

# Majenta PLM supports leading industrial design house to maintain ownership of the creative vision right through to manufacture

majenta  
PLM

## Alloy

### Industry:

Consumer products

### Business challenges:

- Create memorable and protectable forms to suit a specific purpose
- Ensure ease of use for all customers
- Maintain control over industrial design intent throughout the development process

### Keys to success:

- Flexible shape creation and manipulation supports design creativity
- Industrial designers resolve the internal space as well as the external shape
- Unambiguous 3D CAD data transcends location, language and interpretation
- Flexible and creative advice and support from Majenta PLM

### Protecting the 'sweet highlights' of design

One of the top industrial design agencies in the UK, Alloy helps its clients build profitable brands by delivering an excellent user experience. Winner of numerous awards in product design, interaction design and design strategy, the agency works with unknown start-ups as well as global brands such as HP, PZ Cussons, Toshiba, Virgin Atlantic and BT.

Industrial designers at Alloy do not follow the sequential model in which they develop a design and then pass it to a third party to fulfil. "In a linear process there is potential for the creative vision to be undermined," says Gus Desbarats, Chairman and Co-Founder of Alloy, "Industrial design is applied psychology, whereas engineering is applied physics. It's extremely important that designers retain control all the way down the line, particularly as engineers may lack understanding of ergonomics, behaviour and aesthetics. Our view is that industrial design needs to be the owner of tooling definition for the external surfaces, the internal space layout and all interactions with the customer."

For these reasons, along with the desire to avoid unnecessary duplication and any data ambiguity at handover to engineering, Alloy adopted Siemens PLM Software's NX™ software in 1996. Licenses for the advanced 3D computer-aided design (CAD) system are acquired from Siemens PLM Software's partner, Majenta PLM. "We work continuously with Majenta PLM to optimize internal best practices and investigate new working methodologies that support product design development across multiple sectors," notes Gus.

"Majenta PLM provides technical input through one-on-one sessions and then we conduct our own internal CAD training," comments Andrew Fayle, Designer. "They are flexible and creative, working with us to ensure that we really benefit from their specialist knowledge of NX. We work with NX in a different way to many users and traditional courses do not really apply so our next training session is going to take the form of a special 'work-out' day. A technical expert from Majenta PLM will come to the office to observe how we use the NX tools and where our challenges lie in order to identify ways in which we can improve our knowledge and skills."



## Solution:

Provision of NX with customised training, automatic upgrades and continuing technical support from Majenta PLM



## Not just a pretty picture

Gus explains that Alloy originally chose NX because of its sophisticated surfacing capabilities: "We feel that industrial design challenges 3D CAD in more complex ways than engineering does because we are working with advanced surfacing across complex assemblies." Andrew adds, "The X-form and I-form tools, which allow direct manipulation of surfaces, are particularly useful. With parametric modelling, I can always go back later to an early design decision, apply curvature to a flat surface, for example, and see the change propagated so that everything falls into place."

NX is used immediately from first concept to visualize the entire lifecycle of a design: how it will appear on a page, integrate within a range of products, be perceived by users and function all the way through to its disposal. "We use these tools to quickly explore numerous concept directions early in the project," says Andrew. Once the form is clear, using NX allows Alloy's designers to look at individual components; specify size, density, weight and clearance; and assess manufacturing feasibility. They make educated estimations about the space needed for circuit boards and batteries, even denoting where connectors fit. Their aim is to map the total customer experience, including functional aspects, such as cooling and the temperature of a product when touched.

Andrew continues: "The synchronous technology tools of NX, such as 'replace face' and 'move face,' allow quick evaluation of different surface geometry without needing to go back and edit 'foundation' features early in the part navigator. For example we can look at a few concepts before committing to changing the underlying sketches and related features. The tools of NX are really powerful; with one action we can achieve what takes several steps using traditional industrial design tools. This allows more time to concentrate on getting the concept and user experience right."

Majenta PLM provides a package that includes automatic upgrades of NX and the designers at Alloy rely on Majenta PLM to highlight enhanced functionality and new tools that would suit their way of working. "We decide the timing of an upgrade and prepare the environment yet we always talk the process through with Majenta PLM's specialists beforehand," comments Andrew. They highlight any potential issues and we have the reassurance that they are there if we need them.



## Business impact:

- Less time spent on the engineering phase of development
- Whole development process optimised - from brief to product launch
- The final form reflects each client's marketing message
- With Majenta PLM's support Alloy can concentrate on delivery to customers





## Transcending language barriers

Working with NX enables early prototyping, ensuring manufacturing feasibility and reducing late changes. According to Gus, using NX from the start takes 50 per cent of the mechanical engineering effort out of the equation. He explains, "Engineers do not have to study drawings or re-create data. This provides huge savings because building the outer shell usually accounts for 60-80 per cent of the effort."

Alloy works with engineering teams all over the world. Handover to manufacturing is simple, speedy and error-free, because with NX, there is no requirement to copy or interpret and the opportunity for misunderstanding is essentially eliminated. All communication is through the solid model, which transcends language barriers. The use of NX also allows Alloy to audit compliance easily, so designers always check that geometry and tolerances are exactly as intended and that surface blends and highlights are retained.

Gus maintains that one aspect of an industrial designer's job is to challenge engineers and he describes one notable achievement. "Using NX enabled us to give Hub 3, a flagship home router product we designed for BT, a very distinct arc shape that could still accommodate a conventional circuit board," he says. "One of the companies bidding to manufacture said it was impossible to make. We were able to show them how and in the end they were very open to our approach."



"NX enables us to realize our creative vision and tackle technical risk. It is a tool for designers who want to be leaders. We are in the business of delivery and as an important support partner Majenta PLM helps us achieve this,"

Gus Desbarats, chairman and co-Founder of Alloy

# NX



## Creating customer experiences and brand expression

Andrew notes, "Using NX is a huge strength for us. It supports decision making early on in the development process, takes us from concept to production tools within a single environment, and avoids long revision loops. It enables us to retain orderly and timely responsibility for our design and if we ever have any problems we know we can get in touch with technical experts at Majenta PLM. They are always at the end of a phone and respond instantly. They keep in regular contact with us yet they are not intrusive."

Gus concludes, "Our core purpose at Alloy is the application, evolution and understanding of industrial design. Human behaviour ultimately controls business success and as industrial designers we are creating customer experiences and brand expression. NX enables us to realize our creative vision and tackle technical risk. It is a tool for designers who want to be leaders. We are in the business of delivery and as an important support partner Majenta PLM helps us achieve this."

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