P2CODE

Programming Platform for
Intelligent Collaborative Deployments

Security & Trust

Trust built-in: secure, verified, and compliant by design

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P2CODE in Context

The P2CODE Architecture enables automated, trustworthy orchestration of services across federated, multi-domain environments—supporting critical use cases in Industry 4.0, mobility, healthcare, and beyond.

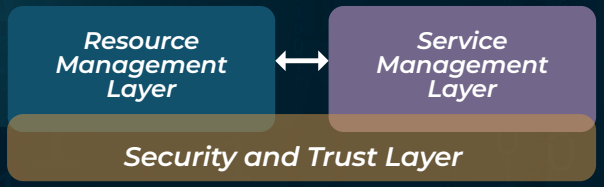
At its core, P2CODE is built on a layered architecture that is **modular, secure, and developer-centric.**

Within this design, the **Security & Trust Layer (ST-L)** ensures that all services and resources run in a trustworthy way—embedding security, compliance, and resilience into every part of the IoT–Edge–Cloud continuum.

What It Does

The ST-L secures identities, devices, software, and data flows across the continuum. It enforces zero-trust principles, verifies authenticity, and provides traceability to build trust in distributed, multi-domain environments.

P2CODE Open Platform



Core Components

1. **Maestro**
   The conductor orchestrating services across the continuum
2. **Secure Access Control**
   Role-based permissions with audit logging
3. **Policy & Telemetry Engine**
   Governs performance and rules in real time
4. **Internal Developer Platform**
   Unified dashboard from code to deployment

Key Benefits

- **Zero-Trust Service Access**
  Fine-grained identity & access control
- **Multi-Layer Attestation**
  Verifies hardware, devices & software integrity
- **Decentralized Identity**
  Verified IDs for people, services, and devices
- **Attack Mitigation**
  Real-time threat detection & response
- **Data Provenance**
  Tamper-proof audit trail of data origins & usage

Trust Flow Across Layers

- Validates service integrity (SM-L)
- Attests device trustworthiness (RM-L)
- Logs operations for compliance & auditing

Why It Matters

- Builds trust and resilience in distributed, multi-domain systems
- Protects critical services from cyber threats
- Ensures compliance with EU digital trust and sovereignty rules

Strategic Impact

1. **Developers**
   Security by default without added complexity
2. **Operators**
   Manage infrastructure safely and reliably
3. **Enterprises**
   Meet compliance and regulatory obligations
4. **Society**
   Protect sensitive services and data