

## The other angle on... Nanomaterials

**Speakers: Dr Oleg Gang**

**[Voiceover]** What's up to four times stronger than steel, and five times lighter? Nope, it's not a sci-fi supersuit... It's a nanomaterial.

So how could a tiny material have a huge impact on everything from construction to energy to medicine... and even global trade?

**[Text on screen and voiceover]** The Other Angle on Nanomaterials. The Verge and HSBC.

**[Voiceover]** In the 1930s, the world's first electron microscope revealed nanostructures – 100,000 times smaller than a human hair. Nearly 100 years later, nanotechnology is a global field.

**[Dr Oleg Gang]** So, this is essentially the replica of what you can see with an electron microscope.

**[Voiceover]** Dr Gang and his team discovered that by coating a synthetic DNA structure in silica – or glass to you and me – they could develop that breakthrough sci-fi-esque material.

**[Dr Gang]** This architecture allows us to form material with high strengths but it is also light.

**[Voiceover]** In the future, a material that's stronger and lighter could enable more stable and cost-effective construction. Plus safer, more efficient automobiles, airplanes, and even maritime transport. All of this will have a profound effect on global trade.

When it comes to the widespread technological application of this research,

**[Dr Gang]** Potentially it takes a little bit more time. But in my opinion, there is really nothing which will not be affected.

**[Voiceover]** Already nanomaterials are making solar cells and their batteries more efficient. That's because, on the nanoscale there is more surface area. We may see a flat surface, but it's actually soaking up light in three dimensions.

In medicine, a leading nanotechnology researcher is developing a wearable microchip, which would give a person a notification when any abnormality is detected in their body.

**[Dr Gang]** For thousands of years, humans did everything in the same way. Now it's a unique opportunity to do in a way which has never been done before. What can be more exciting than that?

**[Text on screen]** The Verge | HSBC  
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