



Crowd Funding	fund (a project or venture) by raising money from a large number of people who each contribute a relatively small amount, typically via the internet.
Virtual Marketing	Advertising through social media to promote products
Co-operatives	a farm, business, or other organization which is owned and run jointly by its members, who share the profits or benefits.
Fair-trade	trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers.



CAD

Computer Aided Design



- 2D Design
- Sketch-up
- Auto-desktop
- Photoshop

- ✓ Precise / accurate.
- ✓ Quick to make changes.
- ✓ Can save a design to file and re use or edit it easily.
- ✓ Less wastage - test before you use materials.

- Workers must be trained to use the computer programme (software.)
- Must have access to a computer /power.
- Expensive software.

CAM

Computer Aided Manufacture



- Laser cutter
- CNC router
- CNC millers
- 3D Printers

- ✓ Precise / accurate.
- ✓ Quick to make changes.
- ✓ Can cut many of the same design in one go.
- ✓ Fast.
- ✓ Can use the same design in more than one material.

- Expensive machinery.
- Specialist maintenance - costs money.
- Extraction.

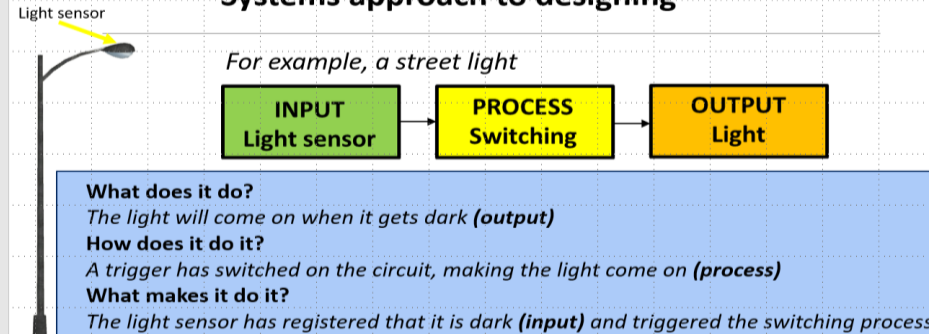
Automation and Robotics = loss of jobs for humans!

Computer numerically controlled (CNC): machine tools that are controlled by a computer.

Flexible manufacturing system (FMS) : a system in which production is organised into cells of machines performing different tasks.

Just in time (JIT): a production method that means materials and components are ordered to arrive at the production assembly point just in time for production.

Systems approach to designing



<p>Inputs: light/temperature / pressure sensors and switches</p>	<p>Processes: microcontrollers as counters, timers and decision making</p>	<p>Outputs: buzzers, speakers and lamps</p>
---	---	--