



# BAUSELITE



Bausele's Terra Australis model in rose gold. Credit: Bausele

**INSTITUTION NAME:** Flinders University

**CATEGORIES:** Manufacturing, Science, Technology, Creative

**TITLE:** When Nanotechnology met luxury fashion

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The worlds of nanotechnology and luxury fashion brands don't often meet, but when they do interesting things can happen!

Researchers at Flinders Centre for NanoScale Science & Technology (CNST), led by materials science professor David Lewis, teamed up with Australian luxury watch company, Bausele, to investigate a wide range of nanotechnologies that could be applied to watch-making.

The pairing was supported through NanoConnect, a program initiated by Professor Lewis and funded by the South Australian Department of State Development. NanoConnect aims to provide local manufacturers with an accessible entry point to exploring the potential for nanotechnology in their products or processes and applies advanced materials science to real world problems.

According to Professor Lewis, the partnership began because "Bausele came to us and essentially said 'you're good at nanotechnology, is there anything you can do for us' "When we sat down and asked more about what they do, how they do it and where the issues are, together we came up with a number of areas worth exploring".



The first application to be tested was watch case design, with research efforts successfully achieving the fabrication of a unique, lightweight ceramic material, Bauselite, which Bausele have incorporated into their premium watches.

"Bauselite is very strong, very light, and, because of the way it is made, avoids many of the traps common with conventional ceramics...Because the cases are cast, any tiny gaps or holes can create defect points that cause cracking or deformities. That leads to a lot of rejects and a lot of wastage which is not what you want in a high-value, high-precision but low-volume manufacturing process. We have taken a step back and adopted a completely new way of making these components that avoids these problems" explains Lewis.

The Terra Australis model (pictured above) was launched to great acclaim at the Baselworld world watch fair in Switzerland. It has attracted a great deal of attention and to satisfy growing demand a large number of ceramic components have to be made. The long term vision is to manufacture more of the watch components in South Australia. To that end, Flinders University and Bausele Australia have combined to form a new company 'Australian Advanced Manufacturing' that will produce high precision watch components from Bauselite. In the future, it is envisioned that a wide variety of components made from a range of materials will be produced, and the continuing R&D collaboration with Flinders researchers will maintain a supply of new innovations for Bausele.

#### **Related Media:**

<http://www.flinders.edu.au/people/david.lewis>

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<http://blogs.flinders.edu.au/nano-news/2015/08/10/nanotechnology-in-watches-new-advanced-manufacturing-company-grows-out-of-nanoconnect-collaboration/#sthash.sEaQdUvu.dpuf>

<http://phys.org/news/2015-05-nanotechnology-case.html>

<https://www.youtube.com/watch?v=CPqSTqkMaNg>