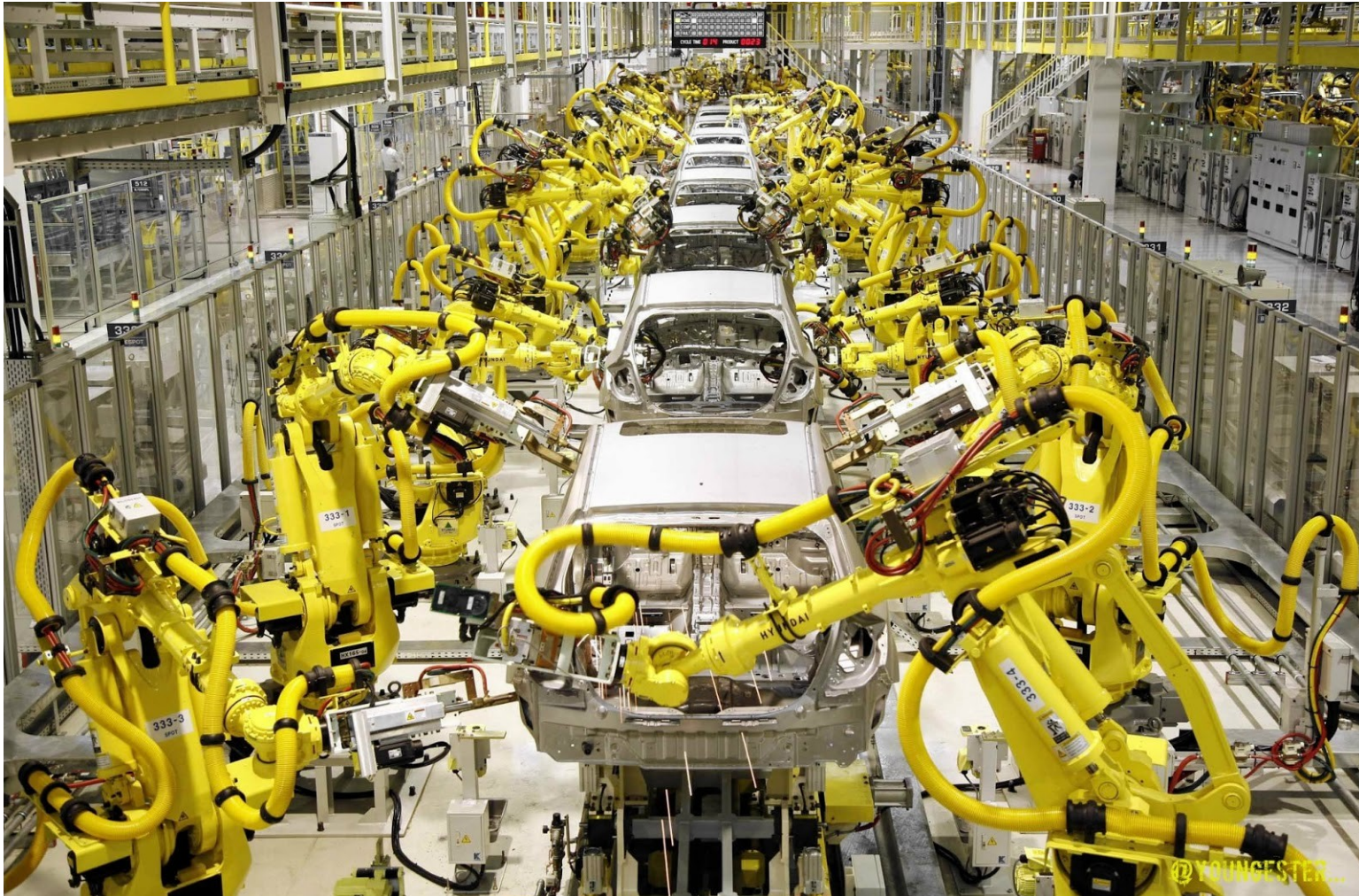


Philosophy of Automation



Fanuc



https://www.youtube.com/watch?v=pgzrkwXV-bY&list=PLd3X9o3IzIb67Q1XeVDw1FyANXR94t_k

Fanuc

- Robot cells each have:
 - 8 horizontal machining centers
 - Pallet system
 - Automatic stocker
 - Multiple robots
- Factory has 40 of these cells
- Factory runs 720 hours (30 days) unattended.
- 86,000 sq.ft. factory is staffed by 4 people

Foxconn



<http://www.nytimes.com/2016/12/29/technology/apple-iphone-china-foxconn.html>

Foxconn



Foxconn



Foxconn



Foxconn



Foxconn



Foxconn



Foxconn



Foxconn



Ethics of Automation

- Humans have brains that invent labor saving tools
- Automation is an artificial distinction between types of tools
- Only thing immoral about automation is the failure of society to anticipate the changes and seek to alleviate impact on individuals
- Human wants are essentially infinite, so we can't have “too much” productivity

Top 9 Ethical Issues in AI

- Unemployment
- Inequality
- Humanity
- Artificial Stupidity
- Racist Robots
- Security
- Evil Genies
- Singularity
- Robot Rights

Distributed Manufacturing



Distributed Manufacturing

- New technologies (3d printing, desktop CNC)
- New markets (Etsy, eBay, Amazon)
- Open source movements
- High cost of living in urban centers
- Environmental advantages
- Local/Regional customization of products
- Sharing/Gig economy