

WHY OUR WORK IS IMPORTANT

Cultural heritage is the cornerstone of our national identity.

At Heritage Malta's Diagnostic Science Laboratories, we are committed to the ongoing **study and preservation** of the objects and monuments that **define our shared history.**

Through our work, we ensure that **future generations** can continue to **experience** and **learn** from these **treasures.**

The Diagnostic Science Laboratories also address scientific analysis requests from **private collectors** and conservation **companies**, the Church of Malta, government departments, and **industrial companies** at large.

Solutions available to our clients include:

- ▶ **X-radiography, infrared and hyperspectral imaging** of works of art.
- ▶ **Examination and analysis of materials** using a range of **microscopic, x-ray, infrared and diffraction micro-chemical analytical techniques.**
- ▶ **Salt analysis**, as a means to determine the quality and quantity of salt species present within and around a plethora of materials, such as stone. This may be necessary to understand material deterioration.
- ▶ **Dating and provenance** of materials, human, animal and insect genetic testing, migration pattern assessment and facial reconstruction, including techniques sought through our exclusive network of servicing partners.
- ▶ **Contaminants Identification**
- ▶ **Material Failure Analysis**
- ▶ **General Material Characterization**

Several of the **in-lab systems** above may also be **transported for on-site non-invasive analysis and examination.**

SCAN



TO LEARN MORE

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DIAGNOSTIC
SCIENCE
LABORATORIES

SAFEGUARDING MALTA'S CULTURAL LEGACY THROUGH SCIENCE

Heritage Malta's Diagnostic Science Laboratories (DSL) are at the forefront of **cultural heritage preservation**, employing advanced scientific methods to ensure the **longevity of Malta's invaluable patrimony**.

Our laboratories are dedicated to the **study, analysis, and conservation of artefacts**, artworks, and historical materials, contributing to a deeper understanding and appreciation of **Malta's rich history**.

OUR KEY AREAS OF EXPERTISE

CONSERVATION SCIENCE

Through meticulous study, we **identify** the **composition** of **historical materials**, enabling informed decisions about conservation and restoration.

DATING AND PROVENANCE

Trace elements and isotopes from food and bone shed light on material **dating** and **provenance**. This helps us **understand past civilisations**, including **their socio-economic standing**.

PRESERVATION

Our research is focused on **understanding** chemical, biological, and mechanical **deterioration processes** and developing **tailored solutions** to **preserve** cultural heritage objects.

OUR TECHNOLOGIES

HIGH RESOLUTION IMAGING AND ELEMENTAL ANALYSIS

- ▶ Scanning electron microscopy

ELEMENTAL ANALYSIS

- ▶ X-ray fluorescence

MOLECULAR INFORMATION

- ▶ Infrared spectroscopy

CRYSTALLOGRAPHY

- ▶ X-ray diffraction

IMAGING

- ▶ X-radiography
- ▶ Infrared reflectography
- ▶ UV, VIS, IR technical photography

THE MATERIALS WE INVESTIGATE

- ▶ Paint
- ▶ Wood
- ▶ Ceramics
- ▶ Metal
- ▶ Glass
- ▶ Textiles
- ▶ Paper
- ▶ Bone
- ▶ Food
- ▶ Insects
- ▶ Microorganisms
- ▶ Pigments
- ▶ Stone
- ▶ Mortars
- ▶ Organic Media (oils, gums, waxes, proteins, resins and plastics)

