

How LCAS estimates the cost of product testing

LCAS (Laboratory Cost Assessment Standard), developed by Multicert, links the testing programme to samples, staff work, equipment time and cost. We then compare prices for the same scope. The cost model is our own adaptation of the approach described in the World Health Organization (WHO) Laboratory Test Costing Tool manual (2019).

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Model cost = staff + equipment + premises + materials + quality

Each group is a quantity multiplied by a rate in its own unit: staff hours, hours of equipment occupancy, an allocated share of premises costs, materials consumed and an allocated share of quality costs. No cost is counted in two groups.

Two ways to define the testing programme

Working programme

Based on tests actually performed on similar products. Suitable for budgeting and comparing offers; it does not demonstrate full conformity with a standard.

Full standard programme

All applicable requirements of a named standard and edition, selected according to the product's materials, coatings, construction and intended use. Completeness requires checking the applicability of every requirement and justifying exclusions; the cost estimate itself does not demonstrate product conformity.

01 Origin and limits

LCAS is a methodology for estimating the cost of product testing. Its cost model adapts the approach described in the WHO Laboratory Test Costing Tool manual (2019), which was written for health laboratories. We have not obtained the original WHO spreadsheet and have not compared results with it. LCAS is not endorsed by WHO and implies no partnership with it. Product standards are a separate source: they define the programme, not its cost. LCAS does not decide on product conformity, legal obligations or accreditation status.

[WHO — Laboratory Test Costing Tool \(LTCT\)](#)

[WHO — publication record of the LTCT manual \(2019\)](#)

02 Testing programme and applicability

The programme lists the methods, test conditions and points of assessment. In a working programme it reflects documented testing of similar products. In a full programme it covers every requirement of the named standard and edition that applies to the product, given its materials, coatings, construction and intended use. Each estimate states which variant was used and which requirements were excluded, with reasons.

03 Samples, variants and batches

Quantities follow from the programme: samples, material or colour variants, repeats and control runs. The plan records destructive tests, permitted reuse, testing sequence and reserves. Preparation is counted once per batch and repeated work once per run. Shared preparation is not multiplied by the number of parameters. Selection of a representative product must be justified for each property tested.

04 Five cost groups

Each group has its own unit and basis:

Staff

Full annual employer cost divided by productive hours; applied to hours of active work, supervision, data processing and reporting.

Equipment

Purchase cost less residual value, spread over the service life, plus servicing and calibration, divided by expected hours of use; charged for the time the equipment is unavailable to other jobs.

Premises

Rent and running costs of the space, allocated by a stated annual key.

Materials

Consumables, reagents and specimen mounting, including expected losses.

Quality

Quality control, proficiency testing and accreditation costs, allocated to the methods they relate to.

05 Hours, utilisation and annual costs

Annual resource costs are divided by expected productive hours for staff or hours of use for equipment. Lower utilisation raises the allocated hourly cost. Staff work and equipment occupancy are counted separately. If a chamber or run serves several jobs, its cost is allocated once using a documented capacity share. Equipment hours do not set the delivery date.

$$\text{resource rate} = \text{annual resource cost} / \text{expected annual productive or operating hours}$$

06 Cost is not price

Model cost is the cost of the resources needed to carry out the programme. A laboratory's price also reflects margin, competence, capacity, risk and lead time. LCAS reports cost and price separately and never presents a model cost as a quotation or a market rate.

07 Comparing market prices

Quoted or published prices are compared only for the same programme, number of samples, unit, currency and date. A quotation does not reveal the laboratory's cost or margin, and one quotation does not describe the market. Catalogue price comparisons are a separate track and are labelled as such.

08 Sources, dates and assumptions

Every input has a source, date, unit and status: actual record, quotation, published source or assumption. National averages stand in for a specific laboratory's data and are labelled as proxies. Currency conversions record the exchange rate and its date.

09 Incomplete scope and uncertainty

A missing method, time or rate is marked as unknown, never set to zero. An estimate with gaps is reported as partial. Lower and higher scenarios show sensitivity to key parameters such as equipment utilisation; they are not statistical confidence intervals or price guarantees.

10 Independent review

Before publication, an estimate is checked by someone who did not prepare it: the programme against the standard, units and arithmetic, double counting, and sources. The review confirms the calculation, not the accuracy of every rate.

11 Updates and version history

Recalibration should use actual quotations and completed work. Any claim of predictive accuracy requires separate cases that were not used to set the assumptions. This edition does not publish a measured accuracy rate. Methodology versions and price-data dates are recorded separately.

Hypothetical example: one 168-hour exposure

Illustrative figures only, with no specific product or standard. One sample is exposed in a chamber for 168 hours. Staff work: 2 h of preparation and reading, 0.5 h of supervision and 1 h of reporting.

Cost group	Basis	Cost
Staff	3.5 h × EUR 40/h	EUR 140
Equipment	168 h × EUR 2/h	EUR 336
Premises	allocated share	EUR 24
Materials	consumables	EUR 40
Quality	allocated share	EUR 30

Total model cost: EUR 570

The groups do not overlap: the equipment rate excludes premises and quality, which are listed separately, so no general overhead is added. 168 hours of chamber time are neither 168 hours of a technician's work nor a guaranteed lead time. EUR 570 is a model cost; a laboratory's price may differ, and the example is not a market rate.

Using LCAS

Start with the programme and its quantities, then document each line with its source and date. The result is a cost that can be checked line by line and compared with quotations for the same scope.

The public calculator is a price comparison tool. It multiplies catalogue prices by the number of samples, and by material variants only for items marked as such. A 50% rush surcharge and an EUR 97 order fee are optional examples. The calculator does not collect a laboratory's wages, equipment or expenses and does not run the WHO spreadsheet.

Version history

Version 2.0 of 21 October 2026 replaces the main description in version 1.0 (June 2026), which priced a test with the formula $FP = BC \times CF$. The scored complexity factor (D1-D5, capped at 5.0) is no longer part of the methodology. Comparing catalogue prices remains available as a separate track.

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