Foreign Animal & Zoonotic Disease (FAZD) Center Dynamic Preparedness System (DPS)

The initial design concept called for the systems analysis and software team to design a dashboard-like dynamic display capable for foreign emerging animal diseases outbreak and management decisions at the applicable level. A previously developed scenario/operations timeline tool was used as the driver for manipulating a prototype consisting of sixteen to twenty display items on one dashboard.

Computer scientist and software engineers were teamed with experienced C2 operations analysts. Software tracking systems and frequent customer IPRs and feedback sessions were conducted. Web-sites with interactive and continual updating features were designed for national level agencies use in disease control operations. The DPS is a flexible, local user configurable set of displays that taps authoritative data sources and provides an array of operator or decision-maker manipulation. It was executed in generally a short fused, short notice manner.

The objectives were to build a working prototype of a dashboard display and to perform demonstrations with potential end-state users within applicable domains to receive feedback to be used for product refinement. This was exactly what the customer wanted to fill in due to the lack of detailed technical requirements contained in the initial concept for the DPS. Dashboard visualization techniques were incorporated into the final version. These included stratification of hierarchical and collateral data display windows, data fusion, geo-spatial correlation and multiple select terrain depicts.

The Bio-surveillance Common Operational Picture was developed as a follow-on application to DPS. It provides a web-based information display system for global tracking of pandemic disease situations. The development team designed a dashboard display framework that is fed and updated by pre-determined data sources. It has very innovative uses of maps and event correlation Gantt charting. These can include incorporation of 3-D renderings such as computer assisted designs/portrayals and timeline.

The dashboard framework is suitable for expansion into a variety of applications and venues to include classroom/seminar informational displays, command and control consoles, and interactive resident web-based training facilities.

TEXAS CENTER FOR APPLIED TECHNOLOGY

There are many problems that require the careful and proper integration of applied technologies to find solutions. The Texas Center for Applied Technology (TCAT) was created to focus on these specific problems and to develop effective and efficient solutions. TCAT's core competency is the innovative application of existing technologies and advanced research to solve complex real-world problems.

TCAT's primary objective is to apply and test technologies to address targeted problems and engage basic research as required. TCAT has employees in a variety of locations with the ability to perform research that cuts across multiple technologies, disciplines, and cultures. The Center's employees are knowledgeable regarding customers' requirements and are ready to respond effectively to provide the best value for the customers' needs including expertise in technology insertion, technology assessments and test and evaluation.
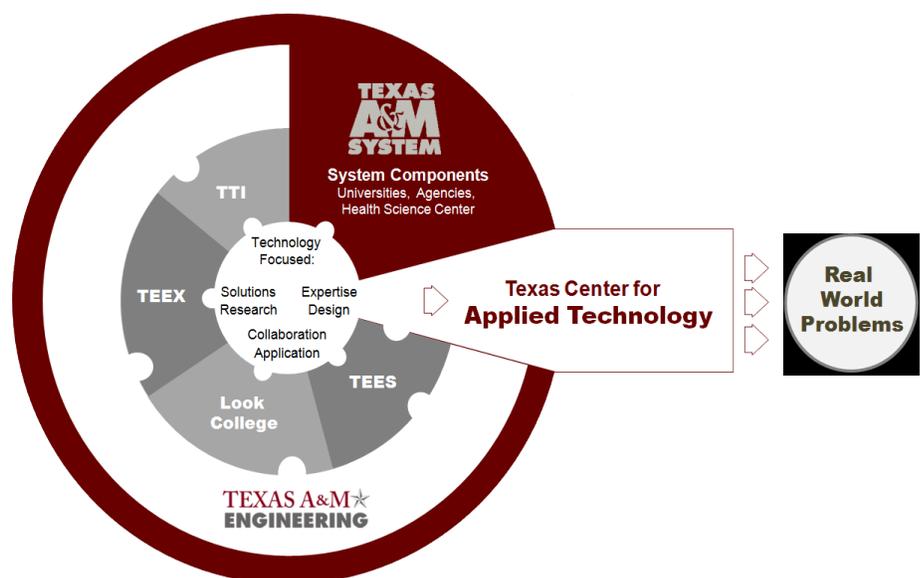
TCAT is part of the Texas Engineering Experiment Station (TEES), a member of The Texas A&M University System. The A&M System is one of the largest and most comprehensive systems of higher education in the United States. Through a statewide network of eleven university campuses, seven state agencies, and a comprehensive health science center, the A&M System educates more than 115,000 students on its university campuses, conducts more than $730 million in research, and reaches another 22 million people through service each year. TEES is the engineering research agency for the state of Texas and conducts over $120 million in research annually. Because of the Center's position within the Texas A&M Engineering program, TCAT's expertise can easily be extended by rounding out its team with world class faculty researchers, as appropriate. TCAT is in an excellent position for collaboration not only with The Texas A&M University System components and their customers but with other universities, institutions, centers, and industry.

TCAT'S CORE COMPETENCIES

Aviation & Automotive ★ Energy Sustainability ★ Environmental Sustainability ★ Information Technology
Manufacturing & Systems Engineering ★ Modeling & Simulation
Technology Insertion ★ Test & Evaluation

TEXAS A&M ENGINEERING

Texas A&M Engineering consists of the Dwight Look College of Engineering, and three engineering agencies, including TEES. Texas Transportation Institute (TTI) conducts research and professional education in all modes of transportation. The Texas Engineering Extension Service (TEEX) works to develop a highly skilled and educated workforce and enhances public safety through training, continuing education, and technical assistance.