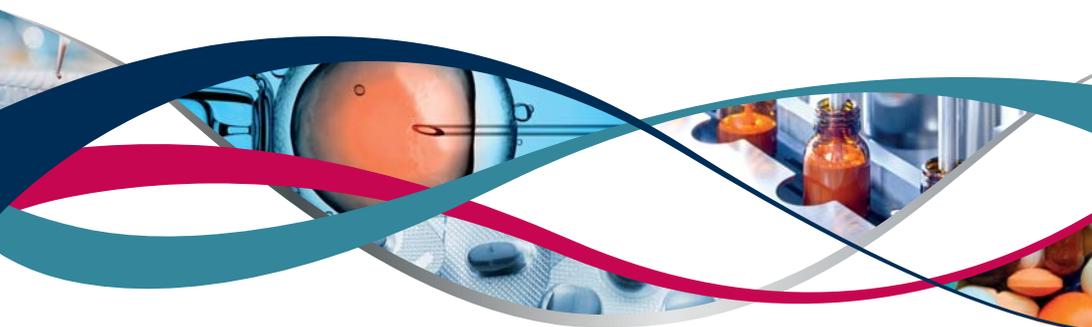


ENGINEERING LIFE SCIENCES SOLUTIONS

A COMPETENCE CENTER DEDICATED
TO PHARMACEUTICAL COMPANIES



Problems and challenges in the Pharmaceutical sector

An ageing population and the consequent matters of sustainability of the Healthcare and Welfare System

place a lot of attention on **limiting costs** and on **reimbursement policies**, that increasingly depend on the proven efficacy of treatments on patients.

The need for new products including niche ones, where investment is affected right from the early phases of research and development by **the expected benefits for patients and the healthcare system**, and the identification of increasingly personalized treatments.

Continuous pressure on costs pushes towards **the search for new markets and new operational strategies**, with consequent market access, technological investments, rationalization and **production and logistics system increased efficiency problems**.

The need for new solutions based on the use of **ICT** in all company departments, to be applied immediately and efficiently.

Increasingly complex regulatory and compliance aspects with collaboration worldwide from Regulatory Bodies that bring companies in the sector to create increasingly stricter **traceability methods and process controls**, with significant **investments in technology and resources**.

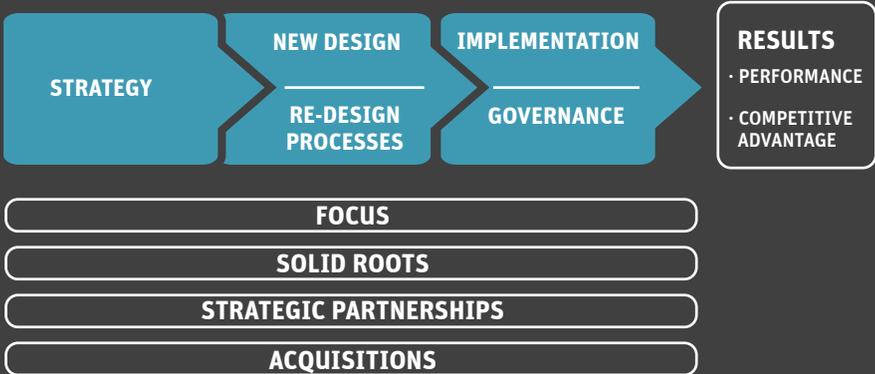


The Engineering Pharma Competence Center

A DEDICATED BUSINESS UNIT TO ANSWER ALL THE PHARMACEUTICAL SECTOR'S NEEDS

Engineering aims at creating value for Pharma companies, integrating strategic and operational aspects through the use of specific competences and innovative technologies.

MISSION AND DISTINCTIVE ELEMENTS OF THE PHARMA COMPETENCE CENTER



Focus

A team of experts dedicated to the problems and needs that emerge from the regulated market in order to identify solutions

Solid Roots

More than 25 years' experience as System Integrator in the Pharmaceutical market

Strategic Partnerships

Continuous research and identification of the market's main players allow the development of close relationships based on competence and technology

Acquisitions

Attention to new items brings about the definition of strategic acquisition plans by presence or specificity.

Engineering's value comprises the ability to provide responses to any company's department, with specific skills and solutions suited to the most complex challenges.

Enterprise & Business strategy

Engineering works alongside companies in the pharmaceutical sector from the early phases of business strategy implementation and provides important skills and experience for:

- **assessment of the impact of strategic decisions**
- **Strategic planning** through modeling and simulation techniques
- **management and optimization of company process performance** via balanced scorecard and continuous improvement techniques.

Stakeholder Engagement and Change Management initiatives support the three strategic competences across the board.

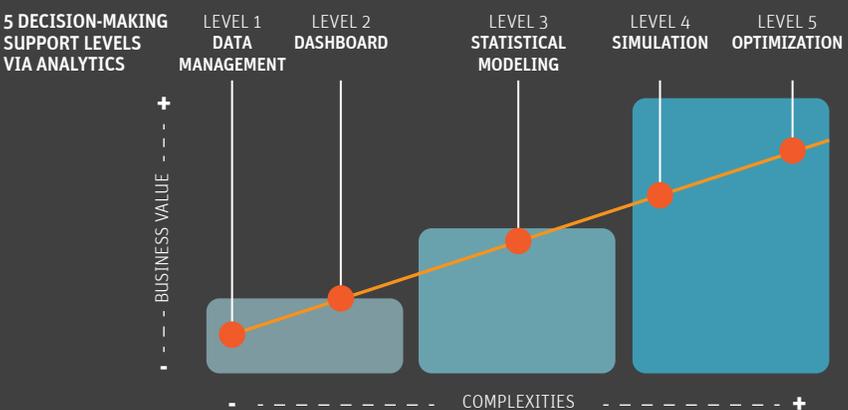
R&D for Product Lifecycle Management

The evolution of the Pharmaceutical sector and development of information and communication technologies allow large amounts of patient data to be used more efficiently and effectively for the development of “precision medicine”, i.e. a driven personalization of pharmacological products that act on the causes of illnesses, in relation to the patient’s characteristics and medical history. Engineering can support companies in the sector in improving their Research and Development process through the use of predictive analytics, dynamic modeling and simulation, based on ad hoc platforms and the most powerful statistics software available on the market.

The main activities offered include:

- Data mining, visual analytics, predictive analytics and reporting
- Predictive modeling and simulation of drug’s safety and efficacy
- Simulation models for pharmacodynamics and pharmacokinetics
- Development of predictive models for Health Technology Assessment
- Risk analysis and support for the development strategy for the R&D product portfolio
- Strategic consultancy for marketing and market access
- Strategic consultancy for optimization of R&D processes
- Analysis and re-design of R&D processes

WE ADAPT OUR INTERVENTION TO THE COMPLEXITY OF THE PROBLEM



Operations Management

Engineering can support its pharmaceutical sector clients in «core» processes, from production and management/acquisition of production orders to controlling and executing them; from defining material management policies to the electronic documentation of the production process, in full respect of GAMP and 21 CFR Part 11 regulations. The main realms of intervention are:

- FEASIBILITY STUDY** Through the use of production process modeling, simulation and optimization tools aimed at re-designing and improving the key factors in order to:
 - re-plan and/or optimize the production network and supply chain
 - improve use of production capacity with a view to forecasts of sales, production policies and procurement
 - optimizing the production process with predictive and advanced analytics techniques
 - developing predictive maintenance models for production plants based on dynamic simulation models and developing Business Intelligence tools to support decision-making and organizational processes.

- ERP** Design and implementation of ERP solutions, for all company functions, with international roll out/roll in capacities.

- AUTOMATION AND CONTROL** Coverage of entire production process, from Order Management to Dispensing, from Packaging to handling materials (MHS, MHCS, MHES) and realization of EBRS (Electronic Batch Recording System) systems, including integration with field systems (PCS, SCADA, PLC).

- MONITORING** Full control and management of plants and monitoring in terms of OEE (Overall Equipment Effectiveness) use and efficiency of production lines.

OPERATIONS MANAGEMENT PROCESS VIEW



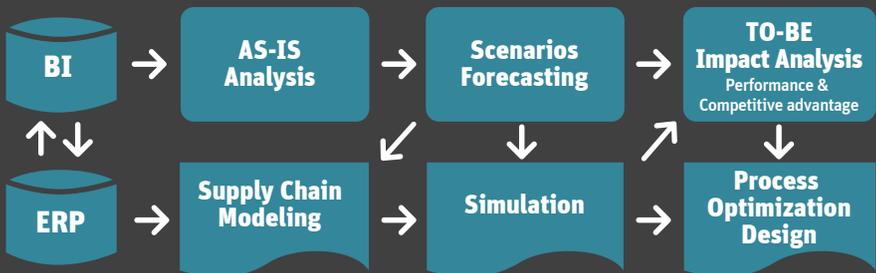
Sales & Marketing

In a complex, challenging context for Commercial Departments, Engineering offers:

- advanced multi-device CRM solutions for ISF,
- advanced business data analysis methods with predictive analytics techniques
- interaction capacities with key stakeholders (doctors, health authorities, hospitals)
- support for realization and management of marketing plans and materials and their monitoring (Close Loop Marketing)
- Identification and monitoring of key web sources for the sector (social media, forums, blogs), in addition to influencers (social listening, sentiment analysis and brand reputation).

Supply Chain Management

The pharmaceutical sector is continuously searching for effective Supply Chain management that must translate into the best service and reduced operational costs, in line with performance in other industrial sectors. As a multi-sector System Integrator, Engineering provides pharmaceutical sector companies with the competences and technologies for supply chain management that have already been consolidated in other industrial sectors and customized for the pharmaceutical sector's specific needs.



In addition to the traditional solutions based on ERP, CRM and similar applications, Engineering can integrate other distinctive competences into the offer, regarding:

simulation and modeling of Supply Chain in order to:

- plan and/or optimize the logistics chain
- simulate performance and SLAs in critical scenarios
- plan improvement interventions in logistics or operational processes.

process analysis and re-design for improvement of performance and increase in competitive advantage:

- integration of various departments and external partners of S&OP processes in real time
- automation and digitalization of physical
- tracking flows of materials and their characteristics along the entire supply chain.

Engineering has significant competence in material management and handling systems, from the study and implementation to subsequent management, ranging from automatic warehouses to AGV and BIN systems, “Track and Trace” solutions on client specification, guaranteeing full integration with ERP systems.

Regulatory & Compliance

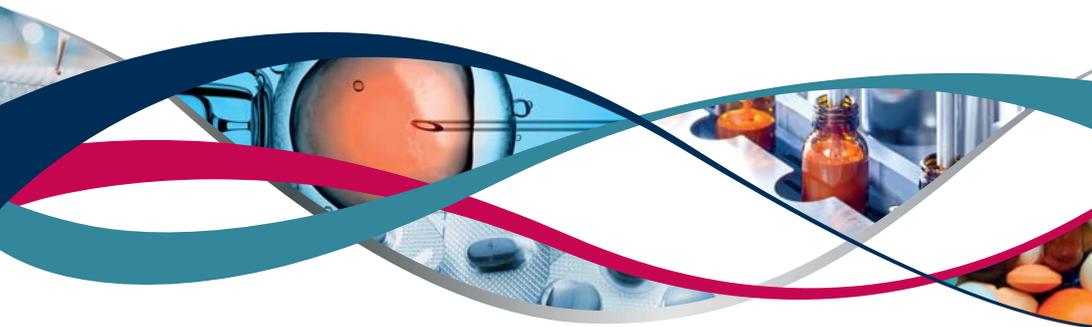
The possibility of integrating different platforms allows Engineering to create «drug traceability» solutions, from the preliminary analysis of regulatory requisites to their realization in compliance with regulatory requisites and client needs, including exchanging data with the Ministry's databank.

Outsourcing & Managed Operations

Engineering also offers the following services:

- Outsourcing at own ISO/OSI 27001-certified Data Centers, in observance of Annex 11 guidelines
- Infrastructural outsourcing in complex environments: management of client's infrastructures in house or at the client's premises
- Application Management (ITIL v3) for main application platforms and solutions.





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