



Facility Decontamination Strategy and Technology Selection Tool

D. Edwards[†], T. Sa[†], L. Yang[†], P. Krauter^{††},
S. Ryan[‡], P. Lemieux[‡], Leroy Mickelsen[‡], Mario Ierardi[‡]

[†]Sandia National Laboratories, ^{††}Sandia National Laboratories (retired), [‡]U.S. Environmental Protection Agency

Problem

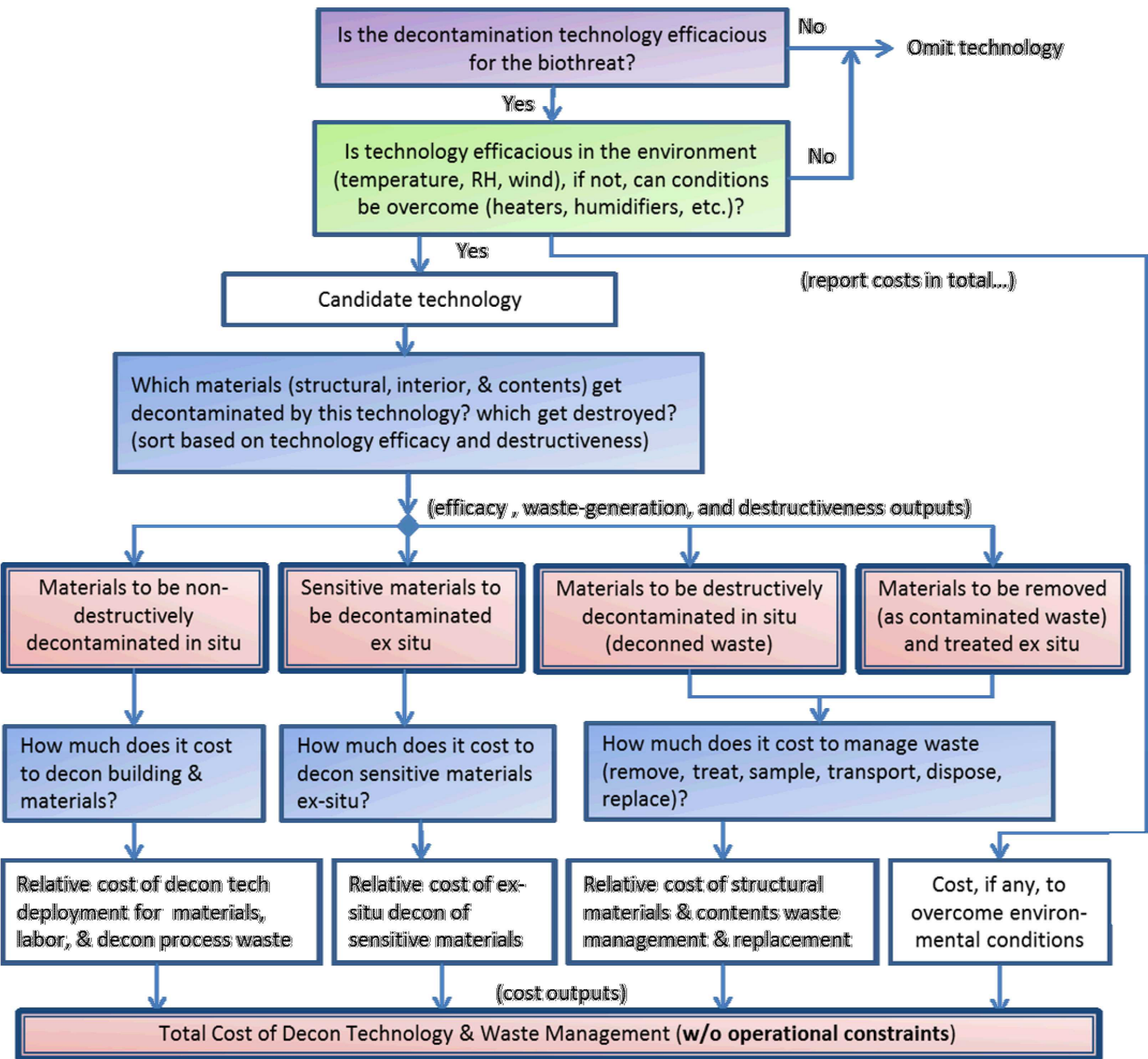
Facility remediation following *B. anthracis* contamination is a complex problem.



For each potential decontamination technology, decision makers must balance consideration of the performance data on each of the facility materials (structural, interior, and contents), the cost of the decontamination process, availability of resources, time required, the destructiveness and waste generated.

Approach

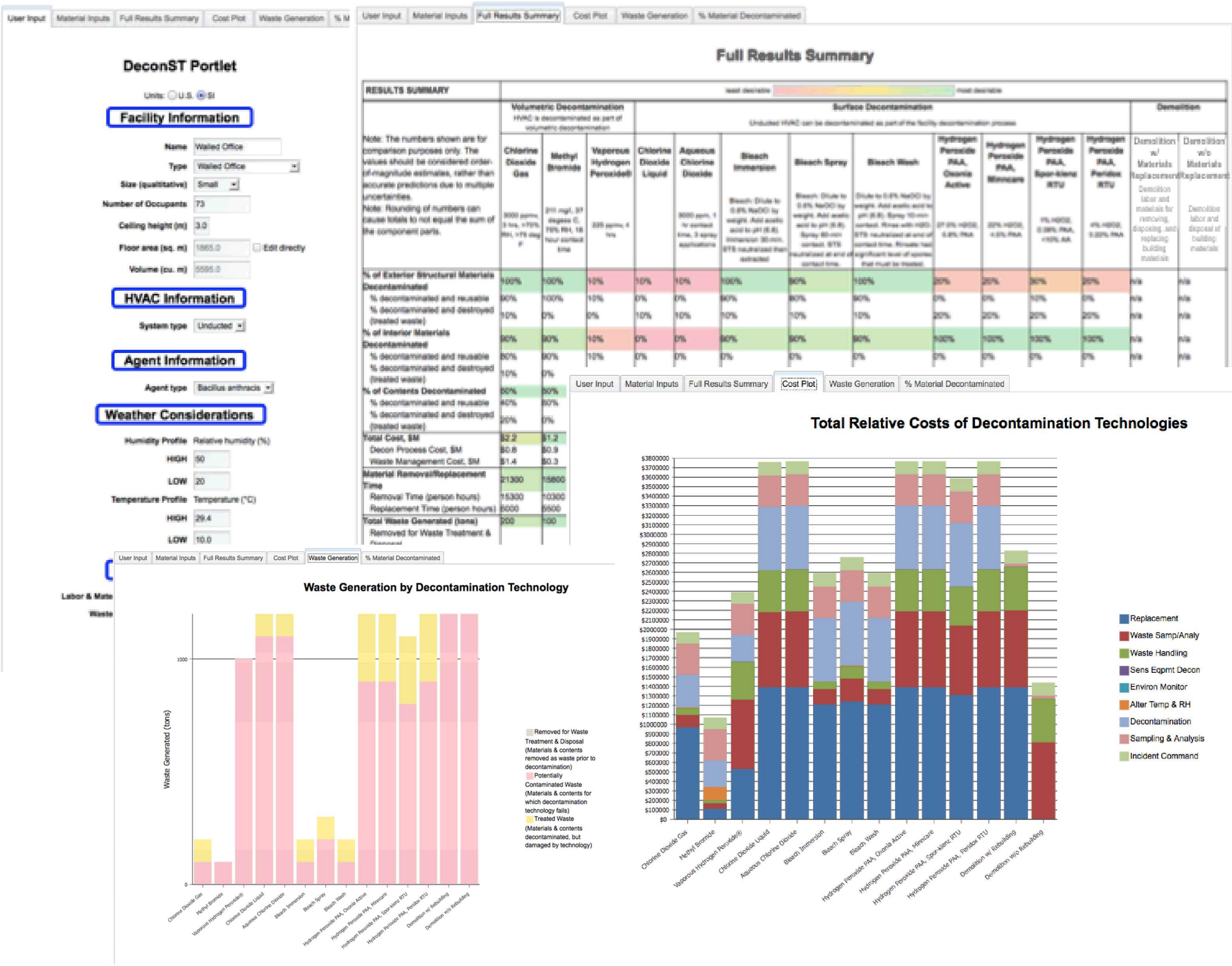
Create a comprehensive tool – the DeconST – that supports the decision process, by combining the IBRD-developed Decon Trade-Off tool with EPA’s Incident Waste Decision Support Tool (I-WASTE DST) plus published, scientific literature on decontamination technologies.



Results

For each decontamination technology applied to a specific facility, the DeconST shows the efficacy, destructiveness, and waste generated, as well as the total relative cost of the complete decontamination process, including waste handling.

- Furthermore, the DeconST
- Considers the particular facility structural and interior materials as well as the building contents
 - Highlights special considerations that might affect the results (e.g., HVAC accessibility)
 - Is not an expert system, but instead compares the estimated viability of all available options without removing any from consideration



Impact

The DeconST has been

- Formally transferred from DHS-S&T to USEPA
- Written into the draft USEPA Operational Bio Guide for the USEPA responders, the likely users being the Technical Working Group providing input to the Incident Command
- Integrated by the DoD DTRA’s Transatlantic Collaborative Biological Resiliency Demonstration (TaCBRD) program into its TaCBoaRD integrated suite of response and recovery decision-support tools