



Industrial Design Step by Step

*From hand-drawn sketches
to ergonomic excellence*

If I Only Had a Brain

*Solving real world
challenges with
creativity and a
passion for
engineering*

SIMULATION

**New Implantable
Hearing Device
Brings Gift of Hearing
to Millions**

*Cochlear Ltd. Uses COMSOL
Multiphysics simulation to
develop a unique acoustic
cochlear implant from
the ground up*

And much more...



Turn the Volume Up!

A new hearing solution holds the promise of being able to treat a hearing defect for which currently no good solution exists. Learn how Cochlear Ltd. used COMSOL Multiphysics to develop a unique acoustic cochlear implant from the ground up.

Hearing loss is not uncommon, and in fact, approximately 17% (36 million) of American adults report some degree of it. Moderate to severe hearing loss can be treated with a hearing aid. Beyond a certain level of hearing loss, a conventional hearing aid no longer provides a solution. For these cases, a hearing implant such as a bone conduction implant or a cochlear implant may be a solution. Cochlear Ltd., headquartered in Australia, has annual sales of about AUD 780 million in 2012 and claims more than three-quarters of the market for such implants.

Over the years, Cochlear Ltd. has helped more than 250,000 people in over 100 countries connect to a world of hearing, and the company is very involved in coming up with even better solutions. In 2012, it invested 15% of its revenues in R&D. "A recent develop-

How Hearing Works



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3 Inner ear (cochlea) moving fluid inside the inner ear bends the hair cells.

Industrial Design | Step-by-Step From Hand-drawn Sketches to a Passion for Excellence

Thanks to the brilliant staff at his article takes you step by-step through ID-3D's design of Sunrise Telecom's Rxt portable compact tablet used to test telecom, cable, and wireless networks.

Concept Generation

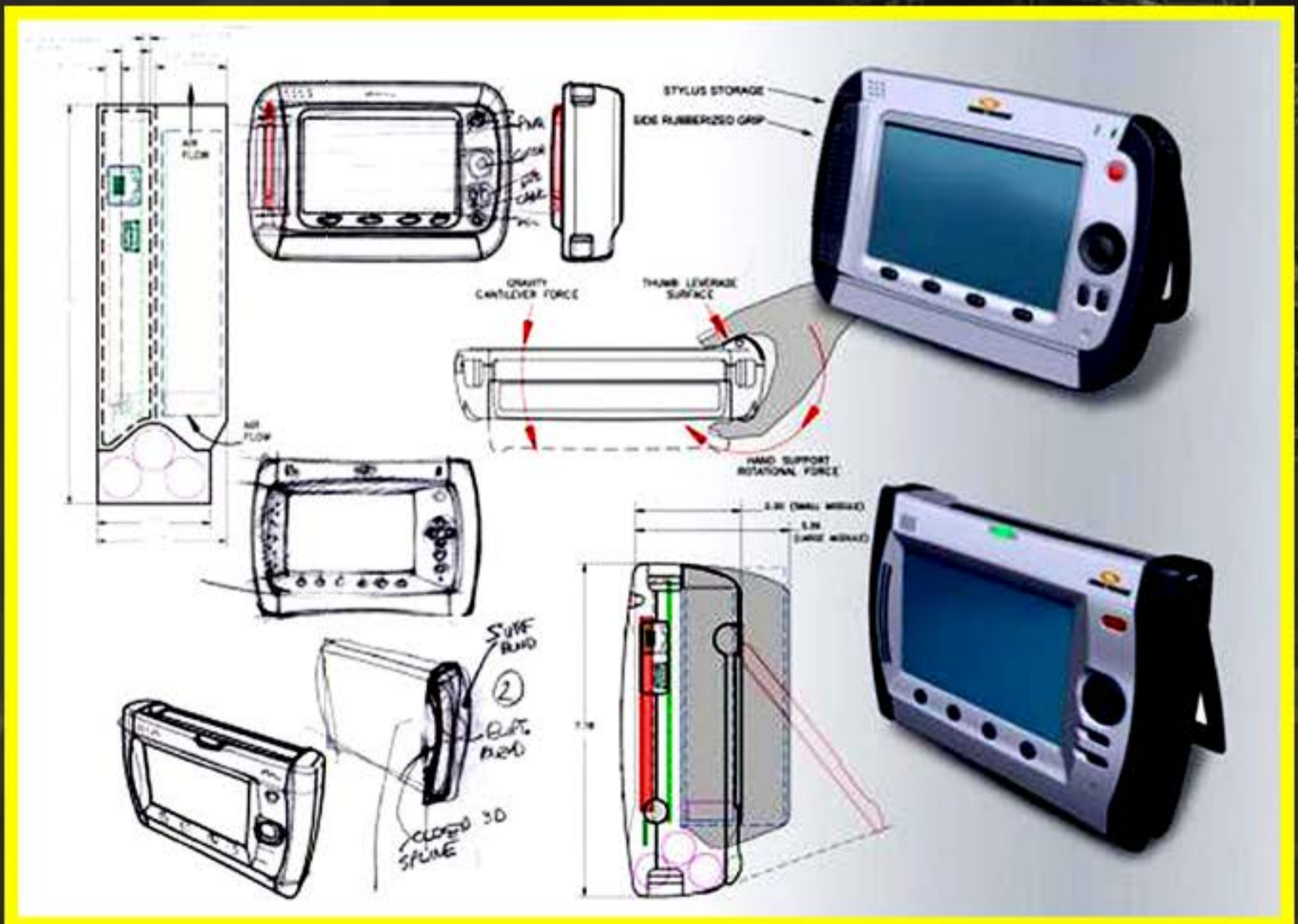


Concept Generation | ID-3D Design's Initial enclosure concepts are generated based on specifications, requirements and preferences from the client as well as user experience research.

After some initial hand sketching, rough 2D

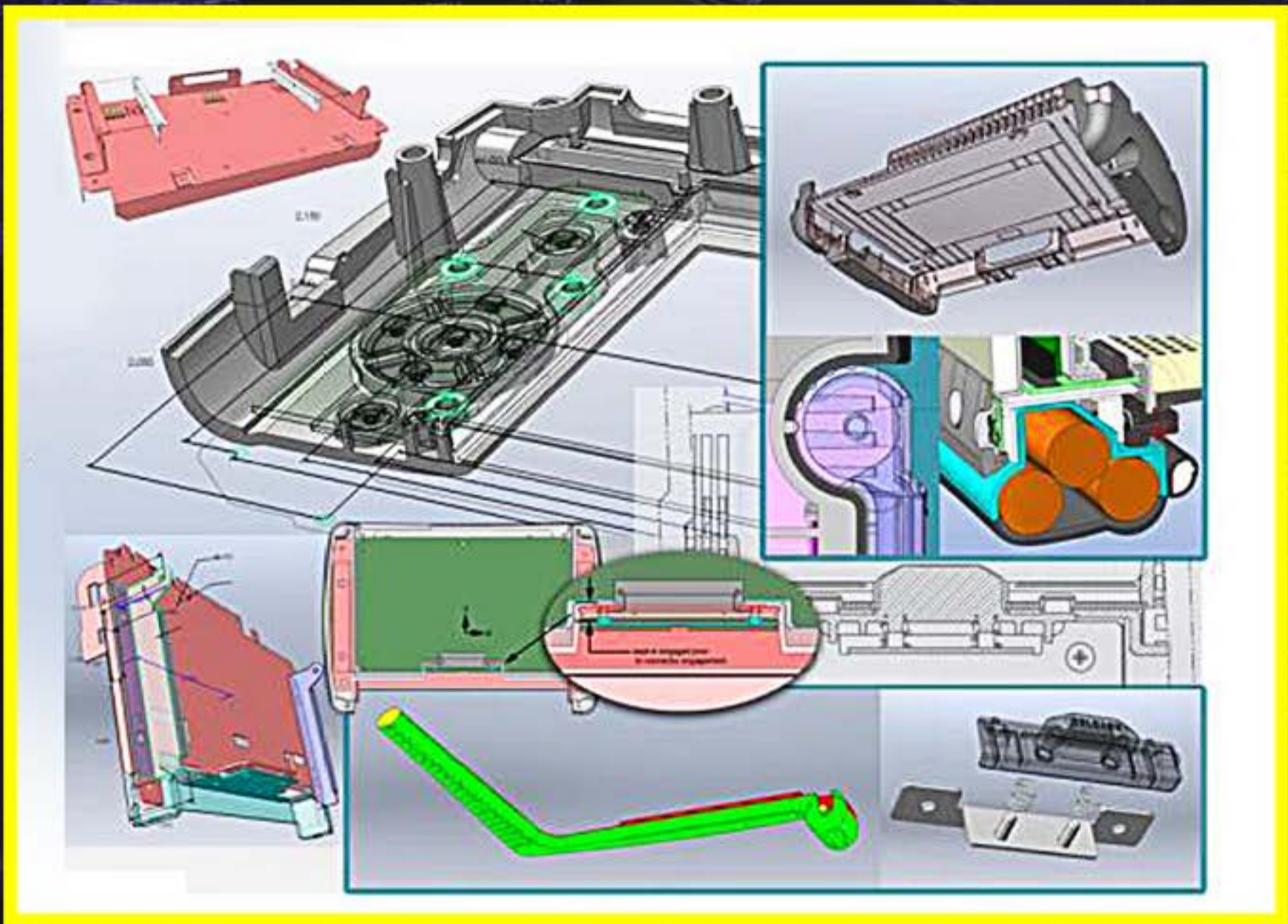
ferences from the client as well as user experience research. After some initial hand sketching, rough 2D component configurations are blocked out in AutoCAD and 3D virtual form studies are started using SolidWorks. The most promising concepts are then rendered in SolidWorks and presentation plates are prepared using Adobe Photoshop for client review.

Concept Integration



Concept Integration | Based on client input from the initial concept presentation, the most promising features are integrated into a more focused embodiment. AutoCAD and

Mechanical Detail



Mechanical Detail | Once the Mechanical layout is approved, 3D models of all parts are generated and detailed using Solidworks. Final decisions on materials and processes are established here and the 3D data can be used for various mechanical analysis such as part cost, structural, thermal, and mold flow analysis etc.

Prototyping

Production



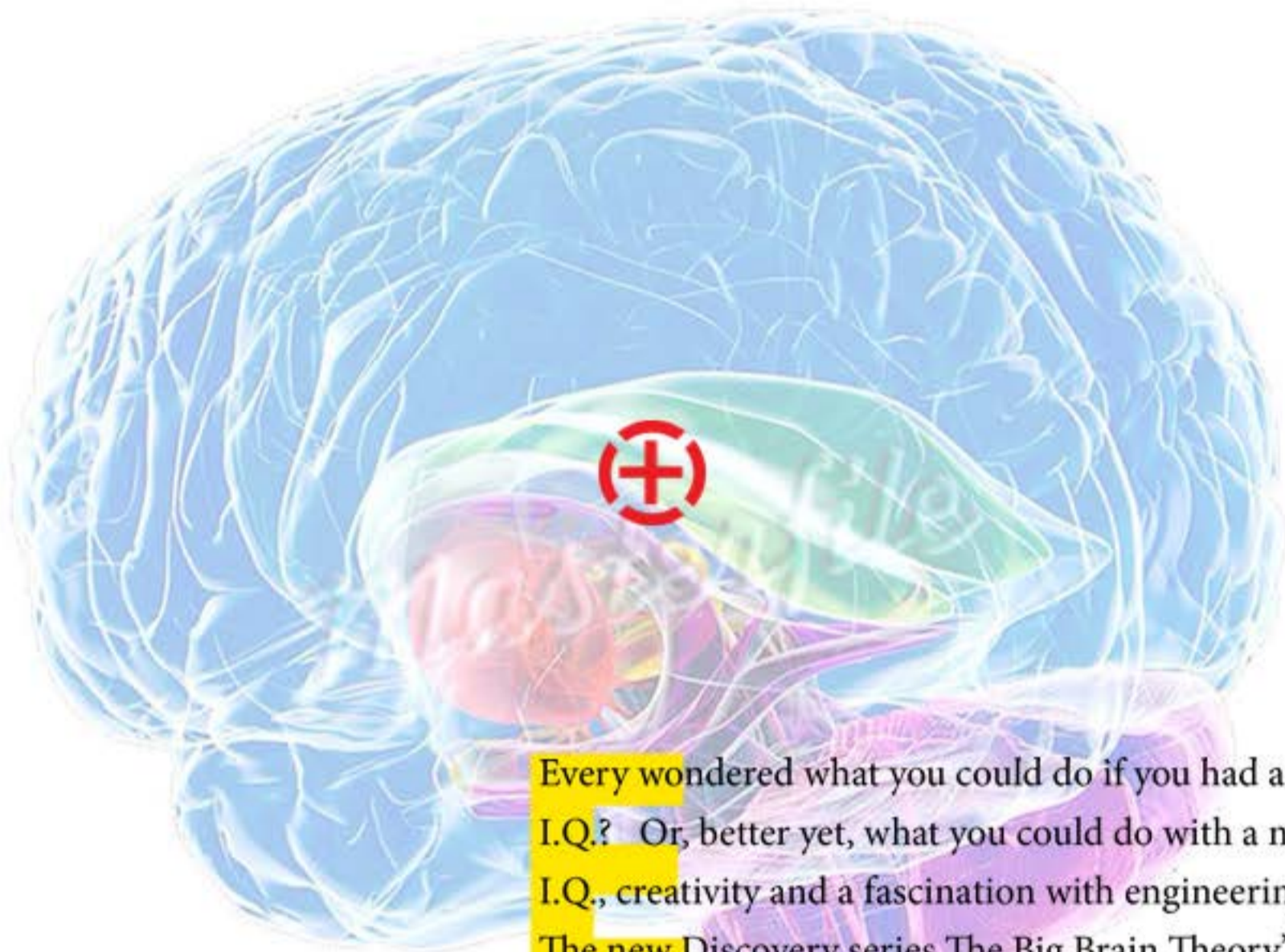
Production | The injection molds are textured and production commences.

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This completes a successful product's development cycle beginning with Industrial Design Conceptualization /Integration; to Mechanical/Product Design; to Prototype/Testing/



If I Only had a Brain



Every wondered what you could do if you had a high I.Q.? Or, better yet, what you could do with a normal I.Q., creativity and a fascination with engineering? The new Discovery series "The Big Brain Theory" is truly inspirational as it pits talented engineers against one another in challenges that tap into the contestants' creativity and technical acumen to solve real world design challenges on paper, and then fabricate and prove their designs in real world tests.

I'm hooked on this series, and I'm sure that anyone who loves engineering, solving complex problems, and gets super excited when they see their 'baby' perform



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