The Black Tech Diaspora

…..Seeds of science are spreading across two continents….

Thanks to years of investment from government agencies, universities, and the business community along with Canadian liberal immigration laws, Toronto is now the third largest tech hub in North America. Toronto's tech workforce is also growing at a faster clip than any tech hub in the USA. Toronto's roots in technology run deep and it is the fourth largest city in North America trailing only Mexico City, New York, and Los Angeles.

But there is concern in the US over the tech workforce because immigrant guest workers are moving to **Canada** from the US because the wait to move from visa to green card could take years. *(Brain - Drain)*

> Oh, Canada! How Outdated U.S. Immigration Policies Push Top Talent to Other Countries, https://snchronicle.com/resources/

Not discussed during the hearing referenced above were the hundreds of thousands of Indian and Chinese students entering to study science and engineering and how it impacts American students especially Black and Brown American students who could become software engineers, physicists, or epidemiologists that may not get the opportunity because foreign student fees represent a key revenue stream for universities and the influence of strong tech lobbyists.

Economic immigrants account for 35 per cent of all information and communications technology jobs in Canada and 50 per cent of all STEM degree holders. They also have a higher rate of entrepreneurship than their Canadian-born counterparts. In addition to creating jobs, entrepreneurship activities will help Canada attract investment &

trade links, as well as foster domestic innovation. Many technically trained foreigners view the US immigration programs like H1B as the golden gate to furthering their career, starting a family, and building a new life in America. But now change is occurring with those trapped in immigration limbo deciding to move north. This occurrence is being matched by the growth of Black organizations of technologists and engineers who are now looked upon favorably as a valuable home-grown tech workforce asset.

Counting over 10,000 members, BPTN is the largest network of Black tech talent in Canada. The **Black Professionals in Tech Network** (BPTN) has partnered with eight Canadian companies, including TD Bank, Bell Canada, and Rogers, pledging "to create a more reflective, supportive and transformational space for Black tech professionals in Canada."

Founded in 2018, BPTN bridges the network gap in the tech industry by providing Black technical and business professionals with access to senior executive sponsorship, skills building and a strong peer network to level up their careers. The demand for workers to fill STEM-related positions is expected to grow in the coming years. In this connection, Canada is working to make sure that its workforce can meet these challenges. Canada has introduced programs intended to bring additional skilled workers into the country and to grow its tech workforce from within.

As **Europe** reels from the aftereffects of the coronavirus crisis, talk in Brussels is moving towards how the bloc can retain the momentum garnered from the deployment of innovative digital tools.

In the education sector, with European educational establishment re-opened after being closed since mid-March 2022, students had taken to the digital domain as a means of preserving a sense of normality amid the crisis.

The proportion of United Kingdom (UK) citizens from ethnic minority communities is projected to reach between 20 and 30 percent by 2050. However, the UK engineering sector is currently experiencing a shortage of these skilled professionals. Only 9% of UK engineers are from Black and minority ethnic (BME)

backgrounds although an average of 29.9% of engineering university graduates in the UK are from BME backgrounds.

The Association for Black and Minority Ethnic engineers, (**AFBE-UK**) promotes higher achievement in education and engineering among people from Black and minority ethnicity (BME) backgrounds. This organization projects the proportion of United Kingdom (UK) citizens from ethnic minority communities may reach between 20 and 30 percent by 2050. This is even more reason to attract more of this population into the workforce ranks of engineers and scientists along with technologists. When the UK Business and Enterprise Committee and the Royal Academy of Engineering published reports about shortage of engineering skills in the workforce discussions led to the formation of AFBE-UK in 2007. Members include individuals and partnering organizations from England to Scotland.

Events and programs offered through relationships with sponsors including Institution of Engineering and Technology (IET), Mercedes-AMG Petronas Formula One Team, Net Zero Technology Centre, RS Components, and Burns && McDonnell, among others. Rolls-Royce also supports their efforts towards increasing accessibility and improving inclusion for black and minority ethnic engineers.

> *"As we develop on our journey to building a more diverse and representative workforce at Rolls-Royce, we're excited to be working with AFBE to share knowledge and to reach and build strong relationships with black engineering talent. We know that increasing diversity is critical to the success of our business - different perspectives help us to make better decisions, innovate and deliver to our customers. Thanks to our African and Caribbean Professional Network (ACPN) Chair, Lynette Kebirungi, for fostering this important relationship and for the essential work the network does to help make Rolls-Royce even more inclusive."*
>
> *Rebecca Green, Global Employer Brand & Attraction Lead, Rolls-Royce.*

The war in the Ukraine has added stress to the global tech competition. Across Europe, demography in terms of ethno-cultural composition within nations is rapidly diversifying in an unprecedented way.

Ukraine has one of the largest shares of STEM and computer science graduates in Europe, reaching 9.8% out of all graduate students. Many Ukrainian developers in technology and tech experts possess a degree. Around 82% of men and 87% of women have an academic degree. Among these graduates, 41% of women and 64% of men have STEM-related degrees. Ukrainian society considers technical studies as generally more valuable than humanities. There are over ten universities in Kyiv alone and there's a big emphasis on science, technology, engineering, and mathematics in the country. The wholesale displacement of African students at Ukraine's major universities have had them move to other nations or return home.

Innovation Corridor and Cambridge Norwich Tech Corridor

The UK nonetheless is forging ahead to remain competitive in science and technology. With world-leading universities, research institutes and science parks, complemented by an ecosystem of businesses and networks to support innovation, commercialization and manufacturing, the Cambridge Norwich Tech Corridor offers opportunity across Cambridgeshire, Suffolk and Norfolk for start-ups, growing businesses, and investors. Linn Clabburn, Innovation Venture Analyst, IKEA and formerly Program Director with the Cambridge & Norwich Tech Corridor says, "Diversity is a concern because women are massively under-represented in the sector, with only 11 per cent of the engineering workforce being female". While the Cambridge corridor views diversity as a trending topic for companies of all sizes and industries, but especially the fast-paced technology industry, data on non-white tech/engineering workforce is not tracked.

A similar collaboration, the UK Innovation Corridor focuses on different areas of tech. It has brought together with cutting-edge clusters of commercial innovation. Advanced technology, bioscience – this is the place of future-proof industry, the driving force of the UK economy and leverages its reputation for leading the way in advanced technology and bioscience.

I had the opportunity to participate in a Zoom communication with a group of collaborators from the Innovation Corridor on April 29, 2021. Andrew Williams, Corridor partner of AstraZeneca in Cambridge said, " *a technical workforce is vital*

to our continued research effort." Like elsewhere, diversity and inclusion are a challenge for the UK tech initiative.

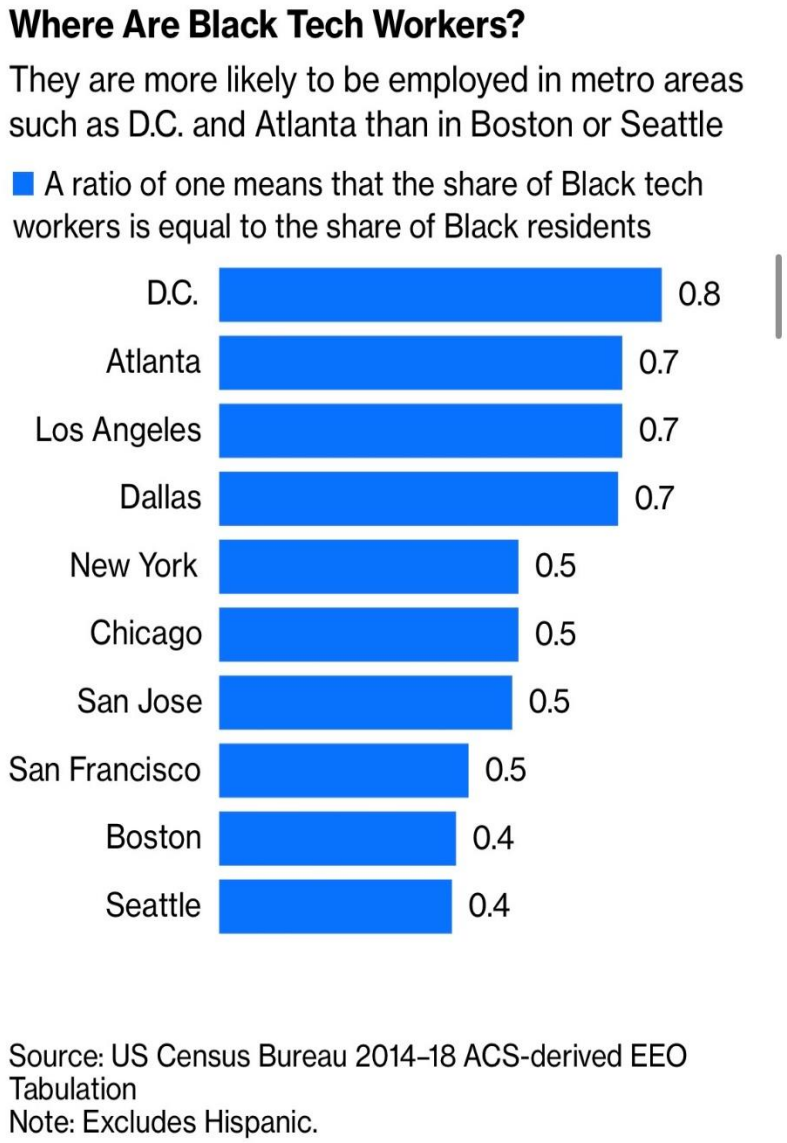
In 2020, the European Commission announced several policy initiatives to foster the EU's landscape for STEM skills. The Commission put forward several There are major initiatives involving work groups of Black and Brown technologists in Europe and Canada that are working with the business community and governments to increase the share of the tech workforce that are non-white patterned after similar movements in the USA that began in the early 1920's and gained momentum because of the US civil rights struggle. The several organizations of Black professionals in tech on both sides of the Atlantic have understandably distinctly different demographical compositions due to historical immigration movement (*voluntary and otherwise*) to present. So how are Black tech organizations viewed whether they are in Ottawa, Manchester, or Atlanta?

How we differ demographically

Majority of Black technical and scientific work force in Europe and Canada have immigrated from Africa, the Caribbean, and the middle East while in the US they are descendants of slaves.

The US movement to actively support and increase minority engineers and scientists began with the formation of The National Technical Association (**NTA**) in 1925 founded by Charles S. Duke, who became the first African American to receive an engineering degree from Harvard University. Today there are upwards of 40 such similar organizations organized around women's issues, other ethnic minority groups, and specific engineering and science disciplines spread across the nation with National Society of Black Engineers (**NSBE**) the most prominent.

From Bloomberg Press, (5/29/22)



Things in common (US, Europe, Canada)

- Each support youth achievement in education leading to careers in science and engineering for ethnic minorities,
- Professional career development of members and associates a high priority, and,
- Building a more inclusive workforce of technologists, engineers, and scientists

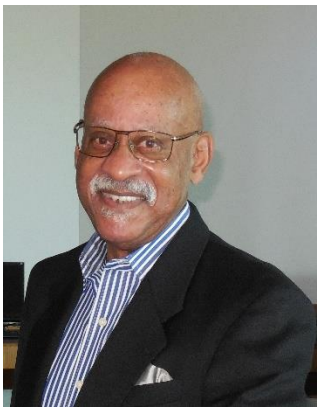
Black students like these in Europe are pursuing their education however, there remains a diversity deficit when compared with other nations all around the world in terms of skills in science, technology, engineering, and mathematics (STEM) subjects.

According to Open Doors 2018, the Institute of International Education's most recent survey of U.S. study abroad, less than 2% of all college students studied abroad in 2016-17, and of that small number of participants, only 5.3% were engineering majors and 2.8% were math or Computer Science majors.

Attractive options for American students to study in STEM areas in England are UK-England: Imperial College and UK-England: Imperial College.[1]

African American students interested in opportunities to expand student mobility in the disciplines of science, technology, engineering, and mathematics (STEM), which are consistently underrepresented in study abroad can contact Institute of International Education, Inc.

[1] https://blog.uceap.universityofcalifornia.edu/stem-study-abroad/



Comments, references, and data research come from my perspective and experience as a retired African American engineer who began a career in the early 70s, and with acquired experience in domestic and foreign business/marketing development, industrial systems, polymer science, public health, energy/environmental research, and education consulting.

Lawrence King, COO Stem News Technical Journal, LLC July 30, 2022