Distribution Centre design

Ensuring a Distribution Centre (DC) is correctly designed is critical for all businesses. It must ‘deliver’ the company’s logistics strategy (stock deployment, customer service levels and lead time requirements), whilst also offering flexibility to adapt should business requirements change. DCs are expensive to build, lease and operate, so simply filling them full of inventory is not appropriate. Instead, they are the spearhead of your customer service promise. What is needed is a design that maximises throughput and lead times with the appropriate investment in personnel, systems and levels of automation.
Proven capability

Our top down approach considers all credible options, combined with experienced personnel with many years of industry insight and application of best practice.

**Define strategic objectives**
Understand how the business plan and customer requirements influence the DC design.

**Build model**
Allocate demand to DCs, and model product throughput and handling requirements.

**Optimise the base case**
Calibrate model, and maximise current efficiencies prior to investments.

**Analyse options**
Model scenarios for different methods of storage, picking, and throughput constraints.

**Finalise business case**
Sign off for investment and operating costs, together with sensitivity analysis and risks.

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**Client successes**

**UK aerospace industry manufacturer**
Designed integrated logistics centre layout which consolidated activities and reduced space requirements by 50%.

**European chemicals manufacturer**
Achieved 15% cost savings with new DC layout which designed different picking and storage methods across the product portfolio.

**UK retail entertainment**
Reconfigured existing DC layout with new storage methods and picking layout which increased capacity by 60% and extended the life of the DC by 4 years.

**UK greeting card manufacturer**
Designed centralised DC operation for direct to store delivery, which bypassed customer operated and stocked NDC.

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**Critical get-rights**

**Challenge the role of the warehouse** by designing for throughput not storage (e.g. inbound cross dock); consider new functions such as added value post manufacturing or customisation.

**Future proof your design** by building in flexibility for business growth and product mix changes.

**Optimise the base case** by ensuring that maximum efficiency has been gained from current methods before embarking on capital investments.

**Ensure automation is fit for purpose** by doing a thorough risk analysis and sensitivity check of design assumptions on the business case.
Case studies

**European cosmetics manufacturer**

“Overall they are a great consulting team ... knowledgeable, experienced and highly personable”
Supply Chain Director

**Challenge**
- The client’s central European DCs serving all European markets was being overwhelmed by volume growth, and product flow was failing together with reduced warehouse productivity

**Key actions**
- Identified future operating model and revised flow and storage requirements
- Implemented new planning controls at manufacturing sites
- Designed new DC layout and procedures to accommodate 5 years of growth

**Benefits**
- Site capacity increased by 20% and operating costs reduced by 14%
- Service improvement to 99.5%
- Improvements rolled out to European manufacturing locations

**European chemical company**

“Crimson addressed the key constraints and efficiency shortfalls in our DC, mapped a road map to re-baseline them and defined a future operating model”
Logistics Development Director

**Challenge**
- Current DC’s processes and operating structure were failing to meet either service or cost targets

**Key actions**
- Created an operational design brief from the current activity and required service levels
- Developed alternative high-level layout options, for use as basis for tendering the new operation
- Redefined the design through the tendering process to ensure the client achieved both cost and service improvement

**Benefits**
- Initial diagnostic highlighted where the existing ways of working were inconsistent with meeting the required service levels
- Modelling of the different layout designs demonstrated where the current operation was too expensive
- Achieved 15% cost savings

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“Brilliant with our people, they challenge us but are always great to work with.”
Supply Chain Director, One Stop (Tesco)
Crimson & Co is a management consultancy focusing on the end-to-end supply chain. Globally known for proprietary tools such as scprime®, we provide the highest possible quality of supply chain consultancy services to our clients. Our consultants have operational experience which they combine with their consulting expertise to provide independent and pragmatic solutions focused on improving our clients’ bottom line.

Our objectivity and independence allow us to focus completely on our clients’ issues and needs, and our expertise and end to end perspective ensures that our solutions work across the supply chain and are aligned to the wider business. We have gone from strength to strength since formation in 2003, working with companies across the globe including Avon Cosmetics, Burberry, Diageo, Merck, Nobia, Shell Lubricants and Tesco.