

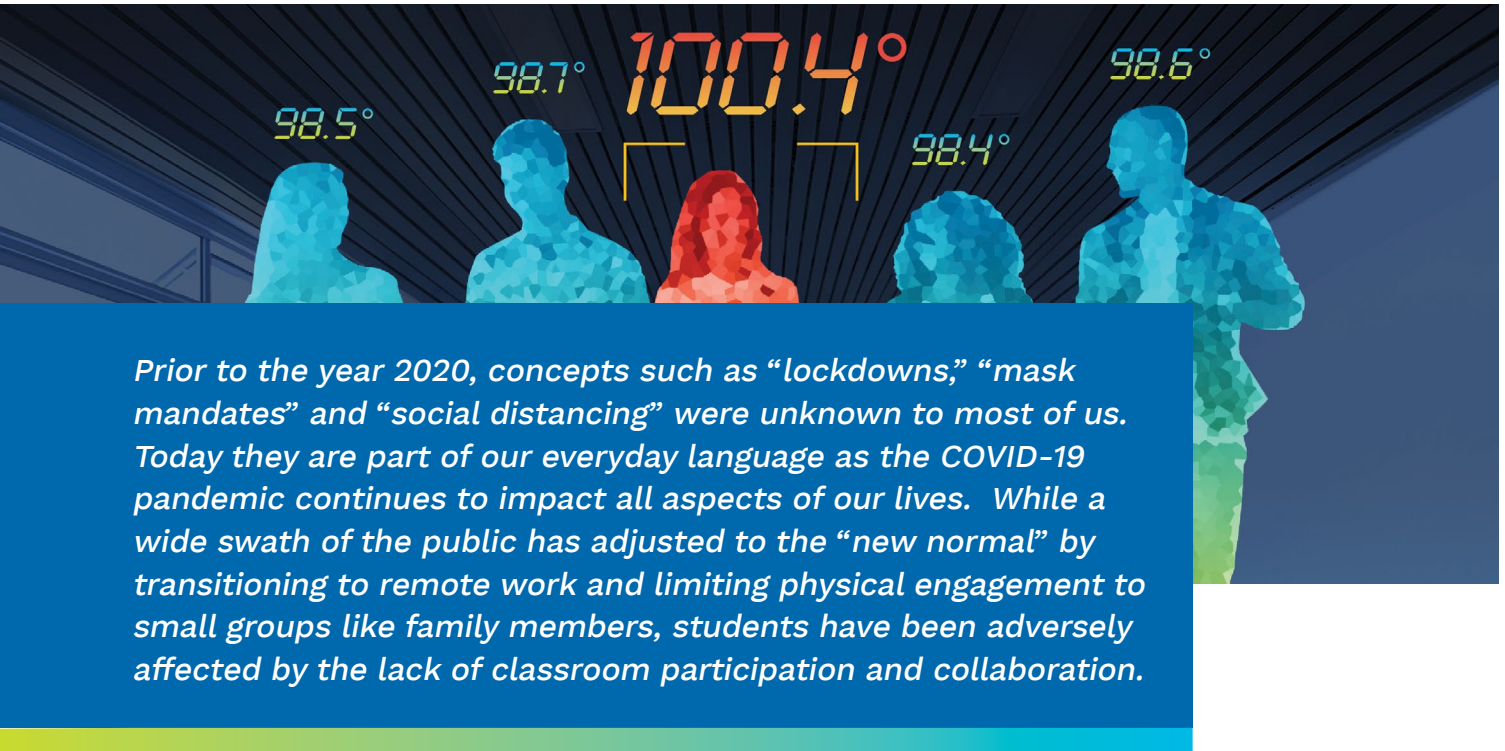


Solution Brief

Thermal Scan Your Way Back to Normal

A Return to In-Person Learning with Confidence

Thermal Scan Your Way Back to Normal



Prior to the year 2020, concepts such as “lockdowns,” “mask mandates” and “social distancing” were unknown to most of us. Today they are part of our everyday language as the COVID-19 pandemic continues to impact all aspects of our lives. While a wide swath of the public has adjusted to the “new normal” by transitioning to remote work and limiting physical engagement to small groups like family members, students have been adversely affected by the lack of classroom participation and collaboration.

The Impact of the Pandemic

Universities were hard hit as most had to pivot to virtual learning to prevent the spread of the virus in enclosed quarters, classrooms, lecture halls, and other large gathering areas. There were not enough resources to recognize the symptoms of potential carriers and quickly isolate and remediate the potential risk. Some institutions attempted to use inferior thermal scanning devices that force a single-file queue causing bottlenecks in ingress areas of facilities while delays and false positives caused frustration among students. Moreover, physical distancing guidelines could not be effectively enforced using staff resources to monitor groups of individuals walking between classes.

Higher education was not only meant to produce a skilled and knowledgeable workforce but also to provide a safe environment for students to mature socially into confident adults. Physical interaction with peers is an important component to a holistic educational experience lost in 2020 but – with the right technology — can return in 2021 and beyond. Parents deserve to know their hard earned dollars for tuition fees/room and board get the best return on investment through a return to normal on-campus university life.

THERMALSCAN YOUR WAY BACK TO SCHOOL

Most students are understandably reluctant to engage in large crowds for most activities, including social gatherings. While vaccinations are the key to gaining comfort and assurance of safety on the path back to normalcy, it is still quite controversial to

implement vaccine passports and/or other verification of health due to privacy laws and other HIPAA guidelines. Some are cautious of stigmatization as anti-science or anti-vax which fosters suspicion when re-introduced to gatherings of even small groups of individuals. Furthermore, COVID-19 may not be the last of these types of viruses whether it be a strain or another variant not yet realized. Preparing for potential future outbreaks is a prudent step for any institution, especially a university.

The goal is to mitigate students' apprehension, alleviate parents' fears, and protect the professors, instructors, support staff, and other campus visitors. Therefore, Tech Data and our partners, have developed a solution to provide ubiquitous, anonymized monitoring for large groups, detecting temperature threshold violators, and alerting human and system resources to initiate remediation to isolate potential risks to the institution and the community at large. Tech Data's solution combines heuristic-based monitoring (hBM) and a centralized data hub to integrate high-volume monitoring, detection, tracking and sharing of data with university systems and other public health organizations. It identifies risk and ensures the safety of the university and local community and mitigates the risk of pandemics both now and in the future.

WHAT IS HEURISTIC-BASED MONITORING (HBM)?

Many computer antivirus programs use heuristic analysis to detect unknown computer viruses and variants of viruses already in the "wild". It is an expert-based solution that determines the susceptibility of a system to a particular risk using weighting methods and user defined rules-based programming.

Our solution uses heuristic analysis of thermal imaging to produce the most precise temperature readings and shares that data with a centralized data hub to create a comprehensive detection system

able to integrate with any other data source and student information system.

THERMALSCAN SYSTEM OVERVIEW

Tech Data has combined comprehensive solutions from our enterprise-grade providers IntelliSite, Intenda, Red Hat, AWS, and other top-tier innovative technology companies to produce our ThermalScan solution. The ThermalScan solution consists of an on-premise, highly evolved and precise thermal imaging system that can:

- Identify High Risk Individuals - Real-time identification of human temperatures with IntelliSite's hBM Solution helps organizations reduce mass exposure to high-risk immune-compromised individuals.
- Ensure Accurate Outcomes - Standard solutions allow for temperature variances within the camera's depth of field giving a temperature reading that is often inaccurate, particularly with environmental changes throughout the day. However, IntelliSite's hBM Solution uses a unique AI and proprietary IoT Condition-Based Monitoring platform to reduce or even eliminate false readings.
- Cloud-Based Remote Management - IntelliSite's Heuristic Based Monitoring (hBM) combines our Deep Vision Artificial Intelligence (Facial Detection and Thermal Uniformity Confidence), Deep-Logic Rules Engine enabling multi-sensor and multi-system Integration, DeepInsights federated Visualization, Alerting and Reporting with a Thermal/Optical Camera to deliver the most complete thermal monitoring solution available.
- Enhanced Visualization - hBM provides enhanced visualization and optimized outcomes by taking the thermal assessment information to produce a holistic perspective. hBM ensures the assessment aligns to an individual (Facial Detection) and that the assessment is analyzed for uniformity (Ther-

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mal Uniformity Confidence — Patent Pending) thereby filtering out thermal noise and artifacts that could cause false positives.

The proprietary algorithms, which analyze body temperature, are built upon a precision detection system that significantly reduces low false-positive rates hindering the return to normal campus life. Our solution supports digital transformation through pattern recognition and data analytics of events and incidents to assess potential risks at a distance thereby minimizing human intervention, physical intrusion, and facility entrance congestion. Our infrastructure uses machine learning to determine if an individual's temperature and/or social distancing thresholds exceeds university policies so facility participants can feel safe.

NOT JUST A THERMAL CAMERA, BUT A DATA COLLECTION SYSTEM

Our solution consists of a federated data hub that collects the hBM data and has the capability to integrate it with other university systems and government-owned or open-source data sources, so that accurate and timely risk assessments can be made and accelerated pandemic response can be deployed to minimize impact on any government facility. The Intenda FraXses data platform has a decentralized architecture and fully supports tra-

ditional data integration processes. Utilizing a data mesh to unlock analytical capabilities and data at scale, the solution is capable of leveraging an ever-growing number of public open data sets. This solution supports deployment of numerous analytic and AI workloads, including machine learning, computer vision, image detection, etc. and any data-intensive applications across an organization.

Our data fabric approach reduces the complexity of sharing data across heterogeneous systems and data stores, while promoting enterprise data modeling, reporting and governance without duplicating data across systems. This federated data approach enables information to remain in place, while jointly facilitating the integration of it with hBM federal public agency data, to produce a comprehensive contact tracing system that can remediate outbreaks quickly and effectively. Universities have a diverse set of customized systems and technologies that reside on various infrastructures implemented across time. Integrating data with these systems is a long and laborious task for newly acquired systems. The future of data management, analytics and AI lies in the new data mesh approach, whereby data is served directly to users without a centrally owned data lake or platform.



CONCLUSION

This solution provides universities with identification, detection, alerting, and data integration capabilities that enable its student body, campus staff, alumni, and visitors to return to pre-2020 student life. This solution provides an end to end solution that enables:

- Thermal temperature calibration that can detect elevated body temperature in real time, enabling immediate action when needed most
- Deep Vision AI and IOT Monitoring Platform to enhance accuracy and reduce human error
- Personalized portals where users can monitor activity and results, set alerts for real-time notification and responsiveness
- A turnkey solution with pre-tested configurations and complete installation service
- Managed service support and monitoring for ongoing management and maintenance
- A Data Fabric platform that fully leverages new technology connecting all types of systems, including in-house developed production systems, databases, APIs, risk models and reporting/visualization suites.

- Data driven insights within days or even hours, which would normally have taken weeks or months, and all of those insights are reusable for other applications
- Additional modules that can be added for Mask Detection and Adherence, People Counting, Demographic Details and more¹

Our solution provides risk mitigation based on symptomatic detection of potential carriers to reduce the spread of viruses to university campuses, and provides comfort and assurance by augmenting and enhancing existing mitigation practices.

¹Mask Detection is included in Advanced and Centralized hBM Bundles



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