RECLA
Red de Educación Continua de Latinoamérica y Europa

PUCP

UNIVERSIDAD RICARDO PALMA

XXIX ENCUENTRO INTERNACIONAL

EL LIDERAZGO ÁGIL Y TRANSFORMADOR DE LA EDUCACIÓN CONTINUA EN LOS NUEVOS ENTORNOS DE CAMBIO

Impacto de IA en el Mercado de Trabajo 2024-2030

Retos y Oportunidades para Educación Continua

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Distribución de Tiempos

1. Presentación(20 minutos)
    - Introducción y Contexto
    - Análisis Regional
    - Análisis de la Industria
    - Tecnologías Emergentes y Creación de Empleo
    - Futuro del Trabajo y El Role de la Educación Continua

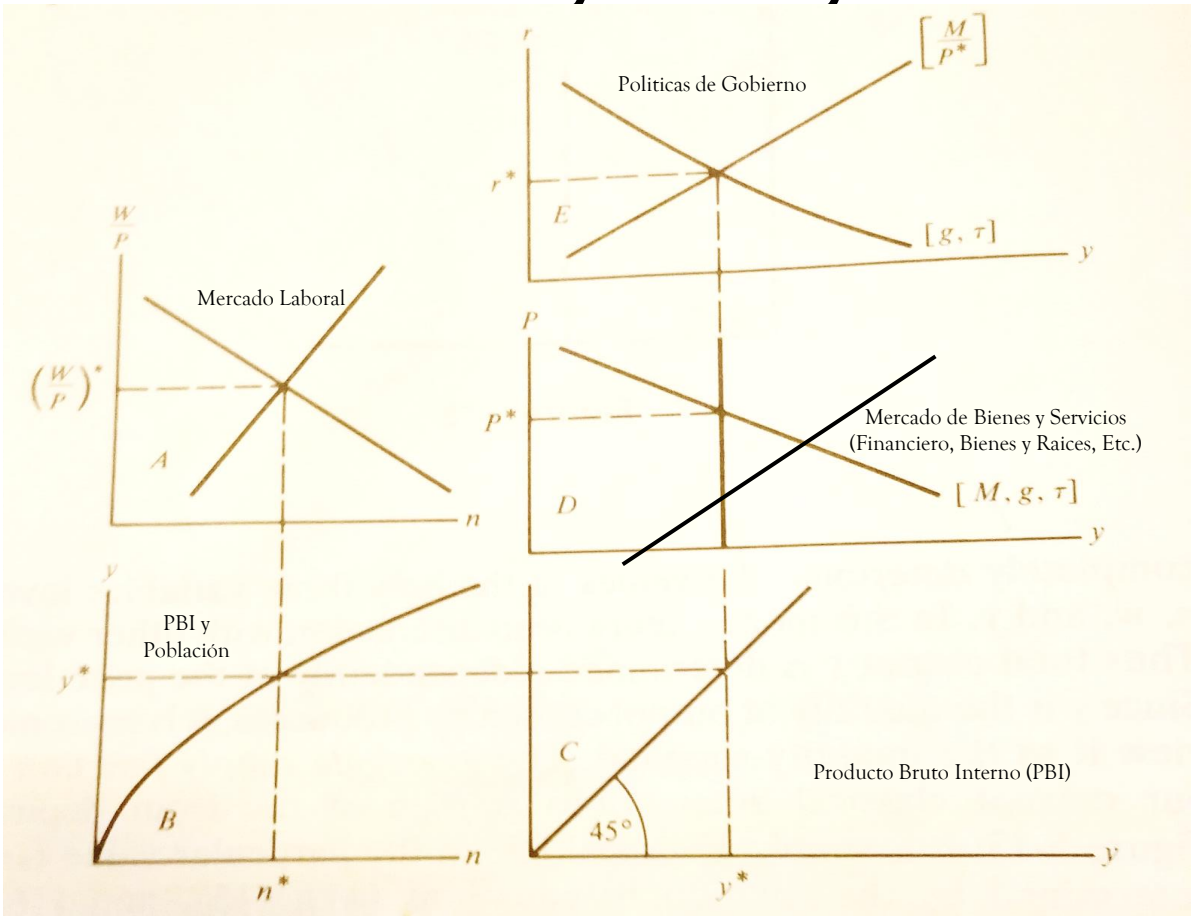
2. Sesión Práctica para Determinar Nuevas Ofertas bajo IA (en Grupos - 60 minutos)
    - División en Grupos y Asignación de Tareas (5 minutos)
    - Evaluación del Mercado Laboral y Competencias (20 minutos)
    - Desarrollo de Estrategias Educativas (20 minutos)
    - Presentación de Resultados y Discusión (15 minutos)

3. Conclusiones y Cierre (10 minutos)
    - Resumen de Puntos Clave (5 minutos)

Introducción y Contexto

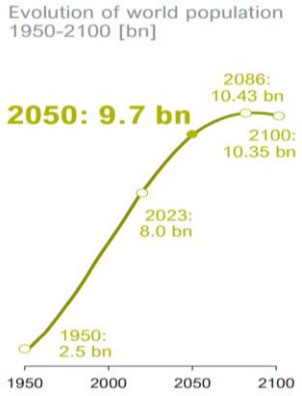
- Economía de Mercado Abierto
  - Políticas Monetarias y Fiscales
- Plan Estratégico Institucional
  - Las Cinco Fuerzas que Impactan el Mercado
  - Análisis FODA – Fortalezas, Debilidades, Oportunidades y Amenazas (SWOT)
  - Análisis PESTEL - Politico, Económico, Social, Tecnológico, Ambiental y Legal
  - Análisis VRIO – Valor, Rareza, Imitabilidad y Organización

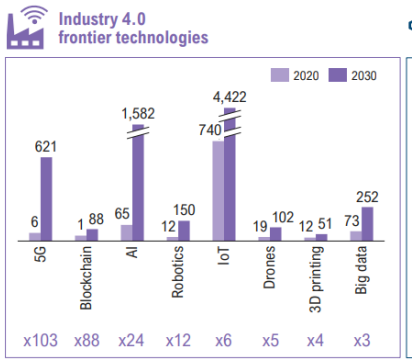
Los Modelos Neo-clásico y Neo-Keynesiano Estáticos



Source: Keynesian vs. Classical Economic Model | Overview & Differences ; https://openstax.org/books/principles-economics-3e/pages/31-4-fiscal-policy-investment-and-economic-growth

https://youtu.be/WmmClvXZp0g?si=_enzbBrfdzqiusLb





https://www.rolandberger.com/en/Insights/Global-Topics/Trend-Compendium/

From Macro to Micro: Mega Trend Impact Analysis on Your Industry, Your Products and Services

Macro | **Micro**

Mega Trend
Selected Trends That Impact Your Business And Markets

Example: Urbanization, Satellites

Sub Trend
A Sub Layer of Trends that Has Wide Ranging Impact

Example: Three concepts of urbanization will emerge: megacities, mega regions and mega corridors. Smart Cities. Civilian satellites means high speed broadband, wireless and 4G and free wi-fi in public places/cities

Impact to Your Industry
Visualizing The Roadmap Of These Critical Forces Through Scenario Building and Macro Economic Forecasts

Example: People in future will need "personal mobility" not necessarily cars to commute to work. This will lead to need for integrated mobility combining all forms of transport including cars

Impact on Future Product/ Technology

Example: New Product Opportunity - New Mega City Cars, Car sharing, New Technology Opportunities – Connected car , e.g. Internet Radio

Analysis of Opportunities and Unmet Needs

Example: Mega City electric cars with small turning radius, autonomous parking in busy cities, Facebook on wheels, seamless switching from home to car

COMPARING POPULATION PYRAMIDS

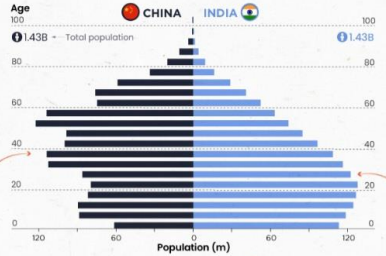
Population pyramids illustrate the demographic makeup of a population, revealing age distribution, birth, and death rates. They are categorized into three commonly seen shapes

Expansive
Have a **broad base** that represents a large young population, indicating high birth rates. Typically seen in developing countries that often also have **high mortality rates.**

Constrictive
Have a **narrow base** that indicates fewer young people compared to middle-aged and elderly people in the population. Common in developed countries with **low fertility rates.**

Stationary
Have a **tower-like structure** due to stable population growth and similar numbers of people across age groups. Common in developed nations with **moderate fertility rates.**

China's constrictive population pyramid was partly shaped by decades of the one-child policy, which was implemented in 1980 before being loosened to a two-child policy in 2016, and then to a three-child policy in 2021.



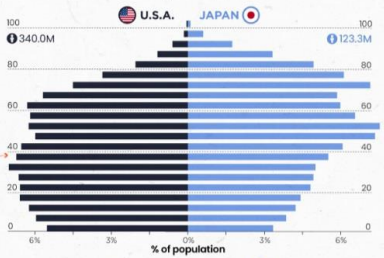
Median age: 38 yrs

Populations with a **low** median age suggest high potential for future growth but also the need for **substantial investment in education, healthcare, and job creation to reach their potential.**

Median age: 28 yrs

The **U.S.** population pyramid is starting to look less stationary and more constrictive, similar to **Japan's.**

However, in contrast to Japan's low immigration rate, the U.S. benefits from a regular inflow of young, working-age people.



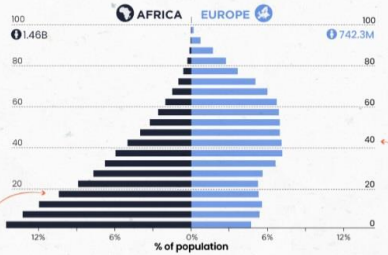
Median age: 39 yrs

Populations with **higher** median ages tend to have longer life expectancies, but face a **decrease in labor force participation and potential economic challenges.**

Median age: 49 yrs

While **Africa** has a high total fertility rate of 4.2, the average life expectancy is 63 years-old.

Europe's total fertility rate is a mere 1.5 while the average life expectancy is 80 years-old.



Median age: 18-19 yrs

The United Nations defines the total fertility rate as the **average number of children that would be born to a woman over her lifetime** if she were to experience the current age-specific fertility rates throughout her life.

Median age: 43-44 yrs

Source: United Nations

visualcapitalist.com

Net Migration Pattern by State

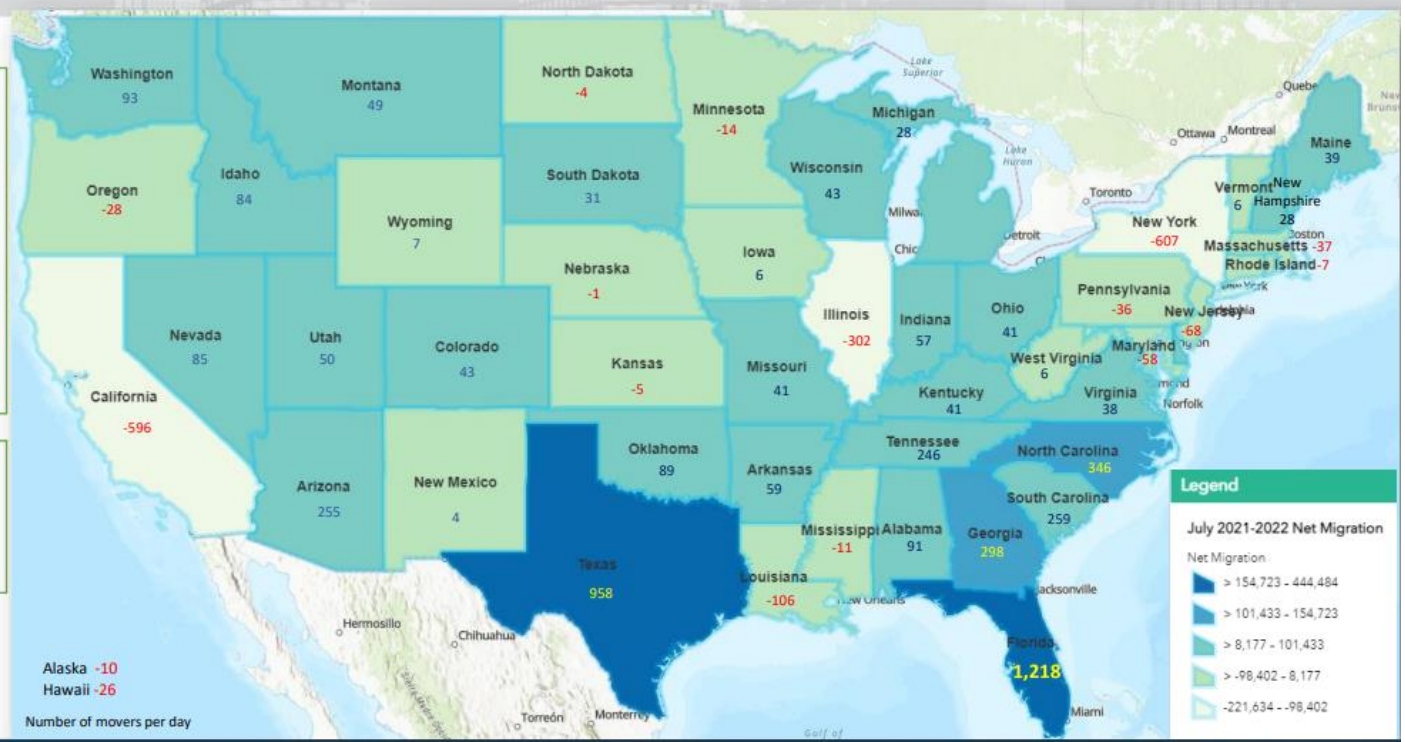
According to the U.S. Census **Florida** ranks:

- #1 in total net migration (444,484)
- #1 in domestic migration (318,855)
- #1 with the most people moving in per day (1,218)
- #2 in international migration (125,629) behind
  - #1 California (125,715)
- #3 in total population (22,244,823) behind
  - #1 California (39,029,342)
  - #2 Texas (30,029,572)

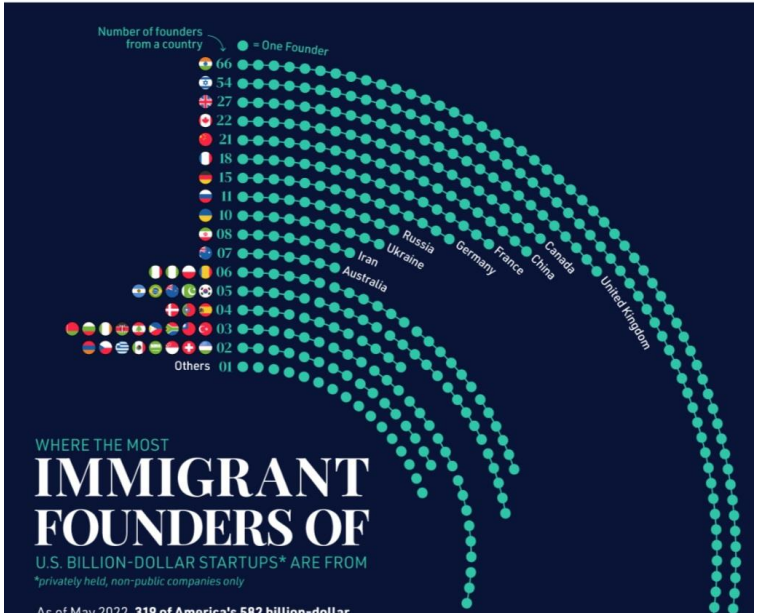
States showing the most negative domestic migration:

- California (-343,230)
- New York (-299,557)
- Illinois (-141,656)

Click here to view interactive map



Source: U.S. Census July 2021 to July 2022
Prepared by Tampa Bay EDC Research Department March 2023



WHERE THE MOST

IMMIGRANT FOUNDERS OF

U.S. BILLION-DOLLAR STARTUPS* ARE FROM

**privately held, non-public companies only*

As of May 2022, **319 of America's 582 billion-dollar startups** had at least one immigrant founder.

Here's a look at the nationalities of origin of these successful founders.

One of the most famous foreign founders in the U.S. is **Elon Musk**, originally from South Africa.

He has founded multiple companies, including SPACEX, OpenAI, and THE BORING COMPANY.

Founder: Larry Liu
Country: CHINA
Company: Weee!

Robyn Rihanna Fenty
BARBADOS
Savage X

Samuel Adeyemo
KENYA
Aurora Solar

Eynat Guez
ISRAEL
Papaya Global

Ravi Ithal
INDIA
Netskope

VISUAL CAPITALIST

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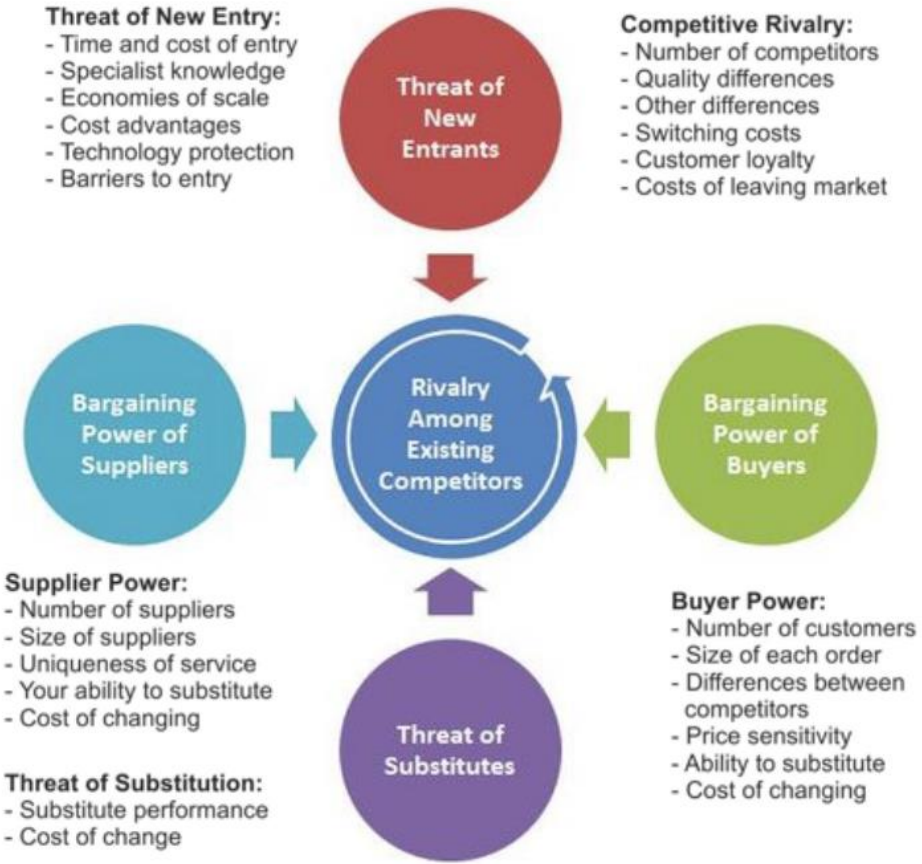
COLLABORATORS RESEARCH + WRITING Avery Koop | ART DIRECTION + DESIGN Joyce Ma

Source: The National Foundation for American Policy

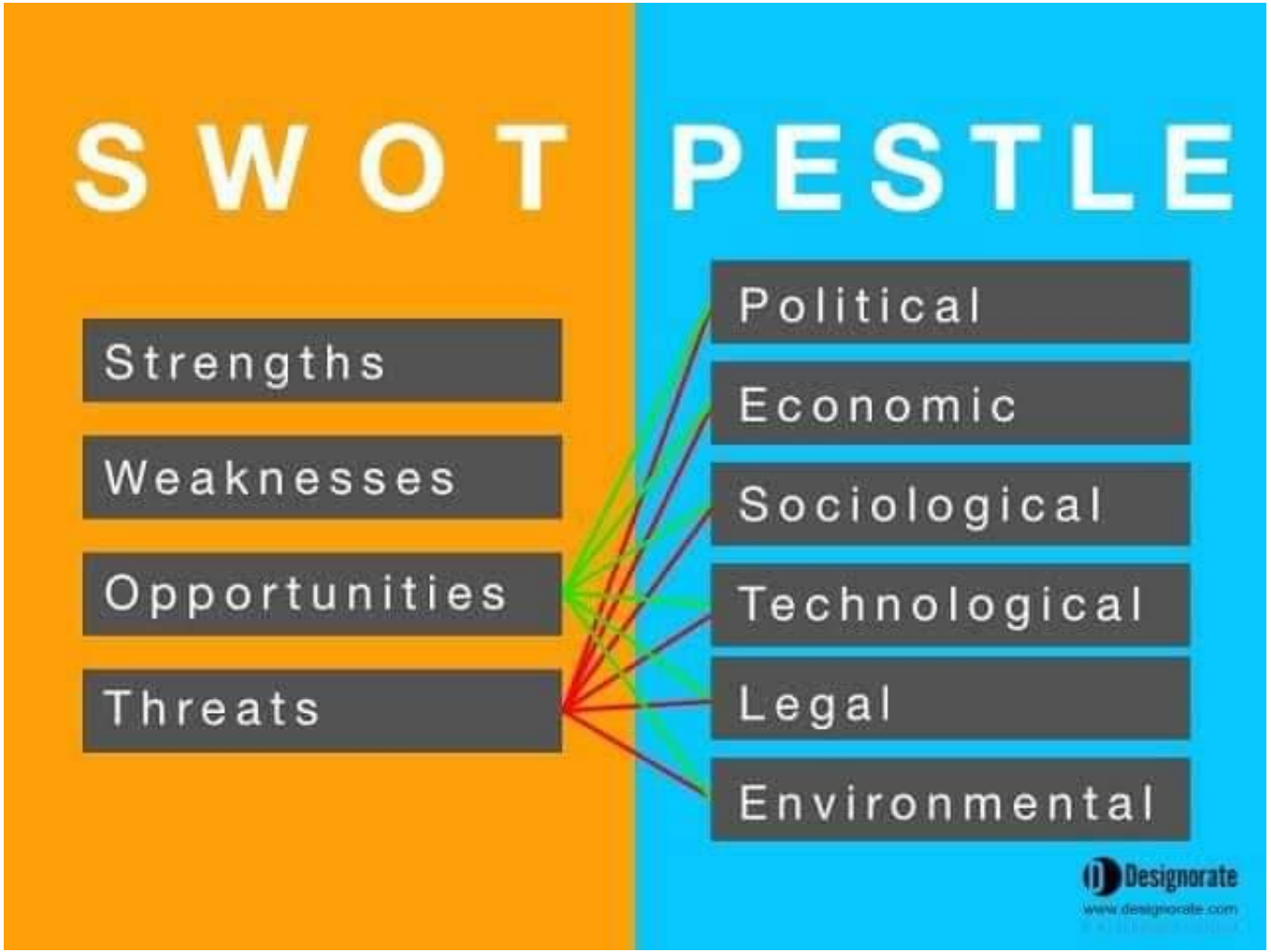
STRATEGIC PLAN

Source: https://onstrategyhq.com/resources/how-to-write-a-strategic-plan/

Five Forces Analysis (Porter)



Source: https://www.visual-paradigm.com/tutorials/five-forces-analysis-tutorial/



Source: https://images.app.goo.gl/hczXKt9ZaSawAh889

VUCA Analysis

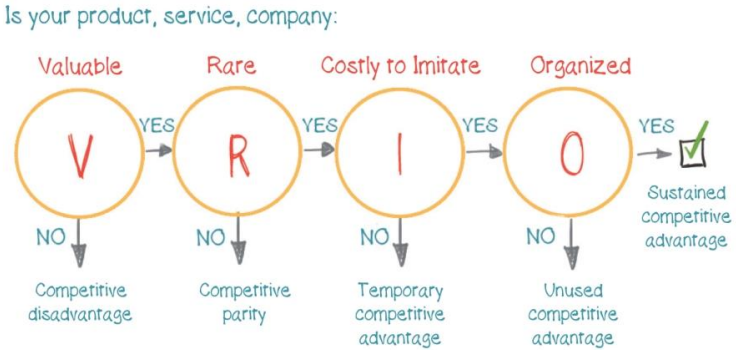
Complejidad	Volatilidad
La situación tiene muchas partes y variables interconectadas. Alguna información está disponible o puede predecirse, pero el volumen o la naturaleza de esta puede ser abrumador para procesar.	**El desafío es inesperado o inestable y puede tener una duración desconocida, pero no es necesariamente difícil de entender; el conocimiento sobre esto a menudo está disponible.**
Ambigüedad	Incertidumbre
Las relaciones causales son completamente poco claras. No existen precedentes; enfrentas "incógnitas desconocidas".	A pesar de la falta de otra información, la causa y el efecto básicos del evento son conocidos. El cambio es posible pero no dado.

Source: https://images.app.goo.gl/nsXM9AZfqQmJnMZ86

Ventajas Competitivas Sostenibles

PERSPECTIVE FROM CUSTOMERS OR COMPETITORS

VRIO FRAMEWROK [3]

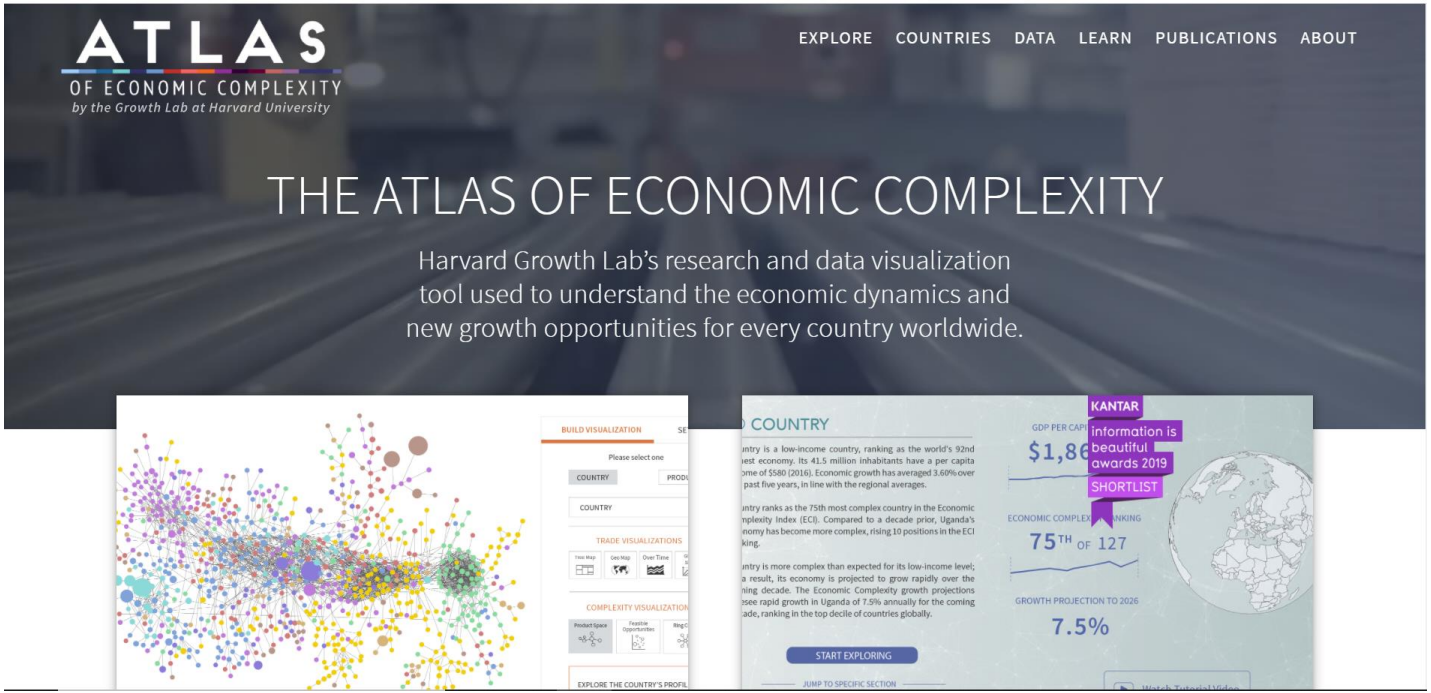


Running your idea through the VRIO framework can help determine whether or not you will have the chance for a sustained competitive advantage.

Source: The Virtual MBA by Jason Barron.

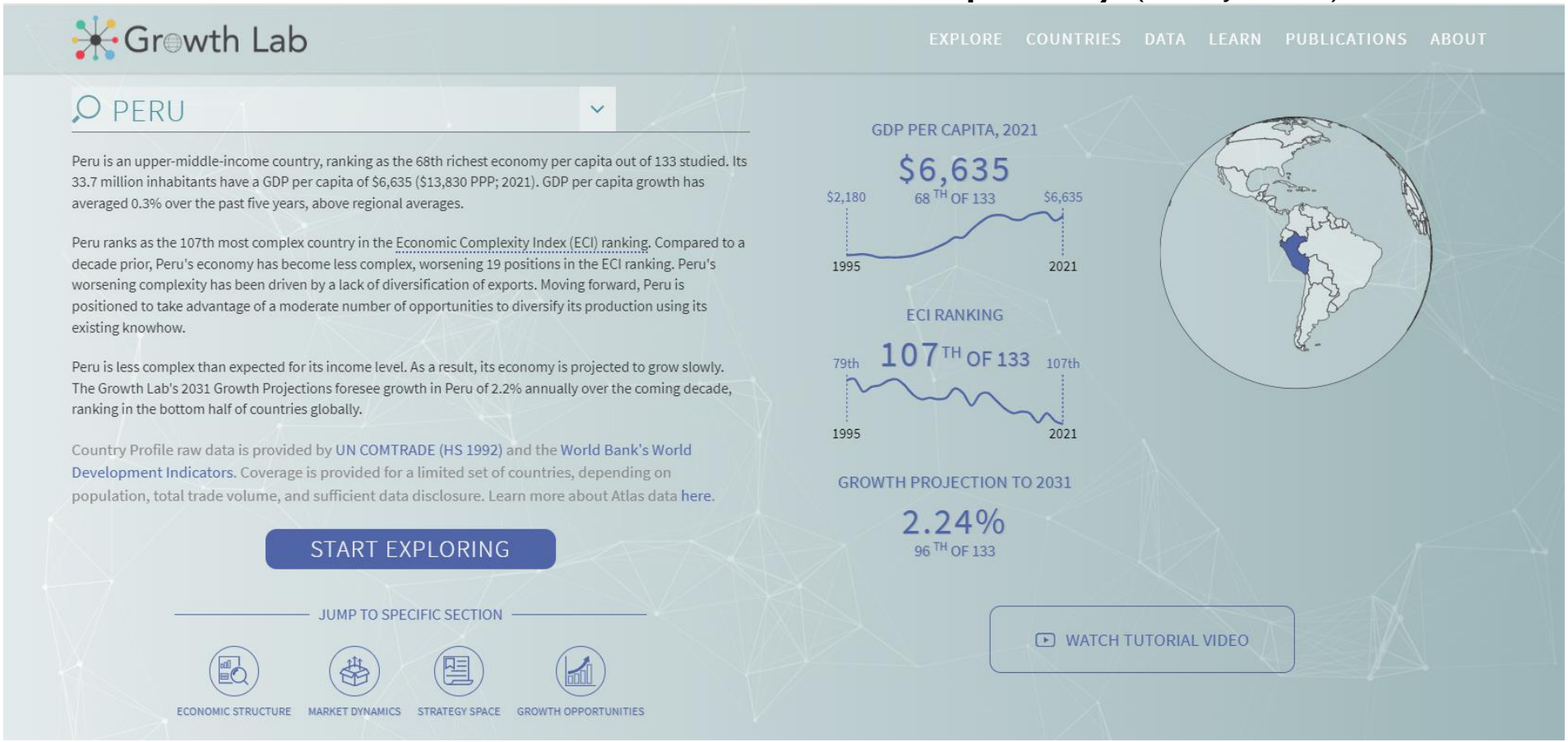
Análisis Regional

- Estructura Económica
- Comercio Internacional - Trade Visualiations
  - Exportation
    - Tree Map, Geo Map, Over Time Map, and Global Share
  - Importation
    - Tree Map, Geo Map, Over Time Map, and Global Share
- Complexity Visualizations
  - Product Space, Feasible Opportunities (Complexity or Opportunity Gain), and Ring Chart
- Tool: Atlas of Economic Complexity
  - https://atlas.cid.harvard.edu/



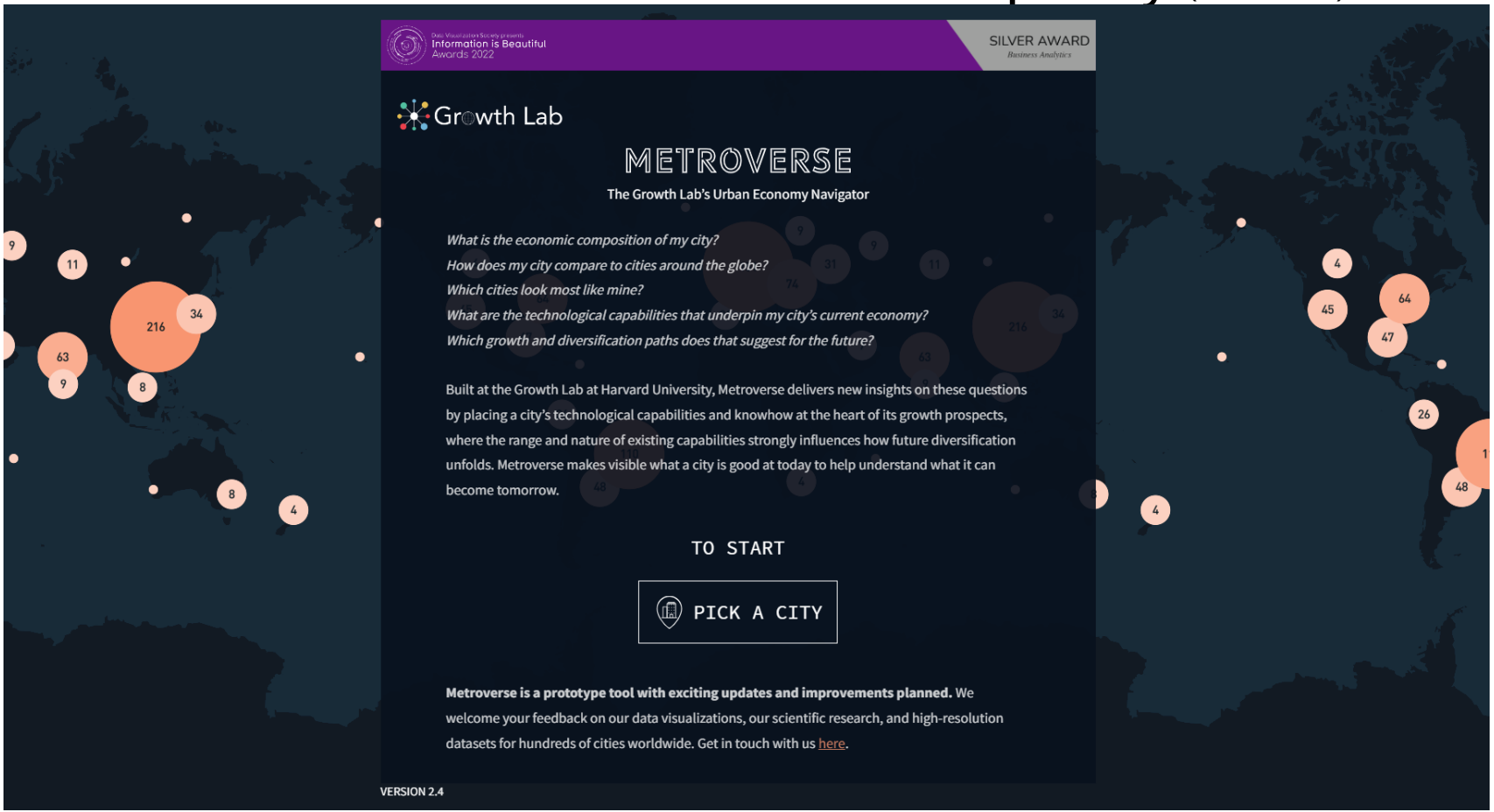
https://atlas.cid.harvard.edu/

Tool: Atlas of Economic Complexity (Country Profiles)



Source: https://atlas.cid.harvard.edu/

Tool: Atlas of Economic Complexity (Metroverse)



Source: https://atlas.cid.harvard.edu/

METROVERSE

CITY PROFILES | SIMILAR CITIES BETA | ABOUT | FAQ | CONTACT

LIMA, PERU

SHARE | EXPAND | GUIDE | MEDIUM DATA QUALITY

- CITY OVERVIEW
- WHAT IS MY CITY'S ECONOMIC COMPOSITION?
- HOW DOES MY CITY'S ECONOMIC COMPOSITION COMPARE TO ITS PEER(S)?
- WHAT IS MY CITY'S POSITION IN THE INDUSTRY SPACE?
- WHAT ARE THE GROWTH OPPORTUNITIES?

POPULATION 2020
10 MILLION

GDP PER CAPITA 2020
$16,733

RANKING* 2020
7TH MOST POPULATED
274TH HIGHEST GDP PER CAPITA

DATA QUALITY 2024
MEDIUM QUALITY

MOST INTENSIVE INDUSTRIES 2024**
NATURAL RESOURCES AND MINING

TOP KNOWLEDGE CLUSTERS 2024**
HR SVCS
GOVT & PUBLIC SVCS
ACCOUNTING

SELECTED SIMILAR CITIES 2024
BUENOS AIRES, ARG
SÃO PAULO, BRA
SANTIAGO, CHL

*Out of the 347 cities covered in the Americas
**Based on employment share and recommended benchmark of top global peers by similar population

Source: GHS Urban Centre Database
Click to learn how we define city boundaries

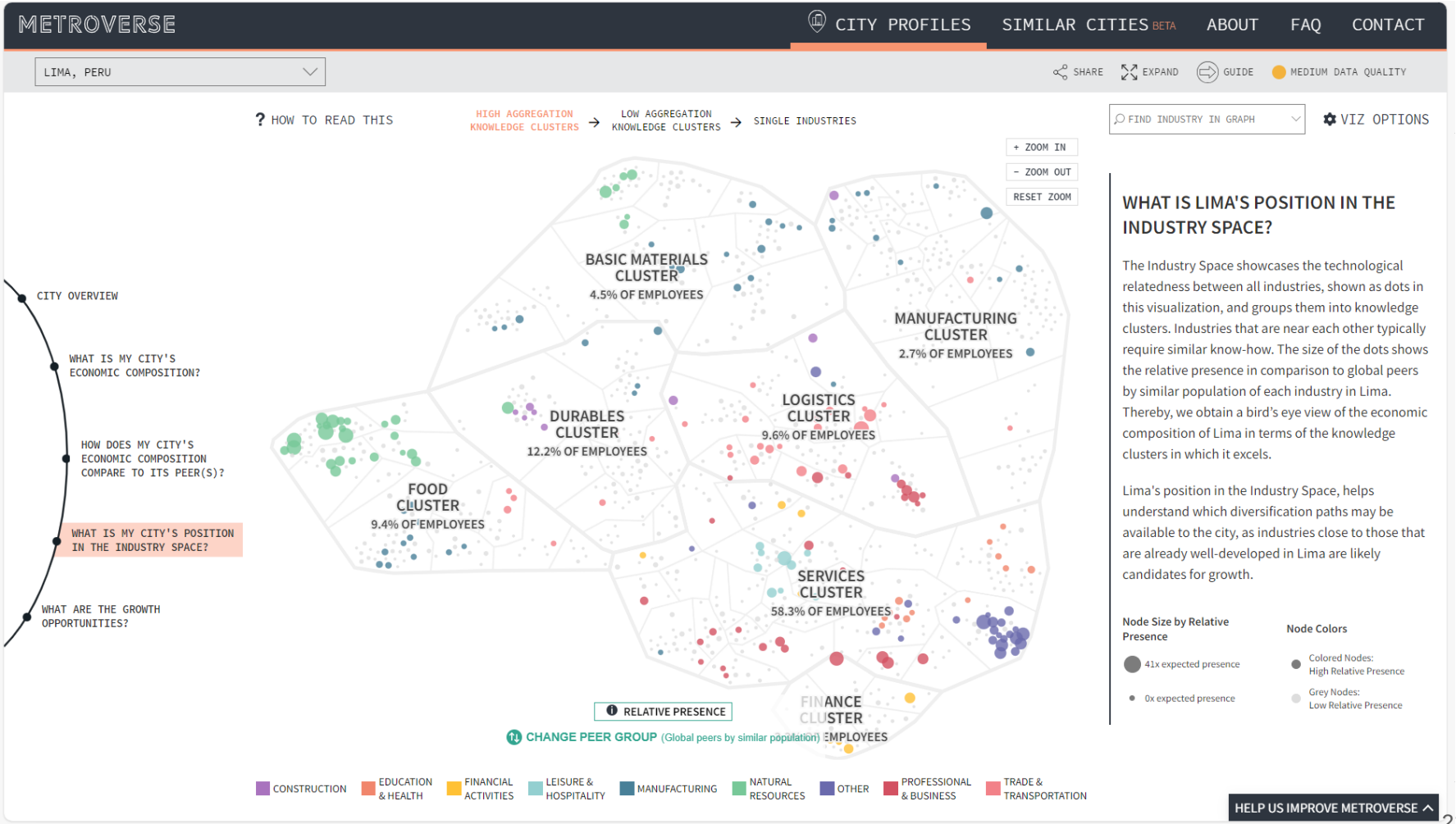
METROVERSE CONCEPTS

RELATIVE PRESENCE
A measure of whether an industry accounts for a larger or a smaller share of overall employment in a selected city. In Metroverse, the relative presence of an industry depends on the selected benchmark city or set of cities.

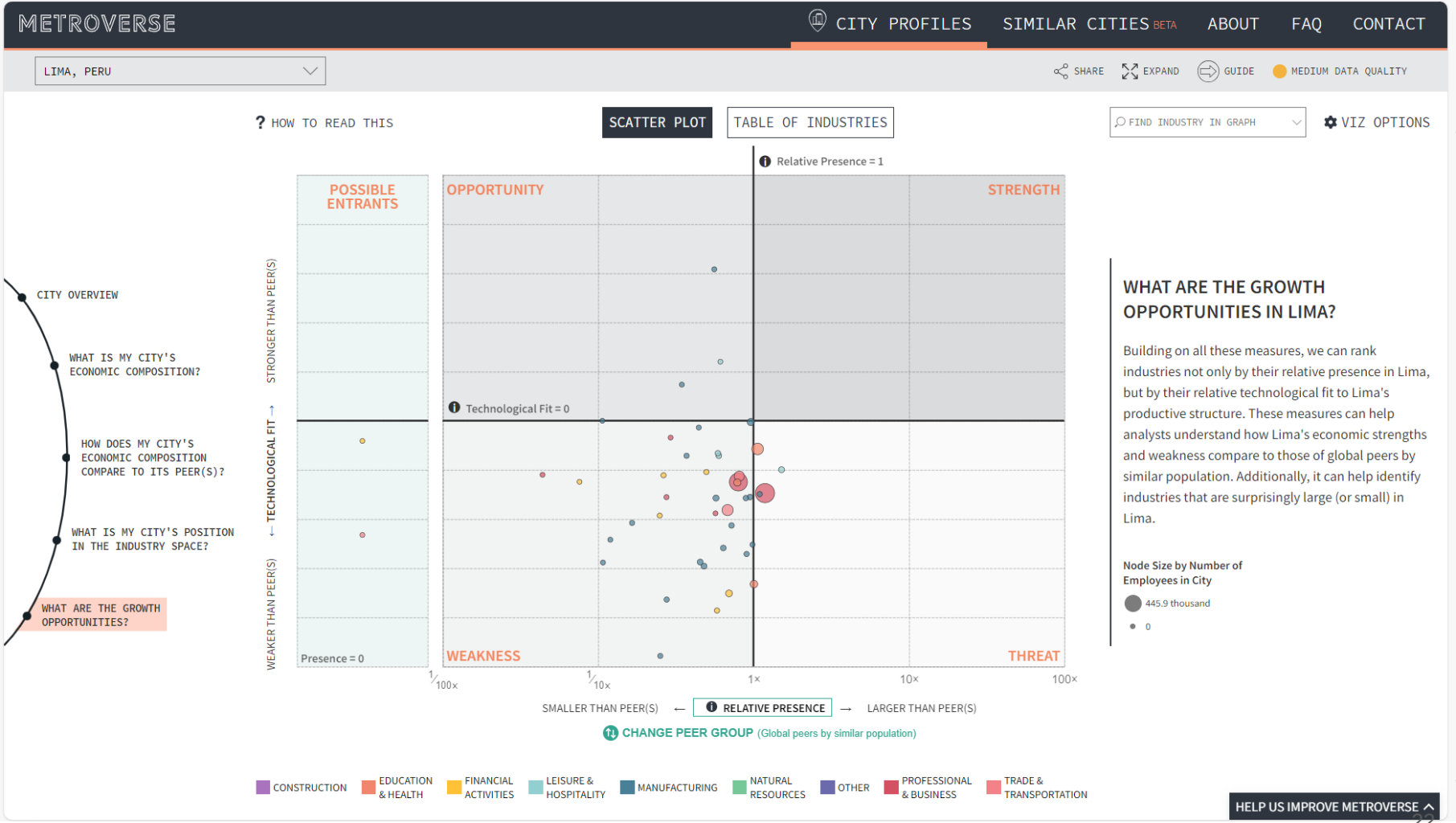
KNOWLEDGE CLUSTER
A set of industries grouped by their technological relatedness. Industries in the same Knowledge Cluster typically share similar know-how or productive capabilities. Knowledge clusters help reveal the knowledge base of a city, as well as its diversification potential.

INDUSTRY SPACE
A unique data visualization that depicts the technological relatedness between industries and in which of these industries a selected city has an outsized presence. Industries that are near each other in the Industry Space typically require similar know-how and can be grouped into Knowledge Clusters. The Industry Space also helps to define which diversification paths may be available to a city, as industries close to those that are already well-developed are likely candidates for growth.

Source: https://atlas.cid.harvard.edu/



Source: https://atlas.cid.harvard.edu/



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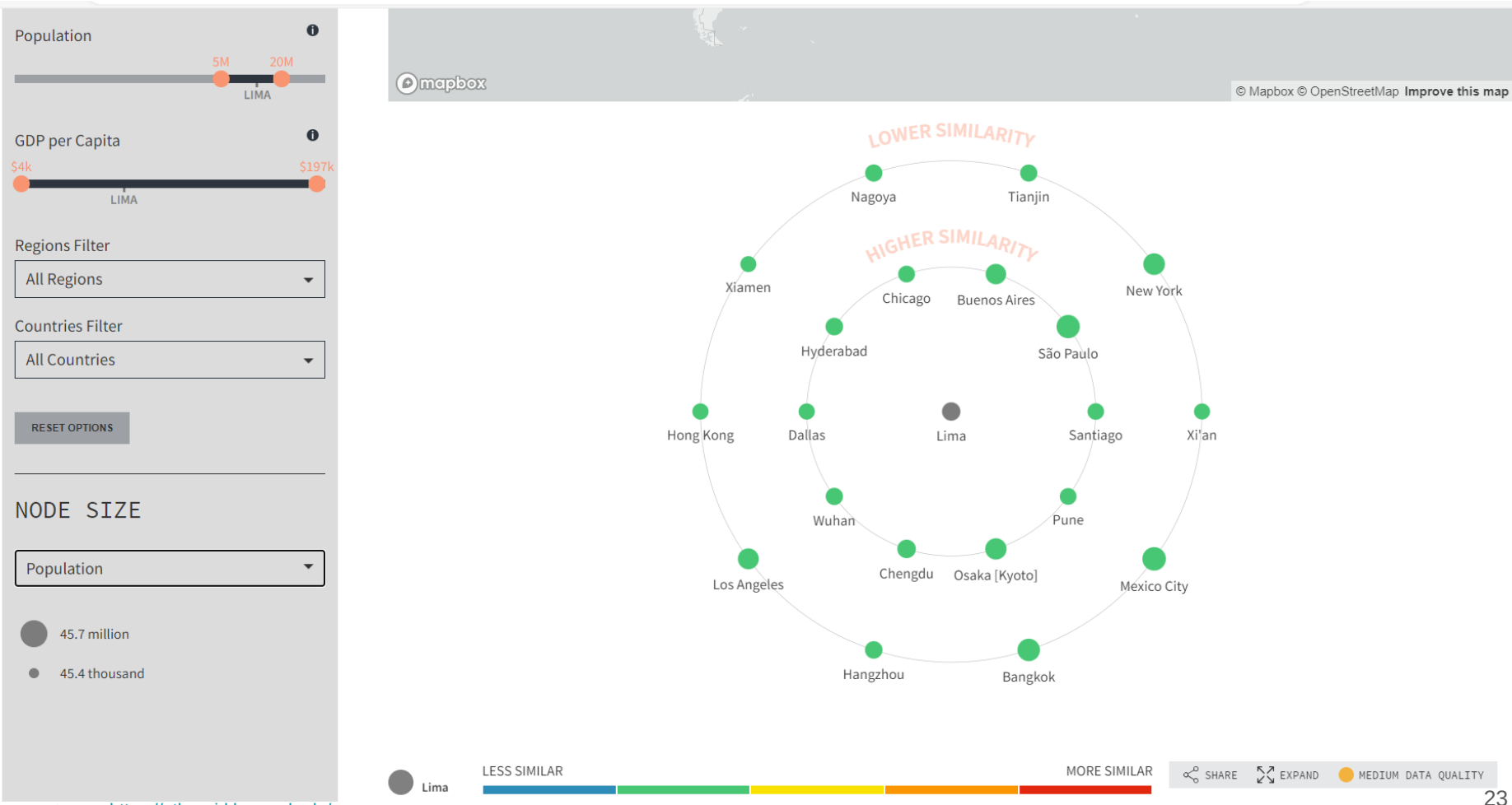


Source: https://atlas.cid.harvard.edu/

Análisis de la Industria

- Proyecciones Industriales de Empleo
- Proyecciones Ocupacionales
- Patrones de Empleos Industriales
- Industria-occupacion matrix data, por industria

INDUSTRIES GAINING THE MOST NEW JOBS

WORKFORCE DEVELOPMENT AREA 23 - MIAMI-DADE AND MONROE COUNTIES

Rank	NAICS Code	NAICS Title	Employment			
			2021	2029	Growth	Percent Growth
1	722	Food Services and Drinking Places	92,669	117,673	25,004	27.0
2	541	Professional and Technical Services	92,087	109,228	17,141	18.6
3	621	Ambulatory Health Care Services	72,877	88,155	15,278	21.0
4	721	Accommodation	28,157	40,488	12,331	43.8
5	611	Educational Services	42,161	49,588	7,427	17.6
6	488	Support Activities for Transportation	21,733	26,670	4,937	22.7
7	448	Clothing and Clothing Accessories Stores	15,257	20,118	4,861	31.9
8	561	Administrative and Support Services	76,397	81,237	4,840	6.3
9	622	Hospitals	47,264	51,412	4,148	8.8
10	812	Personal and Laundry Services	12,785	16,910	4,125	32.3
11	930	Local Government	105,628	109,622	3,994	3.8
12	624	Social Assistance	20,806	23,885	3,079	14.8
13	713	Amusement, Gambling & Recreation Ind	7,910	10,749	2,839	35.9
14	441	Motor Vehicle and Parts Dealers	15,327	17,935	2,608	17.0
15	492	Couriers and Messengers	12,165	14,665	2,500	20.6
16	524	Insurance Carriers & Related Activities	20,529	22,705	2,176	10.6
17	920	State Government	19,172	21,266	2,094	10.9
18	238	Specialty Trade Contractors	33,199	35,291	2,092	6.3
19	523	Financial Investment & Related Activity	8,697	10,751	2,054	23.6
20	711	Performing Arts and Spectator Sports	5,425	7,360	1,935	35.7

Source: Florida Department of Economic Opportunity - 2021-29 Industry Employment Projections.

FASTEST-GROWING INDUSTRIES

WORKFORCE DEVELOPMENT AREA 23 - MIAMI-DADE AND MONROE COUNTIES

Rank	NAICS Code	NAICS Title	Employment 2021	Employment 2029	Growth	Percent Growth
1	712	Museums, Parks and Historical Sites	1,221	2,034	813	66.6
2	721	Accommodation	28,157	40,488	12,331	43.8
3	713	Amusement, Gambling & Recreation Ind	7,910	10,749	2,839	35.9
4	711	Performing Arts and Spectator Sports	5,425	7,360	1,935	35.7
5	812	Personal and Laundry Services	12,785	16,910	4,125	32.3
6	448	Clothing and Clothing Accessories Stores	15,257	20,118	4,861	31.9
7	512	Motion Picture & Sound Recording Ind	2,884	3,765	881	30.5
8	518	ISPs, Search Portals, & Data Processing	1,289	1,637	348	27.0
9	722	Food Services and Drinking Places	92,669	117,673	25,004	27.0
10	532	Rental and Leasing Services	5,158	6,445	1,287	25.0
11	523	Financial Investment & Related Activity	8,697	10,751	2,054	23.6
12	488	Support Activities for Transportation	21,733	26,670	4,937	22.7
13	442	Furniture and Home Furnishings Stores	4,154	5,065	911	21.9
14	621	Ambulatory Health Care Services	72,877	88,155	15,278	21.0
15	492	Couriers and Messengers	12,165	14,665	2,500	20.6
16	484	Truck Transportation	5,845	6,981	1,136	19.4
17	483	Water Transportation	9,937	11,865	1,928	19.4
18	519	Other Information Services	1,213	1,439	226	18.6
19	541	Professional and Technical Services	92,087	109,228	17,141	18.6
20	511		3,468	4,089	621	17.9

Source: Florida Department of Economic Opportunity - 2021-29 Industry Employment Projections.

OCCUPATIONS GAINING THE MOST NEW JOBS

WORKFORCE DEVELOPMENT AREA 23 - MIAMI-DADE AND MONROE COUNTIES

Rank	SOC Code	SOC Title	Employment			
			2021	2029	Growth	Percent Growth
2	35-2014	Cooks, Restaurant	13,157	18,899	5,742	43.6
3	41-2031	Retail Salespersons	39,755	45,366	5,611	14.1
4	35-3031	Waiters and Waitresses	20,439	25,911	5,472	26.8
5	53-7062	Laborers and Freight, Stock, and Material Movers, Hand	29,283	33,136	3,853	13.2
6	11-1021	General and Operations Managers	22,440	25,742	3,302	14.7
7	37-2012	Maids and Housekeeping Cleaners	11,405	14,017	2,612	22.9
8	29-1141	Registered Nurses	25,384	27,868	2,484	9.8
9	35-1012	First-Line Supervisors of Food Preparation and Serving Workers	9,346	11,701	2,355	25.2
10	31-1120	Home Health and Personal Care Aides	9,974	12,313	2,339	23.5
11	49-9071	Maintenance and Repair Workers, General	15,347	17,484	2,137	13.9
12	15-1256	Software Developers and Software Quality Assurance Analysts and Testers	5,894	7,977	2,083	35.3
13	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	20,245	22,201	1,956	9.7
14	53-3032	Heavy and Tractor-Trailer Truck Drivers	15,537	17,407	1,870	12.0
15	13-1161	Market Research Analysts & Marketing Specialists	6,804	8,633	1,829	26.9
16	31-9092	Medical Assistants	7,018	8,801	1,783	25.4
17	43-4051	Customer Service Representatives	30,768	32,533	1,765	5.7
18	41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	10,844	12,586	1,742	16.1
19	35-3011	Bartenders	5,807	7,514	1,707	29.4
20	13-2011	Accountants and Auditors	14,805	16,508	1,703	11.5

FASTEST-GROWING OCCUPATIONS

WORKFORCE DEVELOPMENT AREA 23 - MIAMI-DADE AND MONROE COUNTIES

Rank	SOC Code	SOC Title	Employment 2021	Employment 2029	Growth	Percent Growth
1	29-1171	Nurse Practitioners	1,695	2,530	835	49.3
2	35-2014	Cooks, Restaurant	13,157	18,899	5,742	43.6
3	39-6011	Baggage Porters and Bellhops	630	876	246	39.0
4	29-1071	Physician Assistants	727	990	263	36.2
5	39-2021	Nonfarm Animal Caretakers	1,977	2,680	703	35.6
6	15-1256	Software Developers and Software Quality Assurance Analysts and Testers	5,894	7,977	2,083	35.3
7	39-3091	Amusement and Recreation Attendants	3,776	5,097	1,321	35.0
8	53-6021	Parking Lot Attendants	3,758	5,023	1,265	33.7
9	39-9031	Fitness Trainers and Aerobics Instructors	1,526	2,038	512	33.6
10	39-6012	Concierges	1,182	1,562	380	32.1
11	31-2021	Physical Therapist Assistants	807	1,055	248	30.7
12	11-9111	Medical and Health Services Managers	3,302	4,309	1,007	30.5
13	35-3011	Bartenders	5,807	7,514	1,707	29.4
14	27-4011	Audio and Video Equipment Technicians	690	891	201	29.1
15	31-9011	Massage Therapists	1,212	1,565	353	29.1
16	43-4081	Hotel, Motel, and Resort Desk Clerks	2,835	3,657	822	29.0
17	29-1127	Speech-Language Pathologists	823	1,059	236	28.7
18	35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	4,710	6,053	1,343	28.5
19	35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	3,775	4,851	1,076	28.5
20	35-1011	Chefs and Head Cooks	1,315	1,685	370	28.1

Industry-occupation matrix data, by industry

Other available formats: (XLSX)

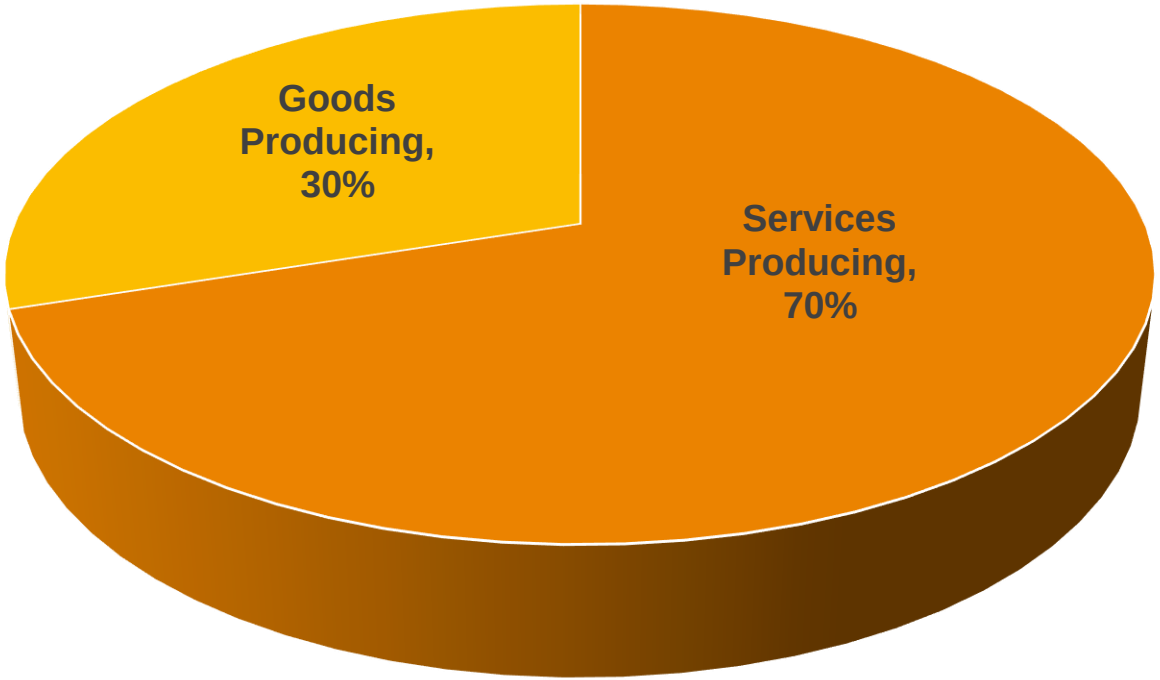
Table 1.9 2022–32 Industry-occupation matrix data, by industry

2022 National Employment Matrix title	2022 National Employment Matrix code	Industry type	2022 NAICS code	National Employment Matrix Link
Total employment	TE1000	Summary	—	Projection for TE1000
Self-employed workers	TE1100	Line item	—	Projection for TE1100
Total wage and salary employment	TE1200	Summary	—	Projection for TE1200
Agriculture, forestry, fishing and hunting	110000	Summary	110000	Projection for 110000
Crop production	111000	Line item	111000	Projection for 111000
Animal production and aquaculture	112000	Line item	112000	Projection for 112000
Forestry and logging	113000	Summary	113000	Projection for 113000
Forestry	1131-2	Line item	113100-3200	Projection for 1131-2
Logging	113300	Line item	113300	Projection for 113300
Fishing, hunting and trapping	114000	Line item	114000	Projection for 114000
Support activities for agriculture and forestry	115000	Line item	115000	Projection for 115000
Mining, quarrying, and oil and gas extraction	210000	Summary	210000	Projection for 210000

https://www.bls.gov/emp/tables/industry-occupation-matrix-industry.htm

Total Employment – Services vs. Good Producing Industries

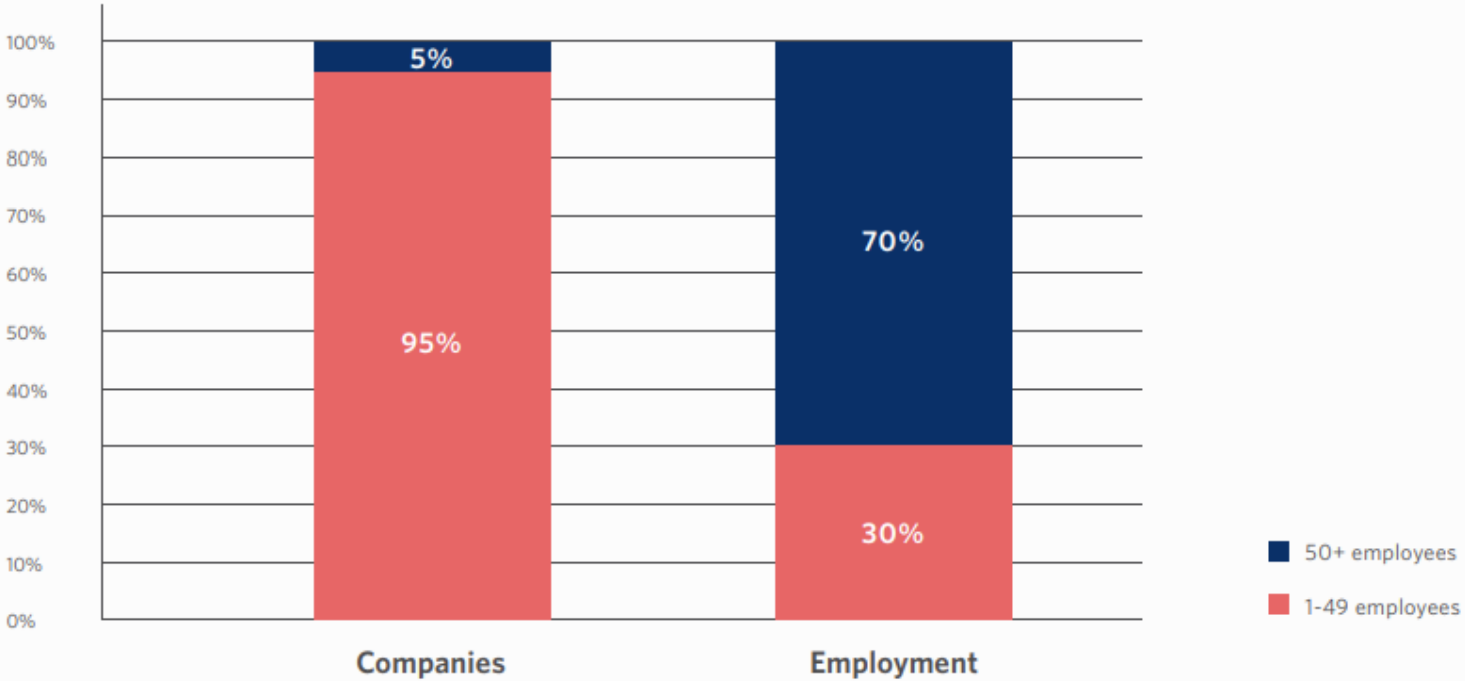
Miami-Dade County



https://floridajobs.org/economic-data/employment-projections

PERCENTAGE OF COMPANIES AND EMPLOYMENT IN MIAMI

Comparison by Size Class

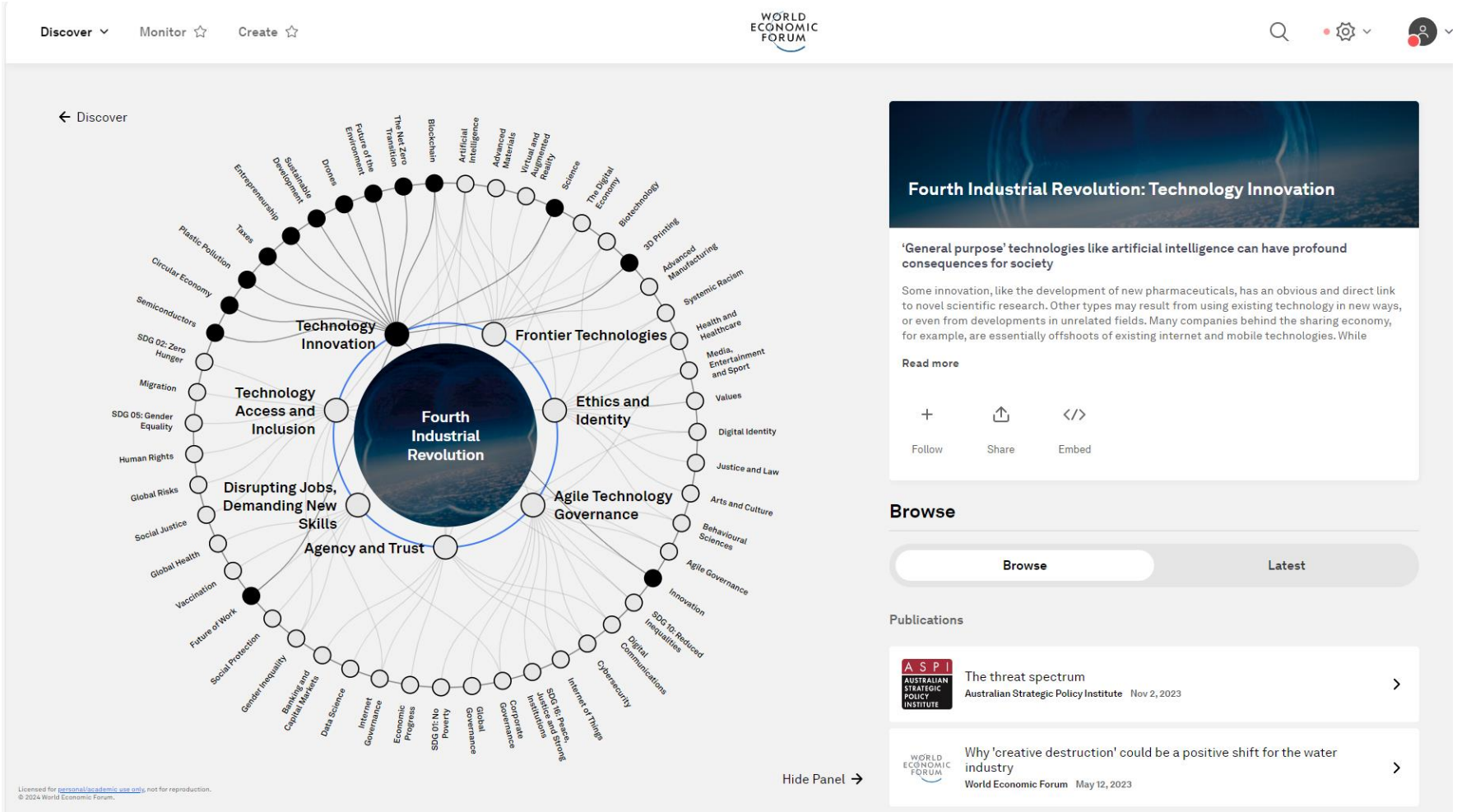


Source: Endeavor Insight analysis and U.S. Census Bureau, Business Dynamics Statistics.

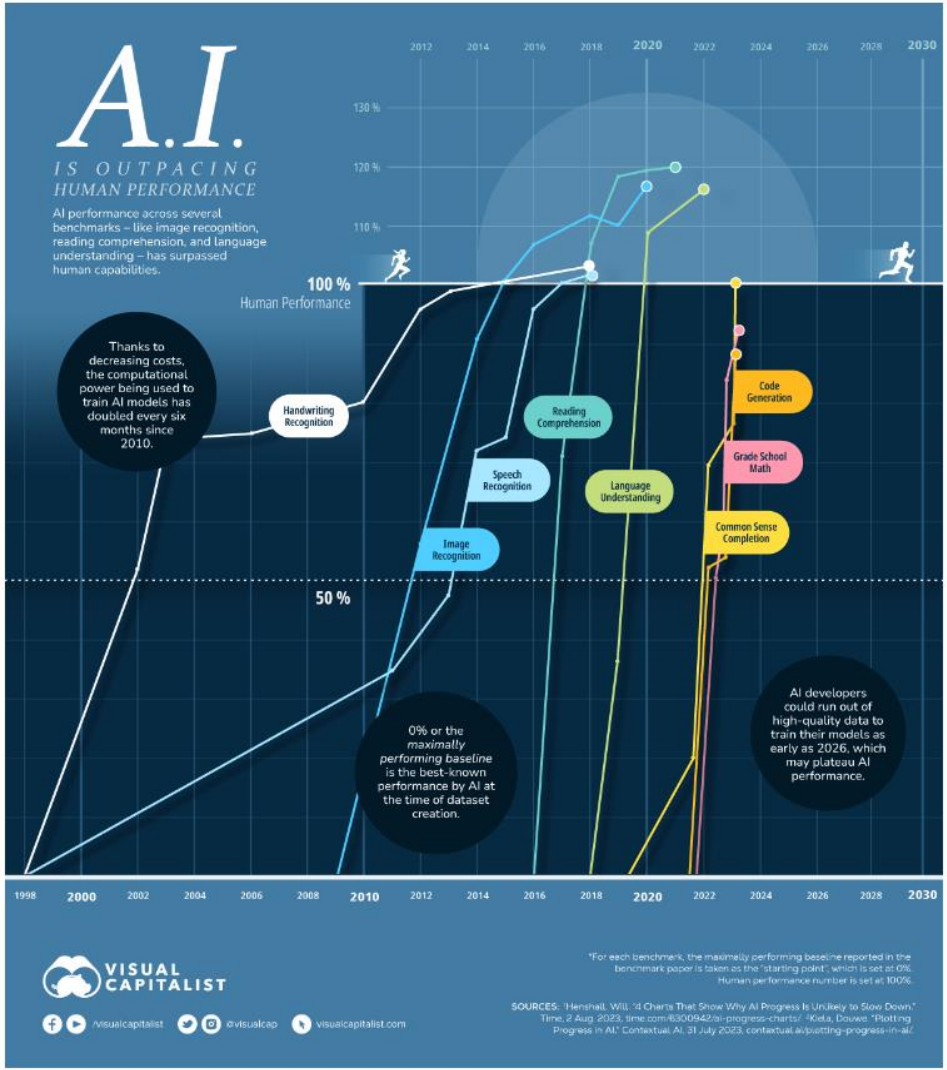
https://floridajobs.org/economic-data/employment-projections

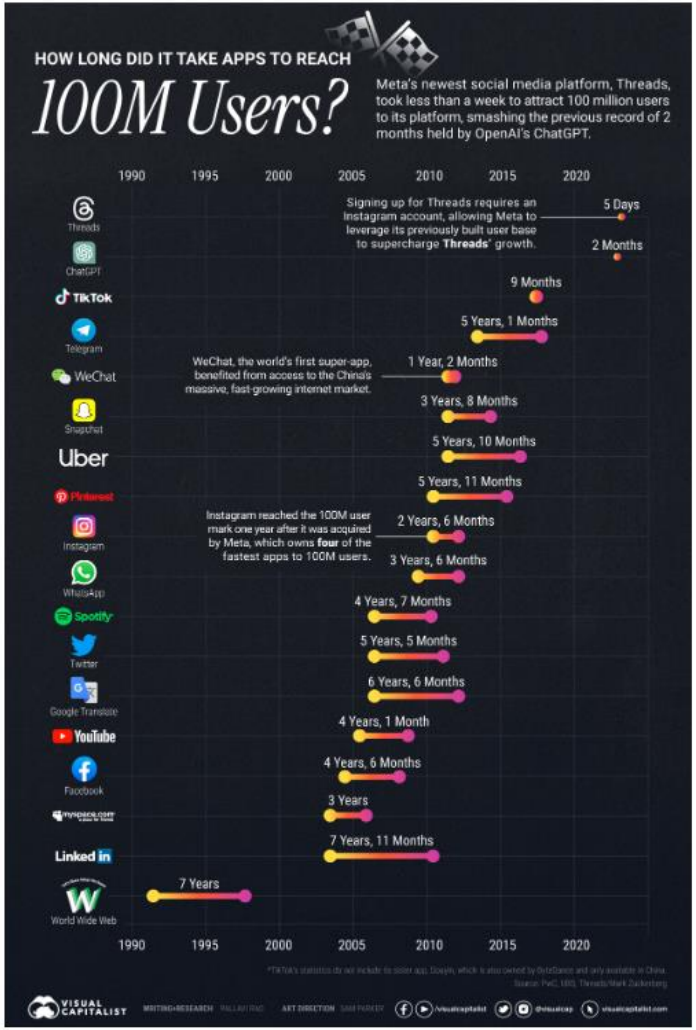
Tecnologías Emergentes y Creación de Empleo

- La 4ta Revolution Industrial
- IA Sobrepasando las Habilidades Humanas
- Digital Afterlife
- The Future Factory - MIT
- 3D Hologram Fans
- Quantum Computing



https://intelligence.weforum.org/topics/a1Gb0000001RIhBEAW?tab=videos


A.I.
IS OUTPACING
HUMAN PERFORMANCE
AI performance across several benchmarks – like image recognition, reading comprehension, and language understanding – has surpassed human capabilities.
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
130 %
120 %
110 %
100 %
Human Performance
50 %
Thanks to decreasing costs, the computational power being used to train AI models has doubled every six months since 2010.
Handwriting Recognition
Speech Recognition
Image Recognition
Reading Comprehension
Language Understanding
Code Generation
Grade School Math
Common Sense Completion
0% or the maximally performing baseline is the best-known performance by AI at the time of dataset creation.
AI developers could run out of high-quality data to train their models as early as 2026, which may plateau AI performance.
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
VISUAL CAPITALIST
/visualcapitalist
@visualcap
visualcapitalist.com
*For each benchmark, the maximally performing baseline reported in the benchmark paper is taken as the "starting point", which is set at 0%. Human performance number is set at 100%.
SOURCES: "Henshall, Will. "4 Charts That Show Why AI Progress Is Unlikely to Slow Down." Time, 2 Aug. 2023, time.com/6300942/ai-progress-charts/. "Kiela, Douwe. "Plotting Progress in AI." Contextual AI, 31 July 2023, contextual.ai/plotting-progress-in-ai/.


HOW LONG DID IT TAKE APPS TO REACH
100M Users?
Meta's newest social media platform, Threads, took less than a week to attract 100 million users to its platform, smashing the previous record of 2 months held by OpenAI's ChatGPT.
1990
1995
2000
2005
2010
2015
2020
Threads
Signing up for Threads requires an Instagram account, allowing Meta to leverage its previously built user base to supercharge Threads' growth.
5 Days
ChatGPT
2 Months
TikTok
9 Months
Telegram
5 Years, 1 Months
WeChat
WeChat, the world's first super-app, benefited from access to the China's massive, fast-growing internet market.
1 Year, 2 Months
Snapchat
3 Years, 8 Months
Uber
5 Years, 10 Months
Pinterest
5 Years, 11 Months
Instagram
Instagram reached the 100M user mark one year after it was acquired by Meta, which owns four of the fastest apps to 100M users.
2 Years, 6 Months
WhatsApp
3 Years, 6 Months
Spotify
4 Years, 7 Months
Twitter
5 Years, 5 Months
Google Translate
6 Years, 6 Months
YouTube
4 Years, 1 Month
Facebook
4 Years, 6 Months
3 Years
LinkedIn
7 Years, 11 Months
World Wide Web
7 Years
VISUAL CAPITALIST

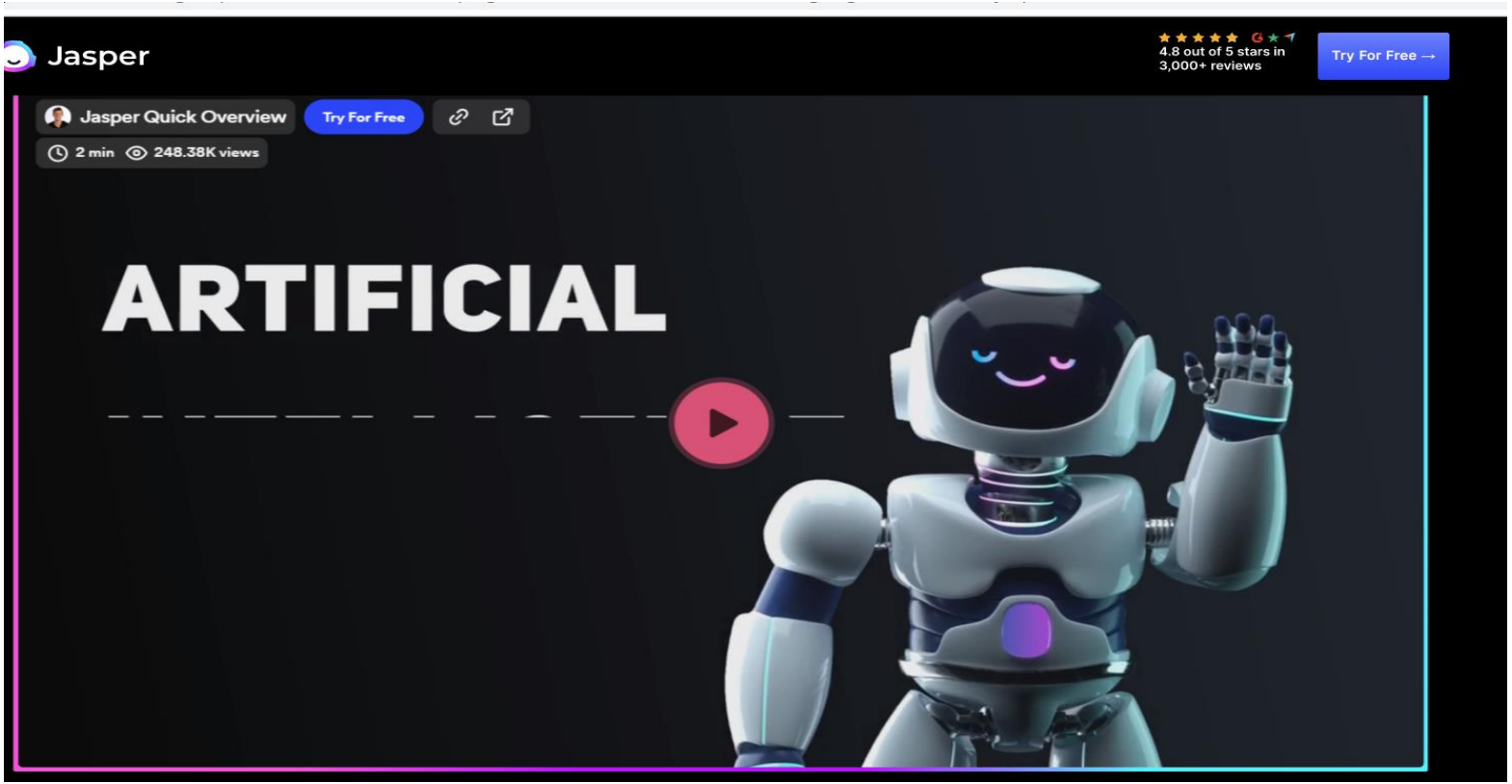
Technology Creates More Jobs Than It Destroys

Despite the claims to the contrary, innovation is a job creator, not a job demolisher.

Tuesday, September 10, 2019

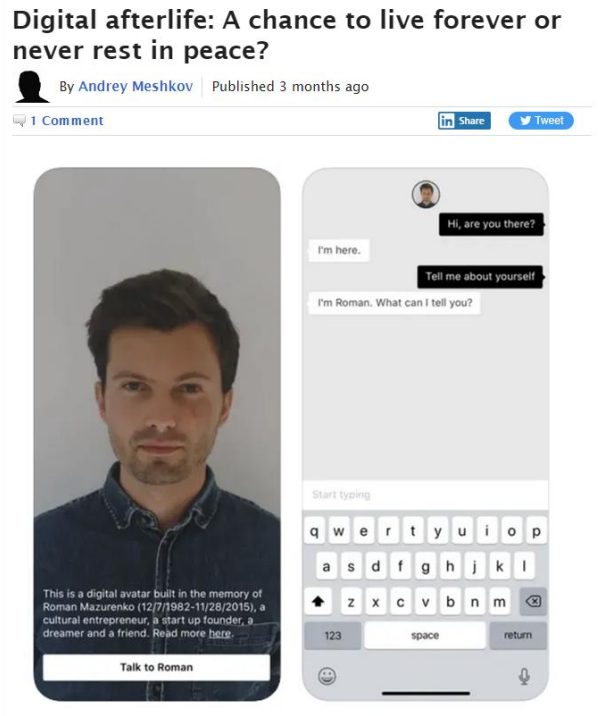
Creative Destruction

- Joseph Shumpeter (1883-1950)
  - "*This process of creative destruction is the essential fact about capitalism*"
  - The kind of competition that counts: "*…the new commodity, the new technology, the new source of supply, the new type of organization…which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives*"



https://www.jasper.ai/free-trial?adgroupid=124949426633&campaignid=13479856294&utm_source=google&utm_term=jasper&utm_content=527283671699&gclid=EAIaIQobChMI7smr_Y-4-wIVS4FaBR3o9QizEAAYASAAEgLY4PD_BwE

Digital Afterlife



https://youtu.be/D9tZnC4NGNg

https://betanews.com/2022/08/26/digital-afterlife/

Replica and HereAfter

CBS NEWS 60 MINUTES: Making ideas into reality at MIT's "Future Factory"

https://youtu.be/3Un7yl6KmUM

#Microsoft #MSInspire #HoloLens2

Demo: The magic of AI neural TTS and holograms at Microsoft Inspire 2019

https://youtu.be/auJJrHgG9Mc

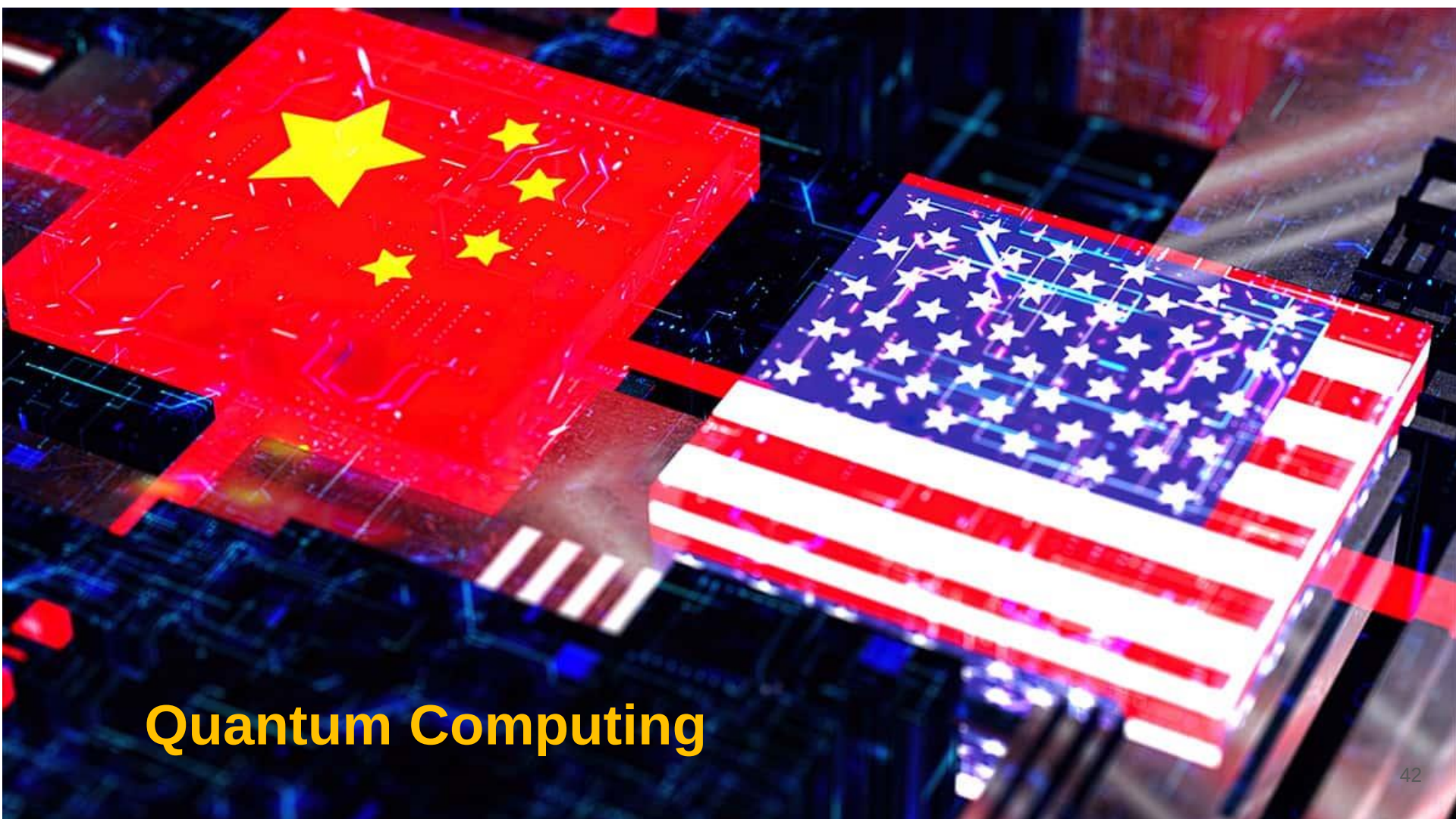
Impacting technologies

Media Lab – Making Ideas into Reality

- https://www.cbsnews.com/video/mit-media-lab-making-ideas-into-reality/
- https://www.youtube.com/watch?v=QTXrez8u_J0

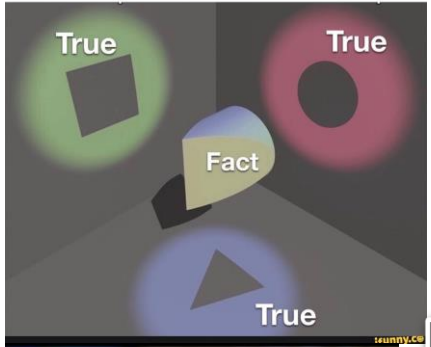
SOUND BEAMING TECHNOLOGY

- https://apnews.com/article/new-tech-device-sound-beaming-noveto-38327ae5fe116080a5eaf2374eb0f5c8


Quantum Computing

The Future is Now

Truth is based on a person's perspective. Therefore, there can be multiple truths about the same thing. Facts, on the other hand, are indisputable and singular in number. Make sure you have facts before you make decisions!



https://youtu.be/bffQ9Z_p0Zk

https://youtu.be/My2MWdyWQZU

Leaders In Quantum Computing

1. IBM
2. Google Quantum AI
3. Amazon
4. Microsoft
5. Intel
6. D-Wave
7. Quantinuum
8. Rigetti
9. Xanadu
10. Atos Quantum

Other players include IonQ, Infleqtion, QC Ware and Zapata Computing. As of 12-11-2023

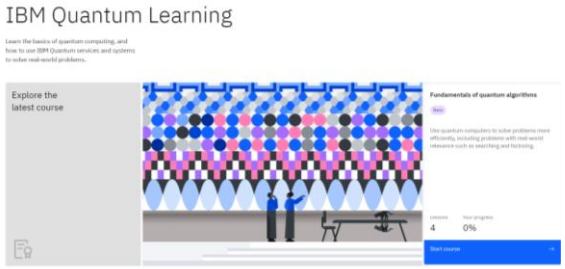
Why Might Businesses Be Interested In Using Quantum Computing Services?

Quantum Simulation: Quantum computers could simulate the behavior of complex quantum systems, which has applications in chemistry, material science, drug discovery and forecasting.

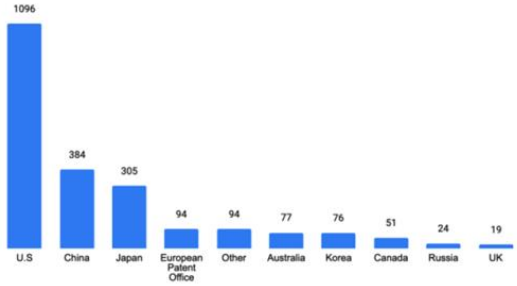
Quantum Optimization: Quantum computers could solve optimization problems more efficiently than classical computers, which has applications in logistics, finance, and supply chain management.

Quantum Machine Learning: Quantum computers could improve machine learning algorithms and enable the development of new AI models.

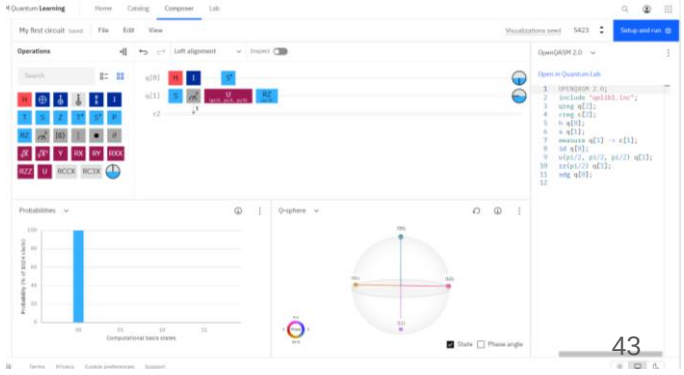
Quantum Cryptography: Quantum computers could enhance the security of communications and data by enabling the development of new cryptographic protocols.



Quantum Computing Patents Issued by Country



Source: Quantum Consortium



Quantum Computing
Impact On The Financial Sector (14:55)

https://youtu.be/IhS6ecYZFdQ

Futuro del Trabajo y El Role de la Educación Continua

- La IA transformará el trabajo en todas las industrias.
- La IA transformará el trabajo en todas las categorías laborales.
- La distribución de las horas de trabajo se verá afectada.
- Trifecta Ganar-Ganar-Ganar / Trabajo-Negocio-Economía.
- Las empresas Expandirán en $10.3 Trillones adicionales para el año 2038.

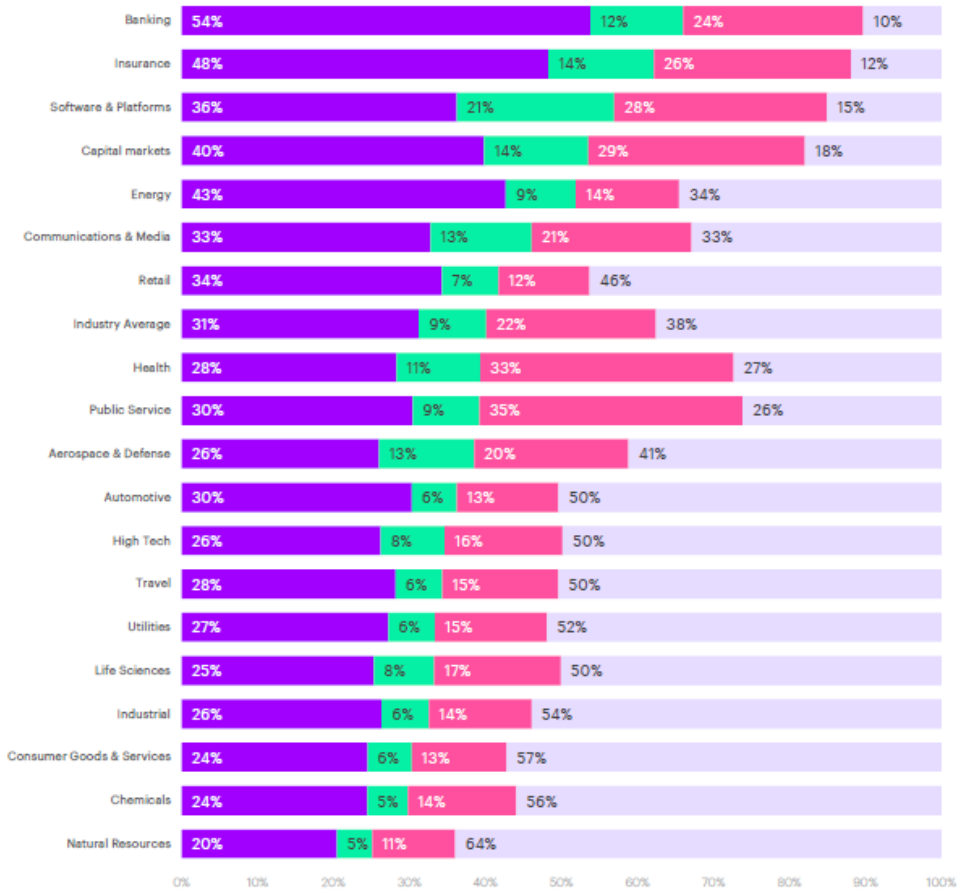
The gen AI state of play

AI's evolution has been marked by three phases of significant advancements. The **Diagnostic Era** was largely defined by the introduction of machine learning. The **Predictive Era** gave us the ability to make increasingly accurate forecasts about everything from operations to customer behavior. And late 2022 saw the dawn of the **Generative Era.** Now, machines aren't just predicting with high accuracy, they're also generating creative content and offering personalized suggestions (see Figure 1).

Figure 1. Welcome to the age of generative AI

Source: Accenture 2024

Figure 3: Generative AI will transform work across industries



Work time distribution by industry and potential AI impact

Based on their employment levels in the US in 2021

40% of working hours across industries can be impacted by Large Language Models (LLMs)

Why is this the case? Language tasks account for 62% of total worked time in the US. Of the overall share of language tasks, 65% have high potential to be automated or augmented by LLMs.

Source: Accenture Research based on analysis of Occupational Information Network (O*NET), US Dept. of Labor; US Bureau of Labor Statistics.

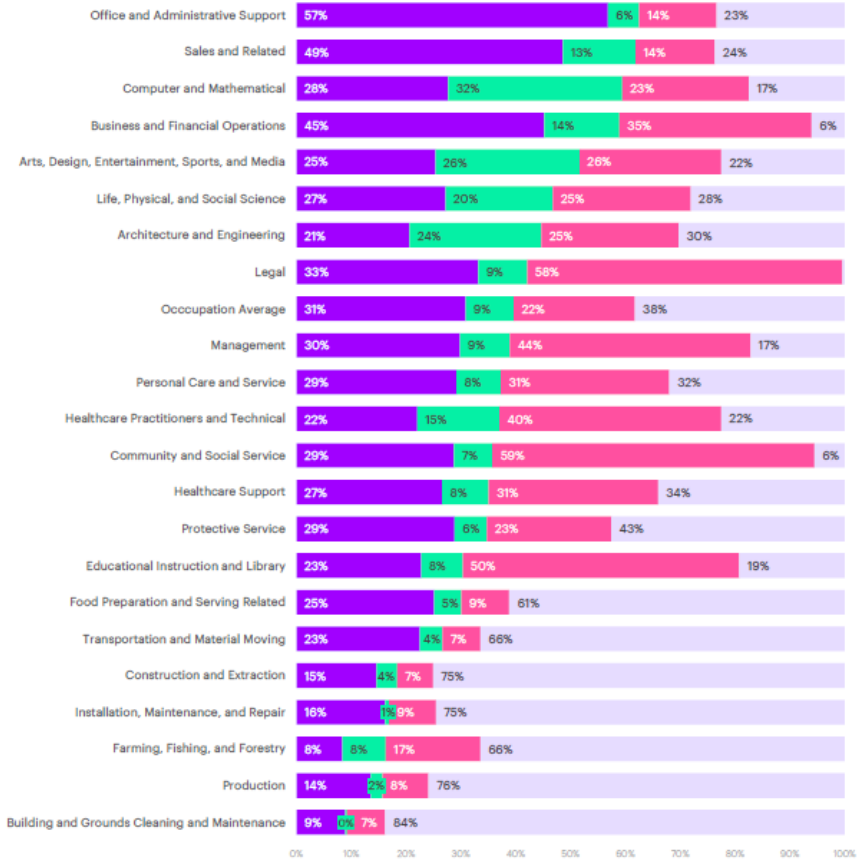
Notes: We manually identified 200 tasks related to language (out of 332 included in BLS), which were linked to industries using their share in each occupation and the occupations' employment level in each industry. Tasks with higher potential for automation can be transformed by LLMs with reduced involvement from a human worker. Tasks with higher potential for augmentation are those in which LLMs would need more involvement from human workers.

Source: Accenture - A new era of generative AI for everyone

2 Take a people-first approach

Success with generative AI requires an equal attention on people and training as it does on technology. Companies should therefore dramatically ramp up investment in talent to address two distinct challenges: creating AI and using AI. This means both building talent in technical competencies like AI engineering and enterprise architecture and training people across the organization to work effectively with AI-infused processes. In our analysis across 22 job categories, for example, we found that LLMs will impact every category, ranging from 9% of a workday at the low end to 63% at the high end. More than half of working hours in 5 of the 22 occupations can be transformed by LLMs.

Figure 4: Generative AI will transform work across every job category



Work time distribution by major occupation and potential AI impact

Based on their employment levels in the US in 2021

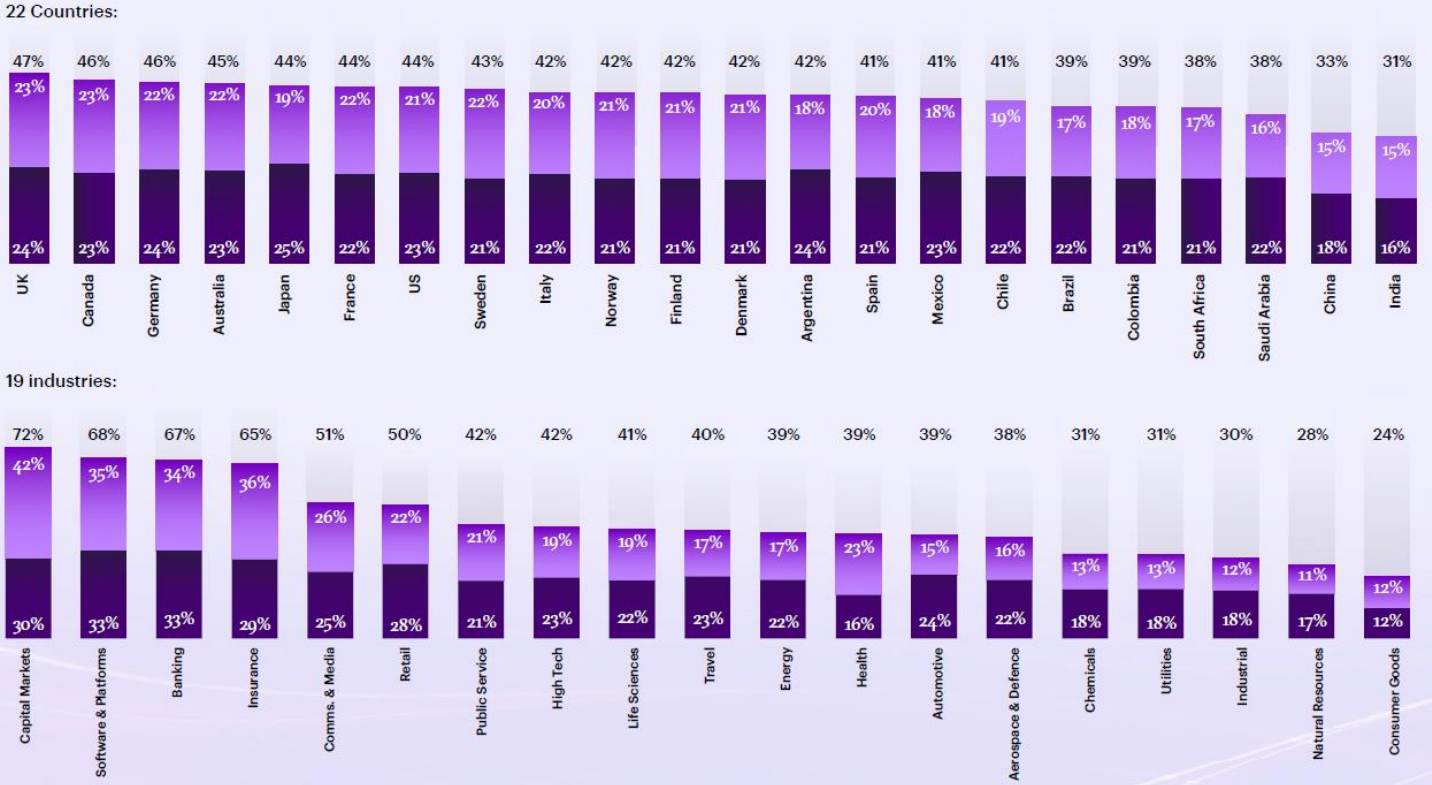
In 5 out of 22 occupation groups, Generative AI can affect more than half of all hours worked

Source: Accenture Research based on analysis of Occupational Information Network (O*NET), US Dept. of Labor; US Bureau of Labor Statistics.

Notes: We manually identified 200 tasks related to language (out of 332 included in BLS), which were linked to industries using their share in each occupation and the occupations' employment level in each job category. Tasks with higher potential for automation can be transformed by LLMs with reduced involvement from a human worker. Tasks with higher potential for augmentation are those in which LLMs would need more involvement from human workers.

Source: Accenture - A new era of generative AI for everyone

Figure 2. A significant portion of working hours will be impacted (either automated or augmented) by generative AI



Note: Estimates are based on "Human+Machine" identification of work tasks and exposure to impact of generative AI.
Source: Accenture Research based on National Statistical Institutes and O*Net.

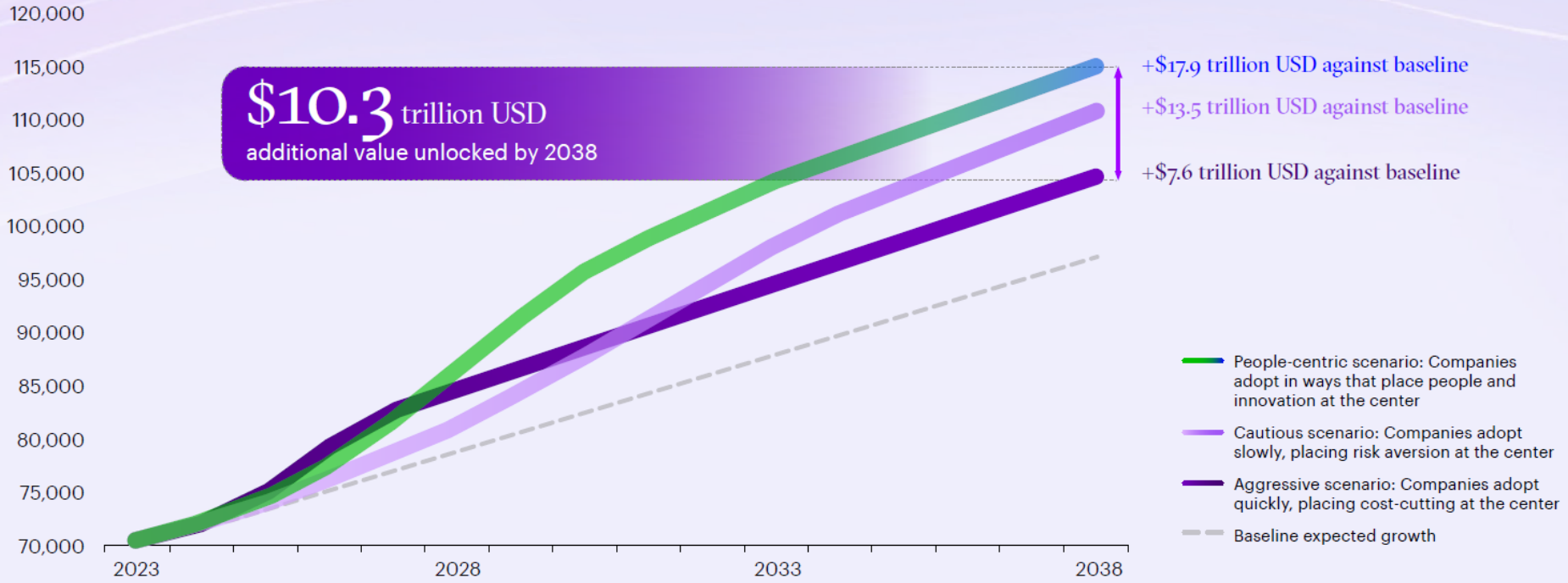
The trifecta of opportunities: economy, business, people

Even with a year's hindsight on generative AI's role in our everyday lives, harnessing the trifecta of opportunities to accelerate economic value, drive business growth and create more meaningful work for people is an ongoing effort. For each opportunity, the incentive only grows when people are the navigators along the path to achieving gen AI's full potential. While previous transformations focused mainly on workforce productivity, this age of gen AI will revolutionize work and workflows across the entire value chain. Our research is bringing into clearer view the big upside of integrating gen AI responsibly.

Economic upside

Our modeling reveals insights from three economic growth scenarios, each based on the pace of gen AI adoption and innovation. Among them, the "people-centric" scenario—where organizations adopt gen AI responsibly at scale, in ways that place people and innovation at the heart—stands out, potentially creating an additional **$10.3 trillion in economic value by 2038** (see Figure 5 on next page).[33]

Figure 5. Companies can unlock an additional $10.3 trillion in economic value by adopting responsible, people-centric approaches to gen AI



Source: Accenture Research. Simulated GDP growth under three scenarios. GDP forecasts from Oxford Economics across 22 countries.

Futuro del Trabajo y El Rol de la Educación Continua

1. Profesionales en Educación Continua tienen que ser agentes dinámicos en el desarrollo e implementación de estrategias para incorporar competencias de Inteligencia Artificial en el currículo de los programas
2. Impacto de las Tecnologías Emergentes en el Futuro del Trabajo
3. Nuevas Categorías de Empleo y Habilidades Requeridas
4. Importancia del Aprendizaje Continuo y la Adaptabilidad
5. Estrategias para Desarrollar Programas Académicos Adaptativos
    - Las instituciones educativas deben diseñar programas académicos que respondan a las necesidades cambiantes del mercado laboral, incorporando tanto habilidades tecnológicas como blandas, y utilizando herramientas de IA para personalizar la educación y evaluar el progreso del estudiante en tiempo real.

'WHEN THERE'S A DISRUPTIVE TECHNOLOGY LIKE THIS, OVERALL IT'S GOOD FOR THE ECONOMY. EFFICIENCIES IMPROVE AND MORE JOBS ARE CREATED.'

—Michael Fry, director of the Center for Business Analytics at the University of Cincinnati

A Hollywood Remake

Generative AI is much more than just special effects, and it's causing a new explosion of innovation in Tinseltown. BY SUSAN HORNIK

New Tools in the Newsroom

Artificial intelligence is rapidly transforming journalism, from how reporters do their jobs to the ways in which the news is being consumed. BY AMOS ZEEBERG

AI Jobs You Can Get Right Now

The demand for workers with AI skills has exploded. There were 800,000 AI-related job openings in the U.S. last year, according to Stanford University's Institute for Human-Centered Artificial Intelligence. The Bureau of Labor Statistics projects employment in the fields of tech and engineering will grow by 21% between 2021 to 2031. But there are even high-paying jobs for workers without computer engineering degrees. For example, AI prompt engineers can earn six-figure salaries by developing clear text prompts so that the system delivers more accurate responses to questions. Here, some other opportunities.

California, Texas, and New York have the most AI job postings.

AI engineers use artificial intelligence and machine learning to tailor systems that make business recommendations and also enable organizations to become more efficient and productive.
AVERAGE SALARY $141,692*

AI research scientists investigate new AI techniques, explore ways to improve existing AI systems, and develop new algorithms to solve complex problems.
AVERAGE SALARY $103,626*

Machine learning engineers maintain and improve existing AI systems.
AVERAGE SALARY $151,399*

Data engineers build systems that collect, manage and crunch raw data that is then converted into usable information to help businesses maximize performance.
AVERAGE SALARY $117,964*

Robotic engineers develop robotics for such industries as automotive, defense, aerospace, architecture, manufacturing, and medicine.
AVERAGE SALARY $104,062*

Data scientists determine what questions organizations need to answer and develop predictive models to forecast outcomes.
AVERAGE SALARY $144,078*

AI business consultants help organizations to integrate artificial intelligence and machine learning technologies into their operations.
AVERAGE SALARY $137,885*

AI sales professionals promote and sell AI products and services that increase efficiency and revenue generation.
AVERAGE SALARY $124,194*

AI ethicists ensure that human bias hasn't been introduced into AI systems and develop guidelines for fair practices in the field.
AVERAGE SALARY 121,841**

—*Linda Marsa*

The Future of Medicine

Artificial intelligence is improving diagnoses, treatments, and paperwork—and changing the doctor-patient relationship for the better.

DOCTOR IN YOUR POCKET

AI in the Classroom

Can the new technology promote critical thinking without sacrificing the human touch?

BY OLIVIA B. WAXMAN

MATH RAPS AND SHAKESPEARE TRANSLATION

Debate Partner & French Friend

Generative AI has been making inroads across the grade levels and subject matters. Among some innovative uses, look to:

LANGUAGE LITERACY

■ **Storytelling** Educator and author of *The AI Infused Classroom* Holly Clark developed an exercise for students of her second grade class to pick elements for a story, from conflicts to main characters, and then feed them to ChatGPT, *EdWeek* reports. "You are a children's book author," Clark instructed them to prompt the AI. "...write a very short story for an audience of second graders, using these elements."

■ **French, Anyone?** Sean Michael Morris, vice president of academics at Course Hero, says ChatGPT is great for learning a foreign language at any grade level. "I can take a sentence, such as 'How are you today' in French," he tells TIME, and it "responds and I have to read that in French."

■ **Writing** Peter Stone, a computer scientist at the University of Texas at Austin, uses the chatbot to help non-native English speakers improve their written expression. He asks his students to submit both their original work and a polished version produced as output from generative AI. "They are required to both do their own original thinking and improve their clarity of expression," he tells TIME.

CRITICAL THINKING

■ **Skeptical Mindset** Eamon Marchant, science department chair at Whitney High School in Cerritos, Calif., is alerting students to bias and other fundamental flaws, like hallucinations, generated by the tech. The problems "do not scale away," he tells

Rethinking the Thinking Jobs

Is AI coming for knowledge workers? Yes, but not in the way we think. BY PAYAL DHAR

Sesión Práctica para Determinar Nuevas Ofertas bajo IA
(en Grupos - 60 minutos)

- División en Grupos y Asignación de Tareas (5 minutos)
- Evaluación del Mercado Laboral y Competencias (20 minutos)
- Desarrollo de Estrategias Educativas Tomando en Cuenta IA (20 minutos)
- Presentación de Resultados y Discusión (15 minutos)