

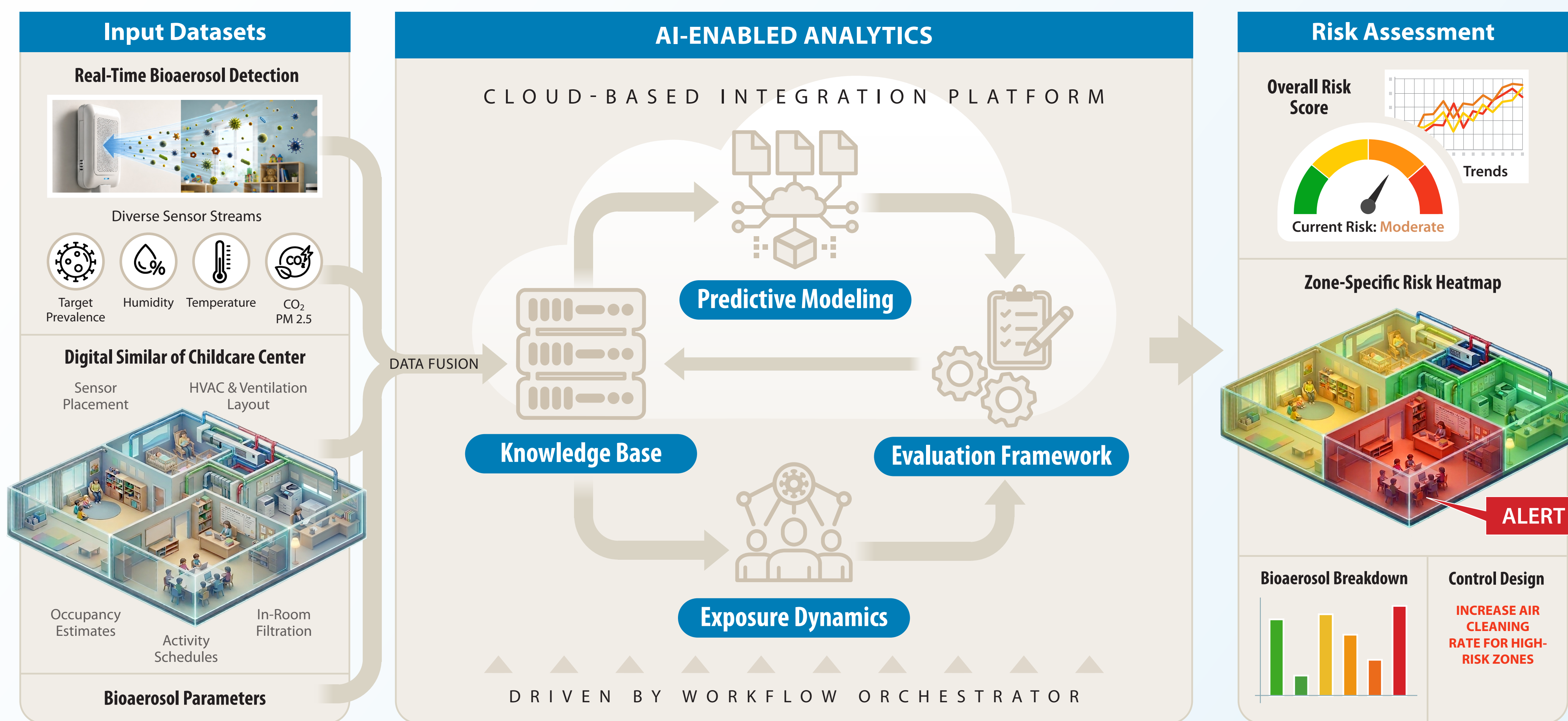
TECHNICAL AREA 2: BRAVE Model

BUILDING THE INTELLIGENCE FOR BRAVE'S REAL-TIME RISK & RESPONSE PLATFORM

BRAVE Technical Area 2 leverages real-time sensing and occupant information to automatically assess risks of exposure across multiple bioaerosols, and assist in design of engineering interventions that adjust ventilation rates in different spaces to minimize those risks.

By orchestrating models, datasets, and building systems into a single closed-loop platform, TA2 turns every space into a responsive environment that adapts to who is inside and the bioaerosol risks they face.

RISK & RESPONSE PLATFORM



BRAVE Risk & Response Framework integrates real-time data from multiple sensors with a digital similar of the childcare center to compute risk per bioaerosol in each zone to guide engineering interventions.

EARLY WINS AND PATH FORWARD: FROM MODELS TO LIVING DEPLOYMENTS

HEALTHY BUILDINGS PLATFORM

Develop and release a healthy-buildings information management system that connects sensing, modeling, and engineering response.

01 SCIENTIFIC FOUNDATIONS

Organize relevant scientific information on key bioaerosols into stakeholder-facing fact sheets and model-ready parameters.

02 CHILDCARE DEPLOYMENTS

Develop software platforms for planning studies and response modes to be deployed in childcare centers.

03

TA2 FOCUS PROJECT OBJECTIVES



MULTISCALE MODELING

Develop models that capture multiple scales of bioaerosol generation and exposure dynamics.



REAL-TIME DATASETS

Collect and organize diverse datasets into a knowledge base that helps assess risk in real time.



ORCHESTRATION PLATFORM

Build software that orchestrates models and data systems to guide engineering interventions.

SCENARIO EXPLORATION AND COMPARISON



Synthetic scenarios are generated from the digital similar leveraging realistic occupancy and activity patterns, along with potential interventions to train the risk-assessment platform.