Product and Service Development
Elomatic offers services for product and service development from customer ideas all the way to production and commercialisation. We create solutions for different industries, consumer products and digital service applications.

The experts providing the solutions are mechanical engineers, plastic and device designers, production experts, innovation experts, concept designers, strategic designers, industrial designers, graphic designers, programmers, animators, application developers and usability experts.

Key to our approach is teamwork and our experts’ commitment to solve our customers’ diverse problems and fulfil their expectations.

Tailor-made service delivery

Elomatic’s product and service development operations are supported by strategic services, innovation services, research services and productisation services.

Customer-driven solutions

The starting point for all our product and service development solutions is a profound understanding of our customers’ needs, requirements and related operational challenges.

In addition we take care to understand how our customers’ products and services add value for the end customers and focus our energies on providing solutions that maximise this added value throughout the entire product and service value network.
Product and service design

We strive to be involved from the earliest idea generation phases all the way up to commercialisation. A key strength is the ability of our team comprehensively cover different development needs.

Product design expertise is the cornerstone of our product and service development offering. We are fully familiar with the technical design challenges faced in industrial plants, machinery and electronic consumer products.

Key product design know-how areas
- Advanced mechanical design
- Electronic device design
- Machine design
- Metal design
- Sheet metal design
- Tool design
- Design project management

We often approach products from a service provider’s perspective. We process products into services when they require management, guidance, maintenance and marketing. Our services are used optimally when we can provide fully comprehensive solutions to all the challenges associated with products and their related services.

The design of concrete products and services is complemented by our orientation to the front end of development processes, where we are involved in research, innovation and conceptualisation of the key integral features that ensure success on the market.

We understand our customers and the entire product and service value network. We deliver diverse solutions for business challenges.
Integrated approach

We focus on integrated development activities, i.e. the concurrent and controlled completion of different project phases and know-how areas. The implementation of an integrated development model is a key factor in ensuring that an idea can be processed efficiently into a realised product or service while risks and costs are minimised.

Integrated development projects involve experts from diverse know-how fields including product development, strategic design, innovation, research, conceptualisation, marketing, service design, production engineering all the way up to product and service commercialisation.

Innovation services

We create innovations and manage innovation projects systematically with effective tools. We identify possibilities and new ideas and effectively support our customers’ product and service development projects and business strategy development.

By focusing our efforts in the front end of innovation projects we ensure delivery of practical improvements.

Strategic services

We look at business operations as large and comprehensive entities. Our strategic design services generally focus on providing solutions for critical operational success factors so that they can be implemented in a controlled, long-term and efficient manner. Our strategic services are often aimed at products, technologies, innovations and design assignments.

Strategic questions need addressing when searching for the correct path in the early phases of development and innovation processes. Via our strategic and innovation services we can also create prerequisites for identifying new products, services and markets.

Research services

Our research services support product and service development processes and related services. They are divided into two main branches: user-centred research and technology research.

User-centred research provides an understanding of the end user’s world and his/her identified and unconscious needs. This information about good usability, ergonomics and design gained from user experience can be transferred to the product or service.
Technology research is conducted to improve our understanding and increase know-how of phenomena, which enables us to analyse and optimise the functionality and performance of products and production processes.

Productisation services

If you have an idea, we can help make it a reality! We offer services to transform ideas into concrete products or services. We start from initial surveys that define the targets and operational environment and reflect the ideas and goals.

Our experts are ready to partner our customers in resolving the questions above. We have the skills and know-how required to assist you in productising your ideas, products and services.

Diverse expertise providing solutions for individual needs

Supporting services

- User Experience, p. 118
- Innovation Services, p. 120
- Industrial Design, p. 122
- Visualisation, p. 124
- Virtual Prototyping, p. 126
- Laser Scanning, p. 128
Elomatic’s experts apply knowledge and information of human factors to optimise design solutions. They are able to discover and apply information about human behaviour, abilities, limitations and other characteristics that result in optimal design that is productive, safe, comfortable and effective to use and create a positive user experience.

**Usability**

In development work related usability, we match product features to the product users’ information management capabilities – functioning of the senses, observation capabilities, action-related thought processes and information management mechanisms. This results in products that are easier to use. The user can detect and understand the information and act correctly.

**Ergonomics**

To improve ergonomics we adjust the product or environment to match the user’s physical features such as anthropometric dimensions and their variations, permitted loads, performance levels and functional limitations. The correct dimensioning and adequate work task design result in optimal work postures and power generation, good visibility and effective operation.

**Accessibility**

For targets to be directed at all users – including those with disabilities – accessibility must be taken into consideration. Good knowledge of human behaviour, various standards, laws and regulations is essential. Adequate accessibility design creates an operational environment that allows different users to achieve their goals regardless what limitations they may have in their abilities or senses.
Application areas
- Public spaces and meeting rooms
- Plant and factory spaces, production lines
- Control rooms
- Work spaces and workstations
- Vehicles
- Cabins
- Machines, devices and tools
- Mobile devices
- Software and web applications

Our services
Evaluation and development of operational environments and products
- Expert evaluations and usability testing
- Modifications, new designs, product development
- User surveys and interviews
- Observation studies and work studies
- Eye-tracking studies
- Light, noise, and vibration measurements etc.
- Fit mapping
- 3D ergonomics simulations
- Testing and 3D audits in a virtual environment
- Accessibility surveys

Training
Training for designers and product developers offers information about users and user-centred product development including design instructions. The topics are usability, ergonomics and accessibility.

Development consulting
- Need identification and project planning

Benefits
- Increased safety, user productivity and operational efficiency
- Reduced physical and mental stresses/loads
- Improved user experience and system performance
- Reduced need for training and support
- More efficient and desirable development process
- User feedback at sufficiently early phase
- Design solutions based on correct information
- Eases comparison of development alternatives and solution selection
- Reduction in extra costs and delays
- Optimal and productive means involve real users in design and development projects
- Sustainable development and reduction in product liability risks

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Elomatic provides innovation services to its customers that assist them in implementing innovation projects with the help of systematic innovation processes and effective tools. Innovation projects generally include four phases: the front end of innovation (FEI), research and development, production development and commercialisation. Efficient management of FEI is crucial in achieving successful innovation projects.

Our goal is to create the best possible basis for product development, which is the following step in the innovation process.

Systematic innovation process

A systematic innovation process ensures that all possibilities are identified, all perspectives are taken into consideration and that all ideas are handled appropriately.

Successful organisations invest more resources into the front end of innovation processes, gather more ideas outside of the organisation and have created effective operational models to cope with the glut of ideas that are generated.
**Services**

We assist our customers with successful implementation at the front end of innovation projects in the following ways:

- Innovation projects
- Development of operational models for FEI (systematic innovation process)
- Idea generation services
- Idea processing and concept development
- Innovation partnering
- Securing intellectual property rights
- Innovation skills
- Innovation training

**Idea generation**

The core of any systematic innovation process is idea generation, which is a continuous and systematic process that produces and processes new ideas. The use of a systematic idea generation process and the correct tools results in ideas that are most likely to lead to innovation.

We assist our customers in idea generation in the following ways:

- Problem definition
- Solving technical problems
- Idea generation sessions
- Idea generation services
- Survey of existing solutions
- Idea evaluation
- Idea generation training

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**The beginning of an innovation process**

- Definition of goals in idea generation process
- Idea generation process
- Creativity
- FEI (Front End of Innovation)
- Product development project (Stage Gate)

**New product or service**
Industrial Design

Our industrial designers have a profound understanding of our customers’ needs and operations and are able to provide in-depth answers to their strategic and operative needs. We create solutions for different industries, consumer products and electronic service applications.

Elomatic’s industrial design experts are actively involved in our product and service development projects to ensure that the developed products and services are success stories for our customers.

**Practical and strategic industrial design**

Practical industrial design offers positive user experiences, pleasing and attractive aesthetics, innovative solutions, cost-effectiveness and visionary design style. Strategic industrial design focuses on long-term business development and offers solutions for design strategies, corporate image and design management.

Industrial design’s strengths are based on innovative cooperation with multi-domain experts. This is especially important in the creative phases, and at the beginning of product or service development.

**Industrial design solutions**

- User and customer research and customer insight
- Product and service target group segmentation
- Industrial design innovations and brainstorming
- Industrial design conceptualisation
- Industrial product design
- Service design
- Graphic design
- User interface design
- Visualisation and animation
- Model building and prototypes
- Product, service and industrial design strategies
- Corporate image design
- Product and service appearance guides
- Industrial design and marketing cooperation
- Industrial design management and processes
- Design analysis and support
Benefits

- Positive customer and user experience
  - Aesthetically and functionally desirable products and services
  - Good usability
  - Customer-oriented solutions
  - Increased desirability of products or services
- Competitive edge with new innovative solutions
  - New product, service or business ideas
- Improved corporate and product brand image
  - Increased product or service value in the market
  - Sustainable and environmentally friendly products and services
- Industrial design strategies and management help to achieve long-term business goals
- Lower manufacturing costs and improved cost-effectiveness

References

Abloy
- Company industrial design strategy

Norpe
- Cooler cabinet collection innovation, conceptualisation, design and visualisation

IVT International
- Mantis loader innovation, conceptualisation visualisation and animation
  Watch the visualisation on our Elomatic YouTube channel
  www.youtube.com/watch?v=QnfBONmuJE0c

Cargotec
- Marketing application conceptualisation, user interface design, service design, visualisation, animation, application development and maintenance

Fiskars
- Brainstorming, ideas and innovations

Iqua
- Marketing application and material visualisation and animation
Do you want to present your products and services in an impressive and interesting way that sticks in your customers’ minds? We produce eye-catching 3D visualisations in the form of animations, still pictures and interactive user interfaces.

We brainstorm the best implementation methods, themes and styles with you for different use situations: exhibitions, training, web pages, product or service launches, presentations etc.

We charge on a fixed-price basis. Based on your needs and existing materials we can quickly draw up a proposal and send you an offer. Contact us today for a fast assessment.

3D visualisation supports product development

In addition to marketing, 3D visualisation can be used to gain clear and early impressions of design objects in preliminary process and product design without the use of costly prototypes.

Visualisation use areas

- Concept presentations
- Product presentations
- Investment project presentations
- Real estate concepts
- Interior design presentations
- Software applications
- User instructions and training material animations
- Company and organisation presentations
Imagination the only limitation

3D visualisation can be used in all situations where illustrations of complex products, structures and operations are required. Imagination is the only limit in the design and implementation of visualisations. With our experienced team and impressive calculation farm of rendering stations, we are able to complete the largest productions in a short period of time.

Services

- Animations and still images
- Interactive interfaces for any other data
- Functional simulations
- Visibility and ergonomic simulations

3D visualisation aids mechanical design

Visualisations and their initial information that are created in the preliminary design phase can be used in specific mechanical design as the visualised objects are real and dimensionally accurate. With visualisation material we can simulate usability such as ergonomics or visibility.

Benefits

- High quality marketing materials sell better
- Enhanced credibility for products and company
- Decision making is easier with video simulation, which leads to faster design processes
- Design errors can be eliminated with simulations during the early design stages
- In many cases simulation can fully replace expensive prototypes or test products
- Representation of complex systems as an animation makes communication easier and reduces the risk of misunderstandings

Watch Elomatic visualisations on YouTube
http://www.youtube.com/user/ElomaticOY?feature=watch
Virtual Prototyping

Do you want to simulate the functionality of your design or prototype already during the planning phase? Do you want present your product using a new method that catches the eye? We offer innovative virtual solutions for different situations.

Virtual prototyping is a real-time method that replaces a physical environment or target with a 3D virtual environment to create realistic interactions between the user and the virtual model. We familiarise ourselves with your needs and existing materials and then quickly send you an offer with a suggested solution.

Application areas

Real-time presentation applications allow you to present your product in an environment where you can act and move freely. The applications can be equipped with functionalities, trajectories, and changing environments, all in a stylish photorealistic format. Give your customers a realistic experience of your product.

YouTube: Interactive Veneer Patching Line – Elomatic

In augmented reality virtual components are brought into real locations with the help of a display device. The display device can be a phone, tablet, separate display headset or glasses. There are diverse applications areas in sales, marketing and maintenance. Create that WOW effect!

YouTube: Augmented Reality – Elomatic

We deliver complete simulators from educational simulators to entertainment simulators. The delivery includes the application implementation, structural design and procurement, installation, training, user instructions and safety analysis.

YouTube: Ski Jumping Simulator – Elomatic

The design of modular targets can also be handled with the help of virtual design applications. Come up with a design from catalogue components and test it...
in 3D. Why design everything yourself, let your customer design it for you.

Simulation applications can be used to verify the functionality of designs already during the development phase. Simulation can be used to analyse e.g. the following: ergonomics, usability, maintainability, and field of view.

Gaming applications provide new opportunities in sales and training. A tablet game at an exhibition is a good way to draw crowds to your stand and allows you to gather contact information easily.

Our Virtual Reality Studio can be used to virtually test and use your products. Movements and actions are created with your own body movements. You are thus able to make decisions based on the correct information when different user groups have done the testing and avoid the costly building of prototypes.

The Oculus Rift display headset is a high quality accessory, which we can procure for you if needed. If the application needs to be shared with several end users the more economical Cardboard smartphone glasses can be used.

Selected references

- Central Finland Health Care District
- City of Lahti
- Jyväskylän Voima Oy
- Kotkan Energia Oy
- Kuusakoski Oy
- Raute Oy
- Sulzer Pumps Finland Oy
- Tana Oy
- Valmet Technologies Oy

Watch our videos on our Elomatic YouTube channel: https://www.youtube.com/user/ElomaticOY
Laser Scanning

Elomatic has over ten years’ experience in laser scanning and we have several different modern laser scanners from which we choose the best suited device for each customer project. We utilise the produced point clouds to create 3D models of the objects/facilities or to produce cross section curves, define volumes and conduct shape surveys.

Rebuild objects

In plant renovations we can 3D model all existing machines, devices and constructions of the plant. The accurate 3D information facilitates and speeds up detailed design remarkably and reduces design errors. With the help of laser scanning total design costs are reduced while installation periods and shutdowns are shortened.

Small objects

Laser scanning also makes it also easy to study small entities. With shape analysis it is possible to study the shapes of objects and possible factory defects or damage thus become visible. Scanning creates 3D models for products which do not have drawings. The models are then used for example to facilitate strength calculations, space utilisation design or manufacturing.

Other objects

Laser scanning is also utilised in the fields of mine surveying, architecture, accident investigation, conservation of historically valuable objects and visualisations.
Application areas

- Process measuring
- Vessels
- Single components
- Terrain measurements
- Tunnels, mining
- Buildings
- Architecture

Benefits

- Safe measuring procedure
- Design is faster due to the accurate initial data
- Design errors are reduced
- Engineering risks are reduced
- New components can be delivered as prefabricated units
- Eases creation of demolition and installation plans
- Installation and shutdown times are shortened
- Amount of site visits are decreased
- Total costs are lower

ScanBrowser – laser scanning portal

Elomatic ScanBrowser is an internet-based solution for laser scanned data. It is an easy-to-use and powerful tool for project engineers, supervisors and end customers. It allows all project partners to work with the same project data simultaneously.

The ScanBrowser solution makes it easier to work with the laser scanned data. It includes measuring functions, commenting functions and provides added value to telephone conversations.

The solution is secure and available to selected project personnel all over the world via the Internet.

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Elomatic is a leading European consulting and engineering company. Our 750 professionals work in machinery and equipment manufacturing, 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 companies.

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**

- Biotech and Pharmaceuticals
- Process Industries
- Energy
- 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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