POLARJ's CONSULTING SERVICES

WHAT I HELP WITH

- Embedded control system prototyping and validation
- Industrial power & control electronics (applied)
- Instrumentation & Data Acquisition hardware
- Signal integrity & applied electromagnetics (measurement-driven)
- EMI / noise investigation & measurement readiness
- Engineering feasibility and design reviews

PRICING

- Primary engagement model → outcome based packages.
- Hourly consulting (used only for follow-on or exploratory work).

Typical engagements: **small, focused reviews** or **multi-week or multi-month packages**, depending on scope and risk. Please contact me through the intake form linked at the end of this document to discuss fit and receive a scoped proposal.

WORKING STYLE

- Async-first communication
- Clear scope before starting
- Practical, build-oriented mindset
- Emphasis on working hardware and validated results
- Minimal meetings, clear deliverables
- Founder-aware: decisions optimized to reduce downstream risk

---

PAYMENT TERMS

- **Small engagements: 100% upfront**
- **Larger scopes: 50% upfront, 50% on completion**

Accepted payment methods:

eSewa fonepay khalti

STANDARD PACKAGES

Estimated effort reflects focused engineering time, while the delivery window reflects scheduling rather than task duration. All packages are fixed-scope and outcome-based, delivered within an agreed delivery window instead of fixed dates. Hourly billing is used only for follow-on or exploratory work where scope cannot be predefined.

Control System Prototype Package **NRs 2 - 2.6 Lacs**

- **Estimated effort: ~14-20 hours**
- **Delivery window: 1-3 weeks**
- Control algorithm design (PID / state-space / LQR)
- MCU implementation
- Sensor & actuator integration
- Hardware validation and documentation

Best for: Teams needing a working control loop on real hardware
Outcome: A validated real-time embedded controller for all operating conditions.

Industrial Power Control Module **NRs 1.7 - 2.4 Lacs**

- **Estimated effort: ~12-18 hours**
- **Delivery window: 1-3 weeks**
- TRIAC / SCR-based control systems
- Embedded firing logic
- Protection & safety considerations
- Bench testing and validation with notes

Best for: Heating systems, industrial automation, test rigs
Outcome: A safe, bench-validated power controller ready for integration.

Instrumentation & Data Acquisition System **NRs 2.3 - 3.3 Lacs**

- **Estimated effort: ~16-24 hours**
- **Delivery window: 1-3 weeks**
- Analog front-end design (filters, amplifiers, signal conditioning)
- Sensor interfacing and basic sensor fusion
- PCB design (KiCad)
- Measurement validation & sanity checks

Best for: Labs, EV startups, custom measurement setups
Outcome: A measurement subsystem that produces trustworthy data in real conditions.

Signal Integrity Debug Sprint (Applied EM) **NRs 1.3 - 1.8 Lacs**

- **Estimated effort: ~6-10 hours**
- **Delivery window: 1-3 weeks**
- High-speed schematic & layout review
- TDR / S-parameter interpretation
- Impedance, reflection, coupling, and return-path analysis
- Written mitigation recommendations

Best for: Noisy, unstable, or high-speed signals that "should work but don't"
Outcome: Clear identification of root causes and fixes grounded in measurements.

EMI / Measurement Readiness Review **NRs 1 - 1.4 Lacs**

- **Estimated effort: ~4-6 hours**
- **Delivery window: 1-3 weeks**
- Noise source identification
- Grounding & PDN review
- Measurement setup assessment
- Mitigation checklist

Best for: Teams before EMI testing or chasing unexplained noise
Outcome: A prioritized plan to reduce noise and avoid wasted lab time.

Engineering Review & Feasibility Check **NRs 60 - 90 k**

- **Estimated effort: ~3-6 hours**
- **Delivery window: 1-3 weeks**
- Architecture or schematic review
- Risk and unknown identification
- Written recommendations

Best for: Founders before committing to a design direction
Outcome: Clarity on what will work, what's risky, and what to change before building.

Follow-On Engineering (Hourly) **NRs 11 - 13k/hr**

- **Estimated effort: Variable (as needed)**
- **Delivery window: Scheduled based on availability**
- **NRs 11k/hr** — embedded, analog, control, instrumentation
- **NRs 13k/hr** — power electronics, signal integrity, applied EM

SCOPE AGREEMENT

Work begins after payment is received and a one-page scope agreement is signed.

Deliverables include:

- Schematics, firmware, or analysis as defined in scope
- Test results or validation notes
- Design or debugging recommendations
- One revision limited to correctness (not redesign)

Any work outside the agreed scope requires a new agreement before work can begin.

Work is scheduled based on current availability. Each engagement is delivered within an agreed delivery window, not a fixed calendar date. Urgent or time-sensitive work can be prioritized subject to availability for an additional fee. Smaller review-only engagements are often completed sooner when availability permits.

CONFIDENTIALITY & IP STATEMENT

ALL SHARED DESIGNS, DATA, COMMUNICATION AND CODE ARE TREATED AS CONFIDENTIAL. UPON FULL PAYMENT, THE CLIENT OWNS ALL DELIVERED PRODUCTS. CONSULTANT MAY REFERENCE THE ENGAGEMENT AT A HIGH LEVEL AND USE CLIENT-APPROVED, NON-CONFIDENT VISUALS OF THE DELIVERED PRODUCT FOR PERSONAL BRANDING PURPOSES, UNLESS ANONYMITY IS REQUESTED.

Contact: polarj@polarjsapkota.com | LinkedIn

Scan QR or click on it for the INTAKE FORM⤴