


**COLT**

COMPOSITE LAB & TEST

The image shows the exterior of a modern industrial building, the CoLT Test Center. A large sign on the side of the building features a blue and white geometric logo above the text 'CoLT' in a bold, sans-serif font, with 'COMPOSITE LAB & TEST' in a smaller font below it. The building has a mix of white and grey panels and a series of windows with dark shutters. The sky is blue with scattered white clouds. A large, semi-transparent white text block is overlaid on the right side of the image, providing a description of the facility. The background on the left side of the image is a solid blue-to-purple gradient.

The CoLT Test Center is an independent state of the art test facility providing analysis, qualification and certification services for products from a variety of industries.

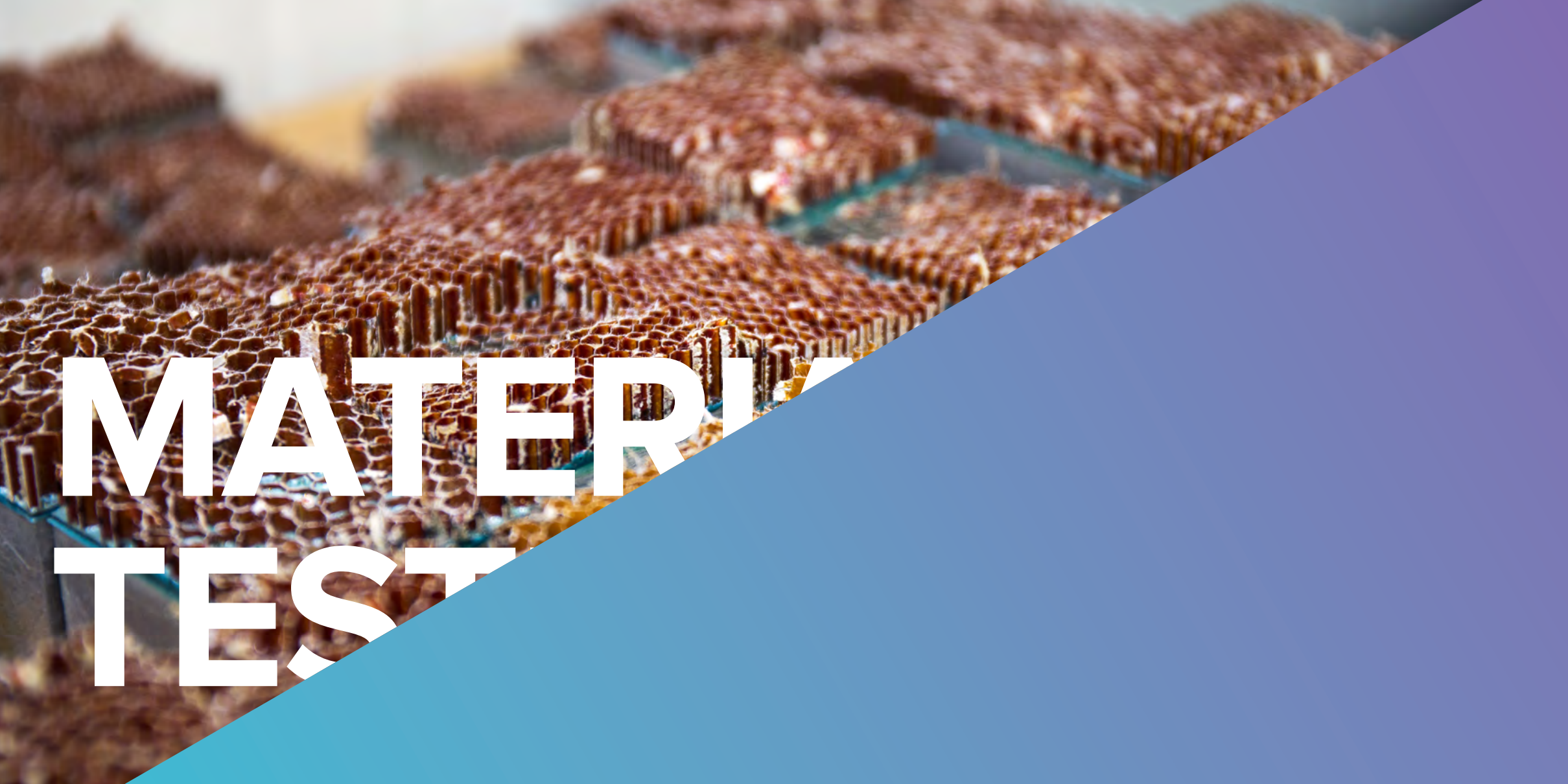
CoLT is a professional partner supporting product development and innovation. Together with our customers we generate comprehensive test data outlining their products capabilities and allowing them to further their development.



CoLT's service spectrum includes custom designed tests to fit each product, with each test developed, operated and overseen by a team of experienced engineers using recognized and proven processes.

To facilitate this service, CoLT utilizes a modern test laboratory, in conjunction with a well-equipped test hall and remote operation and monitoring center. This combination of experienced professionals, state of the art equipment and a generous amount of space guarantees top performance to meet all requirements.

CoLT has a strong history in the aviation industry, from which we draw a wealth of knowledge and experience in complex testing, enabling us to be adaptive and master complex tasks in various industries.



# MATERIALS TESTING

Often when conceiving a design there is the question of the most suitable material – a question made easy by CoLT's modern test laboratory and extensive experience performing chemical, physical and mechanical tests.




Particular expertise has been accumulated over the past 25 years in all areas of standardized testing procedures, including safety standards, legal regulations, quality standards and performance criteria.

Our laboratory services range from individually commissioned tests through to quality assurance baseline evaluations of mass produced products.

- Mechanical tests
- Physical tests
- Analysis
- Sample preparation

# Mechanical Tests

Our modern equipment is capable of introducing a load up to 250 kN and can be configured in a variety of combinations, which can be customized to meet your individual needs. We also offer 3D deformation monitoring through the use of either optical deformation / displacement measurements or via the use of strain gauges.

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- Tension / Compression tests
  - Flexural tests / 3-Points or 4-Points
  - Shear tests
  - Peel tests
  - Puncture resistance tests

# Analysis

In the field of analysis we offer services to evaluate chemical, thermal and physical properties, including fiber volume determination, determination of the glass transition temperature and determination of the porosity content of composite materials.

- DMA / Dynamic Mechanical Analysis
- DSC / Differential Scanning Calorimetry
- FTIR / Fourier Transform Infrared Spectroscopy
- Microscopy / Bright and dark field



# Physical Tests

We offer an extensive range of physical tests, ranging from the testing of volatile substances (i.e. adhesives) to flammability and viscosity tests.



# Sample Preparation

To get the best results from sample testing, you need professional preparation. We have extensive experience preparing test samples at CoLT and our experienced and well equipped team are able to perform various specialized processes and machine to fine dimensional tolerances.





# COMPONENT TESTING

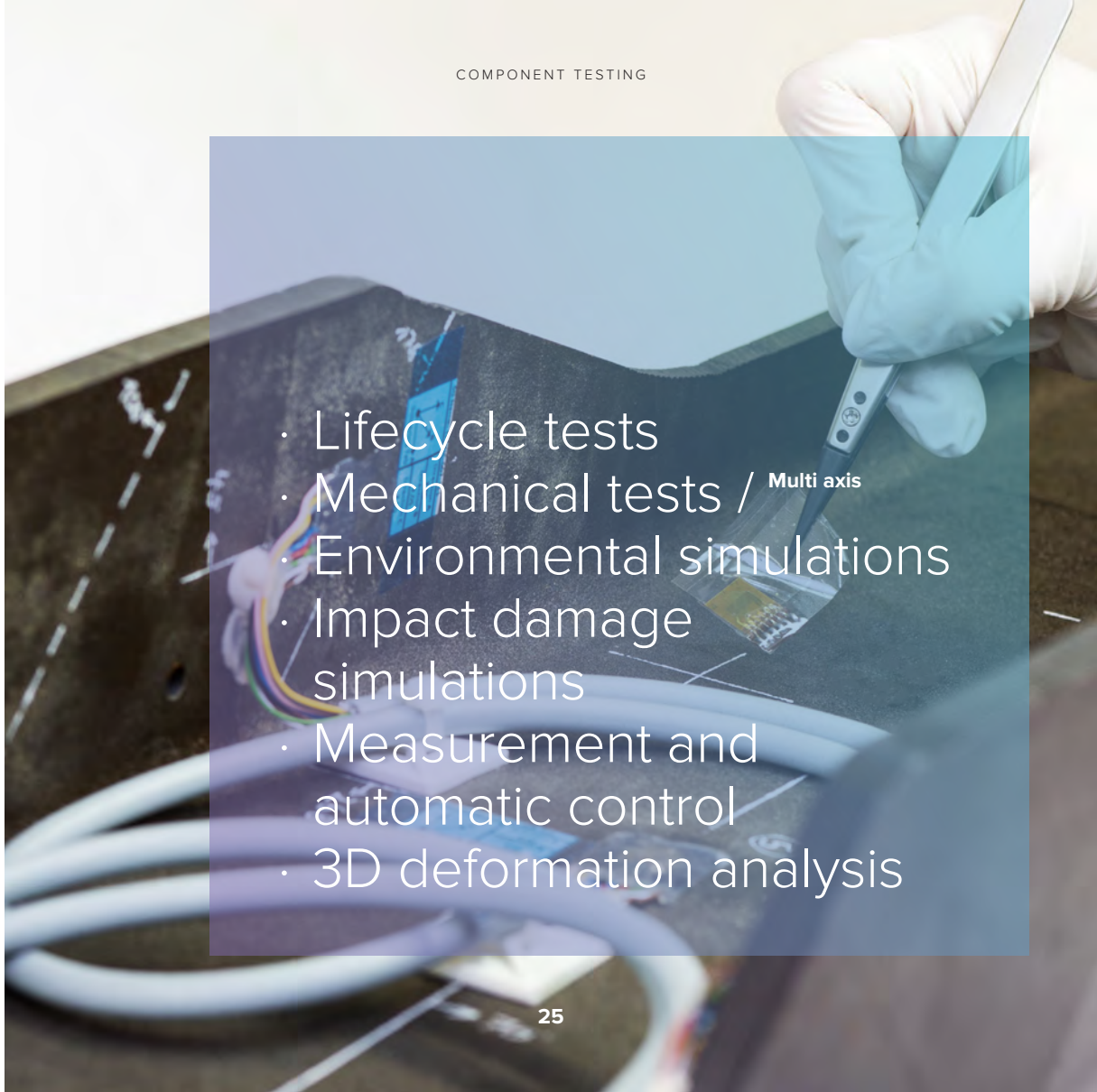
Our 1200 square-meter test hall incorporates three independent large scale test beds.



There is enough space to accommodate numerous individual test setups, enabling the simultaneous execution of parallel tests.

This modern and expansive test facility provides the ideal platform for CoLT to offer testing services ranging from small coupon tests all the way through to full-scale component tests.

Our engineers come from diverse academic backgrounds and specialize in designing custom test solutions. This service extends across the entire test lifecycle.

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- Lifecycle tests
  - Mechanical tests / Multi axis
  - Environmental simulations
  - Impact damage simulations
  - Measurement and automatic control
  - 3D deformation analysis

# Lifecycle and Functional Tests

To ensure a product conforms to the extended operating requirements for which it was designed we offer lifecycle testing. Lifecycle tests are cyclic in nature and are used to determine how long a product will perform under its expected operating conditions. This can be used in conjunction with a functional test to ensure that the product functions as required, both before and after its lifecycle test.



# Mechanical Tests

Using our modern equipment we can evaluate the strength and fatigue life of your products and customize each test to suit the individual product, including single and multi-axis load introduction over a wide range of loads.

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- Static tests
  - Dynamic tests
  - Fatigue / Endurance tests

# Environmental Simulations

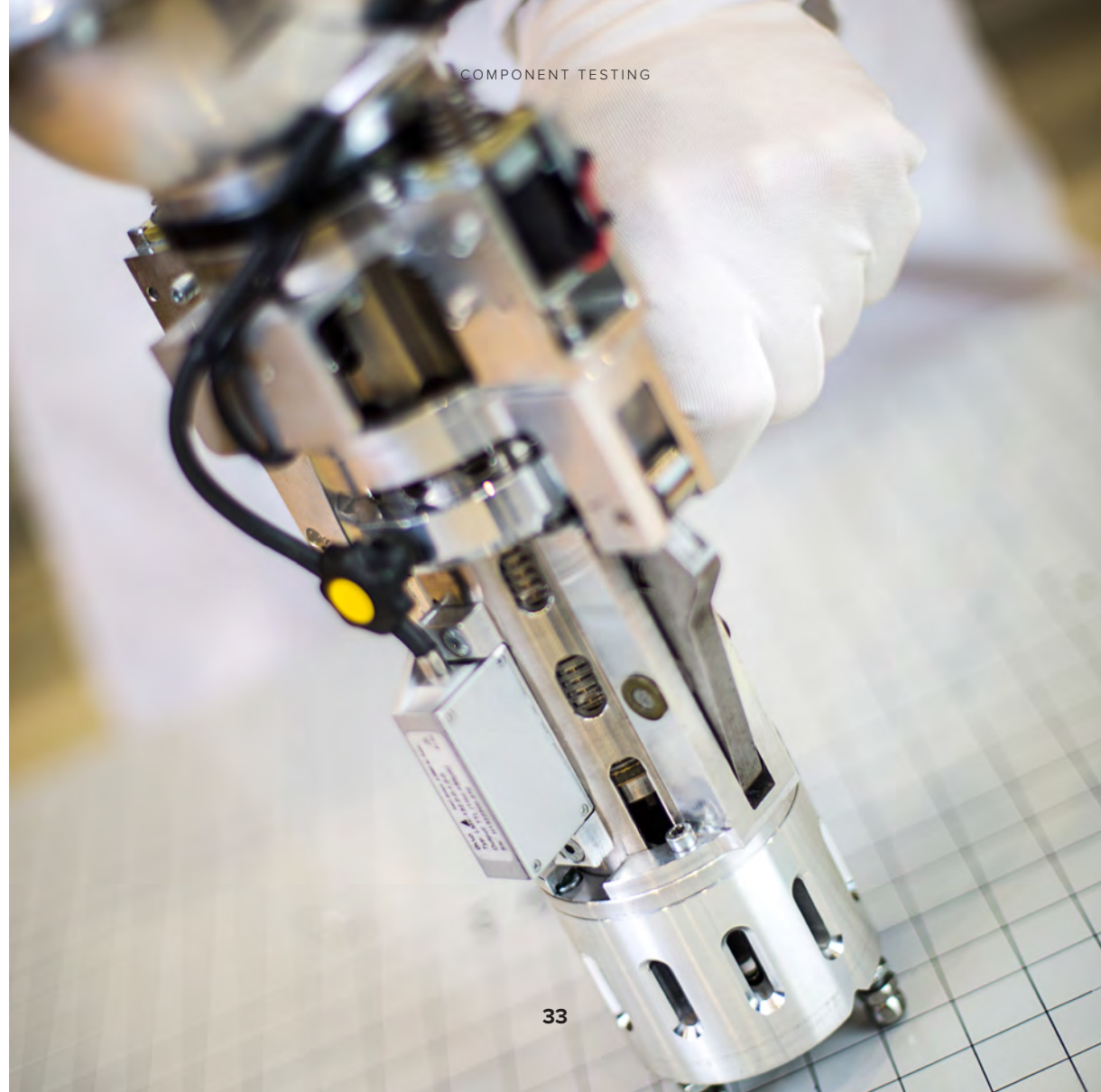
At CoLT we can simulate various environmental conditions that a product may encounter during its service life using our large scale climatic chambers. Such a simulation can be used to rapidly age a product, which can then be subjected to further testing to gain an insight into how the product responds to environmental influences / ageing.





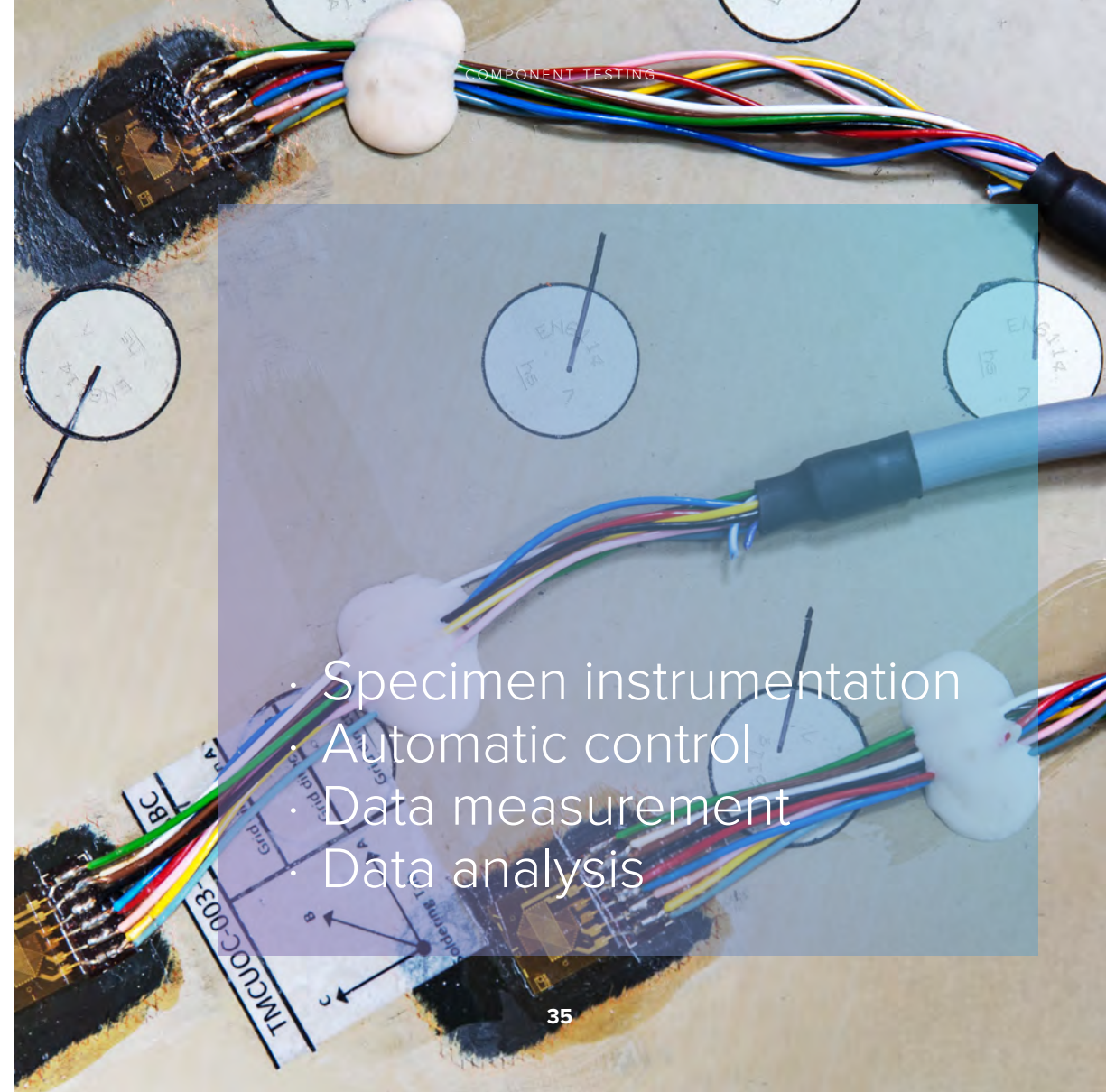
# Impact Damage Simulation

To best determine the effect an unexpected impact can have upon your product, be it during service i.e. a bird strike, or during maintenance i.e. dropped tooling, we offer impact damage simulations and analysis. This analysis, in conjunction with structural testing can provide a comparison between the strength of an undamaged part and the strength of an impacted part, in addition to a damage growth assessment over time.



# Test Instrumentation, Measurement and Control

The primary output of testing is measurable data which can be used to validate theoretical calculations. To achieve this we employ a team of experts, coupled with multi-channel measurement equipment.



# 3D Deformation Analysis

We also employ a state of the art optical measurement system, which is capable of measuring full-scale 3D deformation of both small and large products. With our expert knowledge and modern equipment we work closely with our customers to generate the desired measurement data and provide the most comprehensive analysis, enabling the best evaluation of a product.



ISO 17025  
NADCAP for composites  
ISO 9001  
EN 9100  
ISO 14001  
Individual approvals  
(i.e. Airbus, Embraer, Aircelle)

**Imprint**

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**Partner of**



