

KONTROL COMMAND



SUBMISSION TITLE

Kontrol Command – Control Room Consoles

INDUSTRY SECTOR

General

CLIENT COMPANY

Lund Halsey

DESIGN CONSULTANCY

LA Design

SUBMISSION DATE

26th June 2017



“

Your new design impresses me very much.
My association is smart, sportive and somehow valuable, too.

The illumination effects do convey a feeling
of “here is the command center.”

The structure details also do show your (LH) experience and
expertise in manufacturing of such kind of such furniture.

Excellent.

Joachim Steimer, Siemens AG

EXECUTIVE SUMMARY

Lund Halsey is a well-established, successful company who design and manufacture premium professional control room and broadcasting solutions for international markets.

These are sold as interlinked systems and may be used in air traffic control rooms or for large scale process control. In 2015 they identified a number of serious potential risks to the business; firstly from high volume (cheaper) furniture manufacturers who modify their products to compete on a professional level and secondly from competitors offering more modern looking solutions, appropriate for the 'high tech' working environments. LH had an extremely good reputation based on reliability and customer service but this was not being reflected in the products, which had evolved incrementally over time and didn't reinforce the intrinsic company values. As part of a brand validation exercise and to retain their position in the market place, LH identified that a new product proposition was essential and this needed to include optimised production methods.

There was awareness that outside design expertise was needed but LH had reservations about how this could be accommodated within a culture of meeting a customer's individual demands by manufacturing bespoke solutions.

The existing range of 'command' control desks was a flexible modular solution based on an underlying steel chassis, covered with MDF (medium density fibreboard). As a first step towards changing the company image, LH wanted to retain the essential features of the chassis to avoid any extensive re-testing, and focus effort on reducing labour costs whilst improving the perceived product value. This was a trial exercise to test the added value that design could bring, which if successful would become integrated into the company working practices for all new products.

The resulting Kontrol Command system has met or exceeded all original expectations and changed the company attitude towards design.



Original Product

PROJECT OVERVIEW

DESCRIPTION

Lund Halsey was formed in 1983 and the founders came from a background of cabinet making, so their initial products were bespoke solutions, arrived at in close consultation with their customers.

With over 30 years of valuable experience they understand their markets very well and have developed flexible/robust/modular products that are functionally the best in what is a niche market. They are proud of their customer support and service, offering a 'design' facility, where the modular product elements can be configured and photographically rendered to meet a customer brief. However, the customers often request a myriad of specification changes for colour/finishes etc. which creates manufacturing logistics problems and reduces possibilities for common components.

The end result is long delivery times and unnecessarily complicated bespoke manufacturing processes. In 2015 they realised they had reached a point where function alone was no longer sufficient to maintain market dominance. The requirement was for a new product range that could be offered in a form that would be more universally acceptable without building in the risks associated with fundamental re-design and standards testing/compliance etc. This approach needed to result in a product with significant additional perceived value. In addition, and for long term growth, it was important that the tangible visual aspects of the company brand were aligned with their service offer.

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PROJECT OVERVIEW

OUTLINE OF PROJECT BRIEF

Developed during an LA credentials presentation session with Lund Halsey.

Primary business objectives were:

- | To modernise the LH Company image and create real differentiation from competitor's offerings.
- | To create a product visual language that reflects the LH company values and be the catalyst for a concurrent business modernisation programme and company brand development in the future.
- | Maintain or improve percentage of overall market share in the face of new forms of competition.
- | To attract the prime contractors who provide large project system integration.
- | To appeal to the end customer decision makers who want to demonstrate to others a prestigious solution that integrates well with its environment. This often includes input from architects and interior designers.
- | To manage customer choice and production logistics by offering an attractive and desirable solution in a single proposed specification where any variations can be treated as added extras.
- | To reduce labour time and associated costs by selecting materials requiring less handling and post finishing.
- | To increase productivity/throughput and meet customer orders faster.
- | To reduce cost and/or add significant perceived value to the proposed system.
- | To disassociate the LH product offering from the traditional office furniture sector.

Project scope:

- | To restrict the initial design exercise to the product range that is used in the 'industrial' control room market (not covering the 'broadcast' sector).
- | To utilise wherever possible the existing modular metalwork chassis system but to offer recommendations for simplifying or reducing the sub assembly options.
- | To identify the core company values and produce visual and experiential concepts that express these values.
- | To provide consultancy on how the brand values could be utilised through other communication channels.
- | To research possible new materials and processes that provide more efficient production methods and create a product image more relevant for high tech control room environments.
- | To analyse user needs and propose new added value features that will enhance the user experience.
- | The project limited to provide detailed 3D CAD data to express agreed design concepts.
- | To support LH in the detailed design/prototyping/production activities.



Identify the core company values and produce visual and experiential concepts that express these values.

OVERVIEW OF MARKET

The market for control room furniture is a Niche market served by a relatively small number of specialist suppliers. The control room market that Lund Haley addresses can be split into the following sectors:

Broadcast – television and radio

Security – surveillance and national security

Aviation – Air Traffic Control and Airport Control Centres

Transport Control – Rail and Road

Industrial Control Rooms – Power general & distribution, water processing, oil & gas, Industrial processing.

The market for control room furniture is not growing. This is largely influenced by changes in technology which have seen a reduction in the amount of technical equipment within a control room. This has resulted in smaller control rooms and a reduction in the requirement for storage space for equipment within technical furniture. Furthermore, on a macro level, in recent years large global infrastructure spending has been in decline.

The market is also becoming more complex and competitive. New players are entering with cheaper products that have a significantly lower specification but a more appropriate product image, arguably offering 'style over substance' in a market where failure for any reason can have disastrous consequences e.g. air traffic control or nuclear power plants. Other competitors with more visually attractive offerings can't provide the LH flexibility to meet different demands but have created a situation where cost versus perceived value becomes a predominant purchasing factor.

To compete successfully in the market it is essential to create differentiation and for the last ten years LH have achieved this through technical competence, value for money, excellent service and high quality standards. The Kontrol Command project was commissioned to create differentiation through design and to define the future of the control room market.

Project launch date:

Intersec, Dubai – January 2016



OUTLINE OF DESIGN SOLUTION

Initial design activities commenced with a workshop to establish the underlying product values which would be translated into the tangible product solutions. LA facilitated the discussions by providing a presentation with visual prompts and examples and the session ended with a consensus on terms – **SOLID**, **COOL**, **CONTEMPORARY**, **QUALITY**. These values have subsequently been used in the design of a new website, other communication material and the design of a second product range launched earlier this year.

Research on possible replacement materials concluded that 'compact laminate' would offer a number of production advantages. This material is commonly used in toilet cubicles/washrooms and is very dense and rigid, resulting in the possibility for thinner panels. It can also be machined to expose a solid inner core which obviates the need for edge banding (a separate manual process required with MDF). The material also takes threaded inserts well with a very high extraction force.



SOLID

COOL

CONTEMPORARY

QUALITY

The choice of colours and finishes was contemporary but also selected to work in any environment



A number of possible concept directions were explored and presented with computer renderings and animations, showing the use of the new material compared with traditional MDF. These were evaluated in the context of the agreed values with additional input and insights relating to different international markets and regional interpretations before further concept development commenced.

The final solution was based on a theme that associates furniture with the sophisticated electronics and software that sits behind it. The new compact laminate material has been used extensively. The system is designed to work on different levels of engagement, from the initial impression when assessing a large control room system, down to the closer, smaller human interactions that occur when approaching and operating an individual workstation.

The much thinner worktop is designed to visually float on end panels which are intended to act as iconic and 'solid' supports to give a feeling of permanence and quality. The two parts are deliberately separated by metallic tubes and the area is lit by blue LEDs which reflect around the tube surfaces. There is additional blue edge lighting in the end panels and the overall effect, especially in a low ambient lighting control room, is to turn passive furniture into a more active and purposeful system. The forward angling of various design details is also intended to promote a more dynamic image.

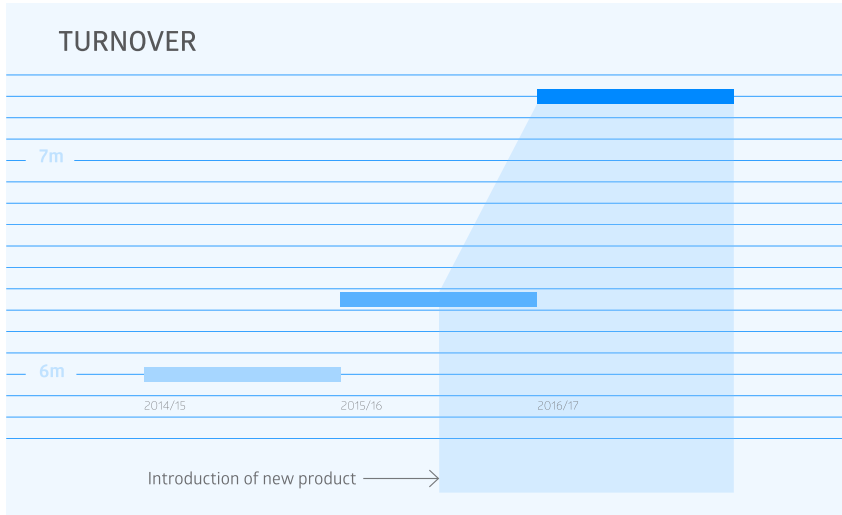
The design provides easily accessible, hidden cabling ducts and the facility to fit 'push to open', hidden connector blocks (with blue lighting) into the worktop.

Existing 'off the shelf' ventilation panels were replaced with custom components designed to reinforce the new visual language.

The choice of colours and finishes was contemporary but also selected to work in any environment – this to reduce the traditional 'bespoke' approach and its associated production and logistics implications. The use of neutral greys, metallic finishes and blue lighting was also aimed at meeting the 'cool' requirement.

Most of the existing modular metalwork chassis sub-assemblies were utilised with support arms originally fixed to separate modules redesigned as replaceable parts to reduce the number of unique modules.

SUMMARY OF RESULTS



- Turnover increase of 22% over first 18 months of sales.
 - Year 2014/15 – New product not yet released.
 - Year 2015/16 – 6 months impact of new product.
 - Year 2016/17 – 12 months impact of new product.
- Market share has been sustained across all sectors despite competitive threats.
- Greater emphasis on standard product offerings, with any changes charged as extras, increases operational efficiency.
- All customers have bought the system in its standard specification – Purchasing dynamic has changed as customers no longer request bespoke designs. This in turn has allowed for elimination of excess inventory, defects or errors and has simplified production and reduced assembly times.



- Although the new material costs are higher, the labour costs are significantly reduced. Along with LEAN 7 optimisation and capped discounts, this results in a 'neutral margin' solution with considerably higher perceived value.
- LH now produces more products with the same factory and direct labour overhead.
- The product delivery time from ordering to dispatch has been reduced to date by 30%. This is a function of more automated machine processes and an increase in common components.

- | Changes to working practices – industrial design is now incorporated more strategically at the early product specification stage.
- | The design experience has involved a cross-functional team involvement and has resulted in renewed enthusiasm for future company possibilities.
- | Kontrol Command has set the pattern for LH brand development and its impact can be clearly seen on the later website development and new promotional material.
- | The system appeals to prime contractors, architects and interior designers. To date there has been no adverse criticism but universal positive market reaction.
- | Having the new system featured on exhibition stands has promoted increased footfall and potential customer discussions.
- | There has been a positive change in the way customers react to the product with a marked increase in customer engagement at all levels.
- | The new company attitude to design has already resulted in a new 'broadcast' product range released at CABSAT on 21 March 2017, and another project in its concept design phase.

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and interior designers.



New Broadcast Product Range

Social, Environmental and Economic Sustainability

Relating to the use of the new compact laminate material from Polyrey:

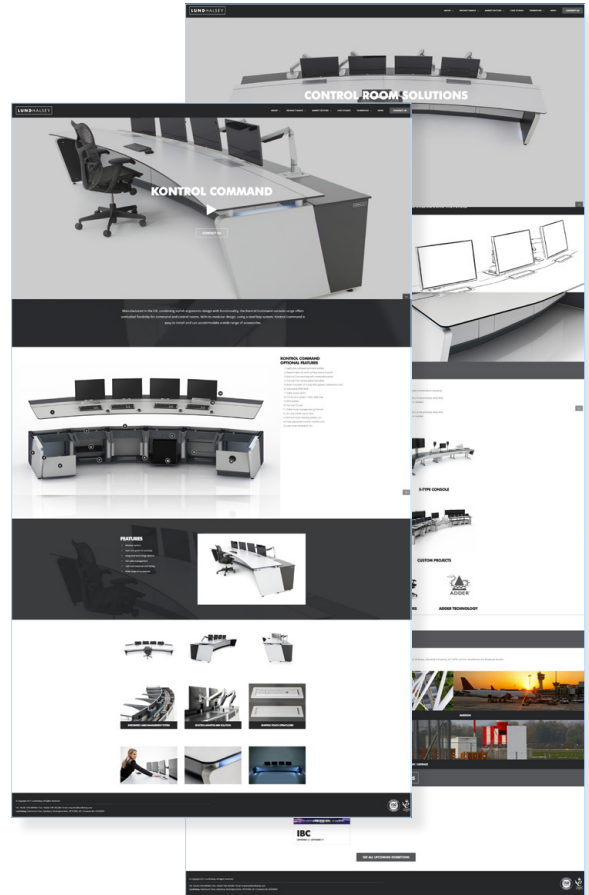
- | All Polyrey panels are PEFC-certified by the FCBA (an independent sustainable and environmental management organisation) with the establishment of chains of custody to ensure traceability of its managed timber, from woodland management until transformation of the finished product.
- Both of Polyrey's industrial sites are certified ISO 14001 in Environmental Management since 2010.
- All thermoset Polyrey panels are chemically inert and have a formaldehyde rate that is considerably lower than the limits for wood-based materials (E1: lowest level recognised by the standard).
- To help protect the health of users, all Polyrey products undergo an antibacterial treatment in which silver ions (Ag+) are encapsulated in glass beads.

- | **The new products, due to their build quality and appearance will be in the market for a minimum of ten years which adds to their sustainability credentials.**
- | **Elimination of waste – the redesign of the product was also the catalyst for LH undertaking a 'LEAN' process to optimise the design and production which impacts on: transportation, inventory, staff movement, waiting time, overproduction, over processing and reduction of defects.**

OTHER INFLUENCING FACTORS

To coincide with the Kontrol Command product launch, a new company logo and website was designed. Both were as a direct result of the brand development and appearance components of the product design exercise and used the product and company values emerging from the early stage product design work.

The 'LEAN' manufacturing system will have an influence on profitability but this is also as a direct result of decisions taken during Kontrol Command development – in particular the reduction in part variation, the reduction in manual labour input and reduced time in meeting customer orders.



Lund Halsey Website

RESEARCH SOURCES

Company turnover figures are from Lund Halsey accounts.

Comparative manufacturing cost figures are from Lund Halsey production cost analysis and based on a five bay modular unit.