

ELOMATIC CONSULTING & ENGINEERING



**Food, Biomass and
Chemicals Processing**



Food, Biomass and Chemicals Processing

Elomatic has extensive knowledge and experience of food, chemicals and biomass processing. Our projects include production plant expansions, modernisations, maintenance services and green-field projects supported by consultation. Our knowledge and experience also cover production logistics from inbound to outbound logistics with automatic data collection, management and reporting and applications like traceability and quality control.

Responsibility for the environment and sustainability together with safety are always top priorities for our project teams. Risk evaluations, production efficiency studies, production simulations and profound knowledge of practices and regulations related to e.g. hygiene manufacturing (GMP) and ATEX environments are utilised in an ever-increasing number of projects.

Deep domain knowledge

- Food products: milk, beverages, meat, vegetable oil, grain and starch products and convenience foods
- Chemical and agrochemical products & processing: heavy chemicals, petrochemicals and fine chemicals, adhesives, polymers and active ingredients, construction chemicals and products



Expertise areas

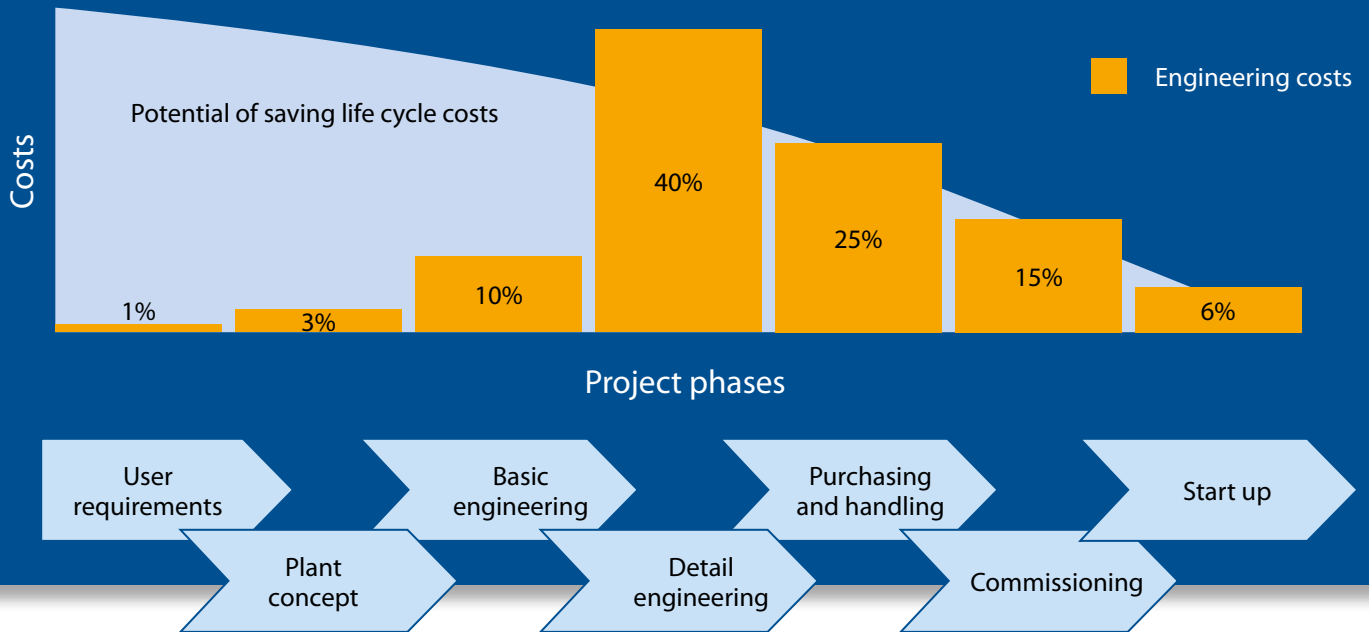
- Food processing & technology: washing, grading, freezing, dairy technology (pasteurisation, separation, fermentation), heat treatment, thermal processing, UHT, water treatment, distilling, drying, extrusion, refining & hydrogenation, and packaging.
- Flammable and hazardous chemicals, ATEX, pressure vessel design, boiler design, high pressure piping

In addition

- Biomass processing: grain, lignocellulose and waste processing into chemicals, biochemicals or liquid and gaseous fuels
- HVAC design services for industrial and public buildings
- EPCM integrated service concept including project management, engineering, procurement and construction site supervision services
- Siemens automation systems as turnkey deliveries

Project Success for Your Plant Engineering

Project management / Technical controlling

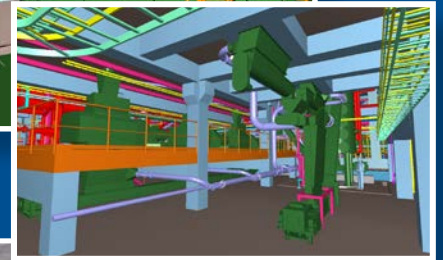
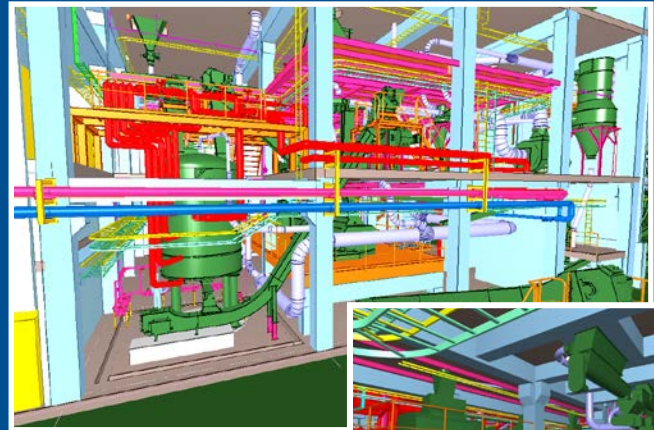


Flexible service delivery

Our customers include both big international manufacturing companies and smaller local companies. Our services can be flexibly structured and combined according to the needs of each project. In some projects the best option may be a one-stop full EPCM service package covering all areas of project management, engineering in multiple disciplines, procurement, construction management and commissioning, while another project may require only engineering and consulting in a niche area. In the area of electrification, automation and IT systems we also operate as a turnkey supplier.

Investment planning step-by-step

CAPEX investment planning starts with a feasibility study in cooperation with our customer in the so-called pre-engineering phase. A crucial part of pre-engineering consists of setting up user requirements for effective, safe and hygienic manufacturing operations based on preliminary risks identified in processing, the targeted products and their intended use.



During the next design phases (basic & detail) and construction, designers ensure that both equipment and the new manufacturing unit (or expansion of it) are further designed, fabricated and finally constructed and installed according to safe and hygienic design parameters. This entails cooperation between all design disciplines (process, building, EIA, HVAC, steel structures and plant), equipment and system suppliers.

During the construction and installation phase, designers can act as site supervisors coordinating material and equipment deliveries to the site, performing delivery inspections, and supervising installations. In this supervision work, HSE and GMP coordination plays a major role in ensuring safety during construction and that hygienic requirements are met.

Our food factory designers and construction experts rely on their experience of industry best practises and applicable safety and hygienic design guidelines in addition to local legislation and national building standards.



Selected Food References

Valio Oy, Seinäjoki

Unique heat pump solution including heat and cold recovery for dairy products plant

- Energy audit plan and subsidy application for energy consulting
- Industrial energy audit
- Conceptual design (project plan, cost estimates, payback calculations and investment subsidy application)
- Detailed design (process design, plant design, 3D design, technical analysis)
- Project animation for use in Valio presentations

Raisio Group / Benecol

A new, complete production facility for cholesterol lowering food ingredient

- All utilities produced in-house
- EPCM services
- 3,160 m² production area
- Atex classified areas

- Conceptual, basic and detail design, project coordination, specifications, construction supervision, commissioning and automation system supplies
- Process based on Raisio's patented know-how and technology

Bioferme Ltd.

Non-dairy oat milk based yoghurt production/packaging line expansion

- Engineering services with process, plant, piping and construction design. Procurement services, GMP and productivity planning expertise also included.

CP Kelco Ltd

Process and utility systems for CMC chemicals production plant

- Engineering services for production plant expansion and revamps supported by GMP consultation



Contact



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- Basic and detail design, project engineering services, plant, electrification, instrumentation and automation design. Site services with construction supervision, commissioning and start-up.

HKScan Finland Oy

Modernisation and capacity increase planning of the current production line to support the existing line transfer from another production unit

- Engineering services for modernisation supported by GMP and productivity planning expertise
- EPCM services with process, plant and piping, electrification, HVAC and construction design, procurement and cost estimation services

Moilas Leipomo Ltd. and Moilas GF Ltd.

Packaging area revamp project

- An equipment layout review and further improvement recommendations for usability, hygiene and production efficiency in a roll manufacturing packaging line

- Conceptual design and product-specific optimisation for fixed cleaning and equipment layout resulting in improved productivity

Product safety consultation

- Product safety consultation and risk analysis update for all product categories with FMEA method including e.g., regulative requirements and utility risk identification

Liquid milk dispensing and heating solution

- Conceptual design of a new liquid UHT milk container dispensing system with CIP cleaning system

Classified Customer

Process scale up design for new nano-scale (food & pharma grade) product intended for food additive use

- Conceptual process, plant and EIA design and CAPEX/OPEX cost estimation services supported by consultation related to EU regulative product and quality requirements and manufacturing GMP requirements



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Elomatic is a leading European consulting and engineering company. Our close to 900 professionals work in machinery and equipment manufacturing, pharmaceutical, process, energy, offshore and marine industry projects.

We offer consulting, engineering, product development and project management services as well as products and turnkey solutions to industrial and public sector customers.

The cornerstones of our success are customers that are leaders in their respective fields and professional, customer-oriented and motivated personnel.

- Technical Consulting
- Engineering
- Project Management
- Product and Service Development
- Products & Turnkey Solutions
- Software Development
- Design Software Solutions

Key customer segments

- Pharmaceuticals
- Process Industries
- Energy
- Foodstuffs industry
- Starch and Potato Processing
- Machinery and Equipment Manufacturing
- Marine & Offshore
- Oil & Gas

Contact information

We operate globally and have clients in over 80 countries. Our offices are located in Finland, China, India, Italy, the Netherlands, Poland, Serbia, Russia and the UAE.

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