**State of the Art Professional Prosthetic Hands:**

**These seem to be the big players on the market right now:**

**BeBionic3:**

Here is the person that Chris found (Nigel Ackland):

<http://bebionic.com/the_hand/patient_stories/nigel_ackland>

Here is some information about the hand he uses:

<http://bebionic.com/the_hand/features>

**i-Limb Ultra Revolution:**

<http://www.touchbionics.com/products/active-prostheses/i-limb-ultra-revolution/>

This is an improvement on the i-Limb Ultra (seen here):

<http://www.touchbionics.com/products/active-prostheses/i-limb-ultra/>

Here’s a relevant story about the i-limb:

<http://www.newsday.com/news/health/after-car-crash-injury-mineola-teacher-fitted-with-robotic-hand-1.5164980>

Here’s a video on the i-Limb:

<http://www.youtube.com/watch?v=8lvnUafkSy0>

**Michelangelo:**

Here’s the website for the Michelangelo hand:

<http://www.living-with-michelangelo.com/gb/home/>

Here’s a video:

<http://www.youtube.com/watch?v=pOgfuDrtZyc>

**Other arm of note:**

**DARPA/Luke arm:**

DARPA Arm:

<http://www.popsci.com/science/article/2011-02/darpas-brain-controlled-robotic-arm-could-be-available-just-four-years>

The DARPA arm is the successor to the “Luke Arm”:

<http://growingbranch.wordpress.com/2011/01/31/getting-real-the-deka-luke-arm/>

<http://spectrum.ieee.org/biomedical/bionics/dean-kamens-luke-arm-prosthesis-readies-for-clinical-trials>

Videos:

<http://gizmodo.com/5670842/watch-dean-kamens-prosthetic-luke-arm-be-awesome-at-the-grocery-store>

<http://www.youtube.com/watch?v=_q0ikdcV3b4>

<http://www.youtube.com/watch?v=X1OBzc9QfIs>

(This is not available to buy, it’s still in development, but it was the first one of these arms that I had ever heard of and was the groundbreaking force for all of the other prosthetics listed—the reason why it’s still in development right now is because of the control system they’re testing where it can read signals directly from the brain)

**Existing Control Systems:**

(In order of most primitive to most groundbreaking)

**Foot Pedals**

(See: early iterations of the Luke Arm—elaborated on in first Luke Arm link)

**Myoelectric control**

**(Used by BeBionic, i-Limb, Michelangelo)**

BeBionic uses a combination of myoelectric control and particular settings which are accessed by manually moving the thumb or pressing a switch on the back of the hand

<http://bebionic.com/downloads/faq>

i-Limb uses a combination of myoelectric control and particular settings which are accessed via a Bluetooth device (so you can choose grip type on your phone and then basically all the myeoelectric can do is stop/go).

<http://www.touchbionics.com/products/active-prostheses/biosim-i/>

Michelangelo also uses myoelectric control/settings accessed on the phone.

**TMR:**

Targeted muscle reinnervation—basically moves nerves to a central place so you can have more control of your arm (notice that the existing myoelectric arms are basically just on/off)

This is a little beyond what is currently readily available.

<http://armdynamics.com/pages/tmr>

**Sensing Firing of Neurons**

Actually implanting a chip in the brain to sense when neurons controlling the hand are firing

(See: the DARPA arm—elaborated on in the first DARPA arm link)

**Other Interesting Thing I Found:**

Comparison of the Michelangelo hand with the i-Touch hand:

<http://www.oandp.com/oandp-l/message.asp?frmMessageId=4D24C0C5-0561-42B2-A367-0AFF21BEBDF3>