inixion

Chemicals without chaos

Leverage a specialised ERP for chemical manufacturing to excel in a highly regulated, competitive market.

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Introduction

The global chemicals industry has certainly not had an easy ride over the last few years. Not only has it, like the rest of us, been dealing with the impact of Covid, but it's also feeling increasing pressure from regulators, investors and consumers alike about the environmental impact of the industry.

The past few years have been about fighting fires as the pandemic tested corporate resilience and the industry struggled with supply chain disruptions, increased feedstock volatility, changing customer behaviour, and higher costs of doing business. And now it's facing distorted oil and gas prices as war continues to rage in eastern Europe.

While the chemical industry has always been subject to instability - in terms of product commoditisation, raw materials volatility, and fluctuating markets - it now faces a turning point. The risks and disruption facing the industry will become increasingly transformative, as companies must switch focus from short-term problem-solving to the development of strategic agendas centred on Environmental, Social and Governance (ESG) goals. Sustainability and the need for decarbonisation are looming large.

And amongst all of this lies the need for chemical companies to harness data to ensure operational efficiency. Technology and Industry 4.0 is here. How can chemical businesses thrive in the future?

This guide addresses challenges in the chemical industry and how an Enterprise Resource Planning (ERP) system enables digital transformation for chemical companies.

Industry 4.0

Industry 4.0 is the fourth industrial revolution. The current era of connectivity, advanced analytics, automation and advanced-manufacturing technology.

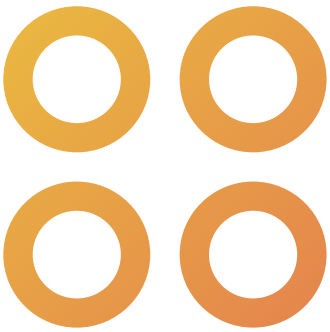
The state of the industry

Deloitte's 2022 Chemical Industry Outlook shows the US chemical industry had a strong recovery post-Covid, with demand increasing from the major end markets such as construction, automotive, and health and safety. 2022 could mark the "full recovery" milestone for the US chemical industry post-pandemic, says Deloitte.

That said, the industry is still facing an uncertain future of increasing regulation. Supply chain issues abound, chemical companies need to be transparent about how volatility is impacting the balance sheet - especially as they prepare to scale up and seek growth opportunities once more.

Technology disruption is also on the horizon. Industry 4.0 has so far left the chemical industry largely unscathed, but manufacturing is now poised for disruption in the face of advances in exponential technologies such as nano-sciences, robotics, AI and machine learning, autonomous transportation and additive manufacturing. With all this happening, could the chemical industry also face shared consumption models such as seen in car ownership and travel? What impact will the circular and shared economies have on the industry?

The chemical industry is still defined by selling ever-greater volumes of energy-intensive, carbon-based products, but that business model will struggle to survive long-term in a world that is making serious efforts towards net-zero carbon emissions and rolling back industrial impacts on the climate. Supply chains, industrial emissions and value propositions face pressure from both activist investors and end consumers.



What is a shared consumption model?

Shared or collaborative consumption is the shared use of a good or service by a group. Whereas with normal consumption, an individual pays the full cost of a good and maintains exclusive access to it, with collaborative consumption multiple people have access to a good and bear its cost.

What is the circular economy?

A circular economy is where you design out waste and pollution by keeping products and materials in use for as long as possible and find ways to create new resources from what we discard.

The time for action - for re-evaluating production chains, for seeking operational efficiencies - is now. As companies feel pressure to begin evaluating all issues through an ESG lens, industry discussions are starting to include such topics as:

- Environmentalism
- Increasingly scarce resources, such as fossil fuels
- Single-use plastics
- Converting post-consumer waste
- Electric car expansion
- Changing chemical production needs
- The growth of the bio-based chemical market
- An enhancing focus on the circular economy
- Alternative technologies
- New feedstocks
- Portfolio realignments
- The changing needs of R&D as a result of all of this, and more

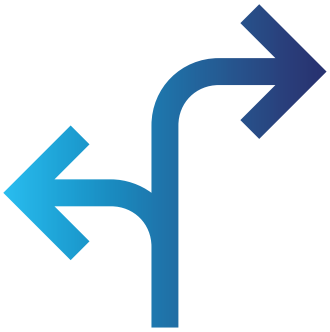
And with these discussions and disruptions comes a need to raise the bar on corporate transparency and responsibility, meaning more data and more tracking of the full supply chain.

Value chains are being reconfigured as sustainability, economic and geopolitical trends, new technologies and changing consumer demands are challenging companies' bottom line and future profitability. To navigate this uncertainty, chemical companies will need to redefine their value chains and business models, adapt to the circular economy, capture the opportunities from digital technology, and upskill their people.

Around the world, governments are increasing scrutiny of industrial operations. On the one hand, these regulations present significant risks for the chemical sector - reductions in petrochemical demand; changes in demand due to renewed focus on eco-ethical products - but on the other hand, substantial opportunities identified by chemical CEOs will emerge as a result of the development of new alternative materials, such as bio-based polymers, and engagement in the recycling economy.

The Alliance to "End Plastic Waste", has grown to more than 40 companies across the entire value chain — including BASF, Braskem, Clariant, Shell, ExxonMobil, LyondellBasell and Procter & Gamble. The group has committed to closing major rivers to plastics waste and funding clean-up projects in the oceans.

The growing need for agility



The environmental causes were there before the pandemic, but the global health crisis took its toll on the industry. The pandemic saw supply chain resilience and agility become an even higher priority for chemicals companies, with disruptions to transportation and production revealing the vulnerability of complex global supply chains.

To succeed in a time of uncertainty and rapid change, operations need to stay agile. Chemical companies may look to adjust portfolios, aim to extend value chains, keep operations flexible, or even offload assets. All these big strategic decisions need to be fed by data, and many organisations are upping investment in technology to support these movements.

Driving this is the need to identify the differentiated capabilities that will help to win the market, rather than chasing the same growth as competitors. And that requires adjusting strategic planning. Instead of the traditional three- to five-year strategy, they'll need to look at the ten-year horizon - while at the same time staying nimble enough to take shorter strategic sprints.

To make the right decisions, it's key for chemical companies to understand the value they can create downstream, both financial and non-financial. And that means being on top of not just operations, but also regulation - their agility depends on it.

Regulation and the chemicals industry

- On the policy front, the United Nations will tackle pollution with the **Stockholm+50** meeting and a possible global agreement to keep discarded plastics out of the environment.
- The **European Green Deal** will challenge the chemical industry, with a potential $80 billion decrease in chemical sales from the new legislation.
- In Europe, **REACH** (Registration, Evaluation, Authorisation and Restriction of Chemicals) is now coming into full force. It's been described as the most complex legislation in the history of the European Union and requires manufacture and imports to be registered with a new European Chemicals Agency in Finland.
- **Brexit** has added complexity to understanding the new rules and regulations of exporting and importing to the UK.
- In the US, the Environmental Protection Agency (EPA) will struggle to meet deadlines imposed by the **Toxic Substances Control Act,** such as completing risk evaluations for high-priority chemicals and proposing rules to mitigate risks.
- The **EPA** also plans to propose enforceable limits on the flame retardants PFOA and PFOS in drinking water.

Effectively managing this evolving industry requires data - and lots of it

As the public, customers and lawmakers continue to raise the issue of plastics and the environment, it's expected that more regulations will appear together with more pressure on the industry to reduce, recycle and innovate to address the problem. And this is just one area of regulation - there are geopolitical crises to consider, as well as increasingly complex cross-border trading markets and consumer demand for supply chain visibility.

Good traceability practices can tell the story from the beginning of production to the moment goods are delivered to consumer-facing storefronts, creating trust between businesses and their customers. Traceability enables companies to be transparent about sourcing materials, production processes, and logistics. Using these methods reduce risk, protect revenue, improve brand reputation and value and increases profitability and sustainability.

Yet more regulations mean more data needs to be accurately captured and stored - for example, from operational processes, for use in the event of a quality audit or recall - and this means integrating traceability data across the business and investing in new technologies to integrate a traditionally siloed workplace.

Chemical manufacturers know how important it is to get the recipe precise; one slip or wrong input can spell disaster. Likewise, not having the right data to inform decisions or manage production can create a knock-on effect across the chain. This is why many are investing in new or upgraded Enterprise Resource Planning (ERP) systems - integrating data silos across the business can give that improved visibility needed to not just survive in this market but thrive.

The right enabling technology should bring together all critical data, reducing the inefficiencies in running separate systems for the laboratory, supply chain, manufacturing and financials - to assist with everything from inventory management to tracking.

Investing in an ERP helps you gain:

- A complete view of your global operations from worldwide distribution to third-party supply chains across borders with ever-high levels of competition.
- The ability to better tailor your offerings by market, often against stiff competition from local markets which may charge less.
- Transparency and traceability to comply with regulations no matter how complex they become, with complete data visibility and management across production and supply.
- Optimisation to help you achieve environmental responsibility with the insight and capabilities you need to manage renewable raw materials, source responsible and improve production methods.
- A focus on innovation where it matters most, using business insight to see where investment will deliver the best return, adapting quickly to meet specific customer needs ahead of the competition.
- Achieve product and process consistency using robust single and multi-level bill of materials management to ensure the highest levels of product consistency, quality and collaboration.

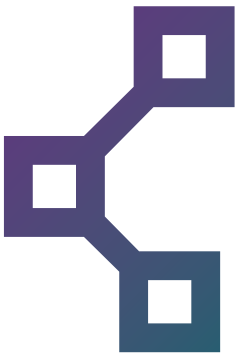
Digital technologies can help enable quick and agile business decision-making. These solutions generally lead to reductions in the cost of operations, enable virtualisation and higher visibility of processes and operations, and can provide the data for better justification of digital transformation.

From day one our users were finding the Sage X3 ERP system much more intuitive and simpler to use.

Hazel Noon
Systems Support Specialist

BELZONA®
Repair • Protect • Improve

ERP's role in the digital transformation of the chemical industry



There remains immense, but relatively unexplored, potential for advanced data analytics and digital technologies to transform the chemical industry. Today, digital tools and technologies present an economically feasible solution for extracting more efficiencies from incumbent processes and designing novel products and processes. Due to the convergence of accelerating improvements, such as advances in sensors, cognitive computing, and analytics, market analysts expect significant progress in three areas this year: data availability, data processing, and engineering and materials research.

Chemical firms are increasingly realising that digital transformation is about implementing more and better technologies to better align culture, people, structure, and tasks. Companies focussing on more asset-heavy parts of the sector will also need to leverage data and market insights, looking at supply/demand balances, capacity situations and global pricing trends.

Enterprises must continuously change to keep ahead of the competition, reduce silos, improve connectivity and respond rapidly to a changing world. Organisations also need to drive continuous innovation with technology that helps them adapt faster.

5 ways Sage X3 can help manage increased complexity for chemical companies

Sage X3 is Sage's ERP system for mid to large enterprises. It is especially suited to chemicals companies, manufacturers, distributors, wholesalers, pharmaceutical, and food and drink companies.

Support changing business models

The influx of reliable, real-time data across the production chain enables better business analysis and strategic decision-making.

Cut costs for growth

A question to ponder is "How much of the current operation could be digitised, automated or made more efficient? And where could you channel that time and investment instead?"

Customer insight to support innovation

By tracking the full value chain - including beyond the warehouse and into the customer's hands - chemical companies can better manage customer relationships and gain insights to support the next phase of products.

Support regulatory management

The increasing complexity of the global business environment requires close monitoring and tracking of every part of production; An ERP system such as Sage X3 provides that data to enable better regulatory reporting.

Speed to market

Sage X3 features a powerful range of functionality. Configure for industry conditions, legal settings, pre-set languages, multiple currencies, and locations in the system, thereby reducing the total cost of ownership and delivering quick time-to-market.

Sage X3 supports changing business models and fast-evolving needs

Sage X3 helps chemical businesses to thrive and stay competitive by providing users with the information they need to serve their customers better, take back quality control, and eliminate inefficiencies across the organisation. It streamlines core processes, from manufacturing to distribution and financial management to business services, while adapting to the industry's best practices.

Sage X3 helps chemical businesses to:

- Manage cross-functional projects
- Deliver value-added after-market services
- Manage complex contractual relationships across the value chain
- Manage resources and assets
- Plan and execute across multiple locations
- Maintain quality, provenance and safety
- Deliver consistent data insight across multiple datasets

With Sage X3, chemical companies can take control of their entire business, from supply chain to sales.

Sage X3 Features & Benefits

Ongoing visibility to production performance, including yields, WIP status, and lot attribute tracking.	More accurate and granular costs of goods sold by customer.
Automatically convert unit measurements.	Integrated production schedule with integrated downtime scheduling/jobs.
Key KPI tracking including: • Yields/Reject/Scrap • Production Costs (energy, material, labour) • Downtime (planned/unplanned) • Profitability by product/customer • Return on assets	Create GHS-compliant safety data sheets.
Get specific formula functionality with gravity calculations and decimal point precision for better unit.	Store a multi-year historical record of transactions.
Multi-company/multi-site support.	Process multi-lingual data, incl. currency info and item names within a single system.
Consolidate data and reporting across worldwide locations.	Control IT costs by implementing a single instance, reducing licensing, maintenance, and support charges.

Sage X3 has helped us get to one standard version of the truth. We don't have all of these spreadsheet reports that can go wrong, we get everything directly out of the system. That's the biggest benefit.

Woodie Perkins
VP of Information Technology

ALLREDI™

Sage X3 is designed to manage all aspects of businesses revolving around distribution and financial management.

Multi-company and multi-currency

Multi-site and multi-company operations are handled with ease within the same database allowing for flexible consolidation and reporting. Differing fiscal legislation between countries is accommodated without compromising the overall structure of a true corporate setup. Buy in Dollars, sell in euros, report in Sterling and produce consolidated accounts in Yen? Sage X3 does not constrict any transaction to a particular currency with full reporting, exchange rate control and full Intrastat reporting.

Regulatory compliance

Sage X3 Finance contains native compatibility with requirements from regulatory bodies so that data is automatically gathered and presented in the right way. This functionality can reduce administrative overheads and help your organisation meet its obligations more effectively.

Full audit trail and logging

Full traceability of all transactions from source entry down to journal level is embedded throughout the entire system. This provides not just a log but an auditable trail of all changes.

Sage X3 support partner

We help our customers with every aspect of Sage X3, from selection through to implementation, and for the lifetime of their system. We ensure that you start with the right solution for your unique requirements and assist you to ensure that Sage X3 stays fit for purpose whilst your organisation expands and evolves.

Find out more about our service portfolio here.

Reasons to choose inixion

Laser-like focus on Sage X3

Sage X3 is the only solution Inixion works with. This laser-like focus ensures that we know the intricacies of Sage X3 inside and out and how it can be applied to various industries, with the ability to think 'outside the box' to help solve more complex business challenges.

Partnership and quality approach

Our focus is on building partnerships with customers and acting as an extension of their team and in-house capabilities. This approach has served us very well - we boast an impressive 'zero-failed' projects to date accolade.

Unrivalled product knowledge

We have a combined experience of over 250+ collective years and many of our Inixion employees were previous end-users of Sage X3, giving us the advantage of unrivalled product knowledge. Additionally, many from the Inixion team have worked in the industry and have a real-world insight into the complex processes faced by businesses.

Inixion thought very carefully and deeply about our unique and specific needs. They have a huge level of expertise and are really focussed on the project in hand.

John Bradley
Group Financial Director

SIL Holdings
Textile Excellence

About Inixion

At Inixion, we don't just implement ERP systems, we deliver success.

Founded in 2006, Inixion is a trusted Sage ERP partner with a 100% implementation success rate and a reputation for delivering long-term value. We specialise in Sage X3 for manufacturers and distributors across the UK and USA, and Sage Intacct for professional and business services companies in the UK.

What sets us apart? Many of our consultants have worked in the industries we serve. That means we bring real-world understanding to every project, combining deep product expertise with genuine business insight.

Above all, we believe in building mutual value. Our approach is collaborative, transparent, and outcomes-driven. Whether you're scaling, streamlining, or modernising, we're with you every step of the way.

Zero failed projects. Proven results. Trusted by industry.

Speak to our team today: enquiries@inixion.com

Sage X3 enablement resources

2-hour free demo and briefing

Our free demo and briefing will highlight the key functionality available in Sage X3 and demonstrate the areas relevant to your organisation.

Book your demo here.

ERP selection checklist

Our comprehensive ERP selection checklist highlights three critical categories and has been created to help guide you in selecting the right ERP system with the right functionality to give you a head start during your ERP selection due diligence.

Access your checklist here.

Signs it's time to upgrade or replace your ERP system

Discover the pain points our customers experienced that signalled it was time to upgrade or replace their ERP system. Includes video case studies.

Download the guide here.

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