## **WORKINGFUTURES** scenario planning stories

#### THE PROJECT »

We're building a collection of short science fiction stories that illustrate possible near-future scenarios, with a focus on what **work** will be like in 15 to 25 years.

#### THE STORIES »

Each story should inspire the reader to think about the trends, ideas, and concepts that shape a possible "future of work" scenario. This could mean focusing on an individual doing a new or transformed job unique to that future, or painting a broader picture of a society in which the whole idea of "jobs" has radically changed — or both, or something in between!

One key goal is to avoid pure "dystopia" settings. While the stories can and should explore the challenges, conflicts, and hardships of a given scenario, we also hope to highlight new opportunities and benefits, and the ways people are using the tools available to them to shape their lives and their futures.

#### **THE SCENARIOS** »

In April, we hosted a special scenario-planning game to identify and outline possible futures that present compelling questions about work. Each scenario is based around a set of social, technological and economic forces that shape it. In addition to these driving forces, each of the attached Scenario Outlines lists some of the changes and challenges a given future might bring, and some of the possible news headlines that might typify it.

The goal of the summaries is to paint a basic picture of the scenario for a story to explore, but they do not need to be followed exactly, nor do the stories need to touch on every point they include.

#### **TARGET AUDIENCE »**

We want to create a collection of accessible, entertaining stories that anyone can read — but we will also be engaging policy makers and business leaders who are interested in the future of work. Consider these stories to be for a mass audience while also presenting an opportunity to influence serious thinking and discussion around these ideas and what they mean for society.

## workingfutures scenario outline » The Intention Economy

#### SUMMARY »

After three decades of living in the "attention" economy, where the dominant business model was monetizing your attention (and data) through ads, the world has shifted to an "intention" economy — in which users have more control over their data, and take an active role in expressing their "intent," often through AI or blockchain-based microtransaction voting. This shift potentially upends the giants of the attention economy, and opens the door for new "intention economy" business models. With it, new jobs open up in helping people better express their intentions, and better managing your data controls and sharing.

#### **TRENDING ARTICLES »**

Dispatch from Day Seven of Occupy: Silicon Valley

Identity Stolen by Your Personal AI? Here's what you can do.

New cult believes in open patents

#### Lost in a Shared Consciousness? Here's five tips for balance

#### **NEW BUSINESS MODELS »**

- Opposite of the attention economy: we move to microtransactions for everything
- Universal basic intention (encouraging people to have & express intent in all things)
- Next level transparency and literacy into technology practices and options
- Meaningful user options and controls, backed by business model options
- Explainable AI as a business norm

#### **BARRIERS & ROADBLOCKS »**

- Market dynamics that resist transparency and control (both business and governmental)
- Technology civics is weak; public apathy is high; government understanding of technology is low

#### **DRIVING FORCES** »

**General AI** is common & capable of diverse tasks.

**Economic Inequality** is still growing, not slowing down.

**Genetic Engineering** is widespread & working well.

**CLIMATE CHANGE** is having major negative effects.

#### **NEW JOBS** »

- Transparency auditing (making sure user empowerment works as promised)
- Intention coaching (helping people feel fully empowered & understanding their technology intent)
- New layer of small individualempowered businesses (taking advantage of user demand for customized experiences)

#### **TRANSFORMED JOBS** »

- UX designer (no longer focused on mass appeal, but adaptability and individual intent)
- Advertising (still a thing, but will be very different)
- Business development (fewer big partnership, more downstream empowerment)

Most Divisive Issues: Broad spectrum of intent; is there a new underclass of apathy? New forms of tribalism? Or a willful privacy-protective class that chooses not to share intent? EmpLoyer Challenge: How do companies align differences between corporate intent and the individual? Worker Challenge: Should I stay with my current employer or find something more aligned with my individual views?

## workingfutures scenario outline » Living Anywhere Works Everywhere

#### SUMMARY »

Late stage capitalism reinvents itself in the form of a digitally enabled co-op. The world is driven by subscription/memberships to almost everything a person needs and wants (food, housing, transportation, gyms, clothing, books, movies). You just join a co-op for each of those things for a monthly fee and you get access to unlimited such services. New jobs emerge in managing such co-ops, but also in burnishing reputations and social credit scoring to make you look good enough to be accepted into the co-ops you wish to join.

#### **DRIVING FORCES** »

**Transportation** innovation is rapid, AVs are common.

**International Trade** is up, global economy is vibrant.

**TRUST IN MEDIA** is low, cries of *'fake news'* still common.

**CLIMATE CHANGE** is slowing and having minimal impact.

#### **TRENDING ARTICLES »**

First Peer-to-Peer News Network Surpasses New York Times Readership

Rural-Urban Commuters Overtake City Dwellers

#### Amazon Prime Brings One Hour Delivery To Anywhere On Earth

#### **NEW BUSINESS MODELS »**

- Collective ownership on steroids (avoid tragedy of the commons as media, transportation systems and routes where everyone can benefit from profits)
- "Class pass" style memberships for everything (gyms, clothing, transportation, food, etc).
- Microtransactions

#### **NEW PRACTICES »**

- Alternative housing approaches (collective living)
- Signalling trust without established relationships (may require new elements, beyond traditional job/education, home)
- Managing new kinds of tribalism

#### **NEW JOBS** »

- Social credit scoring (and coaches for improving your score)
- Mobility support businesses
- Rent-a-friend and other socialization aids

#### **TRANSFORMED JOBS** »

• Transportation of people and goods (away from middle layer: more local and long-haul)

**Most Divisive Issues:** Trust (and consequences of losing it) and Tribalism (substituting ideological differences for other characteristics)

**Employer Challenge:** Physical separation increases transaction costs and risks of miscommunication. Harder to build team coherency and have alignment over goals. Trust is harder to build.

**Worker Challenge:** "I don't want to share or be part of a peer-to-peer/community environment (I want to be alone or anonymous)" — and the opposite: "How do I stand out when I could be replaced by any-one at any time?"

## workingfutures scenario outline » Hardly Workin'

#### **SUMMARY** »

Al/robots become a driving part of our society. There's a big fight over whether or not artificial intelligence should be granted "personhood" thereby obtaining rights (though some of the support for that position is driven, cynically, by corporations looking to avoid liability for Al-driven decision making). Meanwhile, bioengineering becomes the hottest space, driven by Al, helping to solve global challenges like climate change, but also enhancing humans.

#### **DRIVING FORCES** »

**General AI** is common & capable of diverse tasks.

**Economic Inequality** is still growing, not slowing down.

**Genetic Engineering** is widespread & working well.

**CLIMATE CHANGE** is having major negative effects.

#### **TRENDING ARTICLES »**

Workers strike in protest of increased vacation time

AI bioengineers solution to global warming, becomes first decatrillionaire

Man runs over robot, sentenced to 10 years of manual labor

#### **NEW PRACTICES »**

- Spatial shade technology developed (to block sunlight)
- Corporations lobbying for robot personhood (as a way to avoid legal liability for autonomous decision making)
- Robots satisfy an increasing % of hourly labor
- Government takes control of the work week

#### **BARRIERS & ROADBLOCKS »**

- Human Content laws (like CanCon music laws, or domestic auto parts %)
- The Silicon Rights Movement (Al Personhood)
- Manual (non-augmented) labor is considered akin to slavery

#### **NEW JOBS** »

• Counsellor to help you deal with losing your job to a robot (one job a robot is unlikely to take over)

#### **TRANSFORMED JOBS** »

Psychiatrist (now has AI clients)

Most Divisive Issue: Machines rights versus Human rights Employer Challenge: Trying to optimize productivity without angering humans, leading to backlash. Worker Challenge: Being flexible enough to deal with frequent changes in job tasks. How Policy Makers Respond: Too late, AI handles policy making now...

## workingfutures scenario outline » The Hunger Games

#### SUMMARY »

Genetic engineering and AI are both booming technologies, changing the world we live in — extending life to the point that it's conceivable within our lifetimes people will no longer need to die. Suddenly, the way everyone thinks about life and work begins to change. Coaching people through eternal life becomes a real thing, as scientists and engineers race to deal with these issues as well as tackling the challenges of a massive rise in population, and increasing climate change

#### **DRIVING FORCES** »

**General AI** is common & capable of diverse tasks.

**Economic Inequality** is still growing, not slowing down.

**Genetic Engineering** is widespread & working well.

Сытате Снапсе is having major negative effects.

#### **TRENDING ARTICLES »**

Millenials demand higher funding for longevity research: *"We don't want to be the last generation to die."* 

Food and water shortages spark worldwide riots

Local Australian surf club revitalizes great barrier reef with GMO coral

Genetically modified seaweed accounts for 30% of global calories

#### **NEW PRACTICES »**

- Coordinated development of world R&D to share tech, data, health records, etc.
- Trade policies of tariffs create areas of scarcity & poverty
- Further corporate consolidation
- Further collusion between government and corporate actors (crony capitalism)
- Electronic health records + machine readable data + CRISPR lead to biotech breakthroughs in life extension

#### **BARRIERS & ROADBLOCKS »**

- Economic policy that concentrates wealth
- Inaction on climate change
- Large investments and major breakthroughs in biotech
- Future is not evenly distributed
- Trade barriers/isolationism/antiglobalism

#### **NEW JOBS** »

- Life coaches to focus on eternal existence
- Freezing people in anticipation of immortality
- Euthanasia assistance for those who want to die but are capable of life

#### **TRANSFORMED JOBS** »

- Clergy in a world with limited birth/death
- Therapists face very different concerns (existential challenges of forever life)
- Moral philosophers focus on what it means to live a good life
- Long term continuing education over time as life phases shift

## workingfutures scenario outline » The New Unreality/Cyber Pearl Harbor

#### **SUMMARY** »

Tech advancements continue rapidly — with AI and biotech leading the way. Greater global connectivity means those advancements are available globally. However, with that there are downsides. The disinformation war increases, and even AI seems unable to stem the tide. Combined with that is a growing number of serious cybersecurity attacks and there is a crisis of trust in both media and technology.

#### **DRIVING FORCES** »

DISINFORMATION is widespread and on the rise. GLOBAL CONNECTIVITY is up, the internet is available everywhere on earth. CYBERSECURITY INCIDENTS are frequent and severe, including state-sponsored attacks. BIOTECH breakthroughs are frequent. ARTIFICIAL INTELLIGENCE is steadily advancing.

#### **TRENDING ARTICLES** »

Facebook Data Breach Fuels "Personalized Fake News," Causing Mass Terror

New Implantable, Connected AI Assistant For Everyday Life Launches... And Gets Hacked

#### **RESEARCH PIPELINE »**

- NLP and more advanced, semantically aware natural language AI systems (to do effective fact checking... and personalized fake news)
- Implantable internet connected devices (hopefully with good security models)
- Behavioral malware

#### **NEW BUSINESS MODELS »**

- Extortion at scale
- Financial consequences for fake news

#### **NEW JOBS** »

- Cyberprotection (assistance in protecting against bad outcomes)
- Information tasters (mass or bespoke)
- Trust verifiers (counterbalancing disinformation)

#### **TRANSFORMED JOBS** »

- CIO/CISO/IT in general: more of a "sitter" responsibility, less administrative and more paternal
- Journalism: still exists, looks at sources differently

AI Fact Checkers Help Fight Rising Tide of Disinformation

Most Divisive Issues: Conflation of trust and "agrees with me"

Worker Challenge: No private moments due to implantable tech by companies

**How Policy Makers Respond:** Europe moves towards fundamental worker rights, responsibility will be tagged on social media platforms.

## WORKINGFUTURES SCENARIO OUTLINE » Citizens Against Technocracy

#### SUMMARY »

As technology continues to advance, people begin to fight back against the dominance of giant centralized technology platforms (helped along by some serious breaches of those platforms). In its place, communities band together to build their own community driven tech stacks and services, relying on mesh networks, open source technology and strong cryptography. Individuals have to make a choice between joining giant corporate structures (e.g., "Amazon Prime Life") who will handle everything, or joining smaller independent communities.

#### **DRIVING FORCES** »

CYBERSECURITY Incidents are frequent and severe, including state-sponsored attacks. InFRASTRUCTURE INVESTMENT is up. PUBLIC OPINION OF TECHNOLOGY is positive and people quickly embrace new innovations. GLOBAL SAFETY NETS are robust and reliable. COLLECTIVISM is triumphing over individualism in the culture in general.

#### **TRENDING ARTICLES »**

Massive Cyber Attack on Amazon Prime Citizens Healthcare - Traced to Apple Health

Population of Users on Community Mesh Networks Transcend Population on Corporate Internet

#### **RESEARCH PIPELINE »**

- Workable mesh networks and similar technology need to be easy to build and maintain
- Cryptography has to be really good and easy to operate effectively
- Open source tech to build userfunctional apps that are competitive with corporate platforms (e.g., Amazon, Facebook, Google)
- Data banks/identity portability that allows users to move between platforms without negative impacts

#### **BARRIERS & ROADBLOCKS »**

 Common sense end user license agreements (e.g. machine readable EULAs that allow users to preselect approvals for their rights on platforms)

- Overcoming ad based business models
- People need to be motivated and feel empowered to participate and build community networks
- Knowledge and trust in technology that enables community networks

#### **NEW JOBS** »

- Tech literacy educators
- Community network organizers
- Network administrators for local communities
- Robot doctors

**Most Divisive Issues:** Participate in privatized digital bubble (the Amazon Life) or live outside and not be able to access the resources and services of "Amazon Citizenship."

**Employer Challenge:** "I'm an Amazon Prime primary care physician who became a doctor because of my staunch belief in the Hippocratic Oath and there are tons of patients who need care in my community but I can't treat them because they're not Prime members."

## **WORKINGFUTURES SCENARIO OUTLINE »** The Great Physical/Digital Divide

#### SUMMARY »

The great divide between the physical and the digital occurs. While investment in broadband increases, investment in physical infrastructure diminishes leading more people to "live online." Autonomous vehicles falter as a technology without passable roads. Some tech companies step in to take over the management of infrastructure in exchange for users — effectively becoming new government entities.

#### **DRIVING FORCES** »

CYBERSECURITY Incidents are becoming rarer. INFRASTRUCTURE INVESTMENT is down overall. PUBLIC OPINION OF TECHNOLOGY is positive and people quickly embrace new innovations. GLOBAL SAFETY NETS are robust and reliable. COLLECTIVISM is triumphing over individualism in the culture in general.

#### **TRENDING ARTICLES** »

Autonomous Vehicles No Longer Able To Run On Derelict Interstate Highway System

Russian Cyber Attack Thwarted

Amazon Prime Members Turn Company Into A Cooperative, Elect New Board Members

#### **NEW PRACTICES »**

- Civilian Conservation Corps for fixing roads for autonomous vehicles
- New funding sources for digital infrastructure (i.e. taxing data)
- Tech companies creating partnerships to fix physical infrastructure
- Rich people pissed off about failing physical infrastructure

#### **BARRIERS & ROADBLOCKS »**

- Lack of transparency and accountability around data collection
- Political barriers: committing resources to digital infrastructure and security
- Continued underfunding of physical infrastructure
- Lack of long term planning
- Autonomous vehicles hitting the mass market

#### **NEW JOBS** »

- Civilian conservation corps for cybersecurity
- Army of white hat hackers/digital infrastructure testers

**ADDITIONAL ISSUES:** Everyone works remotely because digital infrastructure is strong but roads are so bad it takes forever to get across town, social isolation because local transportation sucks, rich people build private compounds to avoid relying on crumbling infrastructure, landowners become wealthy.

# Gattaca Meets Waterworld

#### **SUMMARY** »

The genetic engineering and AI revolutions continue... but also start to spin out of control. There are success stories, but also disastrous failures, and growing economic inequality leads to questions about whether the gains of these new technologies will be distributed widely or hoarded. Environmental and genetic engineering become key industries looking for ways to solve various global problems — including some created by themselves.

#### **DRIVING FORCES** »

**General AI** is common & capable of diverse tasks.

**Economic Inequality** is still growing, not slowing down.

**Genetic Engineering** is widespread & working well.

**CLIMATE CHANGE** is having major negative effects.

#### **TRENDING ARTICLES** »

Genetically engineered mangroves take over Philippines

Global governments scramble to recover from seaweed famine

Five-year-old becomes world's youngest chess champion

#### **NEW PRACTICES »**

- Shifting human reproduction from the bedroom to the lab
- Developing a public policy framework for distributing genetic engineering throughout the population

#### **BARRIERS & ROADBLOCKS »**

- Laws preventing human experimentation
- Laws and norms around releasing non-native engineered species into the wild
- Recognition of climate change
- Religious and cultural understanding of what it means to be human

#### **NEW JOBS** »

- Environmental engineer (developing climate change resistant crops and livestock)
- Genetic engineer (creating designer babies)
- Infrastructure for moving reproduction into the lab

#### **TRANSFORMED JOBS** »

• Doctors no longer deal with genetic diseases

Most Divisive Issue: Genetic inequality.

## workingfutures scenario outline » Single Source Of Truth

#### SUMMARY »

Google has won. Its Project Loon balloon based internet serves 70% of the global population and its own cryptocurrency has become the defacto standard. Competing cryptocurrencies falter, while other uses of the blockchain "for good" start to come into play.

#### **DRIVING FORCES** »

**GLOBAL CONNECTIVITY** is monopolized.

**Investment in Education** has decreased.

**BLOCKCHAIN ADOPTION** is widespread.

**CLIMATE CHANGE** is having major negative effects.

#### **TRENDING ARTICLES »**

Project Loon now serves as ISP for 70% of the world's population

Peter Thiel charged with treason after blockchain panic collapses US economy **NEW PRACTICES »** 

- WIdespread investment in and acceptance of blockchain technology
- Greater commitment to refugee resettlement predicated on use of personal tracking
- Wireless infrastructure becomes the last mile of internet connectivity

#### **NEW BUSINESS MODELS »**

- Profitable way to maintain the blockchain ecosystem
- ISPs will make their profits through applications over infrastructure

#### **NEW JOBS** »

Blockchain wrangler

Human registration blockchain implemented for refugee tracking

## workingfutures scenario outline » The Connected World

#### SUMMARY »

The blockchain meets the gig economy — and it somehow actually works. There's a giant blockchain-based marketplace for labor, enabling people to find all different kinds of work around the globe — aided by easy global broadband access and easy global travel with few restrictions. There are fewer people working long term for "corporations," but much more ephemeral "temporary" corporations set up to complete a task and move on. Google, losing influence in this world, tries to release its codebase as open source to allow others to build on it.

#### **DRIVING FORCES** »

**GLOBAL CONNECTIVITY** is monopolized.

**Investment in Education** has increased.

**BLOCKCHAIN ADOPTION** is widespread.

**CLIMATE CHANGE** is having major negative effects.

#### TRENDING ARTICLES »

Blockchain based labor marketplaces now the largest in the world

Connectivity declared a human right by the UN

Google embraces open source, publishes entire codebase

#### **NEW PRACTICES »**

- Connectivity becomes ubiquitous and easy
- New understanding of what employment means and increased acceptance of distributed contract workforce
- Workers rarely have a traditional employer
- Knowledge work increasingly done through blockchain marketplaces
- Distributed workforces impact human migration, borders and immigration debates

#### **BARRIERS & ROADBLOCKS »**

- Government decides connection is a priority
- · Lack of regulatory framework for employment benefits in the gig economy
- Regulations of cross border transactions