



CASE STUDY 1 / MAY 2026

Three decades of trust — and why it keeps renewing

The risk in a certified component isn't getting it approved. It's everything that comes after — the standard that changes, the part that goes obsolete, the recertification you didn't see coming. For three decades, one distributor has handed all of it to KELD.

SECTOR

Global
instrumentation
distribution

APPLICATION

Temperature control
HVAC & refrigeration

MARKETS

United States
& global

ENGAGEMENT

Design · UL
certification · Recurring
supply

IN THE CLIENT'S OWN WORDS

“*What I value in this relationship is not only that the product works — that is the baseline. It is that **we have never had to worry about what comes next:** the standard changes, the obsolescence, the recertifications. KELD anticipates them and resolves them, **often before we notice.** Over thirty years, that has a value you will not find on any datasheet.*”

— Technical Director, global industrial-instrumentation distributor

keld@keld.es

Polígono Empresarium, C/Lentisco, 15, 50720

La Cartuja Baja - Zaragoza, Spain

+34 976 42 90 99

www.keld.es

INSIDE THIS CASE · FIVE CHAPTERS, IN SEQUENCE

01 **Before there was a client.** p . 02

How a certification made in advance of any commercial opportunity removed the barrier a distributor would otherwise have faced.

02 **The starting point.** p . 03

A new application. A new family. One hard condition: without UL certification, there is no product to sell.

03 **The method.** p . 04

Why the answer was not in the circuit. The diagnosis, the architecture, the value chain.

04 **The model in practice.** p . 05

How the risk does not sit with the client. Lifecycle, obsolescence, response.

05 **The proof.** p . 06

What it adds up to — in numbers, in scope, and in the client's own words.

01 / 05 The relationship did not begin with a purchase order.

THE CLIENT

A global distributor of **industrial instrumentation** — temperature sensors, HVAC and refrigeration controls — operating in markets where the electronic control is the part end **customers judge quality by**. **Temperature controls sit at the visible core of its catalog.**

HOW THE RELATIONSHIP STARTED

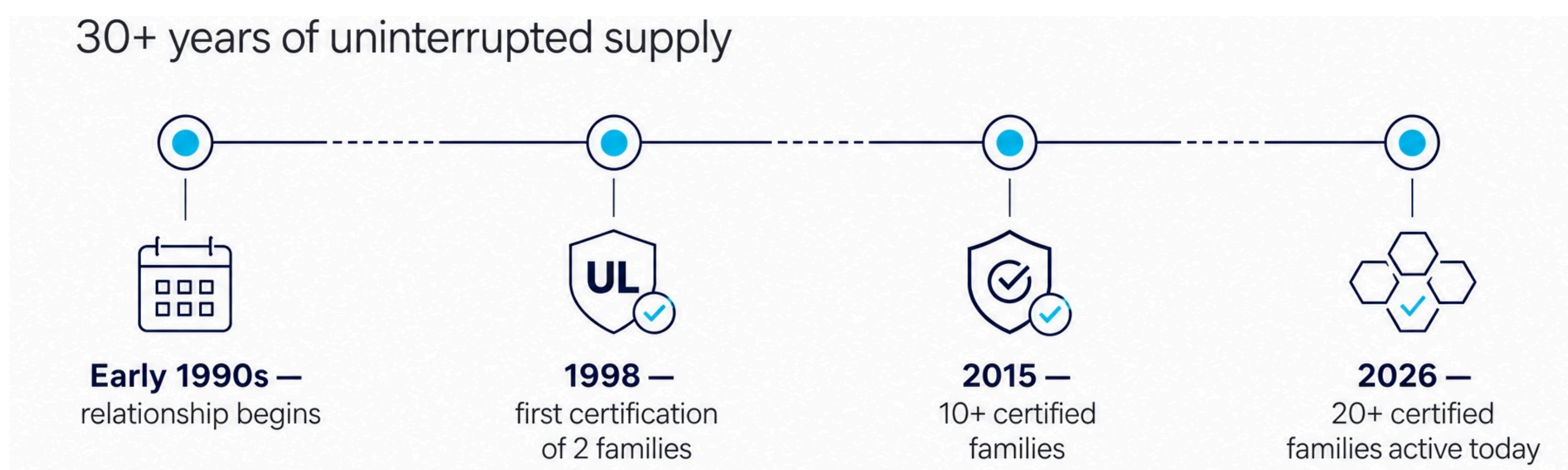
In the early 1990s, KELD needed to **enter the US market**. In that market, UL certification is not a differentiator — it is the **entry condition**. Without it, no serious conversation with a distributor or industrial buyer is possible, regardless of product quality or price.

So **KELD certified first**. Before finding the customer. The investment was real. The timeline — nine to twelve months even with experience — was not predictable. And there was no purchase order waiting on the other side.

The distributor that became the client came after the certification existed. That first conversation was possible because **the barrier had already been removed**. That decision is the origin of everything that follows in this case.

WHY THIS MATTERS TO A DISTRIBUTOR

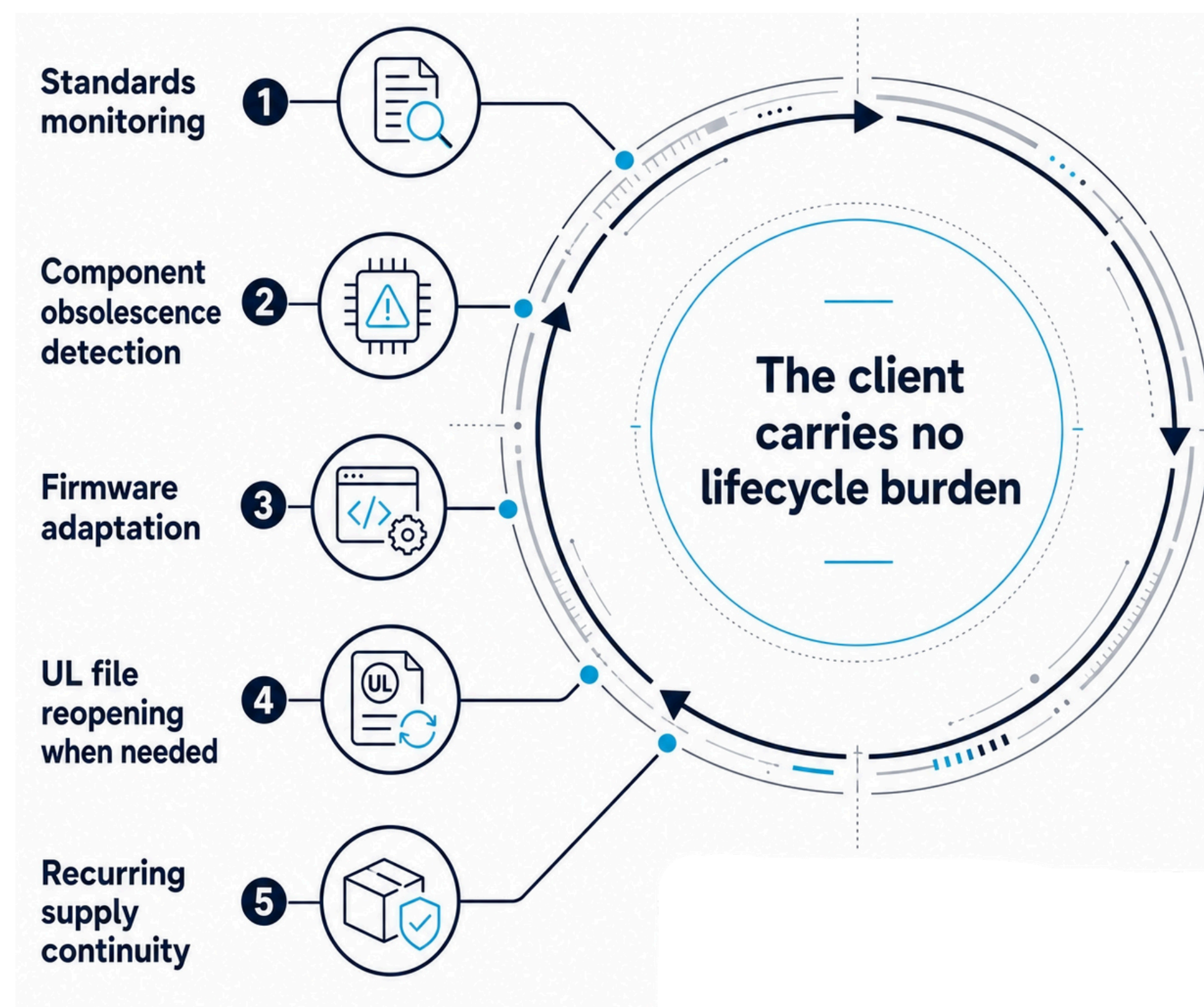
For the distributor, **keeping a certified product catalog without managing certification or lifecycle risk** is the value KELD was built to deliver. The client defines the functional need and the target market. It receives a finished, certified product. Everything in between — the design, the lab, the documentation, the updates — stays with KELD.



02 / 05 Without certification, there is no product to sell.

THE REQUEST

A few years into a mature relationship, the distributor came to KELD with a new application: a **temperature-control family with a different interface and a specific parameter set** for a new segment. Not a catalog adaptation — a new product. One hard condition applied: **to sell it in the target markets**, it had to carry UL certification.



THE SPECIFIC CONSTRAINTS FOR THIS PROGRAM

- 1 UL certification as a firm condition for selling in the target markets — **not optional**.
- 2 Technical specifications of the subsystem must remain confidential during certification: only the **design owner can talk to the lab**.
- 3 A certification timeline of **nine to twelve months** for the full path to a granted file, including lab iterations.
- 4 Standards that keep updating — keeping a certification valid is a **continuous task**, not a one-time event.
- 5 **Component obsolescence**: when a critical part reaches end-of-life, firmware adaptation and potential recertification follow.

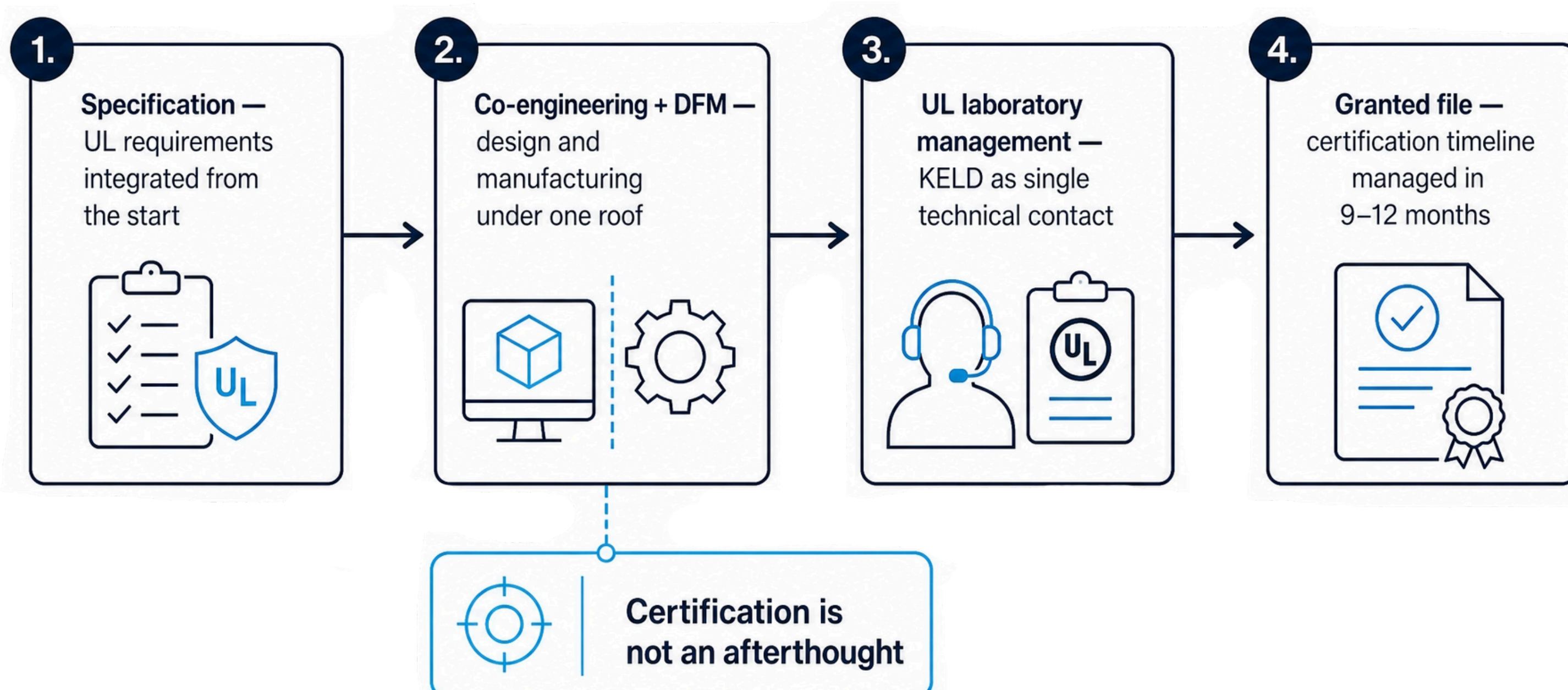
03 / 05 The first conclusion was **not about the circuit.**

THE DIAGNOSIS

KELD's first conclusion was not about the circuit. It was about method. A product designed without the UL requirements in mind from the start will fail certification — **the standard cannot be added at the end.** It has to be a design constraint from the specification stage: components already accepted by UL labs, electrical-safety tests built into the hardware design, documentation prepared in the format evaluators expect.

THE VALUE CHAIN APPLIED

- 01 Co-engineering & DFM**
 The family was co-designed around the client's functional needs. **Design and manufacturing under one roof means industrialization decisions are made alongside the electronic architecture.**
- 02 Quality planning**
 Quality was **planned at the design stage.** Field return rates below 0.1% result from control built in, **not audited at the end.**
- 03 Industrialization & flexible production**
 Lines with spare capacity absorb demand peaks and mix changes **without putting quality or timelines at risk.**
- 04 Testing & traceability**
Every unit passes a test sequence covering correct assembly and function under real operating conditions. Every batch is traceable. **Every firmware revision is logged.**
- 05 Lifecycle continuity**
 When a key component reached end-of-life, KELD detected it, adapted the firmware, reopened the certification file where the change required it — and told the client **before it became a problem for the client.**



04 / 05

By design, KELD manages the lifecycle — **so the client does not have to.**

HOW THE RISK DOES NOT SIT WITH THE CLIENT

The integration of design and manufacturing in one company is not a brochure line; here it was the condition that made the work possible. A manufacturer without design capability could not have held **the technical exchanges with the lab** or managed the recertification cycles independently.



Lifecycle management

Standard changes, normative updates and component obsolescences are detected and managed by KELD **before they become work for the client.** The client carries no lifecycle burden.

Obsolescence in practice

When a critical microcontroller reached end-of-life, KELD identified it, adapted the firmware, determined the certification impact and communicated to the client — **before the change reached the client.**

Response to field incidents

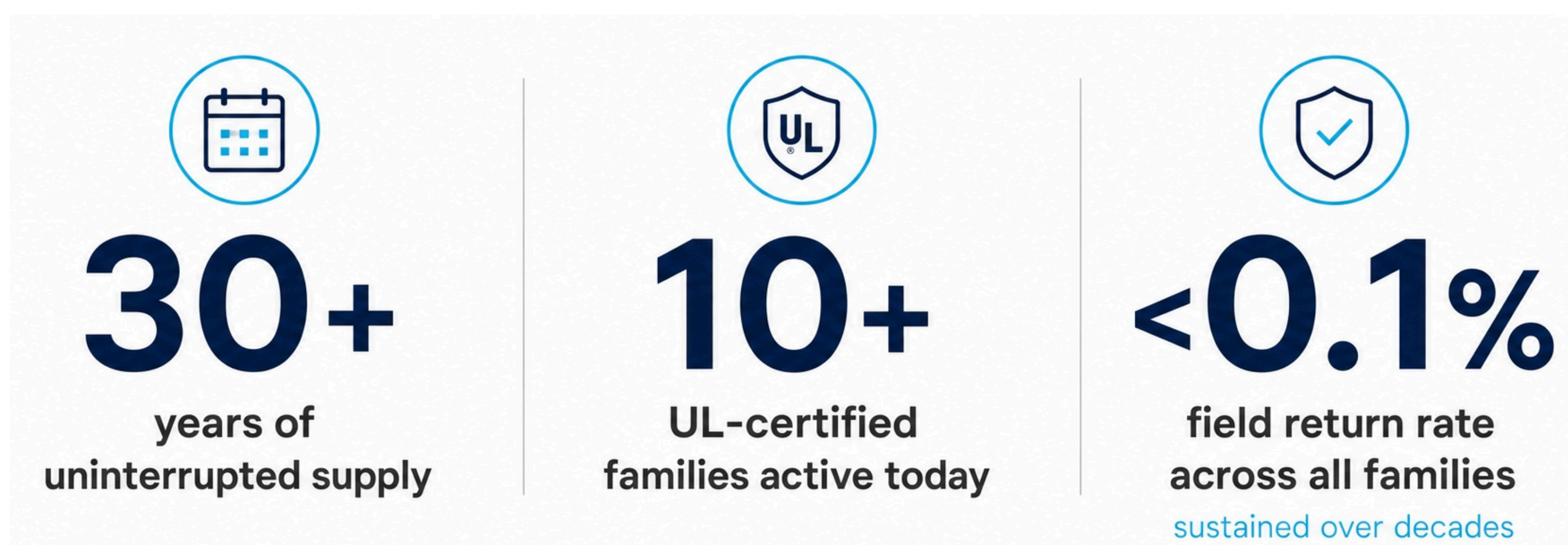
When something fails in the field — over thirty years, it eventually does — KELD puts people and resources on the problem **wherever support is needed.**

05 / 05 **And now — what it adds up to.**

IN SCOPE

Dimension	Indicator in this case
Time-to-market	4–5 months product development. ~9–12 months UL certification, managed end to end by KELD.
Quality	Field return rate <0.1%, sustained for decades across all families.
Lifecycle	30+ years of active production. Regulatory changes, component obsolescence and recertifications managed proactively.
Scope entrusted	From 2 initial families to 10+. Most recent (KTS series) UL-certified in 2025.
IP & process control	KELD owns the design and acts as the single technical contact with the UL lab. Client specifications remain protected.

THE PROOF, IN NUMBERS



IN THE CLIENT'S OWN WORDS

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Three decades of trust — and why it keeps renewing

- 1 A new UL-certified family delivered on a predictable timeline, with the certification managed by KELD and the design IP protected throughout.
- 2 A field return rate below 0.1%, sustained for decades across multiple families — quality built in at the design stage, not audited at the end.
- 3 No supply interruptions from standard changes or obsolescence: KELD anticipates and resolves them before they reach the client. Growth from two families to more than ten over thirty years measures trust earned and renewed.



ABOUT KELD

KELD (Electrónica KELD S.L.) co-designs and manufactures the electronic subsystems at the heart of its clients' products — drives, controllers and custom electronics their customers judge them by. Since 1972, motor, fan, pump, HVAC and refrigeration OEM manufacturers across Europe and the United States have relied on KELD for the reliability, traceability and flexibility their brands demand.

CONTACT

Electrónica KELD S.L.

Polígono Empresarium, C/Lentisco 15

50720 La Cartuja Baja, Zaragoza, Spain

+34 976 429 099

keld@keld.es

www.keld.es