DHS Science and Technology Directorate

Apex Engine: Behavioral, Economic, and Social Science

Context

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) launched a series of high-profile, high-impact Apex programs to look strategically at the nation's security and address future challenges while supporting today's operational needs. Apex Engines were created to meet cross-cutting needs for all Apex programs.

Impact and Vision

Through the Apex Behavioral, Economic, and Social Science Engine (BESS-E), Apex programs will examine the human impact of their programs and technologies early in the planning stages, increasing the probability of successful implementation and transition. BESS-E will also provide insight into the ultimate potential impact and any unintended consequences.

Description & Approach

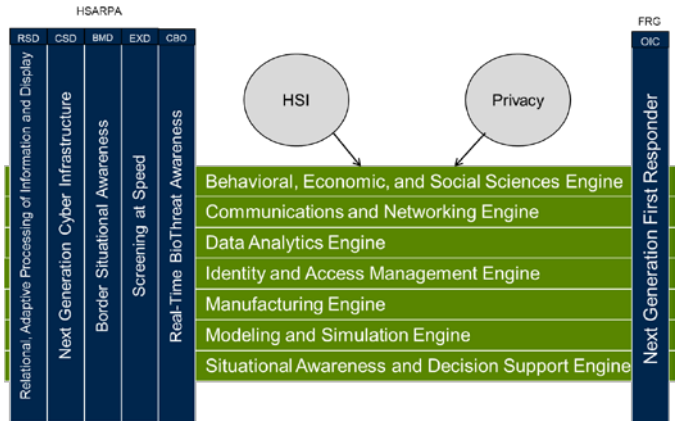
BESS-E analyzes the social, economic, and behavioral implications of an Apex program's research, implementation, and diffusion of new technologies, programs, and policies. BESS-E will provide Apex programs with broad research support on technology acceptance and program evaluation. By matching social science capabilities to Apex program needs, BESS-E is able to provide basic and applied research support to the Apex programs that addresses their human impact.

Applied Tools and Techniques.

Key Activities

- Work with Apex programs to identify requirements and apply existing capabilities to meet immediate needs.
- Coordinate with other Apex Engines and other S&T elements, such as Human Systems Integration (HSI) and the Privacy Office to address Apex program needs.
- Technology Acceptance
  - Organizational Assessments can help identify facilitators and roadblocks to implantation and diffusion of new technologies or policies.
  - Identification of perceptions of the end user community can assist with use case selection and messaging.
- Program Evaluation
  - Success metrics can be developed into quantifiable metrics used to measure program performance.
  - Program evaluation will determine the impact the program has on operations, how well a program meets its success metrics, and any unintended consequences.
  - Cost-benefit analysis can help quantify non-monetary benefits that may accrue far into the future.
- Basic Research
  - Experimental design can allow Apex programs to test scenarios, such as measuring cognitive load, in a lab environment to help answer questions about the field and increase knowledge production.

Through this approach BESS-E will provide support across all Apex programs. For example, all Apex programs have the potential need to assess interaction with end-user communities and the general public. Additionally, all Apex programs will need clearly defined success metrics, which can be used to evaluate the effectiveness of the program on operational outcomes. BESS-E will work with other Engines, HSI, and Privacy to provide social science support and subject matter expertise. This 'whole-of-enterprise' approach maximizes investment, capabilities, and subject matter expertise for mission objectives.



Matrixed Engine Approach for Apex Support

Homeland Security
Science and Technology

To learn more about the Behavioral, Economic, and Social Science Apex Engine, contact kathleen.deloughery@hq.dhs.gov.

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