IrSUITE

Processed IR Map
subsurface delamination

Damage Rating

		Critical	🔴
		Caution	🟡
		Indication	🟢

What is IrSUITE?

IrSUITE is a software package composed by **IrBAS** and **IrLAy**. IrBAS is an infrared processing software that turns raw data into report-ready outputs. Based on an advanced thermal gradient analysis function, the software automatically pinpoints locations of probable delamination through generating a temperature differential map. It is very challenging and time-consuming to analyze a stream of raw thermographs, so the software helps to interpret them by displaying potential delaminations on a separate image, which **NEXCO-West USA** calls a "processed image." This function utilizes a database of a vast amount of past infrared inspections conducted over a ten-year period. The software also applies image correction and geolocation to the imagery, making it easily exportable to a report or GIS platform.

IrBAS

IrLAY
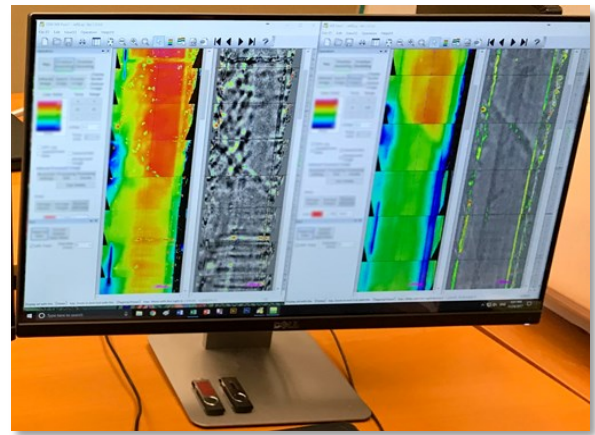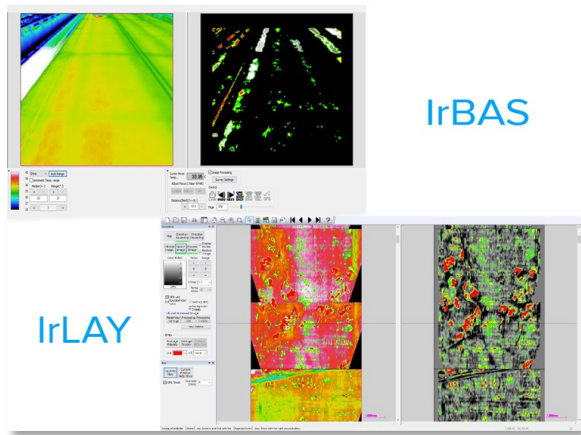
Benefits of using IrSUITE

IrSUITE contains a comprehensive database with data from more than 20 years of past bridge inspection sites to apply automatic detection of temperature differentials. The software translates infrared data into algorithmically judged maps and displays points of potential delaminated areas in real time.

IrSUITE also performs image correction and stitching. GPS data taken on site is used to properly orient and place the images, where the resulting string of images can either be viewed on a geolocated or aligned in a straight line. With the stitched image, it is possible to export the desired image and be compared side-by-side with any visual imaginery.
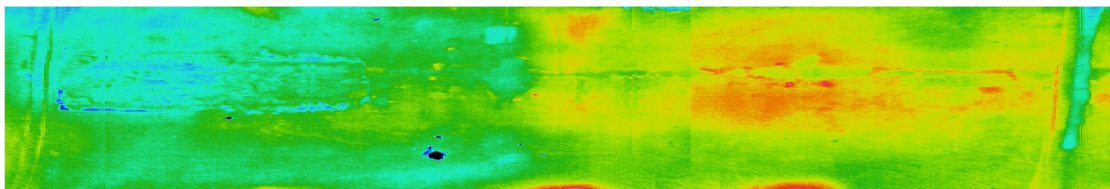
Raw and processed IR images
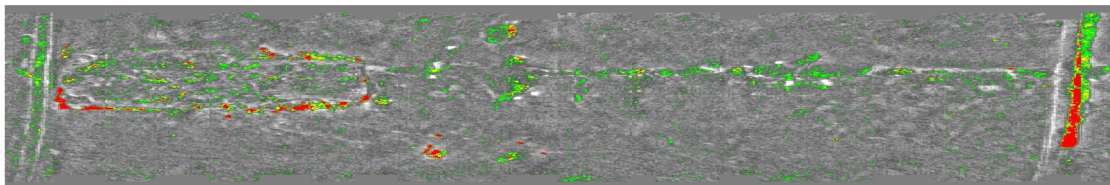
Accreditations

IRT was determined by **SHRP2** and other research to be one of the most effective and reliable NDT methods.

IRT and visual inspection is a **highly researched and published methodology** (Hiasa, Matsumoto, Catbas, Aktan, Akashi, Hashimoto, Gucunski, etc.). The research covers comparison of infrared camera models; applications to concrete and asphalt; mobile, marine, and on-foot recording methods.