From test bed to Catena-X test suite.

Self-service conformity testing for Catena-X.

July 2nd, 2026

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Catena-X
Your Automotive Network

The problem

Testing today is slow, uneven, and risky.

- Certification varies in price and consistency between conformity assessment bodies.
- Complex use cases — Traceability, PCF, DCM — are hard to validate without a realistic reference environment.
- Solutions cannot be tested suitably before they are certified.
- Different implementations of EDC, DCP and aspect models are not tested against a single source of truth.

Fragmentation has a price.

Every provider builds its own test setup

- **Duplicate investment**

CABs test in different environments environments

- **Inconsistent certification**

Bugs surface late in the cycle

- **Expensive to fix, reputational damage**

Bottom line **Fragmented testing = fragmented trust = slower business growth.**

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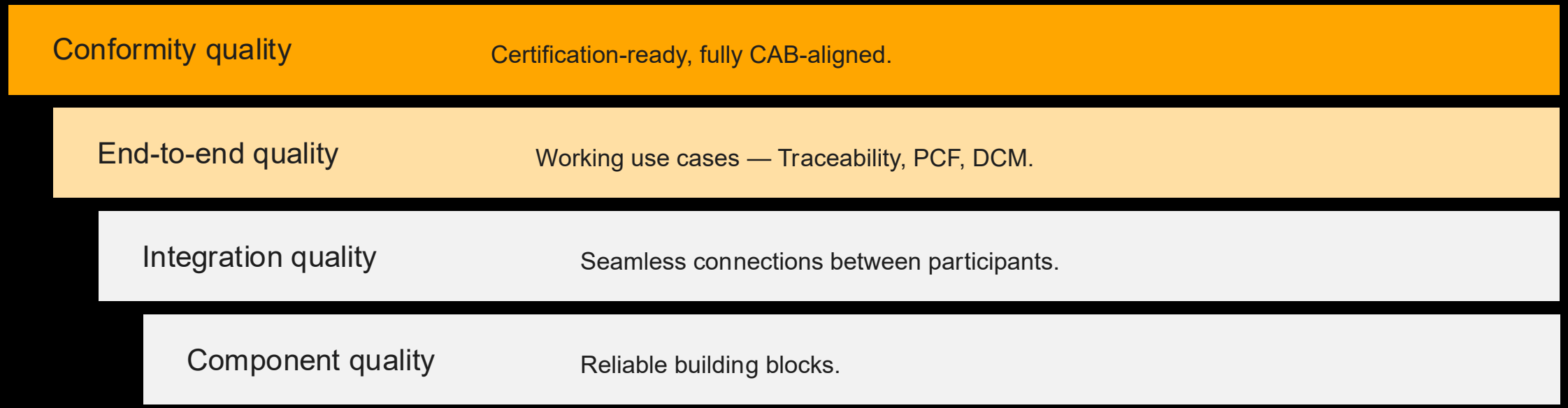
The test concept · business view

Four layers, four business guarantees.

Quality builds up from components to certification — each layer is a promise to the ecosystem.



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Multi-spectrum testing

The vision of four testing modes, two environments.

Today's focus

Conformity Testing

Prove an implementation meets the meets the standard, for certification.

Supplier Network Testing Testing

Validate a whole supplier network network before going live.

Catena-X Ready Ping Test

A lightweight live check that a participant is dataspace-ready.

E2E & stress tests

Exercise complete use cases under realistic load.

Environments

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The Test Suite.

Catena-X
Test Suite

A modular platform for building and executing Catena-X standard test cases — with value-added add-ons that reach beyond conformity testing.

Modular platform

Build and execute Catena-X standard test cases.

Beyond conformity

Value-added add-ons that reach past certification.

Open foundation

Built on the open-source Tractus-X Tractus-X SDK.

Tractus-X SDK

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Value & impact per stakeholder

What changes, for whom.

Stakeholder	Today's pain	Next Level Testing benefit
OEMs	Uncertain supplier conformity	Verifiable trust, faster supplier onboarding
Suppliers & providers	High testing cost, slow certification	Lower cost, faster time-to-market
SMEs	Entry barriers too high	Affordable, accessible test infrastructure
Operating companies	Support overhead, escalations	Fewer incidents, scalable operations
Association	Reputation risk	Demonstrable ecosystem quality

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What is a test case?

A test case, packaged as a TCK.

An executable check that an implementation meets a Catena-X standard.

- Packaged as a TCK (Test Compatibility Kit)
- Stored in the Catena-X Repositories.
- Run as provider tests and consumer tests against the application to be certified.

TCK

CX-standard · v2.1

< Python executable >

- Provider tests
- Consumer tests

Versioned & stored in Catena-X repositories.

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Test Case lifecycle

From standard to certified — and maintained.

Every TCK tracks the standard it verifies through its whole life.

01

Standard published

By expert groups & committees.
committees.

02

Requirements derived derived

Turned into testable criteria.
criteria.

03

Test cases authored & scripted

In the Test Lab IDE.

04

Versioned & stored

In the test cases repository.

05

Executed against implementations

Provider & consumer tests.

06 · Maintained & re-versioned **When the standard evolves, the test cases are updated — and the loop starts again.**

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Test case creation

Author test cases in the Test Lab IDE.

Catena-X Test Suite

Test Lab IDE

UI inside the Test Suite

Standards | **Requirements** | **Scripts** | **Executable test cases**

- Community members & programmers **author test cases in a UI** — or run predefined ones.
- Built on the open-source **Tractus-X Test Lab + SDK.**
- Anyone in the community can help grow the test-case library.

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Test execution

Run it against the real thing.

The engine

Test Suite engine

Triggers the TCK · provider + consumer tests

Over EDC

Application to be certified certified

Connected to Beta / Production

The output

Conformity report

With detailed findings

Verification

Presented to the CAB

Feeds the certification step

Provider tests

Verify the application's behaviour as a data provider.

Consumer tests

Verify it correctly consumes data from the dataspace.

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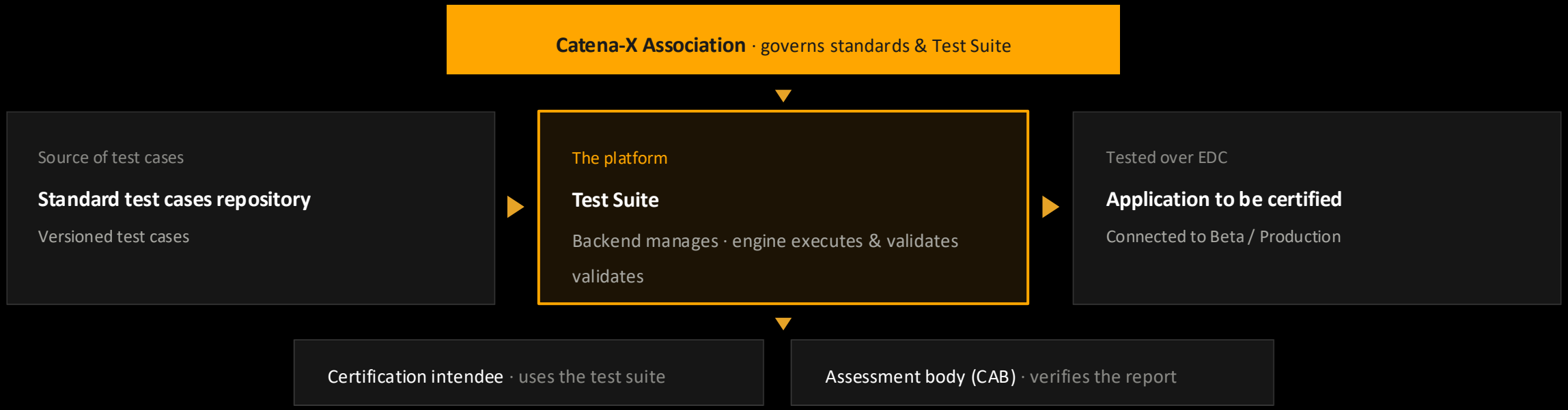
Architecture

Architecture at a glance.



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Add-ons that extend the value

Beyond certification: network-level quality.

Add-on 1

Supplier Network Testing

- An OEM onboards its suppliers and selects test cases.
- Reporting & statistics across the whole network.

Add-on 2

Catena-X Ready Ping Test

- A lightweight live check that a participant is dataspace-ready. ready.
- Runs in production, across dataspace participants.

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Built open source, with the community

Two governance layers, one open foundation.

Governed by Eclipse

Eclipse Tractus-X

- **Test Lab + SDK** — the open Python libraries.
- Build test cases intuitively from scratch.

Governed by the association

Catena-X

- **Test Suite** frontend, backend and engine.
- Deployed from the Catena-X repositories.

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Roadmap

From pilot to stable release.

R26.06

Pilot

Foundation in place.

R26.09

Test Suite in Production

Testing is live

R26.12

Optimization & Improvement

Optimize the experience

R27.x

New Features

For the network

- Delivery milestones only — a credible path from pilot to a stable, community-ready release.

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