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BROCHURE

DEDALUS COMMAND CENTRE

Smarter hospital operations that act



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WHEN COORDINATION FAILS, EVERYTHING SUFFERS



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Emergency rooms are operating beyond capacity

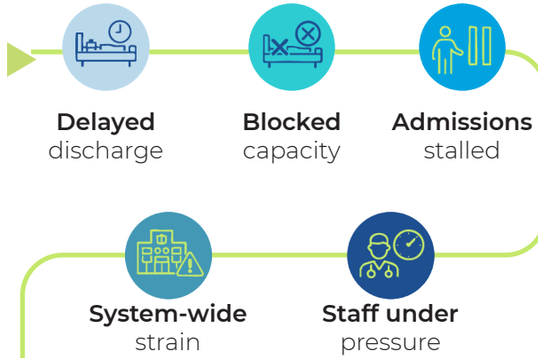
Patients waiting in corridors. Beds left unavailable while awaiting sanitation. Operating theatres sitting idle between procedures, even as surgical waiting lists continue to grow. **This is the reality healthcare providers face every day:** discharge delays create a ripple effect across the entire system, restricting new admissions, reducing operational efficiency, and placing **immense pressure on healthcare staff to make difficult decisions under constant strain.**

The real challenge, despite the team's dedication, is the inability to see the complete patient flow in real time

Your teams work with unwavering commitment, often **without the tools they truly need:** endless phone calls, manual tracking, and dashboards that highlight yesterday's issues instead of anticipating tomorrow's demands. **While staff search for critical information, patients continue to wait.** Yet hospitals already possess the resources and expertise to deliver greater value by improving coordination, reducing delays, and easing the burden carried by healthcare professionals every single day.

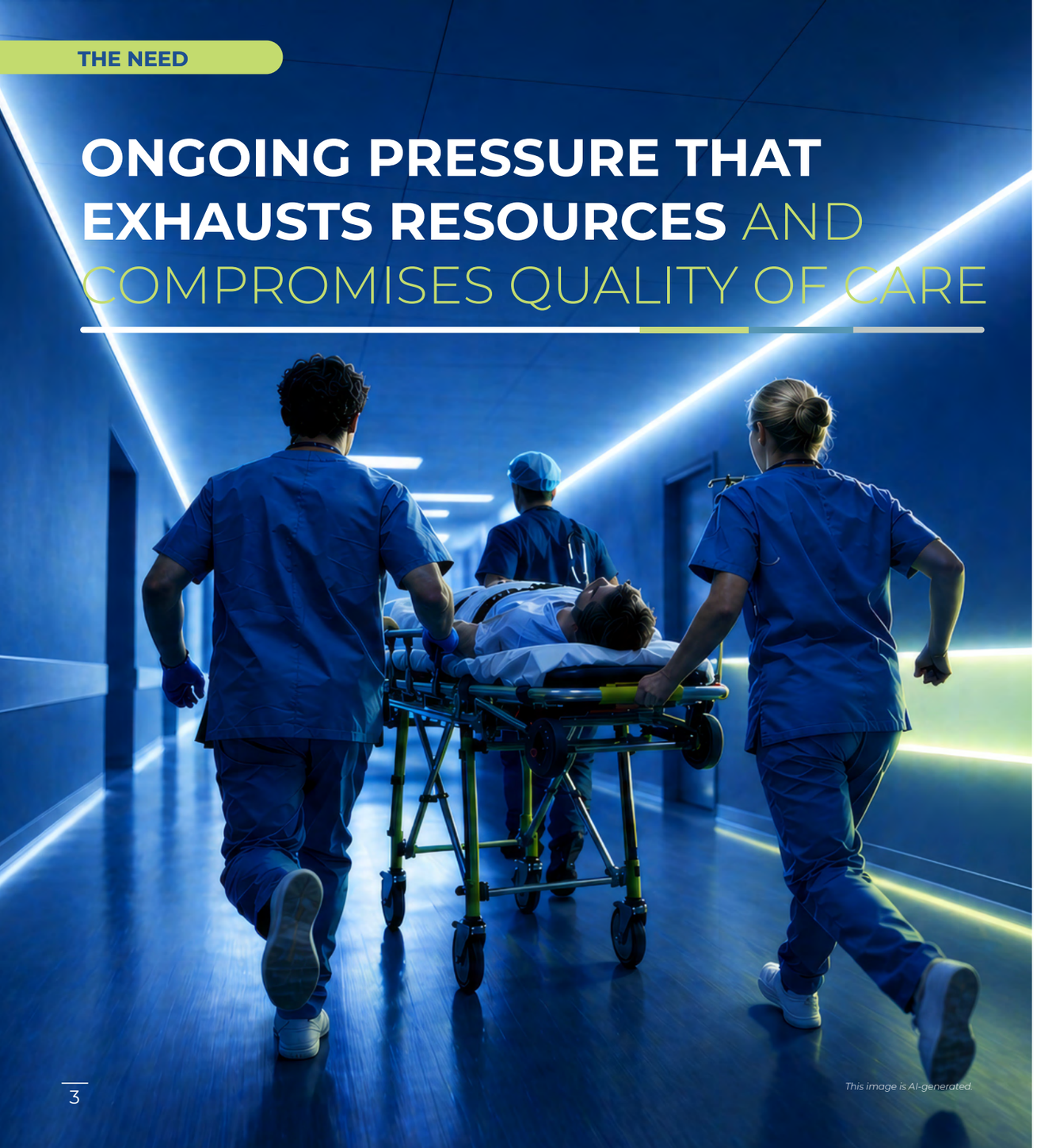
The reality is clear: when comprehensive visibility is missing, inefficiencies compound, delays escalate, and predictable chaos becomes unavoidable

Building new infrastructure alone will not solve the coordination challenge, and in some cases, it may even add further complexity. **What you need is a smarter system:** a tool capable of anticipating bottlenecks before they occur and enables seamless coordination across departments, teams, and workflows.



Because your teams deserve solutions that support their dedication to patient care.

ONGOING PRESSURE THAT EXHAUSTS RESOURCES AND COMPROMISES QUALITY OF CARE



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The invisible capacity crisis

Every week, discharge delays consume precious bed-days, keeping **beds occupied longer than planned** because patients who should have been discharged yesterday are still waiting.

Meanwhile, operating theatres sit idle between cases while **surgical waiting lists continue to grow steadily** in the absence of process improvements.

Emergency departments overflow with patients boarding in corridors, yet beds remain occupied by patients ready to go home. It's heartbreaking: the capacity exists, and **invisible barriers, discharge delays, last-minute cancellations, and coordination gaps** keep you from reaching the patients who need you most.

In fact, **significant time is lost per surgical case** due to avoidable **delays and inefficiencies.**

There is also **a substantial portion of hidden capacity waiting to be unlocked,** yet you're running harder than ever while somehow falling further behind.

22%
Monthly increase without process improvement

30-50
Minutes lost per surgical case

15%
Hidden capacity gain

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The coordination exhaustion

Your clinical teams are exceptionally skilled healers, yet they spend **hours each day doing work that has nothing to do with healing. Without clear visibility into what's happening across departments, coordination becomes reactive and fragmented.** Everyone is working frantically, making calls, sending messages, hunting for updates, just to coordinate what should flow naturally. It's exhausting, it's frustrating, and it's **stealing time from what matters: patient care.**

The human cost of broken workflows

Your people came into healthcare to make a difference, but instead they're drowning. Everyone works overtime to compensate for **inefficiencies that we can avoid.** The stress is relentless: **unpredictable surges,** prolonged emergency stays, patients waiting too long, colleagues stretched too thin. Burnout is more than a statistic, it's the talented professional considering leaving, the experienced clinician frustrated by preventable delays, the entire team wondering if things will ever improve. And you know that **when your staff suffers, your patients suffer too.**

How operational inefficiencies impact every role

Across every role, operational inefficiencies shape how people work each day. They take time away from patient care, create constant pressure, and affect the experience of teams across the hospital.

Role	Current reality	Operational impact
Nurses	Constant interruptions, overcrowded wards	Reduced bedside time, rising stress
Ward managers	Chasing discharge information	Delayed patient progression
Bed managers	Reactive bed allocation	Cascading bottlenecks
Clinicians	Decisions with incomplete visibility	Increased risk and inefficiency
Emergency teams	Boarding and overflow	Compromised throughput

INTELLIGENT COORDINATION AT THE CORE OF YOUR HOSPITAL



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Unlocking your hidden capacity

What if you could see exactly where your capacity is trapped, and release it?

Dedalus Command Centre turns operational blind spots into actionable insight. Through AI-driven predictive scheduling, the platform anticipates discharge delays before they occur, identifies patients ready to progress through care pathways, and automatically coordinates the the next steps across pharmacy, transport, and housekeeping teams.

For your operating theatres, the AI Schedule Planner optimises surgical lists with intelligent algorithms that predict case durations accurately, **eliminating costly gaps between procedures.**

The result?

Hospitals achieve **additional surgical capacity per theatre each day** without building new facilities or hiring more staff. **Hidden capacity becomes real, accessible, and measurable.** Waiting lists begin to shrink instead of grow, and beds become available exactly when emergency and surgical patients need them.

30-50
Minutes recovered per surgical case

1-2
Additional surgeries per theatre per day

15%
Hidden capacity gain

Instead of asking teams to work harder, empower them to work smarter, maximizing the value of the resources already in place.

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Streamlining coordination for smoother collaboration

Imagine if every team member knew exactly what needed to happen next, without making a single phone call. **Dedalus Command Centre creates a unified operational layer** that connects emergency departments, inpatient wards, operating theatres, and discharge planning into **one seamless flow. Real-time monitoring** tracks every patient's journey against configurable parameters, while **intelligent alerts** notify the right person at the right time when intervention is needed.

Ward managers receive automated notifications about pre-operative preparation milestones. Bed managers see predicted discharge times and bed availability hours in advance, not minutes. Clinicians access a complete view of patient status, diagnostic results, and resource availability from a single dashboard. **The platform shows what's happening, and it orchestrates what should happen next.**

Automated workflows coordinate tasks across departments, eliminating the endless cycle of calls, messages, and manual follow-ups. Clinical teams report **30–40% reduction in boarding** time because beds are allocated proactively, not reactively.

With automated coordination, your team can focus on what truly matters: delivering care, not managing administrative processes.

Strengthening human connection in healthcare

What if your clinical teams could spend their energy on patients instead of administrative processes?

Dedalus Command Centre takes the cognitive burden off your team by handling the operational complexity that burdens them. **Predictive intelligence forecasts emergency department surges,** allowing you to adjust staffing before the rush hits. Automated escalation pathways ensure rapid response activation within minutes when patients deteriorate, contributing to a **20% reduction in sepsis cases and 50% faster emergency response times.** Real-time visibility reduces surprises, limits firefighting, and creates more predictable workflows.

By achieving **90% compliance with 4 hour emergency department targets and reducing length of stay by 15 to 25%,** the system **improves metrics, and on top it transforms the daily experience** of working in your hospital. Teams experience fewer crises, less overtime, and greater confidence in delivering high quality care.

Hospitals using Dedalus Command Centre report **measurable improvements in staff satisfaction alongside patient outcomes,** because when operations flow smoothly, everyone benefits.

This is healthcare as it should be: effortless in coordination, powerful in efficiency, and human by design.

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OPERATIONAL CHALLENGES

Operating theatres

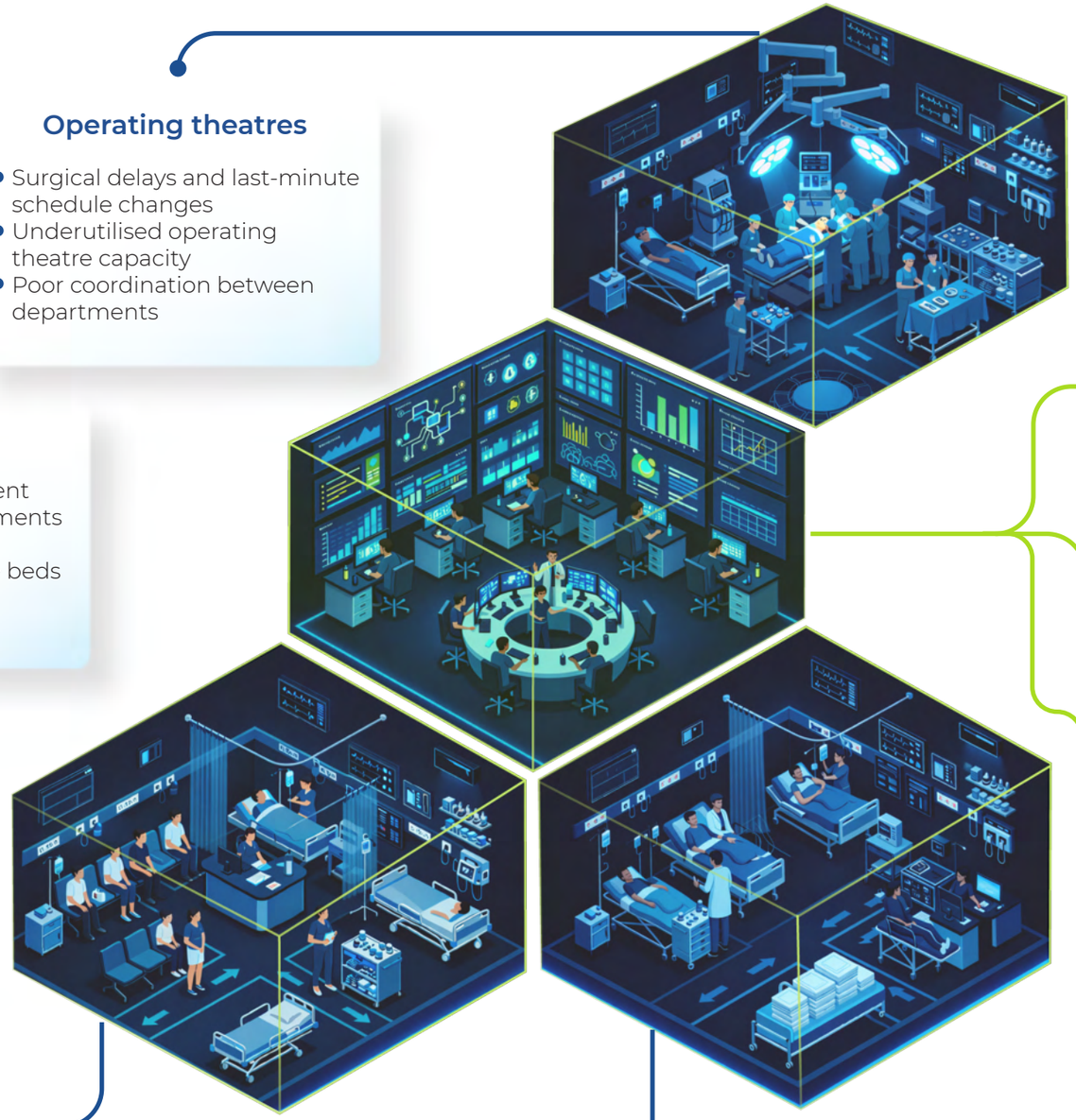
- Surgical delays and last-minute schedule changes
- Underutilised operating theatre capacity
- Poor coordination between departments

Inpatient ward

- Delayed patient placement after emergency departments admission
- Poor visibility of available beds
- Bed allocation managed manually

Emergency department

- Emergency department reaching critical capacity
- Long waiting times for incoming patients
- Manual coordination to free beds takes hours



DEDALUS COMMAND CENTRE

- Real-time visibility
- Predictive analytics
- Operational orchestration

Command Centre response

- Predictive scheduling for surgical lists
- Real-time tracking of perioperative workflows
- AI optimisation of operating theatre utilisation

Command Centre response

- Live hospital-wide bed status visibility
- Intelligent patient-to-bed matching
- Automated alerts for discharge readiness

Command Centre response

- Real-time monitoring detects emergency departments congestion
- AI agents trigger discharge prioritisation alerts
- Immediate bed release across hospital wards

This image is AI-generated.

How Dedalus Command Centre transforms each role

With Dedalus Command Centre, every role gains clarity, control and confidence in daily operations. Teams spend more time on patient care, make faster decisions, and work with greater alignment across the hospital.

Role	With Dedalus Command Centre
Nurses	Spend more time at the bedside with fewer interruptions and clearer task priorities.
Ward managers	Gain real time visibility into discharge readiness and patient progression.
Bed managers	Allocate beds proactively with predicted availability hours in advance.
Clinicians	Make confident decisions with complete operational and clinical visibility.
Emergency teams	Respond faster to surges with predictive coordination and proactive flow management.



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REAL, MEASURABLE IMPACT FOR YOU AND YOUR TEAM

The evidence speaks

Across hospitals deploying Dedalus Command Centre:

3-8X
Return on investment Payback within 12-18 months

50%
Reduction in surgical cancellations due to better coordination

85%
Operating theatre utilization achieving best-practice efficiency

25%
Fewer hospital-acquired infections through shorter, optimised stays

€3-10
Million annually in unlocked operational value per hospital

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BUILT FOR REAL-WORLD HOSPITAL COMPLEXITY



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Predictive orchestration engine

AI/Machine learning models forecast **bottlenecks 2-4 hours ahead** using time-series analysis and pattern recognition. Automated workflow triggers execute **cross-departmental coordination based on predicted events,** instead of retrospective data visualisation.

Native integration with vendor-agnostic interoperability

Pre-built connectors for Dedalus HIS/EMR (ORBIS, O4C, HCIS, DXCare) **reduce integration complexity by 40-60%.** Supports HL7 v2/v3, FHIR R4, REST APIs for third-party systems. **Standardized data mapping accelerates deployment.**

Hybrid cloud-plus-edge architecture

Cloud-based AI processing with on-premise edge nodes ensures sub-second latency for real-time orchestration. Supports multi-deployment models (public/private cloud, on-premise) with GDPR-compliant data residency controls.

AI-Powered surgical schedule optimization

Machine learning regression models predict case duration based on procedure codes, surgeon profiles, and patient acuity. Constraint-based optimization algorithms **maximize theatre block utilisation while dynamically accommodating emergency insertions.**

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Event-driven patient flow state engine

Configurable finite state machine tracks patient transitions across 20+ clinical and operational milestones. Event-driven architecture triggers **rule-based alerts and automated task assignments with role-based escalation logic.**



Unified operational data layer

Real-time ETL pipelines aggregate clinical (orders, results), operational (ADT, bed status, scheduling), and logistical (transport, housekeeping) data into normalized operational data store. **Eliminates information silos across care settings.**



Microservices-based modular platform

Containerized microservices architecture enables independent module deployment (ED/IP/OR). **Supports horizontal scaling, multi-tenancy with data isolation, and zero-downtime updates** via blue-green deployment strategies.



Configurable KPI and alerting framework

15+ pre-configured metrics per care pathway with **customizable thresholds and statistical process control** for anomaly detection. Context-aware notification engine supports **multi-channel delivery** (dashboard, mobile, SIEM integration).



Integrated professional services methodology

Cloud-based AI processing with on-premise edge nodes **ensures sub-second latency for real-time orchestration.** Supports multi-deployment models (public/private cloud, on-premise) with GDPR-compliant data residency controls.



Digital twin simulation and process mining

Machine learning regression models predict case duration based on **procedure codes, surgeon profiles, and patient acuity.** Constraint-based optimization algorithms maximize theatre block utilisation while dynamically accommodating emergency insertions.

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INTELLIGENT MODULES: TRANSFORMING EMERGENCY, INPATIENT AND PERIOPERATIVE CARE



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EMERGENCY CARE MODULE

Addresses: Extended patient stays, admission bottlenecks, coordination gaps, overcrowding, and suboptimal capacity utilisation.

Core capabilities

- AI arrival and admission predictor anticipating surges and bed demand
- Real-time emergency department command view tracking every patient across triage, diagnostics, review, and disposition
- 15+ curated key performance indicators with intelligent automated alerts
- Bottleneck detection for labs, radiology, specialist response, and bed allocation
- Predictive staffing and roster planning tools
- Live wait-time displays and priority queue management

Key outcomes

15-25%
improvement in 4-hour target compliance (reaching 90% compliance)

44-55%
reduction in door-to-triage and door-to-physician time

30-40%
reduction in ambulance offload time

25-40%
reduction in patients leaving without being seen (target <1%)

<60 min
decision-to-admission time

<45 min
diagnostic turnaround time

<15 min
to first clinician contact

94%
Emergency department visits prediction accuracy

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INPATIENT CARE MODULE

Addresses: Discharge delays, bed capacity constraints, delayed care plan activities, and suboptimal patient flow from admission to discharge.

Core capabilities

- AI-powered intelligence monitoring each patient against configurable discharge parameters
- Expected discharge date tracking with automated delay alerts
- Predictive capacity management anticipating bed availability patterns
- Real-time bed status visibility and allocation optimization
- Hospital acquired infection monitoring with automated compliance alerts
- Multi-disciplinary round coordination tools

Key outcomes

10-15%
reduction in Average length of stay

>80%
discharge-by-noon rate

15-25%
reduction in discharge delays

25%
reduction in hospital acquired infections

35-45%
reduction in emergency department boarding

50%
fewer operating theatre cancellations due to bed unavailability

15%
faster bed readiness and turnover

82%
Care plan adherence rate

PERIOPERATIVE CARE MODULE

Addresses: Operating theatre underutilization, scheduling inefficiencies, last-minute cancellations, and excessive turnover times.

Core capabilities

- AI Schedule Planner with intelligent algorithms that optimize utilisation and predict case duration accurately
- Real-time patient tracking across pre-operative, intra-operative, and post-operative workflows
- Automated checklist adherence monitoring with response measures for ward managers
- Comprehensive operating theatre dashboards for instant decision support
- Unified data platform breaking down information silos

Key outcomes

85%
operating theatre utilisation (best-practice benchmark)

1-2
additional surgeries per theatre per day

30-50
minutes recovered per case through delay reduction

50%
reduction in cancellations

90%
first-case on-time start rate

20-min
operating theatre turnaround time

20%
increase in daily surgical capacity

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DEDALUS COMMAND CENTRE IN ACTION: PROVEN APPLICATIONS



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AI-Driven surgical scheduling & operating theatre utilisation

What it does

AI Schedule Planner optimises case duration and scheduling. Real-time orchestration **prevents delays, cancellations, and overtime** through continuous visibility and automated alerts.

When to apply

Operating theatres running below **85%** utilisation, high cancellation rates, surgical backlogs, late first-case starts, **inefficient turnaround times.**

Results

5-7% utilisation improvement reaching **85%** benchmark, **90%** on-time starts, ***20-minute*** turnaround, 1-2 additional cases per theater daily. Impact: **€2-3 million annually**

Discharge coordination & bed management

What it does

Identifies discharge delays in real-time, provides live bed status visibility, **orchestrates coordination** between doctors, nurses, pharmacy, transport, and housekeeping through **automated workflows.**

When to apply

Delayed discharges **blocking beds,** high emergency department boarding, frequent operating theatre cancellations due to bed unavailability, **low discharge-by-noon rates.**

Results

15-25% faster discharges, **35-45%** less emergency boarding, **80%** discharge-by-noon rate, **15%** shorter length of stay, **50%** fewer operating theatre cancellations. Impact: **€3-5 million annually.**

Emergency department flow orchestration

What it does

Predicts arrivals and surges, **tracks every patient across triage to disposition,** flags bottlenecks in diagnostics and **specialist response, coordinates real-time bed allocation.**

When to apply

Poor 4-hour compliance, **overcrowding, high left-without-being-seen rates, long wait times,** ambulance offload delays, boarding issues.

Results

15-25% better 4-hour compliance, **20-30%** faster triage and first contact, **30-40%** reduced ambulance delays, **25-40%** fewer patients leaving. Impact: **€4-6 million** annually.

Hospital-wide flow optimization

What it does

Deploys all three packages for end-to-end visibility and coordination across the entire patient journey **from emergency arrival through surgery to discharge.**

When to apply

System-wide inefficiency where emergency, inpatient, and surgical bottlenecks create **cascading failures across departments.**

Results

Total value €8-14 million annually, 5-8X Return on investment. Payback within 12 months.



TECHNICAL REQUIREMENTS & SPECIFICATIONS



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System integration

It addresses operating theatre underutilization, scheduling inefficiencies, last-minute cancellations, and excessive turnover times.

Compatible systems

- Dedalus EHRs solutions
- Non-Dedalus EHRs solution via HL7/FHIR/SQL interfaces
- Integration with patient administration, laboratory, radiology, operating theatre, and emergency department systems

Integration standards

- HL7 v2.x and FHIR API compliance
- REST APIs for real-time data exchange
- Secure encrypted connections (TLS 1.2+)

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Infrastructure

Deployment:

- **Configurable data residency -** on-premise, co-location, cloud, hybrid cloud with edge appliance.
- **Secure by design** - integrate with enterprise identity management
- **Modern architecture** - Kubernetes-based microservices application
- **Elastic and scalable -** Scales horizontally from the smallest department to the largest hospital network or region
- **High availability and resilience** - for mission-critical operations with redundancy and failover.
- **Multi-tenancy** - supports multiple organisations, enabling scalable deployment across integrated care systems and health networks.

Security & compliance

- GDPR-compliant
- **Role-based access control (RBAC) and attribute-based access control (ABAC)** with single sign-on .
- Full audit trails across **data, workflows, and AI decisions.**
- **Certification for ISO 27001 and SOC 2 Type II** may vary depending on the infrastructure provider, and may not apply to all deployment scenarios. **ENS (Spain) certification is anticipated in June.**
- 99.9% uptime SLA .

Performance

- Sub-second latency for real-time alerts.
- Scalable from the smallest hospital to 5000+ beds.
- Hospital-wide concurrent clinical users.

Core Capabilities

AI & analytics

- Predictive models for arrivals, admissions, and discharge risk.
- AI Schedule Planner with case duration prediction.
- Configurable alerts and escalation rules.

User Experience

- Web-based responsive interface (desktop, tablet, mobile).
- Role-specific dashboards.
- Real-time updates (<5 seconds refresh).

Support

Included

- Level 3 platform support.
- AI model monitoring and tuning.
- Quarterly performance reviews Software updates and patches.

Optional

- Level 2 regional support with local language assistance.
- On-site technical support.
- Extended training programs.

PROFESSIONAL SERVICES & SUPPORT



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Why our service model matters

Dedalus Command Centre is more than software, it's a partnership designed to transform your operations and ensure results last. Unlike other solutions, Command Centre combines **healthcare operations expertise with technology, supporting clients beyond implementation.** Our consultants understand the challenges of complex health systems and provide ongoing support, tracking ROI, sharing best practices, and identifying new opportunities as hospitals scale improvements. This focused approach leads to a **5-8x ROI within 12-18 months and lasting operational benefits.** Next to the software, we deliver transformation.

Implementation: fast, fixed-scope, value-focused

We deploy Command Centre through a structured **12-16 week process that minimizes disruption and accelerates time-to-value.** Our team handles everything: technical integration with your existing systems, workflow configuration tailored to your hospital, user acceptance testing, and go-live support. **You get predictable timelines, fixed pricing, and a deployment approach proven across hundreds of hospitals.** And implementation is just the beginning. What sets Command Centre apart is how we help you sustain and scale the improvements.

** Please note: The implementation timeline provided is an estimate based on previous delivery cases. Actual durations may vary due to external factors or specific contractual arrangements. This statement is intended as guidance only and does not constitute a binding commitment.*



Workflow redesign & operational consulting

Redesigned workflows, on top of the technology, drive better results. Our consultants collaborate with your team to assess current processes and create **optimized, benchmark-driven workflows tailored to your clinical environment.** We prioritize measurable improvements and conduct quarterly reviews to sustain progress.



Change management that drives adoption

A platform's success depends on user adoption. Our change management programs involve stakeholders early, develop internal champions, and offer coaching for sustained behavior change. **We help communicate successes, manage resistance, and build a foundation for lasting transformation through ongoing support.**



Training built for real clinical workflows

We deliver role-based training designed for how people actually work. **Executives learn to use dashboards for strategic decisions, bed managers master real-time allocation tools, operating theatre coordinators optimize scheduling workflows, and emergency department teams coordinate flow seamlessly.** Training includes hands-on coaching during go-live, quick reference guides, and train-the-trainer programs so you build internal expertise.



Comprehensive ongoing support

Level 3 platform support is included with every deployment: **24/7 system monitoring, major incident resolution, AI model performance tracking,** software updates, security patches, and quarterly business reviews. We ensure **99.9% uptime and respond to critical issues within two hours.**

For hospitals requiring localized support, our optional Level 2 regional service adds local language teams, on-site technical visits, faster response times, and assistance with regional compliance requirements.

VOICE OF CUSTOMERS

*We have greatly improved **surgical performance,** taking into account the various alerts we manage within the surgical field. We are talking about more than 30 alerts that are in production and that provide us with a direct benefit with the patient at the center of the healthcare ecosystem. In terms of hospitalization, **we are improving the average length of stay, the resolution times for consultations, social work, and, of course, diagnostic tests***

Raúl López, CIO of Gregorio Marañón University General Hospital

*The control center is not just technology; it is a tool that generates **real impact in public service.** It represents a different way of working, a **smarter and more human way to heal and to care.** In a complex, fast-paced world where uncertainty challenges us every day.*

Sonia García, Hospital Manager at Hospital General Universitario Gregorio Marañón

*The implementation of a Command Centre within the new Nancy hospital reflects **our ambition to manage the hospital of tomorrow in a more agile, responsive, and efficient way.** It is a key driver for a digital transformation that enhances **hospital performance and the quality of patient care.***

Jean-Christophe Calvo, Head of the Territorial Department for Digital Transformation and Biomedical Engineering at Centre Hospitalier Régional Universitaire (Nancy), France

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Dedalus is a leading global provider of healthcare and diagnostic IT solutions, supporting the full continuum of care with human-centred digital solutions built on high-quality health data.

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