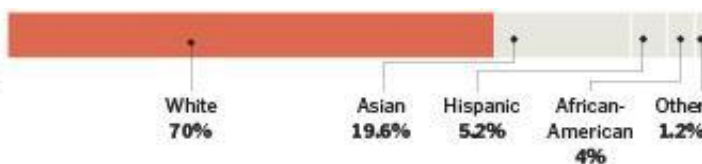Share   Tweet   6 Comments

Mass. tech sector flourishing with challenges ahead

Massachusetts computer-math workers by race, 2013
White 70% | Asian 19.6% | Hispanic 5.2% | African-American 4% | Other 1.2%

Gender makeup of Mass.-based tech company board seats
Male 90% | Female 10%

Share of technology sector in Massachusetts
TOTAL WORKFORCE — Tech-related 19.2% | Non-tech 80.8%
TOTAL PAYROLL — Tech-related 25.4% | Non-tech 74.6%

196 acquisitions and mergers by Mass. tech companies 2010-14

587 acquisitions and mergers of Mass. tech companies

Total includes tech jobs and those supported by tech

SOURCE: MassTLC   LUKE KNOX/GLOBE STAFF

By Dan Adams | GLOBE CORRESPONDENT MARCH 13, 2015

Engineers, programmers, roboticists, and entrepreneurs, the state of your sector is strong — but things could still be better.

That's the takeaway of this year's annual "State of Technology" report by the Mass Technology Leadership Council, which took a sweeping look at the state's technology sector.

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The report by MassTLC, the state's largest technology group, said the past five years have had a remarkable explosion of activity in the technology industry. In Boston, the Innovation District has flourished. Across the state, dozens of companies have opened or expanded, while incubators, accelerators, and robotics centers seem to be popping up everywhere.

The result? In 2013, Massachusetts' tech sector became the country's most concentrated — meaning that tech jobs make up a larger proportion of overall jobs in Massachusetts than in any other state, including California.

"The remarkable thing is how diverse our tech ecosystem is, from big data to robotics to life sciences," said Tom Hopcroft, the group's chief executive. "Our real strength as a region is the interplay between all these areas."

The tech sector is critical to the state's economy, MassTLC found. More than 214,000 people work directly for the technology industry in Massachusetts, which, combined with the 195,000 indirect jobs supported by the sector, comprise 20 percent of the state's total workforce. Put together, their output was worth $160 billion in 2013, the most recent year for which statistics were available.

It is not just numbers that tell the story. A subjective but real sense of momentum can be observed in boardrooms and cubicles, tech executives say.

"There's a palpable, collective feeling that we're on the upswing," said Maia Heymann, who has funded and guided dozens of Massachusetts tech companies as senior managing director of the Cambridge venture capital firm CommonAngels Ventures.

"People really believe we can build a vibrant community of entrepreneurship and innovation here, and that you don't have to go to Silicon Valley to work for a cool company."

Looking forward, MassTLC predicted growth could come by coupling Massachusetts' technology sector and its health care and life sciences industry. It also expects the region to be a big player in the burgeoning Internet of Things, a loose term for networks that connect "smart" objects equipped with sensors to smartphones or computers that analyze the data they return — think homes that can predict when you come and go and adjust the heat accordingly.

Still, in some areas, the report said, Massachusetts faces challenges.

MassTLC had set an aggressive target of adding 100,000 tech jobs between 2010 and 2020, but the state is not keeping pace. Between 2010 and the end of 2013, Massachusetts tech companies created about 17,600 jobs, short of MassTLC's goal of 25,800 for that period.

The biggest culprit is a dearth of talent, according to the report. There is only one qualified recent graduate for every 17 job openings requiring a bachelor's degree at information technology and computer science companies. Bridging that gap will be tricky, requiring a number of parallel efforts, MassTLC said.

For one thing, tight immigration restrictions make it difficult for Massachusetts to retain university students from abroad, the report said. Even companies that are willing to navigate the complex federal visa process to hire foreign citizens face a mountain of paperwork.

MassTLC has called on the state's congressional delegation to fight for immigration reform.

"We disproportionately educate the world," Hopcroft said. "Students come from overseas, we teach them how to start a company and give them all the tools they need, and then say, 'Oh, by the way, you can't stay here to start that company.' "

The group is also pushing for state-level changes. It wants more technology classes in public schools, curriculums at colleges that more closely reflect the needs of industry, and upgraded Internet networks.

Heymann said the biggest challenge facing the tech sector besides the talent gap is getting more funding for companies that are raising their second and third rounds of capital.

Small and medium-size Massachusetts companies on the rise tend to get gobbled up by out-of-state giants instead of getting more funding and becoming giants themselves.

Between 2010 and 2014, there were 587 acquisitions and mergers of Massachusetts companies, compared with 196 acquisitions and merger byMassachusetts companies, according to MassTLC.

"That ratio is worrisome," Heymann said. "You need those big anchor companies that are great at competing and developing products. That's where the next generation of entrepreneurs learn."

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