



Partnering for Success



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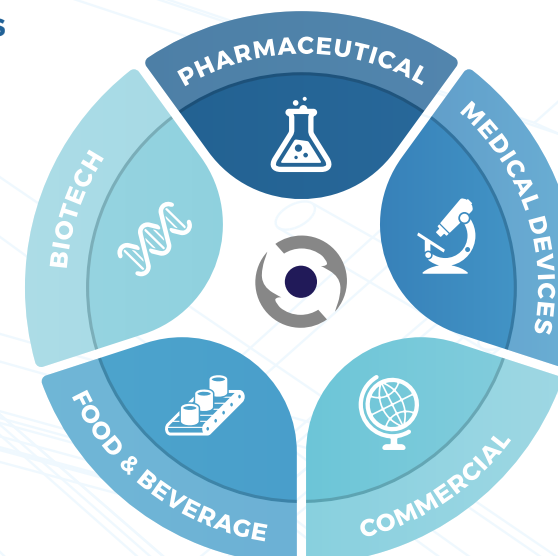


Tandem delivers end-to-end engineering consultancy services to life science, food, industrial and commercial clients in Ireland, the UK & Europe.

Our Services (contents)



Our Sectors



Tandem use proven in-house project management procedures to ensure consistent delivery of projects to our clients. Our Project Managers collaborate directly with stakeholders and end users to define, scope and execute projects, meeting the client's brief and ensuring the best results are achieved.

We monitor, measure and track safety, schedule, cost and quality requirements throughout the full cycle of the project while ensuring project objectives are met.

Tandem's approach to Project Management ensures focus on the key factors for successful delivery:

- ▶ **Safety:** Designing and implementing a project that is safely constructed and operated
- ▶ **Design:** Ensuring that the project design is fit for purpose and meets the agreed client user requirements
- ▶ **Schedule:** Coordinating effort with an integrated schedule that all stakeholders are committed to
- ▶ **Cost:** Controlling and tracking cost to an approved budget estimate
- ▶ **Quality:** Design, installation and qualification delivered to ensure regulatory requirements are met
- ▶ **Risk Management:** Identification of key project risks with mitigations and owners to ensure their impact on successful project delivery is minimised
- ▶ **Communication:** Effective and open communication with all stakeholders, ensuring the project goals are given focus through all phases

Tandem offers multi-disciplined engineering design across all project stages. Our design team's depth of experience across a range of sectors and tailored approach for each project allows us to deliver the best solutions for clients. Tandem's client-centred, collaborative approach ensures that our customers' needs are always prioritised.

We have a track record of achieving the best results for our clients on multiple projects, obtaining repeat business and building strong partnerships. Having designers with operations and site experience ensures that safety, constructability and operability are considered throughout the design process, allowing for efficient project construction, commissioning, qualification and handover.

Close collaboration with our Project Management colleagues ensures a constant focus on meeting or beating key milestone dates. Through lean techniques and value management methods we ensure that designs are fit for purpose and provide best value for money.

**Tandem offer a complete
Multi-Disciplined design service**

- ▶ Architectural
- ▶ Civil & Structural
- ▶ Process
- ▶ HVAC & Building Services
- ▶ Mechanical
- ▶ Electrical & Instrumentation
- ▶ Controls & Automation
- ▶ Design Safety and Coordination (PSDP)

**Tandem Designers deliver on
each project phase:**

- ▶ Feasibility Studies
- ▶ Concept Design
- ▶ Front End Studies (Basis of Design)
- ▶ Planning & Licencing
- ▶ Detailed Design
- ▶ Design certifier as per BCAR 2014
- ▶ Construction & CQV Support
- ▶ Consultancy & Troubleshooting



Tandem's approach to construction management is structured to ensure we deliver projects safely while meeting all schedule, cost and quality targets. We protect our clients contractually and commercially; and ensure minimal disruption is caused to their key operational activities.

Our construction management services involve.

- ▶ **Pre-construction:**
 - ▶ Contract Strategy
 - ▶ Constructability Reviews
 - ▶ Tendering of contracts
- ▶ **Safety:** Management of health and safety on site including the role of Project Supervisor Construction Stage (PSCS)
- ▶ **Communication:** Regular, open communication with all project stakeholders with regular, concise reporting to the Client
- ▶ **Co-ordination:** Co-ordination of all trade and vendor companies on site
- ▶ **Schedule:** Provision of a detailed construction schedule and progress S-curves to monitor contractor progress, taking appropriate actions to ensure critical activities are being executed as per schedule
- ▶ **Cost:** Cost control on site using a structured 'Contractor Instruction' procedure
- ▶ **Contract Administration:** Drafting of contract packages, handling contractual correspondence, certifying valuation, practical completion and final completion
- ▶ **Design Integration:** Management of all technical queries and submittals on site and collaboration with the design team to ensure timely closure
- ▶ **Quality:** Quality management including regular site quality audits, punch-list walk downs, categorisation and closure of defects. Compilation and issue of as-built documentation and user manuals to the Client
- ▶ **BC(A)R 2014: Assigned Certifier and Builder roles as defined by the Building Regulations.**
- ▶ **Commissioning:** Safe start-up of equipment and utilities in readiness for commissioning



The **Tandem** Project Controls team provides specialised expertise across project life cycles to reduce client risk, improve value and deliver positive outcomes in all sectors of the built environment.

Our Project Controls services involve:

- ▶ **Cost:**
 - Helping to establish project viability and a robust baseline
 - Value Management
 - Value Engineering
 - Life Cycle Costing
 - Estimating and cost planning to proactively manage the project budget
 - Optimising cost performance from inception to completion.
 - Generating and managing cost reports through the project life cycle
 - Cash flow forecasting
- ▶ **Schedule:**
 - Scheduling each phase of a project from Concept, Engineering, Procurement, Construction, Commissioning through to Qualification, Validation and Operational Readiness
 - Man-loaded schedule and S-Curves with weekly earned versus actual progress reporting
 - Critical Path analysis
 - Progress updates with remote stakeholders
 - Identification of slippage and recovery plans
 - Develop micro-schedules for complex areas of work where detailed coordination is required
 - Portfolio scheduling for PMOs
- ▶ **Procurement:**
 - Preparation of tender packages for trade contractors and equipment vendors
 - Tender walkdowns
 - Bid clarification meetings
- Commercial and Technical Bid Analysis
- Tender reports recommendation for award
- Final negotiations
- Vendor management and expediting
- ▶ **Contract Administration:**
 - Identifying the most appropriate procurement and contracting strategies to minimise risk to time, cost and quality
 - Preparation of contractual documentation
 - Ensuring all parties are familiar with their contractual obligations and remain compliant at all times
 - Ensuring information is communicated in a timely manner to ensure the smooth progression of the contract
 - Implement change management procedures that facilitate well informed decisions and ensure effective financial management
 - Certification of monthly valuations
 - Assessment and agreement of contractual claims
 - Assess contractor claims for delays and provide advice when assessing claims for Extension of Time and costs for delays
- ▶ **Risk Management:**
 - Identification of potential project risks
 - Develop risk mitigation strategies
 - Maintaining a Risk Register and regular updating the mitigation status with stakeholders
- ▶ **Document Control:**
 - Implement controlled processes and practices for the creation, review, modification, issuance, distribution and accessibility of documents



Tandem offers a range of health & safety services designed to work in collaboration with the Client through the lifecycle of a project.

Tandem's Health & Safety Consultants are highly qualified and vastly experienced across the life science, food, industrial and commercial sectors.

Our flexible, proactive, practical and dynamic approach to health and safety management facilitates a safe working environment on our projects, ensures full adherence to relevant health and safety legislation but also aims to achieve "first in class" health and safety management for our clients.

As well as supporting our design, construction management and CQV project teams, our Health and Safety Consultants offer the following services to our Clients.

Consultancy:

- ▶ Auditing and inspection
- ▶ Safety Officer placement (part or full time)
- ▶ Health & Safety consultancy:
 - Development of mandatory safety documentation (Safety Statement, Health & Safety Policies, Risk Assessments, etc)
 - Gap analysis and development of health & safety management systems (to ISO:45001)
 - Independent incident investigation and root cause analysis
 - Health and safety trend analysis and troubleshooting
 - Health and safety workshops
 - Health, safety and wellbeing initiative planning and implementation
- ▶ HAZOP assessments
- ▶ DSEAR & ATEX assessments

Design & Construction:

Tandem provides services in the area of design and construction safety & management covering the following:

- ▶ Advising Clients on their Duties under Construction Regulations 2013
- ▶ Project Supervisor for the Design Process (PSDP)
- ▶ Project Supervisor for the Construction Stage (PSCS)
- ▶ Health and Safety Coordinator on Client PSCS projects
- ▶ Construction site inspections and audits



Tandem offers Commissioning, Qualification and Validation Services to our clients. Our technically strong CQV personnel ensure all CQV activities meet both current regulatory requirements and client needs.

Tandem has extensive experience in the commissioning, qualification and validation of Biopharma, OSD, API, Labs, Warehouses, Med Device, Packaging Facilities, Utilities and Equipment

Tandem's offering incorporates all elements of the CQV life cycle as outlined below.

- ▶ **Coordination:** Management of the CQV phase to ensure full coordination between contractors, vendors, client and the CQV team
- ▶ **Risk Based Verification:** A Risk-based verification approach to the specification, design and verification of all systems and equipment that have the potential to affect product quality and patient safety
- ▶ **Documentation:** A robustly documented CQV campaign that stands up to audit by regulatory bodies
- ▶ **Scheduling:** Development and monitoring of a systems based CQV schedule to include all required test phases and interdependences
- ▶ **Cost:** Controlling and tracking CQV execution costs to an approved budget
- ▶ **Safety:** All systems are commissioned and qualified in a safe manner
- ▶ **Risk Management:** Identification of key risks with mitigations and owners to ensure their impact on successful CQV delivery is minimised



As part of its core values, **Tandem** employs sustainable design and utilises energy efficient engineering solutions and technologies on all of its projects.

Tandem carry out design work in accordance with the requirements of EU Energy Performance of Buildings and the Energy Efficiency Directives and TGD Part L 2017 of the Building Regulations – Conservation of Fuel, at a minimum, to deliver nearly Zero Energy Buildings (nZEB) where applicable.

Sustainability reviews are held from the outset and throughout the design process of projects, to identify cost-effective sustainable design and construction solutions.

An Energy Saving / Sustainable Opportunities Register is developed in accordance with the principles set out in IS 399 Energy Efficient Design (EED).

Typical opportunities for consideration include:

- ▶ Renewable / energy efficiency, low and zero carbon technologies and materials
- ▶ Heat Recovery from waste heat streams e.g., compressed air generation, extract air and process waste
- ▶ Cooling and recirculated air optimisation
- ▶ Optimising Air Change Rates and room pressurisation requirements
- ▶ Optimising control systems
- ▶ Energy efficient lighting and controls
- ▶ Enhanced building element insulation levels
- ▶ Enhanced airtightness and airtightness test on completion
- ▶ The use of solar shading where viable
- ▶ Glazing ratios

An Energy Saving / Sustainable Opportunities Register is developed in accordance with the principles set out in IS 399 Energy Efficient Design (EED).

New Plant and equipment are specified from the Triple E register where possible, to ensure the best-in-class energy efficiencies.

Tender and contract documents and specifications are developed with clear targets and requirements set out for contractor to engage and achieve best practice in respect to sustainable lean construction practices.

Off-site manufacture options are investigated and implemented where appropriate to deliver lower-waste, high quality and controlled working environment.

Tandem will maximise the re-use, recycling and refurbishment of materials and existing site elements where appropriate.

Tandem also carry out technical surveys on existing systems to identify energy saving opportunities and optimise operation and efficiencies, such as compressed air, steam, HVAC, power and lighting systems.

Tandem provide guidance on any financial supports available for projects that achieve energy savings, which can significantly contribute to the business case for projects.



Tandem provide client representative services from feasibility stage, through the design process, construction, CQV and Operational Readiness. We understand that our clients may not have the capacity to coordinate external consultants, vendors, contractors and other stakeholders while they are focussed on managing existing operations.

Tandem will manage the full project lifecycle on behalf of the client while ensuring that the key stakeholders are engaged in all major decision making and preparing the facility for commercial operations.

Our Client Representative Service includes:

- ▶ Project Management
- ▶ Cost and Contract management
- ▶ Procurement
- ▶ Scheduling
- ▶ Engineering Expertise- Civil, Structural, Architectural, Process, Mechanical, HVAC, Electrical, Instrumentation, Automation
- ▶ Environmental, Health and Safety
- ▶ Document Control
- ▶ Construction Management
- ▶ Commissioning, Qualification and Validation
- ▶ Operational Readiness

Tandem's Talent Solutions have evolved from long standing relationships with our clients and an understanding of the challenges they meet when it comes to recruiting the right people for their organisation.

We work closely with our clients, taking the time to understand their unique culture, priorities and expectations, ensuring that the best results are achieved.

Our technical expertise combined with recruitment capabilities enable us to provide a high quality and cost-effective service to our clients, offering secondment, contract, temporary and permanent talent solutions.

Tandem's values of integrity, professionalism and customer service to both clients and candidates offers a unique quality of service.

Tandem specializes in Talent Solutions across all disciplines in both the Project Implementation and Operational phases.

Examples of roles we recruit for are:

Project Implementation

- ▶ Programme Managers
- ▶ Project Managers and Engineers
- ▶ Engineers from all disciplines
- ▶ Project Controls Specialists
- ▶ Schedulers
- ▶ Construction Managers
- ▶ CQV Specialists
- ▶ Quality Assurance Specialists

Operational

- ▶ Site Leadership and Management Teams
- ▶ Operations
- ▶ Technical Services
- ▶ Quality Control
- ▶ NPI
- ▶ Finance
- ▶ Supply Chain
- ▶ EHS Specialists

Partnering for Success



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