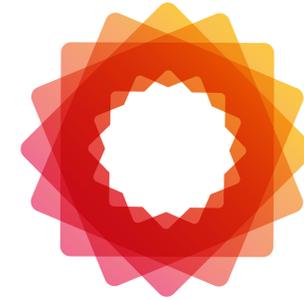


ENGINE PRESENTS

RISE
OF THE
REST
ROAD TRIP

BY THE NUMBERS



Engine

Engine is a research foundation and advocacy group that supports the growth of technology entrepreneurship through economic research, policy analysis, and advocacy on local and national issues.

www.engine.is

RISE OF THE REST

Across America, vibrant startup communities are emerging and gaining momentum. Entrepreneurs and their companies can change the world, and we want to celebrate and accelerate the “Rise of the Rest” in American entrepreneurship.

Since startups are being founded across the country, fueling local and national economic growth, we’re traveling to cities not yet widely known as innovation hubs to celebrate and advance their stories of entrepreneurship. Find out more about our trip visit...

www.riseoftherest.com

RISE OF THE REST ROAD TRIP

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AMERICAN ENTREPRENEURSHIP BY THE NUMBERS

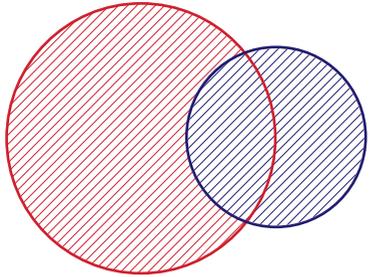
Based on recent research from Engine, it's clear that new and young high-growth firms — as opposed to small businesses generally — are essential contributors to the atmosphere of entrepreneurship in the U.S. economy and they play an outsized role in net job creation.

While older and larger firms are the major source of employment levels, it is new and young businesses that are the primary source of net new jobs. In fact, outside of new businesses, job creation in the United States has been negative over the last three decades.

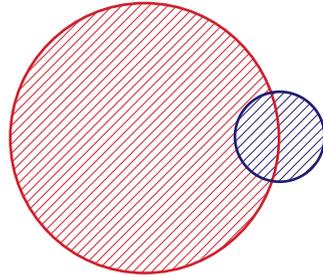
These trends are reflected most strongly in high-tech entrepreneurial companies.

AMERICAN ENTREPRENEURSHIP BY THE NUMBERS

- During the last three decades, the high-tech sector was 23 percent more likely and ICT 48 percent more likely than the private sector as a whole to witness a new business formation.¹



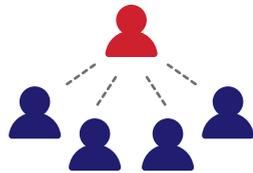
- The job-creating strength of high-tech startups is twice as robust as the private sector as a whole



- Since 2004, employment growth in the high-tech sector has outpaced growth in the private sector 3:1



- Between 2002 and 2011, employment growth in STEM occupations has outpaced job gains across all occupations 27:1



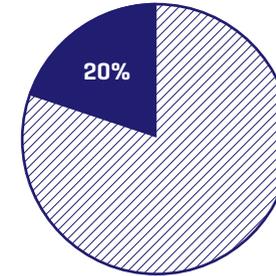
- The creation of 1 high-tech job is projected to create 4.3 other jobs in a local economy

 PRIVATE SECTOR  HIGH-TECH SECTOR

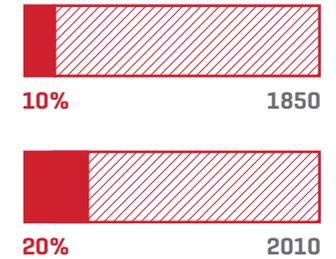
 STEM OCCUPATIONS  ALL OCCUPATIONS

AMERICAN ENTREPRENEURSHIP BY THE NUMBERS

In this new economy, the right skills are highly prized but hard to come by



- As of 2011, 20 percent of all jobs require a high level of knowledge in any one STEM field.



- STEM jobs have doubled as a share of all jobs since the Industrial Revolution, from less than 10 percent in 1850 to 20 percent in 2010.

- More STEM-based metropolitan economies perform strongly on a wide variety of economic indicators, from innovation to employment.

1. Here, high-tech is defined as the group of industries with very high shares of employees in the STEM fields of science, technology, engineering, and math. ICT is a subset of high-tech.

IT'S HAPPENING ALL OVER THE COUNTRY

Across the country, startups are fueling local and national economic growth.

Well-known high-tech hubs like San Francisco, Silicon Valley, Seattle, Boston, and Austin are important sources of technology entrepreneurship, but some may be surprised to learn that lesser-known hubs like Bend, OR, Huntsville, AL and Wilmington, DE are catching up. High-tech startups are a pervasive force in communities throughout the country.

It's well understood that most new business growth in the private sector occurs in regions with already established high rates of new business formation. But with technological advancement allowing for the production of high-tech goods and services in a wider set of areas, many regions are catching up. Underutilized areas - especially older industrial regions - are being reimagined and remade.

Proof that the growth in startups is happening in expected and unexpected places can be found by looking at startup density around the country. We calculate this density by creating a complex fraction. In the numerator is the ratio of high-tech firm births in a region to the population in the same region, and in the denominator is that same ratio for the entire United States.

TOP 25 METROS FOR HIGH-TECH STARTUP DENSITY IN 2010

METRO NAME	DENSITY	METRO NAME	DENSITY
Boulder, CO	6.3	Huntsville, AL	1.9
Fort Collins-Loveland, CO	3.0	Provo-Orem, UT	1.9
San Jose-Sunnyvale-Santa Clara, CA	2.6	Bend, OR	1.8
Cambridge-Newton-Framingham, MA	2.4	Austin-Round Rock, TX	1.7
Seattle-Bellevue-Everett, WA	2.4	Missoula, MT	1.7
Denver-Aurora-Broomfield, CO	2.4	Grand Junction, CO	1.7
San Francisco-San Mateo-Redwood City, CA	2.4	Sioux Falls, SD	1.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	2.3	Bethesda-Frederick-Rockville, MD	1.7
Colorado Springs, CO	2.3	Durham-Chapel Hill, NC	1.6
Cheyenne, WY	2.0	Portland-Vancouver-Beaverton, OR-WA	1.6
Salt Lake City, UT	2.0	Wilmington, DE-MD-NJ	1.6
Corvallis, OR	2.0	Ames, IA	1.6
Raleigh-Cary, NC	1.9	53 Additional Metros > 1.0	--
United States	1.0	United States	1.0

Source: National Employment Time Series (NETS), Bureau of Economic Analysis; author's calculations

These results - surprising to some - provided the inspiration for this roadtrip. We're visiting 4 cities in 4 days. Here they are by the numbers...



1

DETROIT

Home to the world's only floating post office and a startup economy led by smart cars.

DETROIT

POPULATION AND BUSINESS

- ▶ It is the 18th largest city in the United States, and Michigan is the eighth largest state in the U.S
- ▶ The population is 5.2 million
- ▶ It's home to more than 320,000 businesses, including 14 in the Fortune 500
- ▶ The labor force is 2.5 million strong
- ▶ Manufacturing makes up 11.3 percent of all jobs but it's one of the fastest growing regions for technology jobs in the country
- ▶ Over 350,000 people are employed in the Information Technology sector
- ▶ Michigan and the Detroit region have the highest concentration of engineers in the United States. For every 1,000 workers in the region, 36 are employed as engineers
- ▶ With more than 13,000 health care related businesses and 366,351 jobs in the region, the healthcare industry has an economic impact of \$36 billion annually
- ▶ The unemployment rate is down to 8.8 percent this year, from 16 percent in 2009

INNOVATION AND EDUCATION

- ▶ Detroit is home to the USPTO's first satellite office
- ▶ 27.4 percent of the population have a bachelor's degree or higher, and 75.6 percent are high school graduates or higher
- ▶ Michigan ranks in the top 10 for every type of degree conferred with more than 112,000 degrees awarded for the 2009-2010 academic year

BY THE NUMBERS

- ▶ Downtown Detroit experienced a 59 percent increase in the number of college-educated residents under the age of 35 in the last decade
- ▶ The University Research Corridor – a partnership between the University of Michigan, Michigan State University and Wayne State University – is the third highest spending “innovation cluster” in the United States, spending \$1.9 billion on research and development in 2010 alone
- ▶ The University of Michigan ranks seventh among engineering/technology and computer science programs in the world. Michigan State University's supply chain management program is ranked number 1 for undergraduates and number 2 for graduates
- ▶ Detroit regional community colleges engage nearly 140,000 students and work with local companies to develop customized workforce training.

LIVING IN DETROIT

- ▶ Personal income per capita is \$36,884 — up 6 percent from 2010
- ▶ The cost of living index is 96.1 — 4 percent below the national average
- ▶ Detroit is the number one metro area for affordability of homeownership, according to a 2012 Trulia study
- ▶ The median price of a single-family home is \$75,000
- ▶ Over 10,000 trucks cross the Ambassador Bridge from Detroit into Canada every day, making it the busiest border crossing in North America
- ▶ The Port of Detroit is the third largest international gateway in the U.S. It connects the Great Lakes and the entire Midwest to the St. Lawrence Seaway, and by extension, the rest of the world



2

PITTSBURGH

Home of the world's first commercial radio station - KDKA Pittsburgh - and a startup economy powered by scientific research and advanced manufacturing.

PITTSBURGH

POPULATION AND BUSINESS

- It is the second largest city in Pennsylvania, behind Philadelphia
- The population is 2.6 million
- The labor force is 1.2 million strong
- Over 100 billion-dollar-plus global corporations are based in Pittsburgh, including 9 Fortune 500 companies
- There are over 1,600 tech firms with offices in the city, employing over 25,000 people and generating \$16.9 billion in annual payrolls
- Pittsburgh's health services sector employs about 140,000 people
- Advanced manufacturing grew at twice the rate than the regional economy
- In 2013, 115,00 more people were employed than at the industrial peak in 1979
- Unemployment is down to 5.8 percent from 8.2 percent in 2010

BY THE NUMBERS

INNOVATION AND EDUCATION

- 18.8 percent of the population have a bachelor's degree or higher, and 92.2 percent are high school graduates or higher
- There are over fifty major university research centers located in the city, focusing on topics from Information Technology to Life Sciences, Robotics, and Physics
- In 2009-2010, over 16,000 STEM degrees were conferred
- There are more than 30 venture capital firms in the city

LIVING IN PITTSBURGH

- Personal income has increased 15.7 percent since 2006 to \$47,862
- The cost of living index is 85 -- 15 percent below the national average
- The median price of a single-family home is \$116,000
- Pittsburgh is the second busiest inland port in the nation and the 13th busiest port, of any kind, in the nation



3

CINCINATTI

First and only city to build and own a major railroad, and home to a startup economy supported by a budding design industry.

CINCINNATI

POPULATION AND BUSINESS

- The population is 2.1 million
- 9 Fortune 500 companies are headquartered in the city. With this, the region ranks in the United States Top 10 markets for number of Fortune 500 headquarters per million residents, higher than New York, Boston, Chicago or Los Angeles
- The labor force is 1.1 million
- Over 20,000 people are employed in the information sector, and there are over 50,000 scientists and engineers
- A Business Week study named Cincinnati the number 3 city for biggest growth in tech jobs
- The unemployment rate is down to 7 percent, from 10 percent in 2009

BY THE NUMBERS

INNOVATION AND EDUCATION

- 30.8 percent of the population have a bachelor's degree or higher, and 83.9 percent are high school graduates or higher
- There are 100,000 new graduates every year
- The University of Cincinnati graduates more than 700 engineers each year in the largest mandatory co-op program of any public university in the nation
- In 2012, it was ranked the second most unexpected city for high-tech innovation by [techie.com](#) magazine

LIVING IN CINCINNATI

- Personal income per capita is \$23,792
- The cost of living index is 90 — 10 percent below the national average
- The median price of a single-family home is \$110,000



4

NASHVILLE

Home of the Country Music Hall of Fame with windows shaped liked piano keys, and a startup economy led by health-tech.

NASHVILLE

POPULATION AND BUSINESS

- It is the fifth largest city in the Southeastern United States
 - Fifty percent of the U.S. population lives within 600 miles of Nashville
 - The population is 1.6 million
 - The labor force is almost 850,000
 - Four Fortune 500 companies are headquartered in Nashville
 - From over 37,000 businesses, 97 percent are small businesses with under 100 employees, and more than 70 percent have fewer than 10 employees
 - The largest industry is not music, but healthcare - contributing \$30 billion per year and 200,000 jobs to the local economy
 - Unemployment is down to 6.2 percent, from 9.7 percent in 2010
-

BY THE NUMBERS

INNOVATION AND EDUCATION

- 39.5 percent of the population have a bachelor's degree or higher, and 88.2 percent are high school graduates or higher
 - There has been a 40–50 percent jump in the college-educated population 2000–2010
 - 60 percent of college graduates stay to work in the area
 - NerdWallet.com ranked Nashville on its top 20 list of cities for women to start a business
 - Nashville came in at number 5 on Under30CEO.com's list of best cities for young entrepreneurs
-

LIVING IN NASHVILLE

- Personal income per capita is \$45,213
 - The cost of living index is 87.6 — 12.4 percent below the national average
 - Nashville ranked on PolicyMic's top 15 list of cities for the young and artistically inclined
 - Nashville was one of the 10 fastest-growing cities in the U.S. between July 2012 and July 2013, according to data from the Census Bureau
-



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