

WAVE 5

MAJOR TECHNOLOGICAL, SOCIAL AND ECONOMIC LEVERS OVER TIME

1



INDUSTRIAL REVOLUTION

- 1770+**
- First Machine Age
 - Steam Engine · 1769
 - Mechanized Factory Systems · 1769
 - Invention of the Optical Telegraph · 1792
 - The First Paper Machine · 1799
 - Invention of the Battery · 1800
 - Locomotive and Railway · 1804
 - The First Internal Combustion Engine · 1807
 - Electric Telegraph · 1816
 - Thermodynamics · 1822
 - Chemical Industry · 1823
 - The First Programmable Mechanical Computer · 1822
 - Electric Motor · 1834
 - Photovoltaic Solar Cell · 1839
 - Assembly Line · 1853
 - Mass Production of Steel · 1856
 - Emergence of the Modern Capitalist Economy
 - Massive Increase of GDP
 - Tech Leadership of Britain


2



ELECTRIFICATION AGE

- 1870+**
- Invention of Light Bulb · 1879
 - Electrification · 1880
 - Transition of Tech Leadership from Britain to the United States and Germany
 - Invention of the Automobile · 1886
 - First Radar · 1886
 - Invention of the Telephone · 1891
 - Diesel Engine · 1893
 - Wireless Communication—Radio Waves · 1895
 - Emergence of First Giant Industry Corporations
 - First Motor-Powered Aircraft · 1903
 - First Regular Radio for Entertainment · 1919
 - First Full Electric TV · 1926
 - First Controlled Nuclear Fusion Test Success · 1938
 - First Jet Aircraft · 1939
 - First Freely Programmable Computer · 1939
 - First Digital Computer: Zuse Z3 · 1941
 - Invention of the Transistor · 1947
 - First Civil Use of Nuclear Power · 1951
 - First IBM Mainframe · 1952
 - First Personal Computer · 1957
 - First Artificial Satellite · 1957
 - First Levitating Car · 1959
 - Invention of Laser · 1960
 - Manned Moon Landing · 1969


3



COMPUTING ERA

- 1970+**
- Microprocessor · 1971, GPS · 1973, Nanotech · 1974, Cell Phone · 1984, World Wide Web · 1990, First Commercial Virtual Reality · 1990, Human Genome Project · 1990, Ion Drive · 1992, Cloud Computing · 1995, Deep Blue defeated Garry Kasparov · 1997, Deep Learning · 2000, First 7-Qubit Quantum Computer · 2001, China's Peaceful Rise · 2004, Mixed Reality · 2006, Blockchain & Bitcoin · 2008, Industry 4.0: Cyber Physical, Systems & IoT, 5G · 2011, Hyperloop Mobility · 2013, Neuralink Brain Computer Interface · 2016, 4D Printing · 2017
 - **Artemis Mission Moon Landing in · 2024**
 - **Clean Meat (cultured) in Mass Market · 2025**
 - **Large Scale Carbon Dioxide Removal: 1% of Global Co2 Emissions · 2028**
 - **Neuromorphic Computers · 202X**
 - **Nanometer-Scale Swarm Robots · 202X**
 - **Significant Commercial Space Industry · 2035**
 - **First New Genetic Modified Species · 203X**
 - **Autonomous Mobility in Mass Market (10MIO+) · 203X**
 - **Telepathic Links Between Humans Using Electronic Implants · 204X**
 - **Humans Live in Permanent Moon Base · 204X**
 - **Self Replicating Machines · 204X**
 - **India as Economic Superpower · 204X**
 - **Mission to Mars · 2033/2048**


4



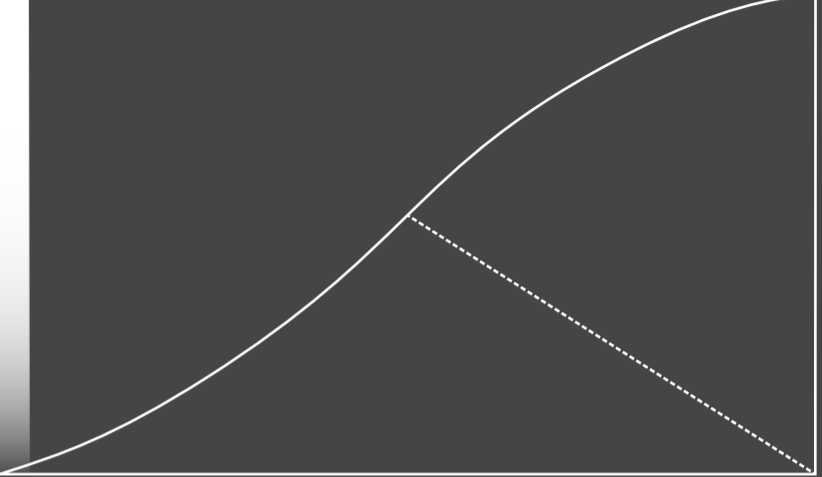
AGE OF SUPER-INTELLIGENCE

- 2070+**
- **Artificial General Intelligence · pre 207X**
 - **Large Scale Space Tourism · 207X**
 - **First Humans Born Off-Earth · 207X**
 - **Bio Inspired Robots in Mass Market · 207X**
 - **Full Body (not Head) Prosthesis · 207X**
 - **Human Brain Transplant · 207X**
 - **Transhumanism · 207X**
 - **Full-Immersion 5-Sense VR Realism Near Identical to That of Real-Life · 207X**
 - **Circular Economy in All Areas of Value Creation · 207X**
 - **Large Scale Geoengineering · 207X**
 - **Fusion Power in Mass Market (100+ Power Plants) · 207X**
 - **Asteroid Mining · 207X**
 - **Next Generation Superconductivity and Breakthrough Applications for Energy and Mobility Sectors · 207X**
 - **Breakthrough in Carbon Nanotube Production · 208X**
 - **Claytronics · 209X**
 - **3D Nanofabricators in Mass Market · 209X**
 - **Space Elevator for Planet-to-Space Transportation · 21XX**
 - **First Initial Contact with Extraterrestrial Intelligence · 2150**

5





INTERSTELLAR SOCIETY



- 2170+**
- **Post-Earth Capitalism**
 - **Arrival of Unmanned Missions at Alpha Centauri and Proxima Centauri b**
 - **Interplanetary Travel with Humans**
 - **Terra Forming Cities on Mars**
 - **Brain Upload Possible**
 - **Longevity Treatments Stop Aging**
 - **Nanotechnology Self-Assemblers for Building Technology**
 - **Antimatter Power Plants in Mass Market**
 - **Transition to a Planetary Civilization**
 - **Antimatter Drive**
 - **Interstellar Travel**
 - **Self Replicating Spacecrafts Explore our Galaxy = Von Neumann Sonde**
 - **Space Colonization**
 - **Invention of Warp Drive**



 — Countries/stakeholders with highest contributions

 — Interplanetary common engagement flag



Sources: Evolution of Intelligence TRENDONE · www.futuretimeline.net · Beyond: Our Future in Space from Chris Impey · The Web Expansion TRENDONE · Thank you to Dagobert Hartmann, Dr. I. Pearson, Sandro Megerle, and Torsten Rehder for contributing · Infographic by Rob Smale TRENDONE · The purpose of this infographic is to present the bigger picture and to inspire the next new normal. Our aim is to raise awareness for the big opportunities ahead and help leaders build the best 21st century · If you would like to contribute to this infographic, please contact Nils Müller directly at mueller@trendone.com or for more information visit www.trendone.com