



The Next Big Thing: Nanotechnology

The Future is Bright

COLIN

Peter your start up company's interested of course in the potential applications for these things. What kinds of things are really on the cards, what can we look forward to in the near future.

PETER

Well I think there's several things. The focus of our company initially is to make new light emitting materials for flat panel television application.

HARRY

Are they going to be easy to fabricate these particles or is that's the limitation?

PETER

Well, we like to think it is. Again we're relying upon chemistry here, the fact that chemists have been doing this kind of thing for probably thousands of years. There's a famous example of the Mayan blue pigment in pottery found a few years back, and it's proved to be nano particles when we look at it under the electron microscope. So I think we're borrowing a lot of the colloid chemistry worked out for many years.

HARRY

So there's the iridescent sort of colours in something like Venetian glasses and things like that.

PETER

Right yes and then opals, artificial opals are examples of the the photon or light resonator structures.

COLIN

But the whole range of other things that are talked about, you know nano computers and motors and engines and devices to go inside the body and clear up plaque from arteries and so on, I mean there's a huge range of potential for the future isn't there?

PETER

There is. I think we've just touched on the sort of electron and optical effects, I think there's also magnetic effects.

JIM

One of the things in computer technology in magnetic discs is we make these discs you know more dense, we pack more and more information on them, that the size of the magnetic bit is getting smaller. That means that the amount of energy, the magnetic energy you can store you know in a north south or whatever is used as the bit, the amount of energy becomes less because the number of atoms get less, and eventually the number of atoms get so small that the thermal energy just in the room is the same as the energy for the magnetic bit. And then the information just evaporates, and this is one of the, this is one reason that people are pursuing for instance in big companies like IBM, are pursuing new approaches to store information for instance on a molecular scale because there are limits associated with these current technologies.