

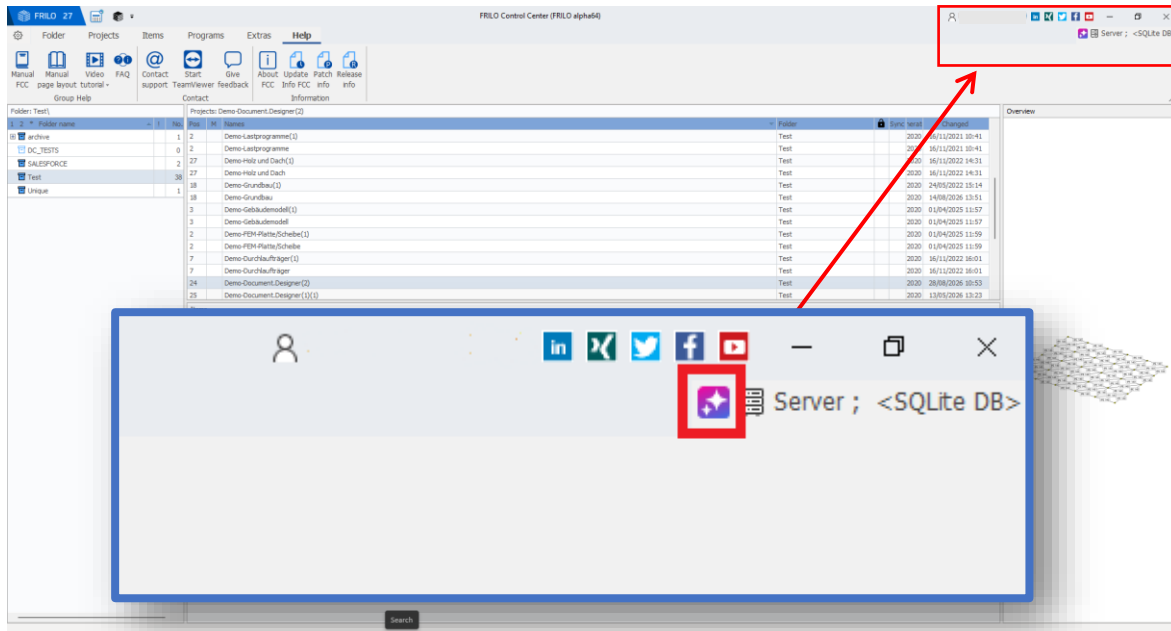
FRILO AI Center

Contents

Getting started	2
AI Coach	3
Manuals and Handbooks	3
Videos	3
Anonymised Customer Support tickets	3
AI Structural Analyst	5
Key Capabilities	5
How to Use the AI Structure Analyzer	5
Extensible Toolset & Continuous Improvements	6
Workflows & Usage Guidelines	6
Settings	7
Billing	9

Getting started

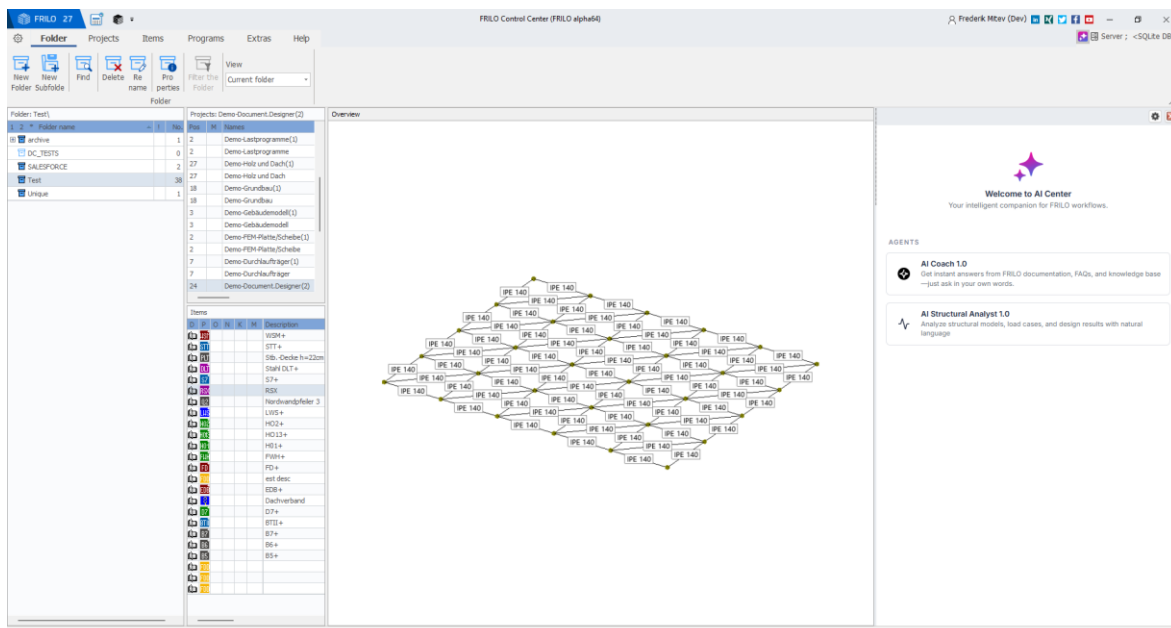
The FRILO AI Center (currently in Beta development phase) can be opened in FCC, FDD or any other FRILO+ application by simply clicking the AI icon as indicated in the screenshot below:



A side panel opens which shows multiple options of helpful agents, in particular:

- AI Coach
- AI Structural Analyst

These implementations help the user answer questions about the FRILO products, your models, and automate the design workflow which can further be customized. Each one is discussed in more detail in the later chapters.



AI Coach

The AI Coach is a AI Rag model embedded into the FRILO workspace. This means it is a Large language model (LLM) which has access to some additional sources of information saved on a server. The additional documentation provided to the model are:

- Manuals and Handbook for individual applications,
- Public videos from numerous platforms (Youtube, Vimeo, etc.),
- Webinars and internal training videos not publicly available,
- Anonymised customer support ticket solutions (updated daily),
- The official FRILO/ALLPLAN website housing the latest information.

A feature of the AI Coach is to give the list of relevant sources. As long as these sources are publicly available a link will be provided. For internal documentation, not readily available to the customers or general public, these sources will not include a link. All of the internal sources however are constantly updated and are credible sources of information.

Manuals and Handbooks

All of the manuals and handbooks are freely available to the general public, not just the FRILO customers. Searching through the extensive documentation can be substituted by prompting the AI Coach to find the relevant sections for retrieval, and their explanations.

Videos

All videos, public or internal, are currently digested by the model in terms of transcripts only. This means the model can understand the videos and can be helpful, but if you require a step by step tutorial on where to click within the software, it is best to click the link of the video and see the workflow yourself.

Anonymised Customer Support Tickets

In order to provide the best and most up to date information to the user, we update out AI Coach with the summaries of the tickets we resolve. This is if you have a question other users have already asked, and we have answered, you can get this answer straight away in the chat window, instead of contacting Customer support and waiting for a reply. It is highly encouraged to try and ask the AI Coach questions you think are bugs in the software or you are simply unsure about the inputs/outputs and you need extra clarification that is not provided in the Manuals and/or Handbooks.

How To Use It

The user can ask questions about the software whether they are general questions (licenses, installation, data server, etc.) or very specific questions about the individual applications (FCC, FDD, Frilo and DC applications). A couple example prompts are provided directly in the UI of the AI Coach, but more can be found below:

Example prompts

Beta remarks

AI Coach is a cloud based service which is being continuously updated. These updates do not rely on new installations, releases nor patches, hence the users might experience differences from day to day as we try to continuously improve the model.

AI Structural Analyst

The **AI Structural Analyst** is an integrated contextual assistant embedded directly within the FRILO structural analysis environment. It interacts natively with the structural model data, calculation engines, and analysis results to assist structural engineers during the modeling, analysis, and verification phases. It is active in all FRILO Plus applications, FCC and FDD, however, the tools available in the different applications differ in levels of implementation.

Structural modeling and verification require high precision, frequent data extraction, and iterative design checks. The AI Structure Analyzer streamlines this workflow by facilitating rapid model querying, automated result evaluation, code compliance reviews, and structural optimization support directly within the application.

Key Capabilities

- **Model & Geometry Intelligence**
 - Retrieves and inspects structural entities including nodes, 1D beam members, 2D panels, material properties, cross-sections, and boundary conditions.
 - Verifies geometry and boundary specifications across the entire structural model.
- **Results Intelligence**
 - Extracts accurate internal forces ($N, V_y, V_z, M_y, M_z, M_x$), support reactions, dynamic results, and nodal deformations (u_x, u_y, u_z).
 - Evaluates results across specific load cases, combinations, design envelopes, ULS/SLS states, and location points along members.
- **Model & Code Compliance Review**
 - Evaluates structural models against specified design standards (e.g., Eurocodes with national annexes).
 - Reports structured compliance findings detailing the applicable rule, evaluated model parameters, and verification outcome.
- **Engineering & Optimization Guidance**
 - Identifies structural mechanisms to achieve targeted performance goals (e.g., adjusting member depth to increase bending stiffness or optimize eigenfrequencies).
 - Assists in evaluating structural efficiency, material consumption, and cross-section utilization.
- **Workflow Support**
 - Provides step-by-step guidance using standard FRILO command structures, dialog names, and menu paths.

How to Use the AI Structure Analyzer

1. **Model Querying**
Ask direct questions regarding model components, cross-section assignments, or support conditions (e.g., *"What cross-section is assigned to Beam 1?"*).
2. **Result Extraction**
Request internal forces or deformations by specifying the target member, load case/combination, and result type (e.g., *"Show the maximum My moment for Beam 2 under Load Combination 1"*).
3. **Compliance & Code Checks**
Specify the design standard, edition, and relevant National Annex to perform compliance reviews against model inputs.
4. **Optimization Requests**
State a design objective (e.g., increasing member stiffness or reducing material volume) to receive structural modification strategies.

Example prompts

Extensible Toolset & Continuous Improvements

The AI Structure Analyzer operates via a dedicated framework of structural analysis tools integrated within FRILO.

- **Continuous Expansion:** The underlying toolset is continuously expanded and updated to support broader modeling features, additional cross-section types, extended design code checks, and deeper integration with FRILO modules.
- **Framework Interoperability:** Updates to the tool API automatically enhance the assistant's ability to manipulate complex structural elements, process larger models, and provide richer analytical feedback.

Workflows & Usage Guidelines

[Model Generation / Input] —► [Automated Editing] —► [Compute & Analysis] —► [Results Review & Optimization]

Recommended Workflow Steps

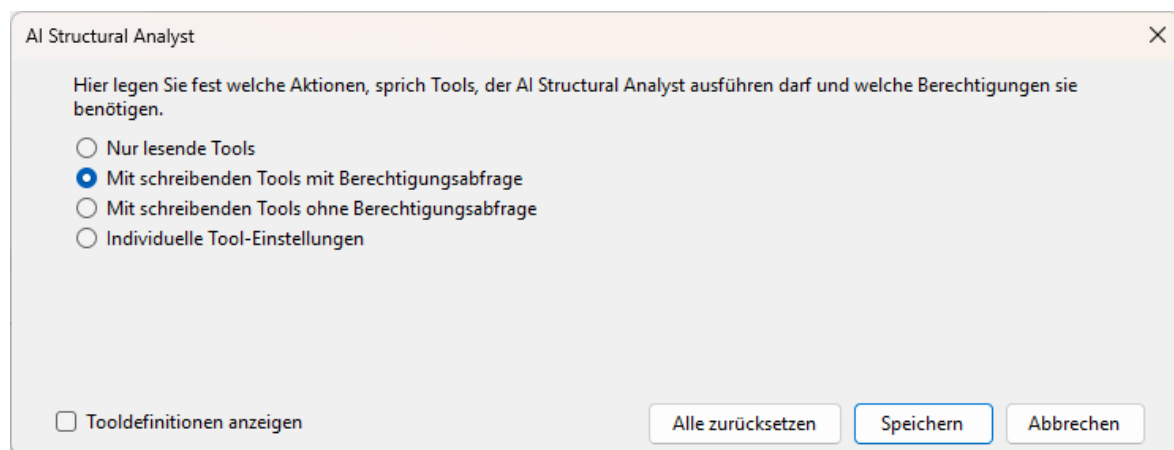
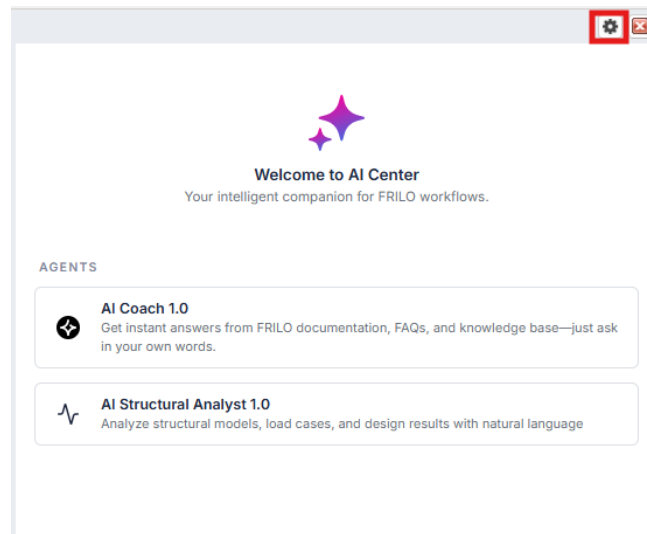
1. **Model Generation or Import**
 - Option A: Open an existing FRILO model.
 - Option B: Command the assistant to generate structural geometry, materials, sections, supports, and loads from scratch.
2. **Refinement & Batch Modification**
 - Request batch adjustments (e.g., "Change all column cross-sections to HEB 300" or "Increase point loads in Load Case 2 by 15%").
3. **Analysis & Calculation**
 - Trigger the calculation engine directly through the assistant to compute internal forces, deformations, and design values.
4. **Results Verification & Optimization**
 - Query maximum internal forces ($M_{y,max}$, $V_{z,max}$), verify deflections against SLS limits, and ask for structural modification recommendations.

Settings

The settings button opens up a customization menu of the AI center. It provides options to:

- Allow tool use without permission dialogue for all non-read-only tool calls
- select allowed tools within the AI Structural Analyst – the user is able to select which categories of tools can and cannot be used by the MCP server. In such a way you can tweak your agents to not perform certain actions like deletion, or changes to loads.

▪ To be continued



AI Structural Analyst

Hier legen Sie fest welche Aktionen, sprich Tools, der AI Structural Analyst ausführen darf und welche Berechtigungen sie benötigen.

☐ Nur lesende Tools

☒ Mit schreibenden Tools mit Berechtigungsabfrage

☐ Mit schreibenden Tools ohne Berechtigungsabfrage

☐ Individuelle Tool-Einstellungen

Aktuelle Anwendung

Anwendungsinformationen abrufen

Gibt Informationen zur aktuellen FRILO-Anwendung zurück.

☒ Aktiviert

☐ Berechtigung erforderlich

Anwendungen

Anwendungen auflisten

Listet verfügbare FRILO- und DC-Anwendungen auf.

☒ Aktiviert

☐ Berechtigung erforderlich

Anwendungsdetails abrufen

Ruft die Details einer Anwendung anhand ihres Namens ab.

☒ Aktiviert

☐ Berechtigung erforderlich

Programmgruppen auflisten

Listet sichtbare FRILO-Programmgruppen als Hierarchie auf.

☒ Aktiviert

☐ Berechtigung erforderlich

Auswahl in FCC

☒ Tooldefinitionen anzeigen

Alle zurücksetzen

Speichern

Abbrechen

Billing

The current billing situation is that the FRILO AI Coach and Structural Analyst are completely free. There are no restrictions on the tokens you can use, the number of prompts you can ask or the extensiveness of the changes you can make to your models and projects using the AI Center. We strongly encourage you to try the new tools out and test out their capabilities.

Soon these services will not be free, but each FRILO customer will receive a batch of monthly tokens for their spending on FRILO licenses. This means you will be able to continue to use the AI Center functionality within your company without any major changes.

In the ALLPLAN/FRILO shop you will be able to purchase additional tokens per month, if you find out you will need them. The prices of these tokens are available on the official ALLPLAN website.