

# **Applications of computational vision on non destructive evaluation**

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**Nondestructive Techniques (NDT)** consists on a variety of non-invasive inspection techniques used to evaluate material properties, components, or entire process units. The techniques can also be utilized to detect, characterize, or measure the presence of damage mechanisms, like corrosion or cracks. The uses of NDT are easily extended to other fields, like health or art. Several NDT methods are related to clinical procedures, such as radiography or ultrasonic testing. Today nondestructive evaluation of art objects is becoming more and more sophisticated, including deterioration detection, authentication, the revealing of forgeries and fakes and attribution. Many NDT techniques are capable of locating defects and determining the features of the defects such as size, shape and orientation.

Considering these features, it may be curious to note that common knowledge about the importance of NDT in almost all industries is still not widely known. A wide number of such tests are performed daily, on aircrafts, trains, dams, bridges, power plants, refineries, automobile parts and others. NDT enables industries to prevent accidents by detecting and characterizing flaws during the manufacture or use of their products and plants. It also can be useful in preventing accidents in large structures by condition monitoring.

The capabilities of NDT have improved substantially in recent years thanks to successful research and development, but every day more challenging requirements continue to arise. This session will be focused on recent advances and improvements on the existing techniques as well as ongoing research on new applications of NDT methods.