

IT, Digital Economy, and Global Change Highlights from the TechCast Project



William E. Halal, George Washington University,
Bangkok University, and TechCast Global

IT, Digital Economy, and Global Change Highlights from the TechCast Project

Agenda:

- **TechCast Research Method**
- **The Technology Revolution**
- **IT and Digital Economy forecasts**
- **Social Trends and Wild Cards**
- **2020-2030 Most Likely Scenario**

Participation Invited:

- **Impact on you, your organization, society?**
- **Issues? Strategies?**

Copies available at author's discount



TechCast Online Research System

Collective Intelligence for Tough Questions

Status Quo Defined as
100 % Uncertainty

30 - 40 % Decrease
In Uncertainty

30 - 40 % Decrease
In Uncertainty

Uncertainty about 30%
Avg. Error= +1/- 3 years

Scanning

- 9 Editors
- Internet
- Periodicals
- Literature
- Interviews
- Conferences

Background Data

- Adoption levels
- Market Size
- Other Forecasts
- Trends Pro/Con

Expert Survey

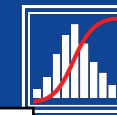
- 130 Experts
- Diverse Sample
- Thought Leaders
- Enter Estimates

Results

- Forecasts
- Comments
- Validate
- Rank 2-3/
105 M hits

Constant Updating

The Technology Revolution

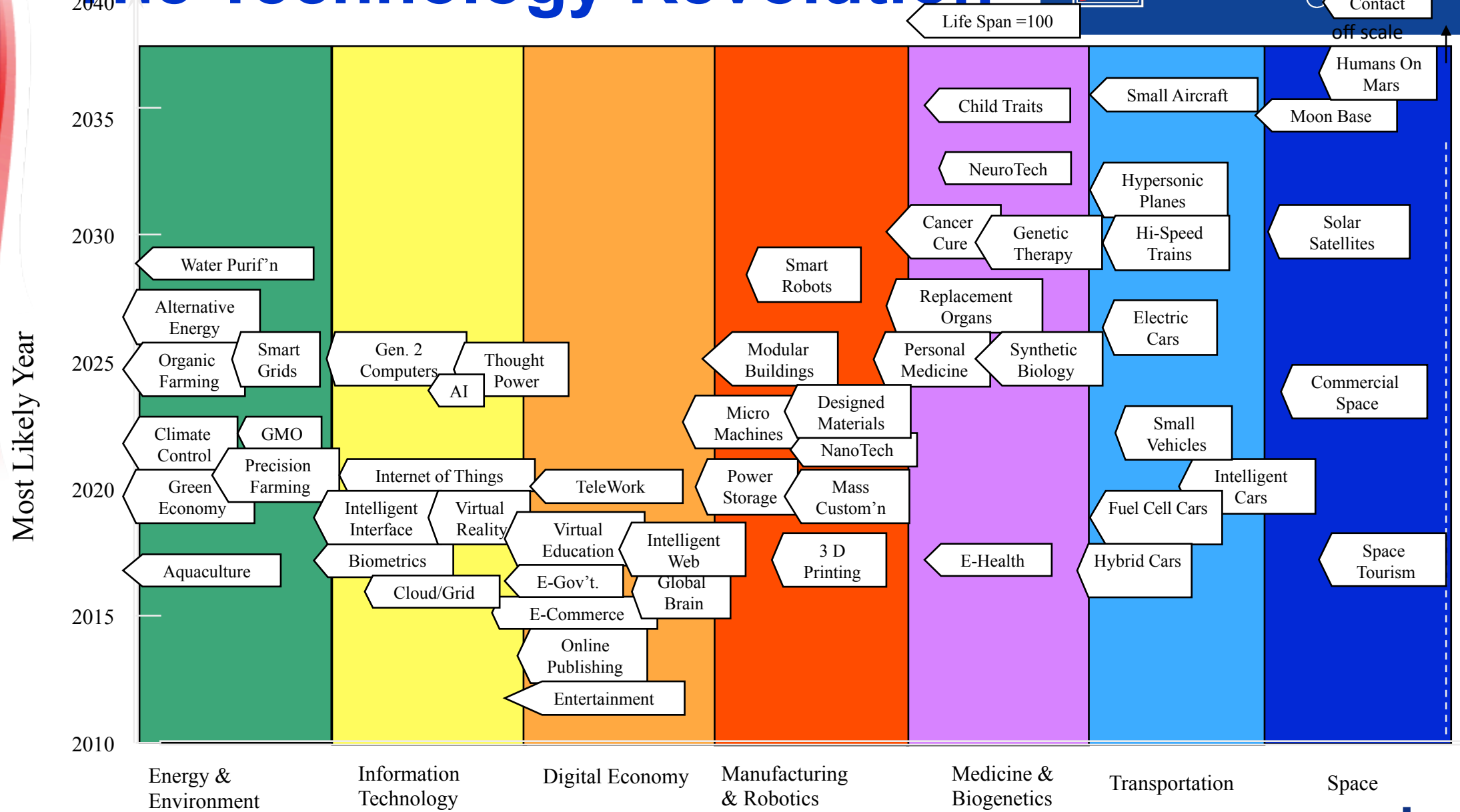


TECHCAST™

Star Travel

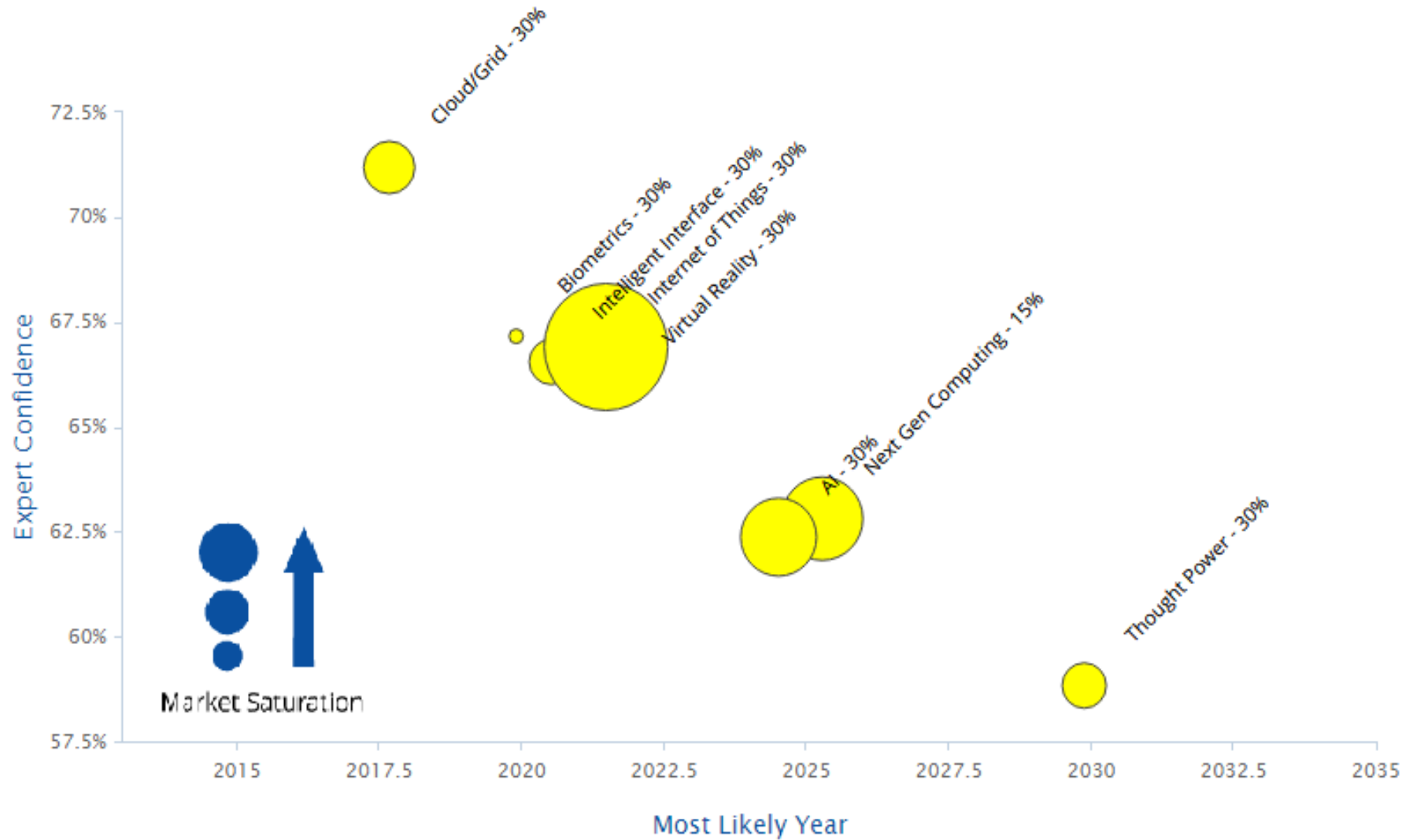
Contact

off scale



Copyright W. Halal

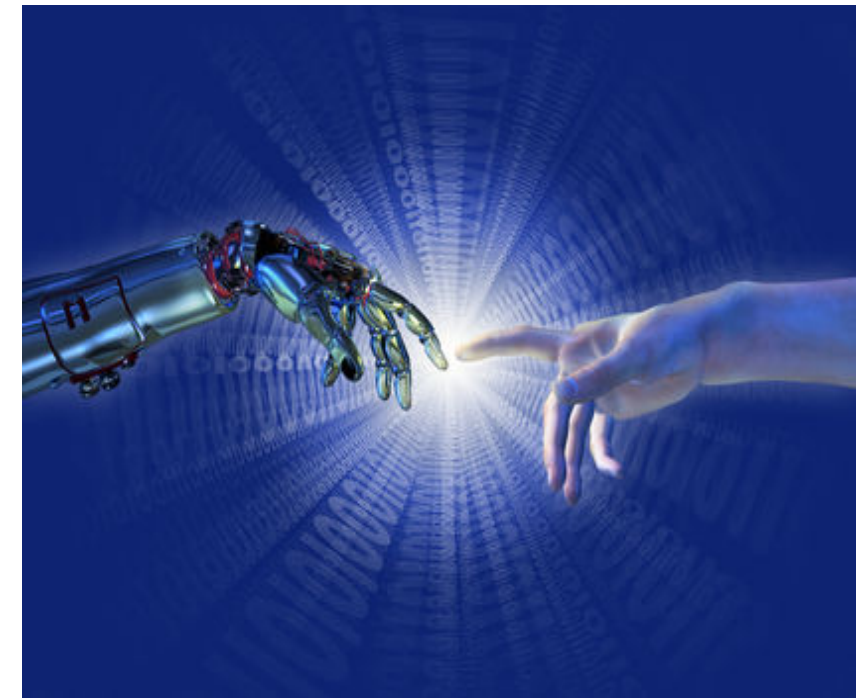
IT



Artificial Intelligence

Highlights from Background Data

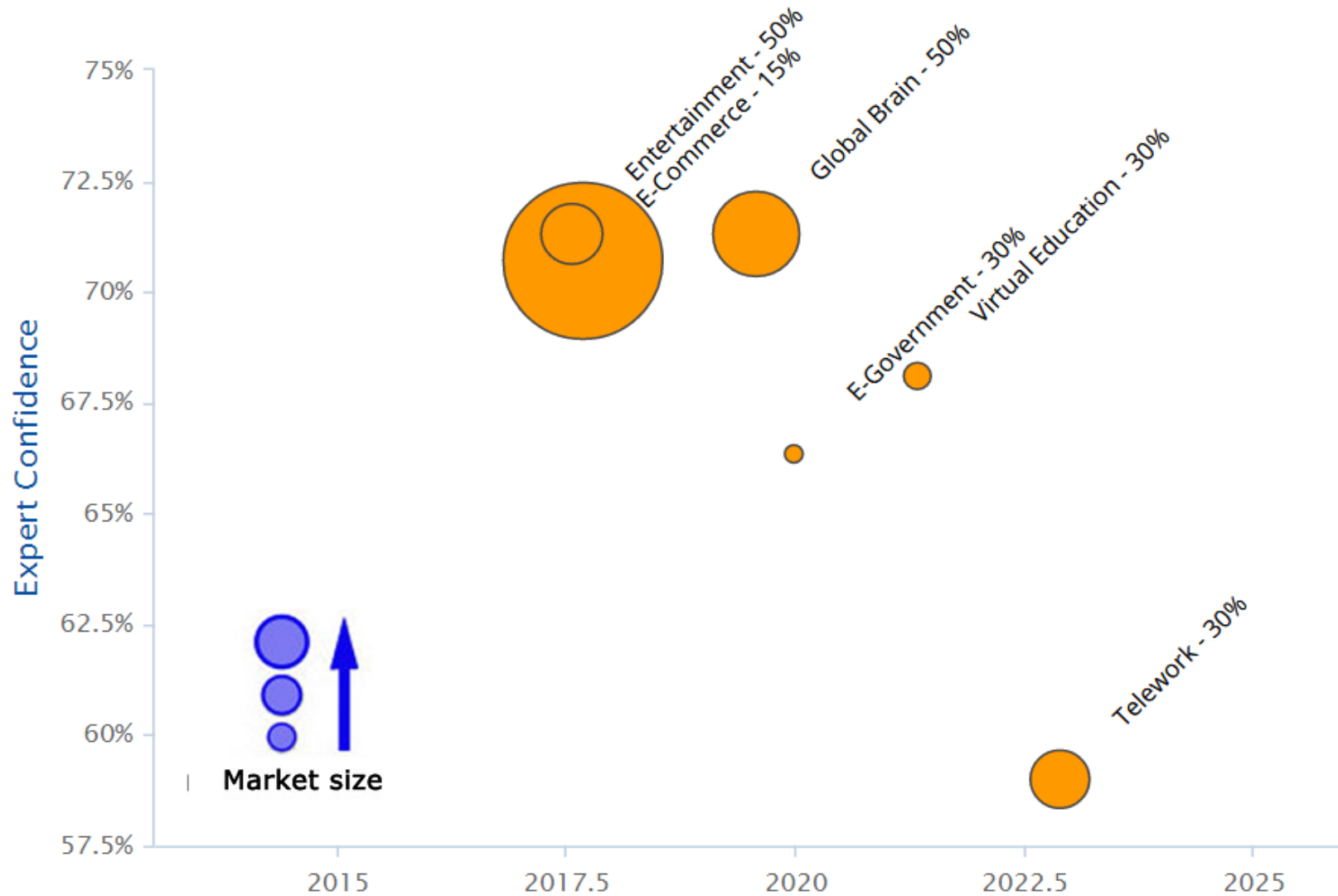
- \$1B in '93, \$12B in '02, \$21B in '07, \$36B by 2015
- Speech/emotion/visual interaction, deep learning, robots, games & simulations, language translation, neural chips
- Intelligent systems -- Siri, IBM Watson, Microsoft Bing, Wolfram Alpha, Google, self-driving cars, etc.
- Ubiquitous AI -- GE and IBM building AI systems for health care, power grids, auto traffic and everything else
- IBM, EU, others simulating the human brain
- Kurzweil: \$1000 PC with power of the brain by 2020
- General AI comparable to humans ~ 2040



TechCast Forecast: Weak AI replaces routine knowledge work ~ 2025 +/- 6 yrs

Global market saturation ~ US\$ 700 billion

Digital Economy



Global Brain

Highlights from Background Data

- 6 billion mobile phones (76% of world)
 - 2 billion PCs, 12 billion devices
 - Wireless, shared devices, \$100 laptop
 - Billions on Facebook, Twitter, LinkedIn, etc.
 - One hundred billion mobile apps
 - Mobile transactions, global middle class
 - AR and VR coming
 - Universal access and higher speeds coming
- TechCast** 50% of world on Internet by 2019 +/- 2 years
Market ~ \$1 trillion, IT total ~ \$7 trillion



Social Trends

Forecasts of Timing and Social Impact

	Forecast Target	Impact (-10 to +10)					
2018	Extremism Rises	+1 nation	-2	2022	Developing Nations Lead	5% GDP	+3
	System Failures	33% orgs	-1		Legal Pot	33% G20	+3
	Mature Econ's Grow	3% GDP			Environment Demands	33% G20	+6
	+4				Sharing Economy	30% jobs	+4
2019	Travel Soars	\$10 T global	+2	2023	Diversity Spreads	50% G20	+5
2020	Services Dominate	50% employ.	+3	2024	Mass Migration	20% pop	+3
	Transparency	50% govt's.	+5	2025	Working Women	70% families	+5
	Urbanization	60% pop.	+1	2026	Education Expands	50% college	+6
	Privacy Dying	50% nations	-1	2028	Water Wars	3 wars	-2
2021	Jobs Failure	10% unemploy.	-3	2029	Fertility Falls	1% pop gr	+2
	Social Responsibility	50% corps.	+4	2030	Global Ethics	30% pop	+5
	Generation Change	50% pop	+4		Global Graying	25% pop	+5
	Consumerism Grows	67% GDP	+4				

Wild Cards

Forecasts of Probability and Social Impact

	Probability	Impact		Probability	Impact
■ Israel Conquered	2%	-4	■ Global Depression	28%	-3
■ Asteroid Hit	8%	-5	■ China Falls	28%	-1
■ Nuclear War		9%	■ Weather Control	33%	+3
-7			■ Solar Storm	33%	-3
■ Alien Contact	13%	+3	■ Space War	33%	-4
■ UN Collapses	12%	-2	■ Cyber Attack	34%	-2
■ Paranormal Proven	12%	+2	■ Human Cloning	36%	+2
■ Peace in Palestine	14%	+4	■ Superbugs	37%	-3
■ Global Pandemic	16%	-4	■ Bio Attack	38%	-5
■ Bank Nationalization	21%	+1	■ Climate Shift	48%	-3
■ Democratic Business	26%	+3	■ Singularity Arrives	51%	+2
			■ Energy Weapons	58%	-1

2020-2030 Most Likely Scenario

Macro-Forecast of Technology, Social Trends & Wild Cards

- 1. Sustainability** Green business, GMO, alternative energy, climate control, smart grids, precision farming, aquaculture
- 2. Green Transportation** Hybrid/electric smart cars, hi-speed trains, next gen aircraft, hypersonic flight
- 3. Mastery Over Life** Replacement parts, DNA testing, body monitoring, cancer cure, life extension, neurotechnology
- 4. Threats Across the Spectrum** Depression, banking crisis, job loss, pandemic, climate shift, cyber-war, bio-war, etc.
- 5. Higher-Order Values** Social responsibility, transparency, environment, diversity, women, generation X, global ethics
- 6. Infinite Knowledge and Intelligence** E-everything, global brain, 2nd generation IT (nano, bio, optical, quantum), AI, robotics. Automation of routine thought. **What Next?**
- 7. Global Consciousness** Movement beyond knowledge. Global MegaCrisis. Restructuring of institutions.





THANK THE END YOU

Forecasts and Strategy for a Changing World



techcastglobal



www.techcastglobal.com