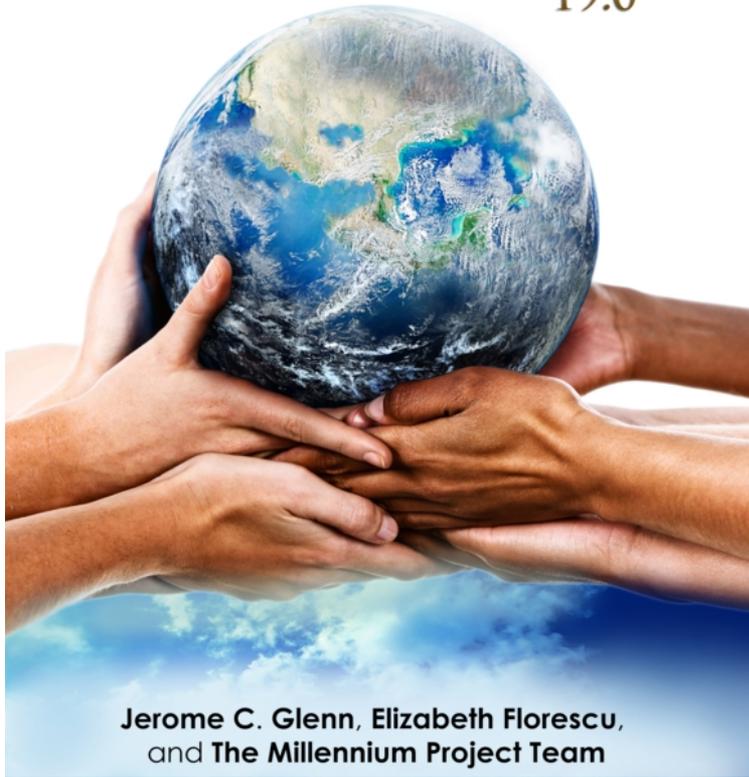# Recent Publications

- ***State of the Future 19.0***
- NATO book: ***Identification of Potential Terrorists and Adversary Planning: Emerging Technologies and New Counter-Terror Strategies*** editors: Ted, Elizabeth, Jerry, and Yair
- MP Newsletter 1.0 and 2.0
- ***Innovative Research Methodologies in Management* Vol II** Palgrave Macmillan
  - Ted & Jerry: Interactive Scenarios
  - Simone Di Zio: Spatial Delphi
  - Antonio Pacinelli: Futures Polygon Development
- ***Global Strategic Management*** book use of MP's "World Report Card" by Macmillan Education
- China Science and Technology Press to make a Chinese version ***2015-16 SOF*** in print and download
- ***TF&SC*** article Potential Measures for the Pre-Detection of Terrorism by Ted, Yair, and Elizabeth

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Future Terrorism and Deterrence

- NATO Advanced Research Workshop on terrorism trends and future deterrence

- NATO book: ***Identification of Potential Terrorists and Adversary Planning***: ***Emerging Technologies and New Counter-Terror Strategies*** Editors: Ted, Elizabeth, Jerry, and Yair

NATO Science for Peace and Security Series
E: Human and Societal Dynamics - Vol. 132

Identification of Potential Terrorists and Adversary Planning

Emerging Technologies and New Counter-Terror Strategies

Edited by
Theodore J. Gordon
Elizabeth Florescu
Jerome C. Glenn
Yair Sharan

IOS Press

NATO OTAN   This publication is supported by: The NATO Science for Peace and Security Programme

Future of Work/Technology 2050 Study

1. Literature and Related Research Review
2. Real-Time Delphi
3. Global Scenario Drafts
4. RTDelphi Feedback on the Scenarios
5. Final Scenarios, Policy issues, and workshop considerations
6. National Workshops
7. Collect results of the national planning workshops, analyze & synthesize results
8. Final report for public discussion

What is Different About This Future Work/Tech Study?

1. It is an international study with the participation of over 400 futurists, AI professionals, economists, and other related experts from over 45 countries.
2. It does not focus on just one country or one occupational group.
3. It does not just look at AI's & robotics' impacts on work, but also synthetic biology, 3D/4D printing, nanotechnology, VR & AR, and other future tech.
4. Longer-range: 2050 helps us look secondary & tertiary consequences and discusses cultural and economic changes.
5. Creates three global scenarios to the year 2050.
6. National strategy workshops to stimulate long-range strategic thinking.
7. Compares national workshop results and feeds back to participating countries.
8. As a result, this study focuses on what to do, rather than know how many jobs will be lost and when.

Future Work/Tech 2050 Workshops

Initial workshops	Initial workshops	In planning	Exploratory talks
1. Argentina (two, and series)	11. Italy	China	Australia
2. Bolivia (series)	12. The Netherlands (two)	Peru (2030 study first)	Croatia
3. Brazil (Sao Paolo)	13. Mexico (two)	Pakistan	Dubai, UAE
4. Bulgaria	14. Poland	Romania	Egypt
5. European Foresight Network	15. Spain (Basque Country)	Slovakia	Georgia
6. Finland	16. South Korea (two)	South Africa	India
7. Germany (series)	17. Uruguay (series in progress)	Spain (Madrid)	Iran
8. Greece	18. Venezuela	Sri Lanka	Montenegro
9. Hungary		United States	Slovenia
10. Israel (two workshops)		Zambia	Turkey
			United Kingdom

Workshop Discussion Groups to Explore Some Long-Range Strategies

1. **Education/Learning**
2. **Government**
3. **Science & Technology**
4. **Culture**
5. **Business and Labor**

Not all workshops had these 5 discussion groups, but in general these were the themes discussed.

Some suggestions <u>not</u> included in this summary were good ideas but not directed specifically at addressing future work/tech issues or sort of obvious like: We need 'fresh' thinkers that dare to question the current system… or … eradication of jobs that don't create any value.

- We do not have time to discuss all the future work/tech 2050 suggestions

- …but we can silently read each slide and discuss if you have comments or questions.

Education/Learning

- Make increasing intelligence an objective of education
- In parallel to STEM, create self-paced inquiry-based learning for self-actualization; re-train teachers as coaches using new AI tools with students
- Begin shift from mastering a profession to mastering skills
- Free Tele-education everywhere, ubiquitous, life-long learning systems
- Increased focus on developing creativity, critical thinking, human relations, philosophy, entrepreneurship (individual and teams), art, self-employment, social harmony, ethics, and values.
- Know thyself to build and lead a meaningful working life with self-assessment of progress on one's own goals and objectives (Finland)
- Intergenerational learning exchanges sharing competencies of elders with youth (Italy)

Education/Learning (continued)

- Consider experimental alternative education/learning models like Finland's education model that develops creativity, imagination, self-actualization
- Utilize robots and AI in education
- On-demand learning (also bite-sized) in learning portfolios (Germany)
- Unify universities and vocational trainings (Italy)
- Cooperation between schools and outside public good projects (Germany)
- Focus on exponential technologies and team entrepreneurship (Italy)
- Empathy training (Brazil)
- Share the responsibility of parenting as an educational community (Mexico)
- Create a global school for political leaders (Poland)
- Teach technology while preserving thinking abilities (Israel)

Education/Learning (continued)

- Support hybrid education systems: STEM + social + economy
- Change curriculum at all levels to normalize self-employment (Spain)
- Promote "communities of practice" (Brazil)
- Transition from teaching centers to learning centers
- Benefit corporations to intervene in education systems (Italy)
- Management of tech effects on students (Greece)
- More future-oriented professional guidance (Greece)
- 2030 education shifts more toward the humanities (Israel)
- 2030-50 Private/public and Machines/Humans blurring make ethics the cultural theme (Italy)
- Support Education X-Prize and other efforts to reach poorer regions of the world

Government/Governance

- Produce alternative <u>cash flow projections</u> for universal basic income (consider: License/tax robots, AI and their creations, reduction of tax havens, value added tax, and taxes on carbon, massive wealth growth from new technologies, minimum corporate tax, etc.).

- Include self-employment issues in political parties' agendas and manifestos to promote social dialog on these issues (Spain)

- Training vouchers (Italy)

- Work with other countries to establish the International S&T Organization - ISTO

- 2050 UBI introduced and financed by big companies and some governments (Israel)

- Increase the role of international organizations in conflict resolution (Poland)

- Establish law enforcing creation of sustainable businesses (Poland)

- Self-saving pension system with subsidies for those with lower income (Poland)

Government

- Decisionmaking based on collective intelligence (Brazil)
- Create and implement a global counter organized crime strategy
- Add TransInstitutional law in addition to for-profit and non-profit law
- Training programs for politicians before governing and prototype governance methodologies (Brazil)
- Tax on robotic work (Germany)
- Easier participation for individuals in decisionmaking processes (Korea)
- Promote leisure, culture, tourism, and entertainment industries (Korea).
- E-Platform for citizens offering services (Greece)
- By 2050 introduce a global system for resource sharing (Greece)
- Enact policies for privacy concerns (Korea).

Government

- International coordination prior to implementing UBI would be wise to prevent enormous political and emigrational pressures that may arise with non-UBI countries (Israel)
- The government, the employers across all industry sectors, and the labor unions should cooperate to create lifelong learning models (Israel)

Science & Technology

- Augment Movement: Tech to augment humans; not replace them
- Identify likely impacts of Narrow AI vs. General AI, by years
- Forecast how synthetic biology might create more jobs than AI replaces
- Forecast synergies among the full range of new tech - NTs
- Create national policies/standards for IoT (Brazil)
- Establish ISTO (International S&T Organization as an online collective intelligence system not as a mew bureaucracy)
- Promote public participation, and even participation of the consumers, in the ownership of patents (Spain)
- Internet for all with malicious usage prevention (Poland)
- Use AI to search for and create jobs and match them to people (USA)

Science & Technology (continued)

- Invest into predictive/preventative health systems (Brazil)
- Biotech for in-house food production via bio-gene-sciences (Italy)
- Implement schemes to promote and support work from home
- Solar energy, autonomous transporters to free individuals (Italy)
- Develop ultra-fast transport systems like the Hyperloop (Poland)
- By 2030 create World Integrated Energy Corp to create enough wealth to invest in space exploration enhanced by AI (Korea)
- Create online platforms for participatory democracy (Brazil)
- Socialize tech, R&D for social concerns (Spain)
- Science focused on exploration (Poland)
- Nearly 100% renewable energy by 2050 goal with stable base load (Poland)
- Automate production/services to free creative development (Poland)

Culture

- Explore cultural transition to self-actualization economy via the arts, media, entertainment, celebrities, and computer games
- Media/Arts Alliance to create and help new social movements:
    - Self-Employment as new norm
    - One Species
    - Tech to augment human capacity, not replace humans
    - Self-Actualization Economy
    - Invest into what replaces you
    - Desire to work is human nature but change attitudes toward welfare and basic income (Korea)
    - Eco-empathy (Poland)
    - Increasing focus on experience rather than things (Brazil)
    - Add more good news in media about positive actions (Brazil)

Culture (continued)

- New social contract between the government and the governed
  - Universal basic income
  - Security (lone wolf terrorist more power in the future requires more public involvement)
- Social campaign to understand S&T in development (Poland)
- Move toward more civic, collaborative culture with reciprocity (Spain)
- Create a Department of Collaboration in the Basque Government (Spain)
- Valuing new experiences over accumulation of things (Brazil)
- Invent ways to reduce social isolation of tele-workers (Poland)

Business & Labor

- Invest in Kickstarter-like crowd sourcing to reduce the concentration of wealth
- Create personal AI/Avatars to support self-employment
- Create new labor unions to link one-person businesses to guarantee workers rights in self-employment (Korea)
- Establish Labor/Business/Government Next Technologies (NT) Data bases
- Develop individual augment genius apps
- International collaboration to create the International S&T Organization (ISTO)
- Conduct synergetic intelligence/advantage/strategy, as well as competitive intelligence/advantage/strategy and teach synergy in business schools
- Labor unions focus more on maintaining income than keeping specific jobs and initiate Augment Movement to invest in tech to augment rather than replace labor
- Popularization of social capital and corporate shared value (Poland)
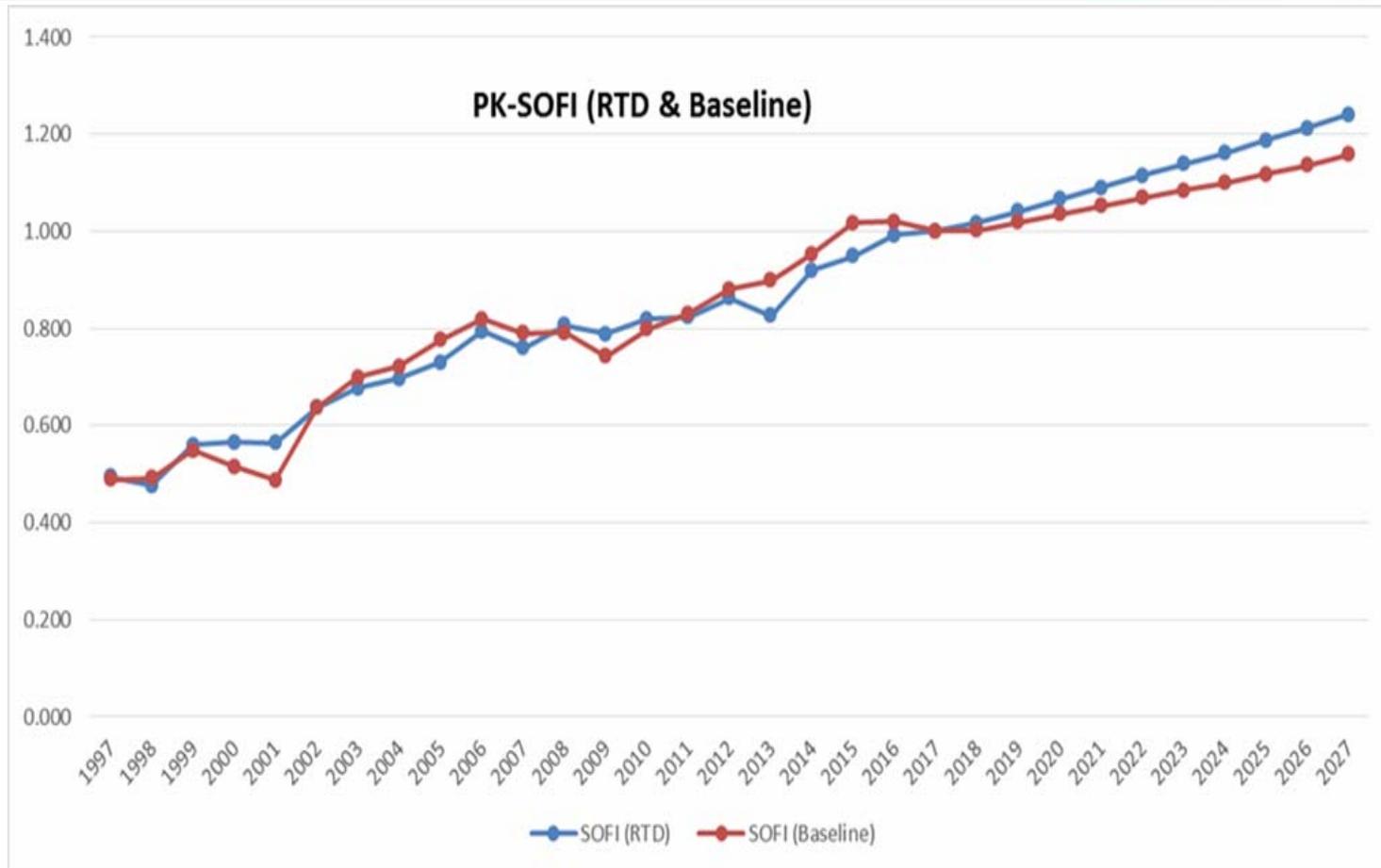
Business & Labor (continued)

- Foster one-person businesses, micro finance, and business training
- Develop ways to measure "Qualitivity" as well as "Productivity"
- Memes in advertisements to help create the cultural transition
- Create category for Benefit Corporations
- World Billionaires Club on Global Strategic Philanthropy to address income gap
- World Cyber Game to explore self-employment & Self-Actualization Economy
- Promote circular economy as well as self-actualization economy
- Build resilience of workers for the hybridity of work, mixed income with UBI
- Develop ways for companies and employees to create ethical, aesthetic, and social value besides economic and material value
- Shorter work hours, job-sharing, and work-at-home (Germany)
- Use block chain and cripto currencies to invent alternative economies

Business & Labor (continued)

- Encourage business that produce experience (Brazil)
- Focus more on exporting knowledge than physical products (Netherlands)
- Special Awards for companies that pay the most taxes (Korea)
- Create platforms to discuss future of employment; i.e., MP (Spain)
- Create an observatory of employment and technology trends (Spain)
- Change trade unions' attitudes towards an attitude which helps to build the relationships of future businesses (Spain)
- Recognize the basic income as an universal right (Spain)
- Increase integration of government/business/people (Italy)
- Develop profit opportunities for caring economies (Spain)
- Businesses focus on making people happy, not just creating profits (Korea)
- Encourage work from home (Mexico)

PK-SOFI (RTD & Baseline)

Environmental Law Institute and the Global Environmental Facility

- Future "Novel Entities" things created and introduced into the environment by humans that could have a disruptive effect on the global environment and the earth system in general.

- These may include but are not limited to, biological pollutants, synthetic chemical pollutants, radioactive materials, genetically modified organisms, nanomaterials, and micro-plastics.

- One RTD to collect input and a second RTD to rate them

Global Futures Intelligence System

- Going on a trip? Send a message to those in that city

- Search news and scanning for specific items you are working on

- Update your Node Page – informal advertisement publically available

- Build the brain with the Bookmarklet