

Data, Analytics & AI

Data Engineering Service Offering:

Standardised process. Trusted data. Accountable AI.

Standardise first. Automate (AI) second.

Most AI investment stalls because the model is built for a process that was never standardised, owned, or ready to absorb it. At Energica, Data, Analytics & AI is delivered as one thread inside our end-to-end digital transformation framework. **Operational Process Standardization comes first:** we design and standardise the process through business process management, then secure adoption through structured change management. **Analytics and AI are then embedded into that process** — at the decision point, with clear ownership and measurable benefit.

01 DATA ENGINEERING & TRANSFORMATION

The foundation.

- **Data strategy & target architecture** — Data Mart, Snowflake, warehouse and streaming design, build-vs-buy, cloud platform selection.
- **Ingestion & integration** — batch, real-time and event pipelines across ERP, CRM, Enterprise applications, finance and third-party sources.
- **Data modelling** — canonical domain models and a governed semantic layer, so a metric means one thing across the enterprise.
- **Data quality management** — profiling, rule libraries, remediation workflows, stewardship operating model.
- **Lineage, catalogue & metadata** — end-to-end traceability from source system to reported figure.
- **Migration & modernisation** — legacy decommissioning, historical data conversion, parallel-run assurance.

Outcome: a trusted, documented, auditable data foundation that everything downstream can rely on.

02 AI & AGENTIC SOLUTIONS

Models and agents that execute inside the process, with guardrails.

- **Use case discovery & value framing** — opportunities identified against specific process steps, sized on benefit and feasibility.
- **Predictive & optimisation models** — demand and load forecasting, predictive maintenance, anomaly detection, scheduling and pricing optimisation.
- **Generative AI** — document intelligence, knowledge assistants, retrieval over enterprise content, drafting and summarisation.
- **Agentic workflows** — agents that take action within the workflow, with tool access, defined authority limits and human-in-the-loop checkpoints.
- **Guardrails by design** — input and output controls, evaluation harnesses, confidence thresholds, fallback and escalation paths.

Outcome: decisions and tasks executed in-flow, with a clear boundary between what the agent does and what a person approves.

03 INDUSTRIALISED SOLUTIONS

Accelerators that carry use cases from pilot to production.

- **Accelerators & reference architectures** — pre-built assets for recurring industry and functional patterns.
- **MLOps / LLMops** — CI/CD for models and prompts, model registry, feature store, versioning, automated retraining.
- **Monitoring & drift management** — performance, data drift, cost and latency observability.
- **Platform engineering & FinOps** — environment provisioning, security baselines, consumption and cost control.
- **Production hardening & run** — scaling, SLAs, support model, hypercare and transition to business as usual.

Outcome: an industrialised path out of pilot, with repeatable delivery instead of one-off builds.

04 REPORTING & DECISION INTELLIGENCE

Insight at the point of decision.

- **KPI framework** — metric definitions aligned to the standardised process and the value drivers behind it.
- **Self-service BI & executive reporting** — governed datasets, certified dashboards, drill-through to source.
- **Operational control towers** — near-real-time visibility across assets, orders, supply and service.
- **Embedded analytics** — insight surfaced inside the tool where the work happens, not in a separate portal.

- **Scenario modelling & simulation** — what-if analysis for planning, capacity and investment decisions.
- **Data literacy & adoption** — enablement, role-based training, usage tracking.

Outcome: Effective decision management, supported by deeper analytical insight surfaced at the moment of decision rather than in the reporting cycle that follows.

05 AI GOVERNANCE & ASSURANCE

Deployable in regulated environments.

- **AI operating model** — roles, RACI, intake process, approval gates, escalation.
- **Policy & regulatory alignment** — EU AI Act, GDPR and sector-specific requirements; risk classification of every use case.
- **Model inventory & documentation** — model cards, decision logs, versioned audit trail.
- **Assurance testing** — bias and fairness, robustness, security and adversarial testing, red-teaming.
- **Ongoing oversight** — periodic review, control effectiveness testing, incident and model-failure management.

Outcome: AI you can defend to auditors, regulators and the board.

THE INTEGRATION LAYER — OPERATIONAL PROCESS STANDARDIZATION

Every engagement is anchored in process. We apply **business process management**- discovery, process mining, standardisation, target operating model design and control definition together with **change management**, stakeholder mapping, role redesign, training, communications and adoption measurement; so, the technical solution is matched by a process that can carry it and the client organisation that will use it.

HOW WE ENGAGE

Stage	Focus	Indicative duration
Assess	Data and process maturity, use case portfolio, value case	3–6 weeks
Design	Target architecture, standardised process, governance model	4–8 weeks
Build	Data foundation, models and agents, reporting, controls	8–16 weeks
Industrialise	MLOps, hardening, scaling, adoption	Ongoing
Run	Managed service, assurance, continuous improvement	Ongoing

Energica Data Engineering Services - Standardised process. Trusted data. Accountable AI.