



WHAT MAPPING

(aka breadth-first search)

Paths

Research

- Academic
- Private company

Private Sector

- Non-profits
- Profit
 - **Companies**
 - **Startups**
- VC/other similar model

Public Sector

- Non-profits
- International organizations
- Government

Industries

Agriculture

- Fishing industry
- **Horticulture industry**
- Tobacco industry
- Wood industry

Industries

Manufacturing

- Aerospace industry
- Automotive industry
- Chemical industry
 - Pharmaceutical industry
- Construction industry
- Defense industry
 - Arms industry
- **Electric power industry**
- **Energy industry**
- **Electronics industry**
 - Computer industry
 - Semiconductor industry
- Food industry
- **Industrial robot industry**
- Low technology industry
- Meat
- Mining
- Petroleum industry
- Pulp and paper industry
- Steel industry
- Shipbuilding industry
- **Telecommunications industry**
- Textile industry
- Water industry
- **City infrastructure**

Services

- Creative industry
 - Advertising
 - Fashion
 - Floral
- Cultural industry
- **Education industry**
- Entertainment industry
 - Film industry
 - Music industry
 - Video game industry
- Financial services industry
 - insurance industry
- **Healthcare industry**
- **Environment**
- Hospitality industry
- **Information industry**
- Leisure industry
- Mass media
 - Broadcasting
 - Internet
 - News media
 - Publishing
- **Professional services**
- Real estate industry
- **Software industry**
- Sport industry
- Transport industry
- **Government**

Inefficient Industries

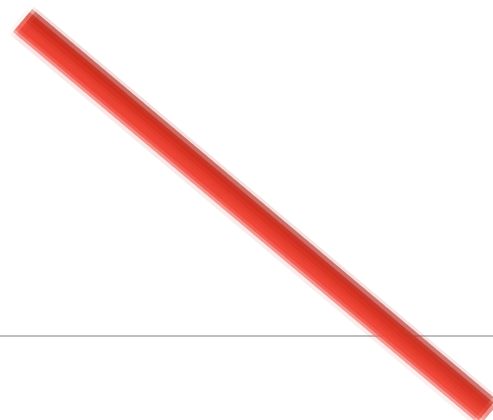
- **Nuclear power plants**
- **Healthcare**
- Ports
- Finance
- **Transportation and logistics**
- Legal
- Construction
- Insurance
- **Government**

Highly Regulated Industries

- **Agriculture**, food, forestry and fishing regulations
 - Cannabis Production
 - Wood Pulp Mills
 - Distilleries
- **Nuclear**, oil and gas, and mining regulations
 - Gold and Silver Ore Mining
- Broadcasting and telecommunications regulations
- Drug and **health product regulations**
 - Generic Pharmaceutical Manufacturing
- Cultural trade and investment
- Textiles regulations
- Financial services regulations
 - Banking
- Trade regulations
- **Electric power generation, transmission and distribution**
- Motor vehicle manufacturing
- Scheduled air transportation
- Deep sea, coastal, and great lakes water transportation
- Construction

Existential Threats

- **Molecular nanotechnology weapons**
- **Superintelligent AI**
- Pandemic
- Nuclear war
- **Nanotechnology accident**
- Inhabitable planet
- Multi-Planetary species
- Unknown Unknowns



Knowledge

- **Mathematics**
- **Philosophy**
- Specific Skills
 - eg. how to cook, shovel snow, walk
- People / self
 - **Leadership**

- Science
 - Physics
 - Quantum physics
 - **Biology**
 - Chemistry
 - Astronomy
 - Geology
 - Materials science
- Social Sciences
 - Law
 - Linguistics
 - Archaeology
 - Anthropology
 - History
 - **Psychology**
 - **Sociology**
 - **Political science**
 - **Economics**

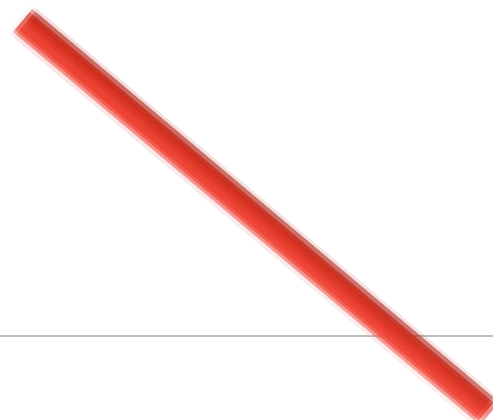
- Applied Science
 - **Engineering**
 - Ecology
 - Botany
 - Zoology
 - Geography
 - **Education**
 - **Information science / Computer Science**
 - Environmental science
 - **Medicine**
 - **Cognitive Science**
- Arts
 - **Music**
 - Dance
 - Theatre
 - Cinema
 - **Literature**
 - **Architecture**
 - Drawing

Emerging Technology

- **Energy**
 - Fusion Power
- **Robotics**
- **Artificial intelligence**
- **Programmable matter**
 - 4D printing
 - **Synthetic biology**
- Virtual reality (VR)
- **Augmented reality (AR)**
- **Nanotechnology**
- **Brain-computer interface**
- Blockchain
- Cryptocurrency
- Quantum Computing
- **Internet**
 - 5G
- **Internet of Things**
- **Medical**
 - **Gene editing**
 - **Precision medicine**
- Space
 - Asteroid mining
- Transport
 - Supersonic transport
 - Autonomous cars
- **Tools for Thought**

Ways to be Creative

- Painting
- Drawing
- Acting
- Singing
- **Making music**
 - Instrument
 - Digital
- **Photography**
- Graphic designer
- **Architect**
- Animator
- Fashion designer
- Sculpting
- **Startup**
- **Writing**
 - Books
 - Fiction
 - Non Fiction
 - **Blogs**
 - Poetry
 - Magazine
 - Comic
 - Movie
- Cooking
- Crafting & DIY
- Video production
- **Dancing**



Sustainable Development Goals

- No Poverty
- Zero Hunger
- **Good Health and Well-being**
- Quality Education
- Gender Equality
- Clean Water and Sanitation
- **Affordable and Clean Energy**
- **Decent Work and Economic Growth**
- **Industry, Innovation and Infrastructure**
- Reduced Inequalities
- Sustainable Cities and Communities
- Responsible Consumption and Production
- Climate Action
- Life Below Water
- Life on Land
- **Peace, Justice and Strong Institutions**
- Partnerships For the Goals

Problems

14 Grand Challenges for Engineering in the 21st Century by the NAE

- Advance Personalized Learning
- Make Solar Energy Economical
- Enhance virtual reality
- Reverse Engineer the Brain
- **Engineer Better Medicines**
- **Advance Health Informatics**
- Restore and Improve Urban Infrastructure
- **Secure Cyberspace**
- Provide access to clean water
- Provide energy from fusion
- Prevent nuclear terror
- Manage the nitrogen cycle
- Develop carbon sequestration methods
- Engineer the tools of scientific discovery

Problems

Pressing World Problems by 80,000 Hours

- **Positively shaping the development of artificial intelligence**
- Global priorities research
- **Building effective altruism**
- Reducing global catastrophic biological risks
- Mitigating great power conflict
- Global governance
- Governance of outer space
- Nuclear security
- **Improving institutional decision-making**
- Climate change
- Developing world health
- Factory farming
- Land use reform
- Smoking in the developing world

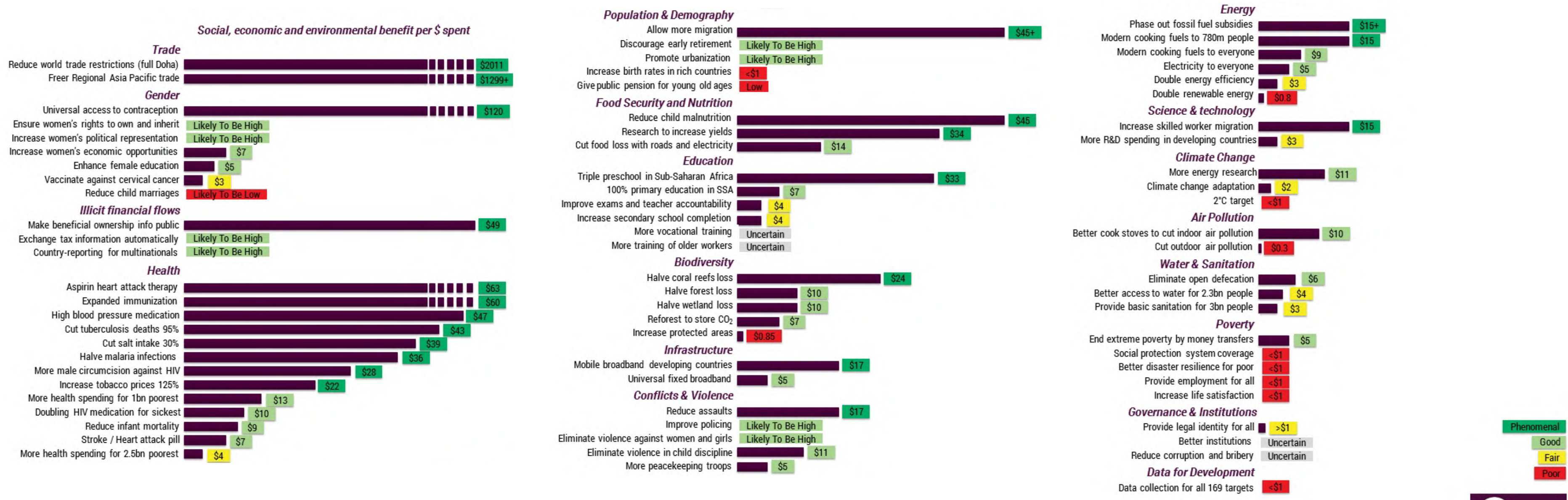
Problems

10 most critical problems in the world, according to millennials

- 1. Climate change / destruction of nature
- 2. Large scale conflict / wars
- 3. Inequality (income, discrimination)
- **4. Poverty**
- 5. Religious conflicts
- 6. Government accountability and transparency / corruption
- 7. Food and water security
- 8. Lack of education
- 9. Safety / security / well being
- **10. Lack of economic opportunity and unemployment**

Problems

Problems with most impact potential by Copenhagen Consensus



Problems

Global Issues - Top Level

- Africa
- Ageing
- Agriculture
- AIDS
- Atomic Energy
- Children
- Decolonization
- Demining
- Democracy
- Development
- Disarmament
- Environment
- Family
- Food
- Governance
- Health
- Human rights
- Human settlements
- Humanitarian assistance
- International law
- Oceans/Law of the Sea
- Peace and security
- People with disabilities
- Population
- Refugees
- Terrorism
- Volunteerism
- Water
- Women

https://en.wikipedia.org/wiki/List_of_global_issues

Problems

15 Global Challenges – The Millennium Project

- 1. How can sustainable development be achieved for all while addressing global climate change?
- 2. How can everyone have sufficient clean water without conflict?
- 3. How can population growth and resources be brought into balance?
- 4. How can genuine democracy emerge from authoritarian regimes?
- **5. How can decision making be enhanced by integrating improved global foresight during unprecedented accelerating change?**
- **6. How can the global convergence of information and communications technologies work for everyone?**
- 7. How can ethical market economies be encouraged to help reduce the gap between rich and poor?
- 8. How can the threat of new and reemerging diseases and immune micro-organisms be reduced?
- **9. How can education make humanity more intelligent, knowledgeable, and wise enough to address its global challenges?**
- 10. How can shared values and new security strategies reduce ethnic conflicts, terrorism, and the use of weapons of mass destruction?
- 11. How can the changing status of women help improve the human condition?
- 12. How can transnational organized crime networks be stopped from becoming more powerful and sophisticated global enterprises?
- 13. How can growing energy demands be met safely and efficiently?
- **14. How can scientific and technological breakthroughs be accelerated to improve the human condition?**
- 15. How can ethical considerations become more routinely incorporated into global decisions?

Problems

World's Hardest Problems - Social Capital

Categories

- Sustainability + Human Development
- **Technology Infrastructure + Artificial Intelligence**
- **Healthcare** + Life Sciences
- Transportation + Urban Infrastructure
- Digital Immersive Learning / Therapies + **Ambient Computing**

Full List:

https://docs.google.com/document/d/1Vb8WWbsVyEJzl66_qqtZfFr2uLL07Y7SJH5XKldjDPY/edit

Problems

Requests for startups by Y Combinator

- **Artificial intelligence**
- **Biology**
- Brick and Mortar 2.0
- Carbon removal technologies
- Cellular agriculture and clean meat
- Response to COVID-19
- Diversity
- Education
- Energy
- **Enterprise software**
- Financial services
- **Future of work**
- **Government 2.0**
- **Healthcare**
- Improving memory
- Longevity and Anti-aging
- **One million jobs**
- Supporting creators
- Transportation and housing
- Underserved communities and social services
- Virtual reality and augmented reality

<https://www.ycombinator.com/rfs/>

Problems

FTX Future Fund Project Ideas

- AI alignment prizes
- **AI-based cognitive aids**
- AI ethics
- Biological weapons shelters
- Infrastructure to recover after catastrophes
- Early detection center
- Better PPE
- Pathogen sterilization technology
- Strengthening the Bioweapons Convention
- Rapid development and approval of emergency vaccination and therapeutics
- Talent search
- Alternative voting systems
- Innovative educational experiments
- Demonstrate the ability to rapidly scale food production in the case of nuclear winter
- A new university or institute
- **Fellowships to work on pressing problems**
- Advocacy for US high-skill immigration
- Population decline
- Institutional experimentation
- A constitution for the future
- Prediction markets
- Forecasting Our World in Data
- EA-relevant Substacks, Youtube, social media, etc.
- Forecasting that will affect important decisions
- Expert polling for everything
- Epistemic appeals process
- Cost-benefit analysis for everything
- Policy evaluation and forecasting
- More competition in the EA ecosystem
- Increasing diversity in EA
- EA ops
- New publishing houses and publications
- A fund for movies and documentaries
- New publications on the most pressing issues
- Critiquing our approach



Roles in Life

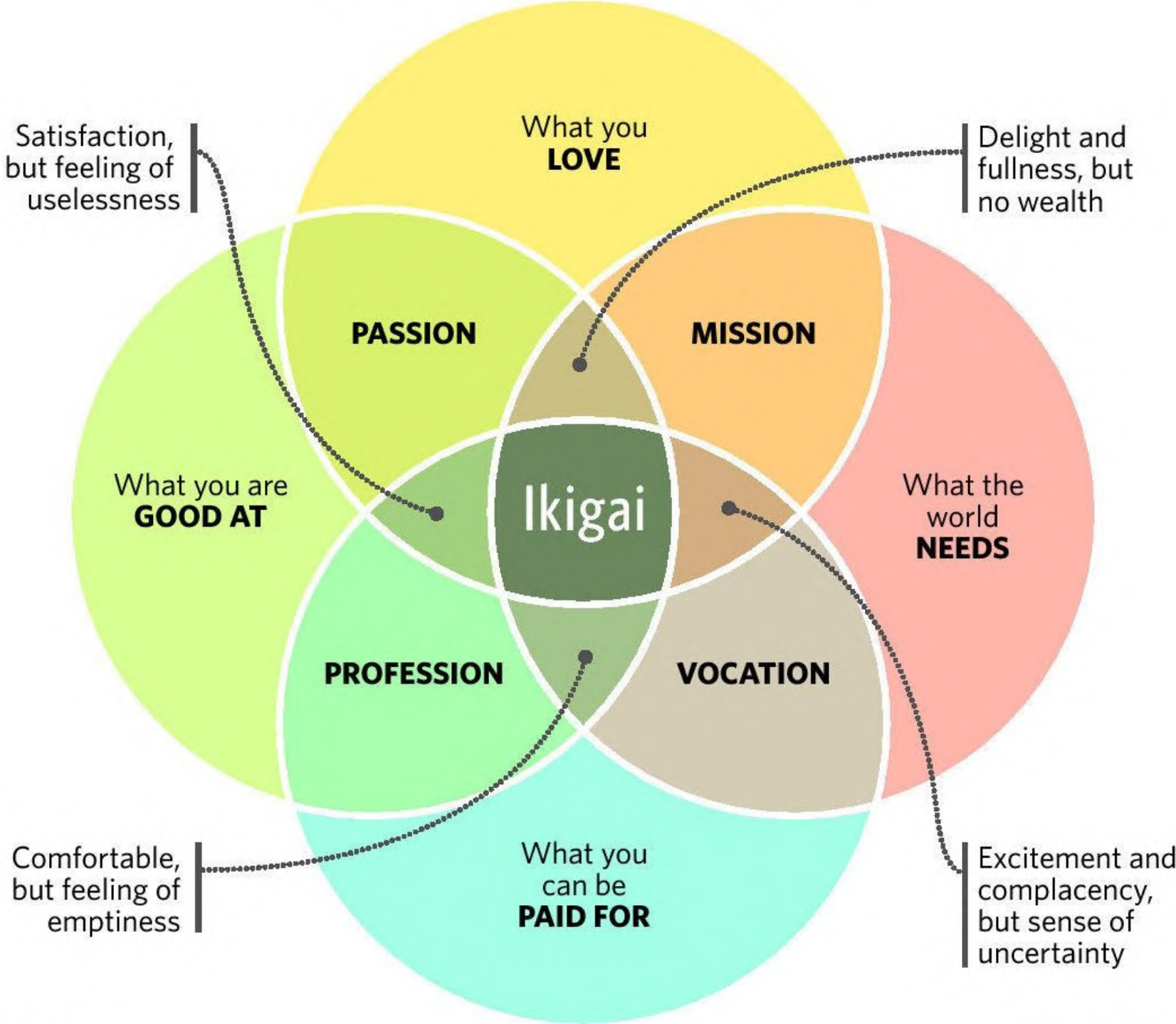
- figure out what to create
- figure out how to create it
- create something
- operate existing things
- maintain existing things
- manage people
- fund people

Roles in Companies

- operations
- maintenance
- projects

Ikigai

A JAPANESE CONCEPT MEANING "A REASON FOR BEING"



SOURCE: dreamstime

TORONTO STAR GRAPHIC