

Eleven lessons: managing design in eleven global brands

Design at Virgin Atlantic Airways

Virgin Atlantic Airways, founded in 1984 by British entrepreneur Richard Branson, has innovation as a core brand value and uses design as a key competitive differentiator. The in-house design team manages many aspects of design for the airline, including service concepts as well as interiors, uniforms and airport lounge architecture, and works with a number of agencies worldwide.

Overview

Virgin Atlantic Airways makes use of a mix of in-house design capability and a number of agencies to deliver design projects.

The company's central design function has a strong, hands-on approach to design, carrying out much initial concept development itself and using external inputs selectively to achieve the desired end result.

Key elements of Virgin Atlantic's process are:

- The preparation of a detailed business case before every design project
- The use of physical mock-ups to gain buy-in from internal and external stakeholders
- A formal design freeze and an end to external design input before the start of manufacturing engineering
- A holistic approach to design which embraces service design, bringing distinct advantages but also a host of new challenges.

Meet the team

The design team at Virgin Atlantic Airways is 15 people. They are located in a single office at Virgin Atlantic's UK headquarters, and work closely with the company's brand design team – as Joe Ferry, Head of Design and Service Design at Virgin Atlantic Airways, says, 'It doesn't feel right for me that brand is separate to product. The company also makes extensive use of external design consultancies to implement design projects.'



Designers

Historically, Virgin Atlantic employed designers with single functional roles: interior designers, architects, industrial designers and product designers. Driven by the need to rationalise during the post 9/11 economic slowdown in the air travel industry, a policy of multi-skilling designers was introduced. Today, designers from a wide variety of backgrounds will be involved in all projects at Virgin Atlantic, although Ferry admits that work is still tailored so ‘people’s specialisms come to the fore.’

In more depth

Find out how other companies in our study hire designers who demonstrate a [wider skill set](#), including: multi-disciplinary working, business acumen and strategic thinking. Read more about how [multi-disciplinary teams](#) are a key feature of the [Develop](#) stage of the design processes observed in other companies that took part in our study

Innovation

Innovation is a core brand value at Virgin Atlantic. The company uses unique elements of its service offering as a competitive differentiator and has a strong track record of market firsts. Since its inception, the airline has concentrated on delivering a high quality service at lower cost than competitors. Developments such as its Premium Economy class have helped it to do this.

Context and challenges

The airline industry is a difficult one in which to operate. Fixed costs are high, demand can fluctuate quite dramatically and shortages of key airport infrastructure all make it difficult for airlines to operate profitably. Commercial aircraft produce significant quantities of CO2 and governments are under pressure to increase taxation of airline fuel consumption in order to drive improved environmental performance. Recent agreements between Europe and the US are expected to open key routes in and between both regions to wider competition. Implementing design changes is also a costly process for Virgin Atlantic. Like all airlines, it must get maximum use from its assets, thus minimising the time aircraft are taken out of service for refits or modifications.

History

Virgin Atlantic Airways was founded in 1984 by British entrepreneur Richard Branson. Originally famed for his record label, the development of Virgin Atlantic Airways marked a major step in a significant diversification process for Branson’s Virgin Atlantic brand.

Virgin Atlantic Airways grew rapidly during its first decade of operation, aided by its founder’s decision to sell his recording

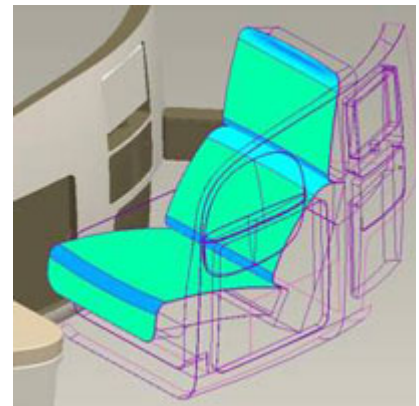


interests and invest the proceeds in the airline. In 1999, Branson sold 49 per cent of Virgin Atlantic Airways to Singapore Airlines.

The evolution of design at Virgin Atlantic

The design team at Virgin Atlantic Airways manages many aspects of design for the airline, including interiors, service concepts, uniforms and airport lounge architecture.

Virgin Atlantic's product and service group also includes two heads of product - one responsible for the design of the company's Economy and Premium Economy classes, the other for Upper Class - and a head of Clubhouses, all operating at the same level as Joe Ferry, Head of Design and Service Design at Virgin Atlantic.



Design is considered to be a key competitive differentiator at Virgin Atlantic and (awaiting the appointment of a Director of product and service) Ferry currently reports directly to the company's Chief Operating Officer. Virgin Atlantic has what Ferry describes as a 'very flat structure' and both the COO and CEO are 'design literate and very supportive of innovation.' This senior management buy-in is deemed very important: 'if we didn't have those two it would be a completely different story,' says Ferry, who also mentions the design team's alliances with key figures like the Head of Brand.

In more depth

Read about the importance of [senior management support](#) of the design process

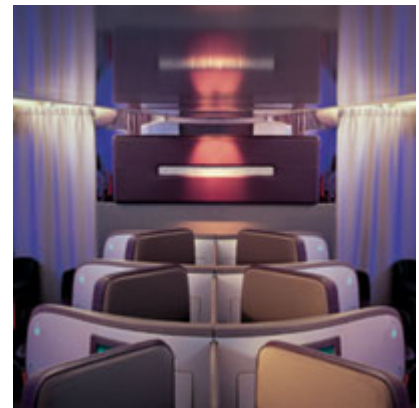
Perhaps because of this, the pressure on the design team to succeed is quite strong within the company, says Ferry, noting that, 'you expect oil prices to go up, you expect occasional problems from external forces, but nobody expects us to deliver bad design, ever.'

Ferry says that strenuous effort over recent years – not only in developing relationships but also in communicating the value of design across the organisation – has given design 'a level of respect within the company.' The process has been difficult but effective, he notes, citing design's relationship with Virgin Atlantic's engineering function as a strong example of this success.

By working extremely closely with Engineering, he says, the latter department will voluntarily seek design input if a product needs to be altered or updated but now knows when 'not to meddle.' Ferry adds that designers at Virgin Atlantic need to develop

flexible communication skills to suit their wide range of audiences, which include both manufacturers and senior management.

Historical successes have also helped the wider organisation understand the value of design, with the company's Upper Class Suite being a strong example. The introduction of the radical seating design and configuration in Virgin Atlantic Airways business class is credited with giving Virgin Atlantic Airways a two per cent increase in market share, worth some £50 million annually. Intellectual property developed during the design of the Upper Class Suite has also been licensed to other organisations, turning Virgin Atlantic Airways design department into a direct source of revenue for the first time.



Service design

Service design is the newest function to be integrated into the department. Virgin Atlantic Airways service design team is responsible for developing all aspects of the customer service experience and for ensuring that customer-facing staff throughout the organisation adopt and follow the correct procedures.

Service design uses a different skill set from the other design specialities and, while the management of the function comes from a conventional design background, Virgin Atlantic Airways has additionally recruited people with a cabin service background to staff the team.



The implementation of service design is also rather different from other areas of the design team's responsibility. Changes to service practice have implications for the job design of cabin crew and must, as a result, be handled with care and sensitivity. The Virgin Atlantic service design team works with the company's crew management as well as with its human resources department and with its training arm to ensure that new offerings are accepted, integrated and delivered successfully.

Capability building

Virgin Atlantic prides itself on having a low staff turnover within its design department. This is achieved despite the department's relatively small size and flat management structure limiting the opportunities for staff progression. Instead, says Ferry, capability building efforts concentrate on educating designers in a broad range of specialisms. The wider company also runs general management training programmes, in which designers may participate.

In more depth

Find out how other companies in our study hire designers who demonstrate a [wider skill set](#), including: multi-disciplinary working, business acumen and strategic thinking

The cross-functional sharing of ideas is strongly encouraged at Virgin Atlantic. Co-location of the designers helps with this, but formal meetings every six weeks allow all designers to share their current work, providing 'inspirational cross over and stimulation,' says Ferry.

Individual development within the team is formalised, with designers agreeing annual objectives with their managers and a link between pay and the achievement of those objectives. As well as direct project responsibilities, these objectives will include R&D and innovation activities.

Status

Today, Virgin Atlantic Airways employs just over 9,000 people. 4,300 of these are crew. In 2006 the company had a turnover of £1,912 million and made a pre-tax profit of £41.6 million.

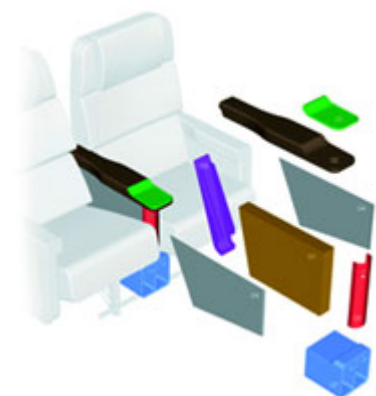
The company has a fleet of 37 aircraft and Virgin Atlantic announced in March this year that it is ordering 15 of the 787-9 Dreamliners – with options on ordering another eight 787-9s and purchase rights on a further 20 aircraft. The 787-9 Dreamliner burns around 27 per cent less fuel per passenger than the A340-300, the aircraft it will replace in the Virgin Atlantic fleet. The order will see Virgin Atlantic take delivery of its new planes from 2011.

The Virgin Atlantic design process

To help staff operate within its challenging time and resource constraints, Virgin Atlantic Airways has a company-wide project management system that is used for all significant projects, including design activities.

Joe Ferry, Head of Design and Service Design at Virgin Atlantic Airways, emphasises that the system does not constitute a design process, merely a way of ensuring that projects progress within time and budgetary constraints. The design process itself, he says, has no formal structure – however it does regularly follow the three consecutive stages – R&D, Design Development and Implementation.

Designers can be involved in a number of projects simultaneously, each of which may be at a different stage. Each stage involves a number of milestones outlined in the following sections.



This process does differ for service design projects which have added complexity due to the multiple stakeholders involved.

Research and development

The design process at Virgin Atlantic Airways begins with a research stage during which ideas are deliberately kept as fluid as possible. The R&D phase starts with what the company calls a Product Challenge. This could be a recognition by the company that there might be a need to carry out some particular activity, either to boost performance or to prevent a decline in performance (for example as ageing infrastructure or competitor activities reduce the distinctiveness of Virgin Atlantic's offering). Or it could be the result of brainstorming or blue-sky thinking in response to a challenge from, say, the CEO.

In more depth

See how [design research groups](#) have helped other companies in our study generate new ideas

Then the project moves into the Opportunity Identifier (OI) stage, where Ferry and his team take a project idea to the Product and Service senior directors group and put the case forward for an initial release of funds to conduct scoping work. At this point, budgets and timelines begin to be set and risks are assessed. If approved, funding is released for the preparation of a piece of work that will, as Ferry puts it, 'help us understand how much we need to develop a detailed business case.'

The Product Brief builds on the OI concept, incorporating commercial awareness and also formulating Key Performance Indicators (KPIs), including less tangible KPIs based on customer satisfaction as well as return on investment.

The Business Case for a new design project is built in a dialogue between the design team and the business unit in charge of the project. The dialogue is essential says Ferry, to ensure that all stakeholders are committing to something they believe can be delivered under the financial and time constraints. Rapid execution of design processes is important at Virgin Atlantic Airways. For example, its latest clubhouse, at Narita airport in Japan, opened in June 2007. The design process for it began three months earlier, in March. CEO input in the design process begins, says Ferry 'at day one.'



Obtaining board approval for new product development and design investment is not an easy task according to Ferry, who says he must often fight hard to be given the resource he wants for a project - 'We are popular at the end of a project,' he says, 'but not at the beginning' – and there is considerable investment of Ferry's time into creating

what he calls 'a robust justification' for investment. The Business Case will often include the presentation of fully developed mock-up designs and a Detailed Design Specification, both key tools with which to gain buy-in from the senior level. The creation of a Detailed Design Specification involves deep collaboration between Virgin Atlantic's in-house design team and the external consultancies from which they outsource expertise.

In more depth

Read about how [corporate objectives](#) are agreed and projects are signed-off at the end of the [Define](#) phase of the design process in other companies that took part in our study

Design Development

As a project enters the 'design development' phase, there are a series of checks in place to essentially ensure that the final product is as close as physically possible to the Detailed Design Specification (DDS).

This involves designers and engineers working very closely with manufacturers and there are a number of key milestone meetings throughout this phase:

- **ITCM:** Initial Technical Coordination Meeting - This is the first meeting where the DDS will be presented to manufacturers to make sure that the design is possible to manufacture: for example that it would be possible to reach the necessary weight target with the existing design
- **PDR:** Preliminary Design Review - At this meeting, the manufacturer presents their understanding and interpretation of the design to the designers. Up to this point, there is some flexibility to revisit the Business Case as design development progresses, this will not necessitate repeated formal sign-offs unless a major problem has arisen that requires significant additional funds to rectify
- **CDR:** Critical Design Review - At this stage, both parties agree on a common interpretation and it is agreed that this design can and will be manufactured. It is a 'cardinal sin' to make changes after this point
- **FAI:** First Article Inspection - This is when the first item is taken off the production line to ensure that it is fully functional etc. This can run in parallel with the following production stage as different components can be produced and assessed in parallel at any one time.

In more depth

Read more about other [visual management techniques](#) that could be useful during the development stage of the design process and how other [development methods](#) can help get a concept as close to being an end product or service as possible

Implementation

In this phase, production (which can run in parallel with the first article inspection phase) is followed by implementation, snagging in the aircraft environment, and then finally the evaluation of the project's KPIs. During the implementation stage it's key that expensive aircraft downtime is minimised and as a way of managing risk, products are usually ready and in storage up to six months before the scheduled roll-out begins.

In more depth

See how other companies in our study use [final testing](#) to identify and constraints or problems with their products before manufacture

Working with external agencies

The vast majority of design projects at Virgin Atlantic involve the use of one or more external consultancies. The Virgin Atlantic internal design team tends to do the 'front end innovation' says Ferry, then once need-identification and early solution concepts have been developed, one or more external agencies is often brought in to work alongside the team in order to develop the final solution. Ferry adds that collaboration with highly creative design specialists is one way to ensure that the creative side of the in-house team is constantly 'invigorated.'

Managing this relationship can mean weekly meetings between the internal and external design teams help to keep both closely aligned, and during critical phases meeting frequency may be higher, with the teams doing 'whatever it takes to get the project running as smoothly as possible.' Virgin Atlantic maintains a policy of keeping all its external design suppliers separate. Ferry and his team coordinate the process centrally and little direct agency to agency communication takes place, particularly at the early stages of a project. Ferry is adamant that this separation allows the external consultancies to use their creative capabilities to the full: 'you need to give the consultancies the space to create and experiment.'

Evaluation

Evaluation of Virgin Atlantic designs is quite extensive. Not only is the company's senior management 'a group of frequent fliers who provide extensive feedback,' it also gives customer the opportunity to fill in detailed evaluation questionnaires – called Xplane – after every flight. The link between interior designs and Xplane data is very robust, says Ferry, with even small changes in seat design, introduced to meet the size constraints of individual aircraft, being reflected in customer response. Virgin Atlantic also uses third party benchmarking data to compare ongoing design satisfaction with that of its competitors.



In more depth

Read about how other companies in our study set targets for [evaluating](#) the success of their product design

Market

Today Virgin Atlantic Airways is the second largest long haul airline in the UK and the third largest European carrier over the North Atlantic. The company's route network has grown to include destinations in the US, Caribbean, Far East, India and Africa. The company's headquarters are in Crawley, UK, near London Gatwick Airport, with overseas offices in the US, Caribbean, South Africa, Hong Kong, Tokyo, Shanghai, Delhi and Lagos.

Virgin Atlantic case study: designing the Upper Class Suite

Perhaps the largest single design project conducted by Virgin Atlantic Airways in recent years is the design of the company's new Upper Class Suite. Introduced in response to a direct competitor action (BA's introduction of the first fully flat aircraft seat-bed), the Upper Class Suite was a totally new concept in aircraft interior design and was designed, engineered and brought into production in only 36 months.

The original requirement for the Upper Class Suite was simple: Virgin Atlantic needed to introduce a flat bed into its upper class cabins. Joe Ferry, Head of Design and Service Design, and his team began by exploring a wide range of different configurations, including the use of seats with separate sleeping areas. Eventually they settled on the concept of a seat and a bed that were in the same space, but separate entities.

During the early concept phases Ferry and his team also spent considerable time with Virgin Atlantic's management discussing different seat design features and assigning relative priorities to each, so decisions could be made on what to include and what to remove from the final design.

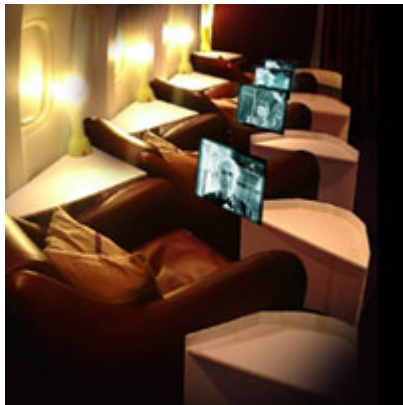
As concepts developed, the team worked with Virgin Atlantic's engineering function to understand whether particular concepts would be acceptable under safety and airworthiness regulations. It also brought in its first external support – in the form of Design Q, an automotive design consultancy used for its layout design and model making skills, which could help to produce 3D concept models to assist with evaluation.



At the end of this initial phase, Ferry and his team presented their concepts to the board, which gave the project the green light to move forward to the Design Development stage.

From concept to prototype

Once the overall concept was evolved, Virgin Atlantic began to involve more specialist outside design support, including a structural engineering firm to assist with the mechanical design of the new seat and to ensure compliance with the very stringent aircraft safety specifications. They also brought in furniture design specialist Pearson Lloyd, after briefing the agency to produce a hypothetical concept for a competitor product to understand its design language and style.



Ferry emphasises that the Upper Class Suite experience is a holistic approach covering much more than just the seat design, involving not just the cabin ambience but also associated service elements including limousine pick-up, in-flight massage and a range of dining options.

The company brought in additional specialists during the design process to achieve this.

Another design agency, Softroom, was used to develop a concept for the whole interior ambience and specialist lighting design consultancy DHA assisted with illumination concepts.

Pearson Lloyd used its own ergonomic experience to optimise the comfort of the seat concept and used ergonomic data that Virgin Atlantic Airways had commissioned from Qinetiq. Within 12 months the team had built a full-scale dynamic prototype seat for evaluation purposes.

The prototype Upper Class Suite business case was approved by Virgin Atlantic's executive board and the seat design then underwent an extensive evaluation process. Members of cabin crew were seconded onto the design team to evaluate usability from a crew point of view and frequent flyers even came in to sleep in the test seat at Virgin Atlantic's HQ. These extended test sessions were augmented by shorter review sessions in which the company's top 50 passengers would come and assess the new design. Such user evaluation was important, says Ferry, but must be treated with caution as passenger feedback – which can be limited in so far as consumers are only able to react to what they have already experienced - won't 'take you to the next level.'

In more depth

Read about how [corporate objectives](#) are agreed and projects are signed-off at the end of the [Define](#) phase of the design process

Manufacture

Once the board had approved the seat design, The Virgin Atlantic design team turned its attention to the manufacture of the seat. At this point in the process, input from external design consultants stopped: Virgin Atlantic and the consultants recorded the agreed design in a Detailed Design Specification Document and through it Ferry and his team became 'guardians of the design' throughout the engineering and manufacturing process. Here again, the availability of a working concept model was extremely useful, as without it, says Ferry, 'the manufacturers would have said, "It can't be done".'



Manufacturing engineering took 24 months and at the same time the Virgin Atlantic design team conducted an extensive value engineering programme, looking for opportunities to reduce costs without affecting user perception of the product by, for example, ensuring that the leather seat cover designs make maximum possible utilisation of a single hide. The Upper Class Suite was delivered to aircraft in late 2003. Virgin Atlantic continues to use a similar process on other projects and is just completing a redesign of its Premium Economy class cabin.

With thanks to Virgin Atlantic

For the purposes of the design process study, we spoke to Joe Ferry, Head of Design and Service Design at Virgin Atlantic Airways.

To find out more about Virgin Atlantic, visit the corporate section of www.virgin-atlantic.com



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