

**VISION:** Community-wide collaboration driving student success, career preparedness, productive citizenship, and global competitiveness through expanded STEM learning opportunities.

**MISSION:** Building community-wide culture and capacity to dramatically strengthen career and life preparation through increased access to relevant and engaging STEM education and learning experiences for kids of all ages and their families.

#### **Future-Ready Students**

are ability to think critically, design, and apply concepts and content from science, technology, engineering and math to understand and solve problems, complete coursework and projects. Early on students develop interest and confidence in STEM topics and develop a sense that a STEM career might be possible for them.

## **Informed Community**

is engaged and equipped to support and inspire their children and are kept aware of a continuous range of learning opportunities and supports offered to all youth, particularly children of underrepresented groups. The entire community understands what it means for students to be STEM literate and futureready.

# **Effective Educators**

use a project-based and integrated approach in teaching Science, Technology, Engineering and Mathematics (STEM) curriculum and activities and breaking down barriers between subjects in hands-on, engaging and relevant ways – REGARDLESS OF SETTING. Instruction is guided by the practices of Next Generation Science Standards and evidenced best practices.

#### **Engaged Partners**

embrace the value of a STEM education for ALL youth and understand the level of encouragement and work-based experiences it takes in a variety of environments both inside and outside the classroom that will increase STEM literacy, skills, and career pursuits.

### Our Beliefs – What it will take

Cross-sector leaders coming together with a common interest to dramatically increase PK-12 students, especially girls and youth of color and poverty, graduating from high school with future workforce-ready skills and competencies.



Goals/Principles/Outcomes At-A-Glance	Indicators
<ol> <li>Increase student interest, participation, and achievement in STEM</li> <li>Equity: Process for assessing STEM learning opportunity gaps</li> <li>Experiential: Continuum of project-based STEM- rich experiences (in and out of school) designed for every setting aligned with HE and industry needs</li> <li>Calendar of Opportunities: Region-wide system to promote accessible learning, career exploration, and mentoring opportunities.</li> <li>Information: Clearly detailed classroom-to- workforce pathways that are user-friendly and provide access to multiple credentials</li> <li>Authentic: STEM professionals engage students in the classroom, adding value to the student educational experience</li> <li>Enrichment: STEM business learning tours, data collection, internships</li> </ol>	<ul> <li>Elementary - Middle</li> <li># of instructional hours allocated per week by teachers to math and science in the elementary grades</li> <li>% of 4<sup>th</sup> - 8th grade students in each population group scoring mastery or higher on the statewide science or math assessment</li> <li># Students participating in summer STEM opportunities</li> <li>% of 8th grade students enrolled in a math class designated as Algebra I or higher.</li> <li>High School</li> <li>% of students successfully earning nine credits with a "B" or better in math, science, and language arts during high school</li> <li>% of students taking STEM classes over the course of high school</li> <li>Interest/Ability in STEM (ACT)</li> <li>% of first year students at community and technical colleges enrolling in pre-college (remedial) coursework in math</li> <li>% of students, in each population group, who complete a degree with a STEM major</li> <li>% of students, in each population group, who earn a STEM-related career credential</li> </ul>
<ul> <li>2. Increase number of effective STEM educators and leaders in all settings</li> <li>Common Vision: Framework and standards of how formal K12 and informal learning environments and STEM education and approaches are supportive of 21<sup>st</sup> century skills, plus clear process to measure, scale and support effective STEM education practices</li> <li>Best Practice STEM Standards &amp; Tools: Professional development and tools to provide students with solid foundational skills and STEM literacy.</li> <li>Content Enhancement: Teachers gain deeper understanding of STEM subjects and careers through externships/online mentoring via STEM research, business, and industry settings.</li> <li>Career Pathway Knowledge: Create seamless pathways that aligns PK-20 with the skills needed for STEM careers and entrepreneurism</li> <li>Recruitment &amp; Retention: Highly qualified or</li> </ul>	<ul> <li>% increase in educator awareness of STEM importance and confidence in teaching or co-teaching STEM</li> <li># Teachers participating in STEM mentoring programs</li> <li># Educators participating in externship programs</li> <li># Educators attending STEM professional development</li> <li># Educators presenting workshops on STEM instructional practices</li> <li># Resources and tools added to repository and downloaded</li> <li># schools and classrooms utilizing effective project- based learning, scientific inquiry, and/or the engineering design process</li> <li>% of teachers certified to teach high school science and math courses</li> <li># of elementary school teachers certified in science or math</li> <li># of STEM-integrated courses offered in middle and high school</li> </ul>

Goals/Principles/Outcomes At-A-Glance	Indicators
3. Increase meaningful business and community engagement in STEM programming	<ul> <li># Existing robust partnerships between STEM business, industry, and education</li> <li># Internships and other work experience</li> </ul>
<ul> <li>Knowledge of Opportunities: Listing of multiple, coherent opportunities to volunteer or mentor using real world, and project-based experiences</li> <li>Training: One stop shop for volunteer and/or advisory opportunities</li> <li>Framework: For recommending how STEM businesses, schools, and non-profit organizations will work together to improve STEM education <ul> <li>Host events (region-wide?) that connects students, educators, businesses, etc. to exchange information related to career exploration, STEM learning enrichment, and mentorship opportunities.</li> </ul> </li> <li>Recommendations for investing resources <ul> <li>Funding and logistical support for individual students and whole classes to participate in STEM learning events</li> <li>Internships (Students) Externships (Teachers)</li> </ul> </li> </ul>	<ul> <li>opportunities provided in a STEM industry to middle school, high school, and post-secondary students</li> <li># K-12 students mentored by a STEM professional</li> <li># of real world-based classroom projects curated or facilitated by STEM professionals</li> <li># Learning opportunities provided by STEM professionals</li> <li># K-12 educators engaged in externship opportunities</li> <li># Externships for teachers</li> <li># Businesses providing financial support for range of programming or Network operations</li> </ul>
4. Increase broad family and community support for STEM education as a priority for Baton Rouge regions citizens.	<ul> <li># Business partners see themselves as benefiting from and integral to the success of the educational system.</li> <li>% increase in student and parent awareness of STEM jobs and pathways to attain those jobs</li> <li>% increase in student and parent involvement in local school/community STEM-related activities</li> <li>% increase in student and parent positive attitudes toward STEM subjects</li> <li>% family members have an understanding of the benefits of a strong STEM education and a clearer understanding of how they can support their children in promoting STEM literacy and careers</li> <li>% Increase in student and parent involvement in local school/community STEM-related activities</li> </ul>
<ul> <li>Comprehensive BR STEM marketing and communications plan/campaign to raise awareness of STEM Network.</li> <li>STEM Education knowledge and awareness campaign to students and families key targeted messages . For example: Student/family on STEM literacy &amp; 21<sup>st</sup> century skills on ALL career paths</li> <li>Community access to all STEM resources and regional STEM events including family and community engagements.</li> </ul>	

## OUR Plan for Working Together

The Baton Rouge STEM Learning Network (BR STEM) is a collaborative effort by partners aligned around a shared vision and committed to increasing community culture for equal and connected access to highquality and relevant STEM programming and opportunities. Activities and actions will be led, funded, and managed by a number of entities working together.



Convene people and resources across the region in support of STEM learning Plan and attract community support for student engaging and impacting STEM projects Evaluate the impact of STEM projects on student learning and interest in STEM careers Ensure the most urgent and valuable STEM education opportunities are being addressed



possible; Voice clear understanding of potential impact)

# Process and Tools Used throughout Planning Year

#### • JANUARY 2017

- Community Kick-off
- Introduce EBRPSS STEM Framework
- MARCH
  - Community context/Challenges
- APRIL
  - Vision for work
  - Review of existing strategies (BRAC)
  - Initiate a few immediate priorities
    - Use of Framework
    - Cross-sector partnering
- MAY
  - Continue work on priorities
    - List of PD and Resources for Teachers
    - Leadership Opportunities for Educators
- JUNE JULY
  - Continue to cultivate partners
    - BREC/FEBRSS STEM Summer Camp
  - Invited to join Ecosystem
- AUGUST
  - Ecosystem Self Assessment
- SEPTEMBER
  - Continue work on priorities
    - Launch BR STEM website
    - Self Assessment analysis
- OCTOBER
  - Attend Ecosystem national convening
  - Form Steering Committee
  - Define 2-3 workgroups
  - Administer Landscape/Asset Survey (70 responders)
- NOVEMBER JANUARY
  - Design Studio I and II (wider section of community)
  - Discuss Progress of Existing Workgroups (PD/Resources, OST connections, Family engagement, Partnerships, Ecosystem Operations, Awareness of Pathways, Communications)
    - Communications Plan (in Progress)
- MAY 2018

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- Continue to refine goals and long term objectives
- Launch Workgroups to further vet strategies and add new ones if necessary
- Continue existing work
  - Share Progress/Plan
    - STEM Summit?

BR STEM Network is a collaborative between the Foundation for East Baton Rouge School System, the local public school system and community partners, jump-started through funding from ExxonMobil in 2016. Still in early development phase with specialty workgroups still forming, the Network is collaboratively led and advised by the following community organizations. BR STEM is a member of the national <u>STEM</u> <u>Ecosystems Community of Practice</u> and is a founding member of the <u>City Network for</u> <u>US2020</u> – a network of innovative communities fostering local STEM mentoring movements across the country.

- Baton Rouge Area Chamber of Commerce
- Boy Scouts of America Istrouma Council
- BRCC
- BREC
- Cisco
- Dow Chemical
- East Baton Rouge Parish Library
- East Baton Rouge Parish School System
- ExxonMobil
- ExxonMobil Retirees (EMYCORA)
- Forte and Tablada Engineering
- Foundation for East Baton Rouge
- Future's Fund
- Franciscan Missionaries of Our Lady College
- IBM
- Knock, Knock Children's Museum
- Louisiana Art and Science Museum
- Louisiana Board of Regents
- Louisiana Economic Development
- Louisiana State University
- Louisiana Tech Park
- Louisiana Women in Technology
- Make BR
- Regions Bank
- School Aids
- Sparkhound
- Turner Industries
- Urban League