Timeline of Emerging Science and Technology
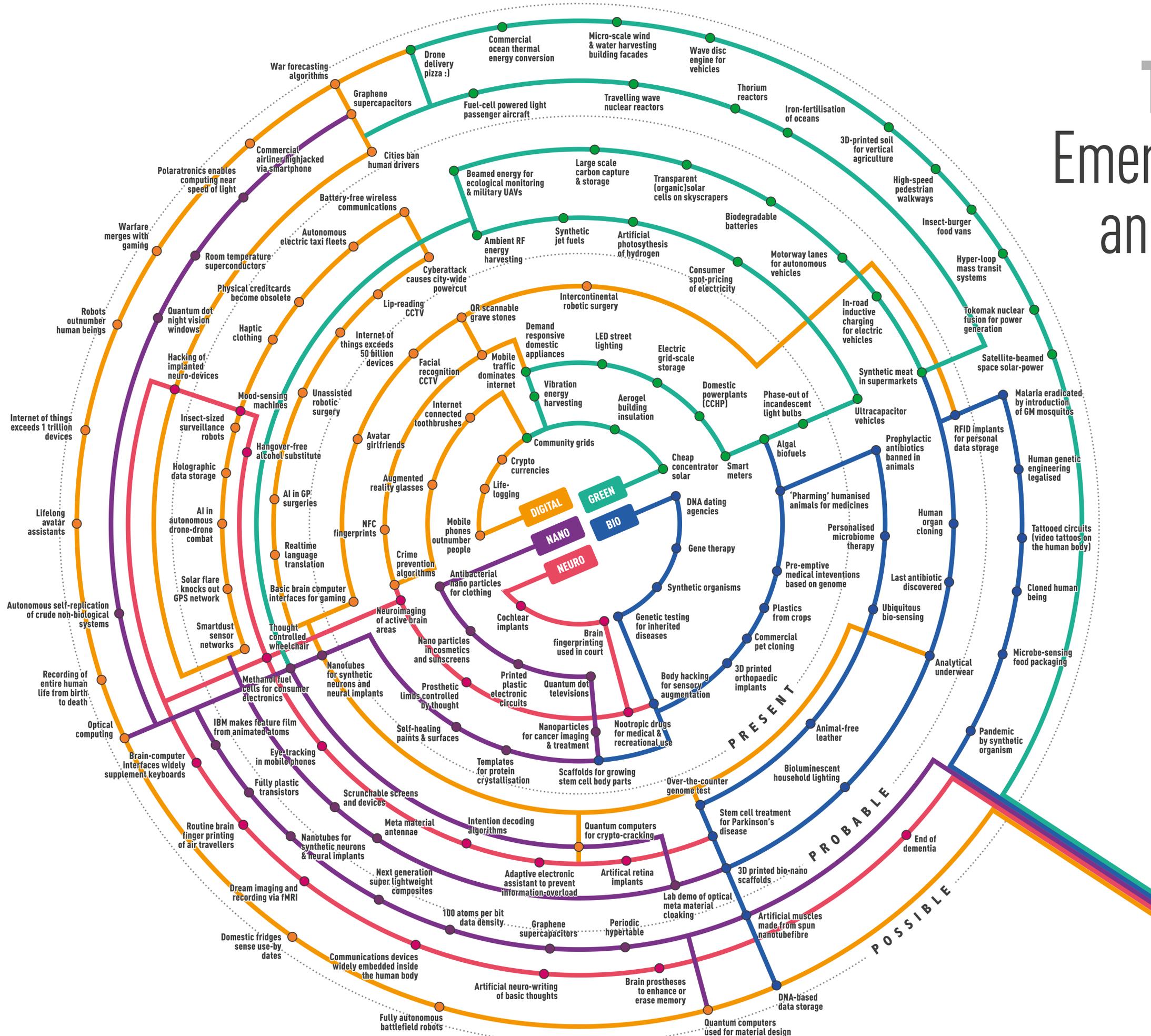
Legend

- **BIO-TECH**
- **DIGITAL-TECH**
- **NANO-TECH**
- **NEURO-TECH**
- **GREEN-TECH**

DIGITAL · **GREEN** · **NANO** · **BIO** · **NEURO**

Innovation or event

PRESENT — Defined as existing now or thereabouts with at least 1,000 examples existing where appropriate

PROBABLE — Defined as occurring between 2015-2030

POSSIBLE — Defined as potentially occurring after 2030

Notes and acknowledgements

Conceived and created by Richard Watson and Alex Ayad with input from Chris Haley and additional input from the 'Smarties' at Imperial College London.

Note that whilst most entries on the timeline are deeply serious, a few are less so. High resolution files suitable for printing can be obtained free of charge from richard@nowandnext.com or techforesight@imperial.ac.uk

A3 and A1 printed wall charts can also be ordered via these addresses although a charge is applied purely to cover print, packing and postage costs.

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Labels (outer to inner)

- War forecasting algorithms
- Drone delivery pizza :)
- Commercial ocean thermal energy conversion
- Micro-scale wind & water harvesting building facades
- Wave disc engine for vehicles
- Graphene supercapacitors
- Thorium reactors
- Iron-fertilisation of oceans
- Commercial airliner hijacked via smartphone
- Fuel-cell powered light passenger aircraft
- Travelling wave nuclear reactors
- 3D-printed soil for vertical agriculture
- Polaratronics enables computing near speed of light
- Cities ban human drivers
- Beamed energy for ecological monitoring & military UAVs
- Large scale carbon capture & storage
- Transparent (organic)solar cells on skyscrapers
- High-speed pedestrian walkways
- Warfare merges with gaming
- Battery-free wireless communications
- Biodegradable batteries
- Insect-burger food vans
- Room temperature superconductors
- Autonomous electric taxi fleets
- Synthetic jet fuels
- Artificial photosynthesis of hydrogen
- Hyper-loop mass transit systems
- Quantum dot night vision windows
- Cyberattack causes city-wide powercut
- Ambient RF energy harvesting
- Consumer spot-pricing of electricity
- Motorway lanes for autonomous vehicles
- Tokomak nuclear fusion for power generation
- Robots outnumber human beings
- Physical creditcards become obsolete
- Lip-reading CCTV
- Intercontinental robotic surgery
- In-road inductive charging for electric vehicles
- Haptic clothing
- QR scannable grave stones
- Demand responsive domestic appliances
- LED street lighting
- Electric grid-scale storage
- Satellite-beamed space solar-power
- Hacking of implanted neuro-devices
- Internet of things exceeds 50 billion devices
- Facial recognition CCTV
- Mobile traffic dominates internet
- Vibration energy harvesting
- Aerogel building insulation
- Domestic powerplants (CCHP)
- Phase-out of incandescent light bulbs
- Synthetic meat in supermarkets
- Malaria eradicated by introduction of GM mosquitos
- Mood-sensing machines
- Internet connected toothbrushes
- Community grids
- Cheap concentrator solar
- Smart meters
- Algal biofuels
- Ultracapacitor vehicles
- Prophylactic antibiotics banned in animals
- RFID implants for personal data storage
- Insect-sized surveillance robots
- Hangover-free alcohol substitute
- Avatar girlfriends
- Crypto currencies
- DNA dating agencies
- 'Pharming' humanised animals for medicines
- Human genetic engineering legalised
- Internet of things exceeds 1 trillion devices
- Augmented reality glasses
- Life-logging
- Gene therapy
- Personalised microbiome therapy
- Human organ cloning
- Tattooed circuits (video tattoos on the human body)
- Holographic data storage
- AI in GP surgeries
- NFC fingerprints
- Mobile phones outnumber people
- Synthetic organisms
- Pre-emptive medical inteventions based on genome
- Last antibiotic discovered
- Cloned human being
- Lifelong avatar assistants
- AI in autonomous drone-drone combat
- Realtime language translation
- Antibacterial nano particles for clothing
- Genetic testing for inherited diseases
- Plastics from crops
- Ubiquitous bio-sensing
- Microbe-sensing food packaging
- Solar flare knocks out GPS network
- Basic brain computer interfaces for gaming
- Crime prevention algorithms
- Cochlear implants
- Brain fingerprinting used in court
- Body hacking for sensory augmentation
- 3D printed orthopaedic implants
- Commercial pet cloning
- Analytical underwear
- Autonomous self-replication of crude non-biological systems
- Smartdust sensor networks
- Thought controlled wheelchair
- Neuroimaging of active brain areas
- Nano particles in cosmetics and sunscreens
- Prosthetic limbs controlled by thought
- Printed plastic electronic circuits
- Quantum dot televisions
- Nanoparticles for cancer imaging & treatment
- Nootropic drugs for medical & recreational use
- Animal-free leather
- Pandemic by synthetic organism
- Recording of entire human life from birth to death
- Methanol fuel cells for consumer electronics
- Nanotubes for synthetic neurons and neural implants
- Self-healing paints & surfaces
- Scaffolds for growing stem cell body parts
- Bioluminescent household lighting
- Optical computing
- IBM makes feature film from animated atoms
- Eye-tracking in mobile phones
- Templates for protein crystallisation
- Over-the-counter genome test
- Brain-computer interfaces widely supplement keyboards
- Fully plastic transistors
- Intention decoding algorithms
- Quantum computers for crypto-cracking
- Stem cell treatment for Parkinson's disease
- End of dementia
- Routine brain finger printing of air travellers
- Scrunchable screens and devices
- Meta material antennae
- Adaptive electronic assistant to prevent information-overload
- Artifical retina implants
- 3D printed bio-nano scaffolds
- Dream imaging and recording via fMRI
- Nanotubes for synthetic neurons & neural implants
- Next generation super lightweight composites
- 100 atoms per bit data density
- Graphene supercapacitors
- Periodic hypertable
- Lab demo of optical meta material cloaking
- Artificial muscles made from spun nanotubefibre
- Domestic fridges sense use-by dates
- Communications devices widely embedded inside the human body
- Artificial neuro-writing of basic thoughts
- Brain prostheses to enhance or erase memory
- DNA-based data storage
- Fully autonomous battlefield robots
- Quantum computers used for material design

PRESENT · **PROBABLE** · **POSSIBLE**