

## Design Effectiveness Award Entry 2015

PUBLIC SUBMISSION

Project Title	BT Home Hub 5
Category	Product (6)
Sub Category	Product & Service (6.4)
Client Company	BT plc.
Design Consultancy	Alloy Ltd.
Current Date	04.07.14

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## Executive Summary (192 words)

This submission demonstrates the value of an integrated, design led approach to the development of better services & user experiences for the BT Broadband business. Whilst the broadband offer is defined by the connections it provides - the service, bandwidth and content are delivered through a combination of devices, interfaces and people, all of which need to be carefully choreographed to deliver the best possible service and user experience.

BT Home Hub 5 is the core device used to connect BT customers to the BT fibre optic network. It eliminates the need for a separate VDSL modem, and an engineer installation. Furthermore, the device is able to fit through a letterbox, eliminating costly undelivered packages, and frustrated customers.

The adoption of a web based installation process eliminates the need for CD's and instruction leaflets, reducing cost and CO<sup>2</sup> emissions for BT. The launch of hub 5 enables BT to become the only UK ISP to offer fibre provision without the need for installation, delivering better performance and a better customer experience, saving BT millions of pounds in reduced costs & 13,000 tonnes of CO<sup>2</sup> emissions *per annum*, as well as saving BT customers millions of pounds in reduced energy costs *per annum*.

A more detailed overview of the project and results can be seen on the following pages.



# Project Overview

## Project Brief

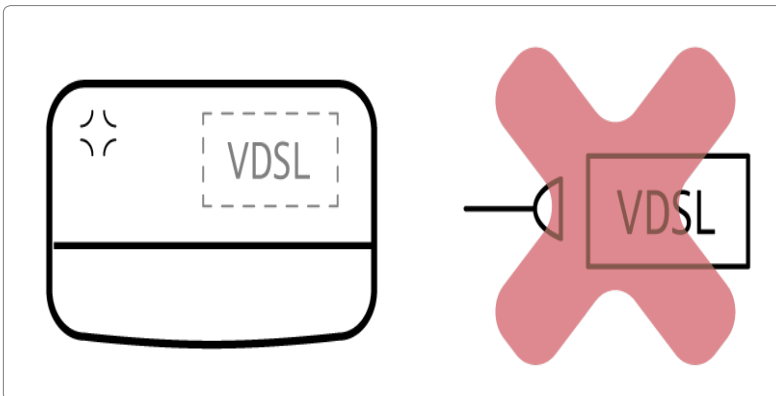
BT Hub 5 was developed following a 'customer experience audit' of the BT *Infinity* Fibre Optic Broadband offer. The audit identified several elements of the proposition that could be improved & integrated more effectively to deliver a better customer experience, and save costs.

BTs' business model is to post the Home Hub to the customer address once a service agreement has been signed. This was not always successful, as customers weren't always at home when it was delivered, resulting in additional costs for BT, and a poor customer experience, as customers sometimes needed to pick the device up from the Post Office.

A key design constraint for Hub 5 is for it to fit through a letterbox inside its' postage packaging.

Historically, once a customer received a Hub, a BT Engineer would visit to enable & install an additional VDSL modem to the address. Hub 5 contains an integrated VDSL modem, that, when combined with simple instructions, eliminates the need for an engineer visit.

*cont/d...*



*Integrated Device* - Hub 5 eliminates the need for a separate VDSL modem.

*Deployable Feet* – the feet spring out from the device when it is taken out of the packaging.



# Project Overview

## Project Brief

cont/d...

To support these 2 radical innovations, the packaging & supporting instructions needed to closely integrate to the core message of efficiency and speed.

The challenge required an integrated approach to the design of the device, the packaging, the installation and ongoing use of the device & service, all of which need to deliver a choreographed customer experience through hardware, software & service design.



*Easy Self Installation* – Enabled by new technologies & a choreographed unwrapping experience - *Packaging Design by Pentagram Design Ltd, Structural Packaging by am associates*



*Touch Textures* - the subtle contour of the arc, combined with a unique texture & finish delivers a premium Consumer Electronics feel to the device.



# Project Overview

## Product Description.

The BT Home Hub 5 is an integrated VDSL modem and wireless router offering the latest wireless standards (802.11a/b/g/n/ac), with 4 Gigabit Ethernet ports and a USB 2.0 connection. The letter box form factor of The Hub includes deployable feet that spring out from the case of the device when it is taken out of its packaging, allowing the device to fit through a letterbox and to provide stability when in use.

The use of a web based installation process enables BT customers to use any wireless device to manage the installation & set up of the device.

The subtly backlit 'horizon line' on the front of the device represents the bandwidth speeds of the fibre optic technologies encased within the device, while the subtle arc of the Hub uses a unique textural pattern, building on the the BT Ergonomic Arc, and Engaging Textures, both of which are key identity elements seen across many BT devices.

The Ethernet & USB ports at the rear of the device are clearly labelled and offer easy access for users to optimise bandwidth use, and manage the device while in use.



*BT Home Hub 5*

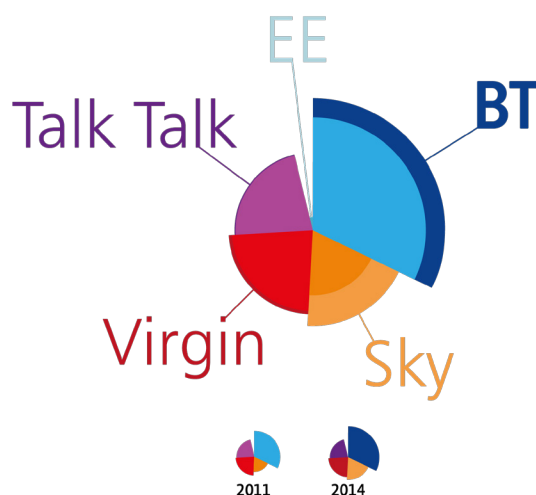
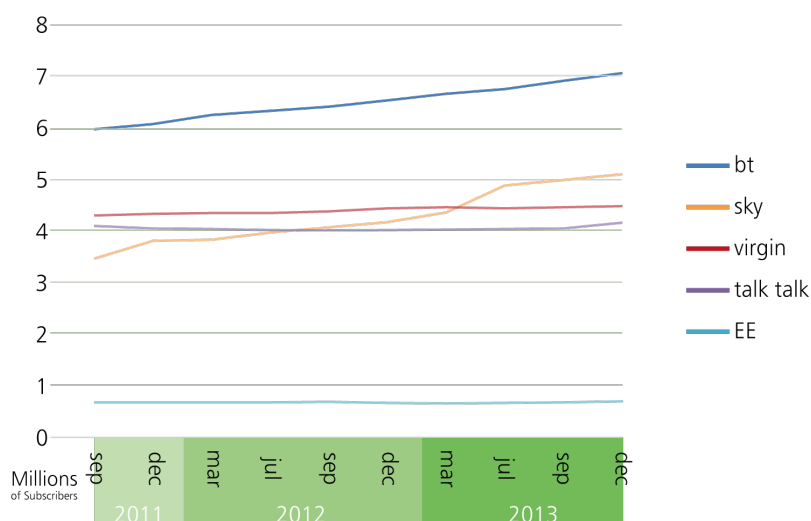
# Project Overview

## Overview of the Market

BT is the leading domestic broadband provider in the UK, with 31.8% market share, as of December 2013. Not only is it the leading provider, but it continues to attract a greater share of new subscribers, adding just over 1 million new customers between Sept 2011 – Dec 2013, representing 36% of the total market growth of 2.9 million new subscribers in that period.

The market is complex and extremely competitive with multiple 'packages' of bandwidth, content & devices offered to new subscribers to drive market share. All ISP's offer subsidised devices in their packaged offers, and there is heavy investment in new content (BT & Sky Sports), supported by large marketing campaigns by all major ISP's.

Please refer to *Appendix 1* for a more detailed breakdown of these figures.



**SOURCE**  
Think Broadband

UK Broadband Factsheet

Q1 2014



# Project Overview

## Project Launch Date

January 2014

## Size of design budget

The project was undertaken within a wider BT relationship, and so project costs can only be estimated.

Based on Alloy timesheets and records, we estimate the Hub 5 project cost circa £xxxx.



*Deployable Feet* -when the device is taken out of the box, the feet spring out to provide stability.



# Project Overview

## Outline of the Design Solution

- 1) The integrated VDSL modem and wireless router is able to fit through a letter box, in its' postage packaging.
- 2) The widescreen form factor includes 'deployable feet' that spring out from the case of the device when it is taken out of its packaging to allow the device fit through the letter box, and provide stability when in use.
- 3) Industrial Design remained core to the development process, using CAD data to manage chipset temperatures when in use. Alongside advanced software, this helped to reduce Hub 5 energy consumption by 30%, reducing costs to each customer, and saving BT thousands of tonnes of CO<sup>2</sup> emissions per annum.
- 4) The packaging of the device, *designed by Pentagon Design Ltd, with Structural Packaging by am associates* is made from biodegradable recycled cardboard, and soy based inks that reduces the amount of embedded CO<sup>2</sup> in the packaging.
- 5) The network based installation process has eliminated the need for paper brochures & CD's, further reducing BT CO<sup>2</sup> emissions per annum. Simple labelling and the 'unveiling' experience of the device guide the user who is able to use any wireless device to install the Hub easily.
- 6) The seamless, choreographed experience of signing a contract, receiving a device a few days later that doesn't require an engineer visit, or the need for complicated CD installation provides BT with significant advantage in such a competitive marketplace, enabling BT to become

the only UK ISP to offer connection to a fibre network without an engineer visit.

# Summary of Results

The complex nature of the market, with subsidised devices and exclusive content mean that we cannot isolate the role of design in driving market share, or the volume of units sold / deployed.

The results outlined below demonstrate how an experience led approach enabled BT, Alloy, their manufacturing partner, Sagemcom, and Pentagram Design to choreograph a compelling service at reduced cost. It is delivered through an integrated approach to the design of the device, UI, packaging and overall service to enhance the customer experience.

Hub 5 delivers better performance and a better customer experience.

In the next 12 months it will...

Save BT money in reduced service provision costs

Save BT customers money in reduced energy bills.

Reduce BT CO<sup>2</sup> emissions by 13,147 tonnes per year.



Copyright British Telecommunications plc 2013

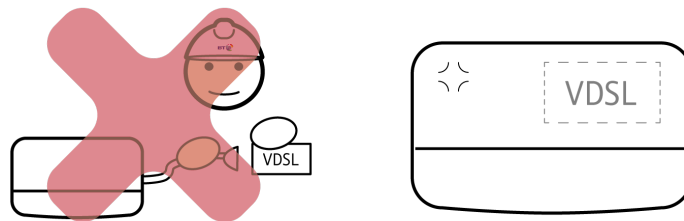
## Results in Detail

Hub5 eliminates the need for an additional VDSL modem, reducing service provision costs to BT.

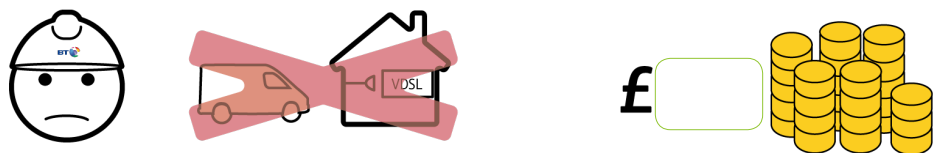
For roughly 30% of customers, Hub 5 does not need an engineer to install the device, substantially reducing the cost of connecting a new customer.\*

Hub 5 doesn't require CD or paper installation instructions, reducing BT packaging costs, and saving BT 147 of CO<sup>2</sup> emissions.

Hub 5 can be posted through a standard UK letterbox, reducing BT distribution & customer service costs through fewer calls to customer service centres, and saving BT 82,000 miles in distribution costs.\*



integrated VDSL modem & router



Fewer Engineers visits



'Smart Set-Up' eliminates CD's & leaflets

### SOURCE

BT Management Information System \* Due to the commercial sensitivity of the data used, we are unable to publish figures.



# Results in Detail

## Reducing service & distribution costs

The combined savings of an integrated device, reductions in packaging & engineer visits total substantial savings per new customer for BT.\*

In the period December 2012 - December 2013, BT gained **530,000** new subscribers, see *appendix 1*. As the chart shows, this rate of growth is broadly in line with growth rates over the previous 2-3 years, and is expected to continue at a similar rate in the near future.

Extrapolating such growth and cost savings, in the next 12 months BT will save millions in reduced service provision, manufacturing & distribution costs.\*

savings per customer	£
VDSL modem	xx
Engineer Visit @ 30% of £xxx	xx
CD & leaflet production	xx
<b>TOTAL</b>	<b>£xx.xxp</b>

### SOURCE

BT Management Information System \* Due to the commercial sensitivity of the data used, we are unable to publish figures.

## Results in Detail

### Reducing CO<sup>2</sup> emissions

Intelligent Industrial Design & Advanced Software enable Hub 5 to reduce energy consumption by 30%\*, saving BT

13,000 tonnes in CO<sup>2</sup> emissions per annum.

Eliminating the need for installation CD's and leaflets reduces the upstream CO<sup>2</sup> emissions related to the production & packaging of the device reducing BT CO<sup>2</sup> emissions

by 147 tonnes per annum



#### SOURCE

BT - *Designing Our Tomorrow* - A project exploring sustainable design principles across the BT business.

published 2014.

\*(compared to previous versions of the Hub).

# Results in Detail

## Enhancing the Customer Experience

For every Hub installed, a BT customer will receive a device through the post first time, every time. For 30% of customers, there will be no need to arrange an engineer visit, dramatically enhancing the initial customer experience.

Every Hub 5 user will save money every year in reduced energy costs.

Collectively, Hub 5 users will save millions of pounds in reduced energy costs in 1 year.



### SOURCE

Energy Saving Trust

[www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)



# Other Influencing Factors

## Collaborative & Technical Innovation

The goal of this submission is to highlight the role & value of design in the development of BT's Broadband business.

The scope and scale of the challenge developing Hub 5 required numerous teams across BT, Alloy, Sagemcom & Pentagram to work on specific challenges, and to integrate their solutions into a compelling device to deliver a market leading service. This submission is made on behalf of all the teams involved in this process.

Design cannot claim to have eliminated the need for a separate VDSL modem as it is a technical innovation. However, a design led approach enabled BT to deploy a web based set up process that delivers a better customer experience at lower cost.

It is the integration of technical innovation, design & collaboration that enabled BT to develop the Hub 5, and to achieve the cost & experiential benefits highlighted in this submission.