Securing Innovation at Scale: How a Life Sciences Leader Strengthened IP Protection and Global Compliance with Invinsense

About the Customer

A fast-growing pharmaceutical and biopharmaceutical enterprise with over two decades of excellence, this organization is committed to enhancing global healthcare access. With a focus on research-driven innovation, it delivers a range of pharmaceutical formulations and active pharmaceutical ingredients (APIs) across global markets. The company operates state-of-the-art manufacturing units, exports to 40+ countries, and relies heavily on digital platforms to manage intellectual property (IP), production automation, quality assurance, and regulatory submissions. As it scales globally, cybersecurity and compliance have become critical enablers of sustained trust and operational resilience.

Industry	Pharmaceuticals and Biopharmaceuticals
Challenge	Safeguarding digital R&D, securing global operations, and ensuring regulatory compliance
Solutions Used	Invinsense XDR, XDR+, OXDR, GSOS

The Challenge

Operating at the intersection of science and technology, the organization faced distinct cybersecurity and regulatory challenges:

Protecting proprietary R&D data and formulae stored across cloud-based lab systems and internal data lakes

Managing digital risk across geographically dispersed manufacturing units

Complying with pharmaceutical data protection regulations like US FDA 21 CFR Part 11, EU GMP Annex 11, and India's CDSCO norms

Securing collaboration platforms used by scientists, regulatory affairs teams, and manufacturing operators

Detecting threats that could compromise lab automation systems and IP pipelines

- Minimizing dwell time of attackers in sensitive environments

The Invinsense Solution

The company adopted Invinsense to proactively detect, validate, and respond to threats across R&D, production, and global compliance systems — while embedding security in their innovation lifecycle.

Invinsense XDR: Visibility Across Science, Systems, and Supply Chain

Invinsense XDR delivered real-time monitoring and response across the customer's hybrid environment — including cloud-hosted lab management systems, smart manufacturing units, ERP, and remote R&D setups.

Key Results:

- Reduced mean time to detect (MTTD) from 18.5 mins to 4.9 mins
- Achieved 86% visibility into devices used in manufacturing automation
- 3.8x increase in early detection of threats in IP repositories
- Correlated security events with supply chain workflows, improving alert triage accuracy by 61%

Invinsense OXDR: CTEM Tailored to R&D and Compliance Risk

The organization initiated a CTEM (Continuous Threat Exposure Management) program to continuously assess and mitigate risks across research, production, and regulatory platforms.

Scoping	• Mapped 2,700+ assets across lab networks, regulatory data portals, IoT systems, and cloud workloads • Identified 112 shadow applications used for file-sharing by research teams
Discovery	• Discovered 186 high-risk vulnerabilities in legacy quality assurance modules and outdated production controllers • Detected API keys exposed in Git-based collaborative coding environments
Prioritization	• Focused on vulnerabilities impacting data integrity in FDA-regulated lab data • Emulated potential lateral movement from collaboration portals to regulatory document repositories
Validation	• Simulated attacker path from phishing-infected R&D devices to IP data stores • Tested ransomware impact on formulation database backups and validated recovery playbooks
Mobilization	• 73% of exposed assets were patched within the first 60 days • Security engineering team deployed 18 custom remediation workflows integrated into change control systems

Key Result

- 3.8x improvement in early-stage threat detection across R&D environments
- 73% of exposed assets patched in first 60 days
- 92% compliance alignment with global pharmaceutical data standards
- 5.4x increase in detection accuracy via deception assets

Executive Insight

"In our industry, data integrity is life-critical. Invinsense allowed us to protect what matters most — from molecule to market — with clarity, agility, and complete oversight."

CTEM Outcome:

- Time to validate high-risk exposures reduced by 62%
- Mean attacker dwell time dropped from 11 days to 3
- 4.1x improvement in patch validation success rate across distributed units

Invinsense XDR+: Deceptive Defense for Intellectual Property Zones

Deception environments were crafted to mimic real IP repositories, lab processing modules, and legacy manufacturing PLCs, drawing in and studying adversary behavior.

Results:

Detected 3 targeted IP reconnaissance attempts via decoy repositories	Increased attacker interaction time by 5.4x	Enabled faster attribution of suspicious activity to insider threat vectors	Early alerting from deception helped preempt 2 credential compromise campaigns

Invinsense GSOS: Global Pharma Compliance Made Traceable

GSOS was used to align cybersecurity controls to multiple regulatory mandates — including:

21 CFR Part 11 (electronic records and signatures)	EU GMP Annex 11 (computerized systems)	India CDSCO digital safety requirements	GAMP 5 guidelines for system validation

Compliance Results:

92% alignment with targeted pharma regulatory controls	Reduced time to generate audit documentation by 78%	Enabled 100% traceability of system changes and access logs	Dashboards simplified board-level oversight and internal audit workflows

Quantifiable Impact

Category	Improvement
Threat Detection Time	↓ from 18.5 to 4.9 mins
IP Zone Visibility	↑ 3.8x
CTEM Risk Validation Speed	↑ 62%
Compliance Alignment (Pharma-specific)	↑ 92%
Deceptive Defense Engagement	↑ 5.4x attacker interaction time
Audit Prep Efficiency	↑ 78%

Conclusion

For life sciences companies driving innovation and operating under strict global regulations, cybersecurity isn't a checkbox — it's a catalyst. By integrating Invinsense across threat detection, exposure validation, deceptive defense, and compliance, this pharmaceutical leader now advances science with digital trust at its core.

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