Central Command

The Well Tiering ROI Multiplier

Well tiering amplifies every improvement. A 500-well portfolio with 10% Tier 1 wells (50 wells at \$1,500/day) shows significant ROI from just 2% deferred production reduction. Tier 2 and Tier 3 create portfolio-wide scale. This is how majors like Devon and Occidental manage thousands of wells.

Building Central Command Capability

One person with real-time awareness of all operator locations and task completion becomes your operations hub. This person sees: current SCADA alarms, field team locations, task status, and can dispatch resources or escalate issues. Implement the three-checkpoint system: morning (pre-field), mid-day (course correction), end-of-shift (next-day prep).

Continuous Improvement Cycle

The system learns from every outcome: correct predictions reinforce the model; failures teach the system. Nightly retraining means daily improvement. This defines the difference between traditional and next-generation field operations.

The Three Daily Checkpoints

6:00 AM — Pre-Field: Central Command confirms all routes are delivered, reviews overnight exceptions, and verifies specialist availability. Any route changes are communicated before operators leave.

11:00 AM — Mid-Day: Central Command checks operator progress against planned routes. Re-prioritizes afternoon stops based on morning findings. Dispatches specialists to emerging issues.

4:00 PM — End-of-Shift: Central Command reviews completion rates, collects end-of-shift reports, and begins building tomorrow's priority stack. Escalations are logged. The closed-loop cycle begins.

Seven Common Mistakes to Avoid

Learning from these patterns accelerates deployment:

Mistake 1: Designing for the Boardroom

Tools succeed at the wellhead. Design for the pumper first. The great PowerPoint tool doesn't work when cold, muddy, and one-handed.

Mistake 2: Rip-and-Replace Mentality

Don't replace SCADA, CMMS, or ERP. Overlay architecture deploys in weeks without disruption.

Mistake 3: Measuring Logins Instead of Outcomes

Logins mean nothing. Measure deferred production, drive miles, cash flow, and time to diagnosis.

Mistake 4: Skipping Ride-Alongs

Spend time in the truck first. You cannot design field tools from a desk. Non-negotiable.

Mistake 5: Treating Change as a Checkbox

Change is continuous. Champions drive adoption through relationships and trust.

Common Mistakes (continued)

Mistake 6: Ignoring Data Quality

Fix SCADA tag naming, historian gaps, and accounting lags before deployment. If your CygNet or Ignition tags don't map to physical assets, or your AVEVA PI historian has gaps, the intelligence layer has nothing to work with. Garbage in, garbage out. Budget 1-2 weeks for data normalization.

Mistake 7: Expecting Perfection

Launch with 80% accuracy; improve to 95%+ over weeks. Closed-loop means daily improvement. Iterative deployment. The AI gets smarter with every field outcome — correct predictions reinforce the model, misses teach the system.

Mistake 8: Ignoring Lone Worker Safety

21.5% of fatalities involve lone workers. Include safety check-ins, GPS tracking, man-down detection (Blackline G7). OSHA is increasing focus on lone worker safety in 2026 with expanded heat illness prevention and recordkeeping requirements.

Mistake 9: Underestimating Windshield Time

Best practice: <30% driving. Poor optimization: 40-50%. Most route tools optimize distance, not economic value. A 15-minute drive to a \$2,000/day Tier 1 well is better than a 5-minute drive to a \$100/day Tier 3. This is the critical gap WorkSync addresses.

Winning Over the Skeptics

The Human Side of Digital Transformation

The biggest risk to your deployment is not technology — it is the experienced operator who has been running the same route for 15 years and sees no reason to change. Handle this wrong and you lose the field. Handle it right and that person becomes your strongest advocate.

The First Conversation

Never lead with "we're deploying new software." Lead with "we want to make your morning easier." The first conversation should sound like: "We noticed you spend 75 minutes before you can leave the office. What if your route was already built when you woke up — prioritized by which wells are actually worth visiting today?"

How Champions Bring Skeptics Along

Champions never sell the technology. They sell the outcome. When a champion tells a skeptic, "I left the office 45 minutes earlier yesterday because my route was already done," that is more persuasive than any executive presentation. Champions should work adjacent areas to skeptics so results are visible daily. After 2-3 weeks of watching the champion leave earlier and catch problems faster, most skeptics ask to try it.

When Someone Refuses

Some operators will refuse. Do not force adoption. Instead: keep their route manual but track their metrics alongside champion metrics. Within 4-6 weeks, the data speaks for itself — champion operators will show lower windshield time, fewer missed exceptions, and better production recovery. Share the comparison openly. Most holdouts convert when they see peer data, not management mandates.

The Three Rules of Field Change Management

- 1. Never take away a tool before the replacement is proven.** Run parallel for 2 weeks minimum. Let operators keep their spreadsheet while using the new system alongside it.
- 2. Make the first win visible within 48 hours.** If a champion catches an exception that would have been missed, make sure the team knows about it. Early wins build momentum.
- 3. Listen to field feedback and act on it weekly.** If operators say the app is too slow at wellheads with poor signal, fix it. Nothing kills adoption faster than feeling ignored.

The Vendor Landscape

No platform combines production economics, route optimization, and field dispatch into a single intelligence layer.

Vendor comparison:

Vendor	Strengths	Gaps	WorkSync Angle
eVIN (IFS/Merrick)	Field data capture, measurement	No route optimization or AI	Intelligence + routing layer
P2 Suite (IFS)	Production reporting, decline curves	No field dispatch or crew mgmt	Crew optimization overlay
CygNet (Weatherford)	SCADA v9.9, historian, alarm mgmt	No economic prioritization	Economic intelligence layer
Ignition (Inductive)	SCADA/HMI, unlimited tags, open	No field mobile or routing	Field ops + route overlay
XSPOC (ChampionX)	Artificial lift, 25M+ pump cards	Narrow lift scope only	Full crew management
SAP IS-Oil/PRA	ERP, production accounting	No field operations layer	Field execution overlay
Oracle Cloud ERP	Enterprise ERP, JD Edwards	No SCADA or field dispatch	Operational intelligence
AVEVA PI (OSIsoft)	Data historian, 2B+ tags global	No crew routing or dispatch	Analytics + crew layer
PakEnergy	Accounting + field data	Weak route optimization	Economic layer
Quorum	Cloud platform + SCADA	Limited AI/ML	Intelligence layer
Enverus	Ticketing + dispatch	Weak production mgmt	Economics focus

Key Insight: Most platforms optimize one dimension. WorkSync optimizes operator economic outcome—fundamentally different.

How the Majors Are Doing It

The world's largest operators are investing billions in digital transformation. Their approaches validate the field-first framework in this playbook:

Devon Energy: The Exception-Based Pioneer

Devon monitors 6.5 million data points with 10,000+ updates per second across their field operations. Field technicians receive two targeted reports per day identifying only wells needing attention. Results: 100-120% improvement in pump times (40% to 80%+ running), 15-30% daily task productivity improvement through AI-driven recommendations, 5% production improvement from centralized gas lift optimization, and a record 22.7 hours of continuous pumping in 24 hours.

Occidental Petroleum: Nexus at Scale

Occidental built Nexus as an in-house platform managing 27,000 active producers and injectors. It handles production surveillance, well optimization, downtime logging, and work order prioritization — all dynamically ranked by economic value. Over 50% of US onshore employees use Nexus monthly. Field analysts now manage 2x the wells compared to five years ago through exception-based prioritization.

ConocoPhillips: Digital Twin ROI

ConocoPhillips pioneered digital twins in Norway and expanded globally. Virtual replicas of physical wells enable predictive maintenance without site visits. Results: 90% reduction in preventive maintenance check time, 15% reduction in work order time, \$3M+ in drilling cost savings from early intervention, and approximately \$30,000 in cost savings per well with 4x ROI.

ExxonMobil: Autonomous Operations

ExxonMobil is deploying closed-loop AI/ML systems that self-optimize well parameters with minimal human intervention. Their Open Process Automation (OPA) platform reduces costs by 20%. Partnership with Microsoft brings IoT to Permian Basin operations. Target: \$15 billion in operating cost savings by 2027.

EOG Resources: Technology Saturation

EOG operates with 165 different technologies — proprietary and third-party — combining data from SCADA, IIoT sensors, seismic interpretation, drilling optimization, and production data into proprietary AI models. Their approach: treat every operational decision as a data problem. AI-driven artificial lift automation and drilling optimization generate measurable cost advantages that compound across their 5,700+ well portfolio.

Diamondback Energy: Lean Technology Operations

Diamondback manages 5,000+ wells in the Permian Basin with one of the leanest teams in the industry — proving that mid-market operators can match major-operator efficiency through technology, not headcount.

What the Majors Prove for Mid-Market Operators

Every major operator profiled above validates the same core principles. The table below translates their lessons into actionable steps for operators managing 300-5,000+ wells:

Major Operator	Key Lesson	Mid-Market Application
Devon	Exception-based ops eliminate waste	SCADA-driven prioritization replaces daily visit schedules
Occidental	Economic ranking drives decisions	Well tiering by cash flow, not geography or habit
ConocoPhillips	Digital twins predict failures	Predictive analytics reduce reactive maintenance
ExxonMobil	Closed-loop AI improves daily	Systems that learn from every field outcome
EOG	Technology is competitive advantage	Invest in tools that compound returns
Diamondback	Lean ops through technology	Do more with fewer people and smarter tools

The Technology Adoption Curve

The majors have invested billions building proprietary platforms (Oxy's Nexus, ExxonMobil's OPA). Mid-market operators cannot replicate this investment — but they can access the same capabilities through purpose-built intelligence layers that overlay existing infrastructure. The technology stack described in this playbook (CygNet/Ignition for SCADA, XSPOC for lift optimization, SAP/Oracle for financials, AVEVA PI for historians) already exists in most operations. What's missing is the intelligence layer that connects them.

Bottom line: You do not need a \$500M IT budget to run like a major. You need the right intelligence layer connecting the systems you already own. WorkSync provides that layer in 90 days.

Field Readiness Assessment

Rate yourself (1=No, 2=Partially, 3=Yes). Higher scores = greater readiness:

1. SCADA tags follow consistent naming? [1] [2] [3]
2. Every tag maps to a physical asset? [1] [2] [3]
3. Production accounting current within 48 hours? [1] [2] [3]
4. Baseline metrics for deferred production? [1] [2] [3]
5. CMMS work orders consistently created? [1] [2] [3]
6. Reliable mobile connectivity in field? [1] [2] [3]
7. 3-5 champion operators identified? [1] [2] [3]
8. Executive sponsorship with economic mandate? [1] [2] [3]
9. IT/OT team can support read-only API? [1] [2] [3]
10. Ready to measure by adoption, not features? [1] [2] [3]

Scoring Guide

25-30: You are ready for full deployment. Start with Phase 1 ride-alongs immediately.

18-24: Strong foundation with gaps. Address data quality and SCADA consistency in Weeks 1-2 before integration.

10-17: Significant preparation needed. Budget 2-4 additional weeks for data cleanup and stakeholder alignment before starting the 90-day framework.

Below 10: Start with a SCADA audit and executive alignment. The 90-day clock should not start until fundamentals are in place.

The 90-Day Timeline At a Glance

Weeks	Phase	Key Activities	Milestone
1-2	Field Discovery	Ride-alongs, workflow mapping, baseline metrics	Problems cataloged
3-4	Data Foundation	System integration, data normalization, overlay	Systems integrated
5-6	Champion Deploy 1	Champions selected, initial deployment, routes	App opens 6 AM
7-8	Champion Deploy 2	Optimization, feedback loop, refinement	ROI visible
9-10	Scale Phase 1	Field rollout, peer training, Central Command	50%+ rollout
11-12	Scale Phase 2	Closed-loop active, ROI measurement, optimization	Full adoption

Critical Success Factors by Phase

Weeks 1-2: Executive sponsor must attend at least one ride-along. Without executive field exposure, the deployment loses credibility with operators.

Weeks 3-4: Data integration must include CygNet/Ignition SCADA, production accounting (SAP/Oracle/P2 Suite), and CMMS. Read-only overlay architecture means zero disruption to existing systems.

Weeks 5-8: Champions must be respected operators, not IT staff. Peer credibility is the #1 adoption driver. Track 6 AM app opens as the leading indicator.

Weeks 9-12: Use champion data to convert skeptics. Share windshield time comparisons, completion rates, and production recovery metrics openly. Let the data speak.

Ready to Run a Field-First Deployment?

WorkSync deploys in 90 days using this exact framework. We connect your existing SCADA (CygNet, Ignition, Emerson), CMMS, ERP (SAP, Oracle), production accounting (P2 Suite, eVIN), and data historians (AVEVA PI). Then we provide a single intelligence layer that prioritizes work by economic impact. Optimized routes delivered to field teams at 6 AM. Closed-loop feedback ensures continuous improvement.

What You Get in 90 Days

Deliverable	Timeline	Expected Impact
Full system integration (overlay, read-only)	Weeks 3-4	Zero disruption to existing ops
Economically prioritized routes at 6 AM	Week 5	75+ min saved per operator per day
Central Command real-time dashboard	Week 6	Full field visibility for superintendent
Closed-loop analytics and daily learning	Week 8	System improves with every outcome
Full field rollout with measured ROI	Week 12	10-15% cash flow uplift documented

No rip-and-replace. No 18-month implementations. Just measurable results within 90 days.

Talk to us: work-sync.ai/contact