Digital Transformation in the ARMPI

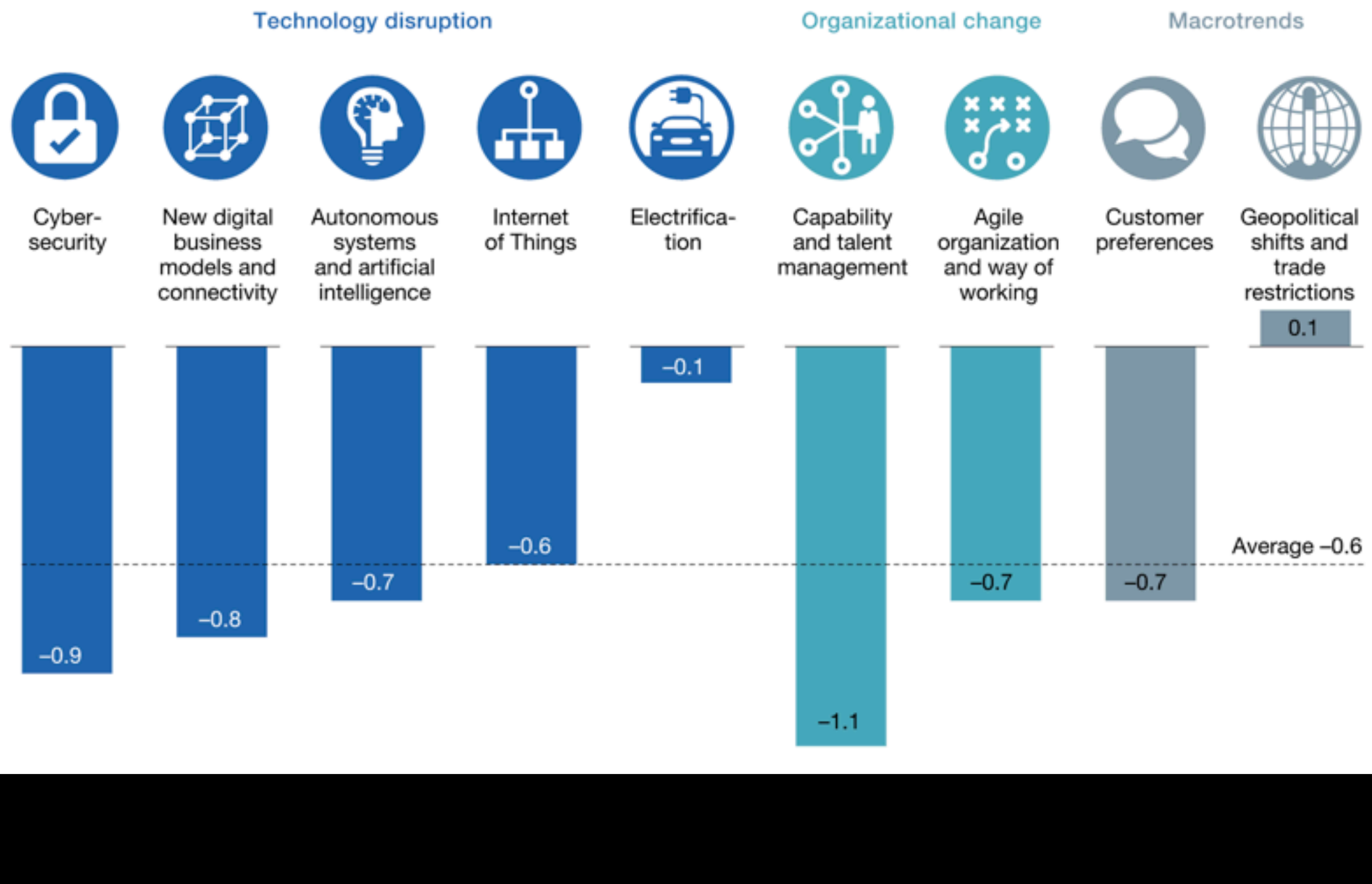
From the chopping block to the blockchain

?

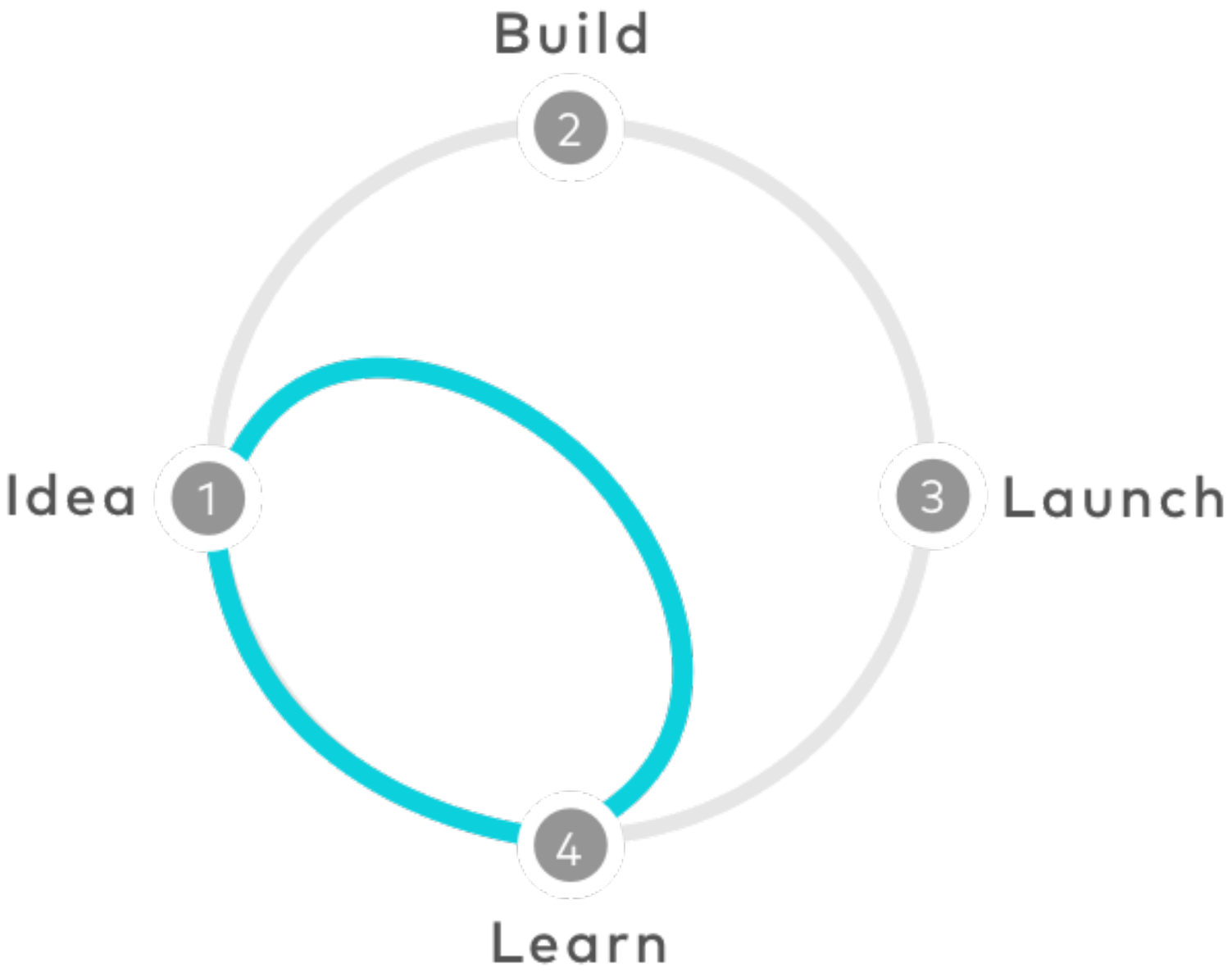
Exhibit 1

Executives recognize the impact of the disruptive forces but report limited measures to ready their companies for change.

Analysis of gap, for each disruptive force, between respondents' expected business impact[1] and company readiness,[2]
negative values indicate expected impact exceeds company readiness



Democratising Tech


Build
2
Idea
1
3
Launch
4
Learn

Democratizing AI
• Computing
• Data
• Algorithms
• Talent

Two flavors of machine learning

Pre-Trained Models

Build Your Own Model

OpenAI

Discovering and enacting the path to safe artificial general intelligence.

RESEARCH SYSTEMS

Retro Contest

NO. 12
APR 6
2018

VIEW RESEARCH >

AgPro
Exchange

Can we?

Do we want to be?

Lights…Camera…Disruption!

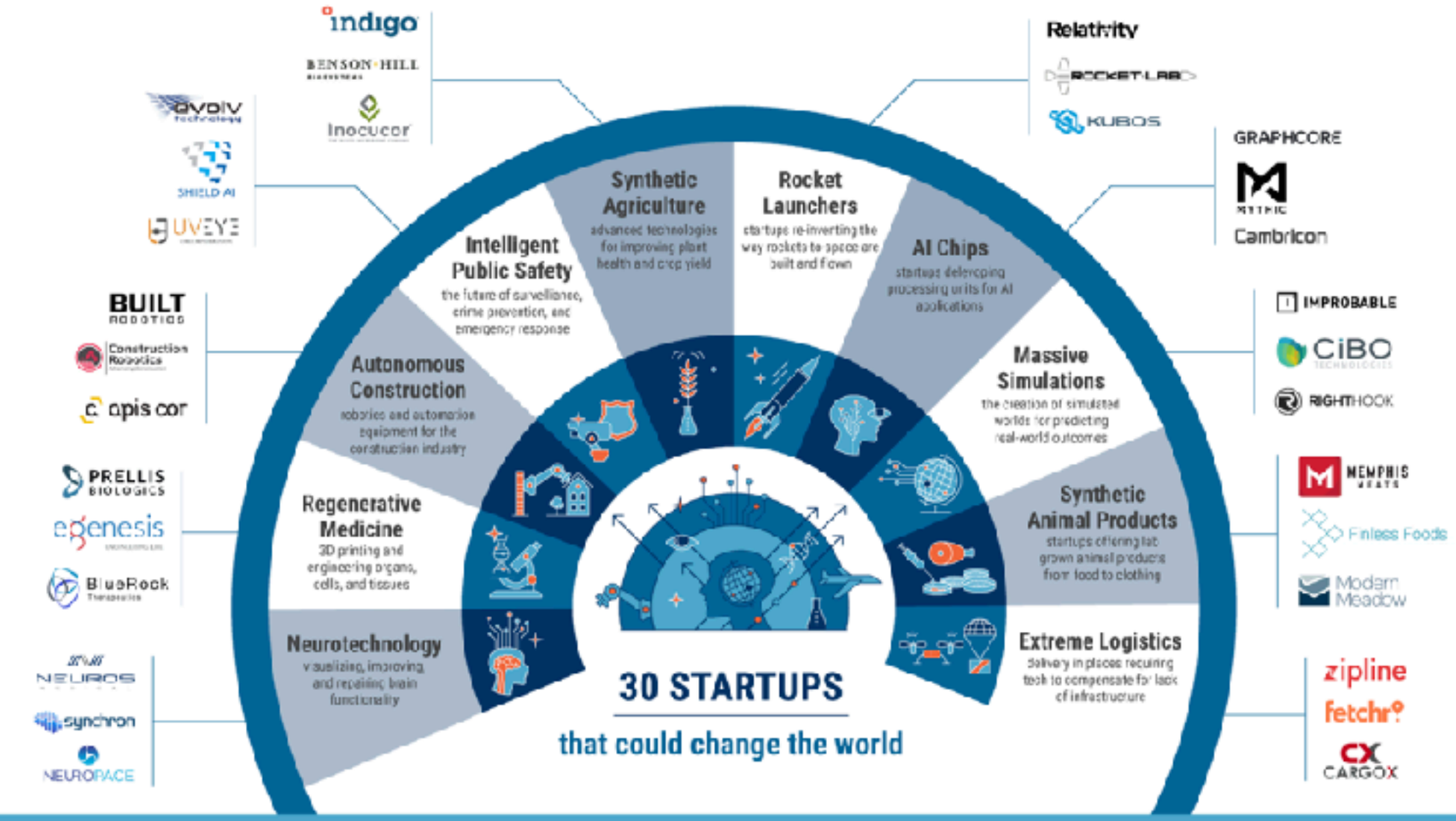
Can we afford not to be?

2018 Game Changer categories

Neurotechnology	Regenerative Medicine	Synthetic Animal Products
Visualizing, improving, and repairing brain functionality	3D printing and engineering organs, cells, and tissues	Startups offering lab-grown animal products from food to clothing
Synthetic Agriculture	**AI Chips**	**Massive Simulations**
Advanced technologies for improving plant health and crop yield	Startups developing processing units for AI applications	The creation of simulated worlds for predicting real-world outcomes
Intelligent Public Safety	**Autonomous Construction**	**Rocket Launchers**
The future of surveillance, crime prevention, and emergency response	Robotics and automation equipment for the construction industry	Startups re-inventing the way rockets-to-space are built and flown
	Extreme Logistics	
	Delivery in places requiring tech to compensate for lack of infrastructure	

CB INSIGHTS

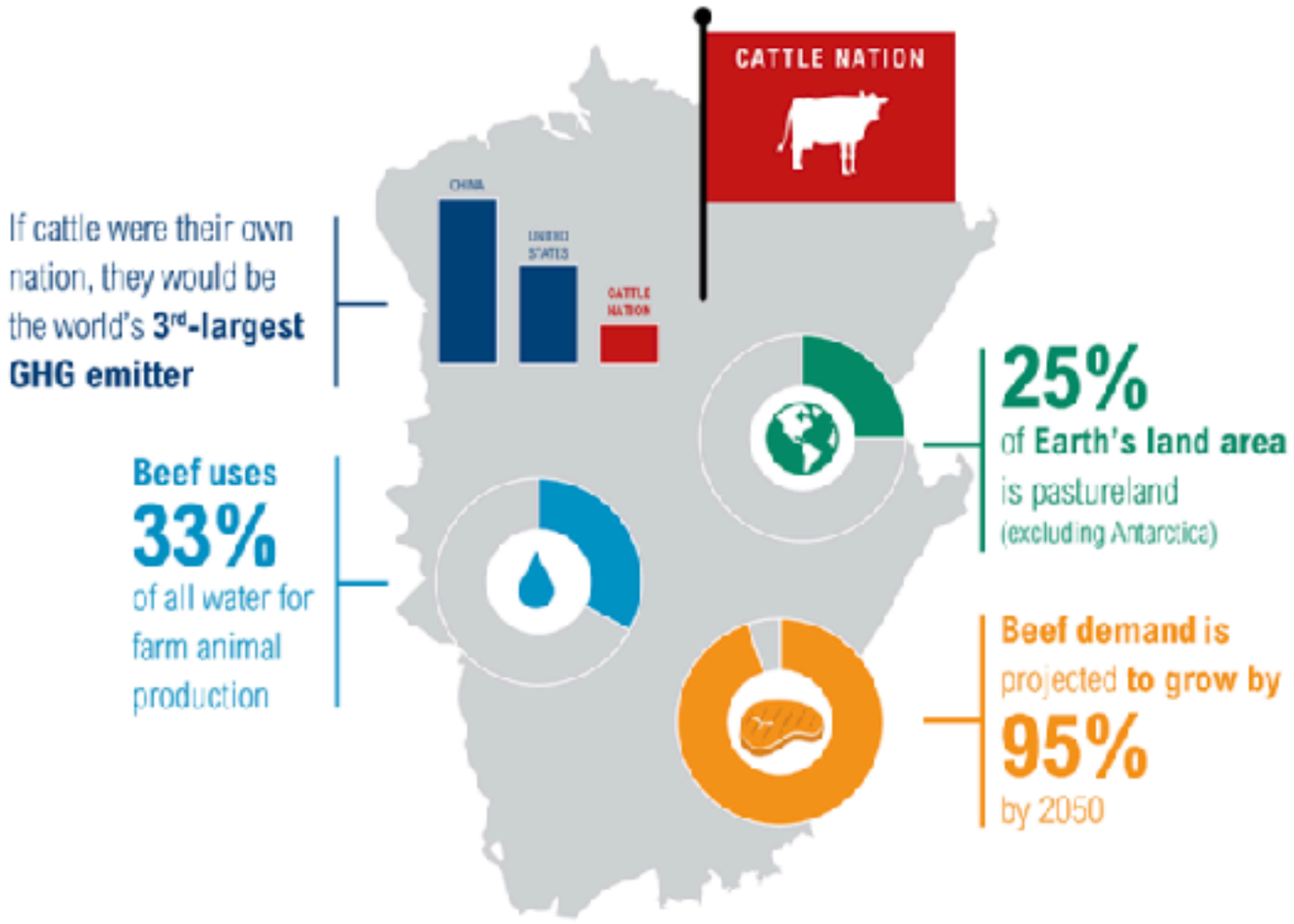
GAME CHANGERS 2018



Synthetic Animal Products

Startups offering lab-grown animal products, from food to clothing

Current livestock production is unsustainable



FOOD	IMPACT (GHG emissions per gram of protein)	COST (Retail price per gram of protein)
Wheat		$
Corn		$
Beans, chickpeas, cntils		$
Rice		$
Fish		$$$
Soy		$
Nuts		$$$
Eggs		$$
Poultry		$$
Pork		$$
Dairy (milk, cheese)		$$
Beef		$$$
Lamb & goat		$$$

Source: World Resources Institute

REPLACE TRADITIONAL MEAT

MEMPHIS MEATS

Memphis Meats develops technology to engineer real meat without animals, by farming animal stem cells in a lab without the need to feed, breed, and slaughter livestock.

The company claims its technology requires up to 90% less greenhouse gas emissions, land, and water than conventionally produced meat. Scaling up for mass production, Memphis Meats hopes its products will replace traditional meat altogether.

Select Investors: Bill Gates, Cargill, Richard Branson, Kimbal Musk, Draper Fisher Jurvetson

LAB-GROWN MEAT

MEMPHIS MEATS

Funding:
$19.9M

Memphis Meats is producing animal cells in the lab to create meat without the animal. In 2016, it unveiled a lab-cultured meatball that cost $18K per pound to grow. In 2017, it released samples of lab-grown chicken and duck meat, with the cost per pound reduced to $9K. As prices fall, it hopes to launch commercially in 2021.

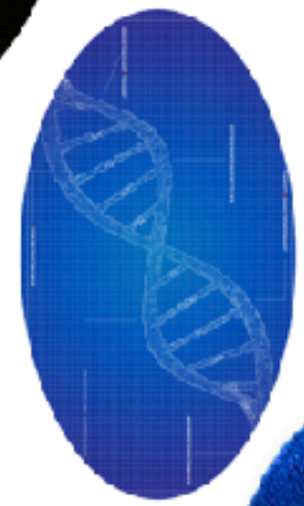
PRODUCE CULTURED LEATHER

Modern Meadow

Modern Meadow applies advances in tissue engineering to produce cultured leather that requires no animal slaughter and much lower inputs of land, water, energy and chemicals than conventional methods.

The process is called biofabrication. Starting with living cells, Modern Meadow can grow collagen, the same natural protein found in animal skin, assemble it into a sheet of synthetic leather, and then finish the aesthetics with a tanning process.

Select Investors: Sequoia Capital, ICONIQ Capital, Temasek Holdings, Tony Fadell



HARVEST FISH STEM CELLS

FINLESS FOODS

Finless Foods is an early-stage biotechnology company that harvests fish stem cells from living fish to produce lab-grown fish meat for human consumption.

The company's goal is to make seafood more sustainable and healthier compared to today's conventionally caught and commercially farmed seafood.

Select Investors: IndieBio, SOSV

Future-proofing: Cargill invests in meat, biotech, and plant protein

MEMPHIS MEATS

Lab-grown meat: Cargill backed Memphis Meats in Aug'17.

Blockchain: Cargill launched a blockchain platform to trace turkey meat.

Descartes Labs

Long-term planning: Cargill invested in Descartes Labs, which uses drones and AI to monitor global agriculture.

PURIS™

Plant protein: In Jan'18 Cargill entered a joint venture with PURIS, a large pea protein producer.

U
BER

BRINGING IN THE REGULATORS

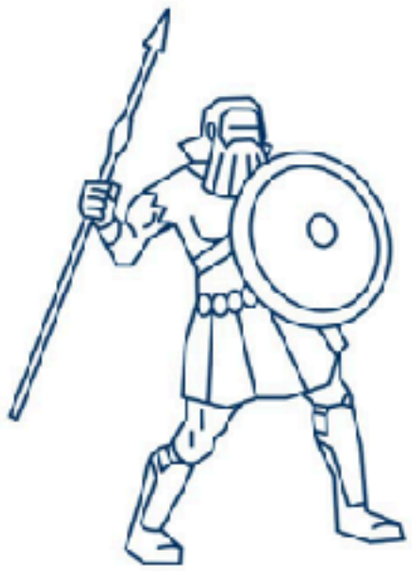
Some meat producers see a growing threat

The US Cattlemen's Association recently petitioned the government to exclude plant-based and lab-grown products from the definition of meat.

UNITED STATES CATTLEMEN'S association

web: www.uscattlemen.org – email: usca@uscattlemen.org
653 Constitution Ave., NE, Washington, DC 20002 – (202) 870-3867

PETITION FOR THE IMPOSITION OF BEEF AND MEAT LABELING REQUIREMENTS: TO EXCLUDE PRODUCT NOT DERIVED DIRECTLY FROM ANIMALS RAISED AND SLAUGHTERED FROM THE DEFINITION OF "BEEF" AND "MEAT"

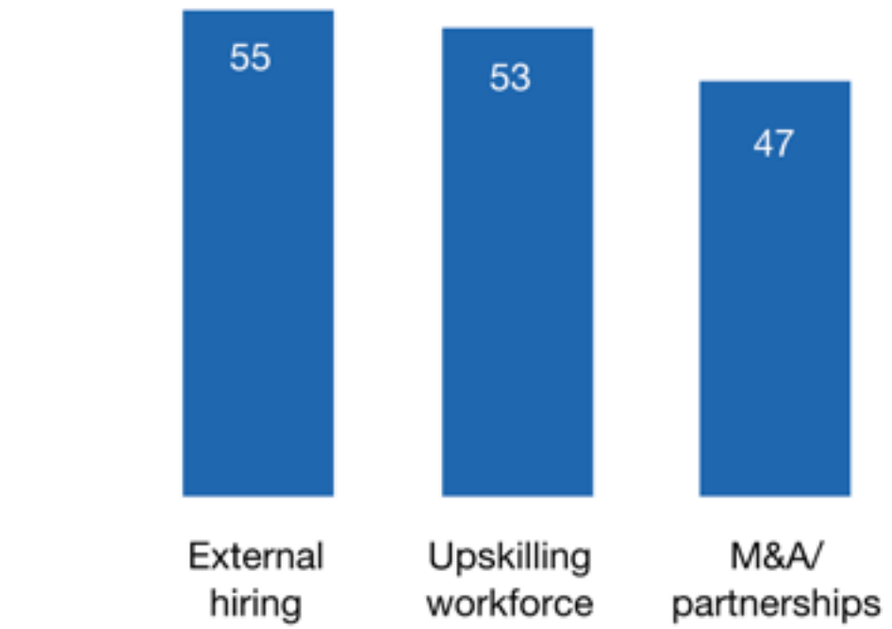


How?

There is no silver bullet to close the workforce skill gap.

Question: How will you build critical new capabilities?,[1]

% respondents

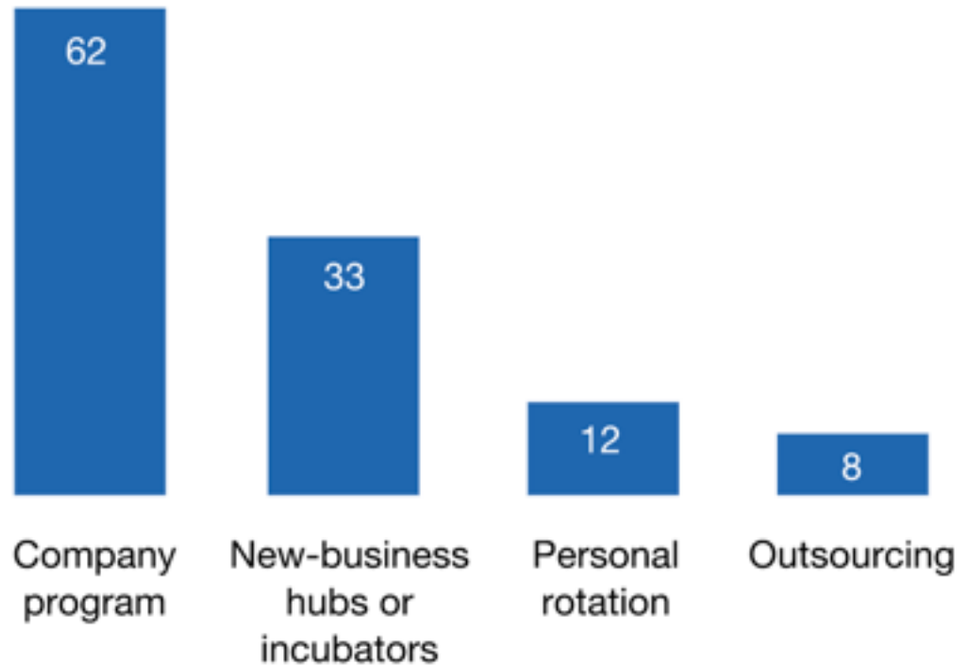


[1]Multiple answers are possible.

Source: McKinsey Disruption Ahead survey, 2017–18

Many see a need for a company-wide approach to transformation.

Question: What is your approach to mastering the disruptions?,[1] % respondents



[1]Multiple answers are possible.

Source: McKinsey Disruption Ahead survey, 2017–18

3 Challenges

1. Courage

2. Inclusive

3. Culture

Mobile

Social

The Cloud

Big Data

IoT

FOAM

AI

Universal
Paperclips
100
COUNT
100
COUNT

Zack Bornstein
@ZackBornstein

That face when you just wanted a faster way to rank girls by looks and ended up installing a fascist government in the most powerful country on earth

11/4/18, 5:18 am

64K Retweets **184K** Likes

8:29

315

From: Anand Sanwal

To: <stephanie@broadaperture.c... Hide

AS

hello <first name>

Today at 7:54 am

How VCs are investing globally. Blockchain for identity protection. Why startups fail.

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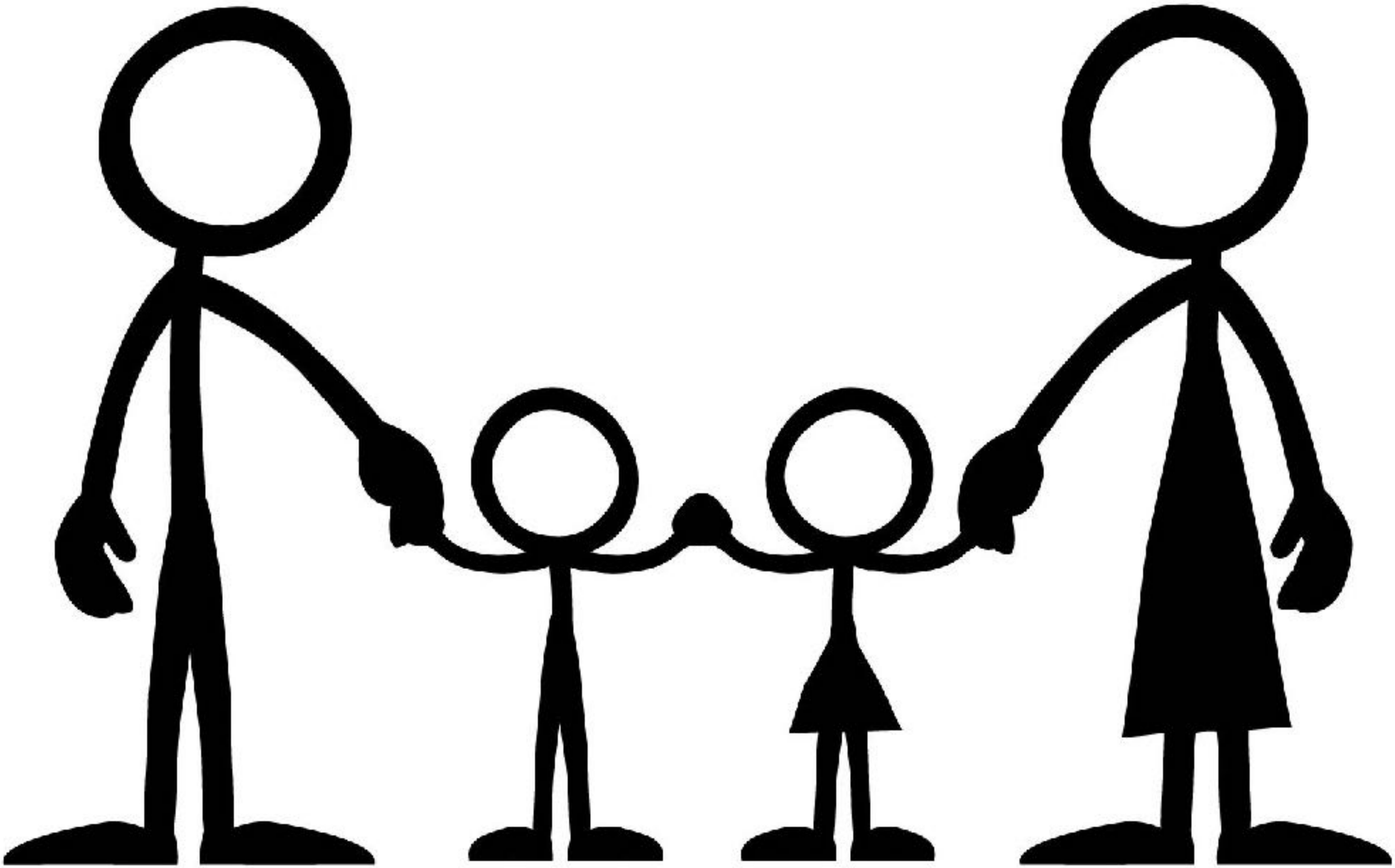
CBINSIGHTS



#Digitaltransformation isn’t a project you just put up once—it’s part of your culture.

Satya Nadella

Getting Started

LEARNING

Courses

Learning Programs

Learning Plans

Certifications

Catalogs

Job Aids

MANAGE

Users

Skills

Reports

Announcements

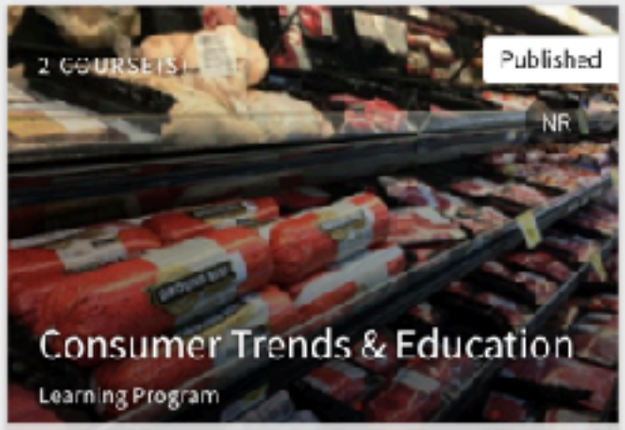
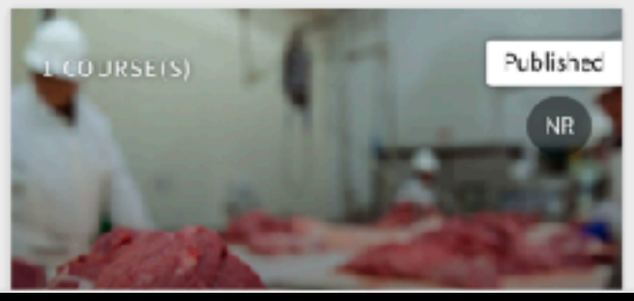
CONFIGURE

Gamification

Badges

Branding

Email Templates

Settings

Billing