APS REVOLUTION

OVERVIEW

Our findings are based on analysis, assessments and surveys. These give an excellent overview of the current state of the market.

In the past, Advanced Planning & Scheduling (APS) systems had significant shortcomings in functionality, and many were pieced together by vendors from disparate products that had been acquired to fill specific gaps. As a result, many systems only had real strength in certain areas, and well-integrated systems were hard to find. Fortunately, the functionality of APS systems has improved dramatically over recent years, especially in the areas of constraint-based planning, optimisation, simulation and 'what-if' capabilities.

The vendor landscape has also undergone a seismic shift as new contenders arrive to battle it out alongside the better-known providers for a slice of the market. Exciting times for both customers and vendors!

ANALYSIS

Independent review of all the leading APS solutions

ASSESSMENTS

Review of the maturity of organisational planning processes from global company assessments over the previous years

SURVEYS

Survey of over 50 global supply chain leaders on their planning and APS needs for the future

COMPREHENSIVE REVIEW

Each year, Crimson & Co conducts a comprehensive review of the APS market, exploring the trends, the technological advances and the strengths and weaknesses of each system.

The results this year have been particularly revealing as we have coupled our technology review with an assessment of 600 planning processes across 100 companies and 20 countries. This has given us insight into how organisations are really operating and the changing purpose of APS in today's business environment.

GENERATE

REAL INSIGHT

OUR
KEY FINDINGS
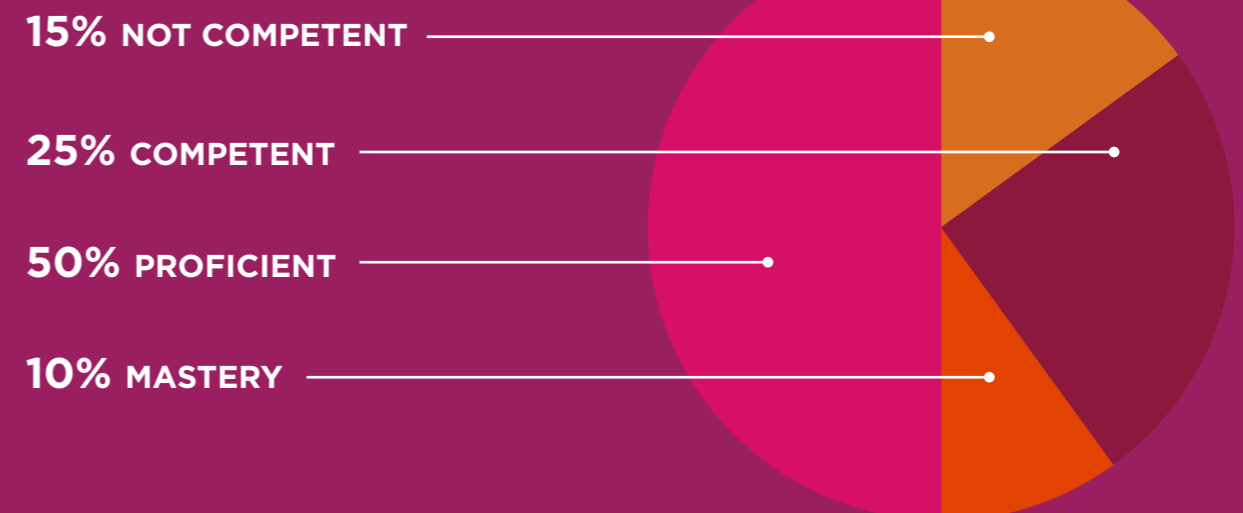
LIMITED
PROCESS MATURITY

A tiny 10% of processes achieved 'mastery', i.e. proven best practice performance, and only a few companies have highly integrated planning environments supported by APS. Companies that have an APS system are shown to have higher levels of process maturity than those that don't.

In fact, our research suggests that just less than a third of businesses have actually implemented an APS system, meaning over two-thirds of businesses still rely on spreadsheets and ERP systems.

The proven business benefits of the right APS system and associated processes are up to a 20% reduction in working capital and a 5% increase in service level. So why has uptake of these systems been limited? There are two clear reasons.

1 A fragmented market and rapidly evolving supplier list have caused many companies to delay investing.

2 Systems and vendors vary significantly regarding the functionality and degree of granularity they provide, making the selection of a best-fit solution for the best price difficult.

This year's review of organisational planning processes indicated that half of the processes typically supported by APS are operating at a 'proficient' level, with a quarter only operating at a 'competent' level.

NOT COMPETENT	operates below a level of basic reliability
COMPETENT	operates at a basic level
PROFICIENT	consistently matches industry norms
MASTERY	advanced techniques and best practice performance used to build competitive strength

PLANNING PROCESS MATURITY

15% NOT COMPETENT

25% COMPETENT

50% PROFICIENT

10% MASTERY
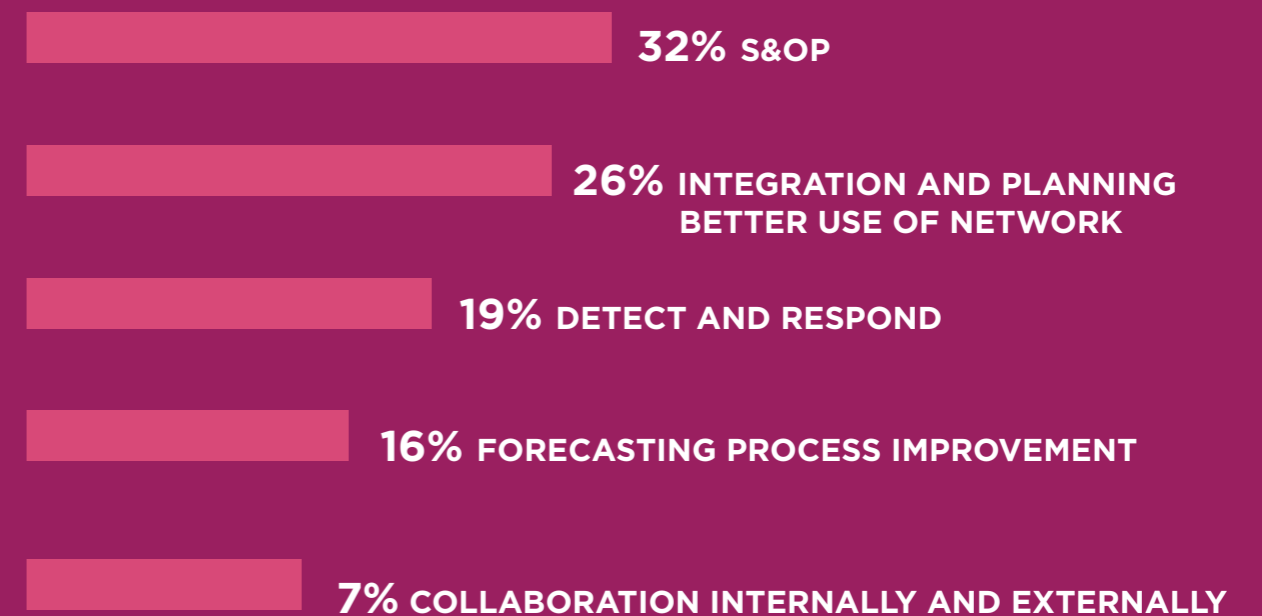
CHANGING
CLIENT NEEDS

There was overwhelming agreement from global supply chain leaders on the three advanced functionalities they need an APS system to provide.

Unsurprisingly, these are linked to the evolution of global supply chains and the need for system functionality to support ongoing operational developments.

THREE ADVANCED FUNCTIONALITIES AN APS SYSTEM SHOULD PROVIDE

1 Support for better Sales and Operations Planning (S&OP) including the need for integrated 'what-if' scenario planning and financial analysis. This is part of a gradual move towards Integrated Business Planning with commercial, finance and supply chain functions coming together to drive business-wide course correction activities and close gaps in business performance.

2 Improved ability to support the use of planning hubs/ control towers and tighter integration between planning and scheduling. This is as a result of businesses continuing to become more global and needing higher levels of integration and optimisation across the breadth and depth of their network.

3 Rapid detect and respond approaches to adjust to changes in supply chain events, with real-time feedback driving continuous re-planning to improve profitability.

TOP APS REQUIREMENTS

32% S&OP

26% INTEGRATION AND PLANNING BETTER USE OF NETWORK

19% DETECT AND RESPOND

16% FORECASTING PROCESS IMPROVEMENT

7% COLLABORATION INTERNALLY AND EXTERNALLY

MIND THE GAP

Increasingly clients are viewing APS implementations as opportunities to not only improve the performance of the supply chain but also to transform how the supply chain is structured locally, regionally and globally. This is resulting in new system programmes becoming business led rather than IT led. This holistic approach considers the technology, process, people and organisation structures as part of an overarching change management programme.

SYSTEM
EVOLUTION

The more traditional systems are not taking advantage of the developments in supply chain technology. Businesses are looking for far more advanced and integrated functionality than traditional systems or ERP planning modules can provide. The good news is that vendors are listening and we are seeing a big push for system developments to meet client needs.

The three needs identified by the global supply chain leaders are in line with vendor developments. While some vendors are stronger in certain areas than others, the general development trends remain the same.

OPTIMAL, OPTIMISED AND MORE INTEGRATED

Supply chains are invariably global, complex and unpredictable, so integration that goes beyond simply linking supply and demand is required.

The systems can now handle significantly more data, provide better visibility across the supply chain and handle more product options and routes.

APS systems have addressed this need and now provide better insight to support decisions about managing trade-offs.

S&OP MORPHING INTO IBP

Suppliers recognised the growing need for better system support for S&OP and multi-echelon planning. Given the on-going evolution of S&OP into Integrated Business Planning, companies want this functionality integrated into their APS system to avoid bolting on yet another system.

This is driving the development of more scenario planning and "what-if" capabilities, to allow visibility of the impact of supply and demand changes so that plans can be adjusted accordingly.

DETECT AND RESPOND – NOW, PLEASE

There is an increasing need for APS to develop optimal solutions and respond to changes in supply and demand in an almost real-time manner. This requires tight integration between planning and execution.

APS systems are now serving companies well on optimisation and increasingly S&OP. However, the majority still do not have the functionality required to adopt real-time detect and respond approaches.

TECHNOLOGICAL
ADVANCES

From an end-user perspective, our research shows that we are close to the tipping point in the APS market. The traditional view of planning that started with MRP and evolved into ERP is no longer good enough to meet the most advanced needs of planners and schedulers. For companies whose planning processes are still at the 'competency' maturity level, more can be achieved by increasing process improvement actions. But those looking to reach 'proficiency' or 'mastery' levels of planning maturity will need to deploy the advanced functionalities available to most APS systems.

GETTING YOUR HEAD IN THE CLOUD

There is now real pressure on suppliers to provide cloud-based and SaaS offerings to match customer expectations and the needs of global multi-plant companies.

Within this decade, it is likely to become the preferred deployment solution for manufacturing and distribution organisations.

ANYWHERE ANYTIME

Today's planners want a more interactive process with information and insight on tap. Simple interfaces coupled with interaction based on social media style feeds will soon be standard.

Despite technological advances, ease of use remains a critical issue, particularly for those planners who need to be weaned off spreadsheet-based tools, which have been customised to match each of their specific requirements.

THE NEED FOR SPEED

Clients are talking about the need to quickly respond to volatility. APS systems offer in-memory computing tools with the immediate benefit of increased processing speed.

Planning systems no longer access information stored in data warehouses, but rather transactional data which is often stored in memory. Planning functions can be carried out in real time delivering faster optimisation, simulations and 'what-ifs' at the speed required to achieve, detect and respond.

WHAT ABOUT THE
BUSINESS CASE

We found that supply chain leaders understood the benefits of APS systems. However, our review of process maturity showed that for many companies there is still a long way to go to improve their approach to planning. The challenge facing executives is how to justify an APS system implementation.

This question emerged time and again in our discussions due to the significant spend still required. The answer is that careful justification is needed with a clear articulation of the benefits.

RAPID ROI

The new capabilities of APS systems make the return on investment (ROI) of APS projects faster than other systems such as ERP, MES, WMS and TMS. The most common measure of ROI for APS is a reduction in working capital.

When looking at other key supply chain levers such as forecast accuracy, service levels and the reliability of supply plans, it is clear that the gap between companies working at 'competency' levels of planning maturity (who still largely rely on core ERP functionality and spreadsheets) have lower service levels and higher inventories compared to those operating at 'proficient' and 'mastery' levels.

THE RANGE OF PERFORMANCE IS PARTICULARLY MARKED IN THE FOLLOWING AREAS

Service level improvements with mastery level planning processes help deliver 5% improvements in customer service compared to less than 2% increases for lower competency levels.

Mastery level planning processes can reduce inventory by 20% compared to a 5% reduction for lower competency levels.

An APS system business case would cover these areas as clear financial benefits. However, the advantages go beyond the obvious service and working capital benefits. The companies that effectively use APS systems and achieve 'mastery' levels of planning maturity have a much greater degree of control over logistics costs, where there is typically a 6% reduction. Mature planning processes can also decrease COGS by up to 3%.

CONCLUSION

SMART SPEND

The challenge facing the market is to come up with even more flexible payment models. Our client feedback indicated that 44% of companies would like to invest in new planning technologies but find it difficult to justify the costs in the current environment.

For decades, the payment model has involved a substantial licence fee for the company plus named user licences. On top of this there are maintenance costs of about 20% as well as consultancy and implementation costs. This can result in a hefty payment before any benefits are realised. However, some vendors are now charging a fixed monthly fee for licences and maintenance. Treating this fee as revenue expenditure rather than capital expenditure removes a significant barrier from the sign-off process.

Our research suggests that there is an alignment between APS system developments and client demand. This can only be a good thing as there is real and significant competitive advantage to investing in an APS solution.

However, process maturity is lagging and a large number of firms still view investing in an APS system as a risk, and one potentially not worth taking. What is clear is that 2016/17 is shaping up to be a tipping point for all things APS-related. The question for supply chain leaders is how to select and implement the system that best suits their needs so they can make that commitment at the right time.

BARRIERS TO INVESTMENT

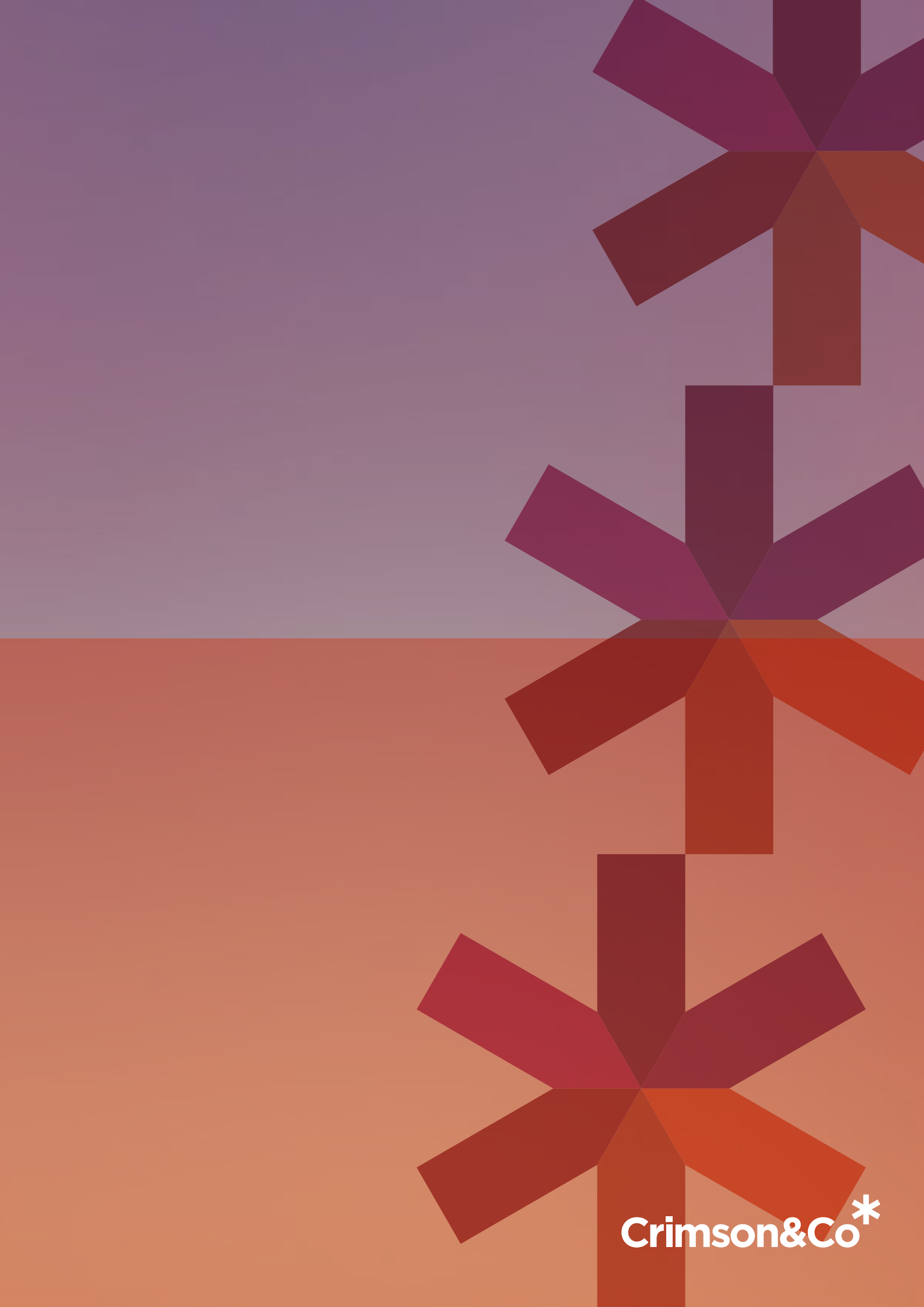**44%** HARD TO JUSTIFY COSTS

33% NO BUDGET

15% OTHER BUSINESS PRIORITIES

8% COPE WITH CURRENT SYSTEMS

ABOUT CRIMSON & CO

Crimson & Co is a global supply chain consultancy that thinks differently. It stands shoulder to shoulder with clients as it develops outstanding supply chains, using deep operational experience and broad-based business skills to challenge, guide and implement.

Its strength is its consulting team, which it nurtures with care, and it has an approach and culture that its clients believe is unique. Crimson & Co has offices in London, Atlanta, Mumbai, São Paulo, Melbourne and Singapore.