

User guide

AI CAD Agent
(v2.0.0)

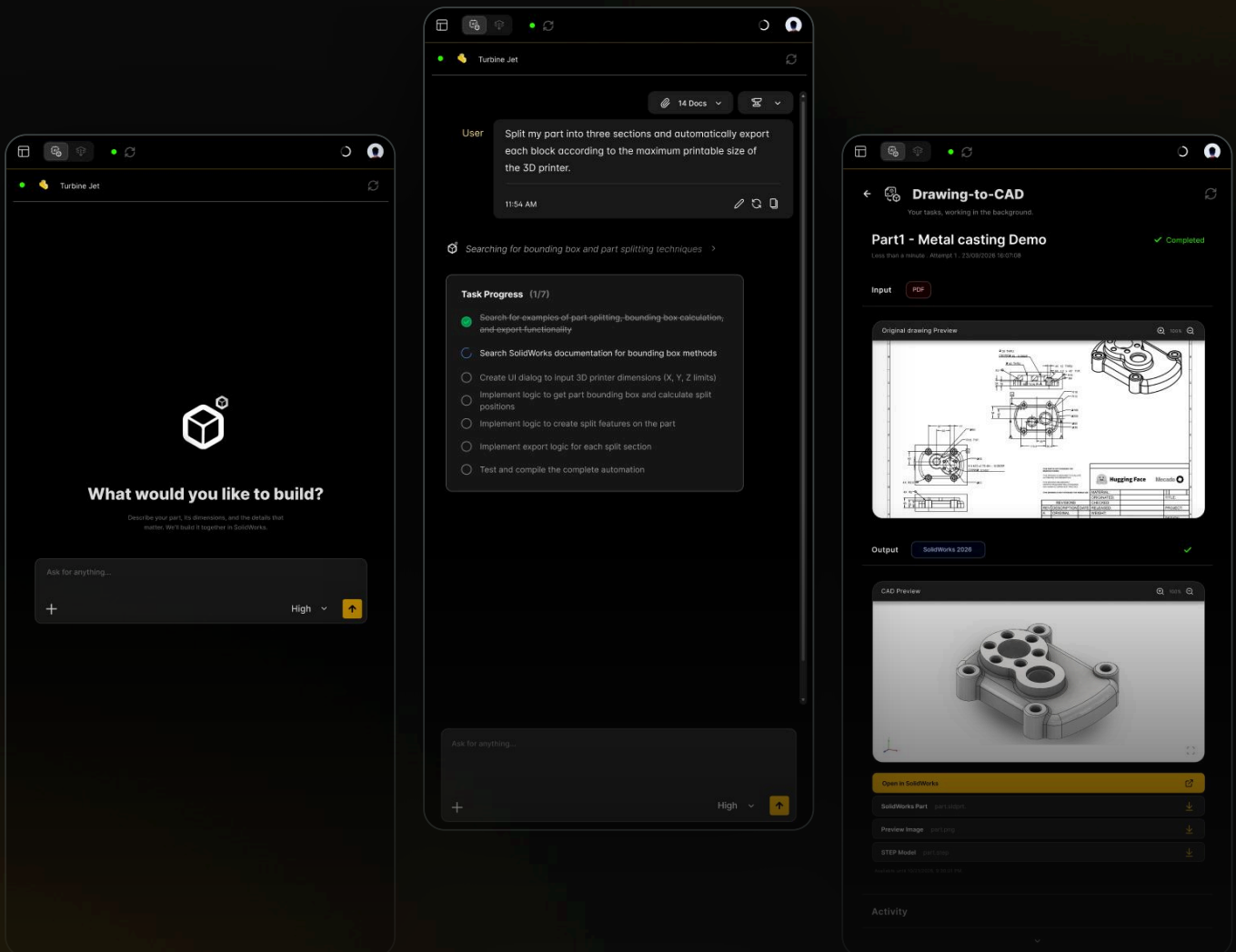


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01

Introduction

What MecAgent is, what is new in V2.0, requirements, download and first connection.



Introduction

What is MecAgent?

MecAgent is an **AI CAD Agent** for mechanical engineers. You describe what you need in **natural language** — a part, a change to an assembly, a drawing or a repetitive task — and MecAgent plans the work, **acts directly inside SolidWorks** and reports back.

Version 2.0 brings everything into one agent that understands your open document, searches the right methods, builds features with an editable feature tree, and turns repetitive work into reusable automations.

Two ways to work

CAD Agent **live**

Chat with the agent while it works in your **open SolidWorks session**: model parts, edit assemblies, apply materials, drive equations, rename, export, create drawings and macros.

Background Tasks **async**

Hand off long jobs — **Drawing-to-CAD, CAD-to-Drawing, Text-to-CAD, STEP-to-CAD** — and get files back while SolidWorks stays free.

Introduction

Why MecAgent?

What MecAgent is not

MecAgent **does not replace the designer**. It speeds up modeling, documentation and repetitive work, but you stay in charge of design intent, validation and release.

Results depend on how precisely you describe the request: always **review geometry, drawings and tolerances** before releasing them.

Why does MecAgent outperform standard AI chatbots?

General AI tools (ChatGPT, Gemini, Claude, Copilot...) are not built to operate CAD software. They guess API calls, skip steps and produce code that fails in SolidWorks.

MecAgent was **trained on real CAD workflows** and hundreds of thousands of CAD automations, and it **acts through dedicated SolidWorks tools**: it reads the model, runs features, checks the result and corrects itself.

When it writes an automation, the thinking happens at creation time; the automation then runs as a standard script — **fast, predictable and with no AI involved** at run time.

Introduction

What is new in V2.0?

V2.0 replaces the separate modes of V1.2 (Automation, CAD Copilot, MechE Expert, Text to STL/STEP, Online Part Finder) with **one CAD Agent** and adds **Background Tasks**, **General Knowledges** and a **model selector**.

Area	V1.2	V2.0
Core experience	Five separate modes to choose from	One CAD Agent chat that plans, searches, acts in SolidWorks and creates macros when useful
3D modeling	Simple parts only (sketch, extrude, revolve, holes, fillets, chamfers)	Text-to-CAD and STEP-to-CAD with an editable feature tree; parts designed in assembly context and mated
Assemblies	Materials, renaming, properties	Plus exploded views, equations, configurations and motion studies
Long jobs	Blocking, inside the chat	Background Tasks with a task list, status, activity log and downloadable outputs
Drawings	Active part or batch, simple views	Guided CAD-to-Drawing (standard, units, sheets, datums, critical surfaces) and Drawing-to-CAD
Context	Built-in engineering knowledge base	General Knowledges : your own document folders, attachable to any request
Inputs	Text prompt	Text, files , photos , STEP files and Sketch on a capture of your CAD view
Models	One model	Model selector : MecAgent Max, High, Medium, Light, Extra Light, Fast
Automations	My Automations, Public Automations, Merge, Remix	Same library, plus Macro mode and Remix directly from the chat bar
Transparency	Final answer only	Live Task Progress and search steps while the agent works

Introduction

What is possible?

What you can do with MecAgent V2.0 today.

- Model parts from text or a spec sheet with an **editable feature tree**
- Rebuild a supplier **STEP file** as a native, editable part
- Design a new part **in the context of an assembly**, then mate it
- Create exploded views and set up motion studies
- Apply **materials and appearances** to all parts in one request and update the mass
- Drive dimensions with **global variables, equations and configurations**
- Rename and **translate** parts, features and files while keeping references
- **Bulk export** STEP, PDF and DXF files for suppliers
- Generate **dimensioned drawings** from parts (CAD-to-Drawing)
- Turn a PDF or image drawing into an **editable part** (Drawing-to-CAD)
- Create, save, share, remix and merge **reusable macros**
- Use your **own documents** (standards, materials, suppliers) as context

Introduction

What is not possible (yet)?

Current limits to keep in mind.

- Releasing drawings or parts without engineering review
- Guaranteeing certification or regulatory compliance of a drawing
- Complex freeform or class-A surfacing from a vague description
- Human-level reasoning on ambiguous instructions without dimensions or references
- Applying company-specific rules that were never provided (add them as General Knowledges or templates)
- Native support for CAD software other than SolidWorks — Inventor comes next, then Siemens NX and CATIA before the end of 2026
- Guaranteed support for SolidWorks versions older than 2024

Tip The more precise the request (dimensions, references, selections, naming rules), the better the result. See **How to prompt** in the CAD Agent section.

Introduction

Requirements

OPERATING SYSTEM

Windows 10 or 11

64-bit

CAD SOFTWARE

SolidWorks

tested on 2024 · 2025 · 2026

NETWORK

Internet

HTTPS · port 443

ACCOUNT

MecAgent account

free to start

Supported SolidWorks versions

Our technical team tests MecAgent on **SolidWorks 2024, 2025 and 2026**.

MecAgent should also work on earlier versions, but **we cannot guarantee it**: some features are not available from one SolidWorks version to another, and the creation of certain **macros** in particular may cause problems on older versions.

SolidWorks version	Status
2026 · 2025 · 2024	Tested and supported by our technical team
2023 and earlier	Should work, not guaranteed — some features and macros may not work

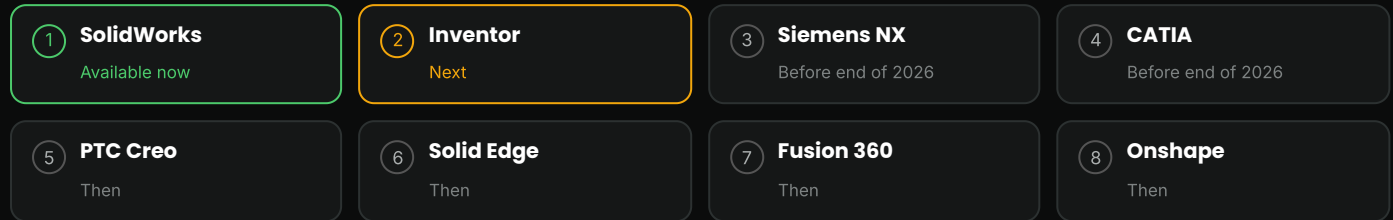
Company networks

MecAgent needs outbound access to its servers. If your company uses a firewall or proxy, ask your IT department to allow **proxy.mecagent.com** on **port 443 (TCP)**, and to allow the MecAgent installer and application.

Introduction

Other CAD software

Native support for other CAD software is coming in this order: **Inventor** first, then **Siemens NX** and **CATIA** before the end of 2026, then **PTC Creo**, **Solid Edge**, **Fusion 360** and **Onshape**.



Until then

Use the web app at download.mecagent.com/login. Background Tasks can deliver **STEP** parts and **PDF** drawings that open in any CAD software.

Choose **Other CAD Software (Output: STEP.)** in **Deliver for** when you start a task.

Introduction

How to download

1. Go to our website: mecagent.com/download
2. **Log in**, or **create a free account** at download.mecagent.com/register. The same account works in the app and on the website.
3. In your account, open **Download** (top bar, just left of Dashboard) and click **Download for Windows** on the **MecAgent Copilot for SolidWorks** card.
4. Wait for the download to finish (about **333 MB**).
5. Run **mecagent-copilot-v2.0.2-setup.exe** and let the installer finish. No ZIP to extract anymore.
6. If Windows SmartScreen blocks the installer, click **More info**, then **Run anyway**. The warning appears because Windows does not yet recognize the new installer.
7. Launch MecAgent and **sign in** with your MecAgent account.
8. Start SolidWorks: MecAgent **connects automatically**. You can type your first request.



MecAgent Copilot for SolidWorks

v2.0.2 · Windows 10/11 · SolidWorks 2024–26

↓ **Download for Windows**

EXE

mecagent-copilot-v2.0.2-setup.exe

333 MB · Done

Windows protected your PC

Microsoft Defender SmartScreen prevented an unrecognized app from starting.

[More info](#)

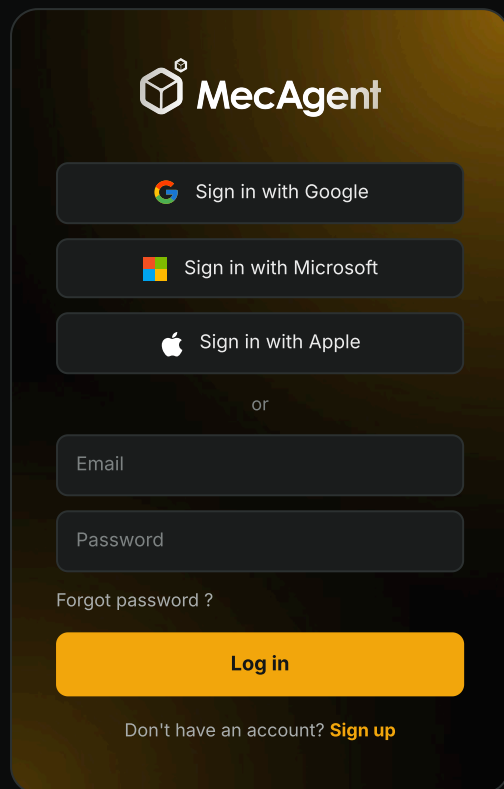
Run anyway

Don't run

Good to know The download page always serves the latest version. Version numbers in this guide (2.0.2) may differ from the one you install.

Introduction

Sign in



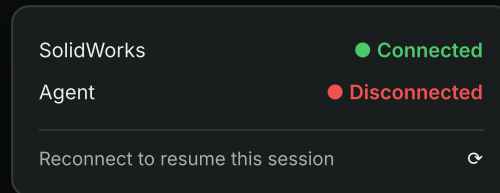
The image shows the sign-in interface of the MecAgent application. At the top, the MecAgent logo is displayed. Below it, there are three buttons for social login: 'Sign in with Google', 'Sign in with Microsoft', and 'Sign in with Apple'. These buttons are arranged vertically. Below the social login buttons, there is a link that says 'or'. Underneath the 'or' link, there are two input fields: 'Email' and 'Password'. Below the 'Password' field, there is a link that says 'Forgot password?'. At the bottom of the form, there is a large orange button labeled 'Log in'. Below the 'Log in' button, there is a link that says 'Don't have an account? Sign up'.

1. Launch MecAgent. After the loading screen, the **Log in** window opens.
2. Sign in with your **email and password**, or with **Google, Microsoft or Apple**.
3. If two-factor authentication is enabled, enter the **6-digit code** from your authenticator app.
4. Forgot your password? Click **Forgot password?**.
5. No account yet? Click **Sign up**.

Introduction

Connect to SolidWorks

1. Start **SolidWorks** (tested on 2024, 2025 and 2026). MecAgent detects it automatically.
2. A **green dot** in the header means the connection is active. Click it to see the status of **SolidWorks** and the **Agent**.
3. If one of them is **Disconnected**, click the **refresh icon** to reconnect.



Good to know Still disconnected after a refresh? Follow the procedure in **Connection issues with the CAD software** at the end of this guide.

02

General Interface

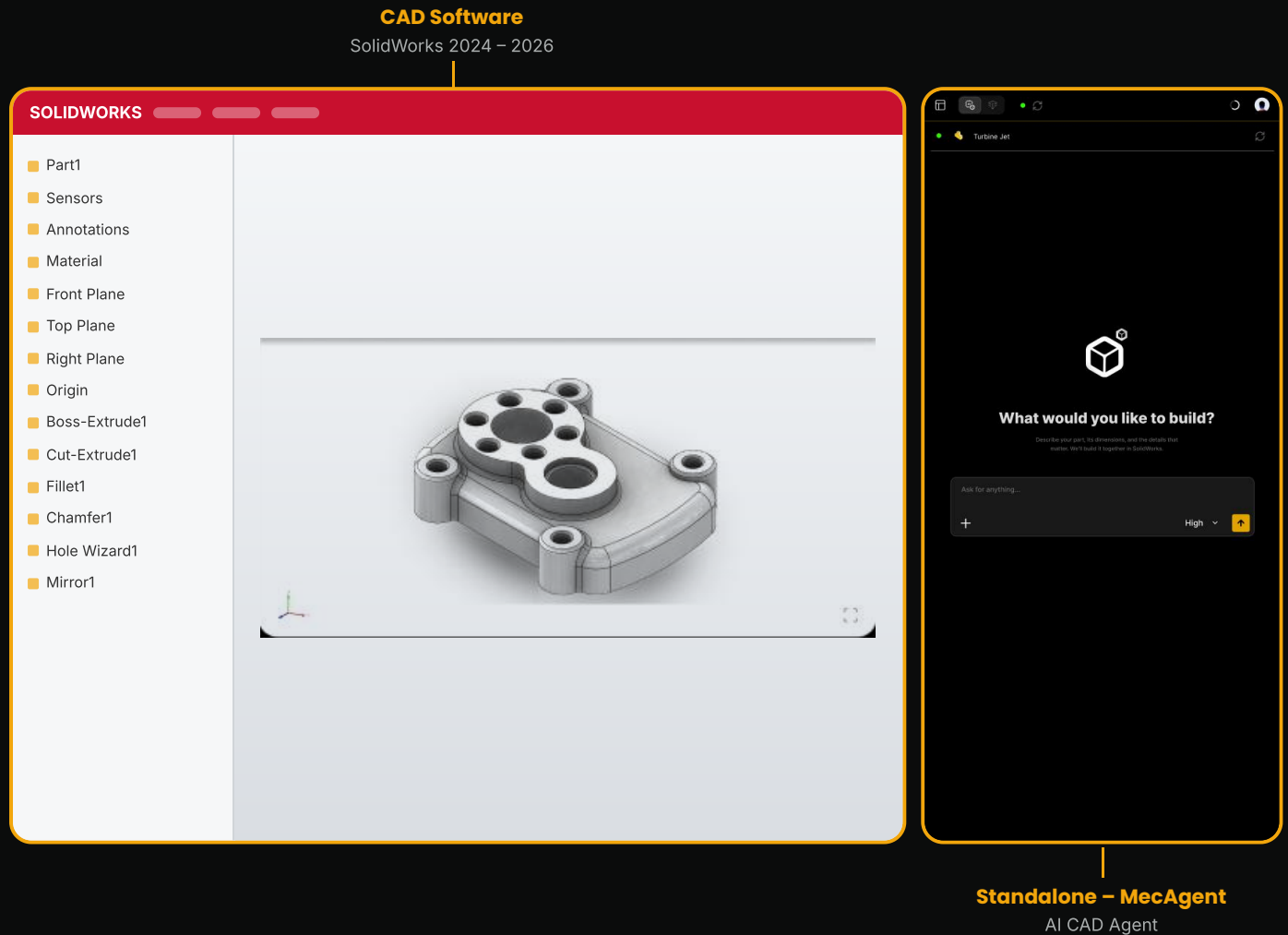
The MecAgent window, the home page, the conversation, the side panel, the chat bar and the settings.



General Interface

Standalone software

MecAgent runs as a **standalone window** next to your CAD software. Place it beside SolidWorks: the agent works on the **active SolidWorks document** and shows its progress in the MecAgent window.



CAD Agent mode

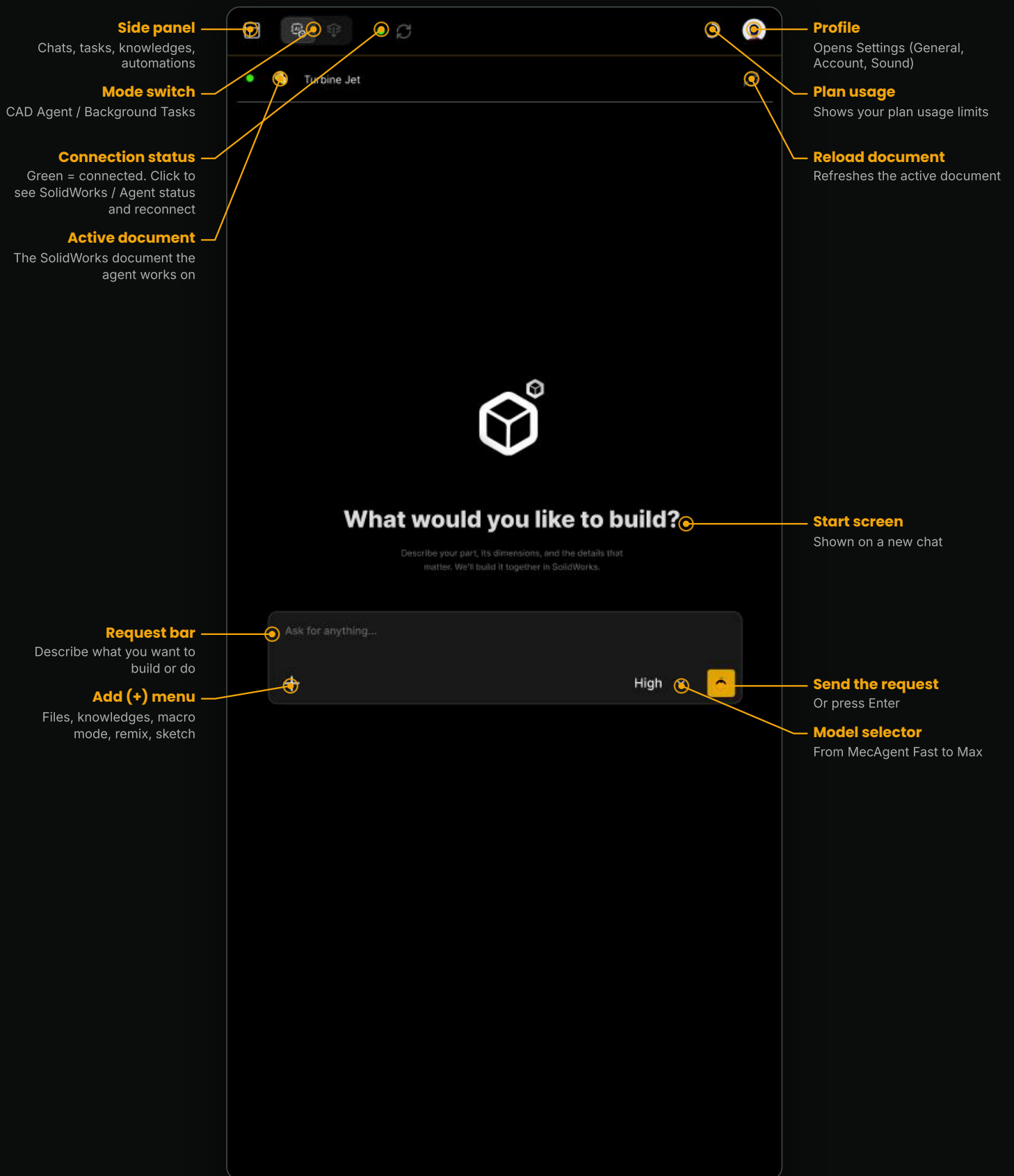
The default mode. Chat with the agent; it acts live in SolidWorks. Use it for modeling, assemblies, materials, renaming, exports and macros.

Background Tasks mode

Switch with the **mode switch** in the header. Start long jobs (drawings, Drawing-to-CAD, Text-to-CAD) and collect the files when they are ready.

General Interface

Home page



General Interface

Conversation

The screenshot shows a chat window titled "Turbine Jet" with a user request, an assistant response, and an automation card. Annotations point to various UI elements:

- Your request**: Points to the user's message "Split my part into three sections and automatically export each block according to the maximum printable size of the 3D printer." with a timestamp of 11:54 AM.
- Knowledge chip**: Points to a chip labeled "14 Docs" indicating active general knowledge.
- Attached documents**: Points to a document icon, indicating files and knowledges used by the chat.
- Edit · Retry · Copy**: Points to icons for editing, retrying, or copying the request.
- Agent answer**: Points to the assistant's response: "Perfect! Your volume has been successfully converted to sheet metal using the correct approach. The automation found your selected face and automatically identified its 4 perimeter edges as bend edges, then converted everything together in one operation. You now have a proper sheet metal part with 1mm thickness and 0.5mm bend radius, ready for all sheet metal operations like flanging, bending, and flat pattern creation." with a timestamp of 11:55 AM.
- Copy · Retry**: Points to icons for copying or regenerating the answer.
- Automation card**: Points to the "SolidWorks Automation" card, which shows a successful execution status.
- Run Automation**: Points to the "Run Automation" button, which runs the macro again in SolidWorks.
- Add to favorites**: Points to the "Add to favorites" button, which saves the macro in My Automations.
- Code · Copy · Retry**: Points to icons for viewing macro code, copying it, or regenerating it.
- Request bar**: Points to the input field "Ask for anything..." at the bottom, used to continue the conversation.

General Interface

The agent at work

While it works, the agent shows **what it is searching** and a live **Task Progress** list, so you always know where it stands.

The screenshot displays the MecAgent interface. At the top, there's a header with icons and the name 'Turbine Jet'. Below this, a user message is shown: 'Split my part into three sections and automatically export each block according to the maximum printable size of the 3D printer.' The time '11:54 AM' and some action icons are at the bottom of the message. Below the message, a 'Task Progress' section is visible, titled 'Task Progress (1/7)'. It contains a list of tasks with circular progress indicators. The first task is 'Search for examples of part splitting, bounding box calculation, and export functionality', which is marked as 'In progress'. The second task is 'Search SolidWorks documentation for bounding box methods', marked as 'Done'. The third task is 'Create UI dialog to input 3D printer dimensions (X, Y, Z limits)', also marked as 'In progress'. The remaining four tasks are 'Implement logic to get part bounding box and calculate split positions', 'Implement logic to create split features on the part', 'Implement export logic for each split section', and 'Test and compile the complete automation', all marked as 'To do'. To the left of the screenshot, there are labels with arrows pointing to specific elements: 'Search step' points to the first task, 'Task Progress' points to the task list header, 'Done' points to the second task, 'In progress' points to the third task, and 'To do' points to the fourth task. Below the screenshot, there's a text input field with the placeholder 'Ask for anything...' and a 'High' priority dropdown with an upward arrow button.

Search step
What the agent is looking up (click to expand)

Task Progress
Plan of the request, e.g. 1 of 7 steps done

Done
Completed step (struck through)

In progress
Step the agent is working on

To do
Next steps of the plan

Good to know Steps that change your model ask for confirmation unless **Auto-accept Tool Executions** is turned on in Settings.

General Interface

Side panel

New chat

Starts a new CAD Agent conversation

General knowledges

Your knowledge folders

My Automations

Your saved macros

Macro library

Opens Public automations, shared by the community

CAD Agent Chats

Your past conversations

Chat history

Click to reopen a conversation

Background Tasks

Your recent tasks

Running tasks

Tasks in progress (e.g. 2 of 4)

Task status

Yellow = pending · Green = completed · Grey = open

Task type

CAD-to-Drawing, Drawing-to-CAD...

New chat

General knowledges

My Automations

Macro library

CAD Agent Chats

Background Tasks

Running tasks

Task status

Task type

Drone generation

Translation assembly 1

Color changing p1.

Equation setup

Phone case generation

Fork creation

...

Part 1 - Blade

Drawing 1 - Motor

Part 2 - Shaft

Drawing 2 - Shaft

Part 3 - Camera

Drawing 3 - Camera

...

to-Drawing

a drawing from a model.

Search · Filter

Find a chat or a task

Status

Date

Pending

Sep 21

Completed

Sep 21

Completed

Sep 20

Completed

Sep 19

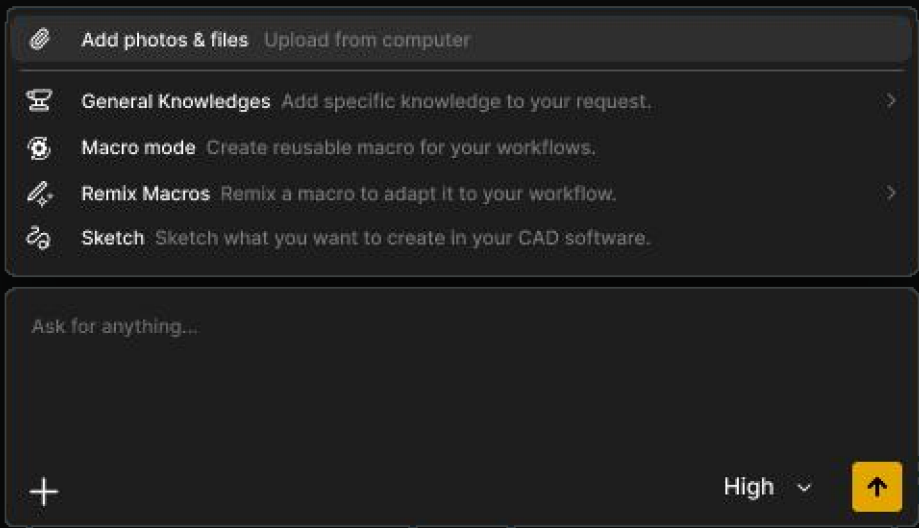
Completed

Sep 18

General Interface

Add (+) menu

Click **+** in the chat bar to add context to your request or to change how the agent answers.

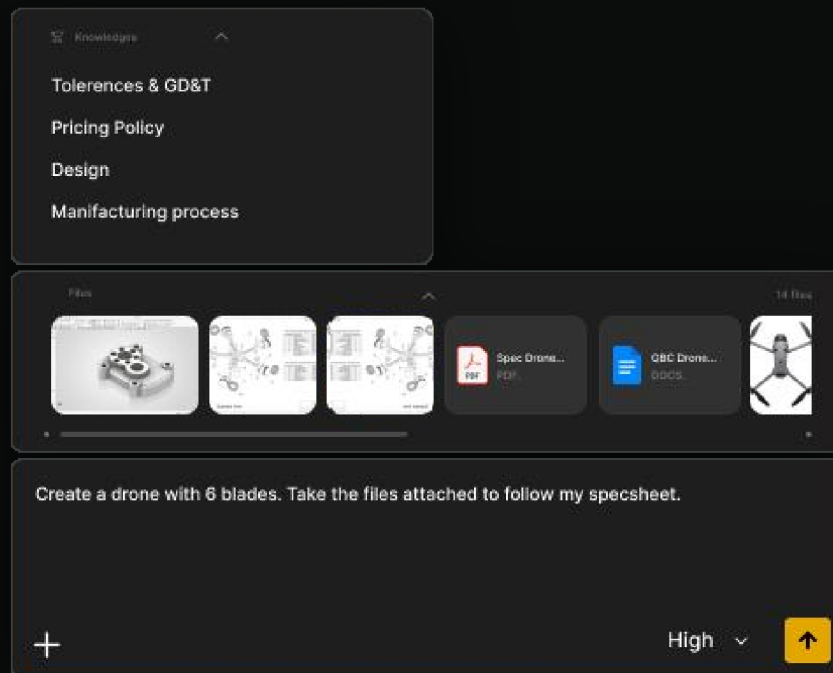


Item	What it does
Add photos & files	Upload spec sheets, PDFs, drawings, photos or STEP files from your computer
General Knowledges	Add one of your knowledge folders (or all of them) to the request
Macro mode	Ask the agent to produce a reusable macro for your workflow
Remix Macros	Start from one of your saved macros and adapt it
Sketch	Draw on a capture of your CAD view to show what you want

General Interface

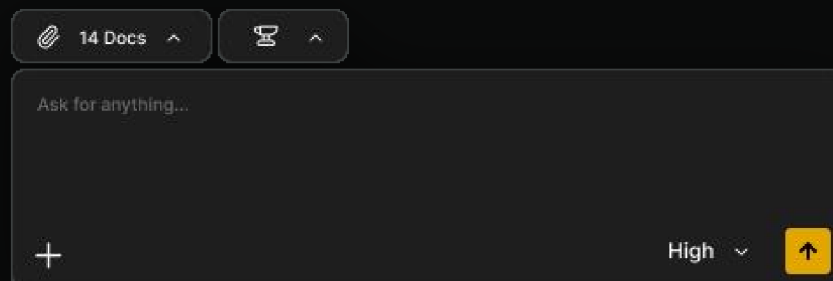
Context added to a request

Files and knowledges



Selected knowledges and files appear above the chat bar. Scroll the file strip to review them; the counter shows the total.

Context chips



After sending, the chips above the conversation (e.g. **14 Docs**) reopen the attached files and knowledges.

Good to know To choose the model, click **Select model** next to the send button. See **Models** in the Features & Capabilities section.

General Interface

Settings

Click your **profile picture** (top right) to open Settings. The app version and commit hash are shown at the bottom of every tab.

Settings

Close

Closes the settings

Tabs

General · Account · Sound

GeneralAccountSound

General Settings

Theme

Dark

Dark or Light

Language

English

Interface language

CAD Software

SW

SolidWorks

The CAD software MecAgent connects to

Tutorial

Watch Getting Started Video

Getting Started video

Tutorial video

Open User Guide

Open User Guide

Opens this guide

Auto-accept Tool Executions

Automatically approve all tool executions without confirmation

Auto-accept Tool Executions

Approves all tool executions without asking for confirmation

Version

Version and commit hash, useful for support

General Interface

Account

Settings

General

Account

Sound

Account Settings

Name

Your Name....

Email

Johndoe@blablabla.com

Credits

250 / 600 Tokens

22 CAD-to-Drawings left

22 CAD-to-Drawings left

11 Macros left

2 CAD Agent Max left

35 CAD Agent High left

150 CAD Agent Medium left

+ More tokens

Logout

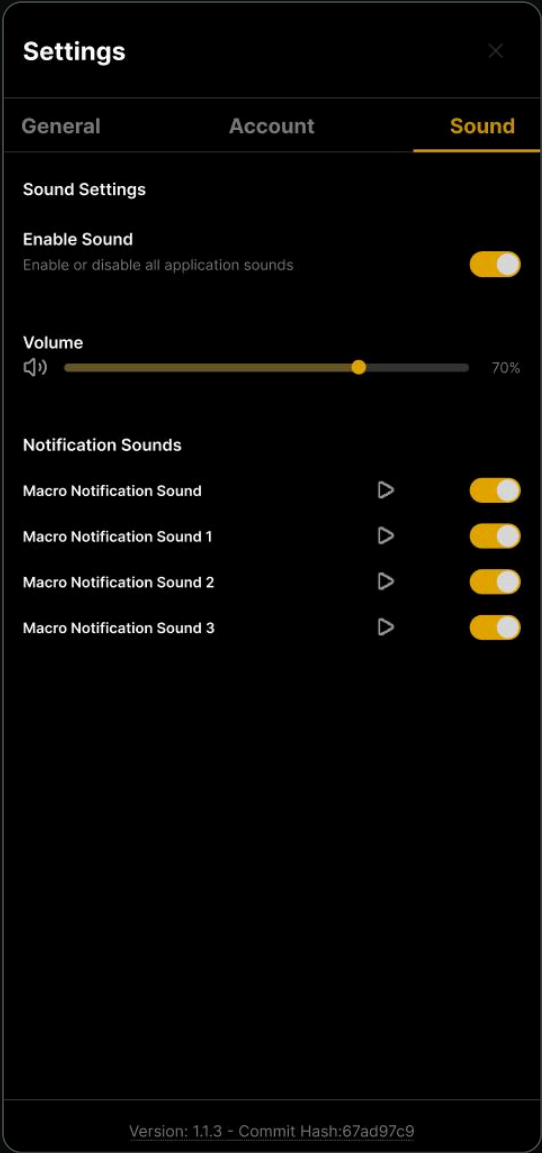
Dashboard

Version: 1.1.3 - Commit Hash:67ad97c9

- **Name** and **Email** of your account
- **Credits**: tokens used / available this period
- Remaining runs per feature: CAD-to-Drawings, Macros, CAD Agent Max, High, Medium...
- **More tokens**: upgrade your plan
- **Dashboard**: opens your account on the website
- **Logout**: signs you out of the app

General Interface

Sound



- **Enable Sound:** turn all application sounds on or off
- **Volume:** adjust the level
- **Notification Sounds:** choose and preview (▶) the sound played when a macro or a task is ready

03

Features & Capabilities

Everything MecAgent V2.0 can do, and the models available.



Features & Capabilities

CAD Agent capabilities

MecAgent's goal is to bring the latest AI to every CAD software. In V2.0, the **CAD Agent** works live in your SolidWorks session.

Text-to-CAD

Model a part from a written description or spec sheet, feature by feature

STEP-to-CAD

Convert a supplier STEP file into an editable part with a feature tree

Parts in assemblies

Design a part in the context of an open assembly, then mate it

Exploded view

Build an exploded view of an assembly step by step

Materials & design

Apply materials and appearances to all parts, update the mass

Equations & configurations

Drive dimensions with global variables; generate configurations

Motion

Set up a motion study (mates, motors, animation) from one sentence

Renaming

Rename or translate files, parts and features, references intact

Export

Export STEP, PDF and DXF files together for a supplier

CAD-to-Drawing

Generate a dimensioned drawing of the open part or assembly

Macros

Turn a task into a macro you run again in one click

Sketch & files

Explain with a sketch, photos, PDFs or STEP files

Features & Capabilities

Background Tasks & context

Background Tasks — keep working while they run

CAD-to-Drawing

Send parts, receive dimensioned drawings

Drawing-to-CAD

Send a PDF or image drawing, receive an editable part

Text-to-CAD

Send a written brief, receive a modeled part

STEP-to-CAD

Send a STEP file, receive a native part with a feature tree

Macro Generation

Generate a macro in the background

Context & reuse

General Knowledges

Your own document folders used as context

My automations

Save, run, remix and merge macros

Public automations

Automations shared by the community

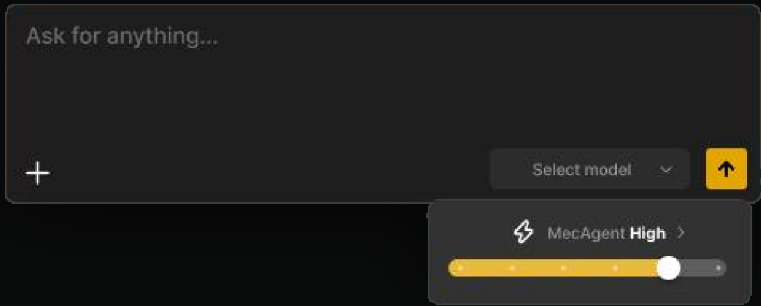
Models

Six levels, from MecAgent Fast to Max

Features & Capabilities

Models

Choose the model that fits the job with the **model selector** next to the send button. Higher models handle harder parts and longer plans and use more of your plan; lighter models answer faster.



Model	Best for
MecAgent Max	The most complex parts and assemblies, long multi-step requests
MecAgent High	Default — everyday modeling, assemblies and automations
MecAgent Medium	Simple parts and edits
MecAgent Light	Quick edits: renaming, properties, materials
MecAgent Extra Light	Very short tasks and questions
MecAgent Fast	The fastest answers

Good to know Available models depend on your plan (the Free plan includes Light and Medium). Remaining runs per model are shown in **Settings** > **Account**.

04

CAD Agent

Work live in SolidWorks with the agent: how it works, how to prompt, examples.

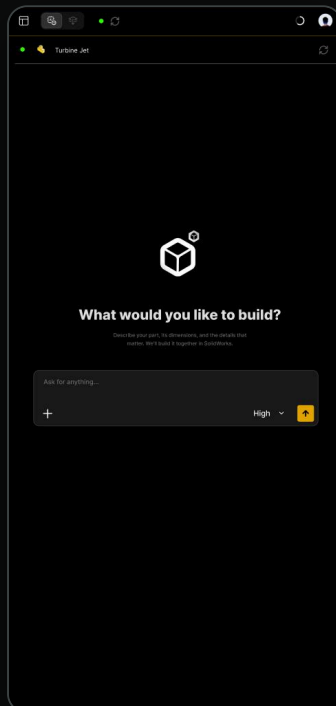


CAD Agent

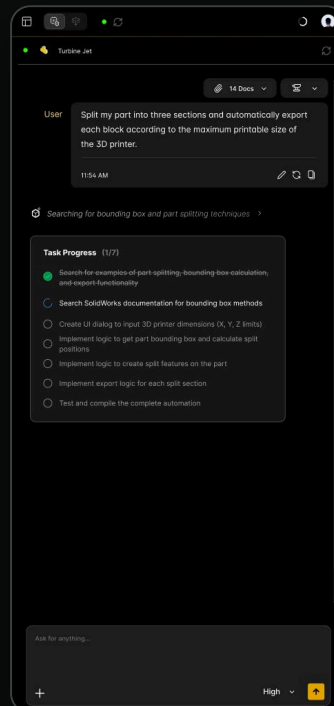
How it works

1. Check that you are **connected** to SolidWorks (green dot). If not, see **Connection issues**.
2. Check that you are in **CAD Agent** mode and that the **active document** is the one you want to work on.
3. **Describe** what you want in the request bar: the part, its dimensions and the details that matter. Use **+** to add files, knowledges or a sketch.
4. Choose the **model** (High by default) and press **Enter** or click the arrow.
5. The agent **searches** the right methods and builds a **plan**: follow the **Task Progress**.
6. The agent **acts in SolidWorks**. Approve the tool executions when asked, or turn on Auto-accept.
7. Read the **answer**. If a macro was created, click **Run Automation** to run it again and **Add to favorites** to keep it.
8. **Refine**: continue the conversation ("make the wall 3 mm", "add a fillet on the selected edges"), or use Edit / Retry on your request.

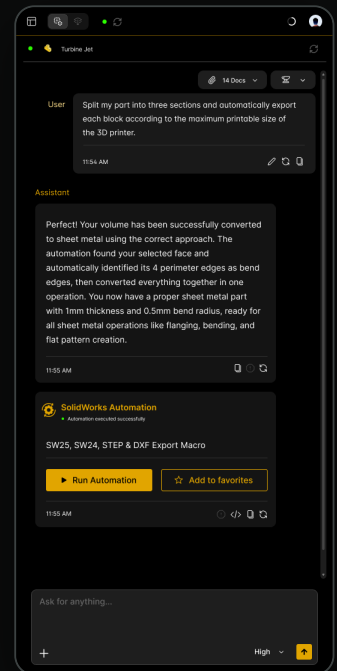
3 - Describe



5 - Plan & search



7 - Result



CAD Agent

How to prompt

What you can ask

- "Create a flange with 6 M8 holes, 10 mm thickness, outer diameter 120 mm."
- "Rebuild this STEP file as an editable part with a clean feature tree." (STEP attached)
- "Design a bracket that fits between the two selected faces, then mate it to the frame."
- "Apply aluminium 6061-T6 to all frame parts and update the mass."
- "Create a global variable for the arm length and three configurations: 200, 250 and 300 mm."
- "Translate the name of all parts in my assembly from Russian to English and keep the references."
- "Export every part of the assembly as STEP, PDF and DXF into one folder for the supplier."
- "Rename each feature in the tree with a meaningful name based on the geometry it creates."

CAD Agent

What you should not ask

- "Create a car." — vague, high-level intent with no dimensions
- "Rename everything." — no selection and no naming rule
- "Make it better." — no criterion to optimize
- Actions on geometry without saying which face, edge or component (select it, or describe it precisely)
- Company-specific rules that MecAgent cannot know — add them as General Knowledges first
- Certification-ready output without review

Same request, two ways

Too vague

"Add holes in the corners of the plate."

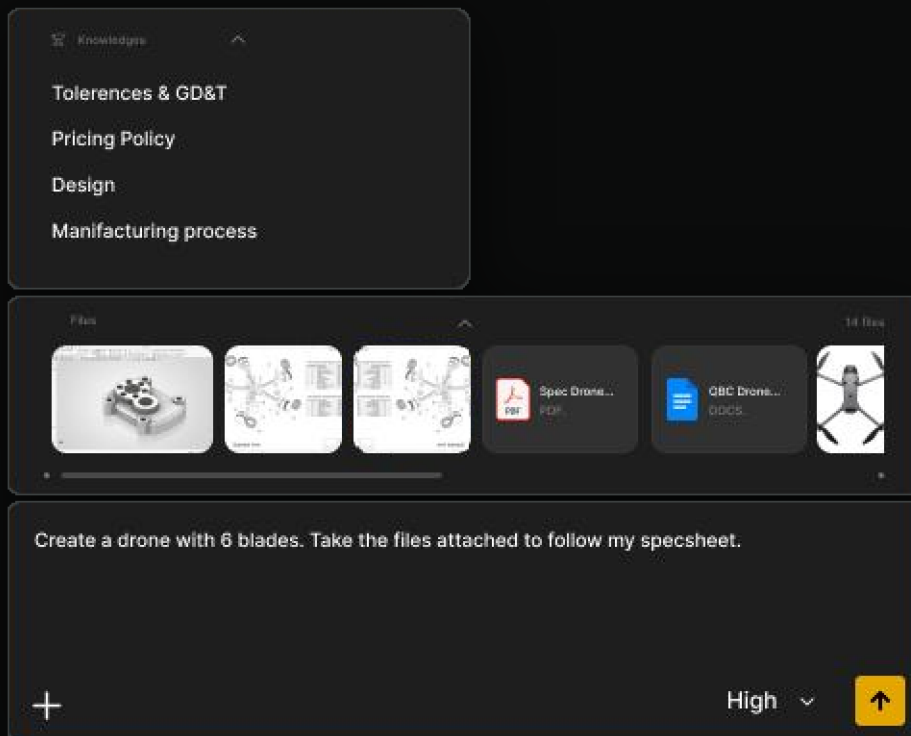
Precise

"Add four Ø5 mm through holes, 10 mm from each edge, at the corners of the plate."

CAD Agent

Add photos & files

Give the agent the same context you would give a colleague: spec sheets, PDFs, drawings, photos or STEP files.



1. Click **+ > Add photos & files** in the chat bar.
2. Choose your files. They appear in a strip above the chat bar.
3. Write your request and refer to the files.

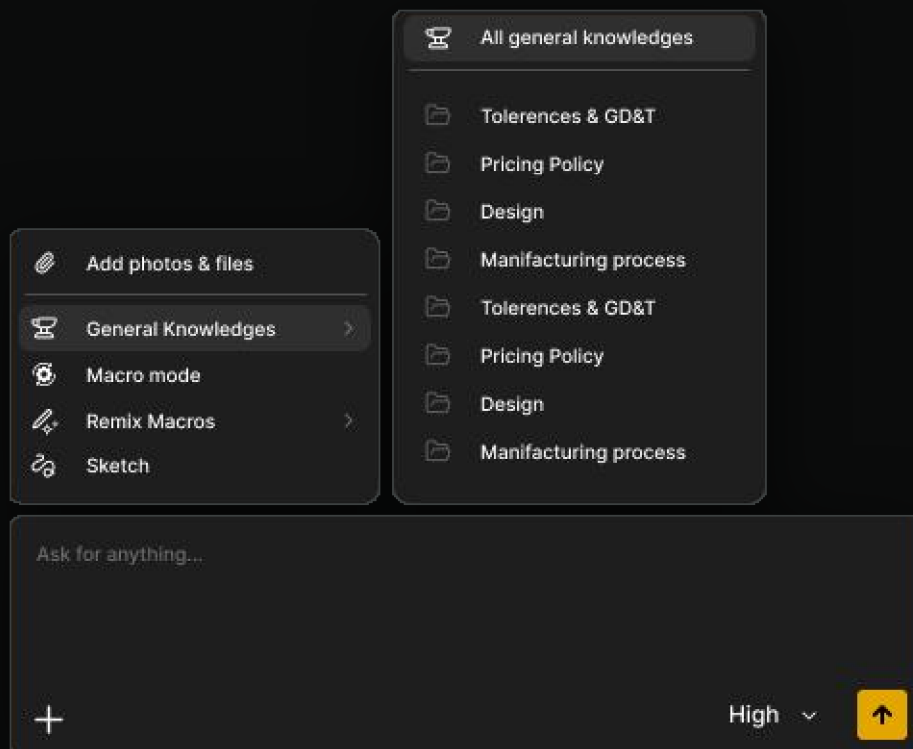
Example

"Create a drone with 6 blades. Take the files attached to follow my spec sheet."

CAD Agent

Add a General Knowledge

Use your company documents — standards, materials, suppliers — as context for a request.



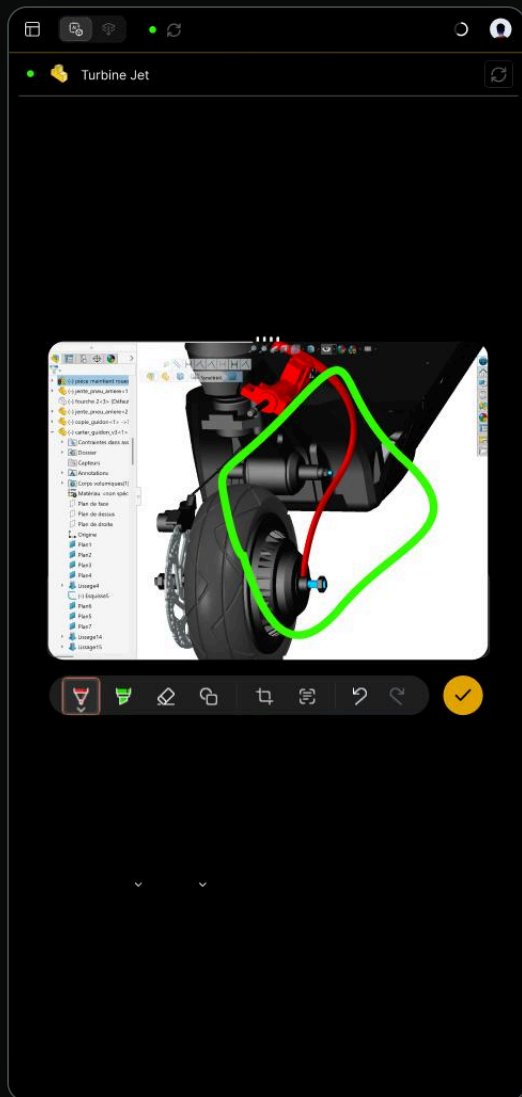
1. Click **+ > General Knowledge**.
2. Pick a folder, or **All general knowledges**.
3. The knowledge chip appears above the chat bar; send your request.

Tip To use your knowledges on every request, turn on **Activate the background knowledge for each request** in General Knowledges.

CAD Agent

Sketch

Draw directly on a capture of your CAD view to show what you want.



Tool	Use
Pen	Draw the shape or path you want
Highlighter	Mark an area of the model
Eraser	Remove strokes
Shapes	Add lines, circles, rectangles
Crop	Keep only the useful area
Capture	Take a new capture of the CAD view
Undo / Redo	Cancel or restore the last stroke
✓ Validate	Attach the sketch to your request

CAD Agent

Advanced prompting techniques

Go step by step on complex parts

Build the base first, check it, then add details. It is easier to control and greatly increases the success rate.

"Create a 500 × 200 × 2 mm plate"



"Add Ø5 mm holes 10 mm from the edges at each corner"



"Add a Ø50 mm hole at the center"

Be quantitative

Give dimensions, distances, axes, angles, tolerances and quantities. Refer to existing elements of the model ("the top face", "the Ø20 bore", "Plane1").

Use your selection

Select faces, edges or components in SolidWorks, then write "on the selected face" or "for the selected components". The agent knows what is selected.

CAD Agent

Advanced prompting techniques

Give naming rules

For renaming and exports, give the exact pattern: "PRJ-042_<part name>_REV-A", "one folder per sub-assembly", "go through each part one by one".

Describe materials by need

Name the material, or describe the need: "a material that resists moisture over time and is suitable for plastic injection molding".

Put company rules in General Knowledges

Tolerancing rules, preferred materials, suppliers and drawing standards are better stored once in a knowledge folder than repeated in every prompt.

Pick the model for the job

Use **High** by default, **Max** for long multi-step jobs or complex assemblies, and lighter models for quick edits.

CAD Agent

Common examples

Capability	Example request
Part creation	"Create a gear with 25 teeth, module 2 and a Ø25 mm bore."
Shaft	"Create a stepped shaft along Z: Ø25×30, Ø30×5, Ø25×20, Ø35×10, Ø20×40 mm. Add 2 mm chamfers on both ends and an M10×20 tapped hole on each end."
Assembly context	"Design a motor plate that bolts to the two selected faces with 4 M6 screws, then mate it."
Exploded view	"Create an exploded view of this assembly, sub-assembly by sub-assembly."
Materials	"Apply stainless steel 304 to all fasteners and ABS to all covers, then give me the total mass."
Equations	"Link the length of the base to the global variable L and set L = 450 mm."

CAD Agent

Common examples

Capability	Example request
Configurations	"Create three configurations of this bracket: thickness 3, 4 and 5 mm."
Motion	"Set up a motion study with a rotary motor at 60 RPM on the main shaft for 10 seconds."
Translation	"Translate the name of all parts in my assembly from English to Russian and keep the original naming structure."
Export	"Export all sheet metal parts as DXF flat patterns and all other parts as STEP into C:\Export\PRJ-042."
Drawing	"Create a dimensioned drawing of the open part on an A3 sheet with front, top, right and isometric views."
Automation	"Split my part into three sections and automatically export each block according to the maximum printable size of the 3D printer."

05

Automations

Create, run, save, share, remix and merge CAD macros.

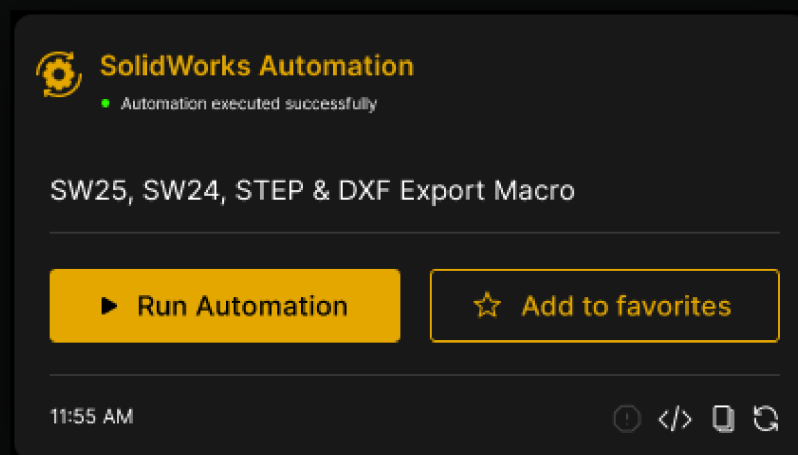


Automations

Create an automation

MecAgent creates **CAD macros** to automate anything in SolidWorks: bulk exports, drawings, appearances, sketching, saving, constraints, checking standards... The thinking happens at creation time; the macro then **runs as a standard script**, fast and predictable.

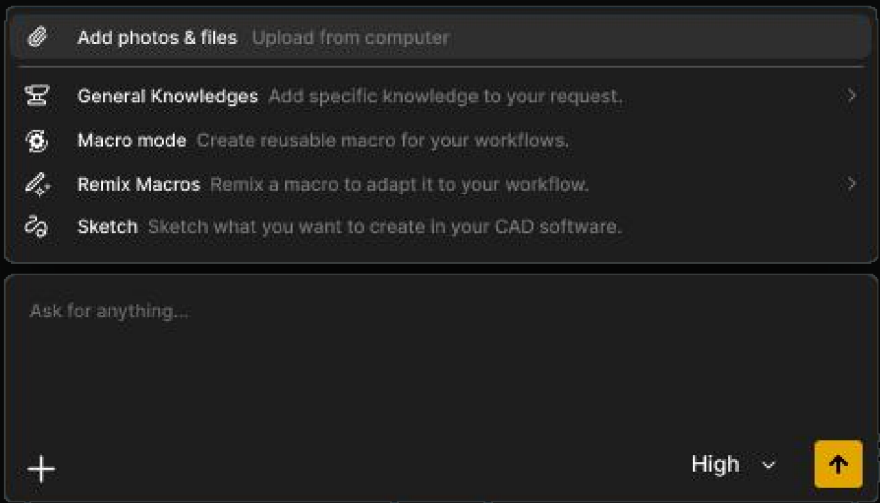
1. Ask for the automation in the chat — or click **+ > Macro mode** to make sure the agent produces a **reusable macro**.
2. The agent plans and writes the macro (Task Progress). This can take from 30 seconds to a few minutes; a sound plays when it is ready.
3. The **SolidWorks Automation** card appears with the run status (e.g. *Automation executed successfully*).
4. Click **Run Automation** to run it again, on another document for example. While it runs, the button becomes **Stop Automation**.
5. Satisfied? Click **Add to favorites** to save it in **My automations** and reuse it anytime.
6. Use the card icons to **view the code**, copy it or regenerate the macro.



Automations

Macro mode

Click + > **Macro mode** before sending your request to get a reusable macro instead of a one-time action.



Example

“Create an automation that, for each sheet metal part of my assembly, creates a drawing with the flat pattern on the left and an isometric view on the top right, then exports each drawing as PDF and DXF in a folder.”

Live action or macro?

The agent acts directly...	Ask for a macro when...
For a one-time change on the open document	You will repeat the task on many parts or projects
When you want to see each step in SolidWorks	You want a one-click button for your team
When the result depends on judgement	The task follows fixed rules (exports, naming, checks)

Automations

My automations

Back
Returns to the chat

Search
Find an automation by name

Filter
Filter by category

Automation
Name and icon

Selection
Appears in merge mode: select the automations to merge

Category
Export, Part, Assembly, Function...

Merge capacity
Share of the merge capacity this automation uses

Run
Runs the automation in SolidWorks

Public automations
Opens the community library

Import
Add an automation shared with you

Merge
Starts merge mode

Sort
Custom order, newest, most used...

Details (i)
What the automation does, step by step

Remix
Opens a chat to improve or modify it

Export assembly parts package
Export assembly parts to SOLIDWORKS 2025 and 2024, STEP AP214, sheet-metal DXF
7% of merge capacity

Create 3D Gear Model (Copy)
Build gear with specified parameters
26% of merge capacity

Create complete vise assembly
Build three parts and assemble them into a complete vise
27% of merge capacity

Remove coincident mate constraint
Delete coincident mate constraint from assembly
2% of merge capacity

Apply materials and colors

2 selected
Merge capacity: 33% used

Export assembly parts package × Create 3D Gear Model (Copy) ×

Describe what you want to do with those automations...

Merge

Cancel

Automations

Public automations

Back
Returns to My automations

Search
Search the public library

Filter by category
Sheet metal, Drawing, Export, Assembly, Part, Sketch, Analysis & Utilities, Appearance & Visualization

Results
Number of automations shown

Automation
Name and short description

Popularity
Number of uses and sharing date

Categories
Categories of the automation

More
Shows all categories

Sort
Newest first, most used...

Category chips
Click one or more to filter

+ Add
Copies the automation into My automations

Public automations
Browse and copy community-shared automations

Search public automations...

Newest first

Filter by category: Sheet metal Drawing Export Assembly Part Sketch Analysis & Utilities Appearance & Visualization

Showing 20 of 52 public automations

Create 3D Gear Model
Build gear with specified parameters
359 uses Shared 3 months ago Part + Add

DXF sheet packing and nesting layout generator
Creates optimized packing and nesting layouts for DXF parts on sheet s...
215 uses Shared 5 months ago Sheet metal Assembly Analysis & Utilities More + Add

Close all documents except active
Close all open documents except active one
45 uses Shared 8 months ago Analysis & Utilities + Add

Create wing or turbine blade profiles from CSV
Automates the creation of multiple blade or wing profiles using a desig...
22 uses Shared 10 months ago Part Sketch More + Add

Create 3D point cloud from XYZ coordinates
Creates a 3D sketch point cloud using XYZ coordinates entered manual...
112 uses Shared 10 months ago Part Analysis & Utilities + Add

Split multi-body part into configs
Automatically creates a configuration for each solid body in your multi-...
112 uses Shared 10 months ago Assembly Part More + Add

Good to know Open Public automations from the side panel (**Macro library**) or from the **Public automations** button in My automations.

Automations

Details, Remix & Import

Details

Click the **(i)** icon next to an automation name to see **what it does, step by step**, before running or merging it.

Remix

Click **Remix** in My automations, or **+ > Remix Macros** in the chat bar, to start a new chat from a saved automation and adapt it to your workflow. Use it to restart from the last working version when an improvement goes wrong.

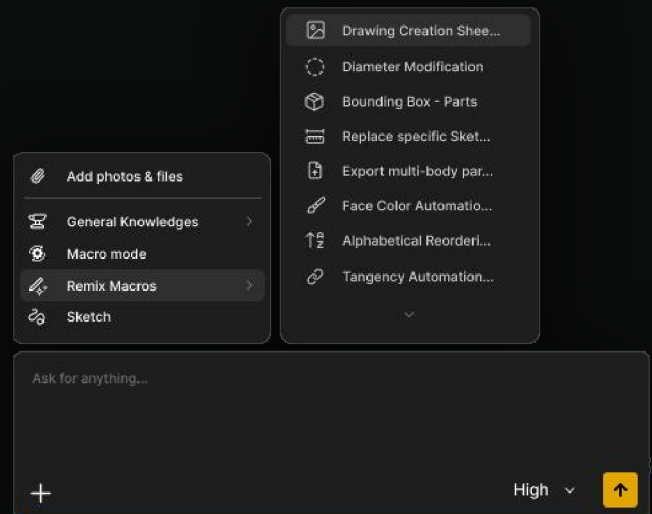
Import

Click **Import** in My automations to add an automation shared with you by a coworker.

Organize

- **Filter** by category and **sort** the list (custom order, newest...).
- Each automation shows its category tag: Export, Part, Assembly, Function...
- **Add** automations from Public automations to your own list.

Remix from the chat bar



Automations

Merge automations

My automations Import Public automations

Search automations... Custom order Merge

Export assembly parts package Export
7% of merge capacity Run Remix

Create 3D Gear Model (Copy) Part
26% of merge capacity Run Remix

Create complete vise assembly Assembly
27% of merge capacity Run Remix

Remove coincident mate constraint Fonction
2% of merge capacity Run Remix

Apply materials and colors

Selection count 2 selected Merge capacity: 33% (red)

Merge instructions Describe what you want to do with those automations...

Merge mode Click to start selecting

Selected Click the circle to select or unselect

Merge capacity Share used by this automation

Merge capacity used Total of the selection — must stay under 100%

Selected chips Click x to remove one

Merge Creates the combined automation

Cancel Leaves merge mode

1. In **My automations**, click **Merge** (top right).
2. Click the **circles** to select two or more automations. The bar at the bottom shows the **merge capacity** used; it must stay under 100%.
3. Describe what they should do together, e.g. "If the bounding box of my part is less than 25 m³, don't create the sheet metal drawing."
4. Click **Merge**. The agent builds the combined automation.

Automations

Advanced prompting techniques

Automations requiring user input

Ask MecAgent to generate a **dialog** with the fields you need: numeric inputs (a fillet radius in mm), dropdown lists (units, formats), text fields, folder paths, Windows file choosers, or multi-field forms. The macro collects everything before it runs.

Break complex automations into smaller parts

Build the first step, validate it, then ask to add the next one. For independent tasks, build each one in its own chat, save them, then combine them with **Merge**.

Example: chat A increments the REVISION_NUMBER property, chat B unfolds and exports the DXF — then merge.

Combine SolidWorks and Windows operations

Macros can rename files, create folders per part or configuration, move and archive files, process every file in a folder, and write **Excel** or text reports with extracted CAD data.

Automations

Advanced prompting techniques

Rewrite an existing macro

Paste a VBA macro and ask: "Rebuild this exact same script." MecAgent converts it to its C#-based runtime: **faster**, **more stable**, and easy to extend with dialogs and file operations.

Background listeners

Ask the macro to **wait for an action** before continuing: a selection (face, edge, component, dimension), two Ctrl+clicks, or a specific selection type.

Exporting or displaying results

Ask for results in a message box, a dialog, an Excel or CSV file, a text report, or as custom properties written into the parts.

Automations

Common automation examples

Automation	Prompt	Short version
Bulk export sheet metal	"Create an automation that, for each sheet metal part, places a flat view on the left and an unflattened view on the top right, and exports each drawing as PDF, DXF and SLDDRW in a specific folder."	"Create all the drawings"
Mass import	"Create a macro that inserts multiple instances of the selected part into my assembly."	"Insert new parts"
Exploded view	"Write a macro that generates a default exploded view for the current assembly."	"Explode the assembly"
Isometric screenshot	"Create an automation that sets the view to isometric and saves a high-resolution screenshot."	"Make a nice 3D render"

Tip Long prompts are more reliable than short ones: the short version works, but the detailed prompt removes ambiguity.

Automations

Common automation examples

Automation	Prompt	Short version
Mass properties	"Generate a macro that calculates the mass, volume and surface area and saves the data in an Excel file."	"Extract the part data in Excel"
BOM to Excel	"Generate a macro that exports the assembly bill of materials to an Excel file."	"Export to Excel"
DXF export	"Export every multi-body part to DXF, one file per body, named after the body."	"DXF per body"
Apply fillets	"Ask me for a radius, then apply it to all sharp edges of the selected faces."	"Fillet with dialog"

06

Background Tasks

Send long jobs to MecAgent and keep working: Drawing-to-CAD, CAD-to-Drawing, Text-to-CAD, STEP-to-CAD and Macro Generation.



Background Tasks Interface



Good to know Your task continues when you close MecAgent. Come back later to collect the result.

Background Tasks

Drawing-to-CAD

Send a **PDF or image drawing** and receive an **editable SolidWorks part**, a STEP file and a preview image.

1. Switch to **Background Tasks** and click **Drawing-to-CAD**.
2. Click **Choose a drawing** or drop it in the area: **PNG, JPEG or PDF**, up to 20 MB and 40 MP. One part per drawing; for a PDF, only the first page is used.
3. Check the **Original drawing Preview** (zoom with + / -).
4. In **Deliver for**, choose the target: SolidWorks 2026, 2025, 2024 and before, or **Other CAD Software (Output: STEP.)**.
5. Click **Generate Part**. The task appears in **Your tasks** with the status **Pending**.
6. Follow the **Activity** log, or click **Cancel Task** to stop it.
7. When the status is **Completed**, open the task to preview and download the result.

Background Tasks

Drawing-to-CAD, step by step

1 · Upload

Drawing-to-CAD

Your tasks, working in the background.

Choose your drawing

Choose a task. Keep working while it runs.

Drawing-to-CAD

← Change type

Choose a drawing
or drop it here

PNG, JPEG or PDF · Up to 20 MB · 40 MP

One part per drawing. PDFs use the first page. Your task continues when you close Capella.

Deliver for

SolidWorks 2026

Generate Part

Your tasks

No tasks yet

Choose a task type to get started.

2 · Preview & deliver

Drawing-to-CAD

Your tasks, working in the background.

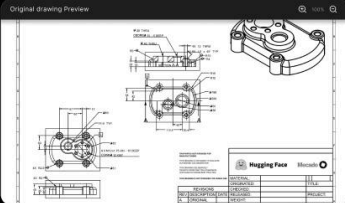
Choose your drawing

Choose a task. Keep working while it runs.

Drawing-to-CAD

← Change type

Original drawing Preview



One part per drawing. PDFs use the first page. Your task continues when you close Capella.

Deliver for

SolidWorks 2026

Generate Part

Your tasks

No tasks yet

Choose a task type to get started.

3 · Pending

Drawing-to-CAD

Your tasks, working in the background.

Part1 - Metal casting Demo

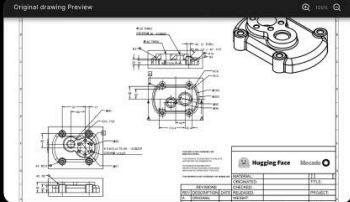
Less than a minute · Attempt 1 · 23/06/2024 16:37:08

Pending

Input

PDF

Original drawing Preview



Activity

Cancel Task

Background Tasks

Task results

Task name
Name of the task

Task details
Duration, attempt, date and time

Input
File type you sent

Output
Target version of the result

Availability
Outputs stay available until this date

Activity
Log of what the agent did

Status
Pending · Completed

Original drawing Preview
Zoom in / out

CAD Preview
Rotate the 3D result

Full screen
Enlarges the 3D preview

Open in SolidWorks
Opens the part directly

Downloads
SolidWorks part (.sldprt), preview image (.png), STEP model (.step)

Part1 - Metal casting Demo
Less than a minute · Attempt 1 · 23/09/2026 16:07:08

Original drawing Preview
Original drawing Preview

CAD Preview
CAD Preview

Open in SolidWorks
Open in SolidWorks

SolidWorks Part
part.sldprt

Preview Image
part.png

STEP Model
part.step

Available until
Available until 10/21/2026, 9:30:01 PM

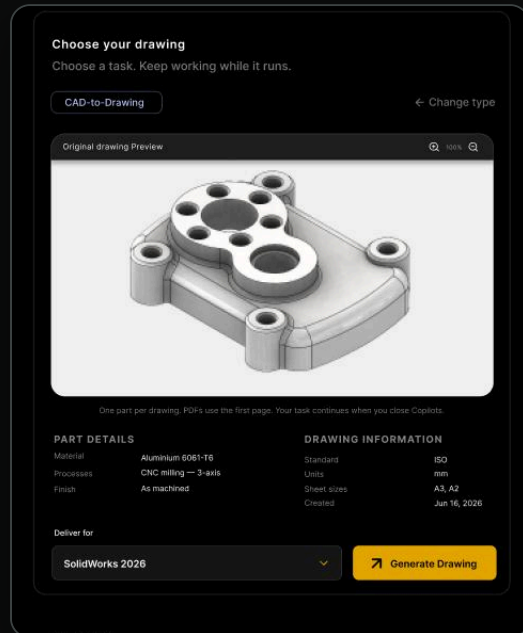
Activity
Activity

Important Download the outputs before the availability date shown under the files.

Background Tasks

CAD-to-Drawing

Send a part and receive a **dimensioned drawing**. MecAgent uses the part details and drawing information to choose views, dimensions and sheet.



1. In **Background Tasks**, click **CAD-to-Drawing**.
2. Choose the part. Its preview appears with its details.
3. Check the **Part details** (material, processes, finish) and the **Drawing information** (standard, units, sheet sizes).
4. Choose the version in **Deliver for** and click **Generate Drawing**.
5. Follow the task in **Your tasks** and download the drawing when it is **Completed**.

Background Tasks

What drawings can it generate?

- Standard views (front, top, side, isometric), section and detail views
- Linear, diameter and radius dimensions; a fully dimensioned drawing on request
- Datums and critical surfaces you define
- Scale, layout and sheet chosen automatically among the allowed sizes
- Title block and common annotations

Technical recommendations

- Fully define and dimension your part features in the 3D model; define tolerances on the model when possible.
- Use **your own empty drawing templates** to get your company title block.
- Add the **assembly STEP** so fits and mating faces are taken into account.
- Review every drawing before release, especially tolerances and GD&T.

Background Tasks

CAD-to-Drawings project

For several parts, the **CAD-to-Drawings** wizard creates a drawing project in **four steps**.

1 Add parts

2 Setup

3 Configure parts

4 Submit

1 Add parts

Drop the **SolidWorks parts** (.SLDPRT, required) you need drawings for. Add **one assembly STEP** (.STEP/.STP, optional but recommended) so the AI sees how parts mate, share datums and where fits and tolerances matter.

2 Setup

Project name, drafting standard, units and sheet sizes (next page).

3 Configure parts

For each part: material, function, processes, finish, notes, datums and critical surfaces.

4 Submit

Review and submit. The drawings are generated in the background; use **Back** / **Next** to move between steps.

Background Tasks

Project setup

These defaults drive every drawing of the project.

Setting	Options
Project name	Required, e.g. "Hydraulic Pump Housing — Rev D"
Drafting standard	ISO or ASME Y14.5
Units	Millimetres or Inches
Sheet sources	MecAgent default, or your own empty drawing templates
Sheet sizes	A4 (210×297), A3 (297×420), A2 (420×594), A1 (594×841), A0 (841×1189) — select one or more

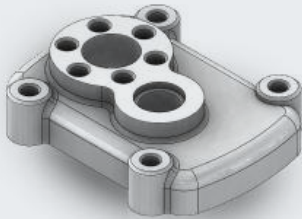
Good to know MecAgent picks the **smallest allowed sheet** that fits each part at a sensible scale.

Background Tasks

Configure parts

Step 3 gives MecAgent what a draftsman would ask you: **what the part does**, **how it is made** and **which surfaces matter**.

Part 1 of 1 · EngineBlock.SLDPRT



ISOFrontTopRight

Click a face to set datum C

Part details

Material
Aluminium 6061-T6
ρ 2.70 g/cm³ · E 69 GPa · machinability A

Process
CNC milling

Finish
As machined

☒ Add all dimensions for a fully dimensioned drawing

Datums

Datum A	Face 44
Datum B	Face 47
Datum C	OPTIONAL Click to define

Critical Surfaces

Waiting for face selection...
e.g. Mating surface — flatness ±0.05 mm required

Background Tasks

Configure parts — fields

Field	What to enter
Material	e.g. Aluminium 6061-T6 — its properties are shown (density, modulus, machinability)
What does this part do?	Optional: the function of the part in the product
Process	One or more: e.g. CNC milling, CNC turning
Finish	e.g. As machined
Notes	Critical interfaces, customer callouts...
Add all dimensions	Tick for a fully dimensioned drawing
Datums	Reference frame for dimensions and GD&T: click a row (Datum A, B, optional C), then pick a face in the 3D viewer
Critical Surfaces	Select faces in the 3D viewer (click again to toggle), explain why they are critical, then click Add surfaces. None, one or many groups.

Background Tasks

Text-to-CAD, STEP-to-CAD & Macros

Text-to-CAD

Send a **written brief** or a spec sheet and receive a modeled part. Describe the part step by step, with all dimensions, as you would in the CAD Agent.

"A rectangular aluminium enclosure 120 × 80 × 40 mm, 2 mm walls, open top, four M3 bosses Ø6 mm in the corners, 1 mm fillets on outer edges."

STEP-to-CAD

Send a **STEP file** and receive a **native SolidWorks part with a feature tree**, ready to modify. Ideal for supplier parts you need to adapt.

Macro Generation

Generate a **macro** in the background while you keep modeling. You will find it in your tasks and can then run it and add it to My automations.

Background Tasks

Live or background?

Use the CAD Agent (live) when...	Use a Background Task when...
You want to iterate and see each change in SolidWorks	The job is long and you want to keep working
The work depends on your current selection or open assembly	You have the input as a file (drawing, STEP, brief)
You refine the result step by step	You want a file back (part, STEP, PDF drawing)

Good to know Every Background Task can also run live in the CAD Agent: just ask in the chat.

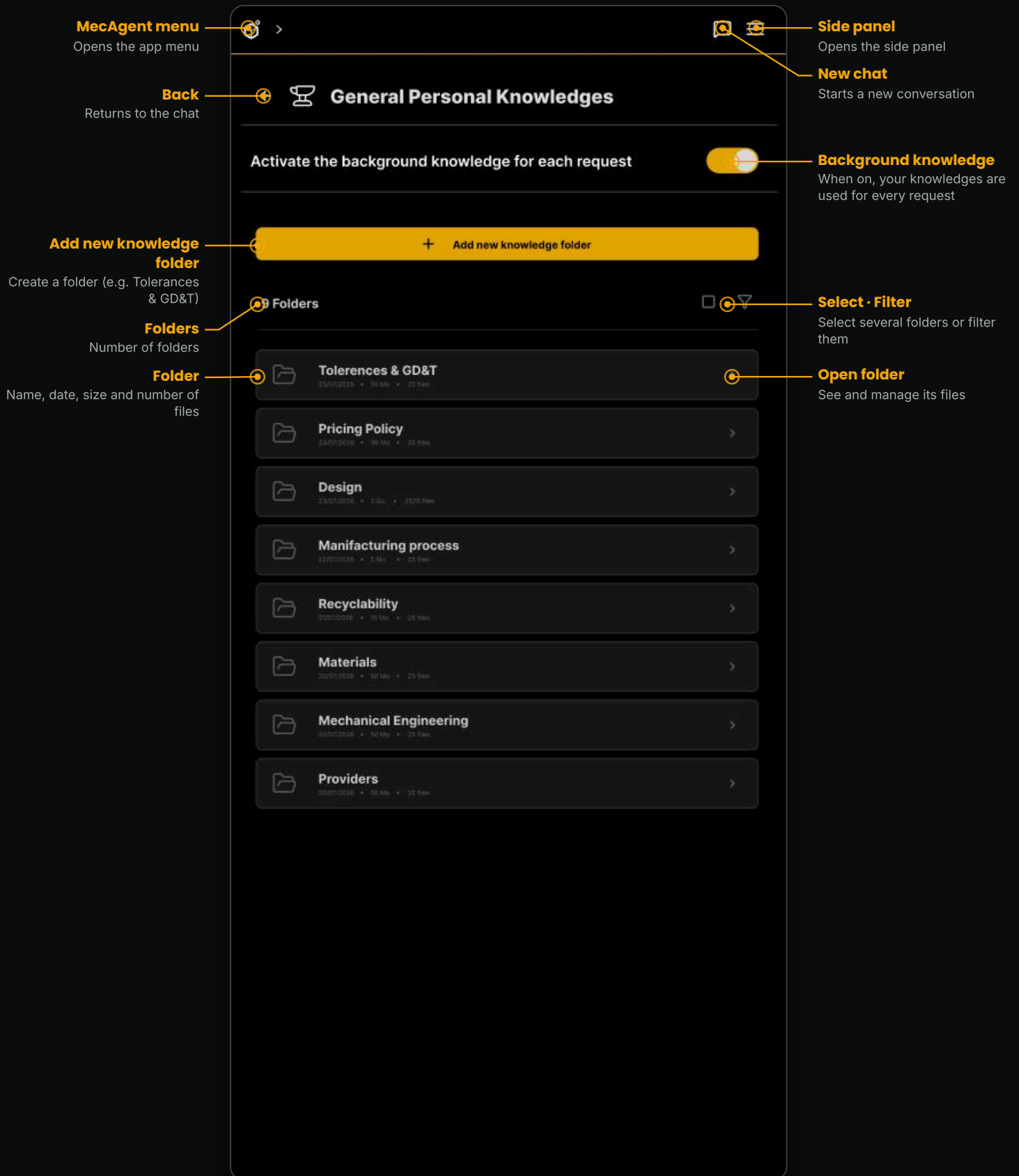
07

General Knowledges

Teach MecAgent your company context: standards, materials, processes, suppliers.

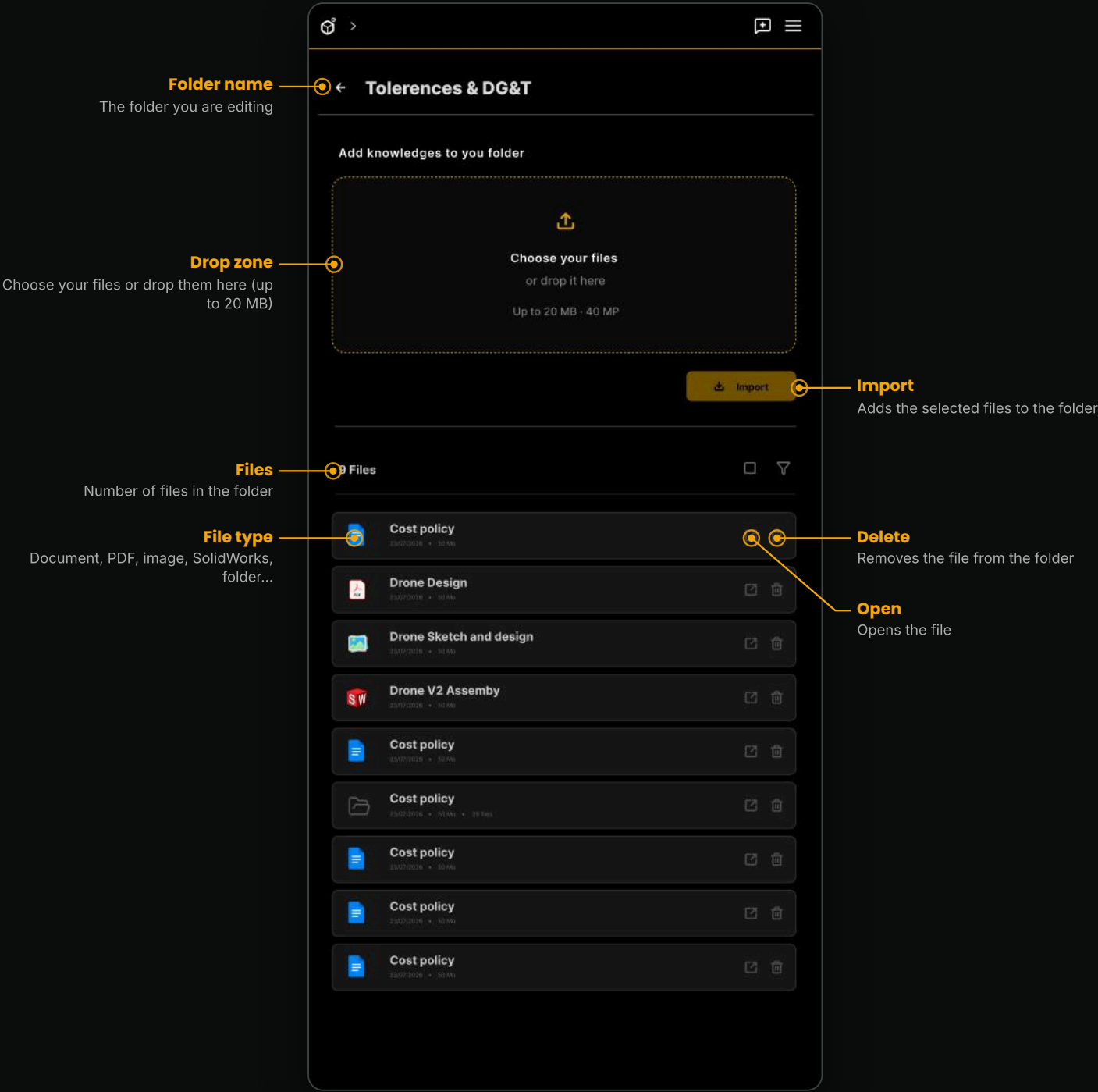
General Knowledges

Knowledge folders



General Knowledges

Add files



General Knowledges

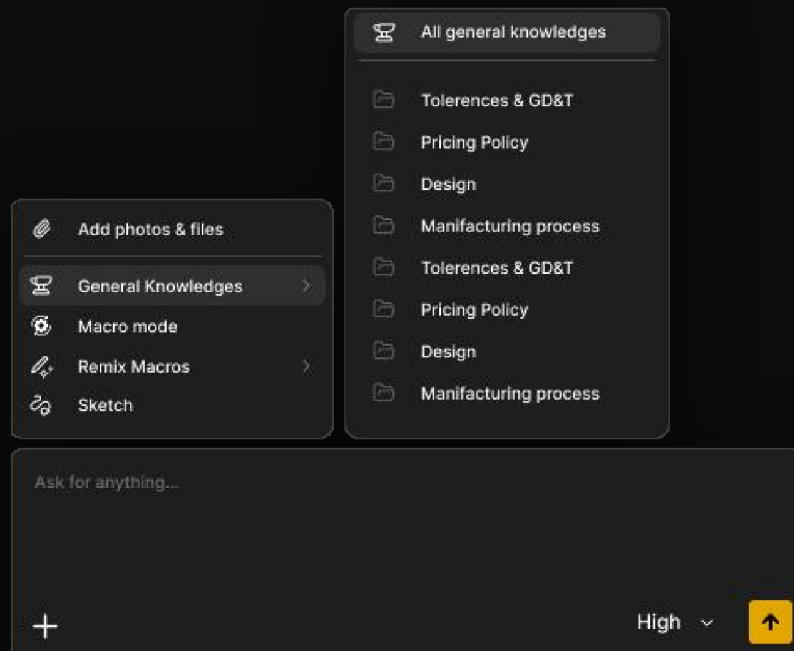
Use your knowledges

Create a folder

1. Open **General Knowledges** in the side panel.
2. Click **Add new knowledge folder** and name it.
3. Open the folder, choose or drop your files, click **Import**. Add an assembly STEP to give interaction context.

Use it in a request

4. One folder for one request: **+ > General Knowledges** and pick it.
5. All folders, on every request: turn on **Activate the background knowledge for each request**.



08

Support

Plans and usage, connection issues, safety & data, FAQ.



Support

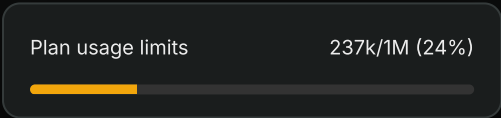
Plans & usage

Every plan uses **one token allowance** shared by all actions: agent runs, macros, Drawing-to-CAD and CAD-to-Drawing. Yearly billing saves about 17%.

Plan	Price	Tokens / month	Highlights
Free	\$0	3,000	MecAgent Light & Medium, community support
Starter	\$99 / month	15,000	Unlimited saved automations, more models, email support, privacy mode, commercial use
Advanced+	\$499 / month per seat	90,000	Priority feature access, 24/7 support line, company workspace and admin controls
Enterprise	Contact sales	Shared budget	SOC 2 examination completed, optional fine-tuning, invoice or PO payment, named contact

Prices as published on [mecagent.com](#) in October 2026; check the website for current pricing.

Follow your usage

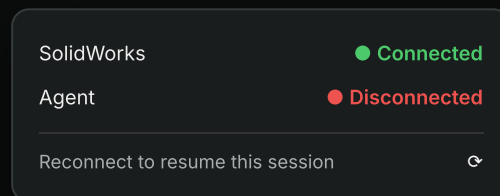


- Header: the **plan usage** indicator shows how much of your allowance is used.
- **Settings > Account**: tokens used and remaining runs per feature.
- **More tokens** or **Dashboard**: upgrade or manage your plan.

Support

Connection issues with the CAD software

1. Click the **connection status** (green/red dot) in the header and click the **refresh** icon.
2. Still disconnected? **Save your work**, then:
 - a. Open the Windows Task Manager
 - b. Filter "solidworks"
 - c. End all SolidWorks processes
 - d. Restart SolidWorks and let it fully initialize
 - e. Click refresh again in MecAgent
3. Still disconnected? **Run MecAgent as administrator**, and ask your IT department to allow the app through the firewall: domain **proxy.mecagent.com**, port **443**, protocol TCP.
4. Still blocked? Contact **support@mecagent.com** with your app version (Settings, bottom of the page).



Support

Other common issues

Issue	Solution
Windows SmartScreen blocks the installer	Click More info, then Run anyway
Sign-in loops back to the login screen	Close the app, reopen it and sign in again; check that your network allows proxy.mecagent.com
Lost access to your two-factor app	Contact support@mecagent.com to reset two-factor authentication
A background task stays Pending	Check its Activity log; cancel it and submit it again if it does not progress
An automation fails	Paste the error in the chat and ask the agent to fix it, or rebuild it in smaller steps
SolidWorks version not detected	MecAgent is tested on SolidWorks 2024, 2025 and 2026; earlier versions should work but are not guaranteed
A macro fails on an older SolidWorks version	Some SolidWorks API features differ between versions; ask the agent to adapt the macro to your version, or use 2024 or later

Your CAD session

The CAD Agent works in **your local SolidWorks session**. Requests, the context needed to answer them and the actions to run are exchanged with MecAgent's servers.

Files you send

Files you attach to a request, add to General Knowledges or send to a Background Task are **uploaded so they can be processed**. Task outputs stay available until the date shown in the task, then expire.

Privacy mode

Available on the **Starter** and **Advanced+** plans.

Enterprise

SOC 2 examination completed, optional fine-tuning on your data or data kept private and never stored, company workspace and admin controls. For large companies, an **on-premise** deployment can be discussed with our team.

Support

Good practices

- Use **privacy mode** or an **Enterprise** agreement for sensitive or confidential projects.
- Only add to General Knowledges the documents the agent really needs; delete files you no longer use (trash icon in the folder).
- Remove confidential title-block information from drawings you send to Drawing-to-CAD when it is not needed.
- Download Background Task outputs before their availability date.
- Keep **Auto-accept Tool Executions** off if you want to approve every change to your model.
- Check with your IT department before using MecAgent on export-controlled data.

Good to know MecAgent is an independent tool. It is not affiliated with or endorsed by SOLIDWORKS or Dassault Systèmes.

Questions about security, data or on-premise deployment? Contact contact@mecagent.com.

Is MecAgent available on all CAD software?

V2.0 runs natively with SolidWorks; our team tests it on 2024, 2025 and 2026. Inventor is next, then Siemens NX and CATIA before the end of 2026, then PTC Creo, Solid Edge, Fusion 360 and Onshape. Meanwhile, use the web app and the STEP / PDF outputs.

Do I need SolidWorks open to use Background Tasks?

No. Background Tasks run on MecAgent's servers and continue when you close the app. SolidWorks is only needed to open the results.

Where did the V1.2 modes go (Automation, CAD Copilot, MechE Expert, Text to STL/STEP)?

They are all part of the CAD Agent. Ask for a macro, an engineering answer or a part directly in the chat; use Macro mode to force a reusable macro.

Are my V1 automations still available?

Your saved automations are in My Automations; the public ones are in the Macro library.

Which model should I use?

MecAgent High for everyday work, Max for complex or long jobs, lighter models for quick edits.

How long does a request take?

From a few seconds for simple edits to several minutes for complex parts, macros or drawings. A sound plays when a macro or task is ready.

Can I stop the agent?

Yes: use Stop Automation on a running macro, or Cancel Task on a background task.

Does MecAgent replace my designers?

No. It speeds up modeling, documentation and repetitive work; your engineers keep design intent, validation and release.

I want MecAgent on another CAD software or a demo.

Book a demo on mecagent.com or write to contact@mecagent.com.



AI CAD Agent

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