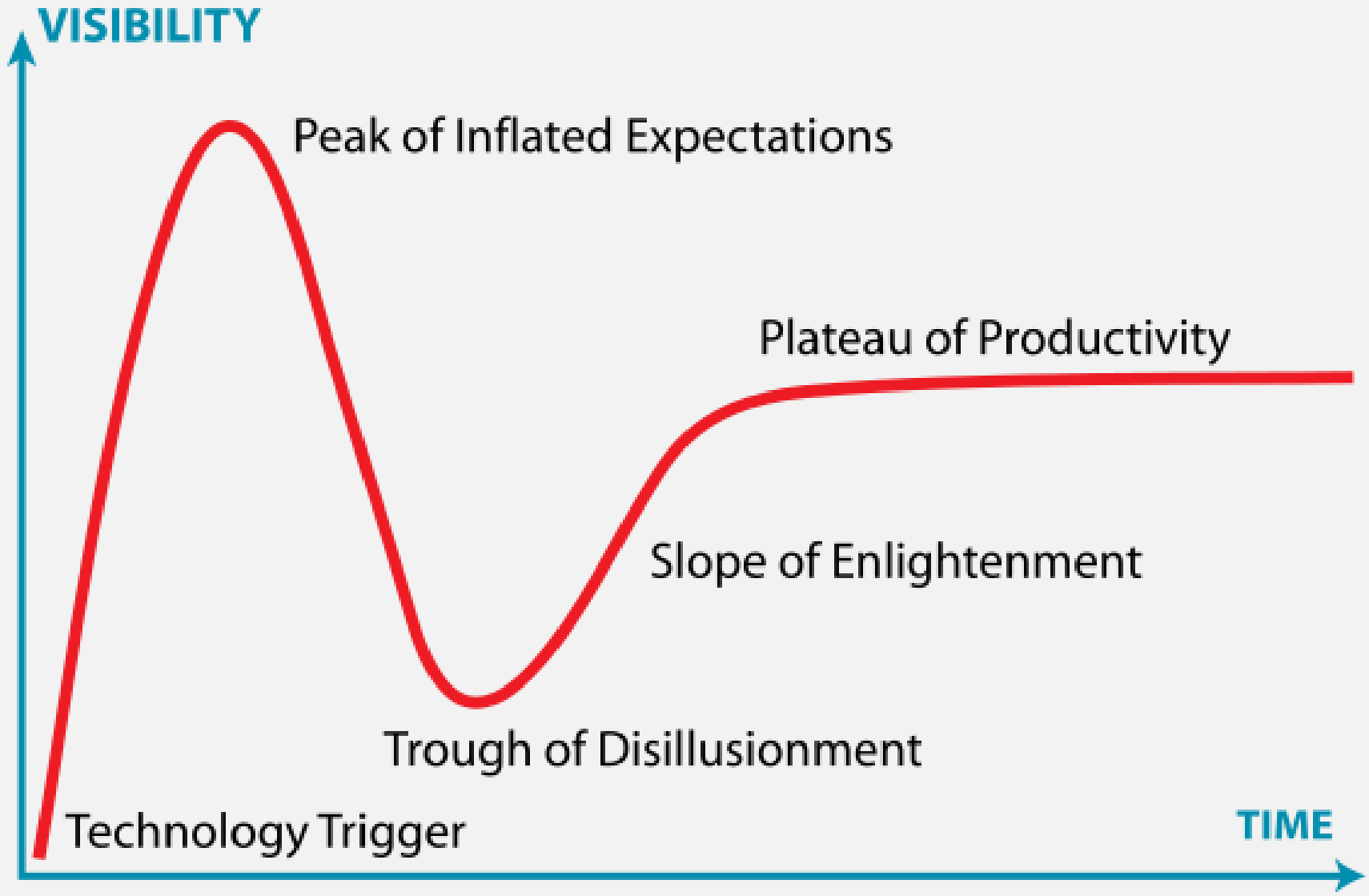
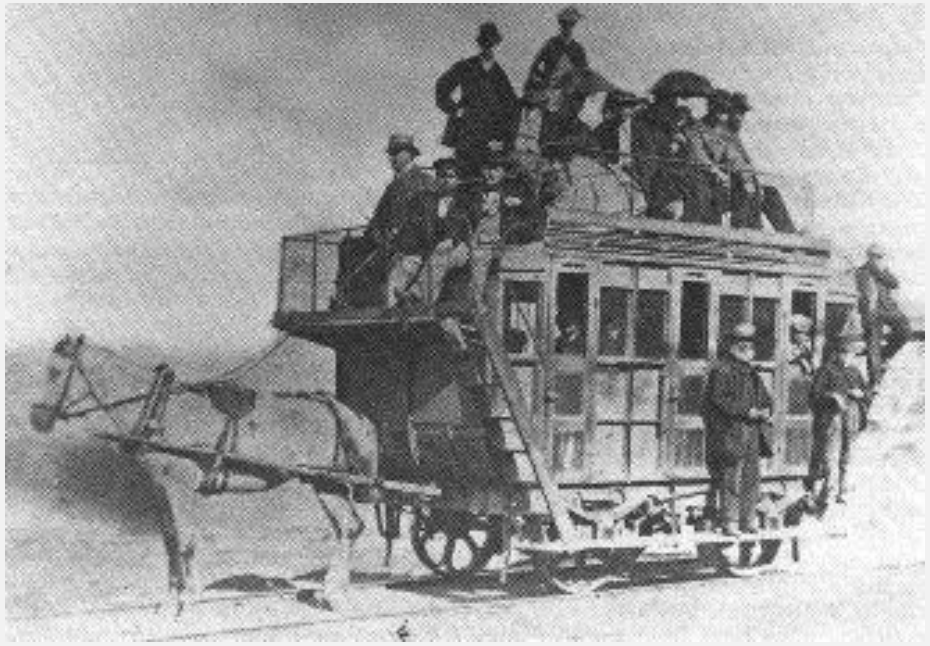
OPENING A PANDORA'S BOX OF TECHNOLOGIES

Dr. Edgaras Leichteris, CEO

LITHUANIAN ROBOTICS ASSOCIATION

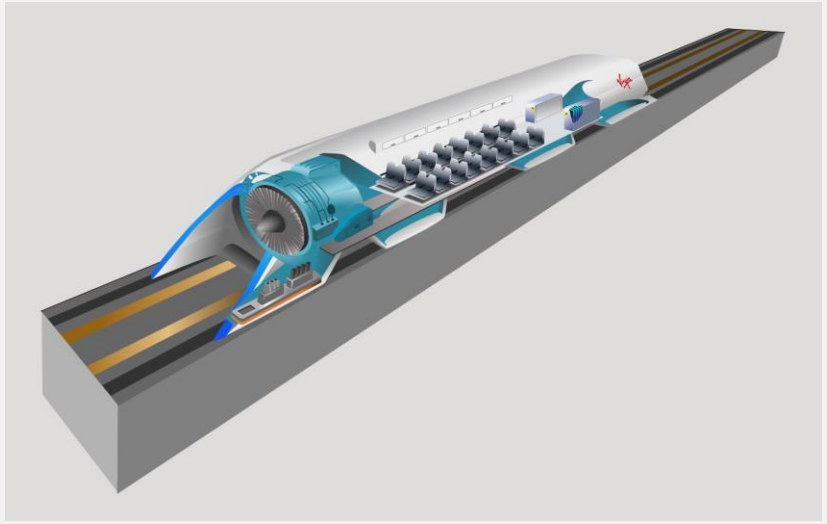

History
Technology trends
Future foresights

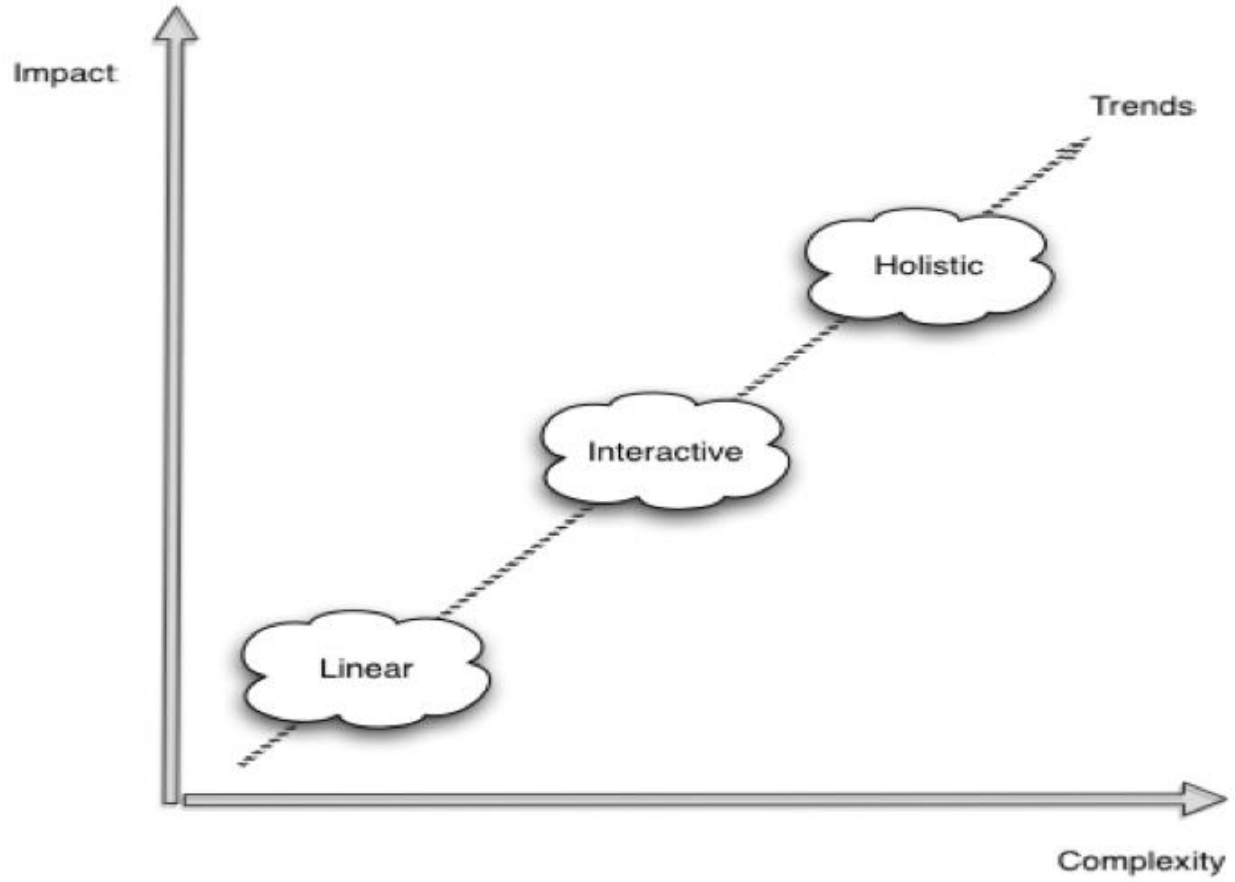

VISIBILITY
Peak of Inflated Expectations
Plateau of Productivity
Slope of Enlightenment
Trough of Disillusionment
Technology Trigger
TIME

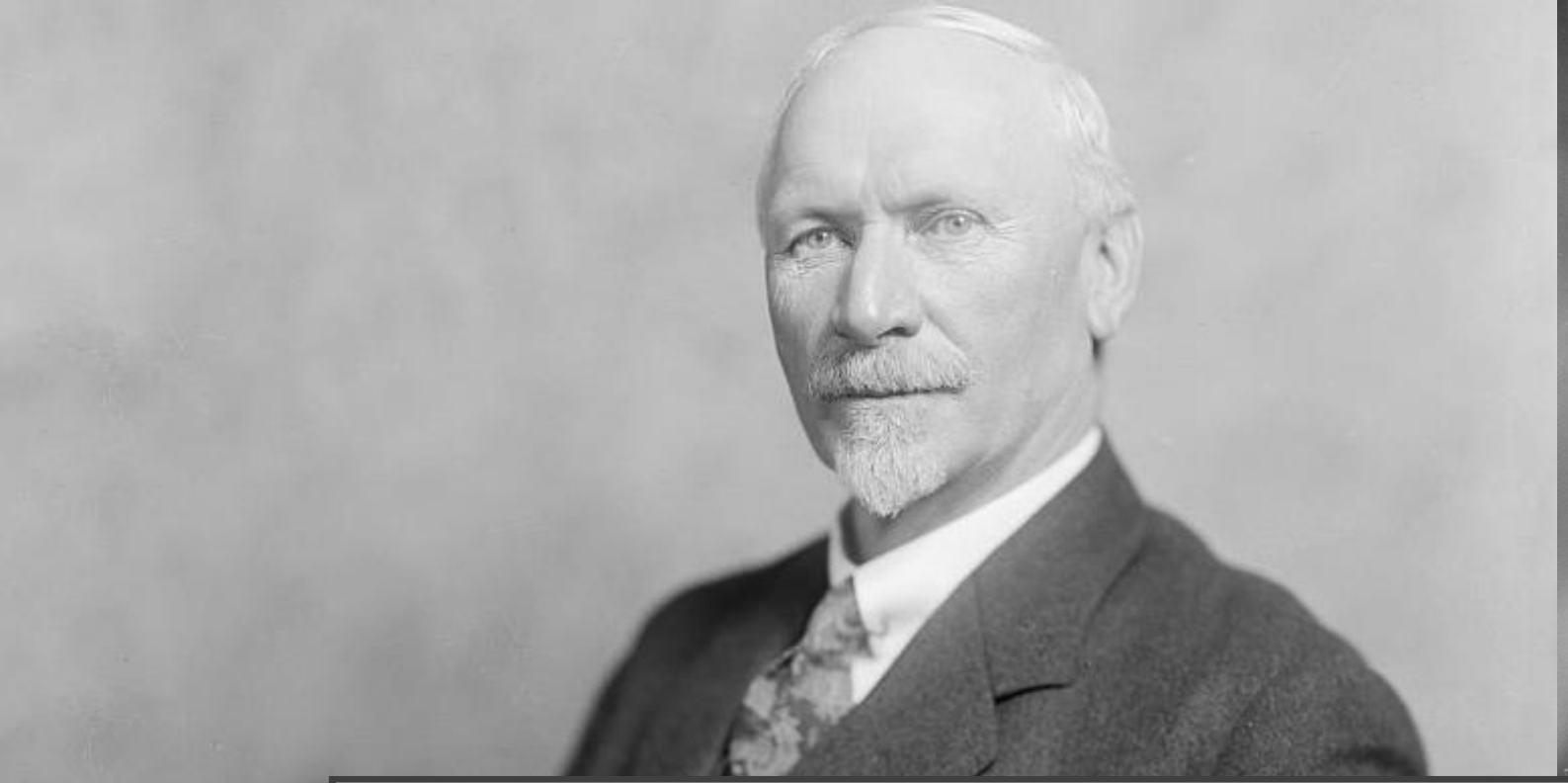


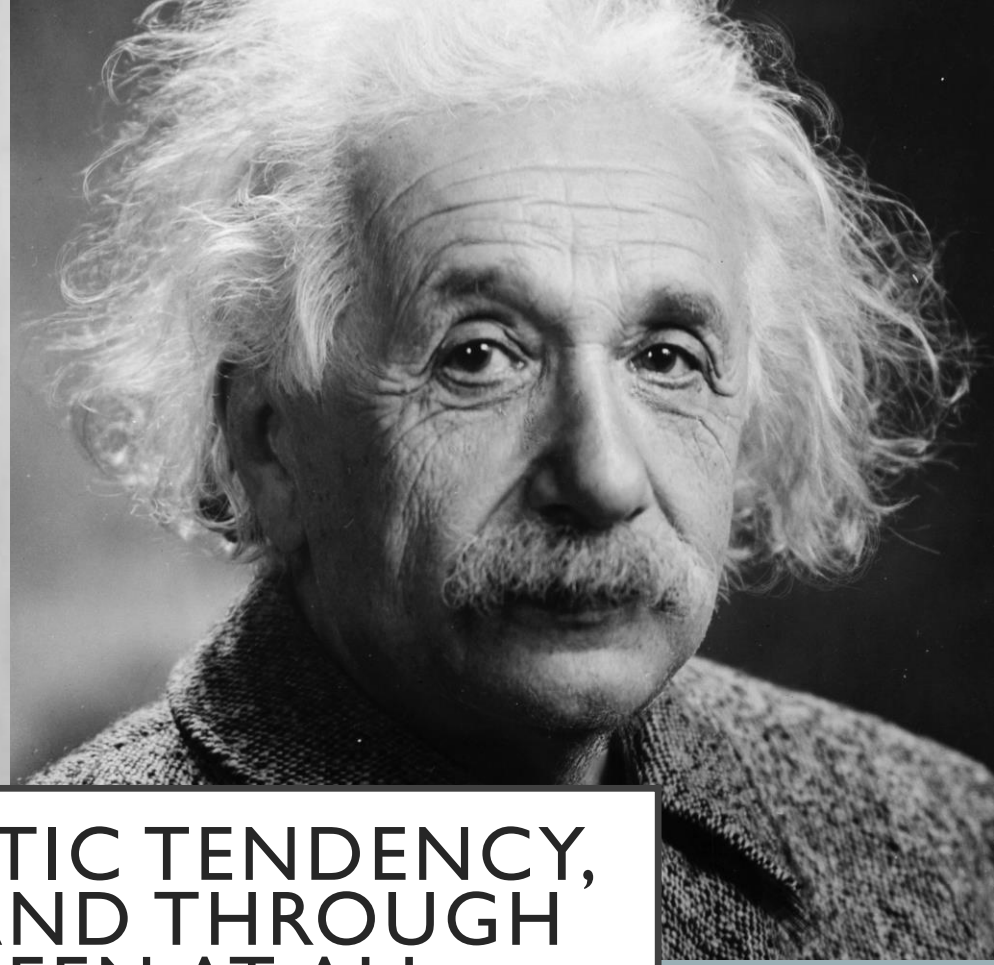

Different ways of Carriage & Travelling in CONGO.


Shanghai Transrapid




Impact
Trends
Holistic
Interactive
Linear
Complexity





"THE WHOLE-MAKING, HOLISTIC TENDENCY, OR HOLISM, OPERATING IN AND THROUGH PARTICULAR WHOLES, IS SEEN AT ALL STAGES OF EXISTENCE."—J.C. SMUTS


History
Technology trends
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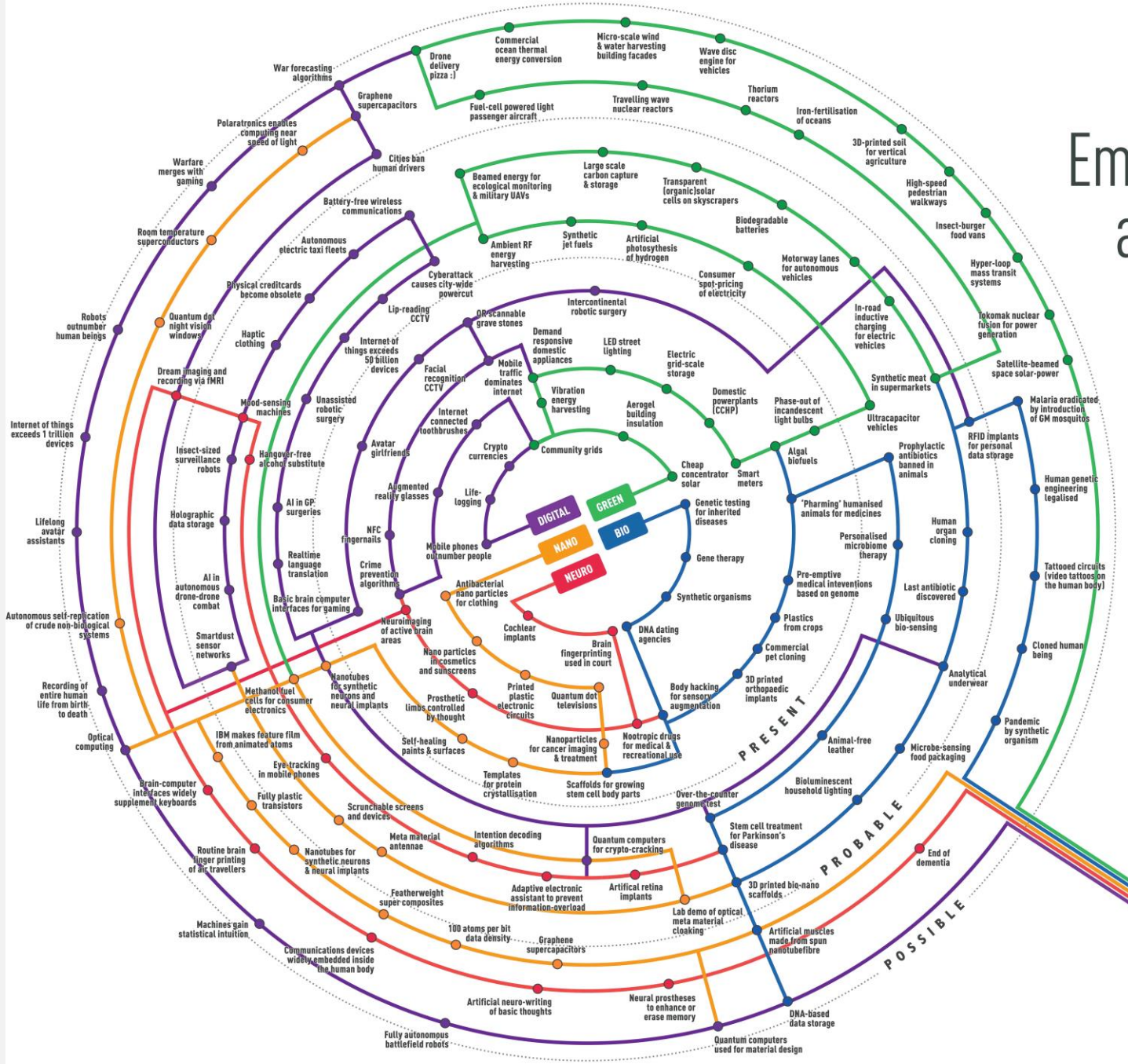
DIGITAL

GREEN

BIO

NANO

NEURO



Timeline of Emerging Science and Technology

Legend

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

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 Keeren Flora and 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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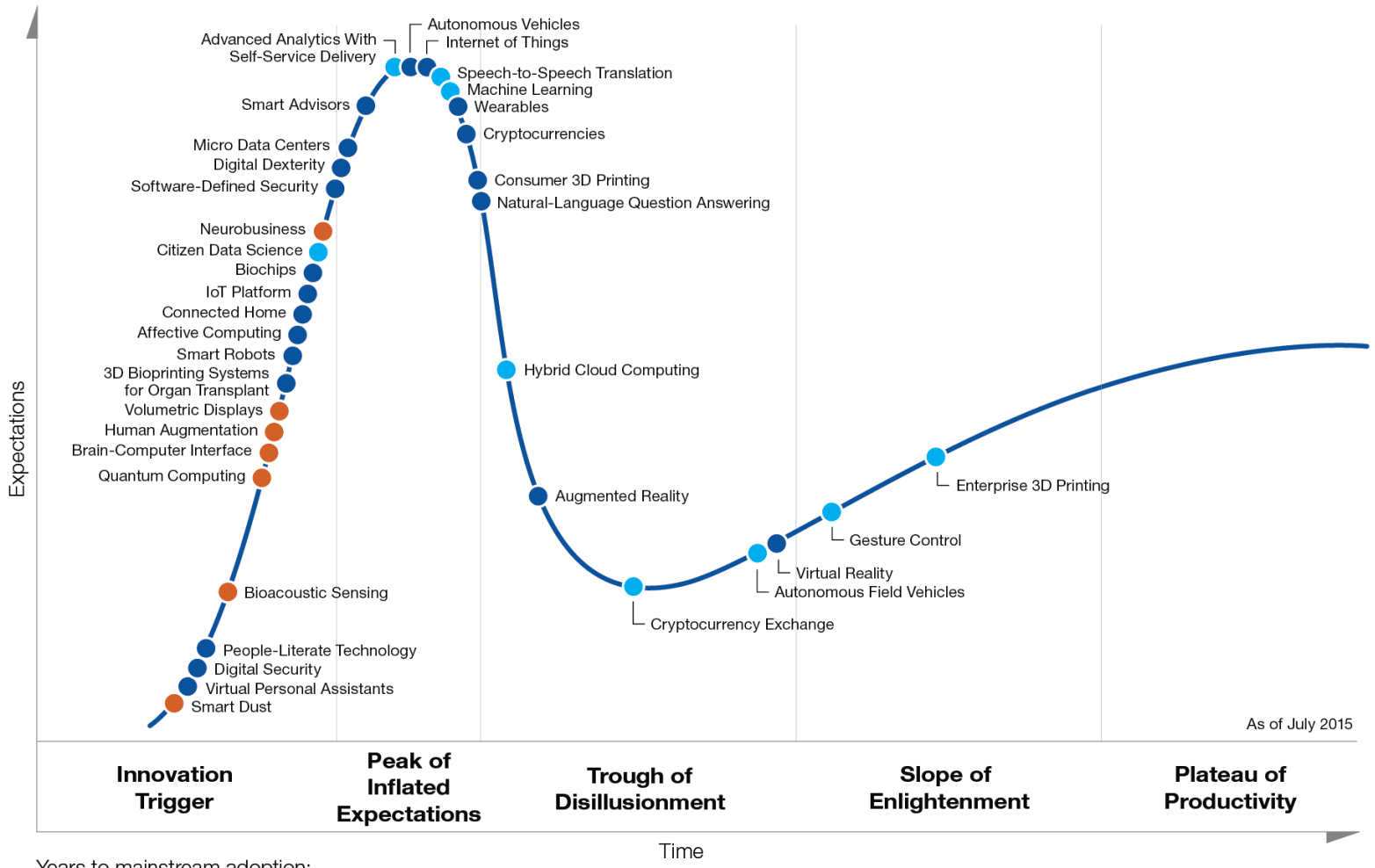
AUTONOMOUS VEHICLES

HYBRID CLOUD

Emerging Technology Hype Cycle



Years to mainstream adoption:

less than 2 years | 2 to 5 years | 5 to 10 years | more than 10 years | obsolete before plateau

gartner.com/SmarterWithGartner

Gartner

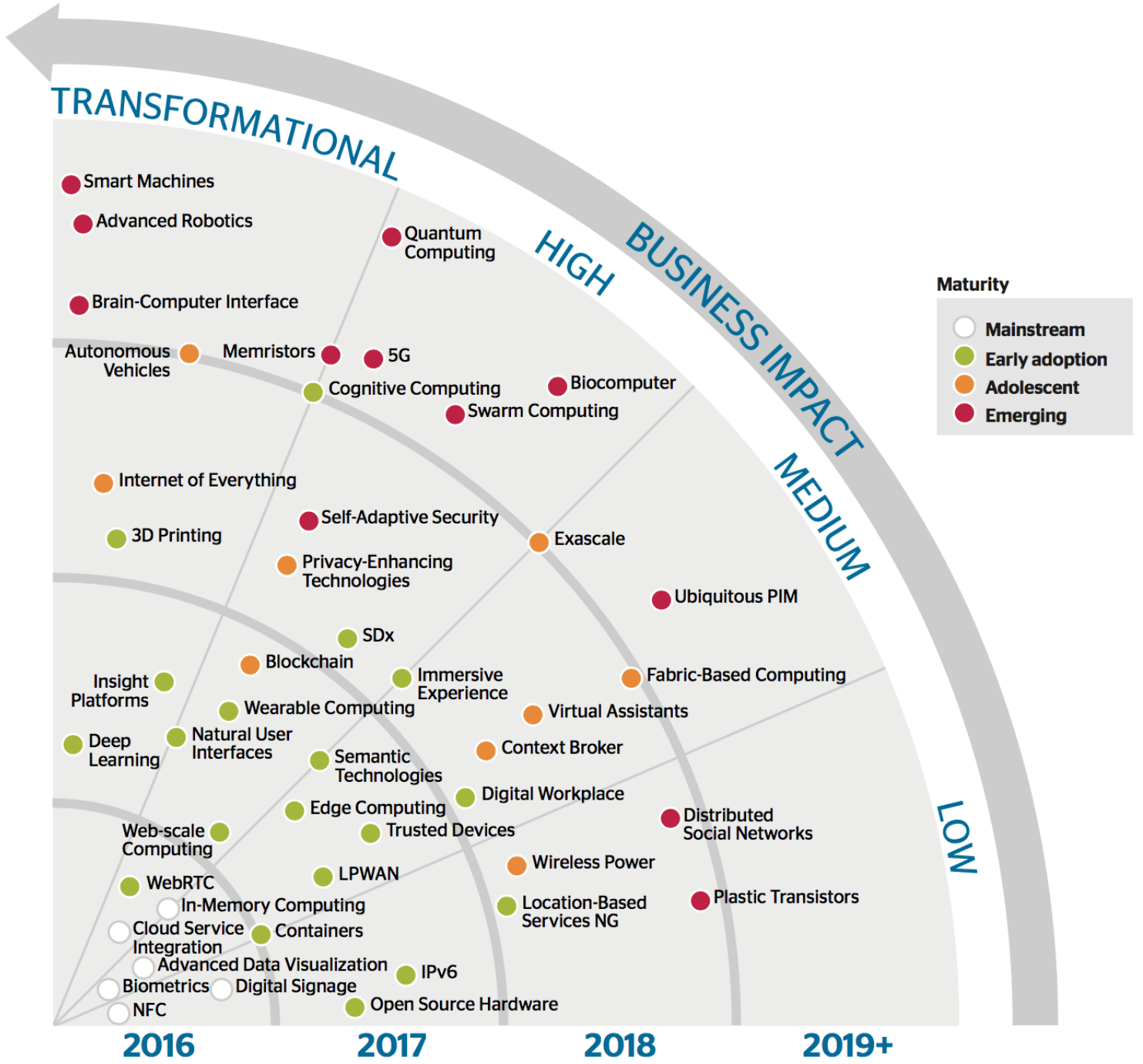
INTERNET OF EVERYTHING

PRIVACY-ENHANCING TECHNOLOGIES

BLOCKCHAIN

DEEP LEARNING

WEARABLE COMPUTING

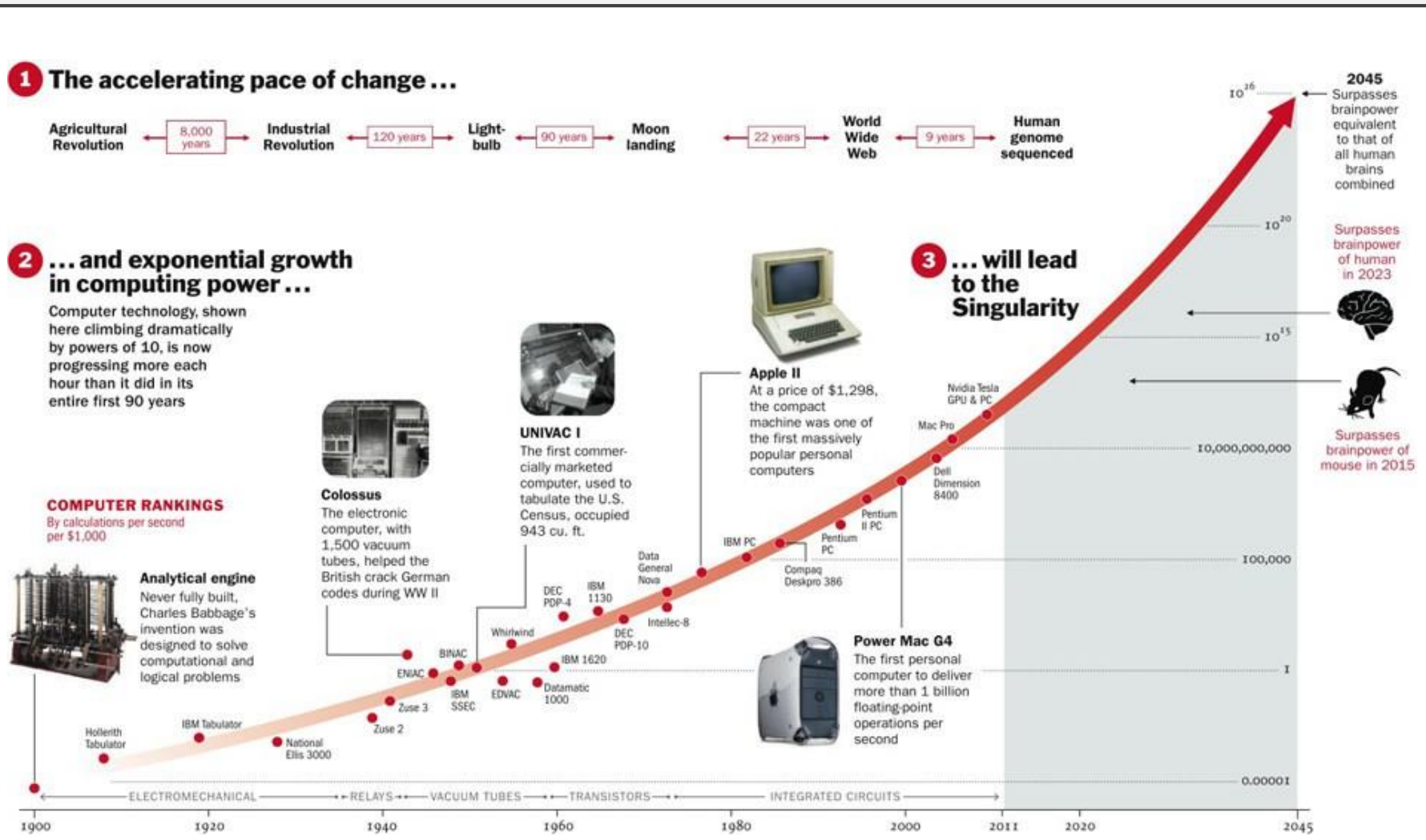


THERE ARE TECHNOLOGIES, WHICH ARE MATURE ENOUGH TO DISRUPT SOCIETY AND BUSINESS

"I SHOULDN'T SAY IT BUT I HAVE TO SAY IT: I STILL DON'T HAVE A SMARTPHONE..

...BUT THE FUTURE IS DIGITAL

J.C. JUNKER"


1 The accelerating pace of change ...
Agricultural Revolution
8,000 years
Industrial Revolution
120 years
Light-bulb
90 years
Moon landing
22 years
World Wide Web
9 years
Human genome sequenced
2 ... and exponential growth in computing power ...
Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years
COMPUTER RANKINGS
By calculations per second per $1,000
Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems
Colossus
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II
UNIVAC I
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.
Apple II
At a price of $1,298, the compact machine was one of the first massively popular personal computers
Power Mac G4
The first personal computer to deliver more than 1 billion floating-point operations per second
3 ... will lead to the Singularity
2045
Surpasses brainpower equivalent to that of all human brains combined
Surpasses brainpower of human in 2023
Surpasses brainpower of mouse in 2015
Hollerith Tabulator
IBM Tabulator
National Ellis 3000
Zuse 2
Zuse 3
ENIAC
BINAC
IBM SSEC
EDVAC
Datamatic 1000
Whirlwind
IBM 1620
DEC PDP-4
IBM 1130
DEC PDP-10
Data General Nova
Intellec-8
IBM PC
Compaq Deskpro 386
Pentium PC
Pentium II PC
Dell Dimension 8400
Mac Pro
Nvidia Tesla GPU & PC
ELECTROMECHANICAL
RELAYS
VACUUM TUBES
TRANSISTORS
INTEGRATED CIRCUITS
1900
1920
1940
1960
1980
2000
2011
2020
2045
0.00001
1
100,000
10,000,000,000
10^15
10^20
10^26

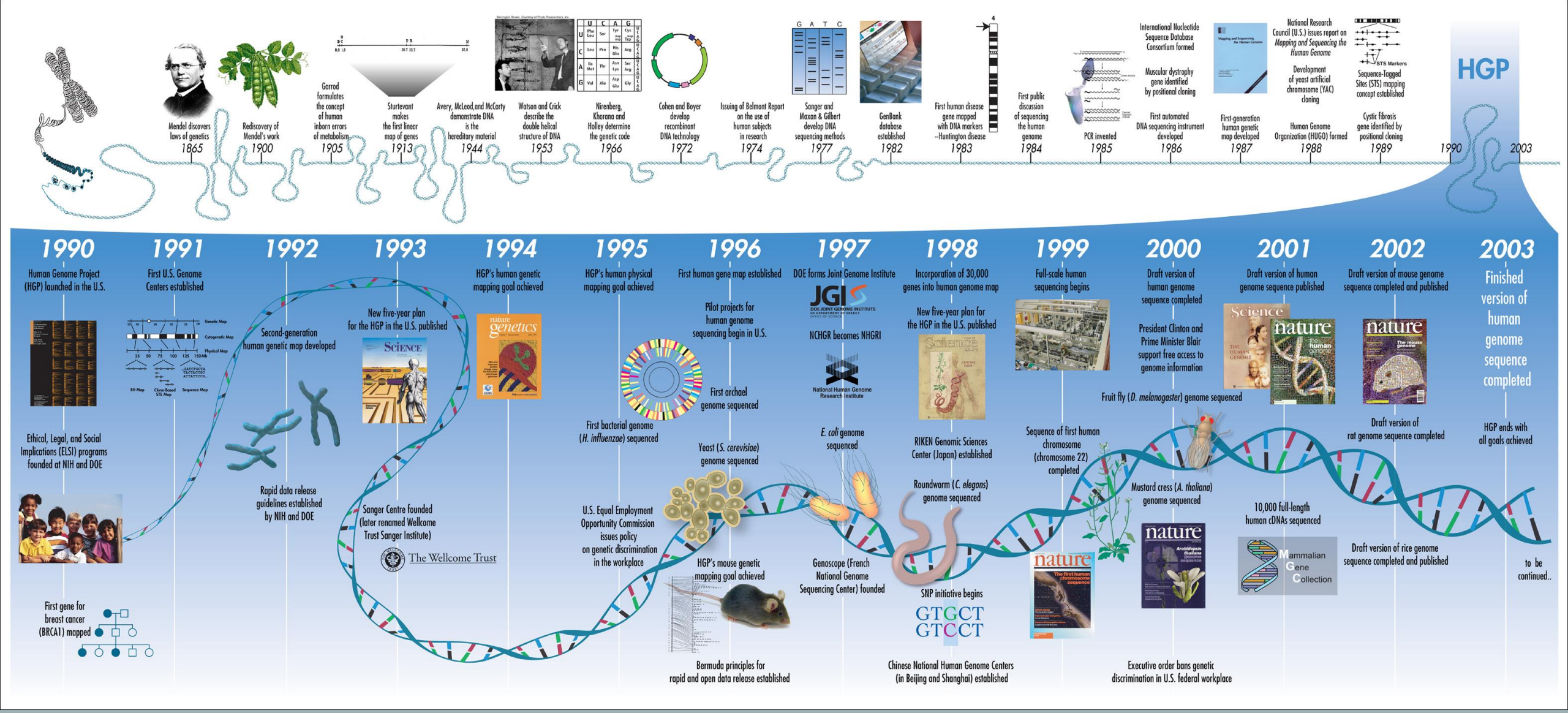
I HAVE SET THE DATE 2045 FOR THE 'SINGULARITY' WHICH IS WHEN WE WILL MULTIPLY OUR EFFECTIVE INTELLIGENCE A BILLION FOLD BY MERGING WITH THE INTELLIGENCE WE HAVE CREATED

R. KURZWEIL, FUTURIST

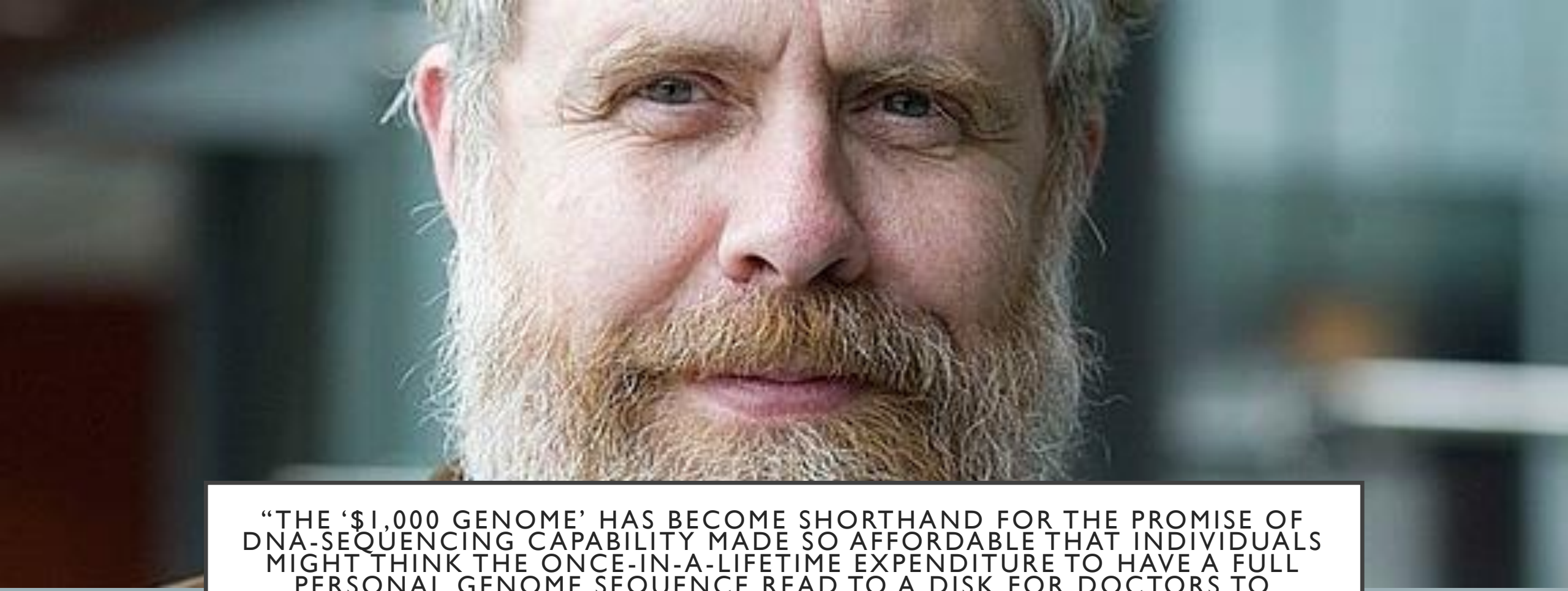
“CREATING ABUNDANCE IS NOT ABOUT CREATING A LIFE OF LUXURY FOR EVERYBODY ON THIS PLANET; IT’S ABOUT CREATING A LIFE OF POSSIBILITY.”—

PETER DIAMANDIS

CO-FOUNDER, SINGULARITY UNIVERSITY



HUMAN GENOME PROJECT – HOW TO READ GENOME ?



"THE '$1,000 GENOME' HAS BECOME SHORTHAND FOR THE PROMISE OF DNA-SEQUENCING CAPABILITY MADE SO AFFORDABLE THAT INDIVIDUALS MIGHT THINK THE ONCE-IN-A-LIFETIME EXPENDITURE TO HAVE A FULL PERSONAL GENOME SEQUENCE READ TO A DISK FOR DOCTORS TO REFERENCE IS WORTHWHILE.

GEORGE M. CHURCH

illumina®

VeritasGenetics

Personal Genome Project

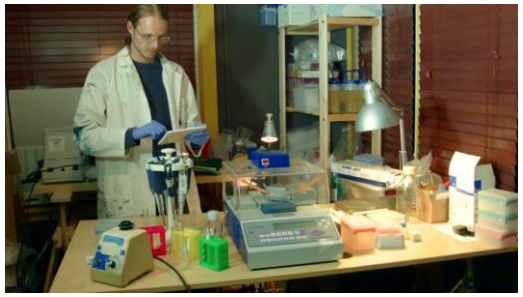
THE NOTION THAT WE COULD WRITE A HUMAN GENOME IS SIMULTANEOUSLY THRILLING TO SOME AND NOT SO THRILLING TO OTHERS, WE RECOGNIZE THAT THIS WILL TAKE A LOT OF DISCUSSION."

JEF BOEKE, LEADER OF THE PROJECT

CENTER *of* EXCELLENCE
for ENGINEERING BIOLOGY

GP-*write*

Counter Culture Labs



bioCURIOUS

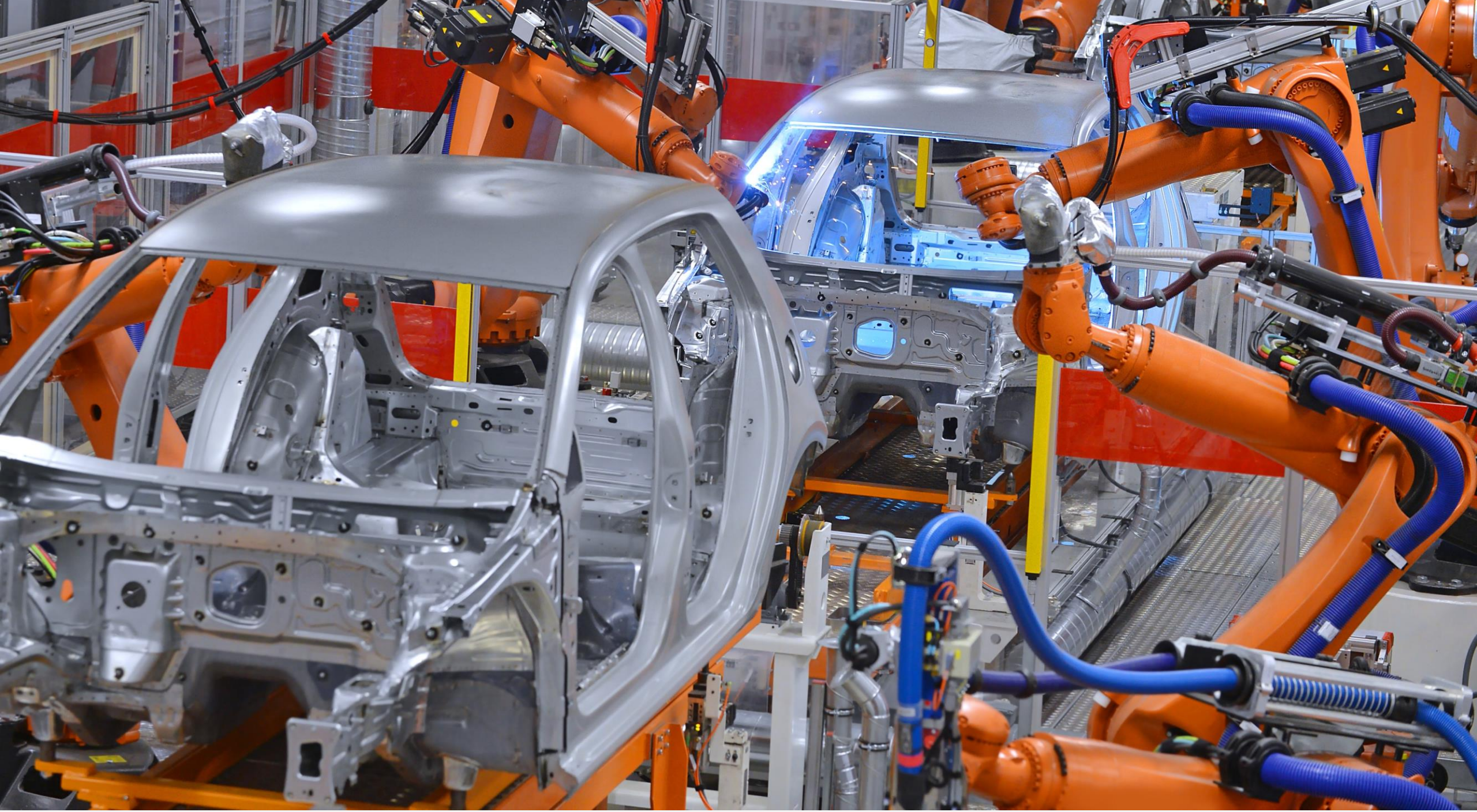
BIOHACKING CULTURE

IT IS ONLY A MATTER OF TIME UNTIL IDEALISM SEES THE RELEASE OF CONFIDENTIAL GENETIC DATA ON STUDY PARTICIPANTS

RESEARCHER, BERKELEY UNIVERSITY

THE BUSINESS MODEL OF MAINSTREAM TECHNOLOGY UNDER "SURVEILLANCE CAPITALISMS" IS PEOPLE FARMING - AND IT IS TOXIC TO HUMAN RIGHTS AND DEMOCRACY

ARAL BALKAN, CYBORG RIGHTS ACTIVIST

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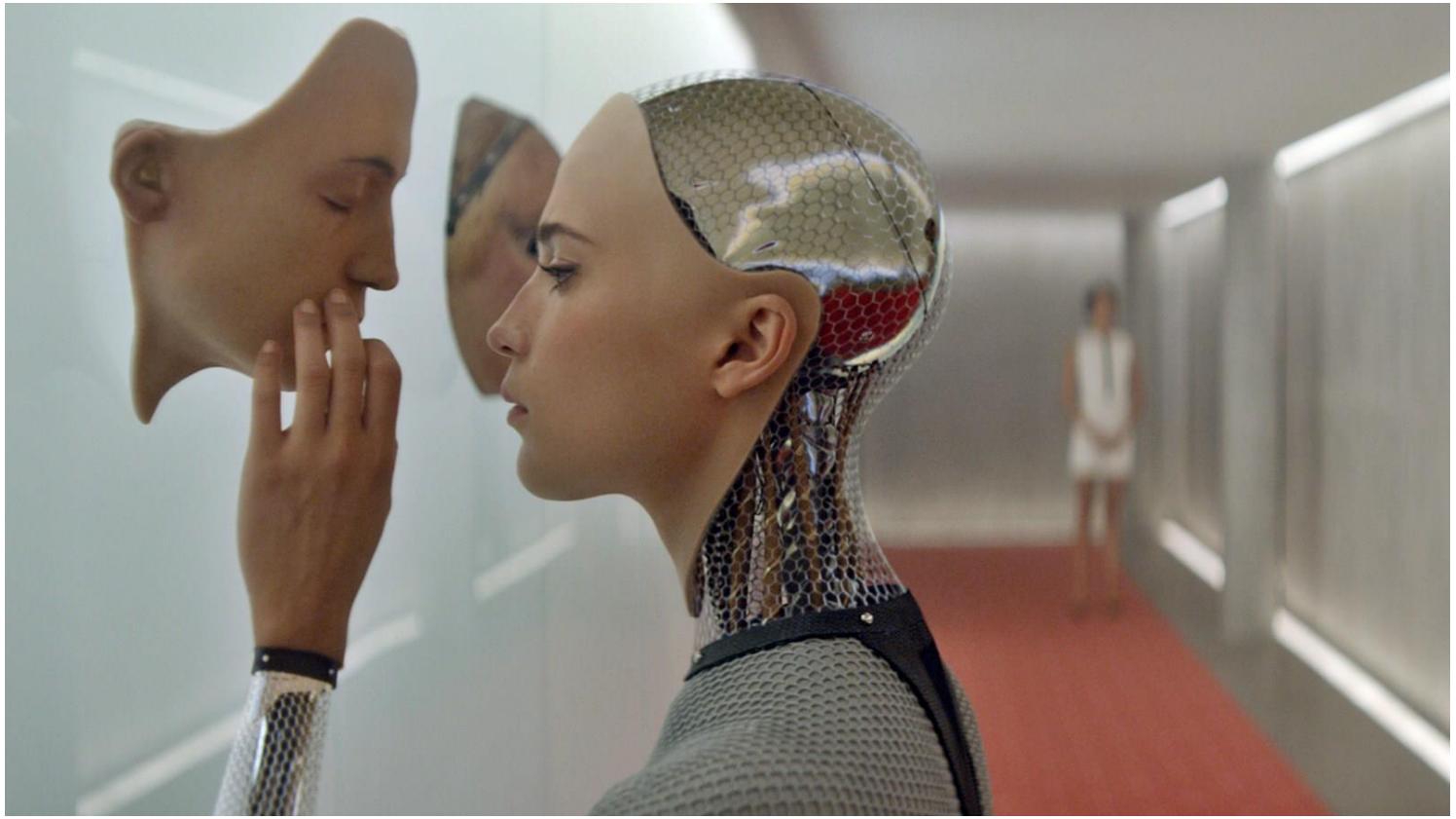
rethink robotics



“AI IS THE RARE CASE WHERE I THINK WE NEED TO BE PROACTIVE IN REGULATION INSTEAD OF REACTIVE.

BECAUSE I THINK BY THE TIME WE ARE REACTIVE IN AI REGULATION, IT’LL BE TOO LATE.

AI IS A FUNDAMENTAL RISK TO THE EXISTENCE OF HUMAN CIVILISATION.”

ELON MUSK, TESLA, CEO

SECOND LIFE WAS A RETREAT FOR ESCAPISTS… SMART PEOPLE IN RURAL AREAS, THE DISABLED, PEOPLE LOOKING FOR COMPANIONSHIP.

BUT FOR LESS MOTIVATED VISITORS WITH LIMITED TIME, IT WAS HARD, CONFUSING AND ALIENATING.

P. ROSENDALE, CREATOR OF SECOND LIFE

HIGH FIDELITY

A BIG PART OF OUR FOCUS IS TO MAKE IT POSSIBLE FOR PEOPLE TO BUILD ANYTHING

P. ROSENDALE, CREATOR OF NEW HIGH FIDELITY STARTUP


History
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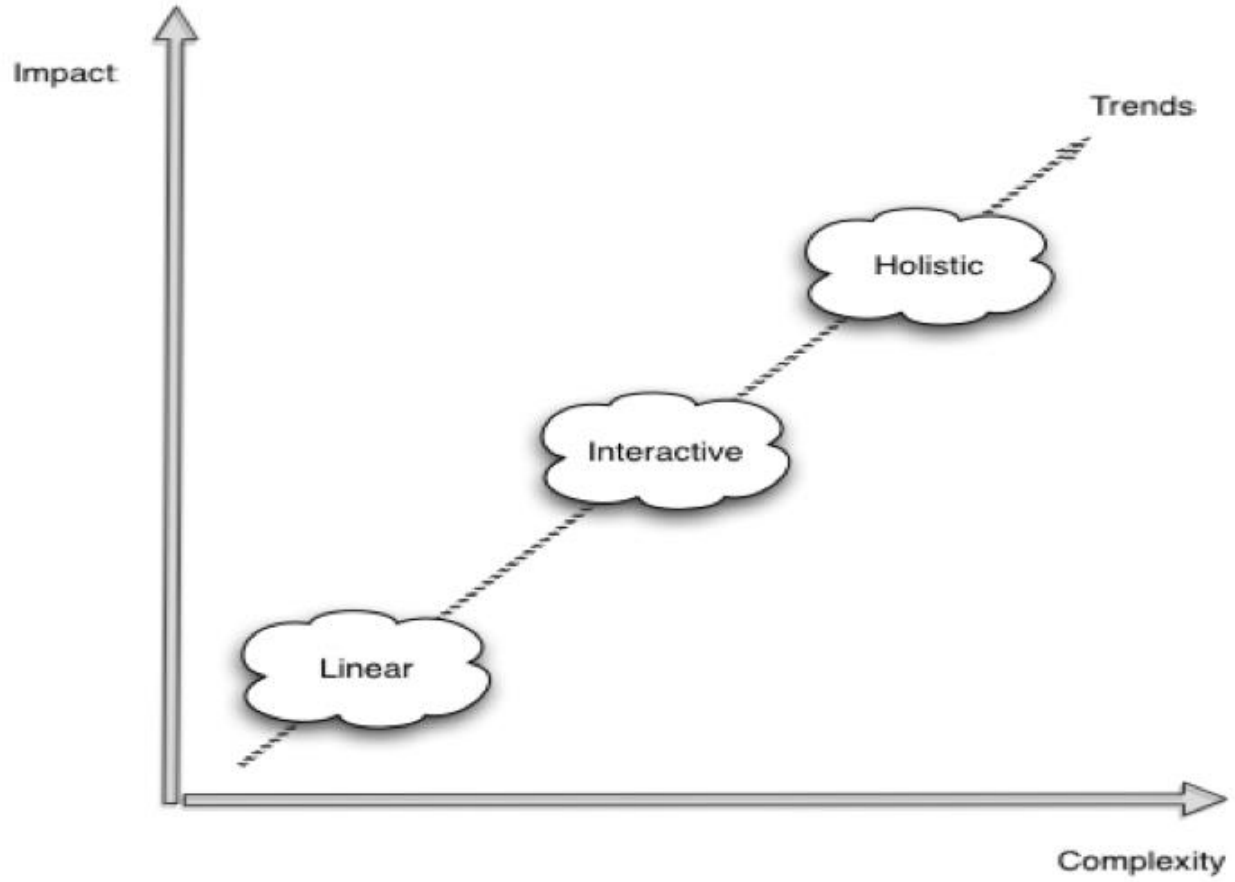
Impact
Trends
Holistic
Interactive
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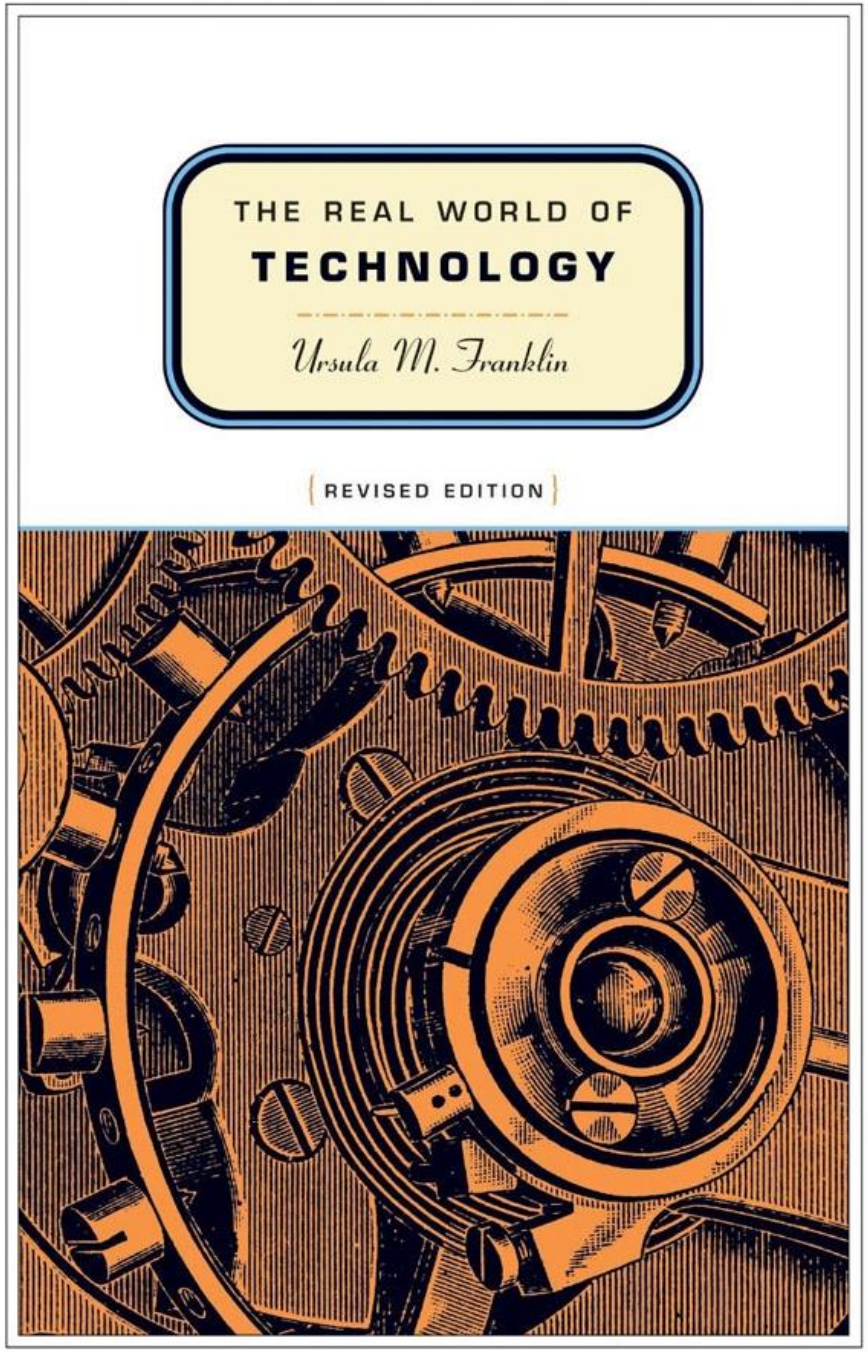
Complexity

HOLISTIC TECHNOLOGIES ARE NORMALLY ASSOCIATED WITH THE NOTION OF CRAFT … THEY DRAW ON THEIR OWN EXPERIENCE, EACH TIME APPLYING IT TO A UNIQUE SITUATION

TODAY'S REAL WORLD OF TECHNOLOGY IS CHARACTERIZED BY THE DOMINANCE OF PRESCRIPTIVE TECHNOLOGIES. WHILE WE SHOULD NOT FORGET THAT THESE PRESCRIPTIVE TECHNOLOGIES ARE EXCEEDINGLY EFFECTIVE AND EFFICIENT, THEY COME WITH AN ENORMOUS SOCIAL MORTGAGE.

THE MORTGAGE MEANS THAT WE LIVE IN A CULTURE OF COMPLIANCE, THAT WE ARE EVER MORE CONDITIONED TO ACCEPT ORTHODOXY AS NORMAL, AND TO ACCEPT THAT THERE IS ONLY ONE WAY OF DOING "IT."

URSULA FRANKLIN, AUTHOR OF *THE REAL WORLD OF TECHNOLOGY*



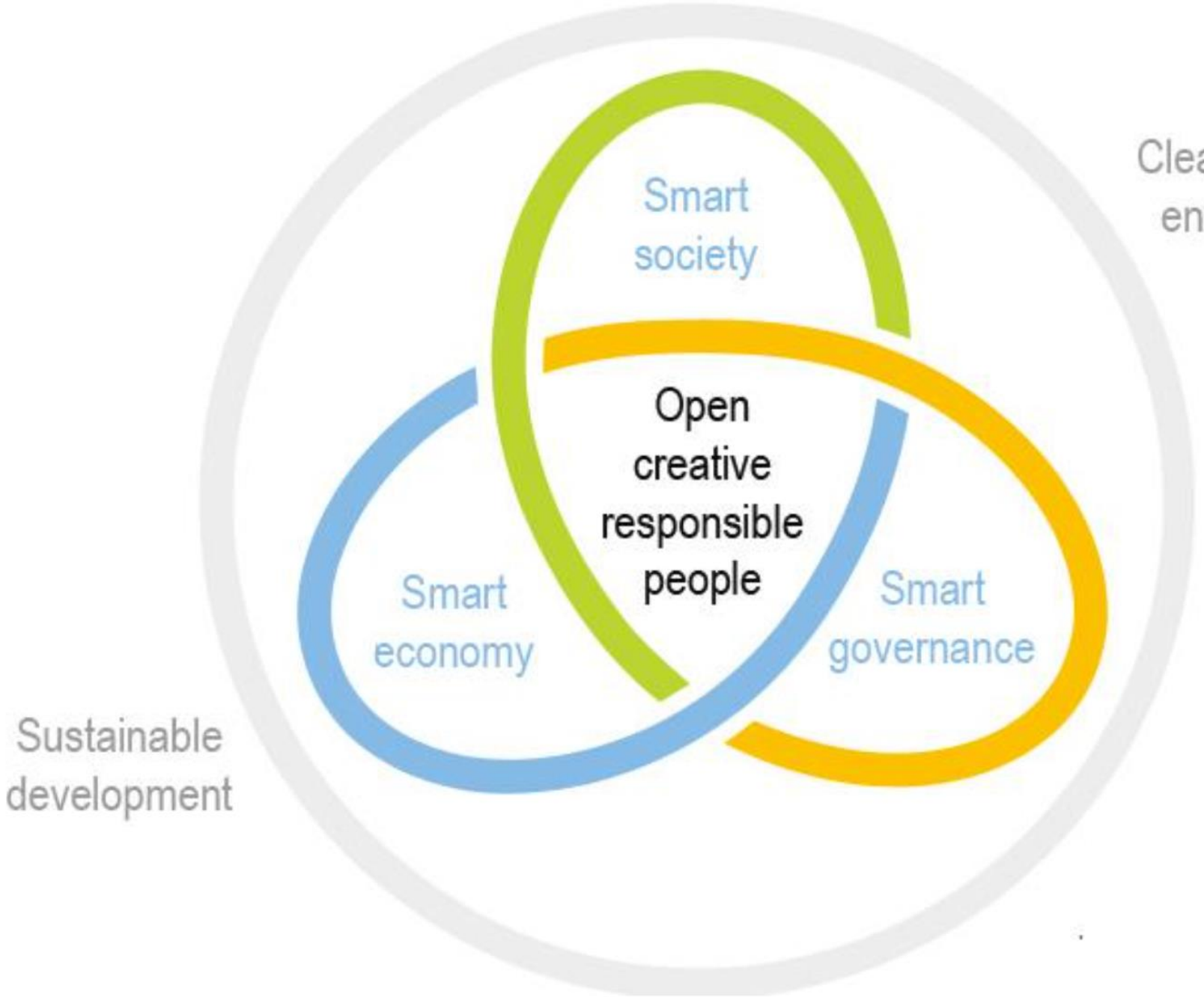
"THE PURPOSE OF THE CORPORATION MUST BE REDEFINED AS CREATING SHARED VALUE, NOT JUST PROFIT PER SE. THIS WILL DRIVE THE NEXT WAVE OF INNOVATION AND PRODUCTIVITY GROWTH IN THE GLOBAL ECONOMY."

MICHAEL PORTER, RESEARCHER, HARVARD UNIVERSITY

WHEN SOMEBODY ASKS YOU:
“CLOSE YOUR EYES.
YOU ARE NOW IN 2030.
WHAT DO YOU SEE ? AND IN 2050 ?”.

LIETUVA 2030

VISION



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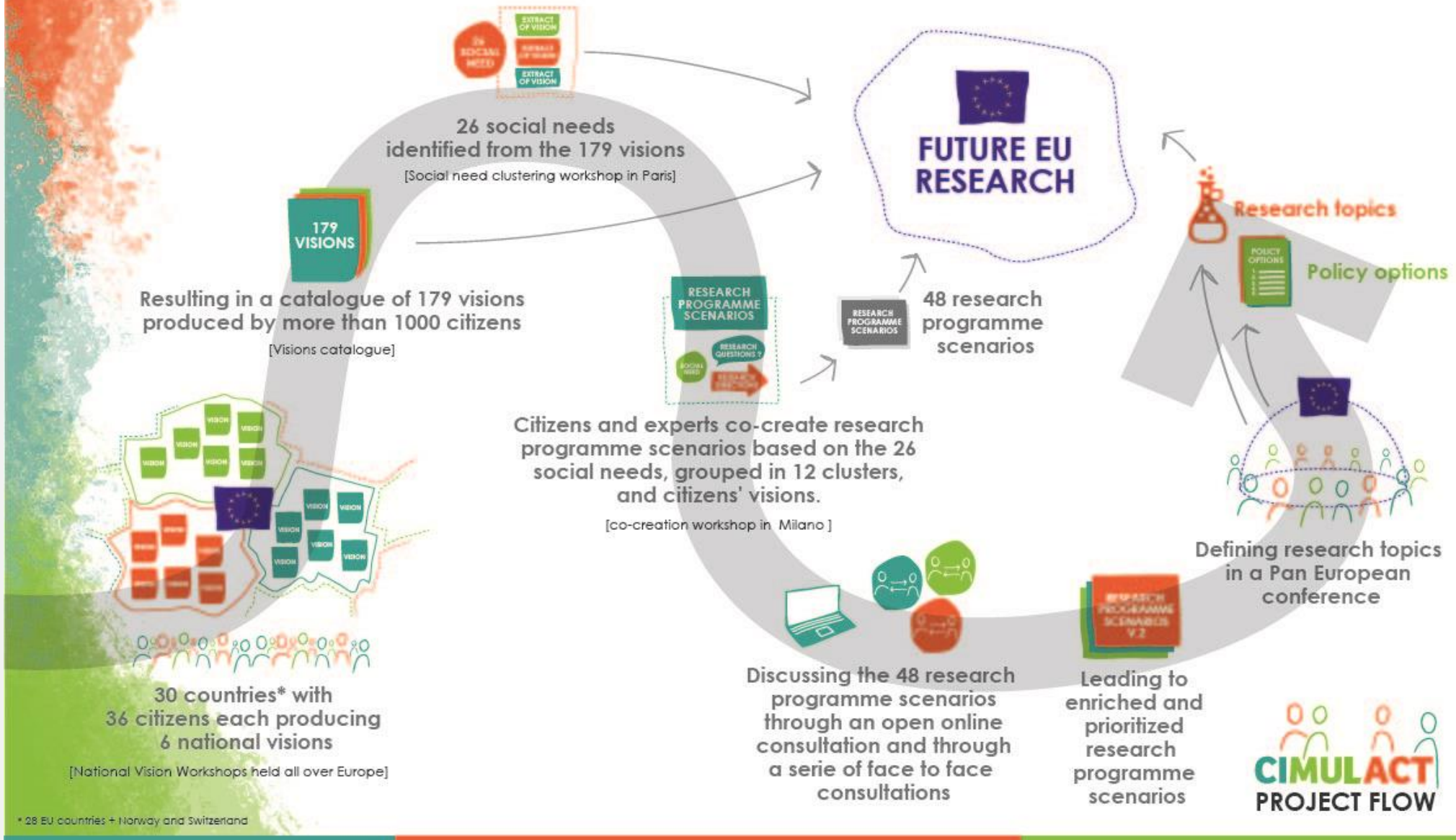
Horizon 2020
European Union Funding
for Research & Innovation

PROCESS

FROM CITIZENS' VISIONS
TO FUTURE EU RESEARCH AND INNOVATION AGENDA



CIMULACT
CITIZEN AND MULTI-ACTOR CONSULTATION ON HORIZON 2020

Horizon 2020
European Union Funding
for Research & Innovation

EXAMPLE I

TECHNOLOGY SERVING HUMAN BEINGS AND SOCIETY

- To regulate the role of new technologies in order to avoid damaging the quality of human relationships.

[ESP] Vision 3: Building the future

Our level of industrial and technological development allows us to better combine a shorter working day, time dedicated to child education and a freely chosen contribution to our community.

[LUX] Vision 4: Technology at society's service

The digital tools have given public participation a universal form. Accessible for all. This has led to a significant increase in public participation.

[NOR] Vision 3: Society and the individual in balance

Technology does not alienate people and does not endanger their health.

[PL] Vision 3: New Technologies in Everyday Life

Technology is not completely at our service
[...] To give man a vision. What makes man is not what man makes, and our creations should not become our creators.

[MAL] Vision 6: Education and Society (community)

Universal material and technologies allow us to remake old things and turn them into new ones.
[...] This invention frees society from the use of the surplus and creates conditions for harmonious personalities.

[LIT] Vision 4: From Harmonious Personality to Recycling Technologies

The high-tech knowledge we have aquired, is being channeled into new solutions. By using all resources (people, technology, money), continued welfare and sustainable growth is created.

[NOR] Vision 2: From fossil fuels to value based renewed energy

The family lives in a village or small town and uses green technology in all aspects of life.

[HRV] Vision 6: Modern tradition and green technology

For more effective, fairer and "bulletproof" (irreversible) dispute resolution, as well as for savvy use of technology, a device for reading thoughts has been invented.

[SVK] Vision 3: Unlimited Possibilities of the Future: Transportation, Healthcare and Dissemination of Ideas

There is a need for developing technologies which will enhance human capabilities and dispositions according to needs identified by this project. Developing human potential is a scarce and sometimes only resource for value based economy and quality of life

Subneeds

Technology changes improving quality of life in areas of health (e.g. prevention in general) social care, education, transport, communication (access to information) child- elderly care, housing (intelligent buildings), addiction prevention, working conditions, security, assisting every day activities (prosthetics etc.), nutrition, social capital (easing social relations), housework, public participation.

- *Technology and information will become a common property freely available to everyone*
- *To develop personalised solutions*
- *Public services universally accessible,*
- *To help develop physical and mental capabilities*

Additional hints

Threats of uncontrolled technological development

- *Alienation of isolated individuals*
- *Limiting artificially induced consumption*

It is significant that society is in control of technology and not vice versa

- Combining science with nature in a rational way from which both sides benefit
- Pursuit of science, technology and societal interplay

[SVK] Vision 4: Futurofarma and Space Tourism

The robots are not replacing the people, since they are only built to ease the work and not to take it over. Due to this aid, people have time to utilise their other potentials which gives them ability to develop and make progress.

[HRV] Vision 2: Science and technology in the service of mankind

Success is redefined in 'astonishment' related to individual, societal and technological growth.

[NL] Vision 3: Freedom

Technology does not alienate people and does not endanger their health.

[HRV] Vision 3: The preservation of human health and nature for the generation XYZ

Technologies
- Quality and precise diagnostics
- New, painless methods of treatment
- New (medical) devices and medications
- Hibernation (for later treatment when there is a new treatment available)
- Development and application of artificial implants

[CZE] Vision 2: Quality health care for all

We want technology to be used for the betterment of society

[IRE] Vision 5: Balance of Nature, Humanity, and Technology

Technology serves peaceful goals.

[EST] Vision 5: A new hope

New things to discover and explore that will make our life easier. We'll keep our critical mind and our freewill in front of all these new technologies that will be able to dictate to us and take gradually control of our lives.

[BEL] Vision 3: Digital Mind

Drones have become ubiquitous and they are widely used in transport or industry.

[PL] Vision 3: New Technologies in Everyday Life

People will live a quality life because of the support for research and development, improved access to its results and better cooperation of the involved actors.

[SVK] Vision 2: Technology for Better Health

100% security of personal data against abuse – it will be achieved by an advanced technology.

[CZE] Vision 3: Free citizens in the secure world of data

Finally, to structure a principle, that will determine the rate of application of technology and technology costs in social groups and will allow its application to all regardless of states.

[CYP] Vision 4: Technology applicable as a channel of progress EU context

there will be a generation of robots, but it can be avoided through preservation of human values.

[BGR] Vision 6: Evolution in health care.

Technology will develop in harmony with the environment and individuals' needs.

[ROU] Vision 3: Back to (our) roots

A generalized and extended use of new technologies on health and environment.

[ESP] Vision 2: Small changes are powerful

Living in a society in which technology helps people throughout all aspects of life (food, health, environment, economic activity) in order to afford the "luxury" of investing in personal development

[ROU] Vision 1: Let's be humans through technology

More advanced technology which will facilitate communication and relationships between people. People will explore new cultures and meet other types of education through exchanging experience.

[BGR] Vision 3: Family, personal development and value system.

Developments in technology and medical sciences have prolonged people's lives and improved their quality of life.

[FIN] Vision 2: Predictive health tracking

- Greenhouse gas emissions reduction
- Proper use of pesticides
- Alternative ways of traveling
- Increase of urban greenery

[GR] Vision 3: A smooth coexistence of citizens in a secure and "green" society

SOCIAL NEED 17

#PERSONAL DEVELOPMENT

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EXAMPLE 2

A SOCIETY WITH ROOM FOR ALL

We imagine year 2050 as a year in which people live happily in pleasant communities, as a part of nature. These communities will be examples of sustainable oasis based on truth and acceptance of the people's diversity. The development of new technologies, in accordance with the laws of nature, will lead to the improved quality of life. People will grow healthy food for themselves, with minimal or no ecological footprint. Medicine will address the cause, not the consequence. We will engage in lifelong learning with the aim of raising awareness of healthy living. The natural renewable resources will be used as energy sources for the development of infrastructure and communities.

[HRV] Vision 3: The preservation of human health and nature for the generation XYZ

Every person can freely determine their own life; (within the confines of the law)

Examples:
There should be no dress code based on cultural or religious regulations.
Equality for all, independent of sex, religion, ethnic origin and solidarity
Same wage for same job
Same educational opportunity for all
Free to plan your future
A terminally ill person is free to decide to terminate his/her life with medical help

[DE] Vision 3: Diversity and self-determination

Equality - equity - individual as a benchmark of equity. There are well informed citizens, involved, with high quality of life in all geographic conditions. There is a safe and reliable system and institutions, with developed trust.

[HRV] Vision 5: Society of equal opportunities

Children will be brought up by their family towards a greater tolerance and decency. From the pre-school age, children will be introduced to the life reality by a direct contact with it, e.g. by visits to retirement homes or by helping with cleaning the nature. This process will continue throughout all the education levels. People will be closer to each other; their relationships will be warmer. In the society, there will be more inte-rest in sharing the public space by citizens, e.g. community gardening, sports fields etc.

[CZE] Vision 4: Upbringing and education towards tolerance

In 2050, I say hello to my neighbors of my collective building. I pick up vegetables with neighbors while my husband or wife takes care of the children and elders from the first floor. Exchange and dialogue are developed regarding the shared building's resources (washing machine, shared gardens, recuperation, recycling etc.).
"True" news is displayed and advertising is forbidden in the public space. Preventive information, information on civil rights and citizens consultations and so on are displayed and disseminated.

[FR] Vision 1: Sociability over technology

Our vision of 2050 is : the childhood education will allow us to reach an ideal of respect, an awareness to sustainable development, a better wealth distribution and an openness to social-mix because diversity and interactions bring richness.
The ways of achieving that aim are ;
A school program including the following topics: Mandatory workshops to learn respect, [waste] sorting... Parents-children day, citizenship day, street cleaning, learning through action, school pairings (different countries, different regions,...), respect for adults, vegetable gardens at school farmed by the children, more playful schools (cooking for everyone...) and sport would be a symbol of respect, an example of diversity. Schooling for everyone !!

[BEL] Vision 1: Foundations for respect, equality, diversity through education

1 Well integrated local community, with respect.
2 More social justice:
- Collective responsibility, work, education, religion
- Tolerance, moral obligations based economy
- Animal rights

[IRE] Vision 1: Community Enrichment through Education

3. cooperation and tolerance:
- family: education, consideration
- society: regardless of religion

[EST] Vision 4: A united world

There is a need for a society with room for all:
- greater unity in diversity with increased interaction and integration
- more respect for parents, adults, minorities and the ill.
- equal rights and responsibilities
- respect and space for diverse cultures and religions
- no discrimination at work or in communities and better communication between groups.

The status of physical and mental illness should be equal. We would like a shorter waiting time before treatment in both adult and child and youth psychiatry, since there is a lot to gain - both for the individual and the socio economy - by quick processing. Today, early diagnosis and intensive, quick treatment of mentally ill young people have proved to reduce hospitalization days and many oth-er costs.
There must be a free and independent research, with a higher prioritization of psychia-try. The pharmaceutical industry should have less power over the fields of research. This allows the right medication and therapy to be developed and offered at the low-est cost to those who need it. This requires more money.

[DK] Vision 1: Physical and mental health

- That all children are born with the same rights regardless of gender
- That all parents shall have the possibility to a fair division of parental leave and child care is available for all
- That all have the same rights to a good education regardless of gender
- That all (even girls) should be able to go home alone from a night out without being afraid
- That employers shall make hiring and salary decisions with regard to competence and not gender
- That retirement pensions do not differ between men and woman

[SWE] Vision 1: Equality between women and men

Increased awareness and tolerance of other people. Cyber polling reduces corruption. Reduced discrimination until it is eliminated. Equal opportunities for all across demographics.

[MAL] Vision 5: A Democratic, Diverse and Equal Society

There are equal opportunities, access to services, job opportunities, solid quality en-hancements, and equal rights for all (such as senior positions of power for women, people of disability, people of ethnic minorities, LGBTQ, elderly...)
[...]
People have become more politically engaged in comparison to today, differences have become embraced and attitudes towards minorities have also changed. Ageism has been eliminated or addressed, and people have become "colour blind" towards race, in the sense that people no longer discriminate due to race. Mental health is a priority on an equal par to physical health. More investment in the prevention of social issues such as addiction, homelessness and poverty in comparison to current policy of trying to "cure" these issues in the aftermath

[IRE] Vision 2: Expression of quality

They have jobs that are appropriate for their skills and interest. This has been made possible by tailor-made vocational training. They declared their satisfaction with the shorter and flexible working hours (6 hour workdays), the higher wage that provides well for their livelihood, and the healthy working conditions. As a result of stable jobs, their life is peaceful and predictable, certain. We also met with elderly (pensioner) employees, and those with special needs. They have jobs appropriate for their needs and skills and receive social benefits.
We were happy to see that nobody is discriminated against in any fields of life. All people have found their place as they live in harmony with their natural and social environment.

[HUN] Vision 2: The rise of a backward region

- Democratic coexistence of all people, regardless of: gender, ethnicity, appear-ance, age, etc. Creating spaces for the worship of all religions.
- Providing medical care to all people. Inclusive e.g. economic
- Elimination of fatal diseases e.g. Cancer, the discovery of treatment
- Equitable, that provides a universal legal framework, directly applicable deci-sions of justice to all citizens without bias

[GR] Vision 1: Humanity - Environment - Justice

Moreover, it protects any minorities against mistreatment which leads to mutual un-derstanding and solidarity.

What is Different from Today?
- People have the opportunity to use new means of transportation.
- Medication is more natural-based, with no side effects.
- Easier communication between the people including disabled.
- Artisan works are again supported.
- Equality in opportunities and possibilities.

[SVK] Vision 3: Unlimited Possibilities of the Future: Transportation, Healthcare and Dissemination of Ideas

SOCIAL NEED 19

#UNITY AND COHESION

CIMULACT
CITIZEN AND MULTI-ACTOR CONSULTATION ON HORIZON 2020

Horizon 2020
European Union Funding
for Research & Innovation

EXAMPLE 3

ENABLING SYSTEMS FOR GREEN AND SMART CITY DEVELOPMENT

There is a need for stopping pollution, developing healthier cities and enable easier life with more pleasure in cities.
Because the current systems, strategies, tools are not reaching enough good results.

Subneeds

- *To live in the city AND in nature, Buildings and streets are covered by canopy, vegetation and life (birds)*
- *To eat good and sane food produced in city farms*
- *To do my part as a citizen (and not just consume and pay taxes). To make my city sustainable. Living in a sustainable city is an act not a product.*
- *To know that the footprint of my city is adequate. A city is like a spaceship where we consume only what the life support system produces.*
- *To be assisted by technology*
- *Less noise, more natural sounds*
- *To drink water locally produced*

Additional hints

- *Concerns about « old buildings » stock*
- *Energy produced and consumed locally*
- *Visitors understand how to be a temporary citizen "tuned" with practices*

We want a societal system which creates framework conditions for the emergence of competent, responsible and healthy tenants. This will be achieved through:
- Urbanistic measures: construction projects promoting and rewarding the cohabitation of young and old, able and disabled

[CHE] Vision 5: Together for one world

Replacement of old stock is expensive and limited. Special case monument protection: Historical old stock is a protected commodity.
Energy and production costs occur up to a certain extent outside of housing. These costs must be kept to a minimum.

[AUT] Vision 5: Smart living with nature

In our vision, we have a cleaner world to live in. Stronger emphasis on local economies reduces carbon footprint of goods resulting in cleaner seas and cleaner air. Tariff barriers are put in place to tip the balance in favour of sustainably produced goods. A move towards cleaner types of renewable energy and bigger incentives against individual car use.

[MAL] Vision 1: At one with the Environment

Streets are clean; public transportation is silent and ecological; there are trees and plants everywhere, also in balconies and terraces, and gardens. The city is selfsufficient because of renewable energy and technology advances. Thanks to a sustainable economy, cities are full of local shops and businesses. There are open air areas for children, for elderly people... From an early age, people are taught to behave civically.

[ESP] Vision 6: The environment where we shall live

We design habitats for humanity in this vision. Transport – cycling and green transport are available to citizens at low cost. Green corridors exist to connect green spaces in the city. Urban agriculture is the norm. All these improve our air, water and soil quality. Green rooves and living walls are incorporated in buildings. Trees are everywhere and used in the design of the city. Factory farming is a thing of the past. Small urban farmers are supported by the Common Agricultural Policy. All cities have resilience strategies, no ecocides.

In your desirable future, what is different from today?
Land taxes will be part of the mix. More community managed urban farms and local shops. Agriculture and horticulture will be valued professions supported by training. Bees and pollinator strategies in all communities. Pesticides and agri-antibiotics ban-ned. Monarchy abolished and all crown lands in communal management. Duchy organics is a workers co-operative.

In short, what is your vision?
Denmark: the Danish model has managed to produce good results. We envision a future where cities support life, create their own food systems, support their bio regions and are good places to live.

[UK] Vision 3: Healthy cities, healthy people, healthy countryside

A city at human scale, energetically auto-sufficient and that promotes exchanges. De-creased working time that allows to involve oneself in volunteering and educational activities. Education will be the heart of society through knowledge transmissions and journeys organized from the earliest age.

[FR] Vision 5: Living in a balanced society

[BGR] Vision 2: Green planet – everyone's responsibility.

The vision is concerning new buildings in an existing city, including an effective future transportation system. The buildings and areas worthy of preservation are expected to still exist. The city is car-free: the transportation system should completely replace the use of private cars. The system could be electrical, magnetic highspeed trains. The city is green. Nature is provided space for as wedges in the peripheral regions. New districts and buildings are built when required, with a variation in structure and composition. The new buildings can be made of prefabricated boxes. The buildings are self-sufficient with solar cells. Rain water is collected, and fruit and vegetables are grown in greenhouses at the rooftop. The composition of the apartments allows spaces and terraces for common activities. The housing estates are open to all citizens: Young, elderly, immigrants, disabled and students. The solidarity and community stimulates activities. There are no lonely people. A working week is only 30 hours, which will leave a lot of time to family and lei-sure.
Every residence has its own terrace for conducting outdoor activities.

[DK] Vision 4: The nature city of the future

In 2050, we go to the market and/or directly to the producer, in order to get our food (and other things of daily need). Businesses are networked. The cooperative idea is revived. We grow vegetables/fruits ourselves. In the city (for example) large areas are used for urban gardening. Reduced eating of happier animals. Small-scale, non-profit-oriented businesses.
- Socially just!
- Fairly promoted!
- Reduced pace!

>The economy does not always have to grow more!
> More people work less long and can afford life!

[AUT] Vision 3: Work and the economic world: worth living

[CHE] Vision 1: Conscious Consumption

Sustainability is incorporated in the economic system
"Green taxes" will pay for the green transition and green initiatives.
E.g. taxes on non-organic agricultural production will be used to support a conversion to organic farming.
CO2 emissions and resource use are included in the economic key figures.
The carbon footprint is transparent and subjected to incentive structures
The daily life is greener
The nature is integrated into the urban environment.
Local production complements global production.

[DK] Vision 6: A greener world

The vision is very desirable but not mandatory. The demolition of old buildings is not sensible, instead these new ecological solutions are built on top of the existing buil-ding infrastructure. Taxation steers and encourages to make ecological changes. Bar-riers hindering ecological choices are removed from legislation.

[FIN] Vision 5: Eco-efficient nutrition and living

Our ecocity is human sized and integrated within nature. Towers have been redeemed and modified. In the street, street lights work thanks to photovoltaic cells, same thing applies for public transport, which is free. It's thus possible to restrain traffic in the city centre.
Proximity businesses are developed and offer essentially local products. Spaces dedicated to goods and services exchange and sharing do also exist, along with collective cultural spaces self-managed.

[FR] Vision 5: Living in a balanced society

We live in a big conurbation whose population is multi-ethnic and multicultural.
Population is increasing, so housing is adjustable and interconnected.
Home automation ensures environment stability according to light and temperature. Buildings and houses are on stilts, energetically auto-sufficient and/or supplied by renewable energies.

[FR] Vision 6: Living together with nature

The city is an intelligent organism that optimizes use of resources and energy. There are meeting places where every citizen participates bringing his own requests, which generally correspond to the collective ones. The places thus become sharing spaces that encourage the development of active and participating citizens.

[ITA] Vision 2: A simply special city

In 2050, we live in ecological and self-sufficient housing communities. Our transporta-tion is based on superconducted "automated elevators". The society has implemented efficient recycling systems for water, materials and energy.

[FIN] Vision 3: Efficient recycling

We wish for the urban areas of the future to be »mega local« - that they maintain wanted settlement patterns and good, local environments. New ultra flexible ways of working will dramatically reduce the need for commuting and a lower share of buildings that are only in use about 20-40% of 8 of the 24 hours of the day. Good collective solutions, a strong multi-use mode of thought and high population density will contribute to a lower aggregated environmental burden and higher well-being. Green lungs and an environmentally oriented urban development will secure »responsible life quality«, also in tomorrows mega local cities, across generations. Each and every citizen must be made responsible to actively contributing to fulfilling this vision.
[...]

[NOR] Vision 4: The environmental Citizen in a »short travelled« and »mega local« city in 2040

Monitoring and proper use of technologies by children. Technology shouldn't replace humans. Forests that are burned down should be reforested and not populated. There should be a sustainable development of tourism based on respecting each and every place's unique attributes. Science should focus on improving our quality of life as op-posed to profits.

[GR] Vision 5: Man in the center of education and attempts of development

Living space was fully integrated into the natural environment, without destroying valuable natural areas. Newly created housing may only be realized with nearnatural construction materials. Recyclable raw materials are mandatory. Older buildings were renovated and unsustainable building materials were removed. By now, all housing covers its own energy demand. Everyone can afford an apartment.

[AUT] Vision 5: Smart living with nature

SOCIAL NEED 28
#GREEN HABITATS

CIMULACT

Horizon 2020
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EXAMPLE 4

PERSONAL FREEDOM AND RESPONSIBILITY

Social responsibility (each individual must assume responsibility for the care for nature, the environment, relationships ...)

[SVN] Vision 3: Green Future

People have developed a sense of social responsibility. They are free in their choices and can develop their work and family life themselves. The education system is fo-cused on the development of the creativity and talents of young people. Every person and profession is important. People have more equal opportunities to move further in life.

[EST] Vision 3: Social welfare and sustainability

Full freedom for everybody means that there is no manipulation of your thoughts by media, social or political influences and that you are allowed and able to say whatever you want to say. Freedom also implies that you can do whatever you want to do.

[NL] Vision 3: Freedom

Each citizen's personal responsibility in decision making - direct democracy.
Every citizen is heard. A respected and loved individual is the basis of healthy society. It is important to maintain resources for next generations.

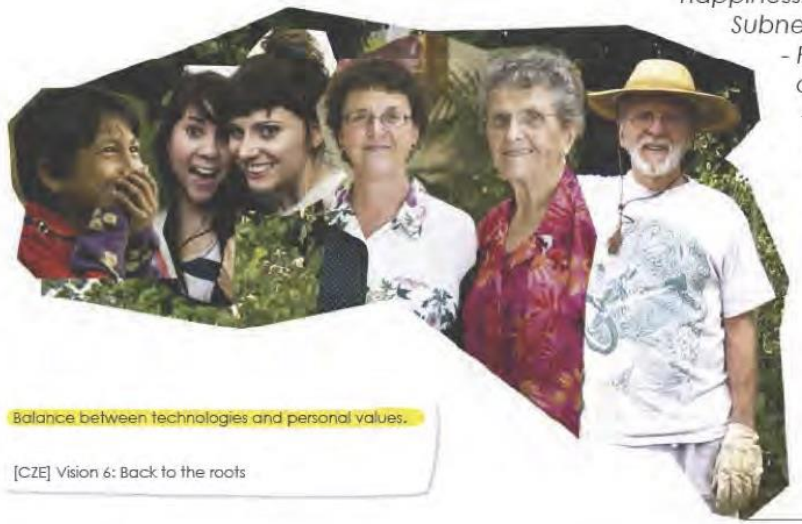
[LAT] Vision 3: Responsible lifestyle

Citizens no longer value throwaway culture, unethical production nor low quality. Hence children and citizens are educated in a long term to become re-sponsible consumers. As a result, less waste is produced and it is more efficiently pro-cessed to energy, for instance. There is an increase in the consumption of protein from insects together with organic and locally produced food. An ecological way of life has become mainstream. Responsible consumption also boosts business and the economy as well as creates new businesses and jobs. Information on responsible consumption and innovations developed based on them could be a new Finnish export product.

[FIN] Vision 4: The future of responsible consumption

People invent (create) jobs for themselves – necessary for society, creative, developing, meaningful and gratifying!
A person is able to fully educate himself/herself and find the necessary support during education. Job is the way to develop oneself during during the entire lifetime. A change of the work place and work environment is important for person's develop-ment and growth.

[LAT] Vision 5: Work as a means of expression.



Balance between technologies and personal values.

[CZE] Vision 6: Back to the roots

I participate every day in the construction of my future, my family and my community, in a similar way as is my participation in CIMULACT today. Individual freedom to choose and participate in continuing education and training, politics and citizenship is paramount, as is the study of fundamental rights. Co-creation with responsibility, dialogue, sharing and respect for all living beings.

[PORT] Vision 5: We build the future now

There is a need for personal freedom and responsibility, which implies that:
- Each individual must assume responsibility for the care of nature, environment, relationships.
- People developed a sense of social responsibility.
- Balance between technology and personal values.
- There is no manipulation of your thoughts by media, social or political influences. You can maximize your happiness.

Subneeds
- Personal responsibility in decision-making-direct democracy
- People invent jobs for themselves-necessary for society, creative, developing, meaningful, gratifying
- Responsible consumption
- Freedom to choose and participate in continuous education and training
- Education in democratic culture in elementary school

Additional hints
- Electronic voting
- No dress code based cultural or religion regulation

Education in democratic culture in elementary school - and focus on it in day care

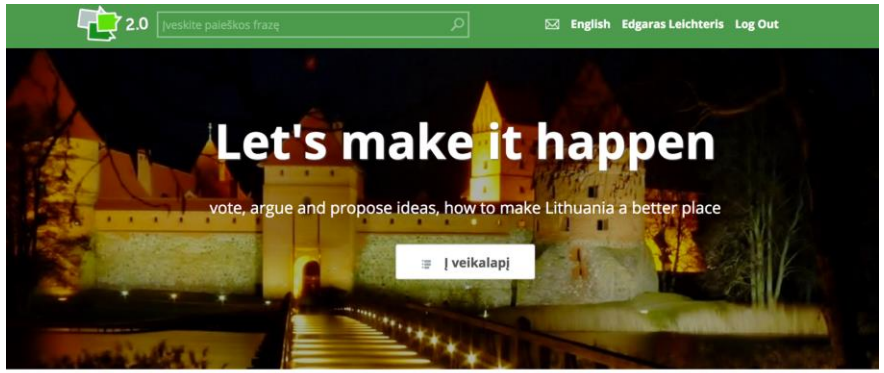
[DK] Vision 2: A democratic society with REAL equal opportunities

SOCIAL NEED 29

#CITIZENSHIP AWARENESS AND PARTICIPATION

My Government

E.citizen



Lithuania 2.0 is a social network, where active citizens work together to make their country a better place More about the project

IDEAS

Our ideas, how to make Lithuania a better place, waiting for your support, e-signature or other means for it to be realized

ISSUES

Some more interesting issues being considered in the Parliament for you to vote and give arguments, so we can present public opinion to our representatives.

https://www.visuomene.info/

Kaip tai veikia?

Kiekvieną mėnesį iškeliama nauja aktuali problema.

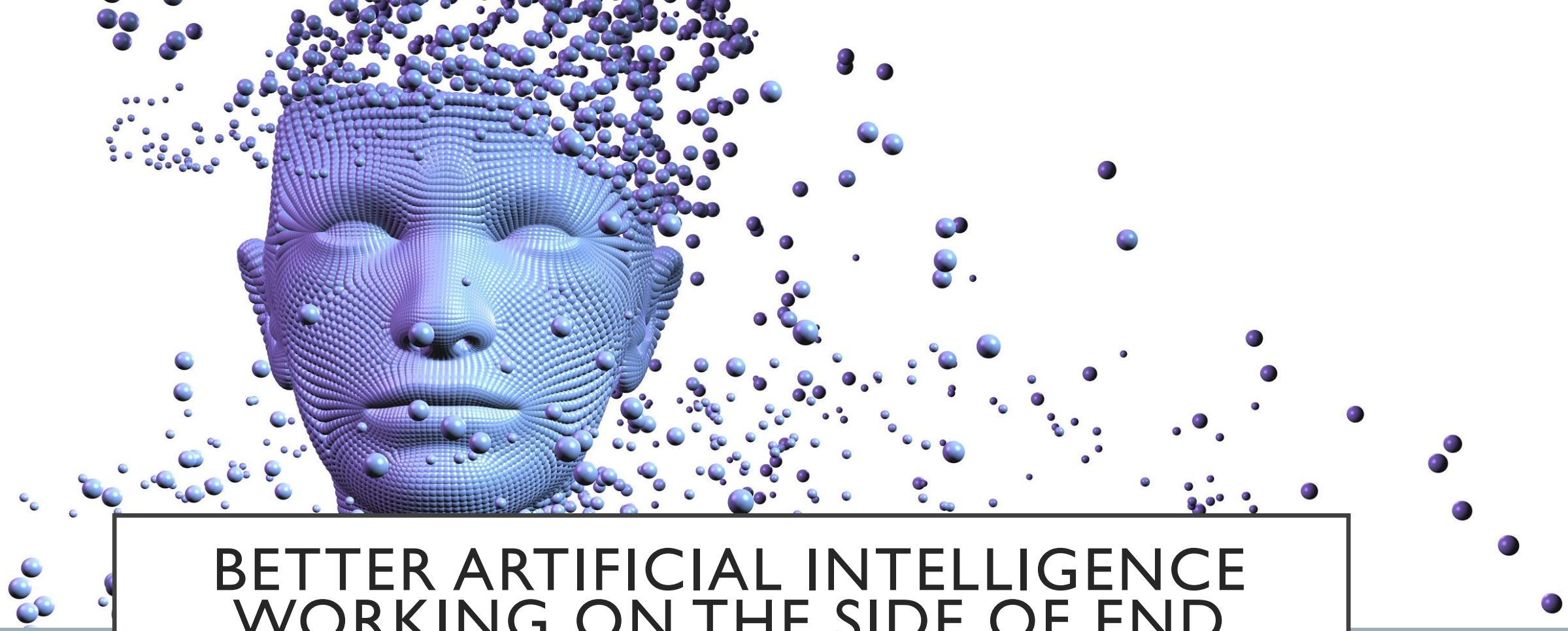
Jūs ir srities ekspertai suvienija jėgas vardan bendro tikslo - surasti geriausią problemos sprendimą. Siūlome sprendimus, rašome argumentus, palaikome ar kritikuojame kitų dalyvių pasisakymus.

Projekto iniciatoriai suformuoja oficialų dokumentą ir perduoda jį atsakingai valstybės institucijai, skelbia informaciją apie mūsų siūlymų svarstymo eigą.

EFFORT = ENGAGEMENT


WHAT'S NEXT?

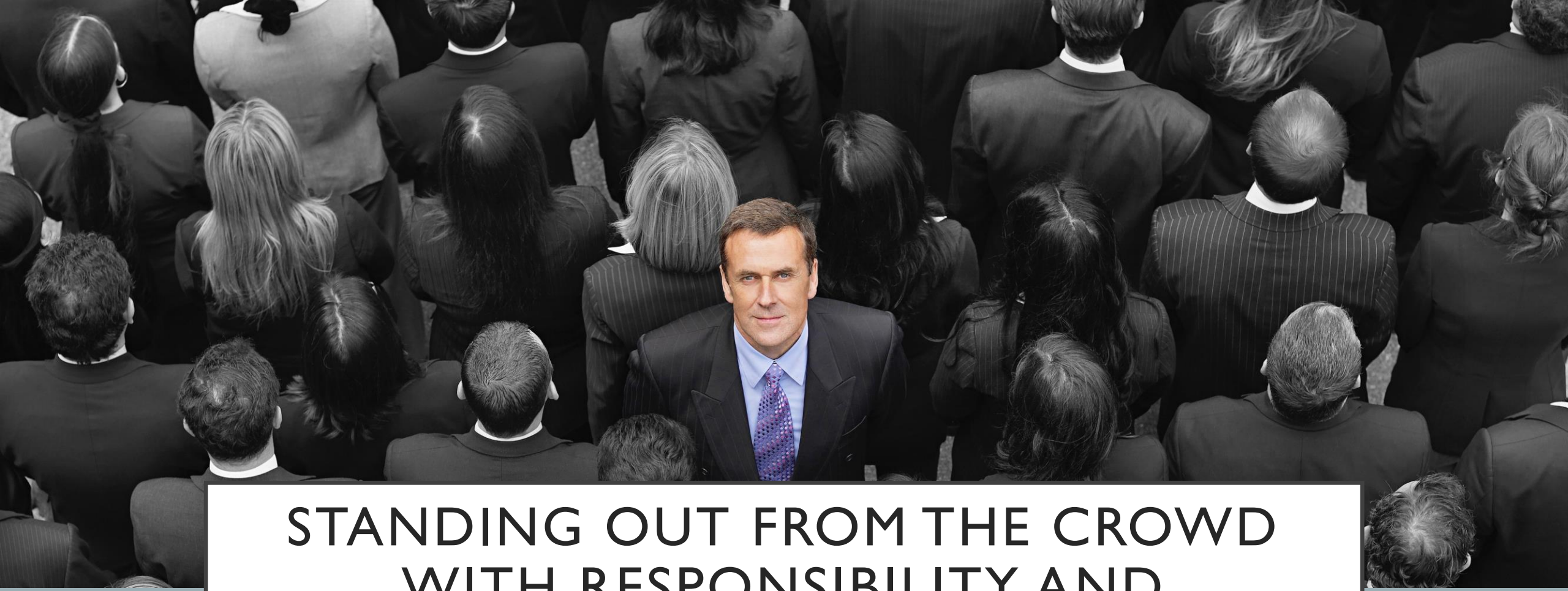
FURTHER DECENTRALIZATION AND PRIVACY PROTECTION



BETTER ARTIFICIAL INTELLIGENCE WORKING ON THE SIDE OF END USERS

RETHINKING OLD MEANINGS IN THE NEW DIGITAL CONTEXTS

SHAPE TECHNOLOGIES WITH OUR VALUES AND ETHICS



STANDING OUT FROM THE CROWD WITH RESPONSIBILITY AND LEADERSHIP

WE DEFINE NOW, WHAT WILL HAPPEN