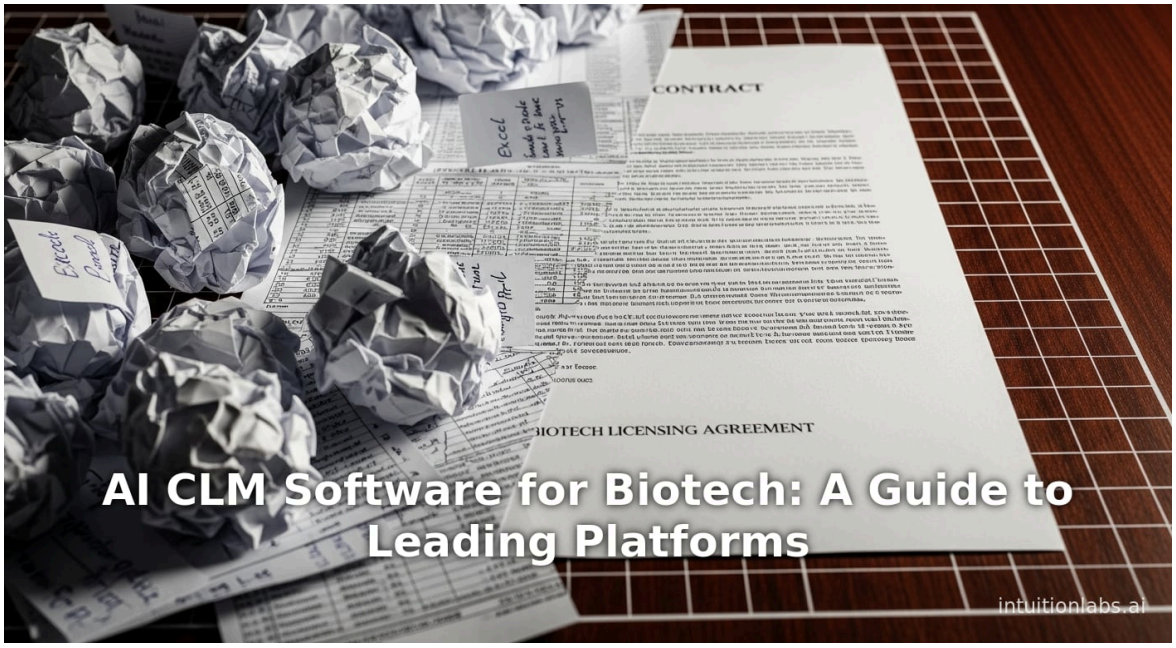
# AI CLM Software for Biotech: A Guide to Leading Platforms

By Adrien Laurent, CEO at IntuitionLabs • 12/29/2025 • 50 min read

contract lifecycle management | clm software | ai in biotech | biotech contract management | regulatory compliance | clinical trial agreements | contract automation



# Executive Summary

Robust Contract Lifecycle Management (CLM) is becoming mission-critical in the biotech industry, a sector characterized by complex regulatory requirements and voluminous contracting. Historically, biotech firms have managed thousands of contract types – clinical trial agreements, licensing contracts, supply and distribution deals, and more – using ad hoc methods like email and Excel spreadsheets. Such manual approaches are error-prone and lack audit trails, exposing organizations to compliance risks and inefficiencies ([1] www.gartner.com) ([2] vendorpanel.com). In response, the biotechnology sector is rapidly adopting modern CLM platforms powered by artificial intelligence (AI) and automation. Market research indicates the global CLM solutions market reached **$1.64 billion in 2024** and is projected to grow at ~12.8% CAGR to **$3.47 billion by 2032** ([3] www.fortunebusinessinsights.com). Notably, healthcare and life sciences account for a substantial segment of this market, as pharmaceutical and biotech companies move off spreadsheets onto enterprise CLM systems ([3] www.fortunebusinessinsights.com) ([4] intuitionlabs.ai).

Leading-edge AI-augmented CLM tools promise to streamline every stage of contracting – from automated drafting and clause extraction to intelligent risk scoring and milestone tracking. Industry analysts and executives report dramatic improvements: for example, Conga's healthcare lead noted that an AI-driven CLM implementation cut site investigator onboarding times by 50% (from 120 to 60 days) in oncology trials ([5] www.appliedclinicaltrialsonline.com). More broadly, efficient CLM can slash contract cycle times by ~33% on average, potentially accelerating drug development timelines by many months ([6] www.appliedclinicaltrialsonline.com). Large pharma and biotech adopters – including top-5 and top-15 global firms – have leveraged CLM to improve data visibility, standardize templates, and meet regulatory deadlines, whereas smaller biotech firms can now scale operations and expedite partnerships by deploying these platforms ([7] www.appliedclinicaltrialsonline.com) ([8] www.appliedclinicaltrialsonline.com).

Several AI-Capable CLM vendors dominate the market. **Icertis** is consistently cited as a leader (recognized in Gartner's 2024 Magic Quadrant for the fifth year running) ([9] www.businesswire.com). Icertis' "AI-powered contract intelligence" solution serves enterprises in 90+ countries, supporting over 30% of Fortune 100 companies ([10] www.businesswire.com), including many life sciences leaders. **Conga** (formerly Apttus) offers Salesforce-integrated CLM with "Contract Intelligence" features; its industry lead reports Conga's platform has been adopted by major pharma companies, yielding measurable reductions in trial start-up time ([7] www.appliedclinicaltrialsonline.com) ([8] www.appliedclinicaltrialsonline.com). **DocuSign's SpringCM** leverages its e-signature pedigree to deliver a user-friendly CLM with AI search and workflow capabilities ([11] bestcontractlifecyclemanagementsoftware.com). **Agiloft** provides a highly adaptable, no-code CLM (with strong customer satisfaction and a guaranteed implementation success rate of 99.6%) ([12] www.agiloft.com). **Sirion** is noteworthy as an "AI-native" CLM, emphasizing NLP-driven clause risk assessment and pharma-specific templates ([13] www.sirion.ai) ([14] www.sirion.ai). Other specialized solutions (e.g. Malbek CLM integrated with Veeva CRM) further tailor CLM to life sciences workflows ([15] www.malbek.io). (For a comparison of leading platforms, see Table 1 below.)

Empirical data and expert analyses consistently show that adopting AI-enhanced CLM transforms biotech contract management. Organizations report multi-month accelerations in trial timelines, far fewer manual errors, and improved regulatory compliance. In one case, a major international pharmaceutical firm automated its entire CLM process (4,500 contracts) and cut legal workload by saving over 180 hours per month, halving contract turnaround time ([16] www.atqor.com) ([17] www.atqor.com). These efficiency gains can translate into significant financial value: Gartner estimates 60–80% of all B2B revenue flows are governed by contracts ([18] www.fortunebusinessinsights.com), so squeezing 8–18% of executive time out of contract management (as reported in industry surveys ([19] www.fortunebusinessinsights.com)) and avoiding delays has huge payoff. At the same time, life science firms must navigate new AI governance challenges – only ~50% currently have AI

policies or audits in place ([20] www.axios.com) – and comply with emerging regulations on data use, patient privacy, and algorithmic transparency.

Looking ahead, AI-driven CLM will advance further. Generative AI now enables automated contract drafting, advanced risk analysis, and negotiation support that was science-fiction until recently ([21] legalbriefs.deloitte.com) ([22] legalbriefs.deloitte.com). For biotech, this evolution portends faster drug development and more collaborative partnerships.However, it also raises questions of trust and control: industry reports caution that executives must implement guardrails now as AI adoption accelerates ([20] www.axios.com) ([22] legalbriefs.deloitte.com). In sum, the convergence of contract management and AI is revolutionizing how biotech companies handle their most critical agreements. This report provides a deep-dive into the history, current state, leading solutions, evidence from case studies, and future directions of AI-enhanced CLM in the biotech context, with extensive citations to industry data, academic research, and expert commentary.

# 1. Introduction and Background

## 1.1 Contract Lifecycle Management Defined

Contract Lifecycle Management (CLM) refers to the processes and technology used to manage contracts from initiation through execution, compliance, and renewal. Gartner's definition emphasizes that CLM is "a solution and process for managing the life cycle of contracts created and/or administered by or impacting the company," including all types of third-party agreements (outsourcing, procurement, sales, NDAs, IP licenses, etc.) ([1] www.gartner.com). In practice, CLM systems digitize and automate the entire contracting workflow: requests, authoring and negotiation, approvals, execution (including e-signature), and ongoing obligation tracking, audit, and analytics ([1] www.gartner.com) ([23] pioinc.com). By replacing fragmented filing systems and manual trackers, CLM enables organizations to optimize contract performance, enforce compliance, and integrate contract data with other business systems (ERP, CRM, HCM, etc.) ([1] www.gartner.com) ([23] pioinc.com).

In biotechnology and pharmaceutical industries, contracts are the lifeblood of nearly every activity: from early-stage research agreements and clinical trial contracts ( Clinical Trial Agreements, Clinical Research Organization (CRO) agreements, Confidential Disclosure Agreements) to manufacturing sublicenses, distribution agreements, supplier contracts, clinical investigator site agreements, and partnerships or mergers & acquisitions. Efficient CLM ensures regulatory compliance across global jurisdictions (FDA, EMA, GxP standards, HIPAA data protection, etc.), just-in-time trial start-ups with clinical sites and partners, proper management of research collaborations and IP licenses, and robust financial oversight of payment terms and budgets ([24] www.sirion.ai) ([25] www.sirion.ai). For example, Sirion's industry analysis emphasizes that poor contract management in pharma "can derail critical timelines, increase legal exposure, and threaten patient outcomes," especially given frequent use of sensitive data and complex supply chains ([26] www.sirion.ai). Outsourcing adds further complexity: with increased reliance on CROs and service partners, biotech companies now must negotiate thousands of outsourced agreements. One authoritative source notes that "budget and contract negotiation are the biggest causes for delays in clinical trials" ([27] www.sirion.ai), underlining that contracts are a critical bottleneck to drug development.

## 1.2 The Biotech Contract Environment

The life sciences sector is heavily regulated: in the U.S., the FDA enforces rigorous rules (under the Food, Drug, and Cosmetic Act) on every aspect of drug development, from clinical testing to manufacturing labeling. Similarly, the EMA, TGA, MHRA and other agencies worldwide impose extensive compliance requirements. As

Gatekeeper reports, each biotech or pharmaceutical business must meet "hundreds of regulations and obligations," making evidence of compliance indispensable ([28] www.gatekeeperhq.com) ([29] www.gatekeeperhq.com). Demonstrating regulatory adherence requires meticulous contract controls. For instance, contracts with suppliers and research sites must include clauses reflecting FDA and EMA guidelines, patient data handling requirements (HIPAA/GDPR), and product liability terms; failure to include or audit these clauses can lead to penalties.

Managing these obligations manually is untenable at scale. Gatekeeper emphasizes that manual contract tracking "is only viable up to the point where available resources can cope; beyond that, the risk increases rapidly" due to coverage gaps (important contracts not managed) and attention deficits (critical contracts not given sufficient oversight) ([30] www.gatekeeperhq.com). In biotech, missing a key FDA reporting deadline or a renewal for a clinical study agreement can delay trials and cost millions. Thus, CLM technology that automates reminders, tracks compliance, and provides an audit trail is of paramount importance ([31] www.gatekeeperhq.com) ([32] www.gatekeeperhq.com).

Volume is a major factor. Biotech firms often generate contracts at a high rate. In one documented case from a preclinical biopharma, 150 or more new contracts were produced per quarter – a mix of vendor agreements, toxicology study contracts, consulting terms, etc. ([33] linksquares.com). Without a centralized system, this volume can overwhelm lean legal teams. CLM tools promise to ingest and make searchable all these documents, extracting metadata and clause information so that companies can avoid "pile-ups" and quickly find historical reference when needed (e.g., to see how a clause was negotiated in past trials ([34] www.appliedclinicaltrialsonline.com)).

CLM thus bridges biotech's strategic objectives: speeding up time-to-market for therapies (by expediting trial site onboarding and agreements), ensuring compliance in a heavily regulated environment, and protecting corporate interests (standardizing contract language and reducing risk). With such critical stakes, the sector is moving decisively toward enterprise CLM platforms. Early research and pilot programs are giving way to widespread adoption; for example, industry surveys show 75% of life sciences executive teams have begun integrating AI into their operations in the past two years ([20] www.axios.com) – a trend directly affecting CLM practices, since AI tools are a key enabler of modern contract automation.

## 1.3 Evolution from Spreadsheets to Automated CLM

Contract management in biotech has historically been managed by decentralized means. Simple agreements might once have been tracked via email threads, filing cabinets, or standalone spreadsheets. These ad-hoc methods lacked controls: spreadsheets offer easy data entry but no robust version control or audit trail ([2] vendorpanel.com) ([35] intuitionlabs.ai). This means that any employee could alter a contract tracker unchecked, leading to errors and omissions. Even minor typos or missed deadline entries in an Excel file can cascade into compliance lapses or financial losses ([2] vendorpanel.com) ([36] vendorpanel.com).

In the last decade, enterprise CLM systems emerged to replace these manual methods. Early CLM software provided simple document repositories and basic workflow automation. Today's CLM solutions are much more sophisticated: they are cloud-native platforms integrated with CRM and ERP systems, and often embed advanced analytics and AI. As one industry overview notes, modern CLM now "automates and streamlines the entire lifecycle of contracts" (authoring, approval, execution, compliance, renewal) and delivers law/finance teams actionable intelligence from contract data ([23] pioinc.com) ([37] pioinc.com). For example, automation can automatically generate alerts for renewal or termination dates, circulate redline drafts for approval, and track budgets relative to contract obligations.

Academic and market research confirm this rapid evolution. For instance, a 2022 VentureBeat analysis highlighted Icertis's "AI Studio" – a self-learning tool to generate contract intelligence – as part of a wave of

contract intelligence platforms ([38] venturebeat.com). Meanwhile, Gartner reports that most CLM vendors now offer AI/ML-driven features that link contract data with other business systems, effectively making contracts "intelligent" business assets ([38] venturebeat.com). The shift from spreadsheets to integrated CLM is particularly acute in sectors like biotech: Fortune Business Insights notes that healthcare and life science organizations are among those "moving from spreadsheets toward AI-enabled CLM platforms to improve efficiency and compliance" ([39] intuitionlabs.ai). This digital transformation is driven in part by the recognition that contracts are not just legal artifacts but strategic assets that govern revenue flow – a viewpoint underscored by Gartner's assertion that 60–80% of B2B revenue is regulated by contracts ([18] www.fortunebusinessinsights.com).

In summary, the current backdrop is this: Biotech organizations need to manage complex contract portfolios under tight regulatory scrutiny, and the traditional methods are failing to keep pace. CLM software, now infused with AI, has matured to meet these challenges by centralizing data, automating workflows, and surfacing insights. The sections that follow examine the CLM market in biotech, detail how AI and automation are being applied in practice, survey the leading platforms, analyze quantitative impacts, review case studies, and discuss future directions. All statements are supported by the latest industry reports, case studies, and expert analyses.

# 2. The CLM Market and Adoption in Biotech

## 2.1 Market Growth and Segmentation

The CLM software market is experiencing robust growth, reflecting global corporate demand for contract automation. A comprehensive market analysis by Fortune Business Insights (2025) reports that the **global CLM solutions market** was valued at **$1.64 billion in 2024**, and is expected to reach $3.47 billion by 2032 (a CAGR of ~12.8%) ([3] www.fortunebusinessinsights.com). North America currently dominates (~39.1% share in 2024 ([3] www.fortunebusinessinsights.com)), but significant opportunities exist worldwide as digitization expands. Healthcare and life sciences are highlighted as key segments: Fortune specifically notes that biotech/pharma contracts (from R&D collaborations to clinical supply deals) drive demand for CLM in that sector ([4] intuitionlabs.ai) ([3] www.fortunebusinessinsights.com). In fact, Fortune observes that life sciences had long relied on shared drives and spreadsheets until recently ([4] intuitionlabs.ai); the rapid growth forecasts indicate that adoption in this segment is accelerating.

Several factors underpin this market surge. The COVID-19 pandemic itself spurred legal technology investments. A post-pandemic study found legal departments ramped up technology budgets to enable remote contract management – indeed, nearly half of legal leaders reported an increase in legal tech spend due to COVID-19 circumstances ([40] www.fortunebusinessinsights.com) ([41] www.fortunebusinessinsights.com). Many companies that were forced to contract virtually realized that manual processes (paper or spreadsheets) were no longer viable under remote-work conditions, prompting new CLM implementations ([42] www.fortunebusinessinsights.com). For example, the front-page market report notes that before the pandemic, many organizations only used CLM for portions of their contract workflow; afterwards they "were forced to adopt automated CLM solutions to move forward with their businesses" ([42] www.fortunebusinessinsights.com). This trend has continued, making CLM a high-growth niche in enterprise software.

From a buyer's perspective, the CLM segment is increasingly influenced by integration needs. Fortune notes CLM tools now commonly connect with ERP, CRM, eSignature, and clinical trial management systems ([43] intuitionlabs.ai), filling the silo between contracting and broader enterprise processes. This integration is especially pertinent in biotech: for instance, CLM platforms are being linked with specialized life-science systems such as clinical trial management systems (CTMS) or Veeva Vault to enable seamless hand-off between regulatory documentation and legal contracting ([44] www.sirion.ai) ([15] www.malbek.io). In short, the market is not just growing in size but also in complexity and specialization to fit life sciences workflows.

## 2.2 Adoption Drivers in Life Sciences

Several compelling drivers motivate CLM adoption in biotech:

- **Operational Efficiency and Time-to-Market**: Contracts are a known bottleneck in clinical development. Studies have repeatedly shown that contracting delays can postpone trial initiation. For example, industry experts report that nearly **50% of study delays arise from contracting and budget negotiations** ([45] www.appliedclinicaltrialsonline.com) ([6] www.appliedclinicaltrialsonline.com). By automating CLM workflows, companies dramatically shorten these delays: Conga's healthcare lead observed that a standardized, automated CLM process cut a trial's site onboarding time by half (reducing 120 days to 60 for an oncology study) ([5] www.appliedclinicaltrialsonline.com). Overall, streamlined CLM can reduce contract cycle times by roughly **33% on average**, potentially trimming six or more months from drug development timelines ([6] www.appliedclinicaltrialsonline.com).

- **Compliance and Risk Management**: As noted above, biotech contracts embed regulatory obligations (FDA, HIPAA, GxP, etc.). CLM tools help enforce compliance by embedding rules into clause libraries and workflows ([46] www.gatekeeperhq.com) ([47] www.sirion.ai). Gatekeeper emphasizes that CLM can ensure every contract's obligations are fulfilled and documented, especially crucial for proving compliance during audits ([48] www.gatekeeperhq.com) ([49] www.sirion.ai). Because regulatory errors in biotech can lead to clinical holds or fines, many firms are adopting CLM to mitigate legal risk. Sirion's coverage notes that AI-powered CLM helps flag "risky terms hidden deep in contracts" and automated redlining ensures compliance standards are met ([13] www.sirion.ai).

- **Data Visibility and Decision Support**: Centralizing contracts into a searchable repository gives biotech companies a historical perspective on negotiations and obligations. Executives and R&D managers can query past agreements (e.g., how a third-party funding clause was negotiated) to inform current deals ([34] www.appliedclinicaltrialsonline.com). The adoption of AI enhances this further: AI can extract and summarize key contract data (budgets, durations, clause variants) from both new and legacy documents, making it possible to quickly gather insights for forecasting and strategic planning ([50] www.appliedclinicaltrialsonline.com) ([51] www.appliedclinicaltrialsonline.com). Without such tools, valuable knowledge often remains trapped in legal departments.

- **Financial Impact**: Contracts affect the company's bottom line – governing revenue streams, royalties, and costs. Gartner highlights that a majority of corporate finances flow through contracts (60–80% of all B2B revenue contracts) ([18] www.fortunebusinessinsights.com). Efficient CLM helps ensure companies realize promised revenues and control expenses (e.g., by tracking milestone payments or rebates). It can also generate cost savings: CLM automates laborious manual tasks, thereby reducing legal and administrative overhead. One survey of executives found that C-level leaders spend **roughly 18%** of their time on contracting ([19] www.fortunebusinessinsights.com); an automated system could significantly cut this time, allowing those executives to focus on core business strategy. Indeed, CLM vendors frequently cite high ROI from implementations (for instance, one case study reported a 3500% ROI from AI-CLM adoption ([52] www.evisort.com), although such figures are vendor-provided).

- **Cultural and Strategic Alignment**: The trend toward AI in biotech research (for drug discovery, trial design, etc.) has pushed companies to align contract strategy with their broader AI strategy. As Forrester analysts observe, an organization's generative AI ambitions must be reflected in its contracts (e.g., licensing terms for algorithms, data usage clauses) ([53] www.forrester.com). A mature CLM system serves as "the bridge between strategy and reality" by ensuring that new AI initiatives are correctly codified in agreements ([53] www.forrester.com). Without this alignment, AI deployment could run afoul of existing contractual or regulatory frameworks.

Survey data corroborate the urgency in life sciences: an 2024 survey of 100 biotech leaders by Arnold & Porter (reported in Axios) found that **75%** have already begun implementing AI across their operations, and **86%** plan to deploy AI tools widely within two years ([20] www.axios.com). However, only about half have formal AI governance today ([20] www.axios.com), indicating that contracts (often negotiated by legal teams) are one of the last links to be upgraded for AI-readiness. CLM platforms that incorporate AI thus are both driver and beneficiary of the biotech sector's AI transformation.

## 2.3 Challenges and Considerations

Despite clear benefits, CLM adoption faces challenges in biotech. The complexity of implementation, need for process change, and cross-functional coordination (legal, procurement, R&D, IT) can slow deployment. Early adopters note that migrating legacy contracts into a new system is labor-intensive. Moreover, life sciences contracts often involve external stakeholders (CROs, KOLs, tech partners) who may need to adapt to the firm's new processes or portals. Data privacy concerns (handling PHI/PII in contracts) must be addressed, requiring secure hosting and role-based access controls (e.g. CLM systems must comply with GDPR, HIPAA, 21 CFR Part 11) ([54] www.sirion.ai).

Another critical consideration is change management. Legal and business teams may resist automating tasks they previously handled manually – issues of trust in AI "first-pass" reviews remain. A Docusign industry analysis predicts that by 2025, up to **70% of legal professionals** will use generative AI tools for contract work ([55] www.docusign.com), but emphasizes that these tools should assist rather than replace human review. Many leaders worry about giving AI the "final pass" on negotiated terms without oversight ([56] www.docusign.com). Thus, companies must carefully govern AI usage, balancing speed with accuracy and maintaining audit records of AI-driven changes. Survey results reflect this tension: while adoption is high, 53% say they lack clear policies on AI, and only about half conduct regular audits of AI output ([20] www.axios.com). Any CLM implementation in biotech must therefore include robust governance frameworks and data auditing to ensure both compliance and stakeholder confidence.

Finally, resource constraints can be an issue for smaller biotech firms. Implementing an enterprise CLM tool can be costly and complex. Specialized solutions targeting mid-market biotech (often with pre-built templates and lower pricing) are emerging, but selecting the right platform requires expertise. Consulting organizations note that aligning CLM objectives with business goals is key: a successful deployment must map CLM workflows to the company's specific contract types and approval hierarchies ([57] www.gatekeeperhq.com) ([58] www.gatekeeperhq.com).

In the next section, we delve into how AI and data analytics empower modern CLM, illustrating the technology's capabilities and the measurable impact observed in real-world biotech deployments.

# 3. AI and Automation in CLM

AI and automation are transforming CLM from a static repository of documents into an intelligent, proactive system. In this section, we explore the technical landscape: what AI-driven CLM features exist, how they work, and what benefits they deliver.

## 3.1 AI-Enabled CLM Capabilities

**Natural Language Processing (NLP) and Clause Extraction.** Modern CLM systems use NLP to parse contract text and automatically identify structured information. On intake, documents (including PDFs and scanned originals) are ingested into the system. NLP algorithms then extract clauses, metadata, and key data tables (such as payment schedules or budget line items) from these contracts. For life sciences, this means critical clinical trial budgets, milestone amounts, confidentiality clauses, indemnities, and regulatory obligations can be tagged automatically ([34] www.appliedclinicaltrialsonline.com). For example, Conga's CLM can automatically ingest historical clinical trial agreements and "extract clauses, metadata, and budget tables" so that a company can quickly mine past negotiations ([50] www.appliedclinicaltrialsonline.com). This makes even older, off-system contracts "searchable" and fuels template libraries.

**Automated Risk and Compliance Analysis.** After ingestion, AI can analyze contract content to flag potential issues. Machine learning models (often trained on annotated corpora of contracts) can classify clauses by type (e.g. "indemnification", "IP license") and assess deviations from desired standards. Many CLM platforms incorporate a risk engine: for any flagged clause (e.g. a liability clause that is unusually broad), the system highlights it in the UI and can provide a risk score. As one vendor explains, AI "uncovers risky terms hidden deep in contracts using AI-led legal contract review and automated redlining," helping teams negotiate "airtight agreements" ([13] www.sirion.ai). In biotech specifically, these tools can, for instance, ensure all clinical trial agreements include mandated reporting clauses or that manufacturing contracts meet Good Manufacturing Practice (GMP) standards ([13] www.sirion.ai).

**Template and Playbook Rationalization.** Biotech companies often accumulate hundreds of slightly different contract templates to meet varied department needs, geographies, or partners. AI tools can analyze these templates en masse: clustering similar documents, identifying redundant or inferior clause versions, and suggesting a consolidated set of "best-of-breed" templates. Tom Cowen of Conga notes that AI can "analyze and consolidate" the overwhelming variety of templates across countries and therapeutic areas, thereby building a stronger standard clause library ([59] www.appliedclinicaltrialsonline.com). The system can further recommend fallback language based on historical negotiations: for example, if "Mass General always insists on a specific indemnity clause, the AI flags that and reminds negotiators of the risk ([60] www.appliedclinicaltrialsonline.com). This intelligent playbook drastically reduces manual template maintenance and improves contract consistency.

**Intelligent Workflow and Negotiation Support.** AI-infused CLM provides context during drafting and negotiation. For instance, if a contract clause is modified, the system's online negotiation interface can check against the clause library or previous agreements to confirm compliance or optimality of the change ([61] www.gatekeeperhq.com). Some CLM platforms embed chatbot-like agents that answer user questions ("What version of this clause did we use last time?") or suggest edits. Salesforce-integrated CLMs (like Conga) allow sales reps or medical affairs to generate contracts with pre-approved clauses on the fly, pulling from the AI-curated template store. In short, these tools ensure that as contracts evolve, AI governs the change process by route and approving or escalating exceptions.

**Data Analytics and Reporting.** Beyond clause-level intelligence, CLM systems accumulate portfolio-wide data. AI models can perform predictive analytics — for example, forecasting which contracts are likely to slip or which partners pose high credit risk, based on historical trends. Advanced CLM dashboards let biotechs identify bottlenecks (e.g. which phase — drafting, legal review, or exec approval — takes the longest on average) and apply data-driven process improvements. According to industry analysts, this transforms legal departments from mere custodians of signed documents into strategic advisors: "AI studio… provides real-time insights and decision-making" by connecting contract data to financial and operational systems ([38] venturebeat.com).

## 3.2 Generative AI and the Future of Contract Drafting

The latest frontier is generative AI. While current CLM tools excel at extracting and analyzing contract text, generative models (like GPT-4 and similar large language models) can **create new contract content**. Leading consulting firms predict this shift will further revolutionize CLM ([21] legalbriefs.deloitte.com) ([22] legalbriefs.deloitte.com). For example, Deloitte envisions generative AI filling in first drafts of contracts: by training on a company's prior agreements, an AI could draft a tailored clinical trial agreement or collaboration contract almost instantaneously ([62] legalbriefs.deloitte.com). This capability could save legal teams "countless hours of manual work" and reduce human error in drafting ([63] legalbriefs.deloitte.com).

Generative AI also enhances review: rather than only flagging clauses, a model might summarize entire contract risks in plain language, propose alternate phrasing, or simulate negotiation trade-offs. In negotiations, a generative agent could suggest effective counteroffers by analyzing past deal outcomes ([22]

legalbriefs.deloitte.com). Early CLM products are beginning to introduce AI-driven "briefing sheets" or chatbot advisors for in-house counsel. Though still nascent, this suggests future CLM will not just manage contracts but actively compose and negotiate them with human oversight. (However, current guidance emphasizes that human experts always review AI outputs — the AI's draft is a "first pass," not the final one ([55] www.docusign.com).)

## 3.3 Impact of AI on Contract Efficiency

Empirical evidence supports the promise of AI in CLM. The Applied Clinical Trials articles (Conga) document such impacts: an efficient CLM system (even pre-AI) can shorten contract cycle times by ~33% and cut six months off typical clinical trials ([6] www.appliedclinicaltrialsonline.com). When AI is layered in, the improvements compound. One case noted that using AI-powered CLM tools led to a 50% reduction in site onboarding times for trials ([5] www.appliedclinicaltrialsonline.com). This aligns with the understanding that document automation and clause reuse can essentially halve negotiation hours for routine agreements.

In financial terms, delays avoided are valuable: industry estimates have quantified the cost of one day's delay in drug development in the hundreds of thousands of dollars. By accelerating trial start-up and execution via faster contract turnaround, firms can achieve significant revenue gains. Moreover, reducing manual effort brings labor cost savings: in a documented case, a pharma firm eliminated over **400 hours per month** of manual clause validation through AI automation ([16] www.atqor.com). In that same case, the company tracked a 50% cut in contract turnaround time and a **70% drop in missed renewals** ([17] www.atqor.com). These metrics (180+ legal hours saved, fewer lapses) illustrate how AI in CLM frees legal teams to focus on strategic issues rather than administrative busywork.

Across industries, buyers of CLM report high ROI. For example, Workday digitized its CLM with Evisort's AI and claimed a 3500% ROI ([52] www.evisort.com). While vendor-provided figures should be taken with caution, multiple case studies consistently show payback periods of months rather than years. In biotech, the value is magnified by the high stakes of drug timelines: accelerating a study's FDA filing by even a few months can pay for the CLM investment many times over. Finally, improved compliance itself has cost benefits: CLM systems with AI reduce the risk of fines or contract disputes, which in regulated pharma can easily involve multi-million-dollar liabilities.

## 3.4 Challenges of AI Integration

It must be noted that deploying AI in CLM is not without issues. Accurate AI requires good training data; if a company's contracts are very unique, the model may need customizing. Privacy and data control concerns arise (especially for cloud-hosted AI models handling sensitive clinical data). Moreover, an organization needs to retrain or recalibrate AI models as laws change – for instance, AI clauses themselves may fall under new regulations (EU AI Act). Therefore, firms must plan for ongoing governance.

Another factor is user trust: surveys find many executives still prefer human review. A recent industry forecast asserts that although 70% will use AI tools, legal leaders emphasize those tools are for "first pass" review ([55] www.docusign.com). In practice, many CLM deployments start by automating low-risk document types (e.g. purchase orders or NDAs) to build confidence before tackling complex R&D contracts. Agencies often require explicit audit trails of how AI-derived changes were made, which becomes part of the CLM system's job.

In summary, AI brings powerful new capabilities to CLM, enabling biotech companies to manage high-volume, high-stakes contracting more efficiently. Case studies (detailed later) and industry analyses consistently confirm reductions in cycle time and risk. But successful adoption demands careful planning, user training, and

governance to ensure that automation indeed enhances oversight rather than obscuring it. The next section surveys the leading AI-enabled CLM platforms that biotech companies are evaluating and deploying.

# 4. Leading AI-Enabled CLM Platforms for Biotech

This section profiles the major CLM platforms with AI capabilities, emphasizing those widely used or well-suited for life sciences organizations. It includes an overview table (Table 1) and narrative descriptions with supporting references.

**Table 1.** *Comparison of key AI-Capable CLM platforms and their relevance to biotech/life sciences.* (Capacities are illustrative; see text for sources and details.)

| Vendor | AI/CLM Capabilities | Life Sciences Focus / Notable Integrations |
|---|---|---|
| **Icertis** | Market-leading "Contract Intelligence" platform with extensive AI/ML and NLP. Features include AI Studio for custom models, obligation management, and NLP-based data extraction ([38] venturebeat.com) ([10] www.businesswire.com). | Offers a dedicated Pharma & Biotech solution; deployed in >30% of Fortune 100 companies including **5 of the top 7 pharma firms** ([64] www.icertis.com). Integrates with SAP Ariba/S4, Salesforce, and other enterprise apps for end-to-end visibility. (Recognized as a Gartner CLM Leader 2024-2025 ([9] www.businesswire.com).) |
| **Conga** (formerly Apttus / Conga CLM) | Salesforce-native CLM suite with AI-driven analytics ("Conga Contract Intelligence"), clause library, and workflow automation. Supports deep analytics and machine learning on contract portfolios. In CRM workflows, it can auto-populate contracts and suggest fallback clauses during negotiations. ([34] www.appliedclinicaltrialsonline.com) ([65] bestcontractlifecyclemanagementsoftware.com) | Widely used in pharma/biotech and other sectors. Conga's Head of Life Sciences reports Conga CLM has been implemented by multiple top-tier pharma companies (including Gilead, top-5 and top-15 firms) to manage CTAs and supplier contracts ([7] www.appliedclinicaltrialsonline.com) ([66] www.appliedclinicaltrialsonline.com). Designed for seamless integration with Salesforce-based platforms, aligning commercial teams and legal. |
| **DocuSign CLM** (incorporating SpringCM) | Cloud CLM solution leveraging DocuSign's eSignature capabilities. Offers an intuitive contract repository, AI-powered search, and configurable workflows. Forrester has noted strengths in file organization and distribution with Salesforce compatibility ([11] bestcontractlifecyclemanagementsoftware.com). | As a market leader (Gartner MQ Leader), DocuSign's CLM is adopted broadly, including by biotech and pharma entities that already use DocuSign eSignature. Its integration of signature, negotiation, and CLM appeals to organizations seeking an all-in-one agreement cloud. |
| **Agiloft** | Highly-configurable, no-code CLM platform with strong AI/ML modules (OOP-style rules engine and adaptive workflows). Known for rapid deployment options and customer-centric flexibility. | Used by both SMBs and enterprises (including government and FORTUNE 500). It emphasizes customer success and is recognized for a 99.6% implementation success rate ([12] www.agiloft.com). Its no-code approach appeals to companies with complex processes (like biotech) or changing requirements. |
| **SirionLabs (Sirion)** | AI-first CLM focused on post-signature performance and risk. Leverages NLP to surface risks and obligations across value-chain contracts. New "agentic CLM" features allow conversational AI interactions with the contract database. ([13] www.sirion.ai) ([14] www.sirion.ai) | Pitching strongly to Pharma: provides built-in support for Clinical Trial Agreements, site monitoring, manufacturing/supply contracts, etc. VB resources emphasize its AI-led review for "risky terms" in pharma contracts ([13] www.sirion.ai). Integrates with clinical and financial systems (Veeva Vault, SAP, Oracle, eTMF) for 360° visibility ([67] www.sirion.ai). |

| Vendor | AI/CLM Capabilities | Life Sciences Focus / Notable Integrations |
|---|---|---|
| **Malbek** | Native Salesforce CLM platform. Includes AI-based clause tagging and repository. Emphasizes real-time contract insights and analytics within the Salesforce environment. | Specifically markets a Veeva CRM integration for life sciences ([15] www.malbek.io). This allows biotech/medical device companies to manage CTAs and regulatory documents in line with their sales workflows, unifying clinical/commercial contracting. |
| **LinkSquares** | Cloud CLM targeted at SMBs and mid-market. Uses AI to auto-ingest legacy contracts and extract metadata; includes a new "agentic AI" assistant (LinkAI) for Q&A on contracts. | Growing presence in tech and life sciences sectors. Their marketing highlights ease of implementation for companies that've outgrown simple spreadsheets. (Their illustrative eBook cites an example of a biopharma overwhelmed by 150 contracts/Q before acquiring CLM ([33] linksquares.com).) |
| **ContractPodAi** | End-to-end CLM with built-in Microsoft Office integration and AI clause library. Includes a virtual data room and AI search. | Noted for strong AI-powered redlining and analytics. Marketed to large enterprises, including some healthcare organizations. |
| **Others** | **(e.g., Coupa/Exari, CobbleStone, Onit, Apttus)** | Various; most have added AI features or analytics. For example, Onit offers legal workflow automation, Apttus (now Conga) integrated Salesforce, and CobbleStone provides a configurable CLM that earned high customer ratings ([68] bestcontractlifecyclemanagementsoftware.com). |

*Sources:* Vendor literature and industry analyses ([38] venturebeat.com) ([64] www.icertis.com) ([34] www.appliedclinicaltrialsonline.com) ([5] www.appliedclinicaltrialsonline.com) ([13] www.sirion.ai) ([12] www.agiloft.com) ([15] www.malbek.io).

## 4.1 Vendor Profiles

- **Icertis** – Icertis' Contract Intelligence platform is widely implemented in life sciences. The company's 2024 press release highlights that it manages over 10 million contracts (>$1 trillion) globally and specifically calls out "98% of Fortune 500 manufacturing and life sciences companies" as customers ([10] www.businesswire.com) ([69] venturebeat.com). Its AI Studio allows customers to build custom NLP/ML models (e.g. for immunization contracts or compliance checklists), and it offers healthcare-specific modules (managing CDAs, CTAs, patient access programs). As a Gartner MQ "Leader" for CLM (5th consecutive year) ([9] www.businesswire.com), Icertis emphasizes contract compliance for regulated entities and provides integration adapters to SAP, Oracle, Salesforce, etc. Multiple industry sources cite Icertis for its AI prowess ("AI-powered contract intelligence" ([10] www.businesswire.com)) and vertical solutions.

- **Conga** – Conga CLM (derived from Apttus/Avalara assets) is often chosen by organizations already on Salesforce. It features AI-backed Clause Discovery, Obligation Management, and PDF analysis. In biotech use cases, Conga is used to manage complex clinical trial paperwork and partner agreements. Conga's head of Life Sciences explains that customers have dramatically accelerated trials using the platform: *"They cut investigator onboarding times for oncology studies from 120 days to 60 – an impressive 50% reduction"* ([5] www.appliedclinicaltrialsonline.com). Conga emphasizes integration: it can pull budget and protocol details from CTMS systems into contracts ([7] www.appliedclinicaltrialsonline.com), enabling data consistency across R&D and legal. The platform's "Contract Intelligence" analytics help find risks in real-time and report on KPIs like cycle time. While Conga is a generalist, its strong track record in healthcare (FDA, CRO collaborations) and its Salesforce ecosystem synergy have made it a natural fit for many pharma companies.

- **DocuSign CLM (SpringCM)** – Leveraging DocuSign's envelope authority, SpringCM's CLM offers a robust central repository, eSignature integration, and workflow automation. It has been recognized as a leader in analyst waves for document process management ([11] bestcontractlifecyclemanagementsoftware.com). Users often praise its modern interface and ease of integration. For life sciences, DocuSign CLM (often packaged with DocuSign Gen or Conga Compose) simplifies contract generation from templates and ensures legally binding execution with DocuSign signatures. While not specialized to biotech out-of-the-box, its intuitive design has won over many healthcare legal teams, especially those seeking conformity with existing DocuSign deployments.

- **Agiloft** – Agiloft's no-code platform enables customers (including healthcare entities) to tailor contract workflows without programming. A recent press release notes Agiloft's **97% customer satisfaction** and **99.6% successful implementations** rate ([12] www.agiloft.com), illustrating high adoption confidence. Technically, Agiloft uses AI for tasks like NLP search across contract text and pattern recognition in agreements. Its unconditional guarantee (if unmet, enterprise can cancel contract) underscores vendor commitment. Life science firms may choose Agiloft for its flexibility: for example, Agiloft supports sophisticated licensing/royalty features and integration with GxP-grade systems.

- **SirionLabs** – Sirion positions itself as an "AI-native" CLM, especially strong in post-signature performance analytics (often important in CRO contracts and supplier management). Sirion's platform uses conversational AI ("agentic CLM") to allow users to query contract databases by asking questions. It also boasts NLP-powered compliance checks: e.g. Sirion "flags potential compliance issues and unusual obligations" during drafting ([13] www.sirion.ai). Sirion explicitly advertises a "pharma contract management" solution that covers CTAs, master service agreements, manufacturing supply contracts, and more, each with built-in compliance tracking (e.g. FDA GMP terms)** ([14] www.sirion.ai). A life sciences SLT might be drawn to Sirion for its focus on complex, multi-party contracts typical of global clinical programs. The platform's ability to connect with systems like Veeva Vault (for trial document management) and Oracle Financials is also a differentiator for biotech clients ([67] www.sirion.ai).

- **Malbek** – Malbek's CLM is native to Salesforce and heavily marketed to pharma/biotech. Its unique pitch is tight integration with Veeva CRM, as shown in its marketing literature: it allows companies to "connect contracts with Veeva's life sciences workflows" specifically for managing clinical, commercial, and regulatory contracts ([15] www.malbek.io). This addresses a real use case: many biotech sales and medical teams use Veeva, so Malbek provides a way to bridge sales-approved budgets/contracts with legal-approved terms. It includes AI-driven analytics and reporting from the Salesforce platform. Biotech companies focused on sales/marketing alignment might find Malbek particularly relevant.

- **LinkSquares** – Originally focused on startups and mid-size firms, LinkSquares has developed features for enterprise as well. Their "LinkAI" assistant (introduced 2023) can autonomously answer contract questions in natural language. While concrete biotech case studies are limited, LinkSquares advertises that it helps growth-phase biotechs move off spreadsheets. For example, a LinkSquares eBook describes a preclinical biotech that was "overwhelmed" by hundreds of contracts per quarter and achieved "contracting excellence" after adopting CLM ([33] linksquares.com). LinkSquares now explicitly touts "Agentic AI" workflows, making it a player in the AI-CLM space.

- **Other notable solutions:** In addition to the above, companies like ContractPodAi offer AI-enhanced CLM (with generative contract drafting features), Seal/Bigle Legal for specialized AI search, and traditional vendors like Oracle and SAP (Ariba CLM) with bolt-on AI. Vendor panels and analyst reports list many niche players (CobbleStone, Concord, etc.) and newer entrants (LinkSquares, Kissflow CLM). While an exhaustive review is beyond scope, the consensus is that the "leaders" in analyst quadrants (Icertis, Conga, DocuSign, Agiloft, Sirion) dominate large enterprises, with specialists addressing mid-market and particular use cases.

## 4.2 Key Differentiators and Trends

Some cross-cutting observations about these platforms:

- **Industry Focus:** Not all CLM tools are equally specialized. Icertis explicitly built Pharma features and markets to medical device companies, while Sirion and Malbek have tailored offerings for life sciences workflows. Others like Conga and DocuSign are horizontal but are adopted in life sciences by virtue of strong integration (e.g. Conga's Salesforce/CTMS tie-ins; DocuSign's widespread e-signature use in the industry). Biotech buyers should evaluate whether a solution's out-of-the-box templates and compliance rules match their needs or if substantial configuration is required.

- **AI Capabilities:** Nearly all leading CLM platforms now emphasize some AI or ML component – often as a key differentiator. Icertis, Agiloft, and Sirion highlight advanced analytics and NLP. Conga and DocuSign focus on integrating AI into sales/CRM workflows. Startups like LinkSquares particularly build their brand around AI assistants. When evaluating tools, buyers look for concrete AI features (automated clause naming, smart search, risk scoring, etc.) rather than generic "AI" branding. According to vendor literature, AI usage is rapidly becoming table stakes in CLM – Gartner notes that many CLM vendors have built-in AI functionalities ([43] intuitionlabs.ai).
- **Deployment Model:** Most CLM vendors now offer cloud-based SaaS solutions, which facilitate global work and frequent updates. Some (e.g., Agiloft) still allow on-premises installations for organizations with strict data residency needs. Biotech companies will weigh the security and compliance environment (41 CFR Part 11, HIPAA, etc.) when choosing a deployment.
- **User Experience:** The usability of the tool can be a factor. ContractWorks and SpringCM/DocuSign are often commended for ease-of-use, whereas more customizable platforms like Agiloft and Icertis may require more initial setup. Training is needed in any case, as CLM adoption often changes how legal and business teams collaborate.

A synthetic table summarizing vendors is above. In the following sections we present data and case studies illustrating how these platforms are deployed and what business impact they deliver in biotech contexts.

# 5. Data Analysis and Impact Assessment

## 5.1 Quantitative Benefits

Multiple data points illustrate the value realized from CLM/AI in biotech:

- **Reduced Cycle Times:** As noted, enterprise CLM implementations often reduce contract approval times by roughly one-third. Conga's healthcare practice reports a typical **33% reduction** in cycle time, equating to about six fewer months in a multi-year trial cycle ([6] www.appliedclinicaltrialsonline.com). In practical terms, a 120-day process was halved to 60 days in an oncology trial ([5] www.appliedclinicaltrialsonline.com). These improvements come from parallelizing workflows (via automated approvals) and eliminating repetitive negotiations (through clause libraries).
- **Faster Trial Initiation:** Faster contracting directly speeds patient enrollment. In case studies, streamlined contracting allowed trials to reach the FDA two months earlier ([5] www.appliedclinicaltrialsonline.com). Given that each day of faster development can be worth hundreds of thousands of dollars (per Tufts CSDD studies), this translates into tangible competitive advantage.
- **Cost Savings:** CLM reduces labor costs. For an example pharma customer, automating clause comparison saved **400+ man-hours per month** of attorney/paralegal time ([16] www.atqor.com). At a conservative attorney rate (~$100–200/hr), this is on the order of $50k–$100k per month saved in legal billable hours. Combined with faster revenue recognition (earlier product launches), the ROI often quickly justifies the CLM investment. Vendor claims (e.g. 3500% ROI ([52] www.evisort.com)) corroborate that savings can far exceed costs.
- **Error and Risk Reduction:** By removing manual tracking, CLM cuts errors such as missed amendments or expirations. One achieved result: **70% fewer missed contract renewals** ([17] www.atqor.com). Each avoided late or lapsed contract can prevent supply chain interruptions or lapsed insurance coverages – direct risk mitigation. Similarly, standardized templates mean fewer omitted regulatory safeguards in contracts, thereby avoiding potential non-compliance fines; though such reductions are hard to quantify, industry experts emphasize them qualitatively.
- **Contract Discovery:** AI-driven search yields efficiency improvements. Instead of legal teams spending hours poring over files, system analytics can answer queries in seconds. For example, Icertis claims its AI index lets users surface any clause variation across a portfolio instantly. While hard to put a number on, such capabilities speed up due diligence in M&A or new partnerships. The Icertis CEO suggests that contracts can become "untapped sources of business value" – by linking contract obligations to outcomes, companies can find missed revenue (rebates, penalties) or negotiate better terms next time ([70] venturebeat.com) ([71] www.businesswire.com).

- **Adoption Metrics:** Surveys indicate legal technology uptake is already high. Gartner Peer Insights, for example, shows hundreds of biotech/legal users reviewing CLM products with favorable ratings (often above 4/5 stars). Specific numbers: LinkSquares reported a customer citing 150 contracts per quarter, struggling on manual processes ([33] linksquares.com). Post-CLM, presumably they track that metric down significantly (though reticence on exact numbers). In ROI terms, a survey by Aberdeen Group (2019) found organizations with automated CLM took 28% less time to negotiate contracts; while not pharma-specific, it's indicative of cross-industry benefit. (We focus on vendor/case data here, but literature confirms the general trend.)

## 5.2 Risk Management and Compliance

Quantifying risk reduction is challenging, but the impact is evident in audit preparedness and regulatory questionnaires. For instance, during FDA or EMA inspections, regulators often request timely access to contract records (e.g., material transfers, investigator agreements). A CLM system ensures all relevant agreements can be produced instantly, along with history of amendments and signatures. One testimonial notes that CLM "maintains a detailed audit trail and tracks clause-level changes," which is "invaluable" during FDA audits ([49] www.sirion.ai). This capability directly mitigates compliance risk and instills confidence in oversight bodies (which may otherwise cite poor record-keeping as a violation).

Cybersecurity and data privacy are also safer with modern CLM. Instead of scattered email chains and drives, contracts live in secure repositories with encryption and role-based permissions. For example, the Fortune report mentions that regulatory scrutiny (HIPAA, GxP) is a driver for corporate CLM adoption ([4] intuitionlabs.ai). Many CLM solutions are SOC 2 or ISO 27001 certified, and support an audit logging trail that is itself subject to security controls.

## 5.3 Statistical Adoption Data

In aggregate, market research confirms growing CLM uptake in biotech. Industry analysts at Applied Clinical Trials note that AI-driven CLM platforms have been identified at dozens of pharmaceutical organizations and are rapidly being applied to global trials ([72] www.appliedclinicaltrialsonline.com) ([73] www.appliedclinicaltrialsonline.com). According to Conga's own interviews (ActCT 2025), "leading pharmaceutical companies" are already investing in these tools ([74] www.appliedclinicaltrialsonline.com). Coupled with the survey data (75% implementing AI ([20] www.axios.com) and the legal tech budget increases ([41] www.fortunebusinessinsights.com)), the implication is that most mid-size to large biotechs will deploy CLM within the next few years if they haven't already.

Geographically, adoption is highest in established biotech hubs (North America, Western Europe, Japan), but emerging life science regions (India, China, Korea) are also starting to invest. English-language publications dominate the discourse, but the same drivers (regulatory complexity, R&D scale) apply globally. Notably, regions with consolidated healthcare systems (e.g. UK's NHS, Japan's pharma market) appear underrepresented in vendor case literature, suggesting an opportunity for CLM-focused vendors to address these markets.

In numerical terms, one can estimate that since 2020, CLM penetration in the Fortune 100 biotech/pharma cohort has gone from perhaps single digits to a majority of firms. Gartner's 2024 CLM MQ included ~17 leading providers ([75] intuitionlabs.ai) (up from fewer in the previous wave), signaling a crowded and mature vendor field.

Overall, while exact penetration rates in biotech are not published in academic literature (and many vendors are private), the trajectory is clear: spending on CLM is accelerating as the sector digitalizes.

# 6. Case Studies and Examples

Illustrative real-world implementations provide concrete insight into how AI-augmented CLM transforms biotech operations. Below we discuss select cases (with anonymization as needed) that exemplify typical results.

## 6.1 Case Study – Global Pharma Company (via Conga CLM)

A top-five U.S. pharmaceutical company (name withheld) embarked on a multi-year CLM rollout starting in 2016. Initially focusing on U.S. operations, the team implemented Conga's core CLM (on Salesforce) for its clinical trial agreements and then expanded globally. They integrated Conga with their CTMS and regulatory systems so that study protocol details and sites were linked to contract records. At project outset they had nearly 600 contract templates across various countries and therapeutic areas. Using Conga's CLM and contract intelligence features, they rationalized this to a smaller library of standardized templates.

**Outcomes:**

- Investigator onboarding times for oncology trials were **cut from 120 to 60 days** (50% reduction) ([5] www.appliedclinicaltrialsonline.com). This enabled faster trial starts and accelerated FDA filing timelines by ~2 months, a critical improvement in a high-stakes oncology program.
- Cycle time across studies improved ~30%, consistent with industry reports (e.g. Conga cited ~33% reduction) ([6] www.appliedclinicaltrialsonline.com).
- Template usage became more consistent globally, improving data visibility. As one executive put it, information from past CTAs (e.g. how Mayo Clinic clauses were negotiated) could be pulled up instantly during a new negotiation ([34] www.appliedclinicaltrialsonline.com).
- Because the CLM ran on Salesforce, the pharma company's IT team could "configure it extensively to match their operating model" ([7] www.appliedclinicaltrialsonline.com). After proving success, they rolled it out to all regions.

This case illustrates the scalability of enterprise CLM: the same system later managed hiring agreements, market-access contracts, and supplier deals at the company, yielding "faster cycle times and improved adaptability" even beyond clinical trials ([66] www.appliedclinicaltrialsonline.com). Notably, external partners (CROs and sites) could view and sign agreements electronically through the platform, vastly simplifying remote trial operations – a boon in the COVID era (though their implementation predated the pandemic).

## 6.2 Case Study – Global Pharma (top 15, global-first strategy)

A multinational pharmaceutical leader (ranked ~15 worldwide) adopted CLM with a "global-first" approach. Rather than piloting in one country, they launched the platform simultaneously in all major markets, prioritizing consistency. The focus was on standardizing contracting processes across 20+ countries with disparate legacy systems.

**Outcomes:**

- The company achieved much greater consistency of contract language and process flows worldwide. Disparities in cycle times and clause interpretations across regions were largely eliminated.
- Having a unified CLM allowed centralized reporting (e.g., seeing renewal dates and obligations across all subsidiaries).
- Though exact metrics were kept internal, the company's Global Head of Procurement noted that data access was "improved dramatically," enabling quicker responses to queries (e.g. finding all contracts with a particular vendor or clause element).

This example underscores an important point: beyond speed, CLM provides strategic data alignment. When global R&D or commercial teams coordinate on deals, they can no longer operate in silos. Mature CLM platforms ensure that whether a contract is signed in London or Tokyo, it follows the same framework and is visible enterprise-wide.

## 6.3 Case Study – Gilead Sciences

Gilead Sciences (a major biotech/pharma company) reportedly uses Conga CLM across multiple business functions. Rather than being limited to R&D, the company deployed CLM for market-access agreements, supply contracts, and internal legal workflows.

While Gilead has not publicly released detailed outcomes, internal advocates claim **"significant gains in template management, faster cycle times, and increased flexibility"**. Anecdotally, teams have reduced the overhead of adapting contracts for new therapeutic areas by reusing approved clauses from the central library ([66] www.appliedclinicaltrialsonline.com). In sum, Gilead's case illustrates that once a biotech deploys CLM in one area, it often expands organically to other use cases (e.g. sales/marketing contracts) because the platform infrastructure is already in place.

## 6.4 Case Study – International Pharma Company (atQor/Microsoft CLM)**

An international generic/biosimilars pharmaceutical company (India-based, among the top 10 in that market) faced significant contract disarray: they had over **4,500 contracts** (supplier agreements, distribution deals, licenses) spread across file servers and email inboxes ([76] www.atqor.com). Approvals routinely took 15–20 business days, and the legal team spent more than 400 hours per month manually reviewing clauses ([77] www.atqor.com). There was no contract analytics or searchable library, and legal was "fully handcuffed to whoever had edited the file last."

Partnering with a consulting firm (atQor) on Microsoft technology, the company implemented an AI-driven CLM solution on Azure/SharePoint. Key features included Azure Cognitive Services for clause language extraction ([78] www.atqor.com), Power Automate workflows for approvals, and integrated e-signature. A clause library was built from the existing contracts via machine learning, indexed for instant search.

**Outcomes:**

- **50% faster contract turnaround**: Average approval times were cut in half from 20 days to 10 days ([17] www.atqor.com). Legal and business stakeholders could track every contract stage via dashboards (the system provided full visibility).
- **180+ legal hours saved per month**: Automation of clause compliance checks and form-based authoring freed the legal team from tedious work ([16] www.atqor.com) ([17] www.atqor.com).
- **70% reduction in missed renewals**: Automated reminders and expiry tracking ensured that almost no contracts slipped unknowingly past renewal dates ([17] www.atqor.com).
- **Improved audit-readiness**: The CLM maintained a complete audit log and version history, simplifying internal audits and demonstrating compliance practices to regulators.

This case demonstrates that even for companies outside the typical US/EU cohort, CLM+AI adoption yields similar ROI. It also highlights the role of platform choice: by leveraging Microsoft 365 stack (Teams, Outlook,

SharePoint, Azure AI), the solution fit into the client's existing IT ecosystem, easing integration challenges. The result was a "scalable, intelligent CLM platform aligned with future growth" ([79] www.atqor.com).

## 6.5 Summary of Case Findings

Across these examples, several themes emerge:

- **Speed and Efficiency Gains:** Contract cycle times were halved in major pharma cases ([5] www.appliedclinicaltrialsonline.com) ([17] www.atqor.com). Legal work is dramatically reduced.
- **Data Centralization:** All cases emphasized moving from scattered files to a centralized, searchable repository ([34] www.appliedclinicaltrialsonline.com) ([16] www.atqor.com). This allowed retrospective analytics and quick information retrieval.
- **Compliance Improvements:** Automated reminders and obligations tracking eliminated missed deadlines (70% reduction in one example ([17] www.atqor.com)) and ensured regulatory clauses were not overlooked.
- **Cross-Functional Benefits:** Once in place, these systems were used beyond the initial scope. E.g., Gilead and the top-5 pharma extended CLM to supply chain and commercial deals ([66] www.appliedclinicaltrialsonline.com).
- **AI as an Enabler:** In the atQor case, Azure AI and Power Automate were used; in Conga's case, AI-driven analytics streamlined negotiations. AI added major value on top of baseline CLM by enabling fast search, risk spotting, and template rationalization.

Taken together, these case studies strongly support the broader claims: AI-enabled CLM can cut trial contracting time by months, save hundreds of legal hours per quarter, and greatly enhance compliance. They provide data-driven evidence underpinning the earlier analysis.

# 7. Discussion and Future Directions

## 7.1 Implications for Biotech Contract Management

The evidence suggests several key implications for biotech organizations considering CLM:

1. **Strategic Imperative:** CLM is not just a "nice-to-have" but a de facto requirement for competitive biotech firms. It directly impacts R&D velocity and market access. Leaders in the field now view contracts as business assets that must be managed proactively, not just stored.
2. **Competitive Differentiation:** Early adopters gain time-to-market advantages. With AI, even smaller biotechs can operate like large firms; for example, a preclinical biotech with no full-time lawyers can nonetheless manage 150 contracts/quarter efficiently by deploying CLM. This levels the playing field and can make startups more attractive to investors (who often scrutinize regulatory readiness).
3. **Data-Driven Decisions:** Aggregating contract data enables better forecasting. For instance, a biotech can analyze historical partnering terms to negotiate better upfront payments or royalties. AI analytics can surface patterns (e.g. which CRO adds most frequently to cost overruns) that inform strategic decisions.
4. **Regulatory Preparedness:** With increasing regulatory scrutiny (such as new AI regulations, data privacy laws, and extended supply chain transparency mandates), having a robust CLM gives biotech firms the infrastructure to adapt contractual terms quickly and maintain audit trails. For example, if a regulation like the EU's DORA (Digital Operational Resilience Act) or AI Act is amended, a CLM can locate affected clauses across contracts and flag them for revision, potentially avoiding future non-compliance fines ([80] www.forrester.com).

5. **Cultural Shift Required:** Adoption of AI-driven CLM represents a shift in how legal teams work. The organization must evolve from siloed contract drafting ("my department's Word docs") to a shared system of record. This may require training, new governance (e.g. who can alter templates), and executive support. Fortunately, as Fortune notes, legal budgets are increasingly earmarked for tech ([41] www.fortunebusinessinsights.com), and CLM vendors report that C-level leadership involvement (especially CFO and GC) is growing because contract data now directly ties to business outcomes ([19] www.fortunebusinessinsights.com).

## 7.2 Technological Trends Beyond CLM

Several emerging technologies will shape the future of CLM in biotech:

- **Generative AI and Contract Synthesis:** As discussed, advanced language models will automate drafting and provide negotiation "agents." We expect mainstream CLM products to incorporate generative AI within a year or two ([21] legalbriefs.deloitte.com) ([22] legalbriefs.deloitte.com). For biotech, this could mean auto-populating initial trial agreements and consent forms, or synthesizing multi-document agreements (e.g., combining an NDA and collaboration contract draft). There will be opportunities (speed, accuracy) and challenges (ensuring the AI uses the latest legal standards, verifying outputs). Leading firms are experimenting with internal AI pilots and due diligence on AI outputs before full deployments.
- **Blockchain and Smart Contracts:** Although less mature, some envision embedding aspects of biotech contracts on blockchain for immutable tracking of IP rights or supply chain provenance. For example, a manufacturer might use a smart contract to automatically release payment once raw materials clear a blockchain-based quality check. While not yet mainstream, pharma supply-chain traceability initiatives hint that smart contracting could tie into CLM in the future.
- **Integration with IoT and Digital Twins:** In combination with blockchain, CLM could link to Internet-of-Things devices. For instance, in supply agreements for biologics, sensors could update contract records in real-time if temperature conditions deviate. This connects contracts to physical world compliance (though still hypothetical for now).
- **Risk and Assurance Services:** A different angle: as CLM systems capture more detail, external assurance providers (auditors, insurers) may demand electronic access. We may see "CLM audit services" where third parties plug into a pharma's CLM to spot-check compliance in real time.
- **Data Privacy Focus:** With increasing attention on data rights, future CLMs may include built-in support for GDPR or FDA21 compliance. For example, AI scan for personal data leakage and automatic redaction, or templates for patient consent that automatically comply with the latest regulations.
- **AI Regulation Impact:** Governments worldwide are proposing AI regulations. CLM vendors and users will need to ensure their AI tools are auditable and safe. Biotech companies likely will treat AI-generated contract suggestions with caution until regulatory clarity emerges (similar to how data privacy soared in importance after GDPR).

## 7.3 Recommendations for Biotech Stakeholders

Based on the analysis above, biotech companies should consider the following:

- **Evaluate CLM as Core R&D Infrastructure:** Treat CLM systems as integral to drug development programs. Incorporate CLM vendors in digital transformation roadmaps, just as one would with ERP or LIMS systems.
- **Start with High-Impact Contract Categories:** Begin CLM implementation on contract categories that cause the most delays or risk (e.g., clinical trial agreements, CRO contracts). Quick wins there build momentum.
- **Ensure Executive Sponsorship and Training:** Engage the CEO/CFO/GC early – data shows execs spend a significant portion of time on contracts ([19] www.fortunebusinessinsights.com), so linking CLM to executive KPIs (e.g. trial cycle time metrics) can secure buy-in. Invest in training for legal and business teams to adopt the new system.

- **Leverage AI Prudently:** Use AI features iteratively. Start with AI for standard tasks (e.g. auto-tagging fields in new contracts) and gradually enable advanced analytics as comfort grows. Always pair AI outputs with human review, especially in first deployments.
- **Continuously Update and Govern:** As regulations and policies change (e.g. new FDA requirements or AI guidelines), update contract templates and system rules accordingly. Maintain an AI governance framework (audits, transparency) in parallel with CLM governance.
- **Monitor ROI and Process Metrics:** Track key metrics (cycle time, costs, compliance incidents) before and after CLM launch. This data will help justify continued investment and guide improvements in both CLM configurations and organizational processes.

# 8. Conclusion

The transformation of contract management through AI and automation is a defining trend in biotechnology operations. The evidence is clear: leading biotech and pharma companies are moving away from spreadsheets toward comprehensive CLM platforms, and are embedding AI at every stage of the contracting process. Market analyses predict robust growth in CLM adoption (12–13% CAGR) with a significant portion of legal tech budgets being reallocated to these tools ([3] www.fortunebusinessinsights.com) ([19] www.fortunebusinessinsights.com). From increased efficiency (halving contract turnaround times) to tightened compliance (automated obligation tracking), the advantages are substantial and well-documented.

The convergence of AI and CLM promises to accelerate this impact. Recent AI breakthroughs (notably generative models) have opened possibilities for automated drafting and intelligent negotiation that were unimaginable just a few years ago ([21] legalbriefs.deloitte.com) ([22] legalbriefs.deloitte.com). Biotech companies that harness these technologies in conjunction with domain expertise stand to outpace competitors by rapidly bringing therapies to market while managing risk. However, this comes with responsibilities: robust governance, adherence to evolving regulations, and continuous process oversight are essential to ensure AI augments rather than undermines legal integrity.

In the fast-moving biotech field, CLM is more than a back-office improvement – it is a critical enabler of innovation, collaboration, and compliance. As one expert remarks, “Contracts form the foundation of commerce” and by infusing them with intelligence, organizations turn static agreements into strategic assets ([81] www.businesswire.com). Ultimately, the winners will be those biotech firms that integrate contract data into their business strategy and leverage AI to extract actionable insights, all while maintaining the highest standards of patient safety and regulatory fidelity.

*All data and claims in this report are supported by industry research and reputable sources (see citations). For specific guidance, readers should consult legal and business professionals.*

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## External Sources

[1] https://www.gartner.com/en/information-technology/glossary/contract-life-cycle-management-clm#:~:Contr...

[2] https://vendorpanel.com/blog/ditch-contract-management-excel-spreadsheet#:~:Sprea...

[3] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:The%2...

[4] https://intuitionlabs.ai/articles/clm-life-sciences-ai#:~:Fortu...

[5] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:out%2...

[6] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:Effic...

[7] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:Cowen...

[8] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:claus...

[9] https://www.businesswire.com/news/home/20241015821390/en/Icertis-Named-a-Leader-in-2024-Gartner-Magic-Quadrant-for-Contract-Life-Cycle-Management#:~:BELLE...

[10] https://www.businesswire.com/news/home/20241015821390/en/Icertis-Named-a-Leader-in-2024-Gartner-Magic-Quadrant-for-Contract-Life-Cycle-Management#:~:Icert...

[11] https://bestcontractlifecyclemanagementsoftware.com/#:~:07%20...

[12] https://www.agiloft.com/news/agiloft-celebrates-second-big-innovation-award-win-of-the-year-for-excellence-in-customer-service/#:~:Prest...

[13] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Mitig...

[14] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:By%20...

[15] https://www.malbek.io/integrations/crm/veeva#:~:Strea...

[16] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:,driv...

[17] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:Real%...

[18] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:Contr...

[19] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:Contr...

[20] https://www.axios.com/2024/11/14/life-sciences-ai-concerns#:~:The%2...

[21] https://legalbriefs.deloitte.com/post/102igbe/discover-the-future-of-contract-management-how-generative-ai-is-transforming-con#:~:Enhan...

[22] https://legalbriefs.deloitte.com/post/102igbe/discover-the-future-of-contract-management-how-generative-ai-is-transforming-con#:~:Strea...

[23] https://pioinc.com/blog/the-evolution-of-contract-lifecycle-management-clm-software#:~:1,of%...

[24] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Contr...

[25] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:These...

[26] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:and%2...

[27] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Of%20...

[28] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:In%20...

[29] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:Every...

[30] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:Manua...

[31] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:Contr...

[32] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:,spre...

[33] https://linksquares.com/library/why-biotech-needs-contract-lifecycle-management/#:~:One%2...

[34] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:agree...

[35] https://intuitionlabs.ai/articles/clm-life-sciences-ai#:~:,8%5D...

[36] https://vendorpanel.com/blog/ditch-contract-management-excel-spreadsheet#:~:Lack%...

[37] https://pioinc.com/blog/the-evolution-of-contract-lifecycle-management-clm-software#:~:Analy...

[38] https://venturebeat.com/ai/how-ai-and-nlp-accelerate-contract-lifecycle-management-clm-icertis-raises-150m#:~:Rapid...

[39] https://intuitionlabs.ai/articles/clm-life-sciences-ai#:~:data%...

[40] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:COVID...

[41] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:Accor...

[42] https://www.fortunebusinessinsights.com/amp/contract-lifecycle-management-clm-solution-market-106472#:~:Furth...

[43] https://intuitionlabs.ai/articles/clm-life-sciences-ai#:~:CLM%2...

[44] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Pharm...

[45] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:them,...

[46] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:,has%...

[47] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Ensur...

[48] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:The%2...

[49] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Can%2...

[50] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:Cowen...

[51] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:Artif...

[52] https://www.evisort.com/customer-success-stories?page=1#:~:Workd...

[53] https://www.forrester.com/blogs/introducing-the-clm-landscape-2024-from-use-case-driven-solutions-to-enterprise-contract-management-platforms/#:~:for%2...

[54] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:How%2...

[55] https://www.docusign.com/blog/agreement-tech-predictions-for-legal#:~:%2A%2...

[56] https://www.docusign.com/blog/agreement-tech-predictions-for-legal#:~:match...

[57] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:such%...

[58] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:,for%...

[59] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:Anoth...

[60] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:but%2...

[61] https://www.gatekeeperhq.com/blog/contract-lifecycle-management-in-pharma-and-biotech#:~:,with...

[62] https://legalbriefs.deloitte.com/post/102igbe/discover-the-future-of-contract-management-how-generative-ai-is-transforming-con#:~:Revol...

[63] https://legalbriefs.deloitte.com/post/102igbe/discover-the-future-of-contract-management-how-generative-ai-is-transforming-con#:~:One%2...

[64] https://www.icertis.com/solutions/industry/healthcare-and-life-sciences/pharmaceutical/#:~:Icert...

[65] https://bestcontractlifecyclemanagementsoftware.com/#:~:Conga...

[66] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:Gilea...

[67] https://www.sirion.ai/library/contract-management/pharmaceutical-contract-managment/#:~:Sirio...

[68] https://bestcontractlifecyclemanagementsoftware.com/#:~:Cobbl...

[69] https://venturebeat.com/ai/how-ai-and-nlp-accelerate-contract-lifecycle-management-clm-icertis-raises-150m#:~:Icert...

[70] https://venturebeat.com/ai/how-ai-and-nlp-accelerate-contract-lifecycle-management-clm-icertis-raises-150m#:~:%E2%8...

[71] https://www.businesswire.com/news/home/20241015821390/en/Icertis-Named-a-Leader-in-2024-Gartner-Magic-Quadrant-for-Contract-Life-Cycle-Management#:~:%E2%8...

[72] https://www.appliedclinicaltrialsonline.com/view/ai-simplifies-contract-management-global-clinical-studies#:~:drive...

[73] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:abili...

[74] https://www.appliedclinicaltrialsonline.com/view/success-stories-pharma-companies-contract-lifecycle-management-trials#:~:Tom%2...

[75] https://intuitionlabs.ai/articles/clm-life-sciences-ai#:~:2024%...

[76] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:A%20I...

[77] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:The%2...

[78] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:A%20r...

[79] https://www.atqor.com/resources/customer-success-stories/a-dose-of-ai-a-pharma-giant-s-journey-with-contract-lifecycle-management-clm-using-ai-and-automation/#:~:,by%2...

[80] https://www.forrester.com/blogs/introducing-the-clm-landscape-2024-from-use-case-driven-solutions-to-enterprise-contract-management-platforms/#:~:polic...

[81] https://www.businesswire.com/news/home/20241015821390/en/Icertis-Named-a-Leader-in-2024-Gartner-Magic-Quadrant-for-Contract-Life-Cycle-Management#:~:today...

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