How long until the Star Trek Replicator?

Short answer: 10-20 years!

The slides, videos, and links for this talk are available at:

http://tinyurl.com/cqkj2x7 or http://dspace.org.nz/2012/05/25/octacon/

What happens when the social changes of the Industrial Revolution are compressed into a decade? Remember this transformative decade starts sometime in the next few years!

The attached scenario is one of eight put together by a working group in 2007 about how nano-technology could transform society. In this scenario there are no mad scientists or evil miltaries, just grassroots changes bought about by open 3D printing technology such as the Reprap project.

Initial Discussion Questions

What jobs are destroyed, what jobs are changed beyond recognition, what ones are left alone, and what new ones are created by this technology?

What if you could print 3 meals in a 24 hour period from some dirt, atmosphere, and solar power?

What happens to farming,agriculture, and the whole food industry?

Is 3d printing using the atmosphere as feedstock a viable 'carbon sequestering' technique to combat climate change?

We already have enough food for everyone, the problem is distrubution. Does this solve it or just make the politics worse?

What has value if everything can be duplicated at the molecular level?

Are expensive pieces of art valuable because they are rare or because they are beautiful?

Will individual craftsmen become millionaires because they make one-of-a-kind things?

Current economic theory is built upon the fundamental assumption of scarcity, what happens to economic relationships in a post-scarcity world?

If we can personialise everything, will we? Clothes are desirable to be fit to our body rather than picking from an arbitrary sizing system but what about furniture, vehicles, houses?

What happens when the digital revolution that has happened in music, movies, and now books comes to the rest of our possesions?

When we have digital designs for all our faviourite possesions, will we just instantantiate possesions when we need them and recycle them when we're finished?

What about 'physical piracy' and 'physical DRM'?

If we can duplicate food, what about the ethics of trying to duplicate living animals and humans? What if the only available 3d scanning techniques are destructive i.e. to duplicate a living organism you have to kill it in the process?