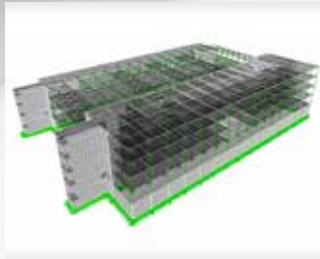




SMART EVOLUTION



CARE.
GROW.
CREATE.



CONCEPT DESIGN SERVICES
FOR CREATING PRECAST PROJECTS



SUCCESS BEGINS WITH THE RIGHT CONCEPT

Are you considering precast as an option for a more efficient building project but are not quite sure how to proceed? Do you feel you need more information about the system, its costs and the ways the system can be applied?

If yes, Elematic engineering services can support in navigating every step of the planning process and help you choose the most successful precast solutions. As a global player with roots deep in the Nordic countries, where precast concrete has been used for decades in housing, offices, industrial buildings, hospitals etc., we have extensive experience in the utilization of precast. Furthermore, as a machinery and plant supplier, we also have an abundance of unique knowledge in precast production that other design offices simply cannot have.

This gives you comprehensive precast expertise for your project, from the initial stages of concept design, where the best ways of applying precast are defined, through precast factory design and future requirements, to structural engineering for precast buildings and product design.

The end result of concept design is a comprehensive view of the suitability of precast to your project - from both the technical and cost perspective - presented in a single report.

Professional concept design pays for itself with efficient project results.

CONCEPT DESIGN SERVICE

Concept design is the first step to take when choosing precast as a building method.

When your project is planned as a precast project from an early stage, you can fully reap the benefits of precast construction.

MARKET STUDY

In the market study phase, we'll analyze your project based on your information and evaluate the suitability of precast to your projects.

FROM TRADITIONAL TO PRECAST

Feasibility studies are important when moving from traditional construction methods to the use of precast. Our experts will carefully study the local conditions - such as seismic activity - and advise you on the optimal use of precast and the best ways of handling the entire process.

They will thoroughly evaluate the precast's structural framing and outline, the type of precast elements required and typical connection details. You will also be provided with the estimated consumption of materials based on project drawings, a plan for process execution and you a close-to-actual cost structure.

OPTIMAL PRODUCTION METHOD

A highly experienced team of engineers will design an optimal precast production method and provide consultation during preliminary production planning.

The choice of production method takes into account the conditions of the site: are you building on a greenfield site, or is there an existing factory, what is the layout of the factory and the stockyard, and how is waste management organized. The availability of labor and your choice of automation level also affect plant design.

DIFFERENT PRECAST ELEMENTS

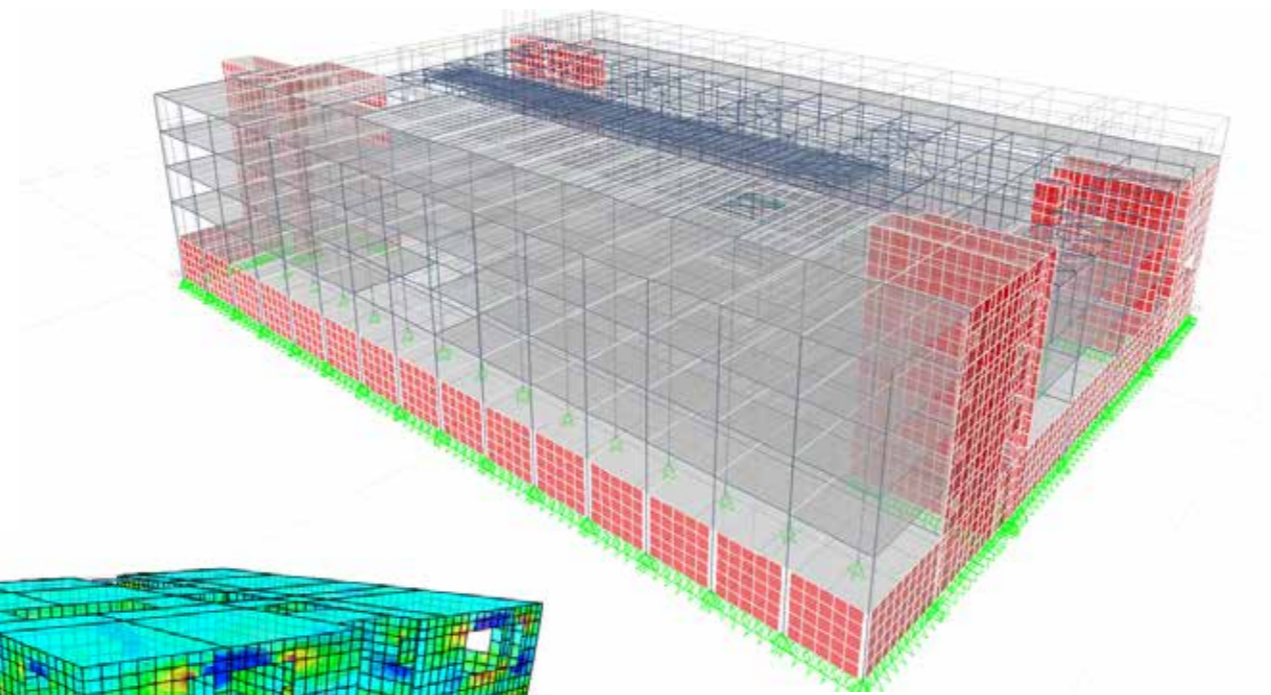
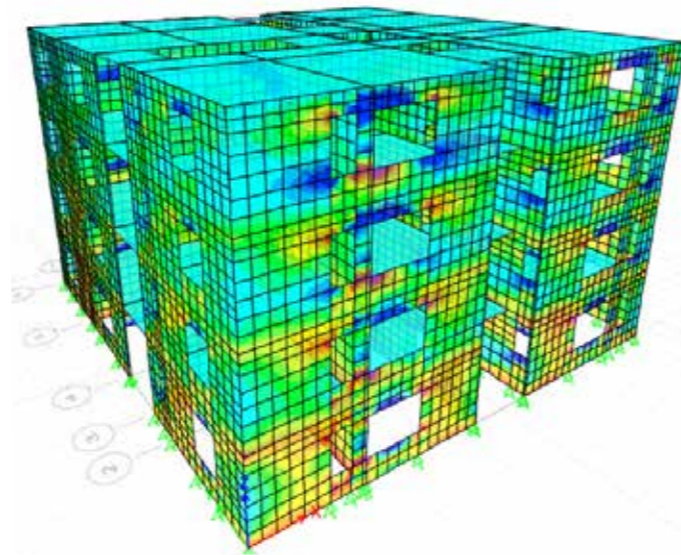


- 1 Facades
- 2 Floors
- 3 Partition walls
- 4 Beams, columns, and solid floors
- 5 Stairs and shafts
- 6 Non-load bearing partition walls

HOW WILL WE PROCEED?

Concept design will start with a consultation where we go through your current building projects and any foreseeable future projects that will be developed with precast building technology. Our experts will ask you to supply the project's initial architectural drawings with the number of buildings and the planned number of storeys, construction project schedules and land availability – this information is essential in finding the best building solutions and precast products for the project.

As a result of the concept design process, you will have a comprehensive view of the factors affecting the feasibility of precast in your project, a report that covers the precast structural system and the costs, and a factory layout and logistics plan to help you make investment decisions and complete your factory construction design.



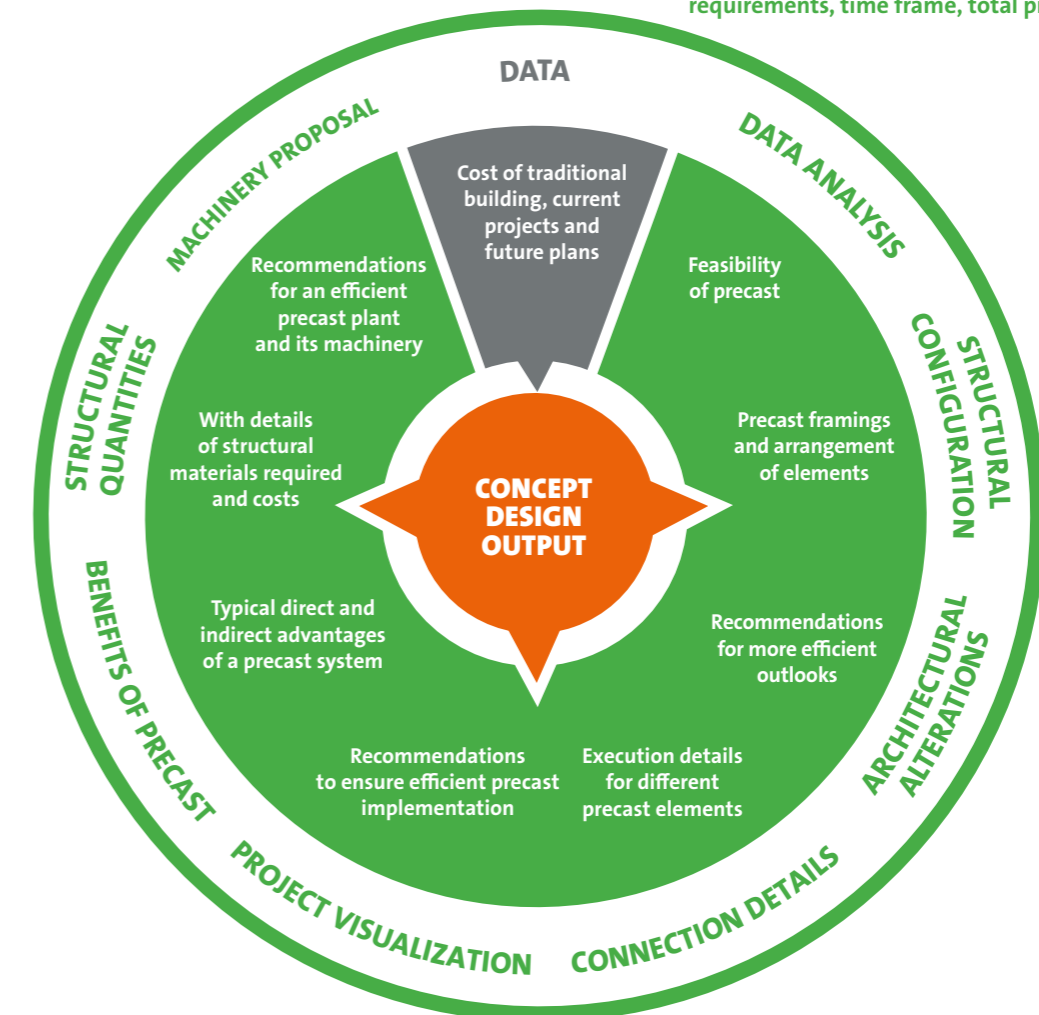
CONCEPT DESIGN OUTPUT

concept design services produce a variety of documentation as needed for the task at hand. These include:

- Recommended alterations to architectural layouts for more effective precast solutions
- A structural system using precast technology
- Requirement specifications for precast elements
- Quantities of structural materials, such as rebar, concrete, strands, connections etc.
- Typical connection/joint details
- A visualisation of the project's execution through 3D modelling and video clips.
- A report on overall project feasibility, with considerations for land, shed area, local machinery requirements, time frame, total project costs etc.

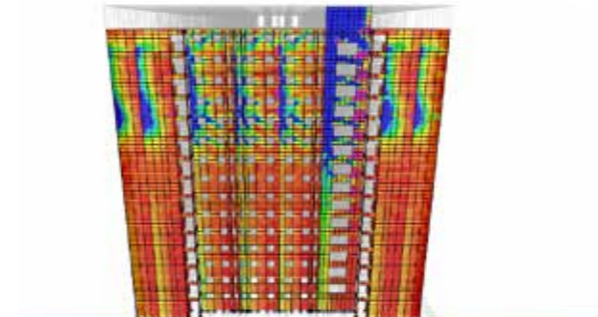
“Every market has its own building traditions, conditions, and challenges. Knowledge plays an essential part in implementing precast with success. We have a global team with extensive knowledge of the different aspects of precast production and building design.”

Prakash Shah,
Head of Technical support team, Elematic





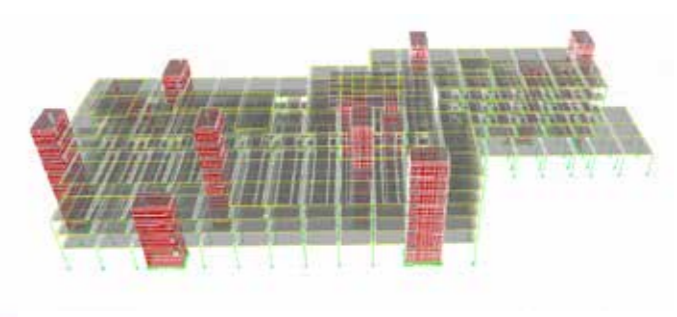
REFERENCES



AFFORDABLE HOUSING

Residential buildings with a wall-frame structure of precast walls and prestressed slabs.

The study included a structural model of precast framing, an FEM analysis model of the precast structural system and an analysis of various conditions for structural design.



HOSPITAL BUILDING

A 6-storey building with general column grids of 8.5 m in moderate seismic conditions of 1.60 m/s², importance factor 1.50. Graphic concrete facade structure. Concept design to form the framings and to evaluate the costs of the structure and the precast plant set-up.

OUR EXPERTS



SANJEEV PILLAI

- Project Manager, Engineering
- Bachelor of Science in Civil Engineering
- 18 years of project experience



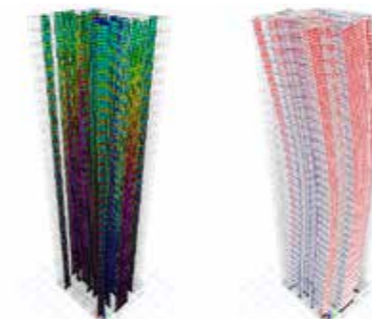
CHANDRAKANT TILEKAR

- Project Manager, Design
- Diploma in Civil Engineering
- 15 years of project experience

The members of our highly motivated and competent team of professionals hold academic degrees in civil engineering or technical design.

The team has a solid track record of concept design and structure design projects on three continents, including special designs for seismic areas.

Their 90 years of combined experience is at your service.



HIGH-RISE RESIDENTIAL BUILDING

36-storey high-rise residential building. Precast column-beam frame of hollow-core slabs with structural topping, CIS shear walls and precast facades.

Recommended alterations to architectural layouts for efficient precast usage, precast structural framing, FEM analysis model and building behaviour analysis.



WAREHOUSE

Concept design services for a warehouse structure. The building was completed with a precast column-beam moment frame with TT-slabs.

CONCEPT DESIGN SERVICES FOR CREATING PRECAST PROJECTS

Elematic provides precast concrete technology, production lines, equipment and related services that help customers succeed. We are the global technology and market leader in precast concrete technology for residential and non-residential buildings.

Our precast production technology is highly respected worldwide for its high quality, excellent productivity and efficiency, and advanced solutions. We believe in continuous improvement of our operations and offering to develop our customers' business in a smart way. That's why we are trusted by 40% of the world's precasters.

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SMART EVOLUTION

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