Drivers of Change

Martin Duckworth, Cathy Dunn,
Nick Jackson, Gill Ringland,
Wendy Schultz, Huw Williams

April 2018

SAMI Consulting

Robust decisions in uncertain times

Table of Contents

A set of 12 megatrends was developed during early 2018. The trends tend to overlap - the following diagram shows some of this inter-relatedness.

Complex inter-related megatrends
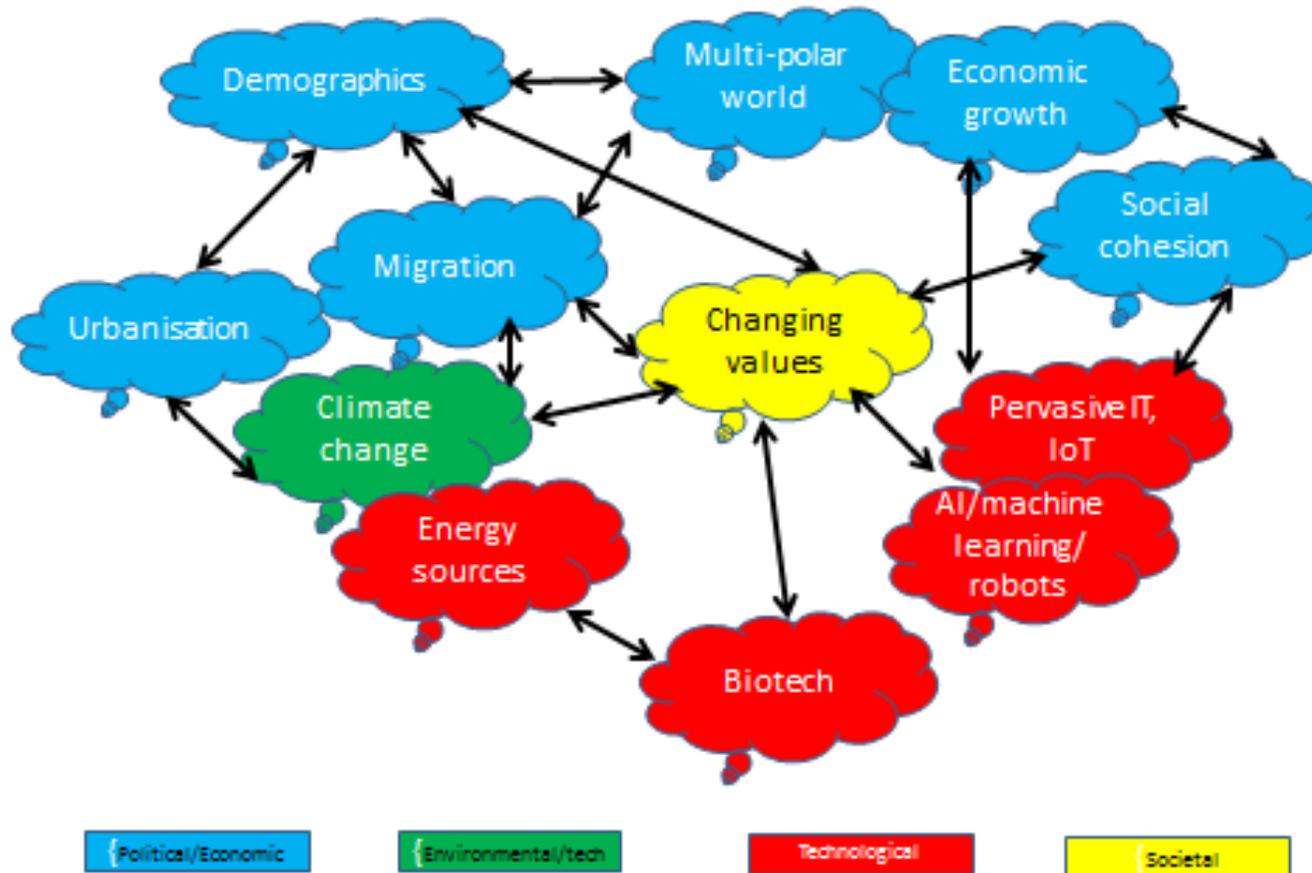
Megatrend 1: Demographics

Description of the Driver	Growing world population, driven by increasing longevity, especially in Africa (and not by increasing numbers of babies being born).
What effect is it having now?	Population growth is putting pressure on resources, food, water and raw materials. Growing world population (Wikipedia): • estimates have put the total population at 8.6 billion by mid-2030, 9.8 billion by mid-2050 and 11.2 billion by 2100; • peaking to 2.06% between 1965-1970, the growth rate has declined to 1.18% between 2010-2015 and is projected to decline to 0.13% by the year 2100; • Africa was 15% of world population in 2012 – forecast to reach 25% by 2050, mainly due to increased life expectancy rather than increasing birth rates. Ageing population • IMF projected in September 2006 that in Europe we will go from four workers per retiree to two workers per retiree by 2050; • The median age in Europe will increase from 37.7 years old in 2003 to 52.3 years old by 2050; in US to only 35.4 years old. Uneven population growth, ageing and urbanisation will reshape global priorities, state structures, economy and society Global population is set to grow with increasing work and life spans as a result of demographic processes (e.g. fertility, mortality) that have already taken place.

In the medium term?	Changing demographics will re-shape demand for goods/services such as health care, education and social protection. The changes will also challenge states (e.g. in relation to providing social/pension support to the growing number of older people). Urbanisation trend will continue as cities continue to offer economies of scale in supplying infrastructure services to people. By 2025 half the world's population will live in urban areas.
By 2030?	Growth of the global population will likely be uneven. Some countries with "demographic dividend" will be able to accelerate economic growth as their working age population grows. Other countries will see their workforce/population shrinking. Societies that prioritise gender equality will likely obtain comparative advantages. Pressure on resources must be expected to get worse by 2030. Ecosystems and the services they provide are under threat. Even though the number of babies born each year is falling, the world population will still be rising due to increased longevity. By 2030 the world dependency ratio will have increased, as more people survive to old age. Even China and India (by 2030 rapidly ageing themselves) will start to be overtaken by younger populations elsewhere in Africa and Asia.
What will push in the opposite direction in future?	Lower fertility or plagues or pandemics would curtail population. Increased welfare, increased urbanisation and increased educational level of women would reduce fertility, which would impact on population growth but only after many years.
Critical uncertainties – range of possible outcomes	World 2050 Population: Low variant: 8.8 billion; High variant 10.8 billion. Estimates indicate 11.2bn by 2100.
Wildcards –low probability events that could disrupt the expected mega trend	• Plague/Pandemic • War • Climate catastrophe

References	- https://en.wikipedia.org/wiki/Population_growth (15 Jan 2018) - UNPD: UN Population Division. http://www.un.org/en/development/desa/population/ Population statistics and projections 1950 – 2050. - https://www.marketwatch.com/story/millennials-are-getting-older-and-thats-good-for-stocks-2018-01-05?siteid=yhoof2&yptr=yahoo - http://ec.europa.eu/justice/gender-equality/files/documents/vision_report_en.pdf

Megatrend 2: Multi-polar world – west to east

Description of the Driver	Shifting global economic centre of gravity from West (and OECD) to East and South (especially Africa).
What effect is it having now?	Balance of power – Dynamic multi-polarity, influence of Russia, China, US. Weakening enthusiasm for globalisation is appearing, with Brexit, changes in China eg formation of a regional bank; US pulling out of TPP. US policymaking paralysis and reluctance to engage in state building after debacles in Iraq and Afghanistan is likely to reduce its effectiveness as a global leader, while Europe will be forced to further integrate or move backwards to a looser trade union. Uncertainties along the path to 2030 include the possible emergence of a new regional power centre, technological breakthroughs affecting growth projections, nuclear proliferation and the ability to contain conflict.
In the medium term?	Development of the balance of world power to 2030 is likely to be shaped by the level of economic stability/instability and the impact of technological development, energy security/prices, faith in democracy and markets and the ability of nation states to address global challenges. Increasing impact of countries outside the G3 (US, EU and China) as developing countries push to raise standards and the developed countries seek to engage with these markets. Growing middle class in Africa has consumer power and will likely increase pressure to regulate trade. Rise of second tier economies in Africa – eg Nigeria, Zambia; increased growth in South Africa and Zimbabwe.
By 2030?	By 2030, the world order will likely be a dynamic and complex form of multi-polarity with few established rules and situational alliances predominantly used to address global challenges. Sectarian conflicts within the Muslim world likely persist, China is expected to play a growing self-interested role in global political institutions while Russia will likely be, at best, a transactional partner with the West.
What will push in the opposite	Political changes such as a different US president.

direction in future?	Shift away from globalisation fails with Western powers seeking to maintain control re-energise their globalisation efforts.
Critical uncertainties – range of possible outcomes	Levels of democracy vs corruption in sub-Saharan Africa affect economic growth rates. How far the shift to a services-oriented global economy affects trade agreements. World trade growth rates weaken as global goods trading lessens due to techniques such as local 3D printing for supplies. How the balance of power between the US, China and EU shifts the conversation on trade shifts to what is meant by 'free and fair' trade.
Wildcards –low probability events that could disrupt the expected mega trend	China goes to war with US. Revolution in China (either by religious minorities looking to break-away or by expanding middle-class wanting greater democracy) could disturb its growth path. .
References	Global trends to 2035, EPRS, Global Trends Unit, Sept 2017

Megatrend 3: Economic Growth

Description of the Driver	Increasing returns to capital at the expense of labour; growing inequality within countries. Regional and sectoral distribution of economic growth set to evolve with pace of growth uncertain.
What effect is it having now?	Decreasing inequality between countries, as poorer countries catch up with the OECD but internal inequalities increasing. Distribution of economic growth uneven across Europe and also US with change in manufacturing. In the short term, Europe is pessimistic about economic growth among concerns about BREXIT, France, Italian banks, and the fact that there are no technology champions in Europe. A number of uncertain factors will influence growth, including potential for technological innovation, uncertain future of globalisation (both in trade and in financial services/capital flows) and possible 'revolt against austerity'. Increase in the gig economy, part-time working and zero-hours contracts. Increase in grey economy too. Increase in sub-contracting (eg Carillion).
In the medium term?	In the medium term, changes in financial services and other sectors affected by the 4th industrial revolution may lead to growth without an increase in employment. This may lead to increased calls for Universal Basic Income. As in the multi-polar world trend, the shift away from global trade to regional or even local may increase.
By 2030?	Over the long term, global economic growth will reflect several current trends, including population growth, ageing and increasing life expectancy; continuing convergence of emerging market economies with the developed markets; increasing share of services and globalisation of their provision. A number of uncertain factors will influence growth, including potential for technological innovation, structural policies in particular in emerging market economies, political economy related to high global inequality, uncertain future of globalisation (both in trade and in financial services/capital flows).
What will push in the opposite direction in future?	Revolt against "austerity" pushing for more socially equitable policies Global trade remains strong. Manufacturing improves.

Critical uncertainties – range of possible outcomes	Social unrest could slow this trend (see Megatrend 4 Social Cohesion) at least in some geographies Effect of BREXIT in UK is to reduce growth.
Wildcards –low probability events that could disrupt the expected mega trend	Revolutions particularly in Africa, which could put back the clock. More tax-evasion scandals. More Grenfell Tower type events highlighting poverty and inequality.
References	Global trends to 2035, EPRS, Global Trends Unit, Sept 2017

Megatrend 4: Social cohesion

Description of the Driver	Deteriorating social cohesion leading to unrest until "third culture" becomes the norm.
What effect is it having now?	Social cohesion is deteriorating due to rising inequality, imbalances in economic opportunity, worsening economic conditions and the inability of governments in dealing with increasing immigration/diversity in societies. This trend is manifesting itself in the rise of populist/anti-diversity parties, calls to close borders and increasing alienation among groups and in the increasing pulling power of "group" affinities especially in the form of militant Islam.
In the medium term?	Increasing technological change (AI, robots, etc) alongside continued globalisation, declines in labour market protection and tax policies that benefit the wealthy continue to feed a sense of inequality across the developed world. Popular attention is likely to focus on unfair practices such as tax evasion. The rise of populist/nationalist divisions as groups cohere against the perceived' attacks' by 'other groups' –often the 'elite'.
By 2030?	In the period until 2030, this trend is likely to continue and lead to civic unrest and increasing regional conflicts. Role of technology and approaches of government are key uncertainties that might affect the evolution of this trend positively or negatively.
What will push in the opposite direction in future?	A willingness and creative ability from governments to increase social cohesion, leveraging new technologies, would help to reverse the trend. An improved growth environment would also make this task considerably easier. New voting blocks create realignments and shift power to other large coalitions. Job market improves for all. Governments find ways, such as UBI, to tackle perceived inequalities.
Critical uncertainties – range of possible outcomes	Effect of Trump in US is to increase social cohesion among some sections of US population.
Wildcards –low probability events	Social cohesion resulting from catastrophe and/or break up of IT infrastructure.

that could disrupt the expected mega trend	
References	- In UK the top 10% disposable incomes are almost 9 times that of the bottom 10% (£84k to £9.6k). The top 1% receive 3 times as much again, and the top 0.1% get £919k – almost 100 times the bottom 10%; 30 times the median. (Sources ONS 2016/16; World top incomes database 2012); - Wealth in Great Britain is even more unequally divided than income. The richest 10% of households hold 45% of all wealth. The poorest 50%, by contrast, own just 8.7% (Source ONS 2012-14); - The UK has the 7th most unequal income distribution in the 30 OECD; most is Mexico then USA (Source: Luxembourg income study 2013); - The top 1% and 0.1% incomes grew rapidly up to the financial crash, but have slipped back a little; they are now increasing again (World Top Incomes Database). (All via The Equality Trust - https://www.equalitytrust.org.uk/)

Megatrend 5: Climate and Environmental Change - resources

Description of the Driver	Climate change leading to even more extreme weather events, such as more hurricanes, higher sea levels, more floods and more droughts, acidified oceans, bleached corals, California fire and mud slides, Australian fire, etc.
What effect is it having now?	Impact of climate and environmental change – rising environmental risk and socio-economic disruption. The climate is changing resulting in rising global environmental and resource impacts including weather related disasters, water scarcity and shifting crop yields. To remain within a 2-degree average temperature increase by 2100, there are less than 20 years of additional carbon which can be added into the atmosphere at the current rate of annual emissions. The ability to address the climate challenge will depend on the depth and timing of policy decisions, of investment and technology innovation to drive the full decarbonisation of the global economy during this century.
In the medium term?	Lack of sufficient action in the next 15 years will lead to an increased impact of climate change with potentially major and irreversible impacts on coastal cities due to sea level rise, ocean acidification, food production and health. These in turn would have major economic, financial and social impacts, such as increased migration from areas of desertification.. Increased likelihood of natural disasters and a declining ability to deal with them effectively due to size and frequency putting strain on systems.
By 2030?	Increased global support for action on mitigation and preparation against natural disasters.
What will push in the opposite direction in future?	Disasters in developed world shift opinion for required change. Changing public perception (maybe driven by disasters) and increased awareness could lead to more radical action to reduce emissions and develop "geo-hacks". Globally funded research finds methods for minimising temperature rise; micro-generation and impact on grid; offshore wind now cheaper than nuclear. Increased public and political will to decrease greenhouse gases and success in keeping to below the Paris agreement target for temperature rise.

Critical uncertainties – range of possible outcomes	Climate Action Tracker suggested that the Paris plans of 146 countries would lead to an increase of between 2.2 and 3.4 degrees Celsius– assuming everyone hit their targets. 1.5 degrees requires virtually zero emissions; possible but needs political force, and maybe "geo-hacking".
Wildcards –low probability events that could disrupt the expected mega trend	Meteor strike or volcanic eruption causes prolonged 'global cooling' Major disaster (eg flooded New York) changes attitudes
References	Global trends to 2035, EPRS, Global Trends Unit, Sept 2017 Offshore wind: http://www.bbc.co.uk/news/business-41220948 Micro-generation: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48114/2015-microgeneration-strategy.pdf http://climateactiontracker.org/news/257/Paris-Agreement-stage-set-to-ramp-up-climate-action.html

Megatrend 6: Energy Sources

Description of the Driver	Energy sources are increasingly diversified and decentralised as energy mix shifts.
What effect is it having now?	Sources of energy are diversifying and are becoming cheaper overall with more renewables and less fossil fuels, implying more energy and thus cheaper energy on average as decarbonisation of the fuel mix continues. Increasing use of natural gas - also supporting the decrease of use in oil and coal.
In the medium term?	Diversified energy sources will re-distribute the current economic/political power among countries. The changing energy mix will reduce the geo-political importance of securing access to oil supplies and also causes economic downturn in oil-producing areas such as Saudi Arabia and Texas/Alaska. Intermittency of renewables will lead to variable energy prices, tempered by innovative ways for storing energy. Smart systems will enable disruptive technology and business models (Germany had negative electricity prices for a while) that will change the way we produce and consume energy Increasingly diversified and decentralised sources of energy: emerging economic viability of low-carbon energy storage, replacing the energy storage role of hydrocarbons. Batteries (Tesla) and other storage – hydro in Iceland and Norway; lots of other possibilities; which technology will prevail is uncertain: batteries, flow batteries, CAES, 2G and 3G biofuels, hydrogen, ammonia, synthetic chlorophylls are all contenders; one or two will win out.
By 2030?	Improvements in the competitiveness of renewables indicate that by 2030/2035 they will, together with nuclear and hydro energy, provide half the increase in global energy.
What will push in the opposite direction in future?	If China's energy intensive sectors begin to grow faster again following recent contractions. Public reaction against windfarms, fracking.
Critical uncertainties – range of possible outcomes	Take up of electric cars and similar. Also increasing use of blockchain cause the utilisation of more and more electricity generating power and how this is generated will impact on available sources.
Wildcards –low probability events	Nuclear accidents such as Fukushima reoccur.

that could disrupt the expected mega trend	
References	BP Energy Outlook https://www.bp.com/content/dam/bp/pdf/energy-economics/energy-outlook-2017/bp-energy-outlook-2017.pdf Intermittent energy: https://www.nytimes.com/2017/12/25/business/energy-environment/germany-electricity-negative-prices.html?smid=tw-nytimes&smtyp=cur Blockchain: https://www.technologyreview.com/s/609480/bitcoin-uses-massive-amounts-of-energybut-theres-a-plan-to-fix-it/

Megatrend 7: Pervasiveness of IT/IoT

Description of the Driver	Pervasiveness of IT/IoT/blockchain/FS/data/smart infrastructure
What effect is it having now?	An increasingly interconnected world as rapid developments of AI/robotics/big data/Internet of Things/autonomous vehicles/rise of VR and AR occur. Technological advances in automation, computing, artificial intelligence and biotech will continue at sometimes surprising speed. Cyber crime becoming more damaging than conflicts to economy and society. Impact of autonomous vehicles on jobs and insurance.
In the medium term?	Growing 'Industry 4.0' manufacturing – 3D printing and decentralised, localised 'just-in-time' goods production emphasising design/IPR profits rather than production profits. Will have a profound impact on growth patterns and global value chains, employment, health, nutrition and the way we interact with machines and amongst ourselves.
By 2030?	A fully monitored environment, from transport through farming to health. Smart cities, smart countryside, smart healthcare. Smart houses controlled by IoT Smart infrastructure on all main roads globally, linking to autonomous vehicles. New generation of FS institutions dominant. Personal data recognized as source of value but ownership still disputed (personal, government, corporate).
What will push in the opposite direction in future?	Cyber crime, hacking scandals. Collapse of blockchain technology/ Blockchain volatility. Insufficient energy to power the internet. Lack of personal autonomy; concern over privacy. Low economic growth restricting investment.

Critical uncertainties – range of possible outcomes	Internet infrastructure susceptible to attack – security of supply threatened. Scale of Chinese investment. Availability of rare earth metals.
Wildcards –low probability events that could disrupt the expected mega trend	Major scandals – eg cyber-hacked power supplies . No investment in technology due to low economic growth.
References	Smart cities: https://www.raconteur.net/technology/the-city-in-2030 Internet of Things: https://www.intel.com/content/www/us/en/internet-of-things/infographics/guide-to-iot.html Blockchain: https://blockchainfutureslab.wordpress.com/2016/02/27/a-typical-day-in-a-blockchain-enabled-world/ 3D printing: https://www.sciencedirect.com/science/article/pii/S0040162517300276

Megatrend 8: Machine learning and 4.0, robots

Description of the Driver	Increasing sophistication of machine learning and adaptive IT systems (face recognition, AI, robotics, cobots, AI journalists, automated trading, etc.).
What effect is it having now?	Starting to affect not just blue-collar and routine white-collar jobs, but professionals too. Law AI examples – chatbots, hollowing out AI will transform knowledge work and replace much human decision-making. Largest technology providers are based in clusters, mainly in US and China. Beginning to impact personal skills and requirements for the future (eg need for coders, etc).
In the medium term?	AI used for governance (Big Data, smart cities, evidence-based policy-making). New skills requirements – empathy and understanding. Impact of autonomous vehicles on jobs, insurance, etc and similar trends as AI takes on more of the processes of day-to-day life (eg food ordering from smart fridges). 30-40% of jobs in US and UK at risk from computerization.
By 2030?	New regulatory frameworks adopted as 'platform economics' (eg AirBnB, Uber, etc) drive monopolies development. Possibility of Singularity.
What will push in the opposite direction in future?	Lack of trust from users; increased hacking of personal data; calls for transparency increase. Poor implementation leading to machine bias. Robots going AWOL. Ethics and AI – weapons, "trolley" problem, racial profiling

Critical uncertainties – range of possible outcomes	Previous new tech has created new jobs too. There are now opportunities for VR world creators. What will the balance be? But even if enough new jobs are created, where will they be? In Shoreditch not Corby? Speed of evolution of AI algorithms outstrips human understanding.
Wildcards –low probability events that could disrupt the expected mega trend	AI scandals and disruptions, eg Cloud servers subject to terror attacks; Google, Amazon, Facebook , Baidu, subject to serious governance issues and widespread revolt by users. Robot causing deaths.
References	Global trends to 2035, EPRS, Global Trends Unit, Sept 2017 AI ethics: https://www.weforum.org/agenda/2016/10/top-10-ethical-issues-in-artificial-intelligence/

Megatrend 9: Biotech

Description of the Driver	Emerging bio-age (personal medicine, manufacturing in fermentation vats, bio-engineered chemical production, bio-data storage etc.).
What effect is it having now?	Impact of Biotech – on food production, health, medicine, lifestyle and longevity. Rapid progress in biotechnology driven by breakthroughs in genome editing (CRISPR). Biotech will lead to personalized medicine with the potential to revolutionize public health and greatly improve productivity in agriculture. Impact on demographics through medicine and nutrition.
In the medium term?	Concentration of biotech companies in clusters in places like Boston gives significant power to a few in the same way as IT companies have gathered in Silicon Valley. Genome editing becomes commonplace – leading to improved health and also new crops for food.
By 2030?	Everyone will have their genetic profile in their electronic medical records and the metadata will be used to identify many health conditions. Synthetic biology is the design and engineering of biologically based parts, novel devices and systems as well as the redesign of existing, natural biological systems. Probably first applications will be use in industrial functions, from manufacturing pharmaceuticals to detoxifying polluted land and water. In medicine, it offers prospects of using designer biological parts as a starting point for an entirely new class of therapies and diagnostic tools. Direct neural interfaces between computing devices, infrastructure, and the human brain provide medical opportunities; include the reversal of paralysis or blindness, and treatment of brain disorders: for instance cyborgs as artificial limbs, exo-skeletons for disability, as well as the potential for advanced applications in warfare and social manipulation.

What will push in the opposite direction in future?	Ethical concerns over 'designer' babies, eugenics, etc. Inadvertent release of GMO causes pandemic. Organic food movements. Increased concern over GM foods. Concerns about over-population as people live longer.
Critical uncertainties – range of possible outcomes	Genetically modified organisms may breed with non-modified organisms which may cause unintended issues. Need for greater food production as climate change hits and global food demand patterns change.
Wildcards –low probability events that could disrupt the expected mega trend	Scandals in research results or health scares. Drugs companies governance issues. Food scandals.
References	https://futurism.com/scientists-creating-gmo-species-cant-survive/ Connor, Steve (1 December 2014). "Major synthetic life breakthrough as scientists make the first artificial enzymes". *The Independent* (London). http://www.rcuk.ac.uk/documents/publications/SynthethicBiologyRoadmapLandscape.pdf

Megatrend 10: Migration

Description of the Driver	In Europe 1 million plus young immigrants a year from mostly Middle East and North Africa. Globally 21.5mn displaced yearly by natural disasters.
What effect is it having now?	The rise of developing countries' economic power of and the perception of decline of the West, uneven socio-demographic trends in advanced vs. poor regions and revolutionary technological advances stir (i) state-failures, (ii) consolidation of the importance of non-state actors, (iii) advent of new modes of conflict, (iv) proliferation of regional wars, and (v) significant waves of cross-border migration. For example the EU has struggled to find a solution as the migration crisis has forced national leaders to bypass European rules and re-erect border controls. The combination of sluggish growth, perceived social entitlements, and migration starting to cause significant social pressures, notably a rise in populism.
In the medium term?	Increased global warming may increase migration, eg fleeing form natural disasters such as floods. Increased migration may cause ongoing societal tensions.
By 2030?	Even China and India (by 2030 rapidly ageing themselves) will start to be overtaken by younger populations elsewhere in Africa and Asia.
What will push in the opposite direction in future?	Could reduce between countries as economic disparities between countries reduce, replaced by migration within countries from rural areas to cities.
Critical uncertainties – range of possible outcomes	Migration from south to north is likely to continue but south-south migration and rural to city migration could change through wildcards as below.
Wildcards –low probability events that could disrupt the expected mega trend	Global Peace. Meltdown of western economies reducing their appeal. Mega changes in agricultural practice leading to new attractiveness of rural life unlikely in this timescale. Breakthroughs in decentralised supply of low cost energy could make rural life more attractive.

References	Global trends to 2035, EPRS, Global Trends Unit, Sept 2017

Megatrend 11: Urbanisation

Description of the Driver	Continuing shift of population from rural environments to city life.
What effect is it having now?	Urbanisation trend will continue as cities continue to offer economies of scale in supplying infrastructure services to people. Urbanisation creates huge social, economic and environmental changes/challenges. Urbanisation - for example the growing cities in Africa and Asia, the prominence and expansion of London and its travel-to-work area (at the expense of the UK provinces) and the overall increase in power of cities. Overall, nearly half of the world's 3.9 billion urban dwellers reside in relatively small settlements with fewer than 500,000 inhabitants, while only around one in eight live in the 28 mega-cities with 10 million inhabitants or more. Many of the fastest growing cities in the world are relatively small urban settlements.
In the medium term?	United Nations has projected that nearly all global population growth from 2017 to 2030 will be absorbed by cities, about 1.1 billion new urbanites over the next 13 years. Managing larger cities becomes increasing complex, especially with regard to governance and how local the structures and organisation become.
By 2030?	Tokyo will remain the world's largest city in 2030 with 37 million inhabitants, followed closely by Delhi, whose population is projected to rise swiftly to 36 million in 2030. While Osaka and New York-Newark were the world's second and third largest urban areas in 1990, by 2030 they are projected to fall in rank to the 13th and 14th positions, respectively, as mega-cities in developing countries become more prominent. Much of the expected urban growth will take place in countries of the developing regions, particularly Africa.
What will push in the opposite direction in future?	IoT is enabled in rural areas and enables a shift back or IoT breaks down and forces a shift back. Cost of living becomes increasingly punitive. Increase in quantity of slum areas affects health of population.

Critical uncertainties – range of possible outcomes	See Migration Megatrend.
Wildcards –low probability events that could disrupt the expected mega trend	Increased speed of disease spread encourages pandemics. Pandemics in over-crowded cities.
References	https://en.wikipedia.org/wiki/Urbanization http://cornerstonemag.net/urbanization-city-growth/ http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html

Megatrend 12: Changes in personal values

Description of the Driver	Personal aims and ambitions – how do the generations compare?
What effect is it having now?	Increasing value shift across generations as Gen X exposed to greater diversity via social media and travel, resulting in growing conflict with 'outmoded perspectives' of older generations still in power. In the short term, traditionalists born before 1945 have most power, handing over to the Baby Boomers – driven by the predisposition of these groups to vote. The Gen X and Millennials cohorts outnumber them but do not vote as consistently – sometimes because of less sense of belonging. They think globally and are techno savvy. Millennials are exhibiting a shift from consumerism to collectivism, but it's not clear whether this is just a phase? There is also an increasing acceptance of sexual diversity – trans, non-binary, gender-fluid. A BBC documentary explored views of Generation Z (16-22 yr olds). They may be viewed as shallow digital natives by older generations, incapable of real world friendships, but they see themselves as hardworking, entrepreneurial and about to change the world for the better. Increasing entrepreneurialism will have an effect on supply chains and quality management. Generation Z smoke less, drink less alcohol and have less under-age sex. On the other hand they are more likely to obese, and experience increased mental health issues as the use of social media becomes increasing ubiquitous.
In the medium term?	In the medium term, Gen X and Millennials could decide to be proactive in politics if sufficiently roused. Their ambition to set the rules, work with people they like and have an active sense of "time out" could reset economic and social norms, for example less drinking improving health.
By 2030?	In the longer term, as Generation Z born after 2000 moves into adult life, their widespread usage of the Internet from a young age, and interacting on social media websites for a significant portion of their socialising changes assumptions on the importance of place. Uncertain factors are the interaction between Gen X, Millennials and Gen Z and the social, economic and political systems developed for another age.

	Coming impact of Generation Alpha – those born since 2010?
What will push in the opposite direction in future?	Increasing dominance of older population in democratic processes.
Critical uncertainties – range of possible outcomes	Intergenerational differences could result in dominance of next generations or older generations.
Wildcards –low probability events that could disrupt the expected mega trend	Major catastrophe could rebalance the trend if it affected only specific parts of the population by age.
References	http://www.bbc.co.uk/iplayer/episode/p05fyxtl/newsbeat-documentaries-we-are-generation-z https://www.theguardian.com/society/datablog/2017/may/06/more-than-a-quarter-of-young-adults-in-the-uk-do-not-drink-alcohol-in-data https://www.theguardian.com/society/2017/may/08/majority-of-vapers-have-quit-tobacco-survey https://onedrive.live.com/view.aspx?resid=20B5CB9D688B8D56!10280&ithint=file%2cdocx&app=Word&authkey=!AH3yj3x3zwfuO6s https://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/