Service Definition Document: Skyral Decision Support and Problem Solving as a Service for Business Optimisation

Service Name: Skyral Decision Support and Problem Solving as a Service for Business Optimisation
Supplier Name: Skyral Defence Ltd
Framework and Lot: G-Cloud 15, Lot 3

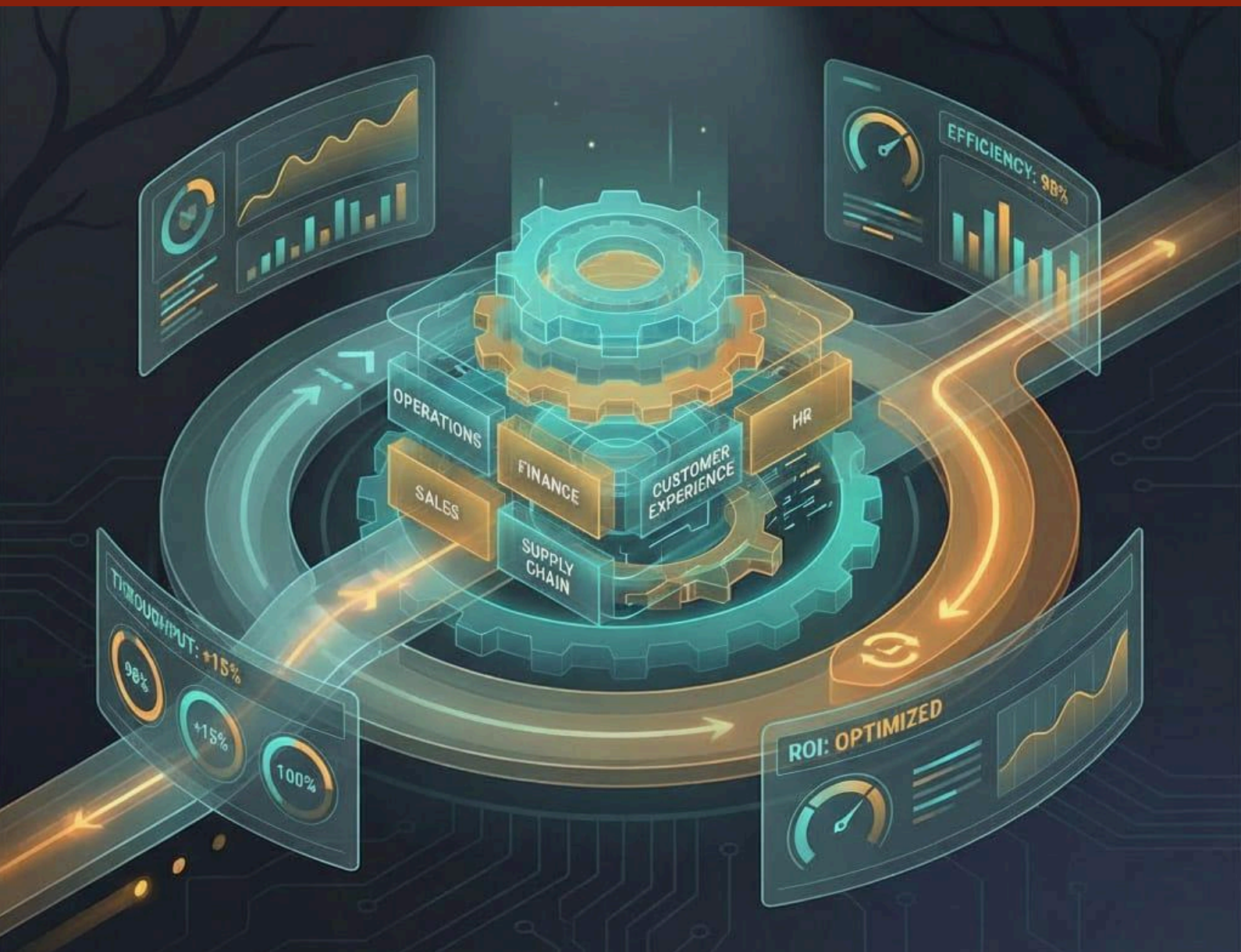
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1. About Skyral

Skyral is a UK-headquartered modelling, simulation and decision-support company. It helps enterprises and public-sector organisations improve complex businesses and operations. Skyral builds digital twins (virtual models of a business or system) and agent-based models (simulations of how many individual customers, staff, assets or suppliers behave and interact). These show how customers, staff, processes, assets, supply chains and channels affect each other across business units, regions and programmes. AI is built into this work. It drives how simulated people and organisations make decisions, helps calibrate models against real data and searches thousands of scenarios to find the options that perform best.

Business customers use Skyral to:

- Test and optimise strategies, operating models and process changes before rolling them out.
- Reveal bottlenecks, inefficiencies and risks across end-to-end value chains, services and portfolios.
- Connect data, models and visualisations to expose the few critical levers (such as demand, capacity, process design, resourcing, pricing and investment) that most affect revenue, cost, service and risk.
- Use AI-driven scenario search and optimisation to compare thousands of options and find the strongest plan within real-world constraints.

Skyral Core, Skyral's modelling and simulation platform, provides the tools to build, run and govern digital twins of businesses and operating models as long-term decision-support capabilities.

2. Service Overview

Service name

Skyral Decision Support and Problem Solving as a Service – Business Optimisation

Purpose

Skyral Decision Support and Problem Solving as a Service for Business Optimisation gives organisations fast, focused insight into complex performance, cost and risk challenges across operations, services, portfolios and markets. It combines causal and probabilistic modelling (mapping what drives each outcome, and how likely different outcomes are), digital twins and AI-assisted analysis. This helps organisations prioritise the initiatives that will most improve efficiency, resilience, profitability and customer outcomes.

It is designed to:

- Turn broad concerns about cost, performance, growth or risk into a structured, decision-ready view.
- Produce a prioritised set of optimisation initiatives and levers to focus limited change capacity and investment on.
- Define a clear follow-on path into Skyral Modelling and Simulation Development as a Service or wider digital-twin and optimisation programmes.

The service runs as a fixed-term, expert-led engagement grounded in Skyral's Simulation Scaffold Framework, adapted for business, operations and portfolio optimisation.

Typical duration and team

A standard engagement is one month of effort, delivered by:

- A business / operations optimisation Subject Matter Expert (SME) with experience in large-scale transformation, operations or strategy.
- An Applied Scientist specialising in modelling, simulation, analytics and AI methods.
- A Product Owner responsible for mapping outcomes into Skyral services, products and the organisation's data, BI and planning landscape.

Longer or multi-phase engagements can be scoped for complex groups, multi-region footprints or multi-line portfolios.

3. Method and Activities

The service focuses on strategic uncertainties in business performance - such as demand volatility, process bottlenecks, operational risk and investment choices - where better predictive insight and scenario analysis would materially improve outcomes.

Core steps

1. **Clarify the business optimisation problem**
    - Establish a shared understanding of the core challenge (e.g. cost-to-serve reduction, service-level improvement, throughput and utilisation, margin optimisation, portfolio rationalisation, transformation risk).



- Capture desired outcomes and constraints: revenue, cost, service levels, risk appetite, regulatory requirements, customer experience, time-to-value.

2. **Map value chains, processes and levers**
   - Disaggregate the problem using logic trees and causal structures across customers, demand, processes, people, technology, suppliers and partners.
   - Identify key levers such as process design, staffing levels and mix, automation, routing and prioritisation rules, capacity and inventory, pricing and product mix, investment sequencing.
   - Map interdependencies across business units, regions, functions and shared services, including how changes in one area affect others.
3. **Define and refine KPIs and metrics**
   - Identify KPIs and metrics directly linked to key levers and objectives (e.g. throughput, cycle time, cost-per-unit, NPS or satisfaction, error and rework rates, utilisation, margin, risk indicators).
   - Clarify how trade-offs will be judged (e.g. cost vs service, speed vs quality, margin vs volume, risk vs opportunity, short-term vs long-term value).
4. **Develop causal and probabilistic models of the business**
   - Working with stakeholders, Skyral SMEs and applied scientists build high-level causal and probabilistic models that describe how demand, processes, people, assets and decisions interact.
   - Represent how shocks or changes (e.g. demand spikes, policy or regulation changes, technology rollouts, supply constraints) propagate through the business and affect outcomes.
   - Where data allows, use machine learning, such as Bayesian neural networks, to extend insight from small data samples and show how certain each estimate is.
5. **Prioritise optimisation initiatives and levers**
   - Apply advanced heuristics, cleaving maps and quantitative reasoning to rank initiatives and levers by impact, feasibility, dependency complexity, risk and time-to-value.
   - Use early scenario analysis and digital-twin concepts to compare options and focus effort on those that deliver the biggest improvements in performance, cost and resilience. Where the best plan must be chosen within constraints such as budget or capacity, Skyral can use optimisation methods such as mixed-integer linear programming (MILP), whose answers trace back to explicit objectives and constraints.
6. **Develop a practical optimisation work plan**
   - Translate the prioritised initiatives into a concrete work plan that can guide transformation, operational improvement and optimisation programmes.



    - Define data needs (e.g. demand and transaction data, process metrics, workforce and asset data, financials), stakeholders, integration points (BI, planning, workflow systems) and decision checkpoints.
7. **Frame follow-on digital-twin and simulation work**
    - Define how a business or operating-model digital twin should be scoped and built in follow-on phases, including key scenarios and decision-support use cases (e.g. “what-if” on demand, capacity, mix and process design).
    - Outline how Skyral’s synthetic environments can support ongoing forecasting, “what-if” analysis, portfolio and capacity planning, and continuous optimisation.

4. Service Outputs

At the end of the engagement, the customer receives:

- **Business optimisation decision narrative**
    - A clear articulation of the performance or cost problem, context, constraints and desired outcomes.
    - A visual representation of key drivers, interdependencies and levers across value chains, processes, products, customers, teams and assets.
- **Prioritised optimisation initiatives and levers**
    - A ranked list of optimisation initiatives (e.g. process changes, automation, capacity shifts, product or portfolio changes, policy adjustments) with rationale and key assumptions.
    - Identification of the top initiatives and levers best suited for simulation and digital-twin development.
- **KPI and measurement framework**
    - Defined KPIs and metrics mapped directly to prioritised levers and initiatives.
    - Commentary on how these indicators should be tracked and used in future scenario analysis, performance management and governance.
- **High-level causal / probabilistic business model**
    - A high-level causal and probabilistic model of the business problem, suitable as a scaffold for more detailed simulation and for engaging senior stakeholders.
- **Strategic roadmap and action plan**
    - A strategic optimisation roadmap and actionable plan that guides follow-on synthetic environment development, digital-twin build-out and integration with existing decision-support and planning tools.

Outputs are delivered in accessible formats (e.g. slide pack, report and—where appropriate—simple interactive views) that can be used directly in executive, portfolio and operational forums. Where generative AI is used to help draft summaries, the text

is grounded in model outputs and verified data, cites its evidence, and is checked by Skyral specialists before delivery.

5. Roles and Responsibilities

Skyral roles

Role	Description	Key responsibilities
SME	Business / operations optimisation expert leading the engagement	Form the core project team; define the business problem; shape initiatives and levers; lead prioritisation and KPI design; co-create work plan.
Applied Scientist	Modelling, simulation and analytics specialist	Understand business processes and initiatives; gather and analyse data; build causal/probabilistic models; apply statistics and heuristics for prioritisation; assess modelling feasibility.
Product Owner	Owns service delivery and transition into Skyral services/products	Plan and manage the work; translate outcomes into Skyral services and products; define follow-on Modelling and Simulation Development as a Service scope.

Customer responsibilities

- Provide access to relevant strategy, finance, operations, transformation and data/analytics stakeholders.
- Share existing strategies, operating models, KPIs, financials and process/performance data where appropriate.
- Confirm regulatory, data-governance and risk constraints early.
- Participate in workshops, reviews and prioritisation sessions; agree scope boundaries, timelines and decision processes.

6. Service Features and Benefits for Business Optimisation

Key features

- Whole-business problem definition spanning customers, operations, finance and risk.
- Causal and probabilistic mapping of drivers and levers across value chains and portfolios.
- KPI and measurement framework design linked directly to optimisation initiatives.
- Evidence-based prioritisation of initiatives and levers using advanced heuristics and structured reasoning.
- High-level decision model and strategic roadmap into digital-twin and simulation-driven optimisation.
- AI-assisted scenario search and optimisation to compare options at scale.

Key benefits

- **Faster clarity**: Move quickly from generic “do more with less” pressure to a precise, shared understanding of what drives performance, cost and risk.
- **Sharper focus of change capacity**: Aim transformation and optimisation efforts at the initiatives and levers that deliver the greatest value, rather than spreading effort thinly.
- **Decision-ready digital-twin scope**: Enter business digital-twin and modelling work with a well-framed, prioritised scope, reducing rework, cost and delivery risk.
- **Explainable, defensible decisions**: Use transparent causal and probabilistic models to support investment cases, board discussions and regulatory engagement, with AI that is explainable by design rather than an opaque black box.
- **Continuous optimisation foundation**: Establish a structured path into ongoing simulation-driven planning, forecasting and optimisation across the business.

7. Dependencies and prerequisites (including customer responsibilities)

This service depends on access to sufficient business, operational and financial context to build a meaningful optimisation decision narrative and work plan.

Key prerequisites (customer side):

- Access to relevant stakeholders across strategy, operations, finance, transformation/change, commercial and data/analytics, including sponsors who can agree priorities and scope.
- Provision of current and target-state information on the business or functions in scope, such as operating models, value-chain maps, process documentation, organisational structures, product/portfolio definitions and major change programmes.
- Provision of representative demand, activity, capacity and financial data where available: transaction and volume data, process and performance metrics, workforce and asset data, customer and channel metrics, and high-level cost and revenue drivers.
- Early confirmation of regulatory, risk and data-governance constraints, including any restrictions on customer-level data, commercial sensitivity and cross-border data movement.

Where underlying tools or datasets are immature or unavailable, Skyral can use proxy data, synthetic demand profiles or partial representations to proceed, with limitations and assumptions clearly flagged in the decision narrative and work plan.

8. Onboarding and implementation approach

Onboarding is structured as a short, time-boxed engagement that moves quickly from problem clarification to decision-ready outputs for business optimisation.

Indicative approach:

- Initiation and scoping
    - Confirm the optimisation questions in scope (e.g. cost-to-serve, throughput, service-level improvement, margin optimisation, portfolio reshaping, risk reduction) and success criteria (e.g. revenue, cost, service levels, risk, time-to-value).
    - Agree the business units, regions, products or processes in scope, stakeholder set, cadence of sessions, data access and approvals.
- Discovery and data gathering
    - Run structured workshops with strategy, finance, operations, transformation and analytics teams to map value chains, processes, drivers, levers, risks and constraints using Skyral's Simulation Scaffold-derived method.
    - Ingest and review existing strategies, operating-model artefacts, KPIs and dashboards, financial reports, process maps, change portfolios and any existing models.
- Modelling and prioritisation
    - Build high-level causal and probabilistic models representing how demand, processes, people, assets, suppliers and decisions interact,



including how shocks (demand spikes, supply constraints, policy changes, technology rollouts) propagate through the business.
        - Apply heuristics and quantitative reasoning to rank optimisation initiatives and levers by impact, feasibility, dependency complexity, risk and time-to-value, highlighting those best suited to simulation and digital-twin work.
- Playback and refinement
    - Test interim narratives, initiative lists and KPI frameworks with stakeholders; refine assumptions, levers and scenarios based on business and financial feedback.
- Final outputs and transition
    - Deliver the business optimisation decision narrative, prioritised initiatives and levers, KPI and measurement framework, high-level business model and a follow-on delivery plan, including options for Skyral Modelling and Simulation Development as a Service and wider digital-twin/optimisation programmes

9. Configuration, customisation and integration

This service is primarily a consulting and decision-support engagement configured around the customer's specific business context, operating model and optimisation objectives.

Configuration and customisation:

- Tailoring of workshops, problem decomposition and logic trees to the sectors, functions and value chains in scope (e.g. customer operations, back-office processing, supply chain, field services, shared services, financial products).
- Custom definition of KPIs, levers and scenarios aligned with strategic goals and management metrics (e.g. cost-to-serve, EBITDA, NPS, reliability, risk indicators), operating constraints and regulatory environment.
- Adaptation of high-level models to reflect customer-specific processes, organisational structures, routing and prioritisation rules, commercial models, supplier and partner structures.

Integration (lightweight in this service):

- Use of exports and artefacts from existing BI platforms, data warehouses, process-mining tools, workflow/CRM/ERP systems and planning tools (e.g. CSV extracts, reports, model outputs) as inputs, without requiring deep technical integration during this shaping engagement.
- Optional definition, within the strategic roadmap, of how future Skyral digital-twin deployments (for example, using Mirror and Skyral Core) would integrate with data platforms, BI tools and operational systems to support ongoing forecasting, "what-if" analysis and optimisation

10. Service levels and performance (including availability targets)

As a time-boxed professional service rather than a 24×7 operational platform, service levels focus on delivery quality, responsiveness and agreed milestones.

Delivery cadence

- Milestones for discovery, interim findings, draft outputs and final deliverables agreed at kick-off and tracked against the one-month (or multi-phase) timeline.
- Responsiveness during the engagement
- Target response to project-related queries within the next UK business day during agreed working hours, with priority given to items that could delay workshops or governance decisions.
- Turnaround for major document/model revisions agreed upfront (for example 3–5 UK business days), dependent on the scale of change and timely customer feedback.

For any Skyral platform components temporarily used (e.g. to host interactive business scenario views), operational characteristics will follow the underlying Skyral Core and SPORE practices in secure cloud or data-centre environments, but formal numerical availability SLAs are normally attached to ongoing managed services, not this shaping engagement.

11. Support model and service desk (hours, channels, response/resolve targets)

Support is delivered by the named Skyral engagement team (SME, Applied Scientist and Product Owner), not a generic helpdesk. The team works through agreed channels, such as email, collaboration tools and scheduled workshops, during UK business hours, with the response targets set out in Section 10.

12. Security model and accreditations (including any ISO, Cyber Essentials, data protection)

Skyral’s approach to security is built around secure-by-design engineering, cloud-neutral deployment via SPORE, and formal certifications.

Security model:

- Support for deployment into secure cloud, on-premises data centres and sovereign or air-gapped environments, with consistent operational, monitoring and governance controls through Skyral’s SPORE layer.



- Role-based access and governance mechanisms across Skyral Core components (Content Catalogue, Scenario Service, Orchestrator, Data Plane, Lens) to ensure that models, scenarios and outputs are controlled, auditable and appropriately segmented.
- Design and operation aligned to data-protection and information-assurance principles relevant to defence, national security and regulated sectors.
- Proven operation up to SECRET for UK MOD applications, with teams that include staff holding SC and DV clearances where required by the customer and contract.

Accreditations and standards (certificates available on request):

- Cyber Essentials and Cyber Essentials Plus – Skyral holds both certifications.
- ISO 9001:2015 – Skyral holds certification for quality management (certificate 258084, British Assessment Bureau, valid until 20 June 2027).
- ISO/IEC 27001:2022 – Skyral holds certification for information security management (certificate 258484, British Assessment Bureau, valid until 20 June 2027).

Data protection:

- Business, operational or personal data used in this service is limited to what is necessary for analysis and scenario framing, with anonymisation, aggregation, masking or synthetic data used where appropriate to reduce sensitivity.
- Any processing of personal data follows applicable UK data-protection legislation, with roles and responsibilities defined in the underlying contract or data-processing agreement.
- Skyral's use of AI is governed by its AI Business Purpose Policy, which covers approved tools, risk assessment, data protection impact assessments, bias monitoring and human verification of AI-generated content.

13. Data management (location, retention, backup, restore, portability)

Data used in this service typically includes: demand and transaction data, process and performance metrics, workforce and asset information, financial summaries and derived modelling artefacts.

Location:

- Skyral can operate in the cloud, on-premises or sovereign environments using SPORE, enabling deployment of modelling and decision-support components in regions or infrastructures that align with customer and regulatory requirements.



- For this one-month engagement, data and artefacts are usually stored in Skyral's secure collaboration and modelling environments, or in customer-hosted repositories where preferred.

Retention and backup:

- Working data and artefacts (models, narratives, roadmaps) are retained for at least the duration of the engagement plus an agreed period (e.g. 6–12 months) to support follow-on work, unless customer policies require earlier deletion.
- Underlying platforms used by Skyral provide standard backup and resilience capabilities for the environments in which they are deployed; recovery time objectives (RTO/RPO) are normally defined at the platform or managed-service level rather than for this shaping service.

Portability and export:

- Final outputs (documents, diagrams, models at appropriate granularity) are provided in commonly used formats (e.g. Office formats, PDFs, and where possible, model exports or structured configuration/parameter sets) to facilitate reuse by the customer and partners.
- On request, Skyral will support reasonable data export and documentation of model structures to aid internalisation or third-party uptake, subject to licensing and IP terms.

14. Business continuity and disaster recovery approach

- For this service, business continuity focuses on ensuring the engagement can proceed and deliver its outputs despite issues affecting personnel, tools or hosting environments.
- Formal DR metrics (RTO/RPO) and continuity obligations are normally associated with ongoing managed services, and would be detailed in platform-level or enterprise agreements rather than this shaping engagement.

15. Service usage limits and constraints

This is a scoped, time-boxed decision-support engagement focused on business optimisation, not an open-ended modelling or managed-service arrangement.

Typical limits and constraints:

- Duration and scope: designed around an approximately one-month effort; more complex groups, multi-region footprints or multi-line portfolios may require multi-phase scoping and delivery.
- Breadth vs depth: emphasis on high-value problem framing, causal/probabilistic modelling and prioritisation of initiatives and levers, rather than building fully



detailed, production-grade digital twins of every process, product and geography.
- Model fidelity: models produced are high-level business decision scaffolds suitable for decision-support, stress-testing and roadmap definition; detailed operational or engineering models are developed as follow-on Skyral Modelling and Simulation Development as a Service or digital-twin programmes.
- Data availability: where data is limited or incomplete, outputs include clearly labelled assumptions and caveats, and some quantitative results may be directional rather than exact.

16. Pricing model and units (linking to framework pricing rules)

The pricing model for this service is a fixed-scope, time-boxed engagement, with options to extend into further phases through follow-on engagements (such as Skyral Synthetic Development Services).

Core structure:

- Core one-month engagement priced as a fixed-price package based on defined deliverables (decision narrative, prioritised initiatives, KPI framework, high-level model, roadmap) and agreed stakeholder footprint.
- Extensions or additional phases (e.g. extra domain deep-dives, expanded stakeholder scope, additional scenario families) priced either as additional fixed-price work packages or time-and-materials under the relevant framework rate card.
- Any subsequent Skyral Modelling and Simulation Development as a Service or digital-twin deployment would be priced separately, reflecting model build effort, platform usage and, where relevant, managed-service components.
- Exact pricing, units (e.g. person-days, work packages) and linkage to framework pricing rules are defined in the commercial schedule.

17. Change management (how changes to scope or volumes are handled)

Change management is designed to protect outcome quality while accommodating evolving questions in complex business environments.

- Initial scoping defines the in-scope businesses, value chains, processes, questions, stakeholder groups, indicative datasets and planned workshops/playbacks.
- Material changes (e.g. adding additional regions or product lines, introducing major new optimisation questions, or requiring deeper technical integration with



operational systems) trigger a joint impact assessment on timelines, effort and deliverables.
- Minor adjustments (e.g. refining KPIs, adjusting prioritisation criteria, adding closely related scenarios) are handled within existing scope where feasible, with impacts recorded and communicated through agreed governance arrangements.
- Larger changes require a formal change note or contract variation, potentially adding work packages, extending timelines and revising commercial terms (price, units or rate-card usage).

Where Skyral Core is used, its governance tools record which models, content and scenarios are affected by a scope change, so the impact of each change can be traced.

18. Exit and offboarding (including data export and handover)

Exit deliverables and handover:

- Provision of final deliverables in agreed formats, including decision narrative, visual driver/lever maps, prioritised initiatives, KPI framework, high-level model description and roadmap.
- Walkthrough session(s) to explain the outputs, underlying assumptions, and how they can be used to inform architecture, planning and operational decisions, as well as the path into digital-twin build-out.
- On request, export of relevant configuration or model artefacts (e.g. scenario definitions, parameter sets, simplified model structures) in documented form, to support internal teams or partner organisations.

Data and environment offboarding:

- Removal or anonymisation of customer-specific data from Skyral environments in line with contractual data-retention terms and any customer-specific security requirements.
- Termination of access for customer users to any temporary, Skyral-hosted interactive scenario views unless explicitly agreed as part of ongoing services

19. Key assumptions and exclusions

Key assumptions:



- The customer provides timely access to stakeholders and data sufficient to meet the agreed timeline and deliverables.
- The primary goal is decision-support, strategy and prioritisation for business optimisation, not full production implementation or detailed re-engineering of all systems and processes.
- Initial models and scenarios are used to compare options, highlight trade-offs and stress-test strategies rather than to produce exact forecasts at every product, process or site level.

Key exclusions (unless explicitly added to scope):

- Full-scale, production-grade business digital-twin implementation and ongoing integration with live operational systems (e.g. ERP, CRM, workflow engines), which are covered by subsequent Skyral Modelling and Simulation Development as a Service and platform services.
- Detailed vendor-specific configuration or custom development of operational systems, low-level engineering tasks or direct changes to live business operations.
- 24×7 operational support, incident management and availability SLAs typical of managed operational platforms.
- Formal regulatory submissions, statutory reports or audit opinions; Skyral's outputs can inform these but do not replace formal assurance or audit processes.

20. Related services and optional add-ons

Related Skyral services:

- Skyral Modelling and Simulation Development as a Service (Business Optimisation) – builds detailed, business-focused digital twins and agent-based models aligned to the prioritised levers and scenarios from this engagement, enabling ongoing "what-if" analysis and optimisation.
- Skyral Modelling and Simulation Development as a Service (Defence and National Security) – builds detailed mission and theatre-level synthetic environments and digital twins aligned to the prioritised mission threads, levers and scenarios from this engagement.
- Skyral Modelling and Simulation Development as a Service (Health) – builds detailed health-system digital twins and agent-based models aligned to the prioritised levers and scenarios from this engagement, enabling ongoing "what-if" analysis, optimisation and operational decision-support.
- Skyral Modelling and Simulation Development as a Service (Mobility & Infrastructure) – builds detailed digital twins and agent-based models of cities, corridors, ports, airports, logistics networks and interdependent infrastructures, aligned to the prioritised levers and scenarios from this engagement.



- Skyral Modelling and Simulation Development as a Service (Network Edition): builds detailed network digital twins and agent-based models aligned to the prioritised levers and scenarios identified in this engagement.
- Mission Planning & Decision Support services for defence and national security, using large-scale agent-based modelling to explore courses of action, logistics and resilience across multi-domain operations.
- Health Policy & Programme Strategy simulation services, applying similar techniques to patient flows, resource allocation and intervention strategies for health systems.

Optional add-ons to this specific service:

- Additional deep-dive modules on specific business domains (e.g. a particular value chain, region, product family, service operation or shared service), delivered either as extended discovery within this service or as Skyral Advisory/Synthetics Development phases depending on need.
- Rapid proof-of-concept business digital-twin instances (e.g. for a key process or business unit) using existing data and synthetic agents to demonstrate interactive scenario analysis and optimisation beyond the initial decision narrative, delivered via Skyral Core and Modelling and Simulation Development as a Service.
- Extended roadmap and business-case support, including structured inputs for investment cases, board packs and regulatory submissions that depend on robust optimisation evidence.
- AI opportunity review: identifying where AI and machine learning could strengthen the customer's forecasting, planning and optimisation, and how to govern its use.

21. Contact, account management and reporting

- E. enquiries@skyral.io
- W. www.skyral.io