

The Great Transformation: Technology, Climate Change and Health

! ETORKIZUN ONA ?

myndura
2021 begira

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gerdtube.com



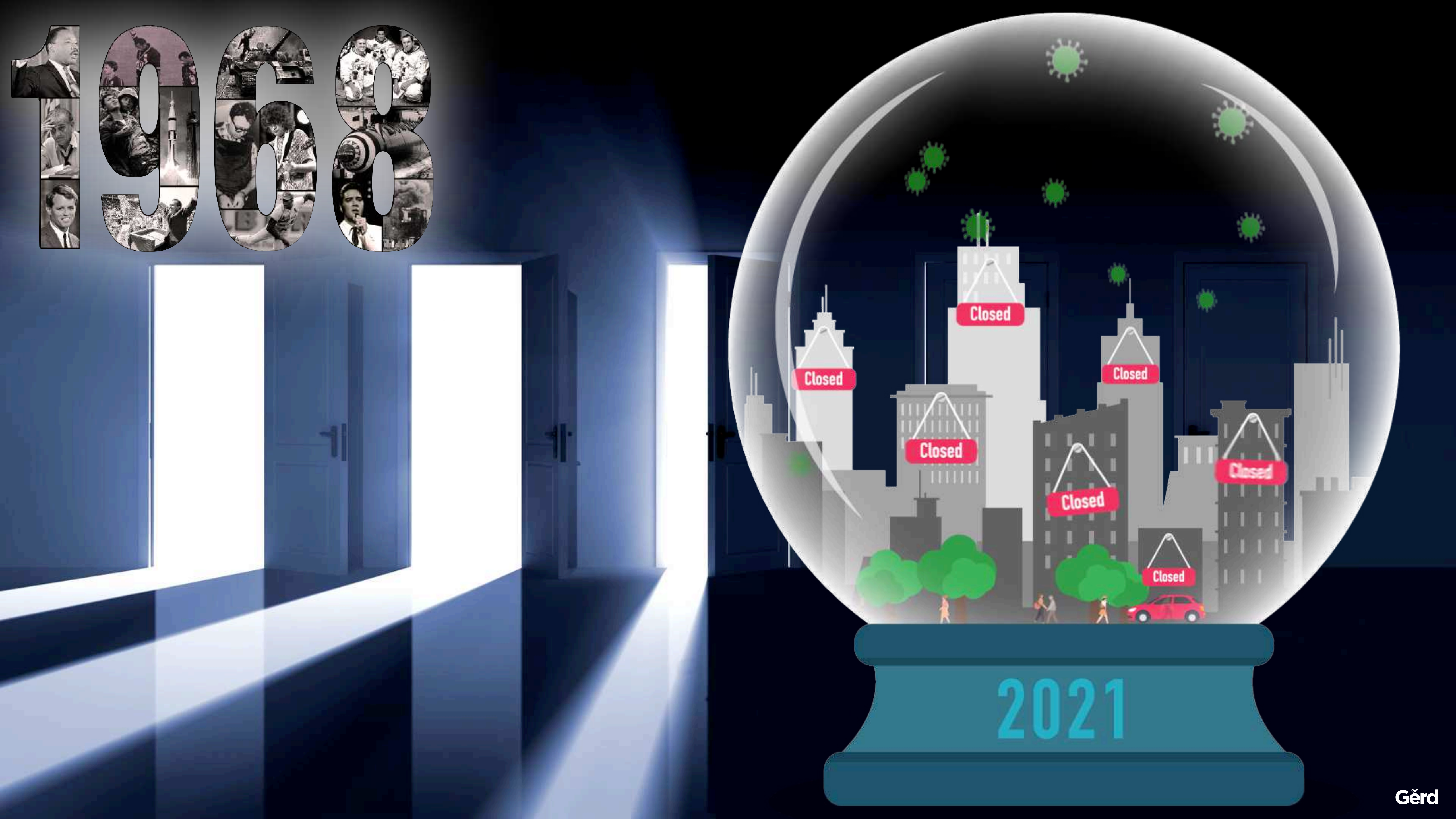
futuristgerd.com



thegoodfuturefilm.com



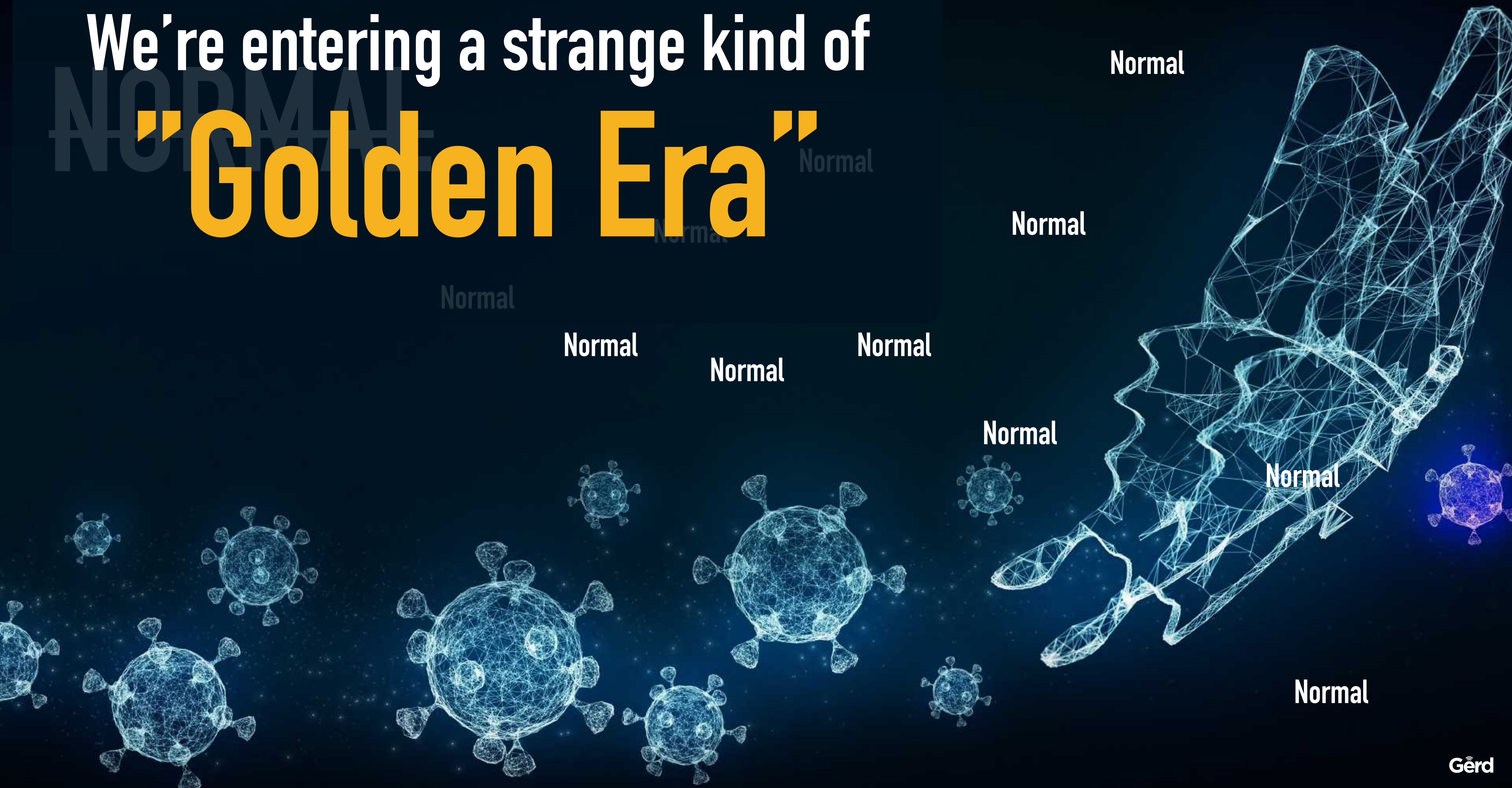
! ETORKIZUN ONA ?



1968

2021

We're entering a strange kind of "Golden Era"





**BUSINESS AS USUAL
IS DEAD
OR DYING**

BUSINESS AS USUAL
**IS DEAD
OR DYING**

THE GOOD FUTURE

3 Tickets to the 'Good Future'



DIGITIZATION



DECARBONIZATION



REFORMATION



Amazon Astro via Youtube

SCIENCE FACT



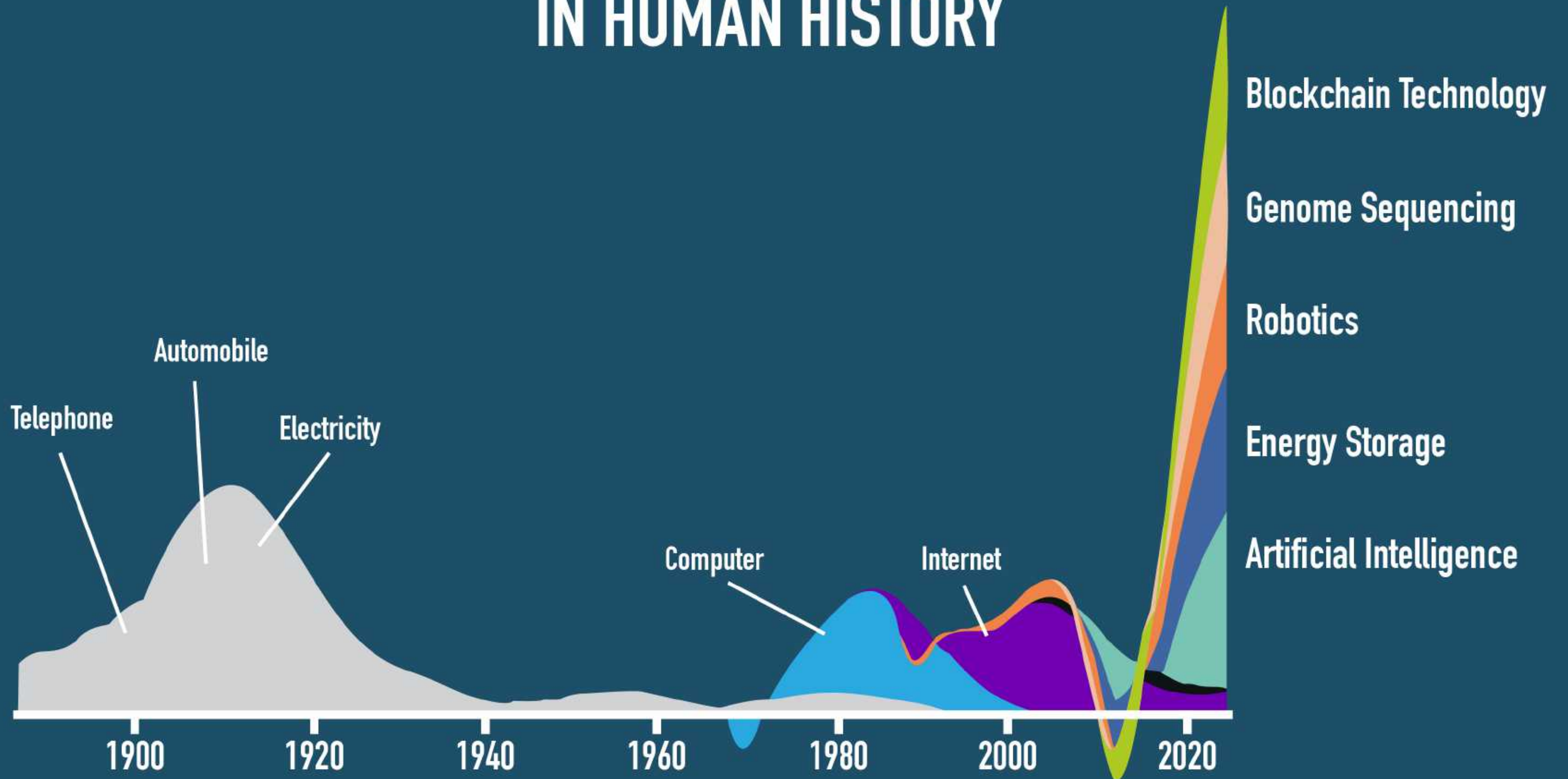
30 LINEAR steps will take you
30 meters from the starting point



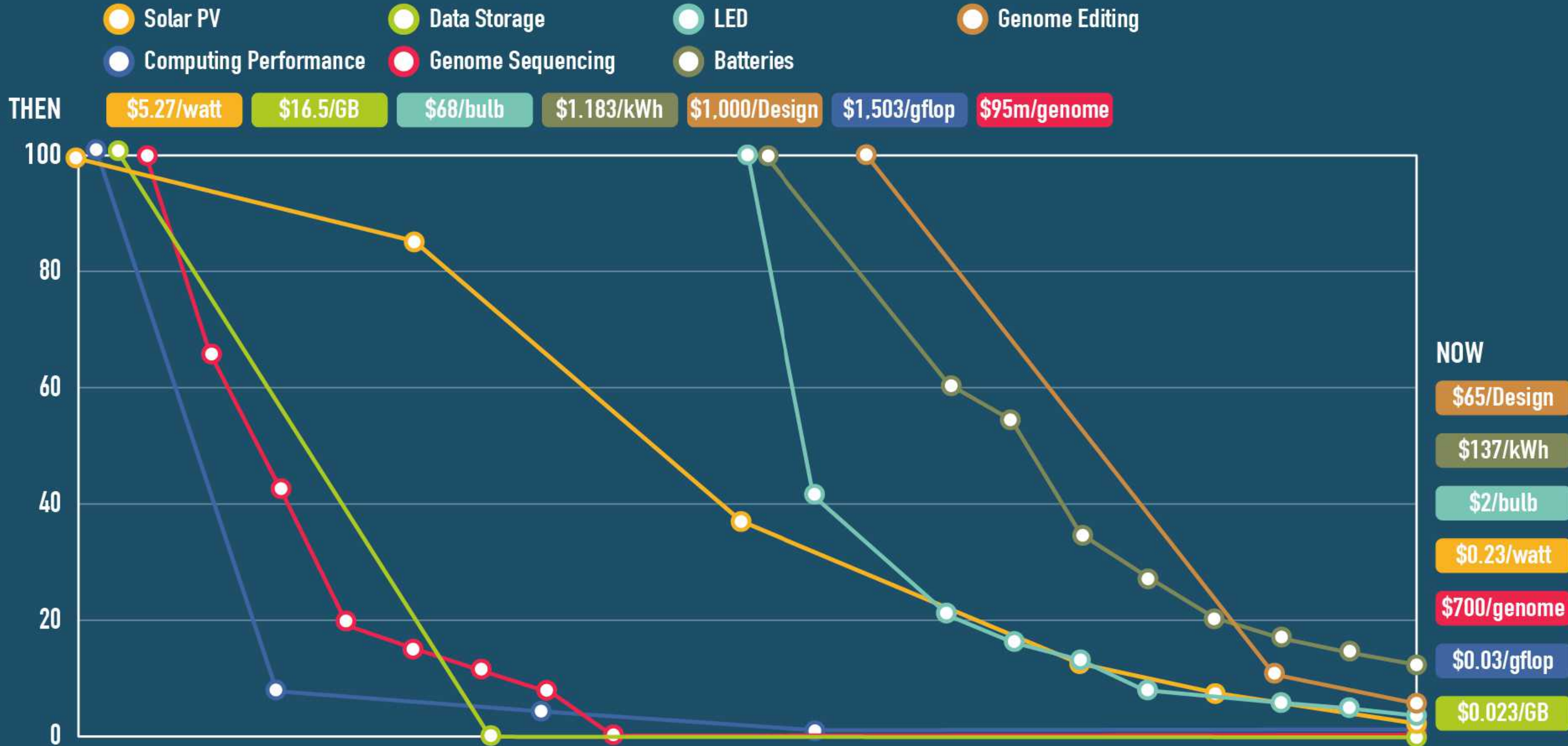
30 EXPONENTIAL steps will take you
26 trips around the world!



THE LARGEST TECHNOLOGICAL TRANSFORMATION IN HUMAN HISTORY



EXPONENTIAL COST REDUCTION TREND



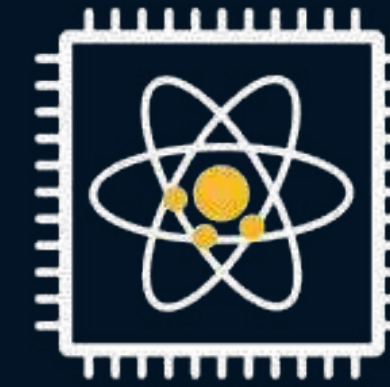
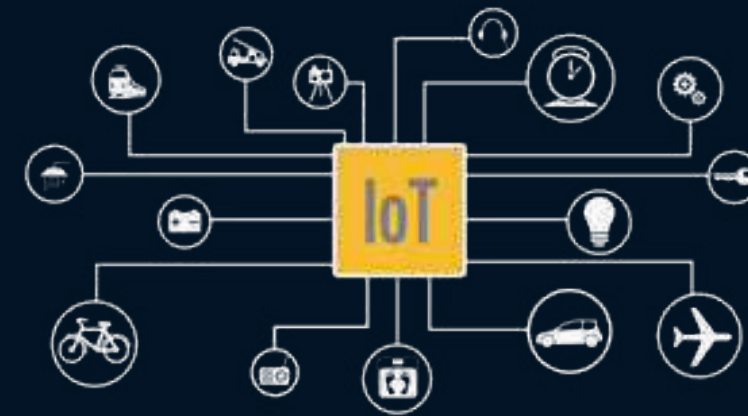


icón

Gêrd



It is the FRAMEWORK that is changing– not just the picture (A.Toffler): **The 10 Game-Changers**





Artificial Intelligence is the
NEW ELECTRICITY

Data (+Cloud + IoT): the **NEW OIL**

*but also the new PLUTONIUM

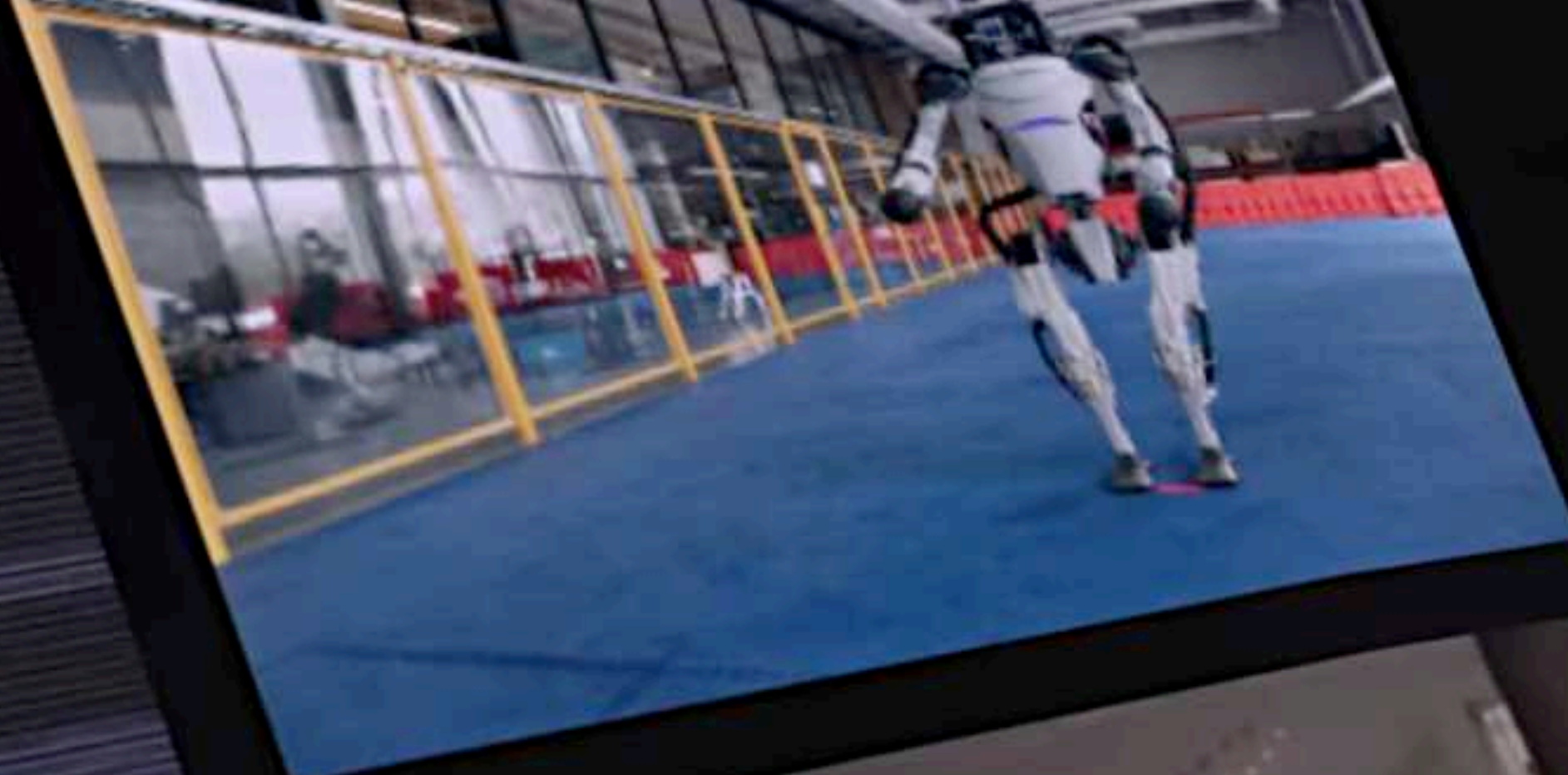


Voice Control is the new
INTERFACE



Virtual Reality (AR, MR) is the new
SENSES

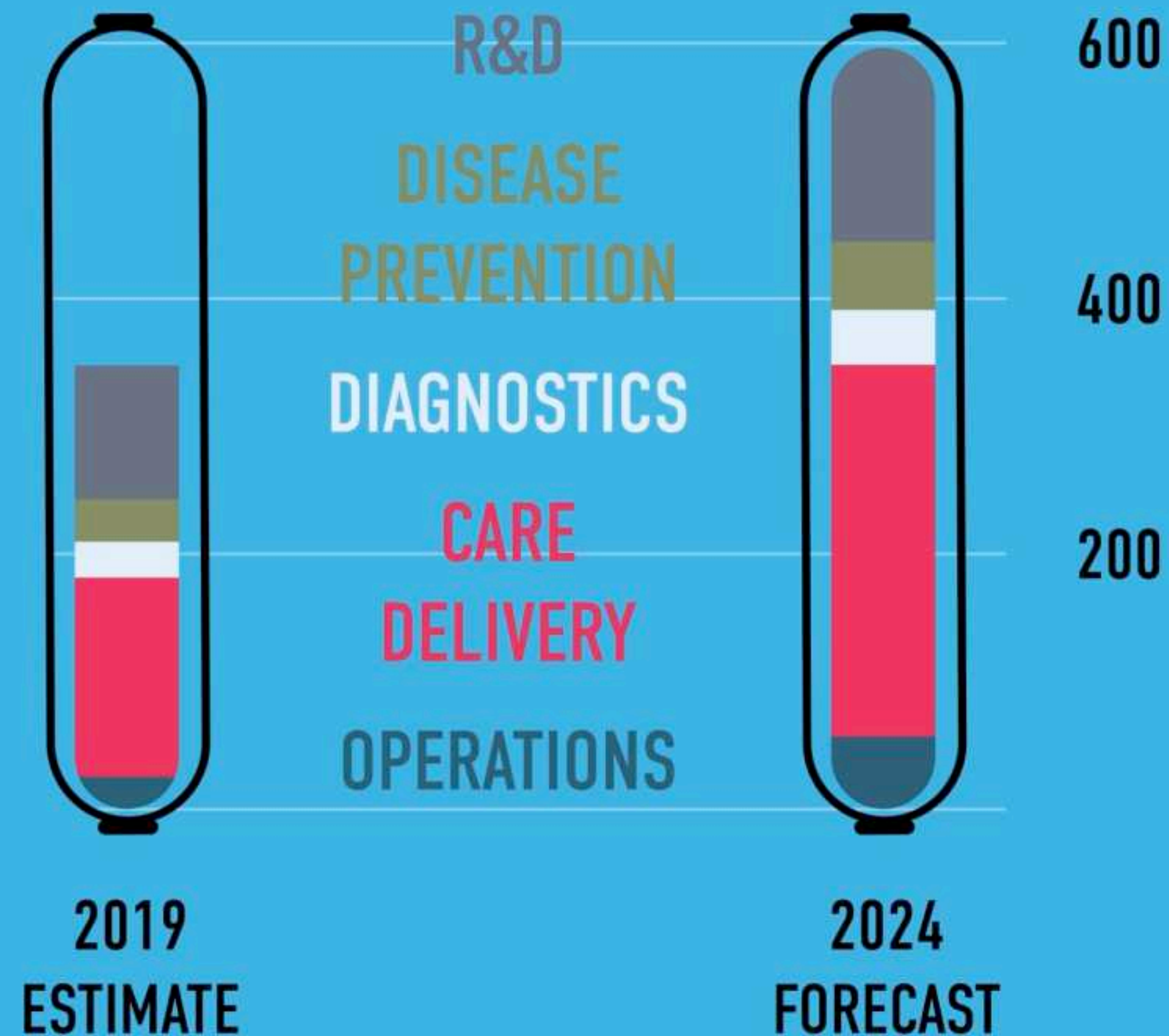




By 2020, this so-called "smart city" industry...



GLOBAL DIGITAL HEALTHCARE MARKET SIZE BY \$ BILLION



e^x

EXPONENTIAL



CONVERGENT

Technology Biology, Life-Sciences, Pharma and Healthcare



Less invasive diagnostics



Patient-facing mobile apps



Remote monitoring solutions



Digital platform integration



Surgical robotics tools



Ancillary services



Connected devices for home use



3D printing



AI



Smaller implants

FIVE MULTI-TRILLION DOLLAR INNOVATION PLATFORMS

CONVERGENCE ACCELERATES – INOVATION ADVANCES

Each of these platforms will create multiple trillions in market capitalization over the next decade, enabling further innovation.

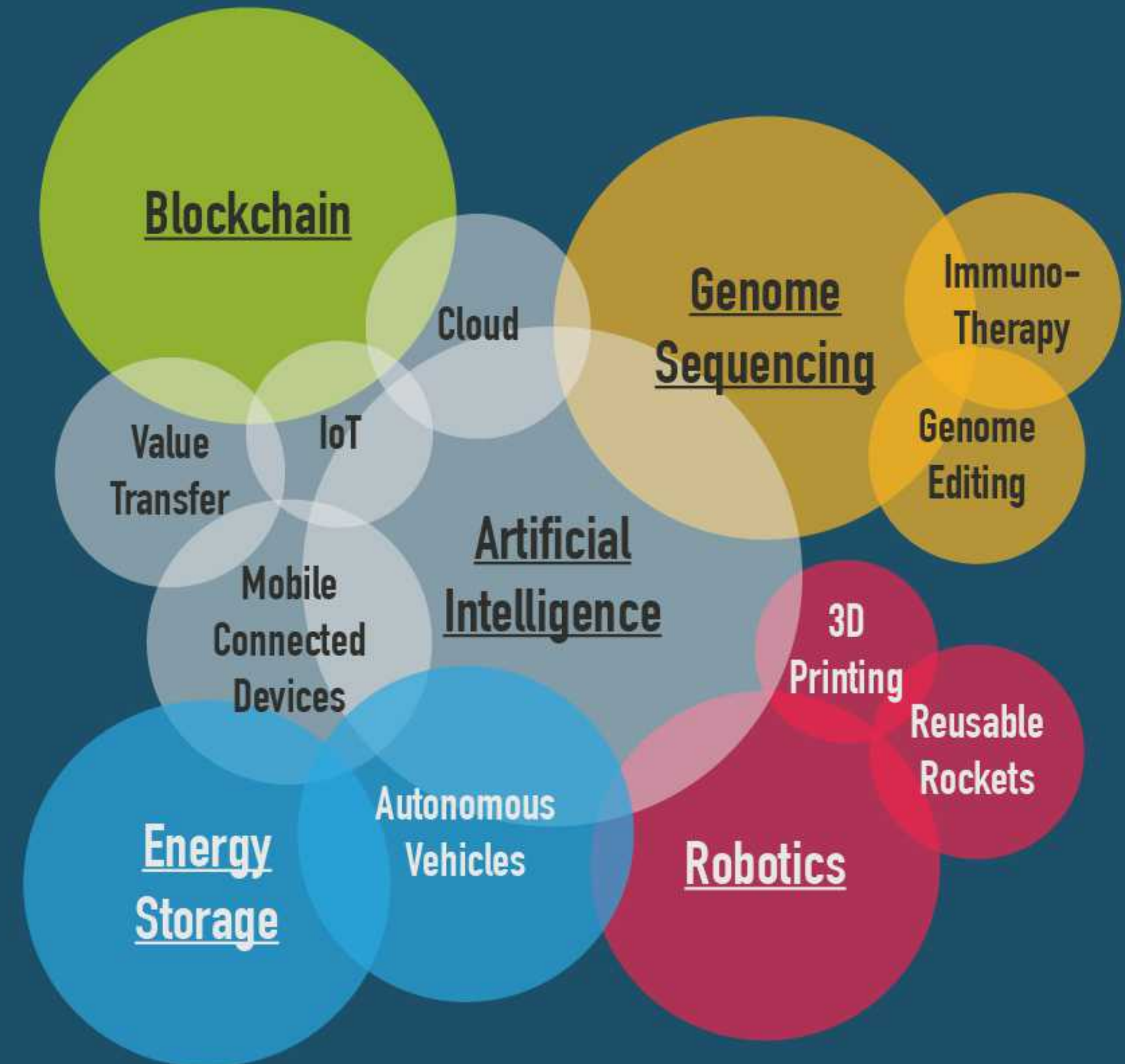
Blockchain Technology

Genome Sequencing

Artificial Intelligence

Robotics

Energy Storage



The 4th and 5th IR



Industry 1.0



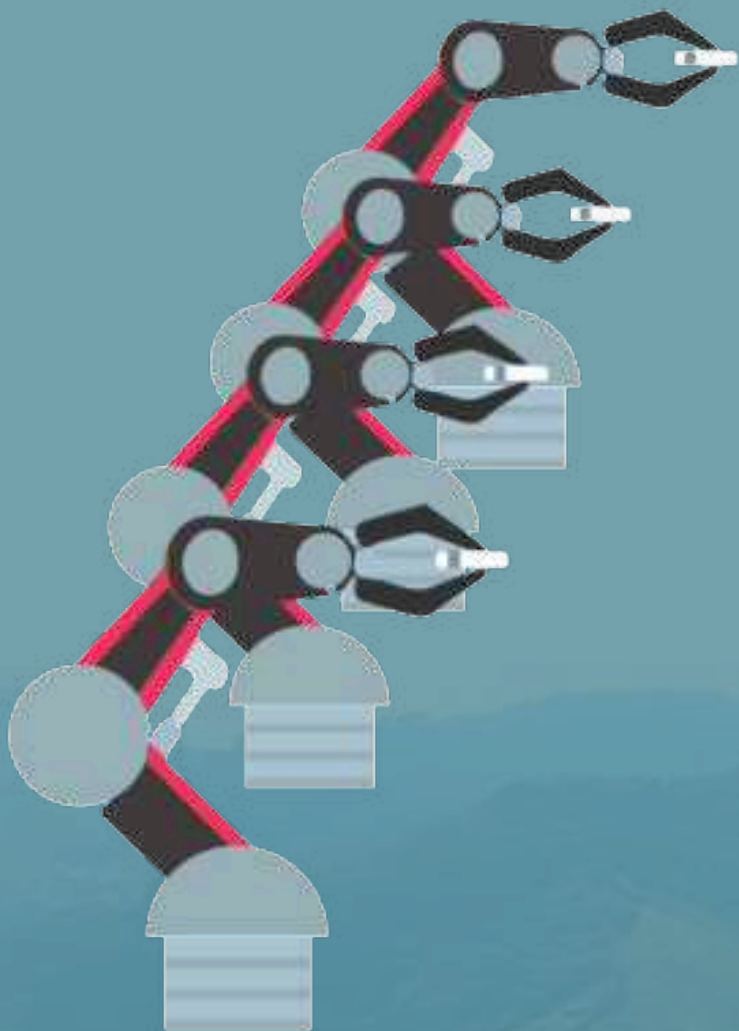
1784



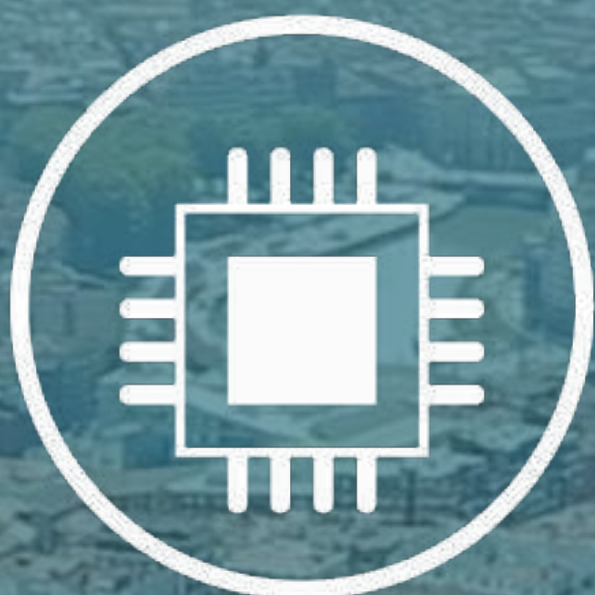
Industry 2.0



1870



Industry 3.0



1969



Industry 4.0



Today



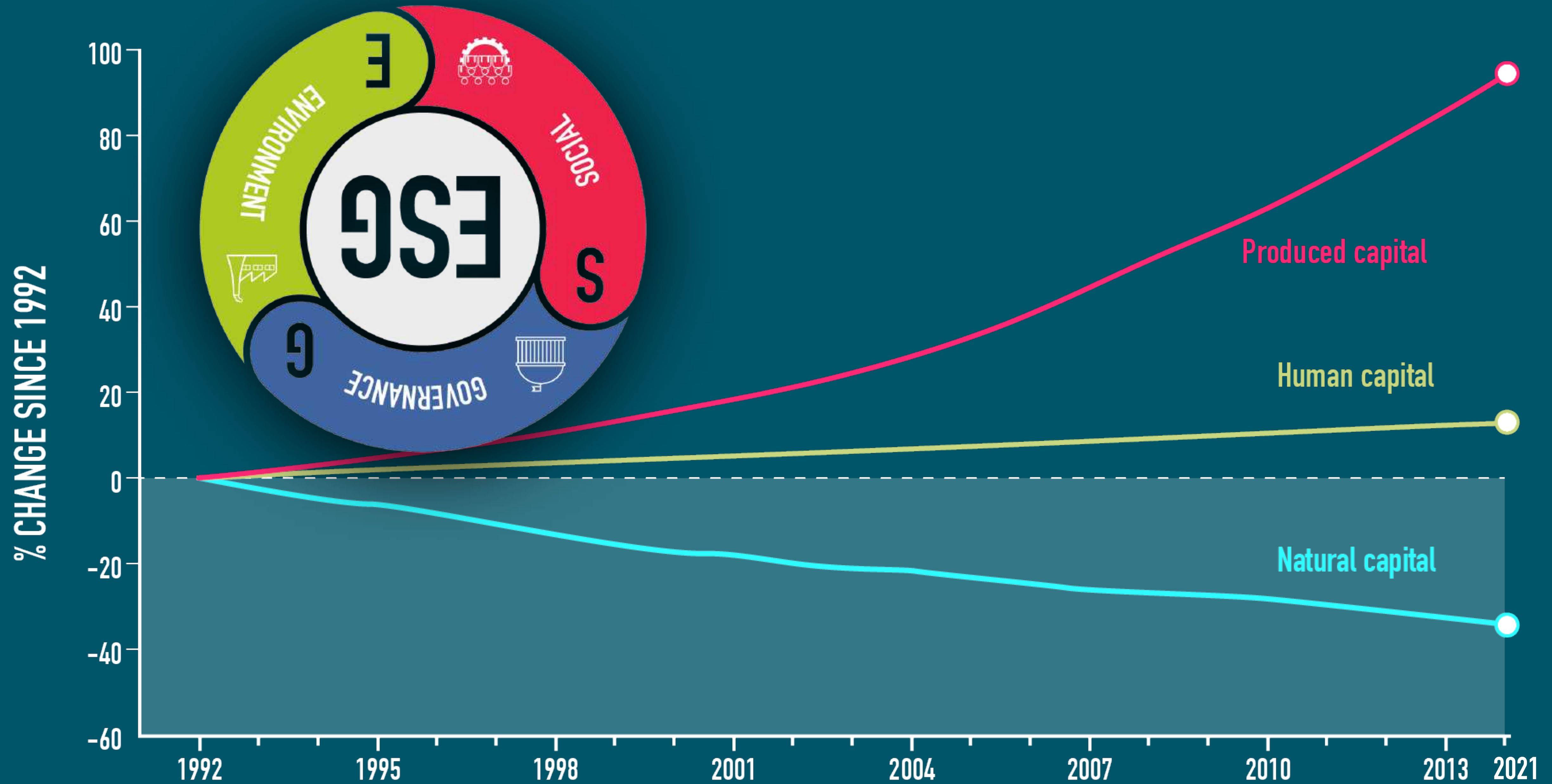
Industry 5.0



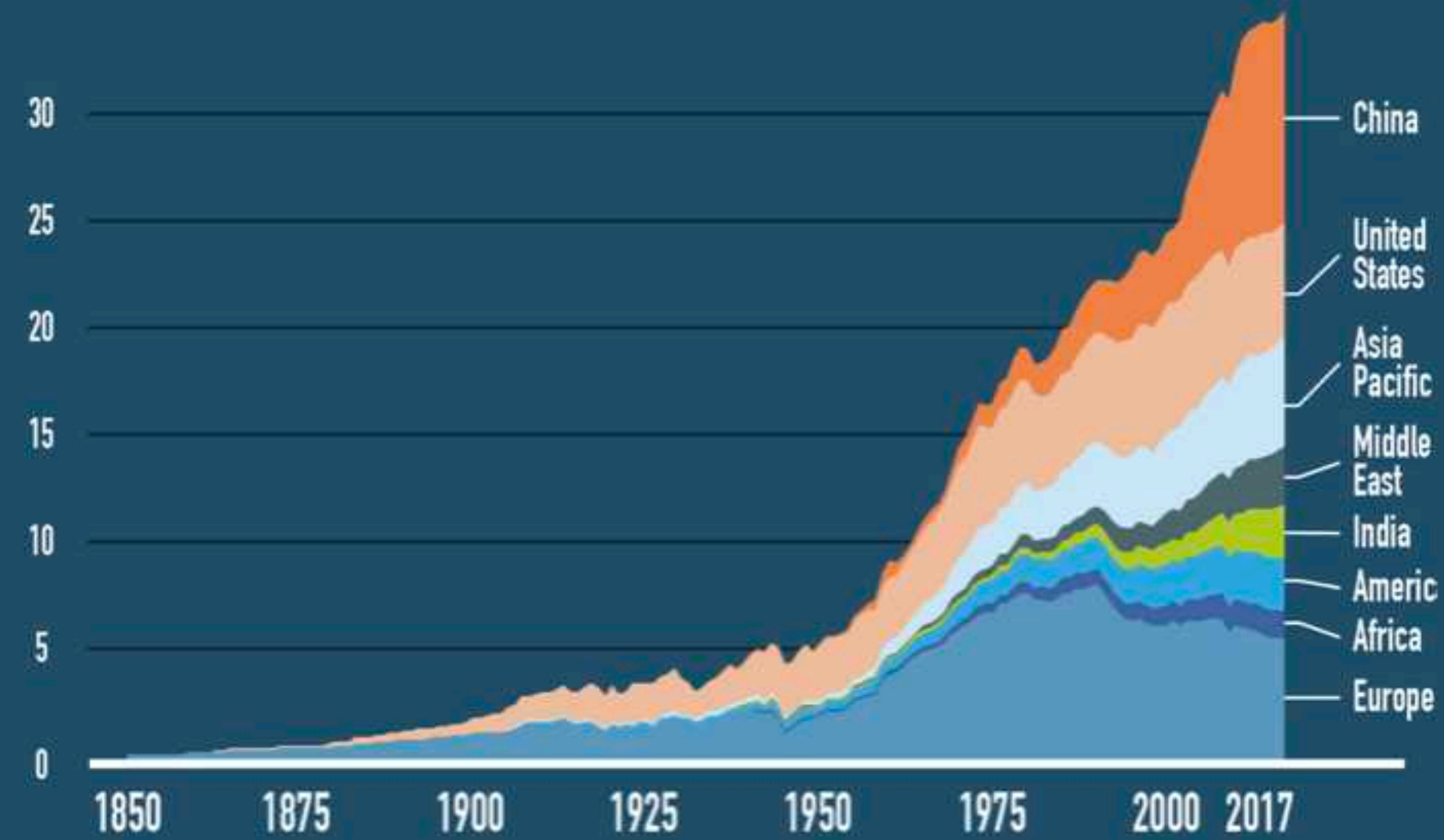
Covid19 is a **TEST-RUN** for climate change



GLOBAL CAPITAL STOCKS PER CAPITA

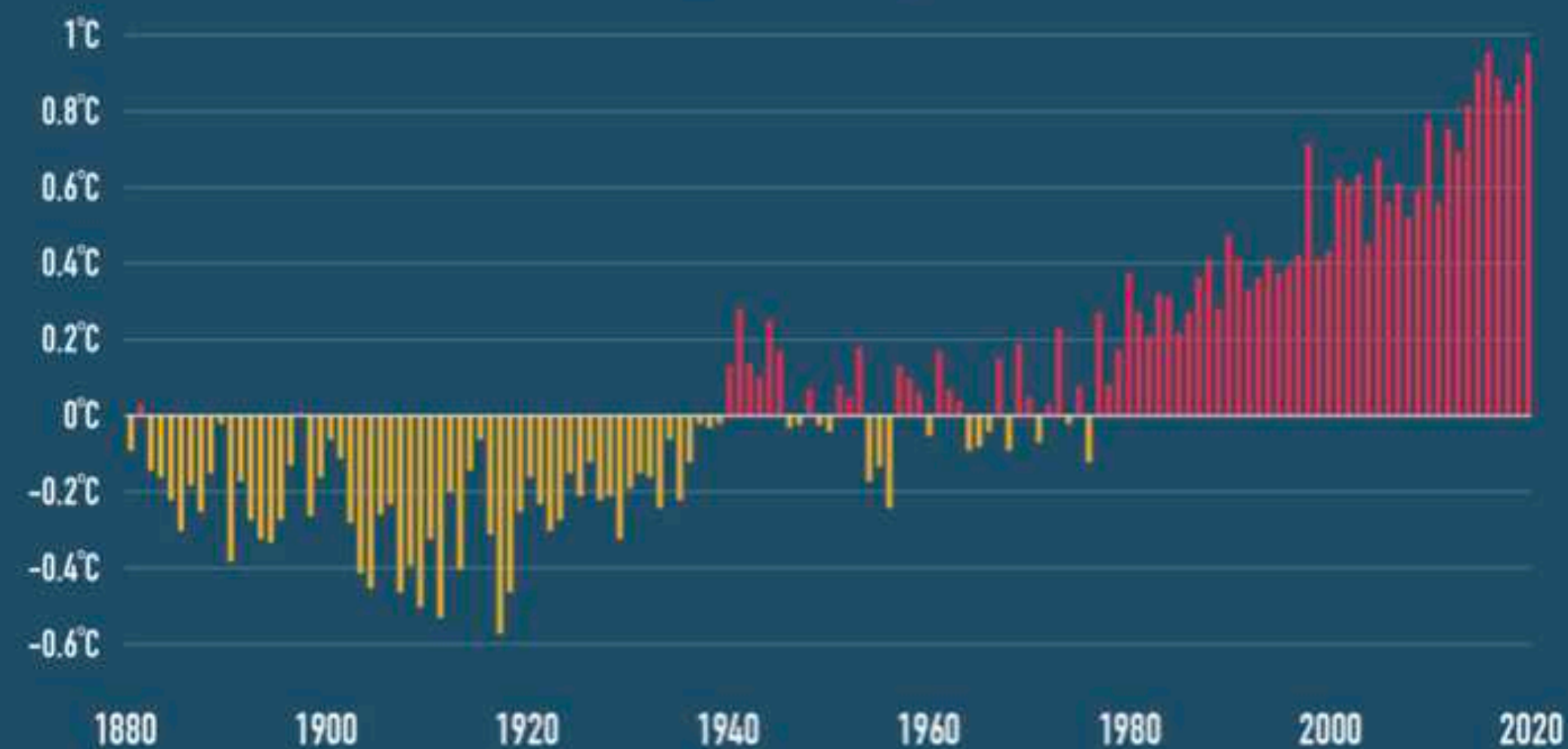


CO2 EMISSIONS - IN GIGATONES



Source: The Economist

GLOBAL LAND AND OCEAN TEMPERATURE ANOMALIES, 1880-2020



National Centers for Environmental Information, "Climate at a Glance"

PROFIT

GROWTH

CLIMATE ANXIETY

A SURVEY OF 10,000 YOUNG PEOPLE SHOWS THAT NEGATIVE FEELINGS ABOUT CLIMATE CHANGE CAN CAUSE PSYCHOLOGICAL DISTRESS

How Worried are you about climate change?

Source: Hickman, C. et al. Preprint



Climate change makes me feel...



PROFIT

GROWTH

ENVIRONMENTAL THREATS ARE AMONG SOME OF THE GREATEST BY LIKELIHOOD

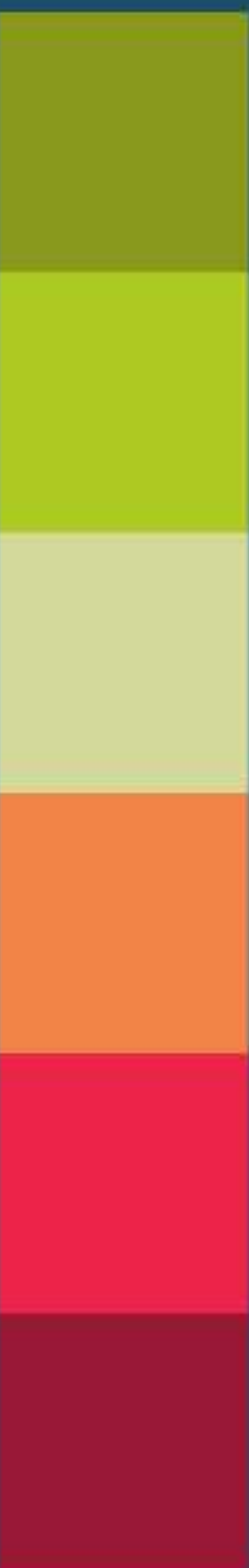
Top Risks by likelihood

- 1 Extreme weather
- 2 Climate action failure
- 3 Human environmental damage
- 4 Infectious diseases
- 5 Biodiversity loss
- 6 Digital power concentration
- 7 Digital inequality
- 8 Interstate relations fracture
- 9 Cybersecurity failure
- 10 Livelihood crises

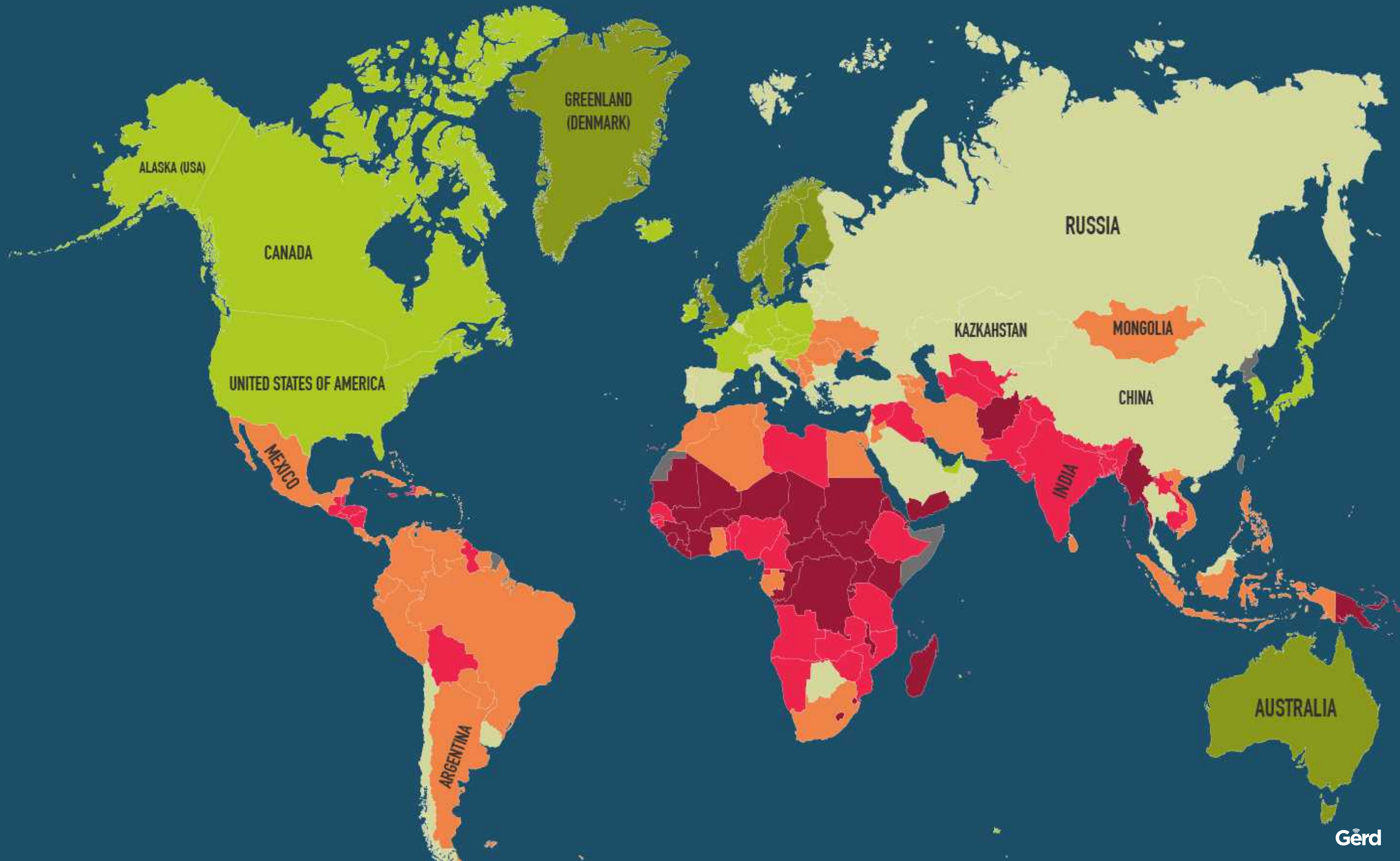
PROFIT

GROWTH

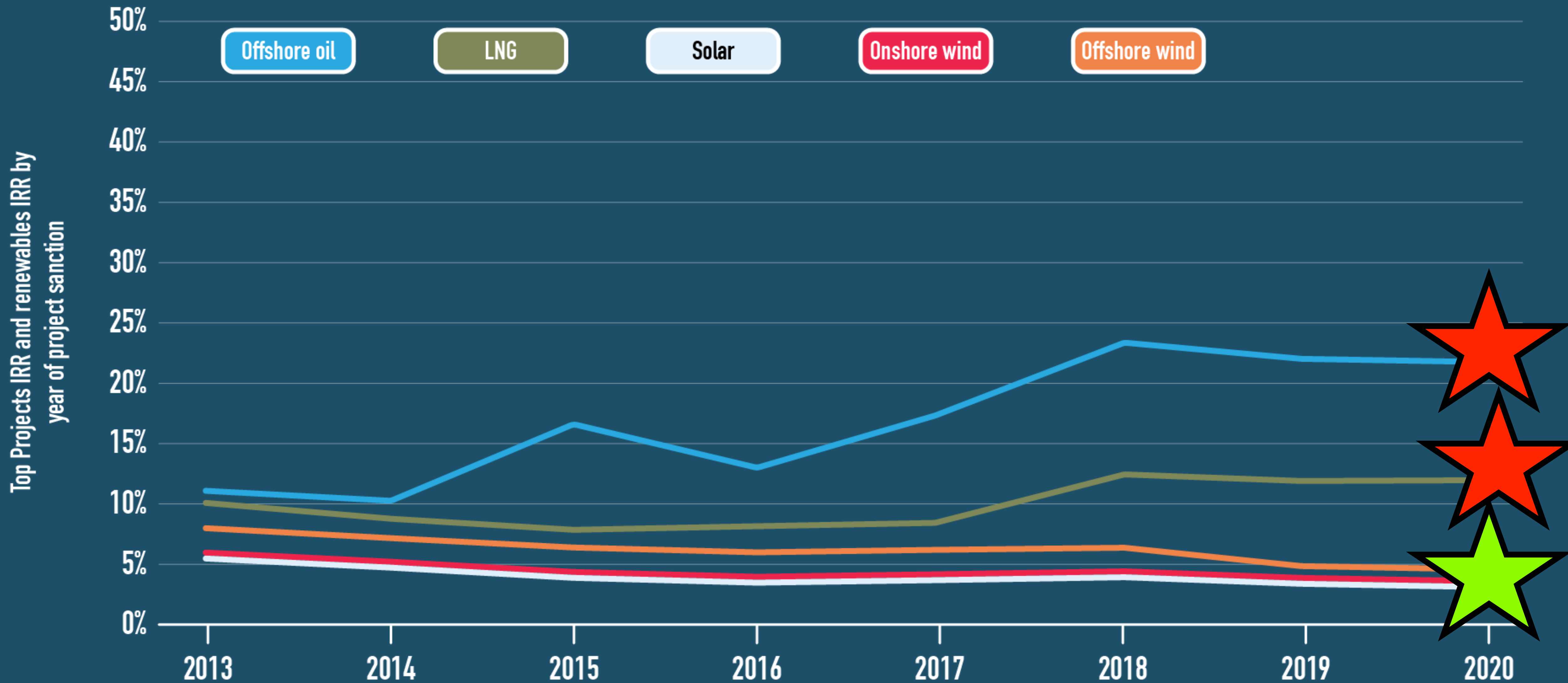
Least
at risk



Most
at risk



BIFURCATION OF COSTS FOR HYDROCARBON VS RENEWABLES



‘Sustainable Everything’ is no longer an ideology – It’s **humanity’s business plan.**



The Sustainability **REVOLUTION** is here: Big Blue + Big Green's Warp-Drive Effect

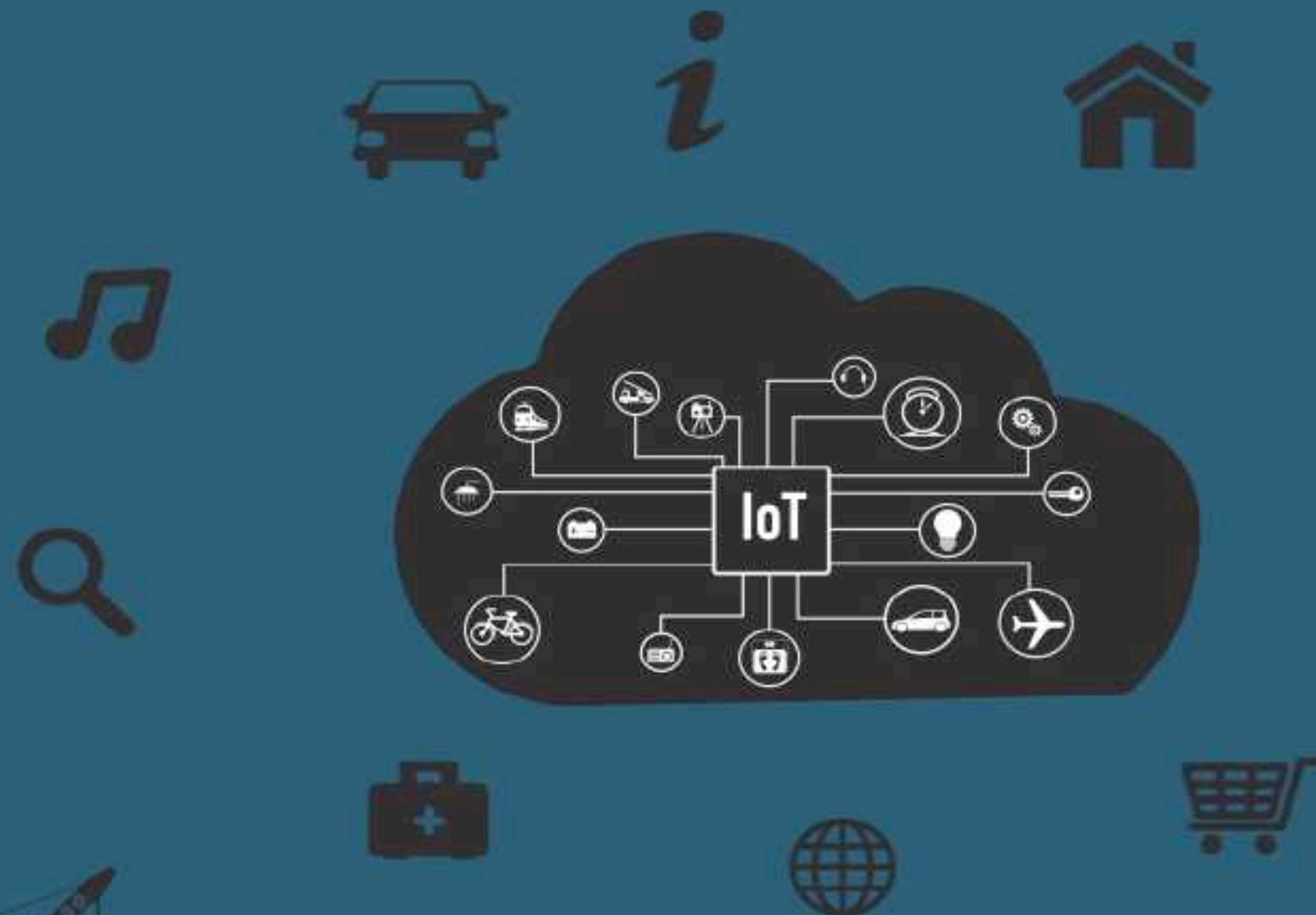
SUSTAINABLE EVERYTHING



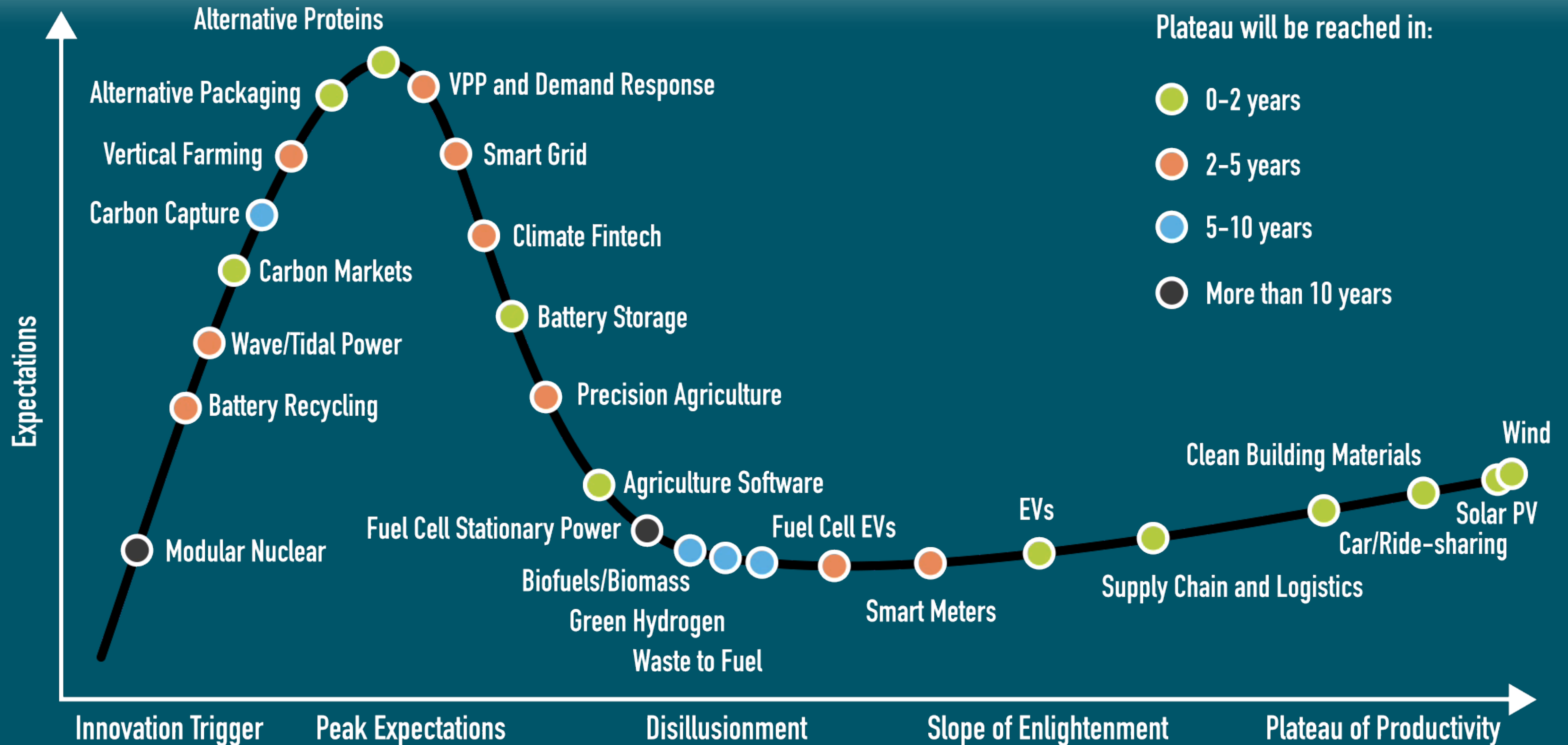
NETWORKED EVERYTHING
CLOUD EVERYTHING

SMART EVERYTHING

DATA EVERYTHING

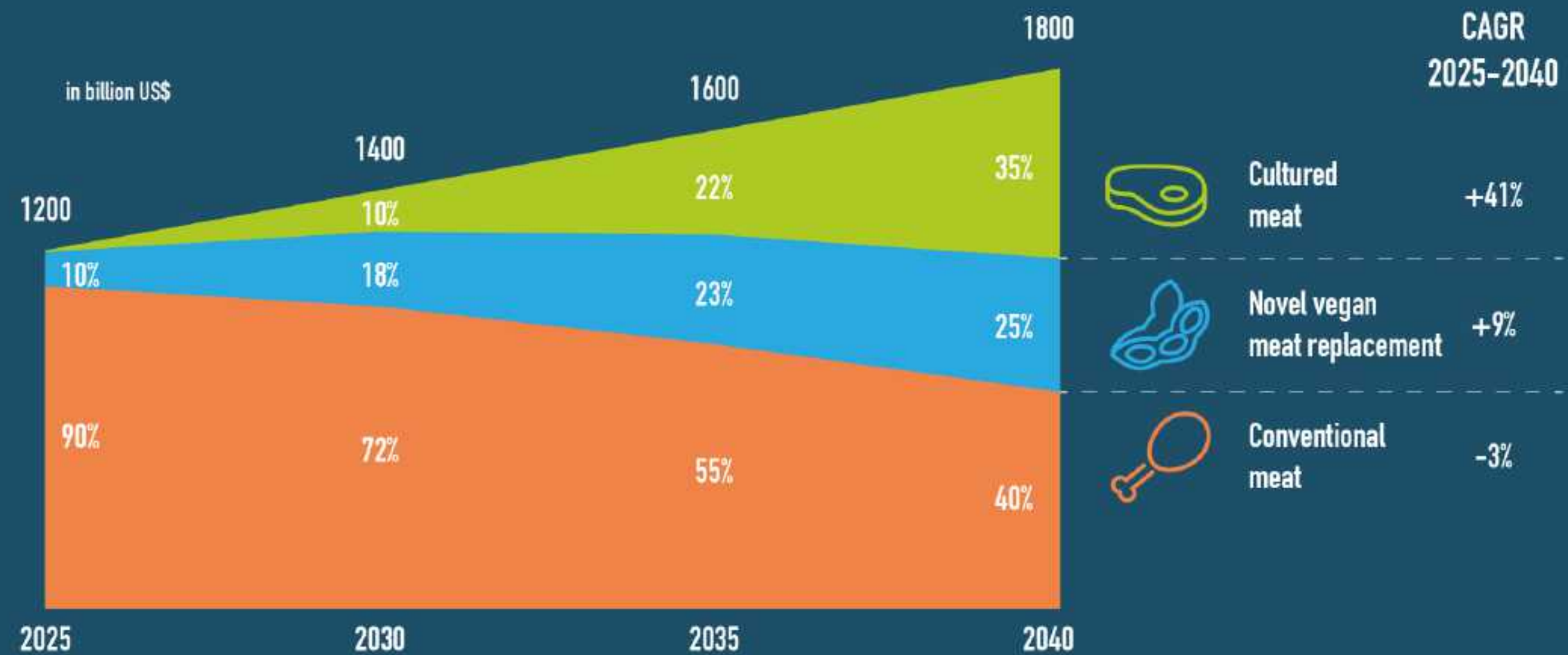


GREEN IS THE NEW DIGITAL!



Source: Exponentialview.co

GLOBAL MEAT CONSUMPTION



Source: United Nations, World Bank, Expert interviews; A.T. Kearney analysis

Gêrd

Gêrd

At McKinsey, Widespread Furor Over Work With Planet's Biggest Polluters

A letter signed by more than 1,100 employees has called for change at the consulting firm, which has advised at least 43 of the 100 most environmentally damaging companies.

Oct. 27, 2021, 5:00 a.m. ET



Beef Industry Tries to Erase Its Emissions With Fuzzy Methane Math

A new campaign asserts, incorrectly, that cows in the U.S. "may not be contributing much at all to global warming."

More stories by Ben Elgin · 19 October 2021, 12:00 CEST

Coca-Cola, Pepsi and Unilever are world's biggest plastic polluters

Monday, 25 October 2021



Big tech's pro-climate rhetoric is not matched by policy action, report finds

Laura Paddison



Historical climate emissions reveal responsibility of big polluting nations

Six of top 10, including China and Russia, yet to show ambition on emissions cuts before Cop26

Damian Carrington



Some airlines risk failure if they do not cut emissions faster - industry report

Wed, 27 October 2021, 5:04 am



CoP 26: World is on the line at Glasgow

ExxonMobil has spent more than \$39 million to manufacture doubt about climate science



Big Tech says it wants to solve climate change. Its lobbying dollars say otherwise.

Big Tech is losing the climate lobbying war to Big Oil.



Saudi Arabia Pledges 'Net Zero' Carbon Emissions by 2060

Goal doesn't include emissions from the massive amounts of oil the kingdom exports to other countries

Updated Oct. 24, 2021 3:14 pm ET

15 TRANSITIONS IN THE THREE SOCIO-ECONOMIC SYSTEMS COULD DELIVER \$10.1 TRILLION OF ANNUAL BUSINESS OPPORTUNITIES AND 395 MILLION JOBS BY 2030



Food, land and
ocean use



Infrastructure and the
built environment



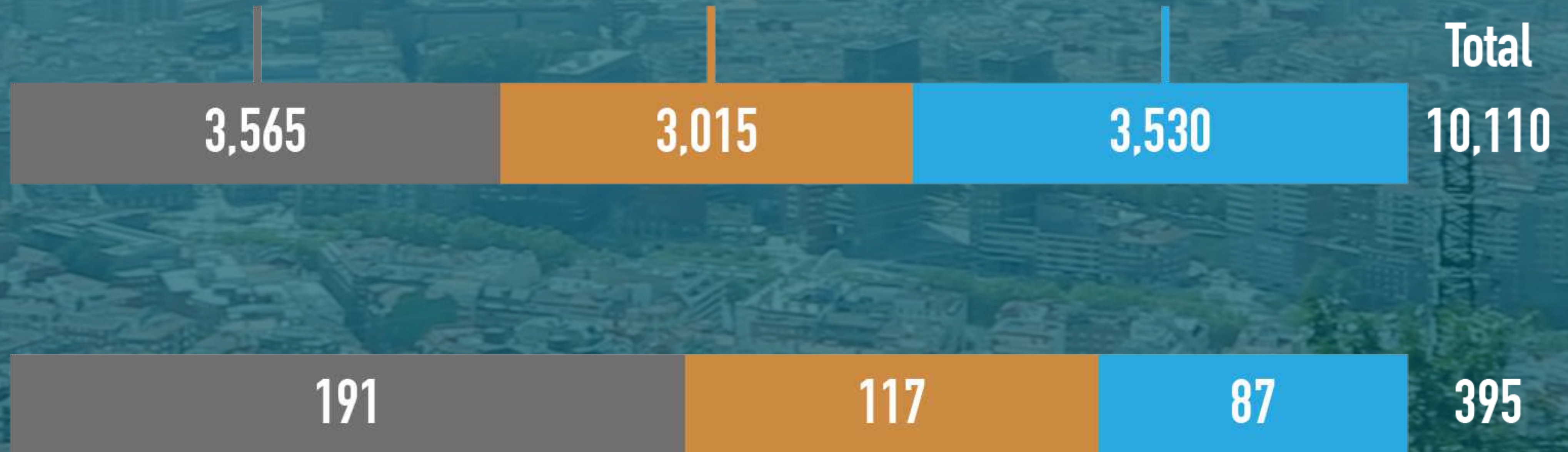
Energy and
extractives

Total business
opportunities by
system in 2030

US\$ billions

Total jobs by
system in 2030

Millions



New Normals?

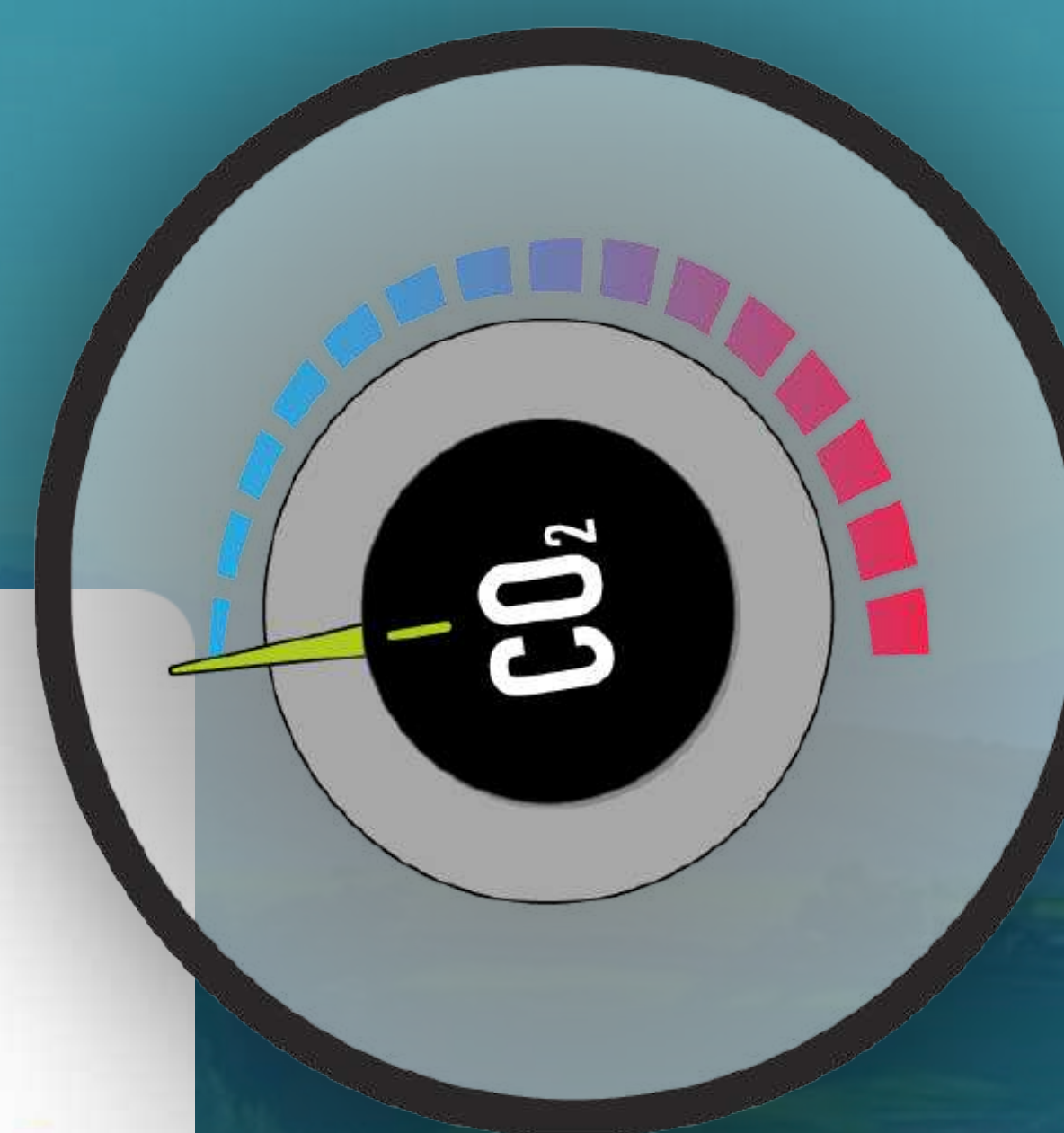


DIGITIZATION

What do we export?

More than half of our exports are of a high or medium-high technological level

By economic sectors, exports from the Basque Country are concentrated in capital goods, semi-manufactured goods and the automotive industry, with 80% of the total.



DECARBONIZATION

Some 2030 foresights



- 9 Billion people hyper-connected, everywhere (selling & buying globally with digital currencies)
- Deep convergence of digital/virtual and the physical world (VR, AR, MR, Holograms, The Metaverse?)
- The end of coal, then oil & gas, moving towards energy abundance (renewables, nuclear fusion?)
- Sustainable and circular EVERYTHING: cars/transport/mobility, shipping, tourism, ICT, (air-travel?)
- Governments, local and global organisations take very proactive roles in future-design/foresights
- Green is the new digital, and sustainable becomes the new 'successful'

We're at **THE** FORK IN THE ROAD



We're at **THE** FORK IN THE ROAD





DEHUMANIZATION



**NEW ECONOMIC
LOGIC**

**CLIMATE
CHANGE**

COVID-19



UNTHINKABLE

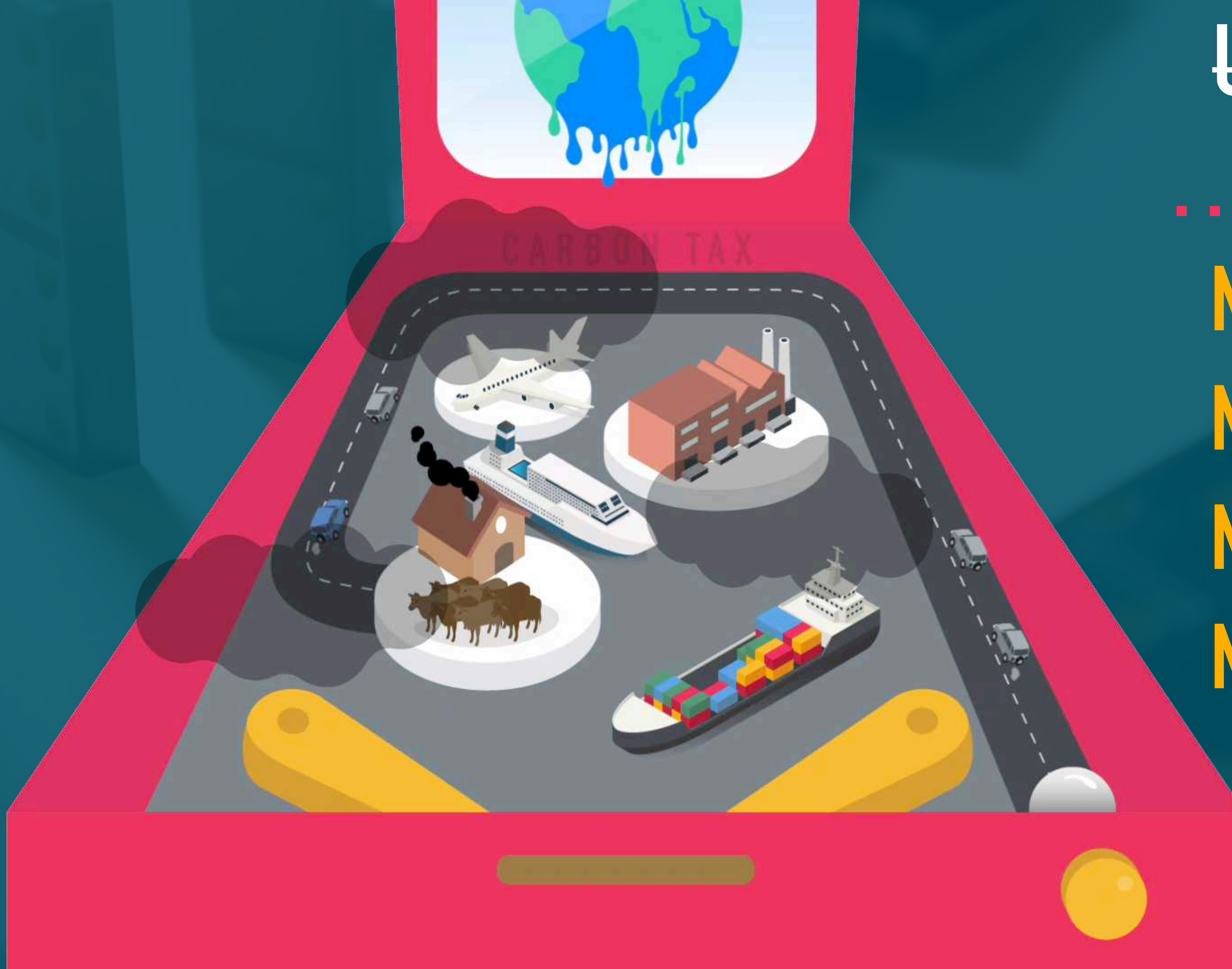
...NEW NORMAL

New Paradigms

New Priorities

New Narratives

New Rules



New Paradigms
New Priorities
New Narratives
New Rules

PROFIT
GROWTH

PEOPLE

PLANET

PURPOSE

PROSPERITY

PEOPLE
PLANET
PURPOSE
PROSPERITY

'Critical': Mark Carney launches Net Zero Financial Services Providers Alliance

Eighteen organisations spanning breadth of financial service industry form financial sector's newest climate-focused coalition



Government must support waiver of Covid vaccine patents

Intellectual property rules are currently blocking vaccine production

Christine Kelly • Fri, Sep 24, 2021, 06:00

Just Capital CEO Martin Whittaker believes good things will happen

Whittaker describes how business can turn idealism into purposeful reality.

by Betsy Kim



The Pandora Papers and the threat to democracy

by Katharina Pistor on • 12th October 2021

In demonstrating how some of the world's most powerful people hide their wealth, the Pandora Papers have exposed the details of a global system.

Let's Talk Tax Havens: The EU Blacklist And The Pandora Papers

Tax Notes Staff • 02:29pm EDT



Government urged to back vaccine patent waiver as protesters march on Downing Street

Ministers' current position is 'morally obscene' and 'short-sighted', says Global Justice Now

Rory Sullivan • 1 day ago



Government told COVID vaccine patent waiver threatens global inoculation



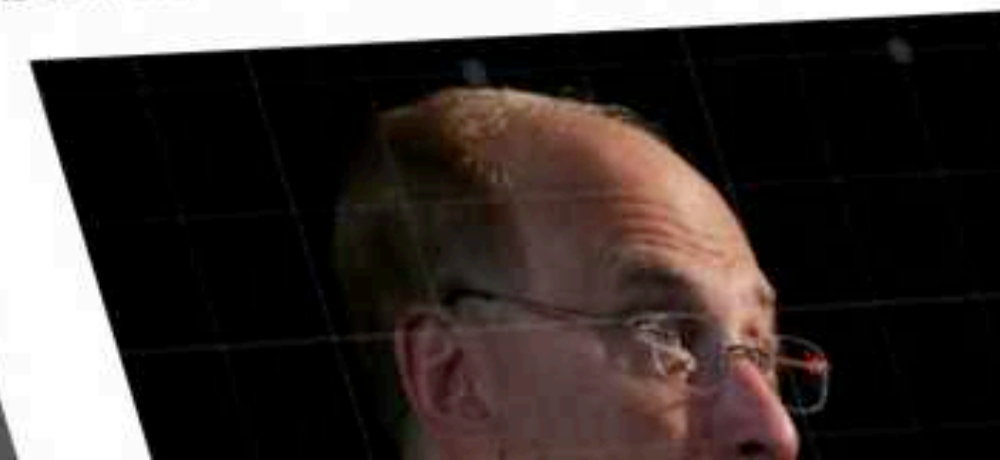
Hundreds of CEOs, celebrities, corporations join forces to oppose 'discriminatory' voting legislation

In addition to big companies and their leaders, the statement's signatories include major law-firms and nonprofits.

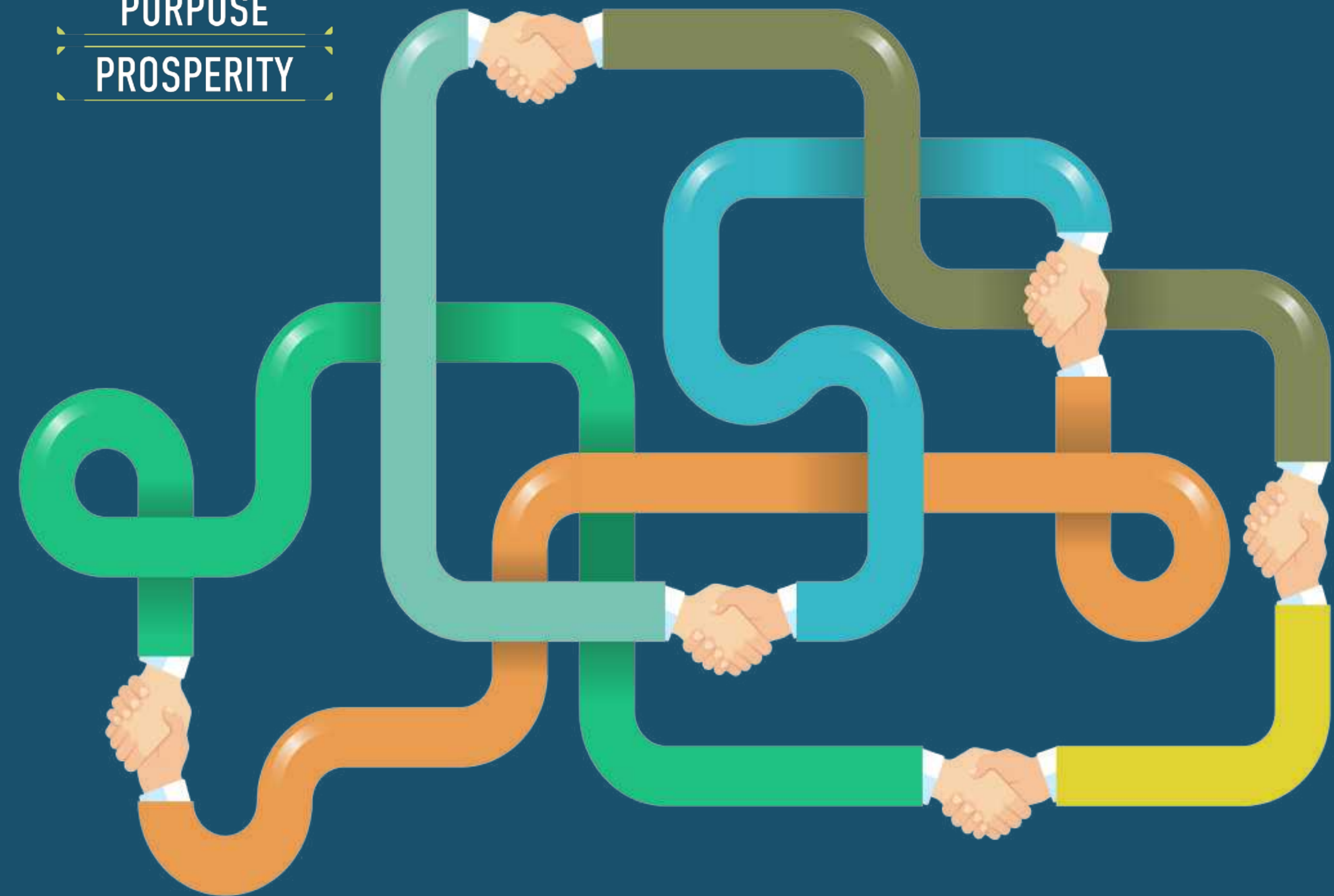
Jane C. Timm is a senior reporter for NBC News. • April 14, 2021, 2:39 PM CEST

Larry Fink says pledges from large public companies won't get us to net zero

The BlackRock chief executive sees a big gap opening up between the commitments of large public companies and banks and the rest of society as inflation hits.



PEOPLE
PLANET
PURPOSE
PROSPERITY



UNITED STATES
OF EUROPE





New Zealand

Germany

Iceland

Finland

Denmark

Sweden

Taiwan

Bangladesh

Singapore

Nepal

Ethiopia

Namibia

Bolivia

Georgia

Estonia

Lithuania

Technology drives our societies but ETHICS define it



ETHICS is knowing the
difference between doing
what you have the right (or the
power) to do and what is the
RIGHT THING TO DO

TECHNOLOGY HAS NO ETHICS

Exponential Technologies: Too much of a good thing can be a very bad thing!

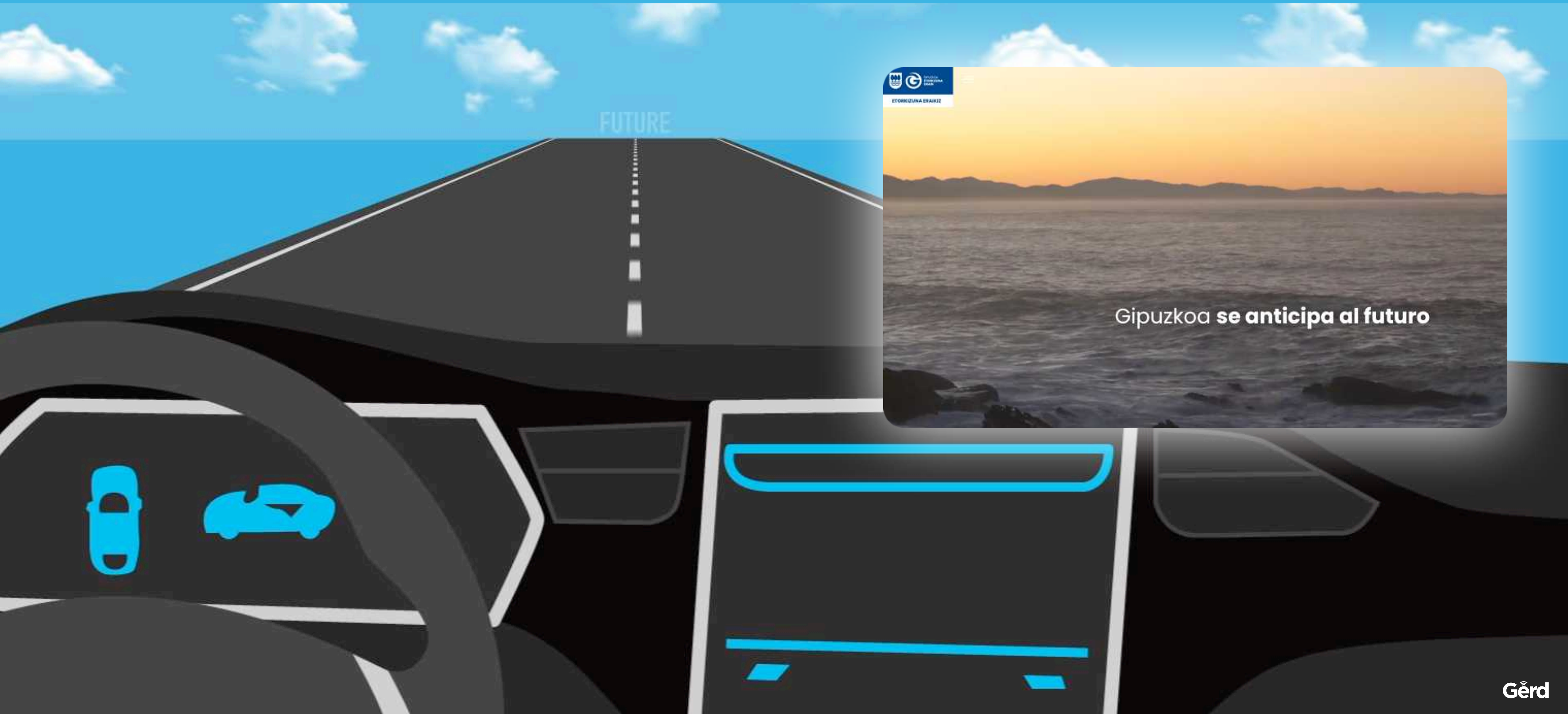


~~'What will the future bring'?~~

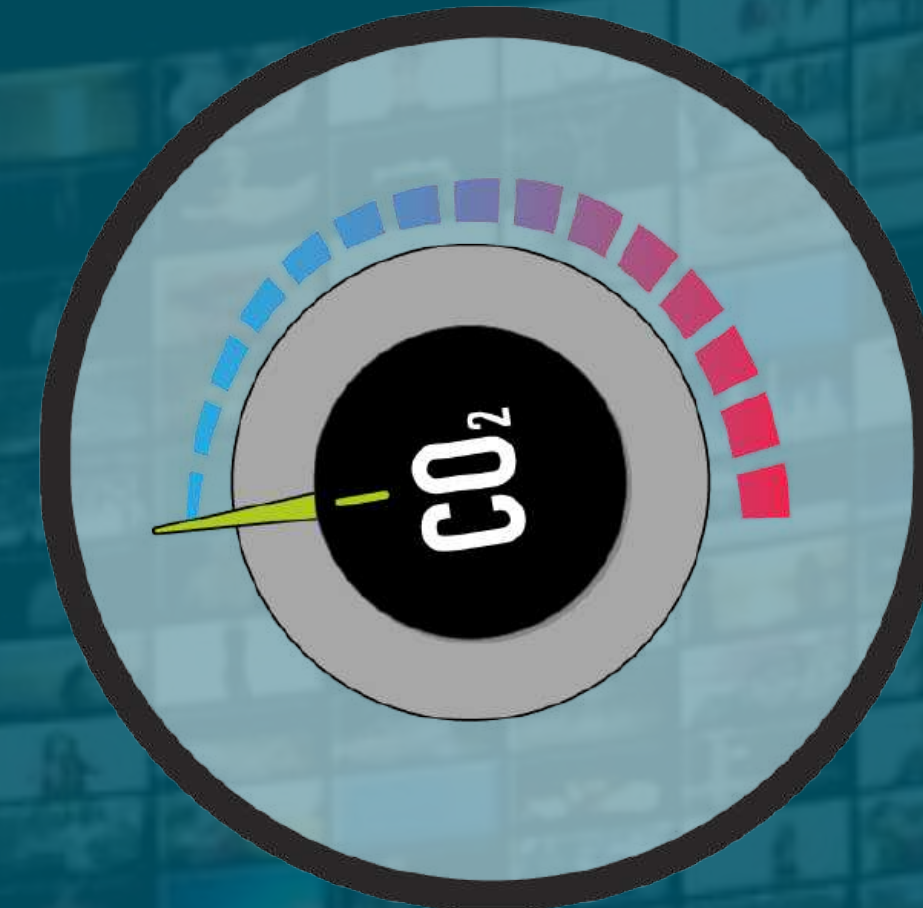
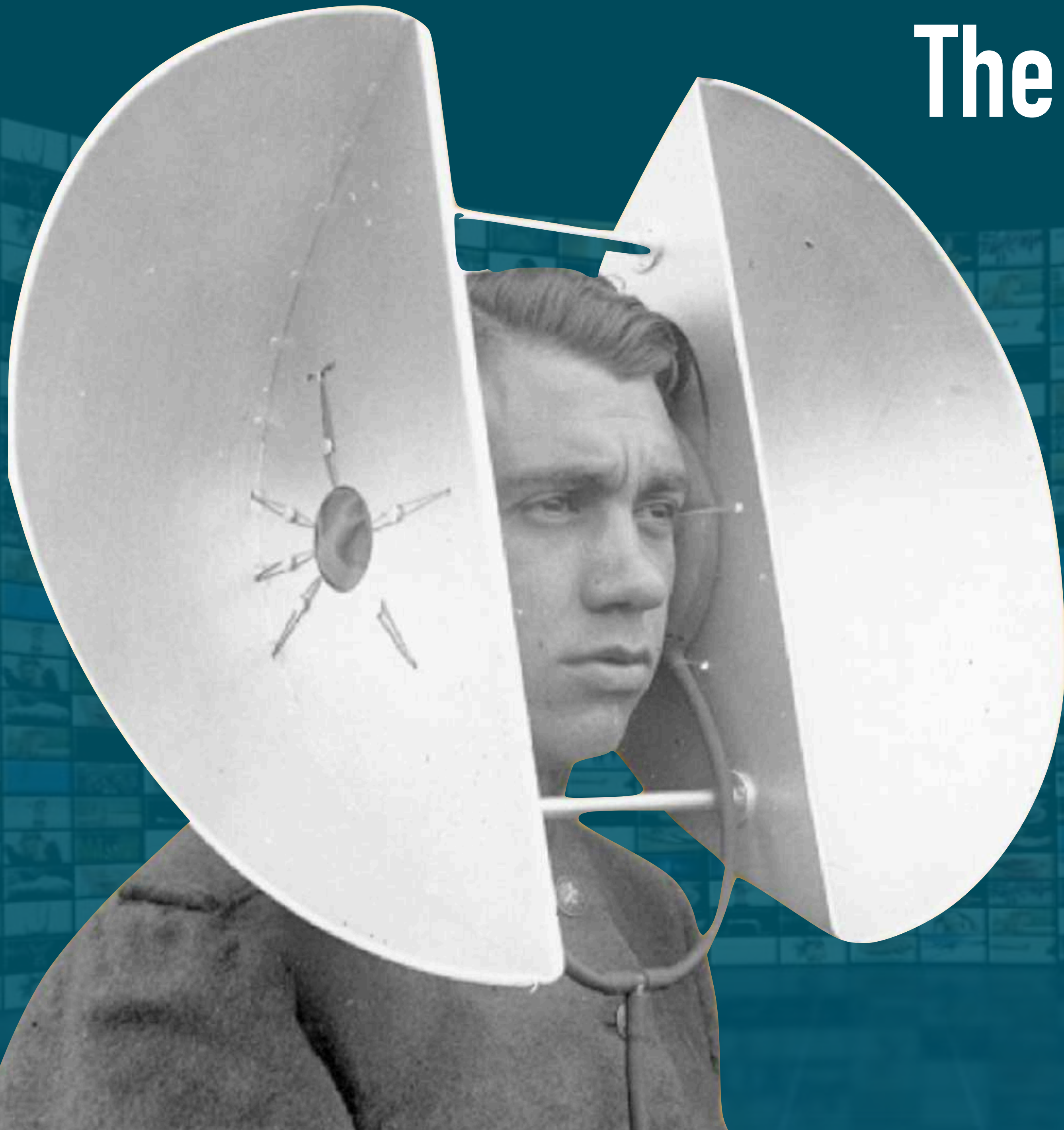
**WHAT KIND OF FUTURE DO
WE WANT FOR OUR
CHILDREN?**



The Future is no longer a time-frame: it's a **MINDSET**



The Future Mindset



DECARBONIZATION



DIGITIZATION



REFORMATION

**The Future
belongs to
those that can
hear it coming!**



EMBRACE TECHNOLOGY BUT DON'T BECOME IT!



Thanks for your time and attention!

Live long and prosper

Luze eta oparo bizi

myndura
2021 begira

Gerd Leonhard
Futurist & Humanist

