INDUSTRY | **Life sciences**

OMP. | bluecrux

BREAKING SILOS

Seamless integration between supply chain planning and quality control

Introduction

In the life sciences industry, getting products to patients on time isn't just a goal; it's a necessity. And achieving that reliability requires **seamless coordination between manufacturing and quality control (QC)**. Yet too often, these two teams operate in isolation, creating **silos that lead to delays, inefficiencies in execution, and missed service levels**.

This e-book offers a practical and real solution to bridging the gap between supply chain and QC by **integrating OMP's Unison Planning™ and Bluecrux's Binocs™ QC planning platform**. You'll uncover the root causes of disconnected planning, understand the risks of siloed operations, and see how smart real-time integration helps you **improve agility, efficiency, and delivery reliability**.

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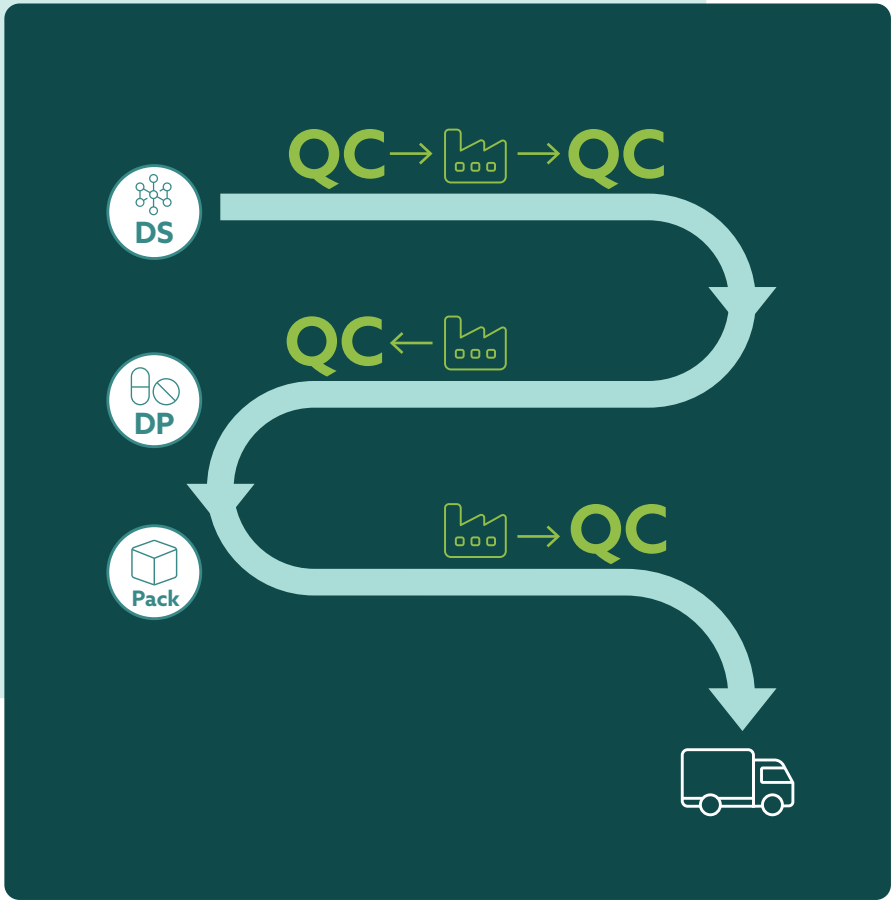
1 QC and supply chain: disconnected but interdependent worlds

Two critical pillars of pharma delivery

In life sciences, supply chain and quality control (QC) are two equally essential pillars of pharmaceutical delivery. Both involve complex processes, rely on specialized equipment, and take time to execute properly. To ensure reliable delivery of pharmaceuticals, **every step in manufacturing and QC must be carefully planned and coordinated**.

QC is deeply connected to every stage of the manufacturing process, from raw materials to intermediates to finished products. In fact, **QC activities can make up more than half of the total production timeline**.

Yet despite this close relationship, supply chain and QC often operate in silos. So, what causes this disconnect? And what happens when these critical functions fall out of sync? Let's take a closer look.



What causes the disconnect between QC and supply chain planning?

Manufacturing and QC are, in fact, two very different worlds when it comes to planning.

- **Life sciences manufacturing is driven by market demand.** Planners focus on optimizing resource allocation, operational workflows, and logistics to ensure efficiency, meet delivery timelines, and control costs.
- **Life sciences QC**, on the other hand, is **steered by strict standard operating procedures (SOPs)** set by regulatory authorities such as the FDA, EMA, and GMP. QC planning is therefore shaped by testing protocols, documentation needs, compliance, and risk management.

As a result, supply chain and QC teams operate with **different goals, timelines, and constraints** based on their operational priorities and regulatory requirements. That's why, in most life sciences organizations, **these departments plan separately**. Manufacturing is best managed in an end-to-end advanced planning solution like OMP's Unison Planning, while QC uses a specialized solution like Bluecrux's Binocs for lab planning.

Unison Planning and Binocs are highly effective in their respective domains. But when used in isolation, each has limitations:

- **Unison Planning** manages everything from demand forecasting and production scheduling to material tracking and delivery. It provides strategic, tactical, and operational oversight in production, but it doesn't support laboratory planning.
- **Binocs** is built for QC labs, handling resource scheduling, capacity planning, and compliance tracking. It delivers comprehensive laboratory management but lacks full visibility across the supply chain.

Greater value is unlocked when the two platforms work together. Interoperability bridges the gap between manufacturing and QC, eliminating the hidden costs of planning in silos.

The cost of planning in silos

When QC and supply chain teams work in isolation, **blind spots begin to form**. If QC encounters unexpected delays and doesn't communicate them in time, production plans can quickly become unrealistic. On the other hand, if supply chain planners adjust priorities due to urgent demand shifts or raw material shortages, QC may be caught off guard, leading to missed timelines and inefficient handovers.

The result? Real-world consequences that **impact revenue, compliance, and the timely delivery** of life-saving medicines. These silos create disruptions such as:

Longer product lead times

When QC testing isn't aligned with production schedules, batches end up stuck in administrative limbo, waiting for quality clearance. This stalls manufacturing and pushes time-to-market, delaying product availability when every day counts.

Inefficient resource allocation

With no shared visibility between QC and production workflows, backlogs can grow unchecked. One side faces overwhelming demand while the other sits idle. The result: wasted resources, higher operational costs, and falling productivity.

Frustration and firefighting

Supply chain planners and lab managers are forced into constant reaction mode, juggling priorities without visibility into the other's shifting priorities. This reactive cycle strains collaboration and wears down both teams.

The real impact of disconnected planning

Example 1: How a 10-day QC delay disrupts supply in a biopharmaceutical plant

A batch of a critical vaccine has just completed the fill-finish stage. QC testing — including sterility tests, potency tests, and a full batch record review — is scheduled to take 21 days. This timeline is carefully built into the supply chain plan to meet a major shipment deadline.

But then, things go off track.

QC was not aware it was receiving a high-priority batch and had just begun a planned equipment maintenance event, delaying the batch release by 10 days.

The consequences at the supply side are severe:

Shipping delay
The distribution schedule is disrupted because the product misses the committed delivery window.

Batch re-test or destruction
Regulatory timeframes for post-manufacture batch release may be breached. This could require additional testing or, in the worst case, force the destruction of the batch.

Inventory shortages
Regional warehouses begin running low, since downstream production and shipping processes were moving ahead under the assumption that the batch would be released on time.

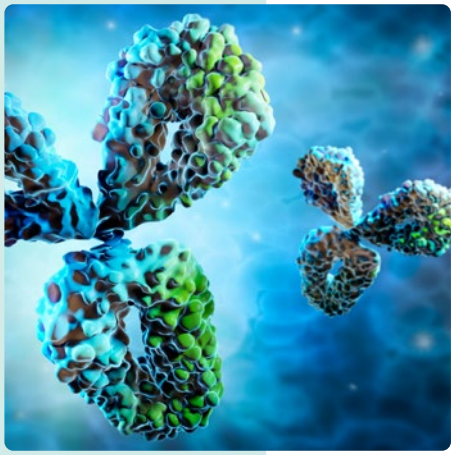
Cost escalation
To recover, the company must fast-track shipments, reallocate already stretched resources, and potentially prioritize re-manufacturing, all of which come at a high cost.

The real impact of disconnected planning

Example 2: How a late drug substance receipt disrupts QC testing

A biotech company is producing a monoclonal antibody . Drug substance from the upstream plant is scheduled to arrive at the fill-finish site on April 5. Based on this date, the QC lab plans potency, bioburden, and stability tests for April 6 to 10, reserving analyst time, cleanroom slots, and specialized testing equipment.

But the drug substance arrives four days late, delayed by a raw material supply issue and a last-minute deviation during upstream processing.



The impact on the QC lab is both immediate and significant:

QC capacity sits idle
Analysts, resources, and expensive equipment remain on standby, waiting for samples that are delayed, all because the lab schedule was based on outdated assumptions.

Wasted preparatory work
Pre-test setups and prepared reagents expire or become unusable, resulting in waste and added cost.

Rescheduling chaos
The lab must quickly reallocate resources to accommodate the late samples, often by postponing lower-priority tests, working overtime, or creating testing bottlenecks.

Downstream delays
Final batch release is delayed, impacting customer delivery commitments and putting pressure on the supply network.

Firefighting
Lab managers are forced into reactive mode, constantly juggling shifting priorities without visibility into upstream changes.

Building real-time integration between QC and supply chain planning

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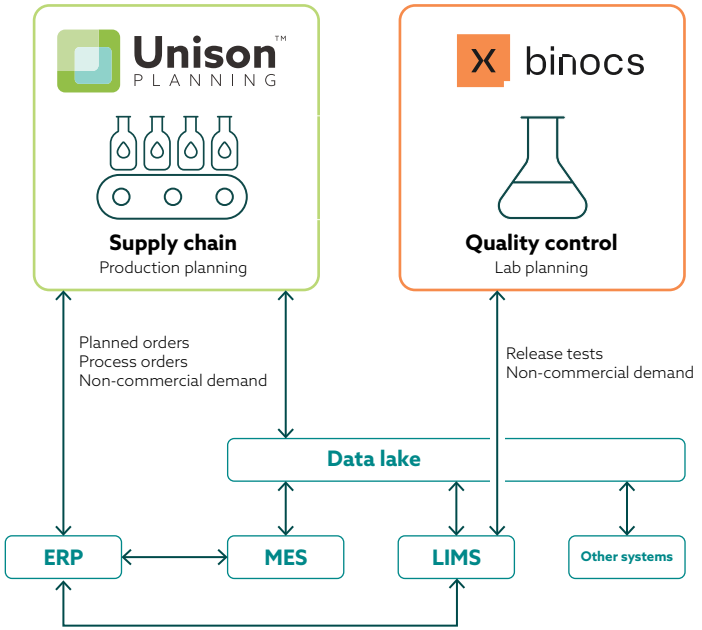
Unison Planning and Binocs: a seamless connection

To break down the silos between supply chain and QC, OMP and Bluecrux have developed **a standard, near-real-time integration between their planning platforms**. Powered by robust APIs, this so-called 'handshake' integration ensures critical planning and handover data flows effortlessly between the two systems, **keeping both teams in sync**.

When production schedules shift, QC can adjust testing plans instantly. If QC hits a delay, the supply chain team can react in real time.



It's like a relay race where runners pass the baton through precise coordination. **Each handoff is timed perfectly**, keeping both QC and supply chain moving in step. This level of synchronization **eliminates blind spots, avoids bottlenecks, and prevents costly last-minute fixes**.

In life sciences, where the stakes are high, this kind of integration is essential. It helps manufacturers balance two key challenges: **delivering drugs efficiently** while ensuring **every batch meets strict quality standards**.

Instant updates, proactive decision-making, and smart prioritization

This real-time integration delivers tangible benefits for both QC and supply chain teams:

Near-instant production updates

When production is adjusted in Unison Planning, for example when batch processing is accelerated to meet demand, an automatic update is sent to Binocs. QC teams can then adapt testing schedules in advance, preventing bottlenecks.

Proactive issue resolution

If Binocs detects issues such as reagent shortage or equipment failure, it immediately alerts Unison Planning. This allows supply chain teams to reoptimize plans, adjusting production and inventory before problems escalate.

Smarter batch prioritization

High-priority batches are flagged across both platforms so QC labs can focus on what's most urgent rather than working through a rigid queue.

What real-time integration looks like in action

Let's bring this to life with a real example. Imagine **a biotech company producing a monoclonal antibody** where every step counts. During downstream processing, in-process QC testing must **confirm batch purity before it can move to formulation and fill-finish**.

Batch 8215 is on a **tight schedule**: downstream purification wraps up Wednesday of week 14, with in-process QC results expected that same day. Fill-finish is booked for Monday of week 15, perfectly timed with outbound shipments ready to go.

How production handles a QC delay

A sudden analyst shortage and increased lab workload force the QC team to delay in-process testing for batch 8215 by 48 hours. Binocs immediately pushes an update to Unison Planning, triggering **a real-time alert**: the QC release is now delayed, and downstream steps are at risk.

The supply chain planner uses Unison Planning to **run several scenarios and selects the best option**: re-sequencing the fill-finish schedule and updating committed delivery dates. A lower-priority batch is moved up to prevent idle capacity. The **disruption is handled early and efficiently**, maintaining service levels without last-minute scrambling.

How QC proactively shifts priorities to protect the business

The QC lab is under pressure. Analyst availability is limited, and a critical oncology product is now requiring urgent release. Batch 8215 is also scheduled for in-process testing, but with capacity stretched thin, the team needs to **reconsider priorities**. Defaulting to a first come, first serve approach isn't the smartest option — not when business impact is on the line.

Thanks to the integration, Binocs reveals the priority status of batch 8215, as flagged by Unison Planning. It shows that the batch is tied to a tight fill-finish window and has a **high downstream impact due to strict market commitments**. Another batch scheduled in the same testing window has more flexibility. With this visibility, the QC planner decides to **swap the testing order**, giving batch 8215 the priority slot and preventing unnecessary disruption.

By using shared planning data, the QC team avoids unnecessary delay to a high-impact batch. The issue is proactively handled instead of just being dealt with routinely and reported as a fact.

From static data to real-time collaboration

Unlike traditional static data exchanges, this handshake integration creates **a dynamic, real-time feedback loop**. Both teams continue using their specialized systems but now share a constantly updated view of critical planning and handover data.

This seamless connection leads to **faster, more informed decisions and smooth operational alignment**. By streamlining processes, cutting costs, and preventing bottlenecks, companies in this high-stakes industry gain the agility and precision they need. This allows them to stay competitive and meet urgent demands without surprises.

Optimized resource planning through shared visibility

With full visibility between QC and supply chain planning, resources can be allocated more effectively:

For QC

Clear insight into upcoming production plans means fewer rush orders and less downtime caused by delayed sample submissions. With limited resources like cleanroom space, specialized equipment, and skilled analysts, QC planners can schedule work proactively, focusing on prioritized tasks that are ready. This foresight helps optimize lab capacity and avoid bottlenecks.

For production

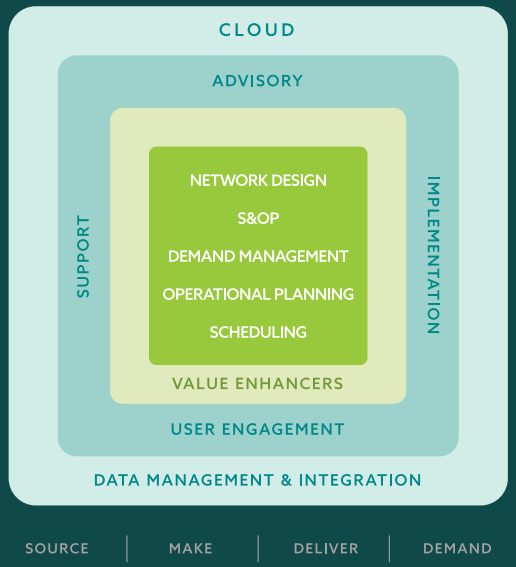
When production has a clear view of the QC clearance plan, it can proactively allocate resources to tasks expected to be approved soon. This helps avoid recurring delays and stoppages, saving both time and money.

Why Unison Planning and Binocs are a perfect match

OMP's Unison Planning and Bluecrux' Binocs form a powerful combination that enables this seamless integration between supply chain and QC planning.

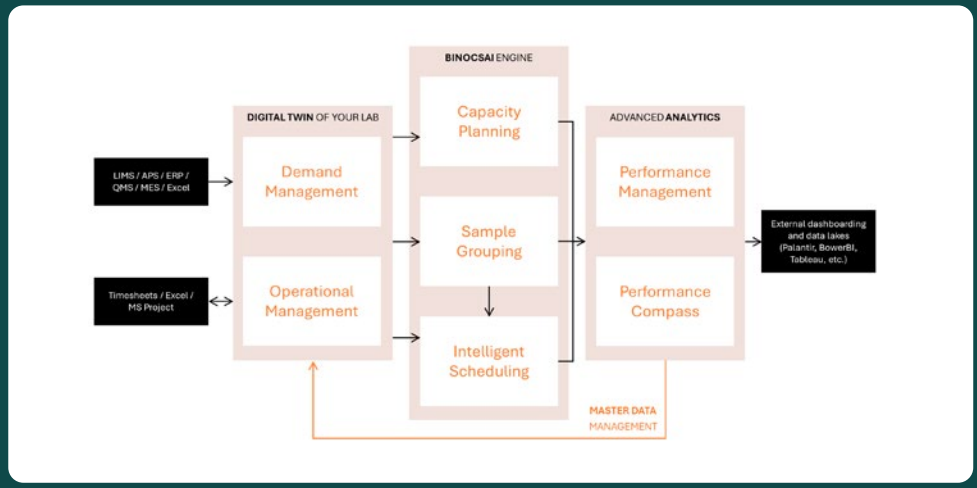
Unison Planning

Unison Planning stands out among advanced supply chain planning tools for its **reality-based digital twin**. It's always implemented to reflect the real-world constraints of manufacturing equipment and processes, ensuring that **operational plans are feasible and ready for execution** without extra adjustments. This guarantees that the planning and handover data shared with QC teams is accurate, up to date, and reliable.



Binocs

Binocs is a best-of-breed SaaS solution in lab planning. It tackles the **granular challenges** of resource scheduling, capacity planning, and performance tracking in labs — down to individual analysts, equipment, test samples, and other laboratory assets. Its precision ensures that every planning detail is **accurate to the minute**.



And the best part? The real-time integration relies entirely on the **flawless standard APIs** provided by both solutions, ensuring a smooth, scalable, and easy-to-maintain connection.

Busting myths about QC-supply chain integration

Many life sciences companies hesitate to integrate QC and supply chain planning because they misunderstand what integration really involves. Some believe their existing systems already cover it. Others assume QC and supply chain operate in separate lanes with little to gain from coordination.

These misconceptions hold life sciences companies back from improving operational efficiency.

Let's look at three common myths and the facts that debunk them.

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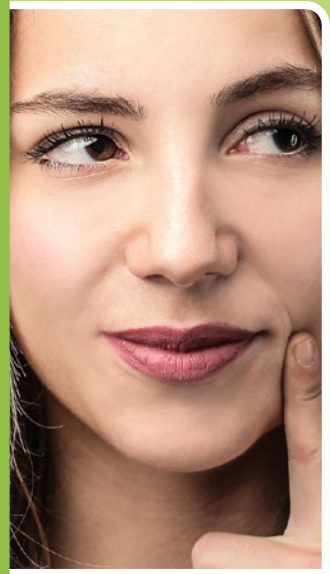
Myth #1

‘QC and supply chain have different goals, so there’s no benefit in connecting them’



Fact:

Shared visibility helps both teams perform better.

This belief comes from the **traditional siloed mindset**. Supply chain focuses on efficiency and service levels, while QC focuses on compliance and control. In reality, both benefit from aligned plans. In **regulated industries** like pharma, delays in quality release can bottleneck supply, and unexpected testing demand can overload labs.

Connecting quality and supply planning **improves visibility**, so planners can anticipate testing delays, align priorities with shipments, and avoid excess inventory. Integration leads to **faster, more reliable decisions across both teams**.

Myth #2

‘We already have integration through our ERP’

Fact:
ERP systems aren’t designed for real-time teamwork between QC and supply chain.

Many companies assume they’re covered because both supply chain and QC planning connect through their ERP system. However, ERP systems are designed to record historical production and testing data, not real-time decisions made in QC labs or supply chain. They **lack the operational visibility needed to act quickly**, so delays often surface too late.

By the time ERP systems reflect a delay or change, it’s often too late to act effectively. In contrast, the Unison Planning – Binocs integration creates **a live feedback loop**. When production schedules shift, QC testing plans update automatically and vice versa, keeping teams aligned and timelines on track.

Myth #3

‘Integration is too expensive and disruptive’

Fact:
Doing nothing costs far more.

It’s easy to assume that integrating QC and supply chain systems would require a major overhaul. But in reality, the Unison Planning – Binocs integration is a standard solution connecting two established platforms, **needing only parametrization, not customization**. This keeps implementation time and costs low.

Meanwhile, **the cost of delays, rework, or lost batches** due to poor coordination can run into the millions. Stockpiling inventory or adding extra QC to manage uncertainty only adds to the financial burden. When you consider these factors, the return on investment becomes clear.

Key takeaways from integrated QC and supply chain planning

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Here's what to remember from this e-book:

1 **Breaking down silos between QC and supply chain is critical**

Separating QC from supply chain operations causes serious business challenges. It leads to extended lead times that force production to halt while batches wait for testing. This inefficiency drives up costs through extra workforce, unused equipment, and inventory stockpiling to fill empty gaps.

2 **Real-time planning integration is the game changer**

This integration acts as a synchronization mechanism that unites QC and supply chain operations. Real-time, two-way data communication lets production schedule changes instantly update QC testing plans, while lab delays automatically adjust supply chain workflows.

3 **Unison Planning and Binocs are the ideal pairing**

Together, these platforms empower teams to use the best tools for their needs. Unison Planning lets supply chain teams optimize resource allocation, workflows, and logistics to ensure efficiency, on-time delivery, and cost control. Binocs enables QC planners to focus on compliance, testing methodologies, risk management, and documentation. The integration connects both systems without duplicating data, creating a smooth, reliable planning process.

4 **Keep pace with a fast-moving industry**

Life sciences companies that adopt real-time integration of supply chain and QC planning gain faster lead times, stronger compliance, and greater operational flexibility to meet shifting market demands.

Tell us about your case

Curious how this integration could help your organization speed up delivery, reduce costs, and stay compliant? Let's explore how we can help bring your QC and supply chain planning into perfect sync with a real solution tailored to your needs.

Contact us today

About OMP

Hundreds of customers in **a wide range of industries** - consumer goods, life sciences, chemicals, metals, paper, plastics & packaging, tires & building products - benefit from using OMP's unique **Unison Planning™**, an open, cloud-native, and AI-driven platform that embeds our deep **industry expertise** and offers real solutions for the challenges your industry faces.

A proven platform for **all your supply chain planning needs**, from demand to supply, from the strategic to the operational levels. A **real solution** that supports your journey toward autonomous, decision-centric planning.

Built on 40 years of expertise.

Recognized by **Gartner®** for its leadership and vision, OMP helps you navigate supply chain challenges with data-driven insights, dynamic optimization, and sustainable decision-making, delivering **real business value**.

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About Bluecrux

Founded in 2011, **Bluecrux** is the leading value chain innovation company, recognized by Gartner™ as one of the world's top 20 supply chain partners.

Bluecrux experts and software help to transform today's supply chains into **smart, efficient, and fully integrated value chains**. Bluecrux offers solutions that fit the unique complexities of businesses in life sciences, consumer goods, chemicals, and industrial manufacturing.

Their **Binocs** technology is the global #1 SaaS solution for scheduling and planning in Quality laboratories and CGT production. 1500+ global teams are using Binocs each day.

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