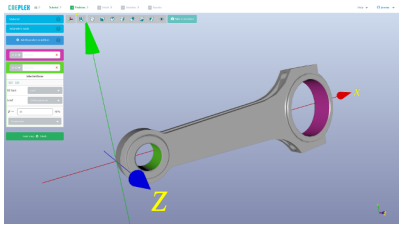
CAEPLEX

www.caeplex.com



## Contact

Jeremy Theler, ME
Founder & CEO
+54 3492 303068
jeremy@seamplex.com — www.seamplex.com

## Funding

Currently raising (seed): 150/250 kUSD

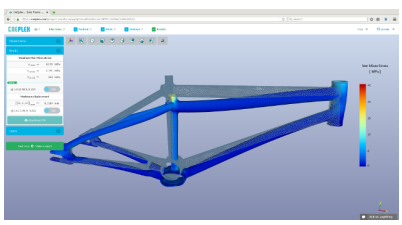
## Technology & Innovation

Simple & easy web front-end for cloud-based computing developed using PHP+Javascript interacting with other UNIX tools (Bash, C, Python, AWK) and free third party programs and libraries: OpenCASCADE, PythonOCC, Gmsh, PETSc, Git, LaTeX (all of them open source). The back-end is a free and open finite-element solver written from scratch by CAEplex called Fino https://www.seamplex.com/fino.

## Team

**Jeremy Theler**—*CEO*
jeremy@seamplex.com
Nuclear Engineer with a strong background on mathematical modeling of complex systems and ten years of experience developing calculation software codes and leading engineering teams.

**Martín Marlatto**—*BDM*
mmarlatto@seamplex.com
Software Engineer and seasoned entrepreneur with more than ten years in the IT Market in LATAM.



# Lowering the entry barriers to the world of Computer-Aided Engineering for small metal-mechanical manufacturing industries

## Elevator Pitch

CAEplex is a startup that wants to shift engineering paradigms by developing products and services based on the principles of free and open programming following the UNIX philosophy. Our unique value proposition consists of web-based front-ends, free and open source engineering software and management of innovative and complex engineering projects.

## Opportunity

Most industrial SMEs that manufacture mechanical parts (i.e. automotive parts, agro machinery, etc.) do use 3D CAD tools to design their products. But most of them do not usually perform any kind of calculation-based analysis of the stresses these parts are subject to under operational loads. With our product CAEplex, we want to lower the entry barriers to the CAE world in order to have as many SMEs as possible to start performing mechanical analysis of their products.

## Problem

- Most SMEs do not make any kind of mechanical analysis of the products they manufacture.
- Industries do not talk to the universities, and conversely.
- Traditional on-premise alternatives are either expensive and complex (SolidWorks, ANSYS, etc.) or free and open but hard to use (CalculiX, CodeAster, etc.) and they all need dedicated IT infrastructure (hardware, people, etc).
- Other cloud-based solutions are aimed at advanced users either by trying to migrate current on-premise clusters into the cloud (Rescale, UberCloud, etc.) or by providing a complex (and hard-to-use for beginners) interface to open-source back-end (Simscale, Conself).

## Solution

An easy-to-use web front-end for (simple) mechanical analysis running on the cloud with an engineering-grade report generator. No need no install software nor to buy hardware. CAEplex provides a SaaS platform where users can centralize their projects and documents, share their work, build an online community, etc. The platform can even be access-ed from a tablet or other mobile devices.

## Current Status

There is a working MVP that can be accessed online at https://www.caeplex.com with two hundred registered users.

## Competitive Advantage

Technically speaking, CAEplex is a web front-end for a calculation back-end. This back-end, called Fino, is free and open source and was developed from scratch by us. So the company owns the full spectrum (i.e. has detailed technical know-how) from the back-end up to the front-end.

## Why Invest

CAEplex is the easiest and most affordable web-based platform for performing mechanical finite-element analysis running on the cloud as a SaaS platform. Almost every SME in the world lacks skilled staff and resources to run simulations and computer aided engineering over its products using traditional desktop-based commercial tools. These SMEs either have to recur to external consultants to perform mechanical calculations or not perform them at all, which is what most of them do. CAEplex provides an affordable "do-it-yourself" approach where the same staff that performs the CAD modeling of the manufactured parts can obtain an engineering-grade report of how those products behave under operation using state-of-the-art CAE techniques.