

NSBE Outreach and Career Exhibition Roadmap

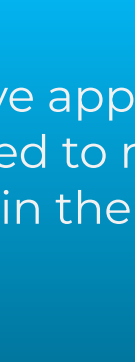
Creating a roadmap for the National Society of Black Engineers (NSBE) outreach programs and career exhibition events is an essential initiative to foster engagement and support black students in engineering and STEM (Science, Technology, Engineering, Mathematics) fields. The roadmap includes various components: outreach programs, career exhibitions, and support programs.

The strategic objective is to create a strong pipeline of black engineers and STEM professionals by engaging students at every level - Primary School, High School, and Tertiary Institutions. This will be achieved through various initiatives which include exposure to STEM careers, academic support, mentorship, and career development opportunities

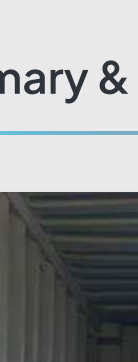
GOALS



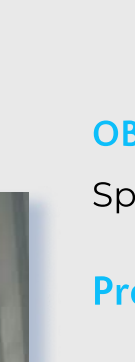
Increase awareness of engineering careers among black students.



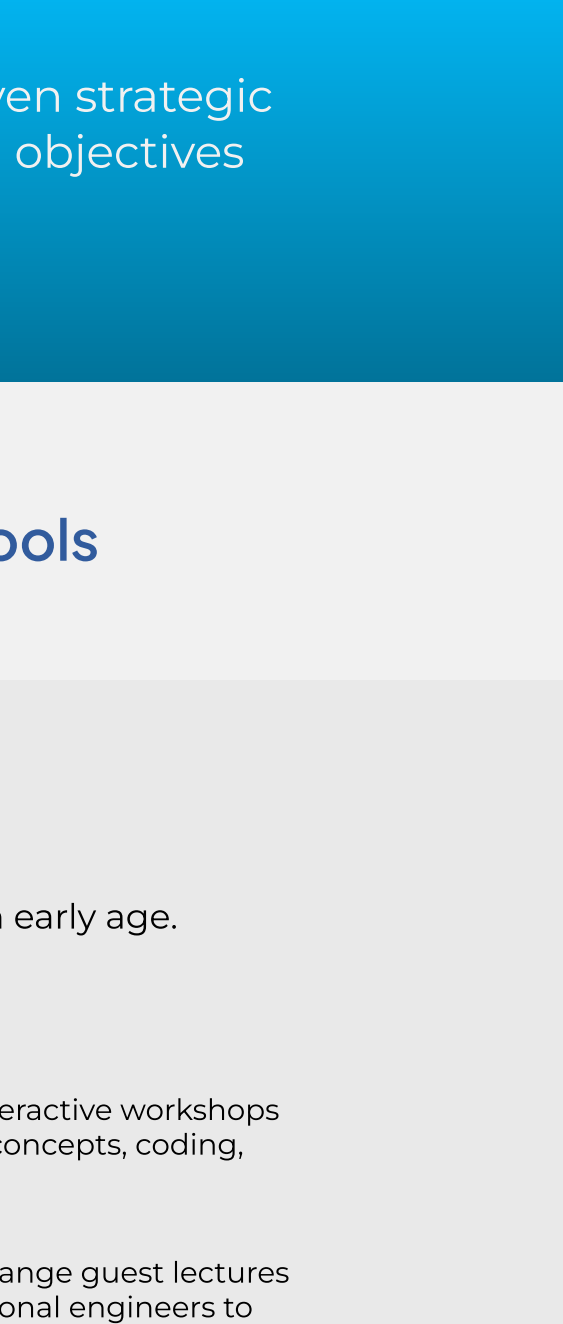
Provide mentorship and support through tutoring and workshops.



Facilitate connections between students and industry professionals.

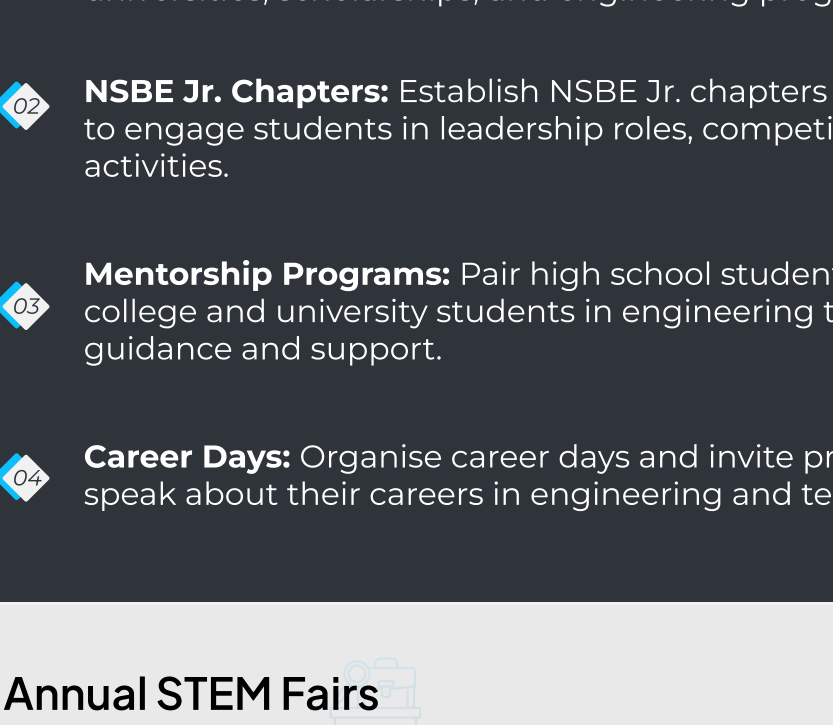


Organise career exhibitions to showcase opportunities in engineering.



01 Outreach to Primary and High Schools

Primary & High School programs



OBJECTIVE

Spark interest in STEM fields at an early age.

Programs

- 01 **STEM Workshops:** Organise interactive workshops focusing on basic engineering concepts, coding, robotics, and science projects.
- 02 **School Visits by Engineers:** Arrange guest lectures and demonstrations by professional engineers to inspire students.
- 03 **STEM Clubs:** Partner with schools to create after-school STEM clubs to sustain interest throughout the year.

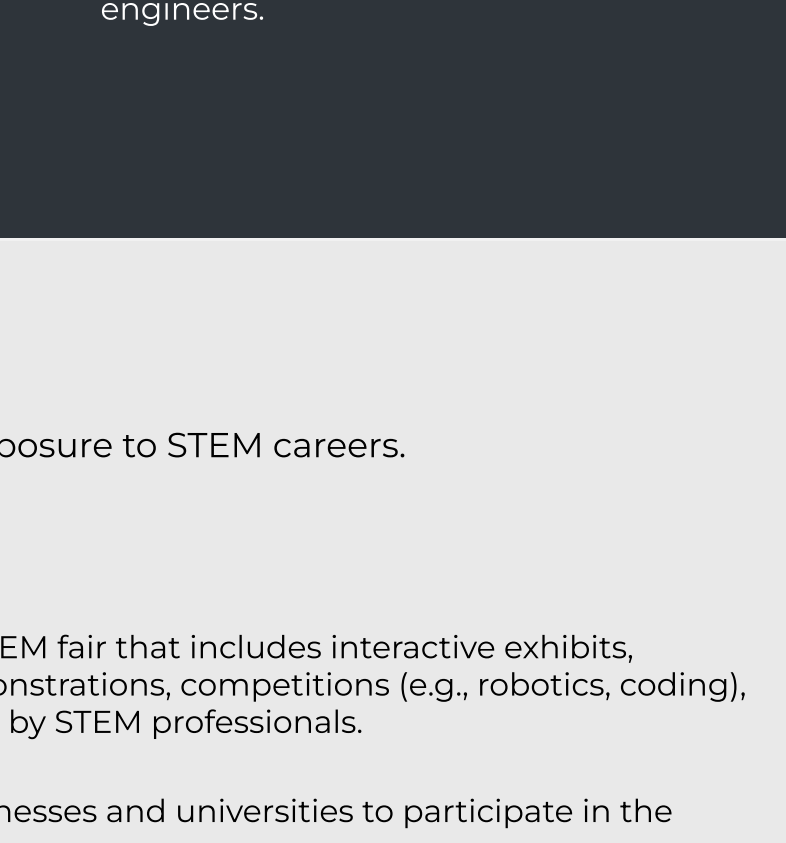
Objective

Inspire and guide students in making informed decisions about pursuing careers in STEM. Identify target schools from the adopted schools list and organise STEM awareness days to highlight practical engineering projects and careers.

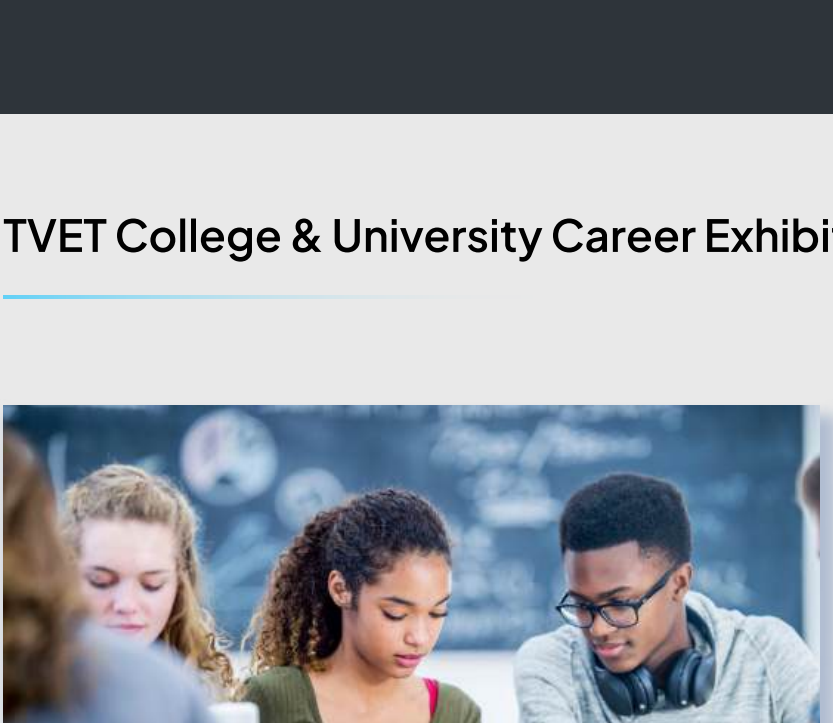
Programs

- 01 **TVET College and University Readiness Workshops:** Educate students on the application process for TVET colleges and universities, scholarships, and engineering programs.
- 02 **NSBE Jr. Chapters:** Establish NSBE Jr. chapters in high schools to engage students in leadership roles, competitions, and STEM activities.
- 03 **Mentorship Programs:** Pair high school students with TVET college and university students in engineering to provide guidance and support.
- 04 **Career Days:** Organise career days and invite professionals to speak about their careers in engineering and technology.

High School Outreach



Annual STEM Fairs



Objective

Create large-scale exposure to STEM careers.

Events

- 01 **Host an annual STEM fair** that includes interactive exhibits, engineering demonstrations, competitions (e.g., robotics, coding), and presentations by STEM professionals.
- 02 **Engage local businesses and universities** to participate in the event.
- 03 **Partner with other organizations** to broaden the reach and impact.

02 TVET College and University Outreach

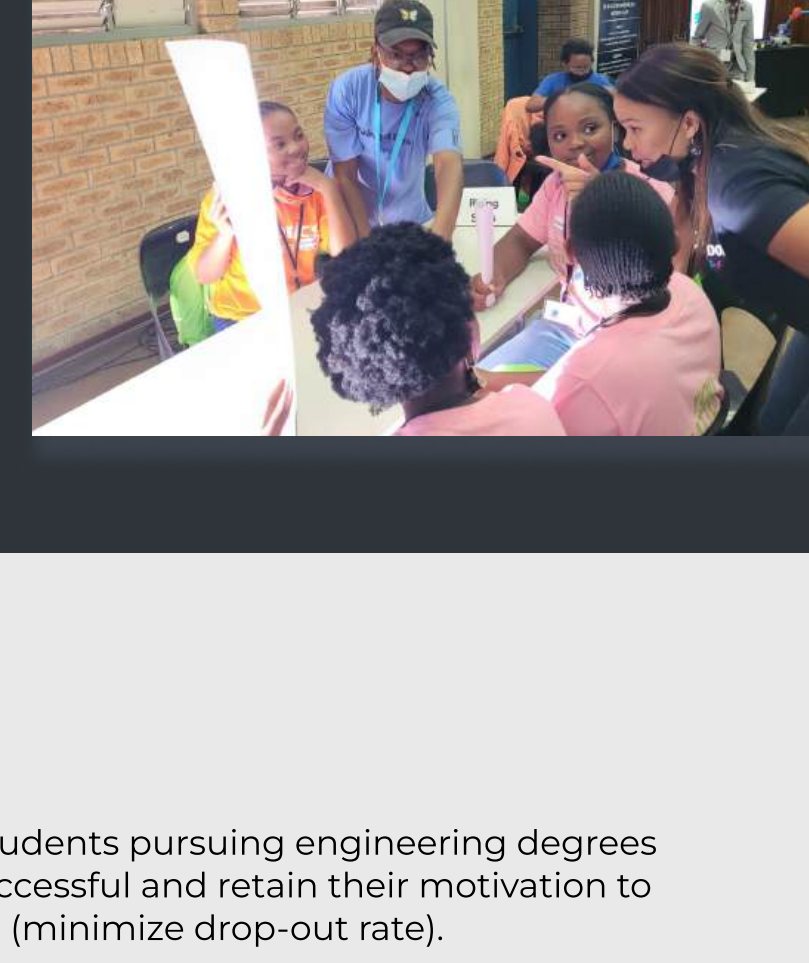
TVET College & University Recruitment Programs

Objective

Increase the number of Black students pursuing engineering qualifications.

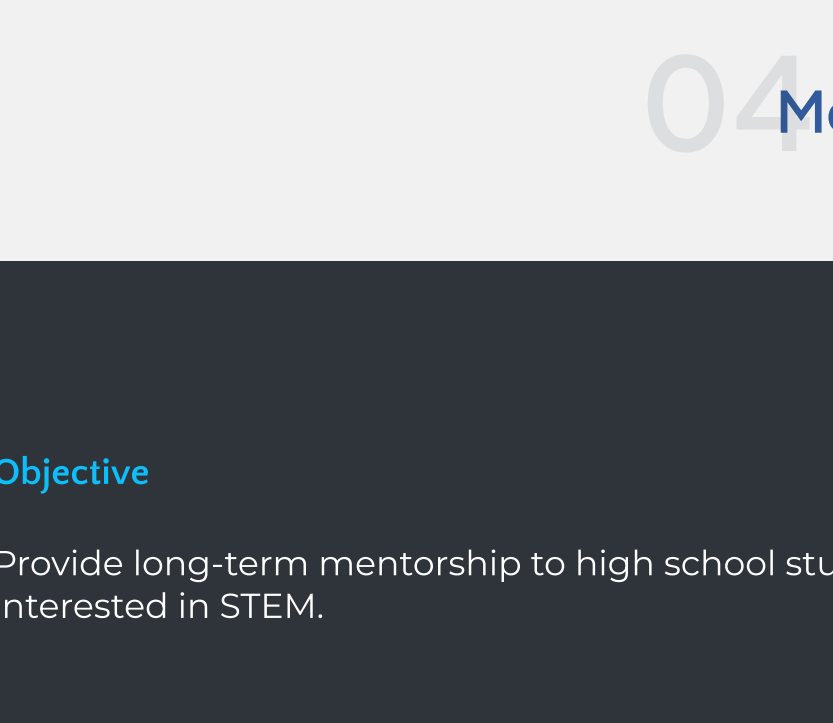
Programs

- 01 **NSBE TVET College Chapters:** Strengthen or create NSBE chapters on TVET College campuses to serve as a hub for student engagement, networking, and career development.
- 02 **TVET College Roadshows:** Collaborate with TVET colleges and universities to host events that showcase STEM departments, research opportunities, and engineering careers.
- 03 **Engineering Day:** Partner with TVET college and university engineering departments to organize engineering days for high school students, providing them with the opportunity to explore labs, meet lecturers, and learn more about degree programs.



- 04 **Pre-TVET College / University Summer Programs:** Organise summer programs or camps that introduce high school students to TVET college / university level engineering coursework and research opportunities.

TVET College & University Career Exhibitions



Objective

Connect engineering students with potential employers and provide career development resources.

Events

- 01 **Annual NSBE Career Exhibition:** Host an annual exhibition with company booths, career talks, resume reviews, and mock interviews.
- 02 **Industry Networking Sessions:** Organise meet-and-greet sessions where students can interact with representatives from technology companies, engineering firms, and SOCs.
- 03 **Career Workshops:** Offer workshops on resume building, interview skills, and how to network effectively in the engineering field.

03 Tutoring and Academic Support Programs

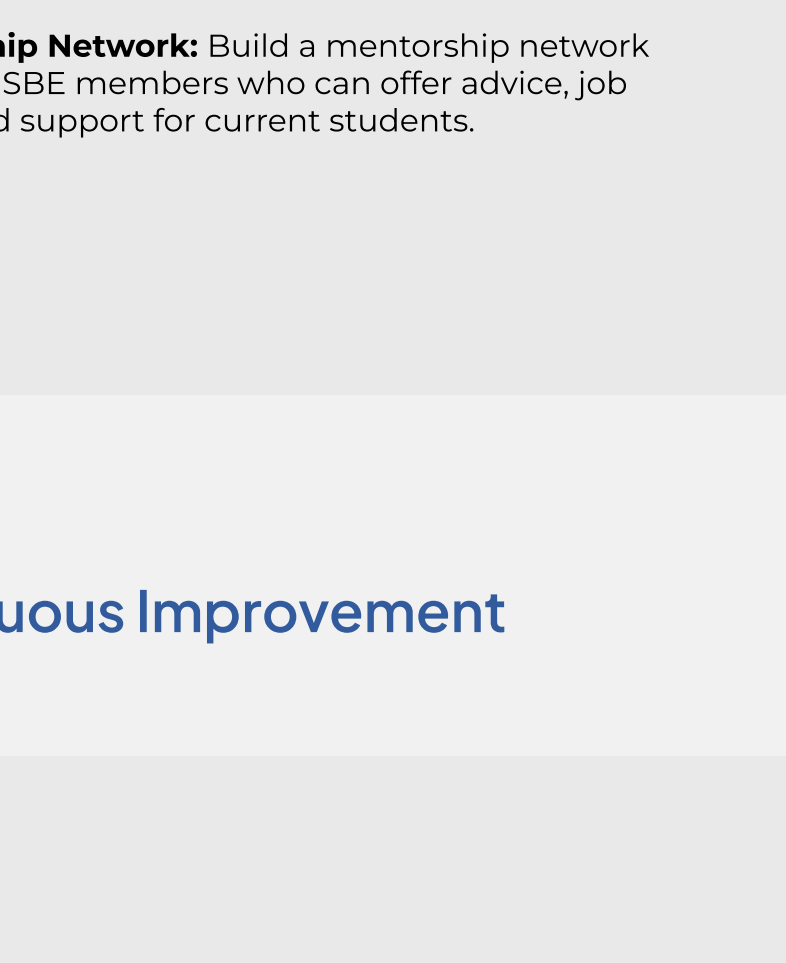
High School Tutoring

Objective

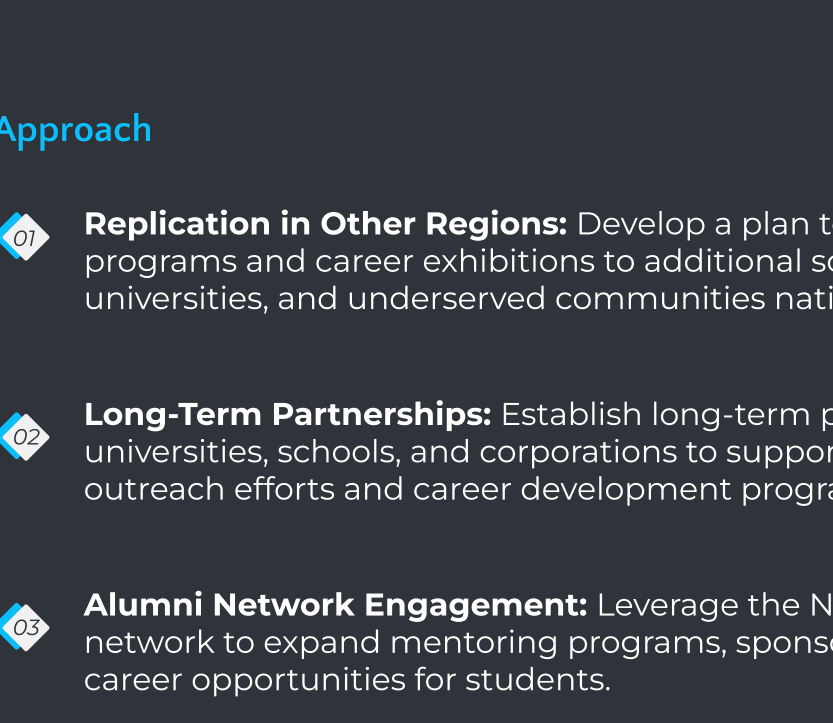
Support high school students in achieving academic excellence, particularly in STEM subjects.

Programs

- 01 **After-School Tutoring:** Provide regular tutoring sessions for high school students in subjects like maths, physical sciences, life sciences, chemistry, and etc.
- 02 **Online Tutoring Platform:** Develop an online platform where high school students can access tutoring services.



TVET College & University Academic Support



Objective

Ensure that black students pursuing engineering degrees are academically successful and retain their motivation to continue in the field (minimize drop-out rate).

Programs

- 01 **Peer Tutoring Programs:** Set up a peer tutoring system where senior year engineering students help first- and second-year students with difficult courses.
- 02 **Study Groups:** Organise structured study groups for difficult engineering courses to foster learning and support among students.
- 03 **Exam Prep Workshops:** Offer exam preparation workshops for major engineering exams.

04 Mentorship Programs

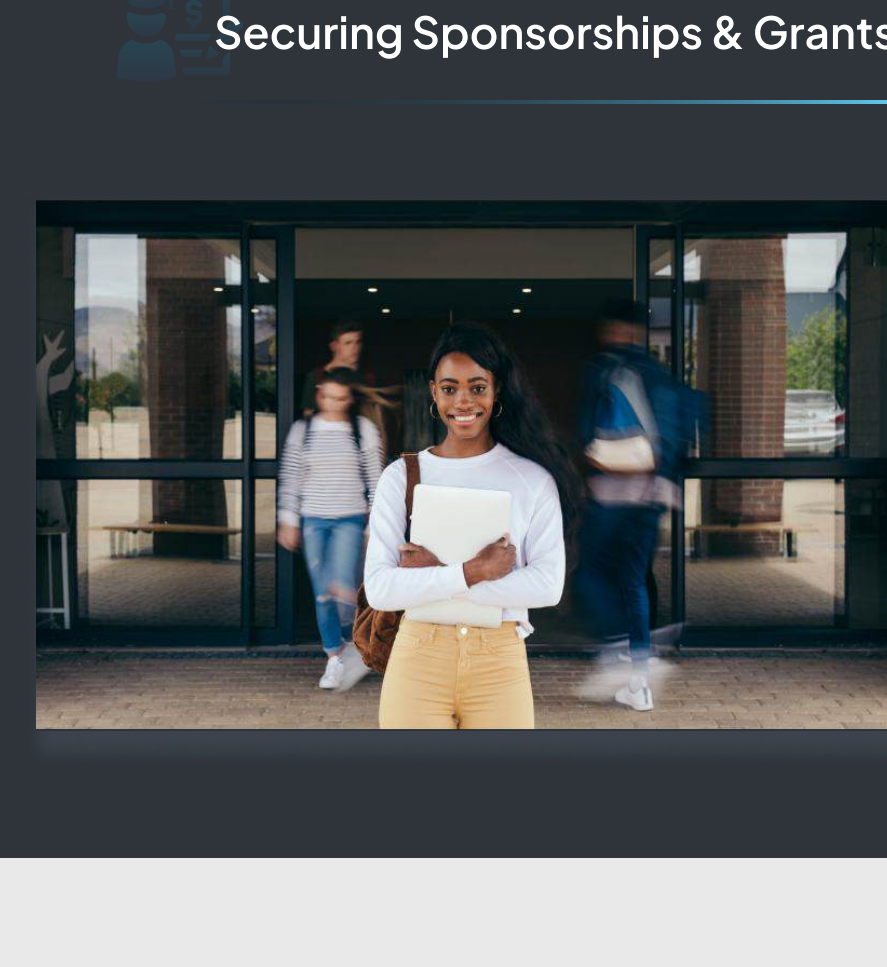
High School Mentorship

Objective

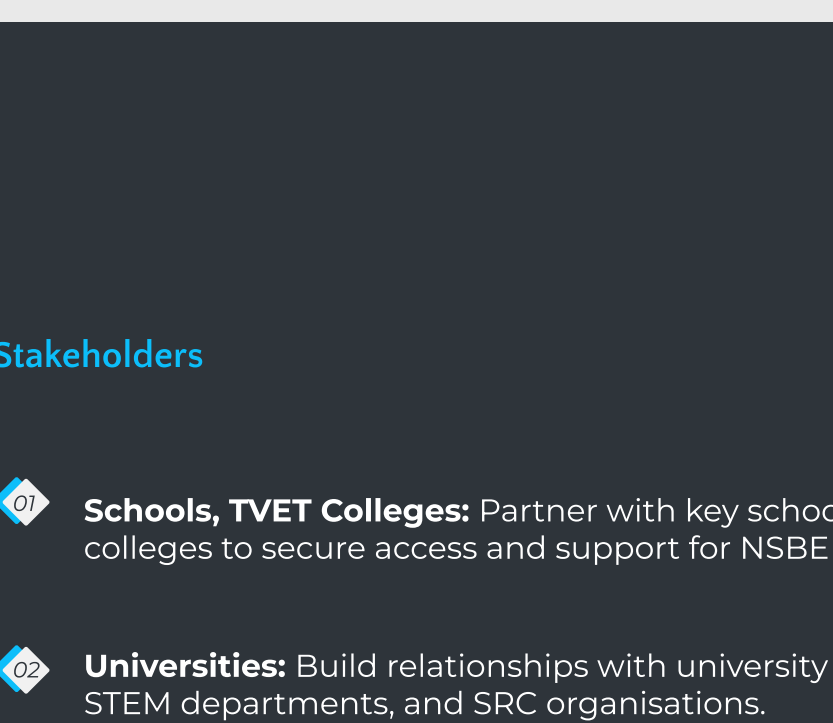
Provide long-term mentorship to high school students interested in STEM.

Programs

- 01 **One-on-One Mentorship:** Pair high school students with TVET college / university students and young professionals for one-on-one mentorship.
- 02 **Group Mentorship Sessions:** Organise regular group sessions where students can meet with mentors, ask questions, and seek advice.



TVET College & University Mentorship



Objective

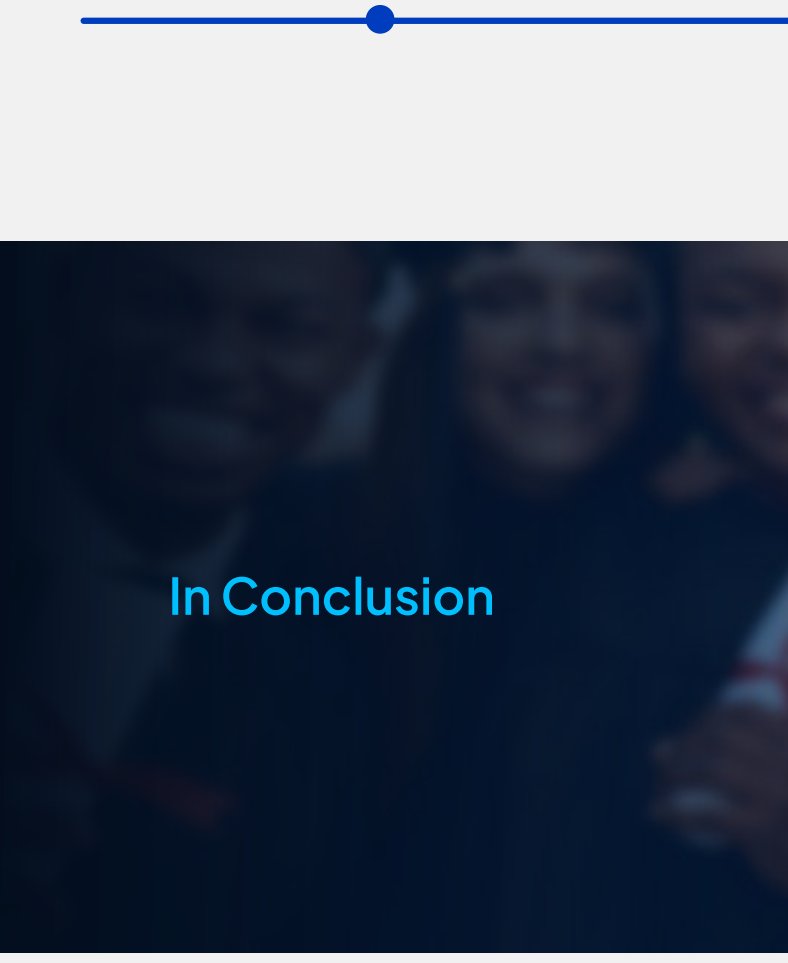
Help engineering students navigate challenges, career decisions, and professional development.

Programs

- 01 **Professional Mentorship:** Pair TVET college / university students with professional engineers to guide them in career development and provide industry insights.
- 02 **Alumni Mentorship Network:** Build a mentorship network involving senior NSBE members who can offer advice, job opportunities, and support for current students.

05 Evaluation, Expansion, & Continuous Improvement

Evaluation of Outcomes



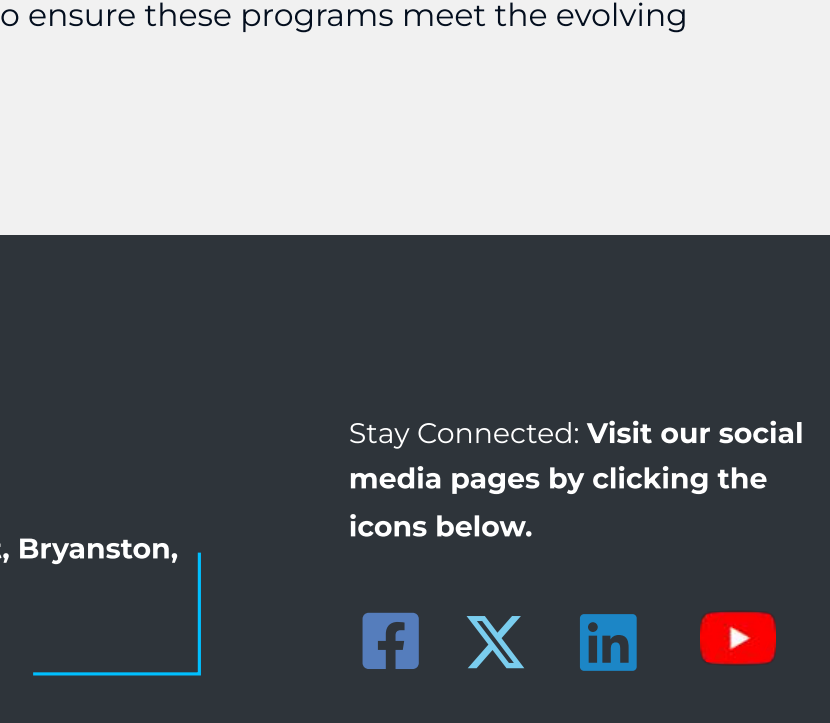
Approach

- 01 **Data Collection:** Collect data on outreach participation, career exhibition attendance, and academic performance improvements due to tutoring.
- 02 **Success Stories:** Document success stories from students who benefited from NSBE's outreach, career fairs, or support programs.
- 03 **Impact Assessment:** Conduct surveys to assess the effectiveness of outreach efforts and measure the programs impact on student interest and career development in STEM.

Expansion and Scaling

Approach

- 01 **Replication in Other Regions:** Develop a plan to scale outreach programs and career exhibitions to additional schools, universities, and underserved communities nationwide.
- 02 **Long-Term Partnerships:** Establish long-term partnerships with universities, schools, and corporations to support sustained outreach efforts and career development programs.
- 03 **Alumni Network Engagement:** Leverage the NSBE alumni network to expand mentoring programs, sponsorships, and career opportunities for students.



Continuous Improvement

Approach

- 01 **Program Refinement:** Use feedback and evaluation data to refine future programs, addressing gaps and introducing new opportunities based on industry trends.
- 02 **Sustainability:** ensure sustainability by developing strong funding partnerships, building robust volunteer networks, and continually recruiting students into the NSBE pipeline.

06 Funding, Resource Allocation, & Stakeholder Engagement

Securing Sponsorships & Grants

Objective

Secure necessary funding for programs and exhibitions.

Strategies

- 01 Secure necessary funding for programs and exhibitions.
- 02 Apply for training grants to support outreach and tutoring programs.

Resource Management

Objective

Efficiently manage service providers, speakers, and resources.

Strategies

- 01 Create a management system to coordinate roles for tutoring, mentorship, and events.
- 02 Establish resource libraries (e.g., curriculum, software, and tutoring materials) to support outreach activities.

Stakeholder Engagement

Stakeholders

- 01 **Schools, TVET Colleges:** Partner with key schools and TVET colleges to secure access and support for NSBE programs.
- 02 **Universities:** Build relationships with university career centres, STEM departments, and SRC organisations.
- 03 **Industry Partners:** Engage with companies and organizations in engineering, technology, and related fields to sponsor career exhibitions, offer internships, and provide role models.

- 04 **Tutors & Mentors:** Identify and recruit NSBE members, professionals, and alumni to serve as mentors and tutors for the support programs.

07 Marketing and Awareness Campaigns

01 Social Media Campaigns

Leverage NSBE's social media to promote outreach events and increase visibility among students and relevant stakeholders.

02 Collaborative Campaigns

Partner with schools, TVET colleges, and universities for joint campaigns, emphasising the importance of diversity and inclusivity in engineering fields.

03 Printed Materials

Distribute flyers, pamphlets, and posters to schools, TVET colleges and universities promoting outreach programs and career events.

In Conclusion

This roadmap establishes a structured and scalable approach to NSBE's outreach, career exhibitions and support programs. It emphasizes early student engagement in STEM, strong industry connections for career pathways, and comprehensive academic support through tutoring and mentoring.

By following this roadmap, NSBE is able to effectively broaden the pipeline of black students pursuing STEM careers and enhance their success through tailored educational support.

Best practices - continuous evaluation and adaptability - are applied to ensure these programs meet the evolving needs of students and professionals.

The National Society of Black Engineers
 Tel: (011) 575 1838
 Email: admin@nsbe.org.za
 Address: The Campus Office Park, 57 Sloane Street, Bryanston, Johannesburg, 2191
 Website: www.nsbe.org.za

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