CLOCKWORK

//case-study

SPRINGER NATURE

Clockwork's role in securing a €1 Billion agreement for Springer Nature: The Projekt DEAL Success Story

Embracing modern software development practices, Domain Driven Design, and deploying continuously, Clockwork consultants helped transform Springer Nature's fragmented IT systems. This innovation enabled the publisher to streamline Open Access workflows, paving the way for the landmark €1 billion Projekt DEAL agreement.

13%
YoY Growth in articles published

185%
increase in downloads

4th
year of deal extension

Introduction

Springer Nature has long held the ambition to be, and remain, the pioneer in Open Access (OA) publishing, driven by the belief that scientific research should be accessible to all. This commitment to Open Access aligns with their mission to ensure

that groundbreaking research is available to the global community. In an effort to maintain their leadership in the rapidly evolving publishing landscape, Springer Nature sought to revolutionise their editorial workflows and peer review systems for OA scientific content.

To support this vision, the team was tasked with transforming and unifying their fragmented IT systems to create a more efficient, cohesive workflow. Springer Nature's objective was to better support cross-entity deals for Open Access publishing, enabling more streamlined processes for authors, institutions, and funding bodies alike. Under the OA model, funding bodies, institutions, or consortia cover the costs of publishing in bulk agreements with publishers. This results in significant benefits: improved author experience, streamlined administrative workflows, predictable cash flow for the publisher, and enhanced reporting capabilities to funders.

The work focused on the seamless integration of payment and eligibility systems, making the entire submission-to-publication process more efficient. The success of this initiative was exemplified by the signing of Projekt DEAL in 2019, the world's largest transformative agreement at the time. This milestone solidified Springer Nature's position as the global leader in Open Access publishing, demonstrating their ability to adapt and thrive in a complex and dynamic environment.

About Springer Nature

Springer Nature is a leading global academic and professional publisher, known for its wide portfolio of scientific, technical, and medical content. Formed in 2015 through the merger of Nature Publishing Group, Palgrave Macmillan, Macmillan Education, and Springer Science+Business Media, the company provides high-quality research and educational resources to academics, researchers, and institutions worldwide.

With a mission to advance discovery through the dissemination of knowledge, Springer Nature has built a strong reputation for its open access initiatives, peer-reviewed journals, and cutting-edge books and digital products. The company has also embraced digital transformation, creating innovative tools and platforms to support scientific discovery and foster collaboration.

Since its formation, Springer Nature has grown to serve millions of researchers and institutions, publishing over 300,000 research papers annually and supporting key developments in a wide range of disciplines. Its commitment to academic integrity and innovation has made it a trusted partner in the global research community.

Sector	Location	Org Size	Project Duration
Scientific Publishing	Europe	>10000 employees	5 months

Challenge

We had a “wicked problem” on hand.

The merger that formed Springer Nature brought together various IT systems from BioMed, Springer, and Nature Research. With this integration, the company inherited a patchwork of disparate systems, which significantly complicated the management of payments and eligibility rights for Open Access. The lack of a unified system hindered the ability to strike cross-entity deals—agreements that would grant access to all journals under the Springer Nature umbrella. Without a streamlined approach, the company faced logistical bottlenecks that limited its ability to efficiently serve authors, institutions, and funding bodies.

Such challenges are common in older, merged companies where differing systems, processes, and organisational cultures create additional layers of complexity. This was especially true for a company as historic as Nature, which has been a cornerstone of scientific publishing since its first edition in 1869.

Initially, the project to address these issues started within a single business area, but progress was slow and largely invisible. This caused stress, strained relationships, and eroded stakeholders’ trust.

It soon became clear that a company-wide transformation was necessary to address these challenges. What began as a small-scale project expanded into a larger program aimed at integrating payments and eligibility systems across the organisation. The team was brought in to regain control of the program, a challenge that had become critical in order to meet the requirements of the Projekt DEAL agreement. The stakes were high, and we had to deliver by a hard deadline.

Upon joining, it became clear that this wasn’t just a technical problem—it was a wicked problem, with social and cultural challenges that would be particularly hard to solve due to several factors:

- Incomplete or contradictory knowledge about the problem.
- A large number of stakeholders with varying opinions.

- A significant economic burden associated with the problem.
- Multiple interconnected issues within the main problem.

The complexity of the situation became evident as we dug deeper. Many of the challenges we encountered stemmed from organisational design and communication breakdowns. This led to a shift in our focus from just the technical solution architecture to a broader enterprise architecture approach. Technical expertise was combined with organisational insights to tackle these deep-rooted issues.

Aware of the program's complex history, a Timeline Retrospective was organised, and post-mortem sessions were conducted with the IT teams to identify the key pain points. Through these efforts, a range of challenges were uncovered, including difficulties in coordinating changes across the organisation, misalignment in decision-making levels, and siloed knowledge that fragmented communication. The multi-region nature of the program, involving different countries and cultures, compounded these issues further.

In addition, it was found that the enterprise back-office systems were misaligned with modern digital IT practices. Legacy systems from previous mergers were difficult to modify, and the lack of a consistent architecture created workarounds, tactical fixes, and fragmented data management. While the technical issues could potentially have been resolved within a reasonable timeframe, the real challenge was addressing the social and cultural barriers that prevented lasting, effective decision-making.

Within the first three weeks, retrospective and post-mortem findings were shared, a stakeholder mapping exercise was completed, a target architecture for a strategic solution was created, and teams were brought together to deliver the programme. Initially, the timeframe discussed was 18 months, but deal negotiations accelerated, resulting in a signed agreement that required delivering the program's outcomes **within just five months**.

Solution

Tiger Team: An Extreme Solution for an Extreme Problem

The timeline and scope of the project were dictated by urgent business needs, leaving limited flexibility. The only levers available were people and skills, and these individuals needed to be empowered to organise the work in the most efficient way possible. With such high stakes, a Tiger Team was assembled.

A Tiger Team in software development is a specialised, cross-functional group formed to tackle urgent and complex challenges. Originating from the military and aerospace sectors, most notably during NASA's Apollo 13 mission where a Tiger Team was tasked with saving the astronauts, the concept has since been adapted to software projects requiring swift, expert-driven solutions.

This Tiger Team was composed of developers, subject matter experts (SMEs), architects, business decision-makers, and project managers from various locations, including the UK, India, Germany, the US, and the Netherlands.

To foster collaboration, a situation room was secured for three months. This large, dedicated space became the hub of our operations. Permissions were overridden to book boardrooms for three consecutive months full time, which meant executives had to meet elsewhere, which had the side effect of gaining immediate visibility at the highest level! The room was equipped with whiteboards, extra power, network cabling, and desktop computers. This environment fostered a deep, shared understanding of the problem, helping to break down silos across different regions and departments.

In this Tiger Team, it wasn't about keeping everyone constantly busy; it was about creating options and gathering information as fast as possible. Speed of decision-making was key, not maximising individual utilisation.

Event Storming: A Clearer Picture

Event Storming was used as a method to help everyone see the big picture of the project.

Event Storming is a collaborative workshop where stakeholders explore the complexities of the system by mapping out events, processes, and responsibilities.

The process allowed the identification of the strategic versus tactical work, gaps in knowledge, and how the responsibilities of different team members intersected. As the project evolved, this technique helped cultivate collaboration and flexibility, allowing new team members to join as needed. Once the solution blueprint was designed, it became evident that full implementation would take months.

Given the scope and the constraints of keeping everyone in London, a transition to a more sustainable model was made where the team returned to their respective countries. A flexible communication structure was built, ensuring consistency and clarity across regions.

Conway's Law was leveraged, which states that systems tend to mirror the communication structures of the teams that build them. Team structures were adjusted to align with the architectural needs of the solution, merging teams, fostering collaboration across regions, and investing in the skills and career development of existing teams.

Event Sourcing

The initial solution opted for specifically facilitated Projekt DEAL, and could be iterated upon subsequently. The existing, monolithic, legacy application would have taken months to adapt. Hence, an Event Sourcing approach with microservice architecture was favoured, decoupling the core business logic from external systems.

XP: Rediscovering Extreme Programming

A critical focus was ensuring IT was not a bottleneck, so the project's timeline wouldn't be delayed by technical issues. The principles of Extreme Programming (XP) were applied, particularly its emphasis on simplicity, rapid iterations, and collaboration with business stakeholders.

The team worked with a mindset of just enough — only implementing what was absolutely necessary for the deal's deadline. Polishing and non-essential features were postponed to focus solely on core requirements. Key to this approach was having business stakeholders embedded within the team, physically working alongside IT. This allowed for immediate clarification, quick escalation of issues, and prompt decision-making around trade-offs. Proximity between business and technical staff enabled a constant feedback loop, where quick iterations and adjustments could be made as needed.

In many ways, The power of XP was rediscovered. By working closely with business stakeholders, the team was able to maintain agility while staying aligned with overall business goals.

Mikado Method: Planning and Reporting

For planning tactical work and reporting, the Mikado Method was employed and adapted to accommodate specific project needs beyond pure software development.

This method provided clear visualisation of the work being done and its contribution to overall project goals. Unlike traditional project management tools like Trello or Jira, the Mikado Method enabled the tracking of tasks and dependencies that emerged throughout the project, offering an instantly understandable visual overview.

By way of example, it was discovered that a key customer-facing application could not handle the expected traffic volume, necessitating a complete architectural rewrite. The Mikado Method provided a structured approach to managing such discoveries, ensuring that each new challenge was integrated into the broader plan without derailing progress.

Additionally, this method proved to be a valuable reporting tool for senior stakeholders. Key deliverables were extracted, and rough estimates were provided for how close each was to completion. This data was then abstracted into a RAG (Red, Amber, Green) status report, transforming what could have been a complex risk management log into a practical guide for immediate action. By focusing on present priorities, this approach engaged the relevant executives to quickly de-risk situations as they arose.

This reporting approach had three key benefits:

1. It gave stakeholders confidence that we were on track to hit the deadline without requiring additional investment.
2. We demonstrated that while we had a plan, we needed flexibility to adapt as required, ensuring the project remained aligned with business priorities rather than rigidly following a predefined course.
3. It empowered the development team to work closely with the business, creating a feedback loop that kept us truly Lean and Agile.

Ultimately, the project was delivered on time. Thanks to the Mikado Method, not only were the initial goals met, but entirely new applications were developed that had not been anticipated.

As a bonus, Sales had secured additional deals, which were implemented within similar timeframes. By then, the team knew exactly how to handle it!

Results

So, what was it like in the aftermath?

The stakeholders were extremely pleased with the outcome. Although we quickly realised that tactical curveballs would be inevitable — after all, Sales would always be actively negotiating deals — the team found ways to better coordinate. One key improvement was the creation of a vanilla deals model. This template allowed Sales to follow a consistent framework during negotiations, meaning the deals could be easily automated by our IT systems without requiring constant code changes.

Another positive development was the closer collaboration between the business and IT teams. People from the business side began integrating their day-to-day activities with the IT team. This alignment ensured operations took place at the appropriate level of hierarchy, maintaining a strong connection to the overall product strategy.

Recognising the importance of looking after team members became a key priority. Ensuring the team had the necessary tools, resources, and support to perform at their best created space for the development team to focus on getting things right — not just delivering a “good enough” solution for short-term tactical needs, but thinking strategically and sustainably.

These efforts influenced working practices across the team and the organisation. Best practices from the Tiger Team were incorporated into a sustainable process that reduced stress and alleviated pressure. This included breaking down silos, fostering collaboration, and empowering individuals to take real responsibility rather than simply being managed through stage gates. While the teams took ownership of their work, programme managers and senior leadership retained overall accountability, ensuring a balanced approach.

From a qualitative perspective, our efforts simplified administration, improved cash flow predictability, enhanced the author experience, and facilitated large-scale, cross-entity deals with major funding bodies.

These improvements allowed Springer Nature to efficiently handle Open Access deals, while also creating a more sustainable and collaborative way of working across the organisation.

Conclusion

The collaboration with Springer Nature successfully transformed their fragmented IT systems, enabling the landmark €1 billion Projekt DEAL. Through the use of modern software development practices, including Event Storming, Extreme Programming (XP), and the Mikado Method, workflows were streamlined, and stronger collaboration was fostered between IT, Sales, and business teams.

The formation of a Tiger Team helped break down silos, empowering teams and improving coordination. This resulted in enhanced author experiences, simplified administration, and the ability to handle large-scale Open Access deals.

Springer Nature was positioned as a leader in Open Access publishing, well-prepared to tackle future challenges and opportunities for growth.

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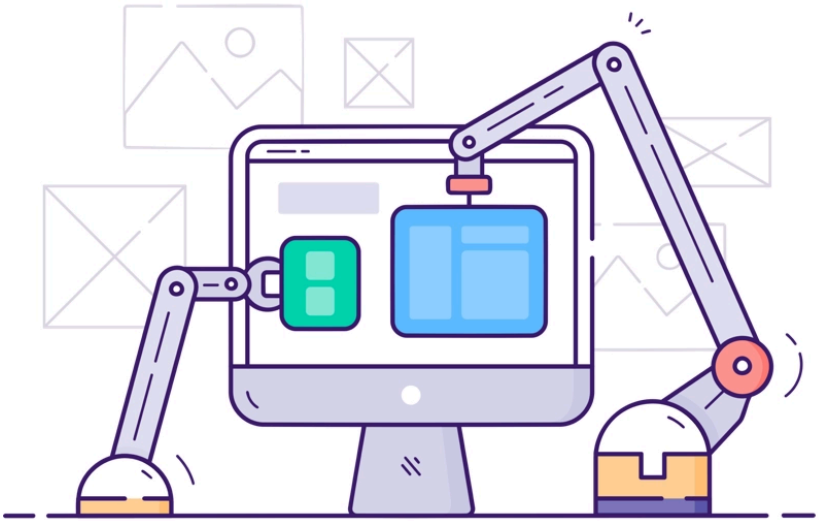

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