

On the button

Co-founder of Wills Watson + Associates *Brian Watson* explores the company's approach to design and its use of the Solidworks CAD platform



Wills Watson + Associates

Wills Watson + Associates are specialist product designers whose work can be found from Heathrow Airport to the British Museum, from hospital operating theatres to flagship office developments, and ranges in scale from micro medical products to streetscape infrastructures. The company was established by Tony Wills and Brian Watson (who had worked together on design projects since 1988) in 2003 and is now based in the Clerkenwell district of London.

Consultancy

Background

Regardless of the market sector or scale of the product, Wills Watson + Associates (WW+A) start each project by deeply questioning the brief, challenging any assumptions and identifying the fundamental issues that the new product needs to address. It is a discipline we have practiced since our days at architects DEGW and is as relevant to medical devices as it is for architectural products. Once the issues are well defined, the design solutions become more obvious and an image for the product evolves that is driven by the core design thinking, not a superficial, applied style.

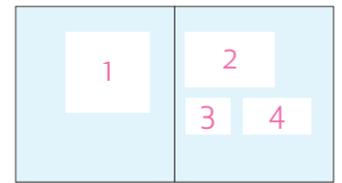
Simplicity is something the team strives for in their work across all sectors. An elegant design communicates its purpose more clearly and its underlying

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reasoning makes it capable of evolving into a family of new products or system to cope with a wide range of applications. To meet demanding technical challenges as, for example, often arise in medical device projects, complex, 'clever' solutions may at first seem appealing, with intellectual property that is easier to protect. However, such solutions can be commercially undermined if there is a simpler way of achieving the same goal – hence WW+A's focus on defining the essence of the design.

Solidworks is a powerful CAD system and enables a small team like WW+A to take on large projects which, in the past, would have required an office-full of designers to produce all the drawings. Keeping the team small has benefits to clients: projects are addressed by seniors and not delegated to juniors thus maintaining a clarity of vision that might be diluted within a larger team.

No matter how powerful the CAD system or how sophisticated the virtual model, physical prototypes are still an essential part of the design process. No client will ever say "yes, I like it" until they have handled a tangible artifact. The



- 1 | Button-fix panel fixing range
- 2 | Grant Westfield Washwall commercial washroom system
- 3 | Security compliance zones at Heathrow Airport
- 4 | Omega Workwall office furniture



comfort of a chair, the ergonomics of a workstation or the reassuring 'click' of a component cannot be judged from the CAD model.

WW+A have an in-house 4-axis milling machine, which is a very versatile tool for realising their virtual models in a variety of materials. For rapid prototypes they use bureau services, choosing the best process to suit specific prototype requirements. Full colour Z-prints for scale models of furniture; glass-filled nylon SLS parts to load-test a moulding; Viper SLA high resolution prototypes for gas flow analysis; metal sintered parts for working trials; vacuum-cast resin batches for user research; these are typical examples of how modern prototyping techniques assist their business.

When a proprietary fastener the company had specified for a washroom cubicle system jammed on a prototype, WW+A knew they could design something better. This was the starting point for the Button-fix project, which has grown since the product launch in March 2012 to a business with sales across Europe, the Middle East, North America, Australasia and Japan. Thanks to Button-fix we can empathise better with what our other clients go through when launching a new product. Also thanks to Button-fix, we have a case study that demonstrates the importance of consistency across every small detail in the product development, from complementary accessories to easy-to-understand 'how to' videos on-line.

Working directly for the Head of Passenger Strategy and Service Innovation at Heathrow, we were asked to conceive the format for a new zone within the airport: an area where passengers would be alerted to the security regulations and could organise before proceeding airside. The compliance zones, defined by islands of furniture headed by tall, triangular sign totems, use a mix of real samples and moving video animations to awake passengers from their 'travel trance' and make them aware that they are about to enter a formal security screening process.

As both WW+A and the fabricators were Solidworks users, the hand-over of the design was seamless. The concept, which had been thoroughly tested in off-site mock-ups, went through live trials during the Olympics in 2012, the busiest period ever in the airport's history. It was subsequently rolled out across all the Terminals.

Key to the WW+A process is the facility to complement computer-based design with tangible models and prototypes whilst cross-fertilising ideas from the different sectors in which they work. You could summarise our design method as 'form follows reason'. There's a rationality behind every detail in our work — no fashionable whims or egocentric gestures permitted. The WW+A goal is to design timeless products answering well-defined problems where neither image nor function are compromised. |