



ELECTRONICS PRODUCT DEVELOPMENT CONSULTANCY

Turn difficult electronics problems into verified products.

Design review, staged development, fractional technical leadership and project recovery for scientific, industrial and instrumentation companies.

www.indagoinstruments.com

THE PROPOSITION

Engineering responsibility, not simply engineering time.

Indago Instruments helps clients move from uncertain concepts, difficult subsystems and troubled prototypes to documented engineering decisions and verified design outputs.

Traditional staff augmentation	Indago consultancy engagement
The client buys attendance from a named person.	The client buys defined deliverables, evidence and access to specialist expertise.
Work is often open-ended and directed day to day.	Work is controlled through a statement of work, milestones and change control.
Progress is associated with time spent.	Progress is measured through completed outputs, decisions and verified performance.
Knowledge may remain personal and undocumented.	Knowledge is retained in design records, source information and test evidence.

WHEN CLIENTS ENGAGE

01 Architecture is uncertain A concept needs requirements clarification, feasibility evidence and a credible electronic architecture.	02 A subsystem is critical An internal team needs accountable delivery of a difficult electronic function.
03 A project has stalled Noise, instability, EMC, compliance or manufacturing problems are delaying progress.	04 Leadership capacity is missing A growing company needs senior design authority without an immediate full-time hire.

A practical consultancy business model.

Each offer has a clear commercial basis, tangible outputs and an explicit point of completion or renewal.

01

Design review and technical due diligence

Fixed-price entry engagement

Independent assessment of requirements, architecture, schematics, PCB design, EMC, safety, manufacturability and technical condition. Outputs normally include a written findings report, prioritised corrective actions and a management briefing.

02

Electronic product development

Staged milestone project

A controlled sequence of paid discovery, feasibility, architecture, detailed electronics, PCB and firmware development, prototype verification and production transfer. Later stages are quoted after earlier work has reduced uncertainty.

03

Fractional technical leadership

Monthly retainer

Reserved access to senior architecture, design authority, development planning, design reviews, supplier oversight and risk management. The retainer defines capacity, response expectations and recurring outputs.

04

Troubleshooting and project recovery

Premium diagnostic engagement

Evidence-based investigation of unstable, non-compliant, delayed or difficult-to-manufacture products. A fixed diagnostic phase produces root-cause evidence and a recovery plan before corrective redesign is approved.

Pricing discipline

Effort, complexity and risk inform the internal estimate. The client proposal defines the outcome, deliverables, assumptions, milestones and change mechanism. Exploratory laboratory work can be capped and reviewed where a responsible fixed price is not yet possible.

From uncertainty to controlled transfer.

01	02	03	04	05
Discover	De-risk	Develop	Verify	Transfer
Define business objective, requirements, interfaces and constraints.	Test the highest-risk assumptions through analysis, simulation or focused prototypes.	Complete detailed circuits, PCB, firmware, integration and documentation.	Test against agreed requirements and record objective evidence.	Release production information and support suppliers and compliance activity.

CONTROLLED THROUGH CLEAR COMMERCIAL DOCUMENTS

Master services agreement Common confidentiality, liability, commercial and intellectual-property terms. Statement of work Objective, deliverables, milestones, assumptions, dependencies, exclusions and acceptance criteria.	Change control New requirements are assessed for technical, schedule and commercial impact before approval. Completion and transfer Agreed source information, test evidence and production documentation are formally released.
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Scalable specialist delivery

Where complementary capability is needed, Indago can define and coordinate specialist inputs such as PCB layout, embedded software, mechanical design, EMC support, prototype manufacture and technical documentation. Indago remains accountable for integration into the agreed engineering work package.

Engineering depth around the complete instrument.

A Analogue and mixed signal Low-noise front ends, sensor interfaces, precision references, filters, ADC/DAC systems and signal conditioning.	B Embedded systems Microcontroller and FPGA-based hardware, C firmware, communications, control loops and diagnostics.
C Power and high voltage Power conversion, regulation, monitoring, protection, interlocks and specialist high-voltage control.	D PCB engineering Multilayer design with attention to signal integrity, grounding, creepage, thermal behaviour, EMC and manufacture.
E EMC, safety and verification Design-for-compliance, pre-compliance investigation, verification planning and traceable test evidence.	F Scientific instrumentation Detector electronics, optical control, analytical instruments, UHV interfaces and precision measurement platforms.

REPRESENTATIVE ENGAGEMENT PATTERNS

NEW PRODUCT

Precision measurement subsystem

Requirements clarification, low-noise architecture, simulation, detailed design and measured verification. Deliverables include the design package, prototype evidence, risk register and production-transfer information.

PROJECT RECOVERY

Intermittent EMC and stability faults

Structured diagnostics across grounding, power integrity, signal paths and enclosure interfaces. Deliverables include root-cause evidence, prioritised corrections and a controlled redesign plan.

TECHNICAL LEADERSHIP

Growing instrumentation team

Architecture governance, design reviews, supplier oversight and development-risk management. Deliverables include decision records, review actions and a controlled roadmap.

Independent judgement. Hands-on delivery.

Indago Instruments Ltd is a UK engineering consultancy focused on electronic product development for scientific and industrial instrumentation.

Working principles

- Reduce the highest technical risks early
- Make assumptions and decisions explicit
- Use proportionate documentation and objective evidence
- Communicate bad news early and clearly
- Design with verification, compliance and manufacture in mind

Ideal clients

- Scientific instrument and laboratory-equipment manufacturers
- Industrial OEMs with specialist sensing or control needs
- Technology companies and university spin-outs
- R&D, engineering and product-development leaders
- Investors or acquirers requiring technical due diligence

START WITH THE ENGINEERING PROBLEM

**A short outline is enough to
identify the right first
engagement.**

Describe the product, present stage, principal risk, desired outcome and decision timescale.

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