

# GAMECHANGER

## Wave of Pandemics

A world plagued by various pandemics beyond human control.

### KEY ASPECTS

- Globally inter-connected world highly vulnerable to local threats.
- Countries fail to build necessary public health capacities.
- Ebola outbreak of 2014 was a wake up call.
- H5N1 avian, AIDS, Super Bug, etc.

### FUTURE FACT

“90% chance for pandemic in coming decades according to a study with top epidemiologists. The estimated death toll of an H5N1 avian outbreak is between 16.8 million and 1.7 billion fatalities.”

<http://globalprioritiesproject.org/wp-content/uploads/2016/04/Global-Catastrophic-Risk-Annual-Report-2016-FINAL.pdf>



Source: Wikimages (CC)



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## Radically Sustainable Lifestyles

Both in lifestyle and in business, people adopt a sustainable path for themselves and nature.

### KEY ASPECTS

- Biocentrism
- Ethical consumerism
- Cradle-to-cradle/circular economy
- Being more instead of having more

### FUTURE FACT

“China is committed to peak CO<sub>2</sub> emissions before 2030. In the high penetration scenario, carbon emissions will peak in 2025 at a value of 9.23 billion tons, declining constantly to 3 billion tons by 2050.”

<http://www.efchina.org/Attachments/Report/report-20150420/China-2050-High-Renewable-Energy-Penetration-Scenario-and-Roadmap-Study-Executive-Summary.pdf>



Source: Free-Photos (CC)

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## AI (2<sup>nd</sup> Stage) / Deep Learning

The implementation of artificial intelligence across key aspects of human affairs.

### KEY ASPECTS

- Machine and reinforcement learning
- Dueling neural networks
- Voice recognition
- Language learning/decomposition
- Approaching singularity

### FUTURE FACT

“In the year 2023,  $10^{16}$  calculations per second – roughly the equivalent of one human brain – will cost about \$1,000.”

[https://en.wikipedia.org/wiki/Predictions\\_made\\_by\\_Ray\\_Kurzweil#The\\_Singularity\\_is\\_Near\\_282005.29](https://en.wikipedia.org/wiki/Predictions_made_by_Ray_Kurzweil#The_Singularity_is_Near_282005.29)



Source: Gerd Altmann(CC)

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## Synthetic Biology

The application of the constructive methods of engineering on the investigative field of biology.

### KEY ASPECTS

- Systems biology
- Biomolecular synthesis and fabrication
- Environmental synthetic biology
- Biomedical synthetic biology
- Biohacking
- DIY synthetic biology

### FUTURE FACT

“Around 2020-2025, we will see the spread of biotechnologies to the general population. We will also have desktop fabrication labs by then (and robots).”

[http://future.wikia.com/wiki/Genetic\\_engineering](http://future.wikia.com/wiki/Genetic_engineering)



Source: Arek Socha (CC)



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## Entrepreneurship Revolution

The notion of (un)employment has vanished in this world driven by entrepreneurship.

### KEY ASPECTS

- New forms of work outside the employment relationship.
- Multiple carrier paths.
- Diversified workspaces, activities and working times.

### FUTURE FACT

“In the future people will develop professional activities outside the range of wage employment, using online talent platforms to secure work opportunities as independent contractors.”

<http://changingworld.work/wp-content/uploads/2016/09/WEC-The-Future-of-Work-What-role-for-PrES.pdf>



Source: rawpixel(CC)



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## Developing Countries' Great Leap

The emergence of 'developing world heavy weights' in a new world order.

### KEY ASPECTS

- Power shift of economic power to the East.
- China overtakes the US in terms of GDP.
- India becomes second largest economy, the economies of Mexico and Indonesia outgrow that of the UK and France.

### FUTURE FACT

“China will overtake the US in 2028 despite its projected growth slowdown. India has the potential to become the second largest economy in the world by 2050 in PPP terms.”

<https://www.pwc.com/gx/en/issues/the-economy/assets/world-in-2050-february-2015.pdf>



Source: Pexels (CC)

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## Radical Climate Change Effects

Human activity has caused long-term substantial change in the Earth's climate, resulting in devastating effects in both developing and developed countries.

### KEY ASPECTS

- Unbearably high temperatures in some regions, including heat storms & heat waves.
- Longer frost-free seasons
- Reduced precipitation and frequent droughts.
- More frequent and intense extreme weather events (e.g. hurricanes, cyclones, etc.).
- Ice-free Arctic.

### FUTURE FACT

“Global sea level has risen by about 8 inches since reliable record keeping began in 1880. It is projected to rise another 1 to 4 feet by 2100.”

<https://climate.nasa.gov/effects/>



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## Artificially Controlled Ecosystems

Human intervention in natural ecosystems to control climate and performance in order to make the world liveable for all.

### KEY ASPECTS

- Geo engineering – full scale implementation.
- Controlled ecological life support systems.
- Boom in arcologies.
- Natural capital and natural ecosystem performance.
- Sustained biodiversity.

### FUTURE FACT

“In the future albedo modification will alter the Earth’s reflectivity. This increased reflectivity will bounce sunlight back into space, providing a sort of sunshade for the Earth and lowering global temperatures.”

<http://dme.engin.umich.edu/geoengineering/>



Source: Alain Audet (CC)



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## Automated Politics

The influencing of the masses through automated online media bots designed to highlight and obscure information in someone's interest.

### KEY ASPECTS

- Social bots
- AI propaganda
- Mass deception
- Fake news
- Computational psychology
- Machine learning tactics

### FUTURE FACT

“The political fight of the future will be a proxy war of machine learning. It will be waged online, in secret, and with the unwitting help of all of you.”

<https://scout.ai/story/the-rise-of-the-weaponized-ai-propaganda-machine>



Source: Quakeboy (CC)



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## Happiness Index Replaces GDP

The measurement of progress by means of an index covering the most critical factors of human happiness replaces GDP.

### KEY ASPECTS

- GDP index proven to be unreliable for the measurement of sustainable growth.
- Happiness as the one critical success factor of growth and progress.
- Ecology, wellbeing, life expectancy, equality.

### FUTURE FACT

“After another devastating financial crisis people will stand up against GDP growth without real social progress. They will push through a new system based on happiness as measurement of growth”

<http://www.forastateofhappiness.com/tag/gross-national-happiness/>



Source: Alec White (CC)

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