



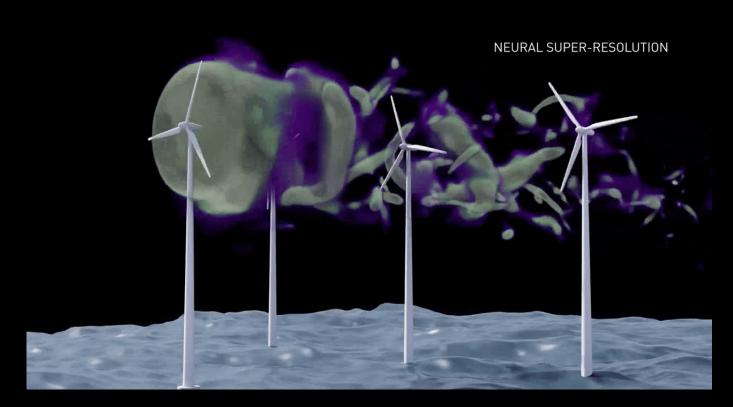
The platform for Al-based physics simulations

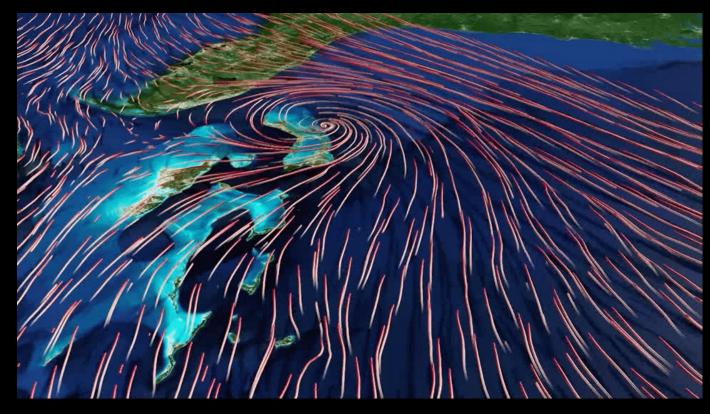
Imagine you're designing a hydro power plant. It's critical your solution prevents future mistakes, reduces complexity and cost. Traditionally the process took years and cost millions, requiring expensive compute.

Siml.ai does it 10-100x faster



## WITH SIML.AI YOU CAN SAVE TIME & COSTS







The time of virtual physics experiments is cut to

HOURS

instead of days or weeks

With AI, simulations are up to

50,000x

faster

Powerful hardware is in the cloud, available in

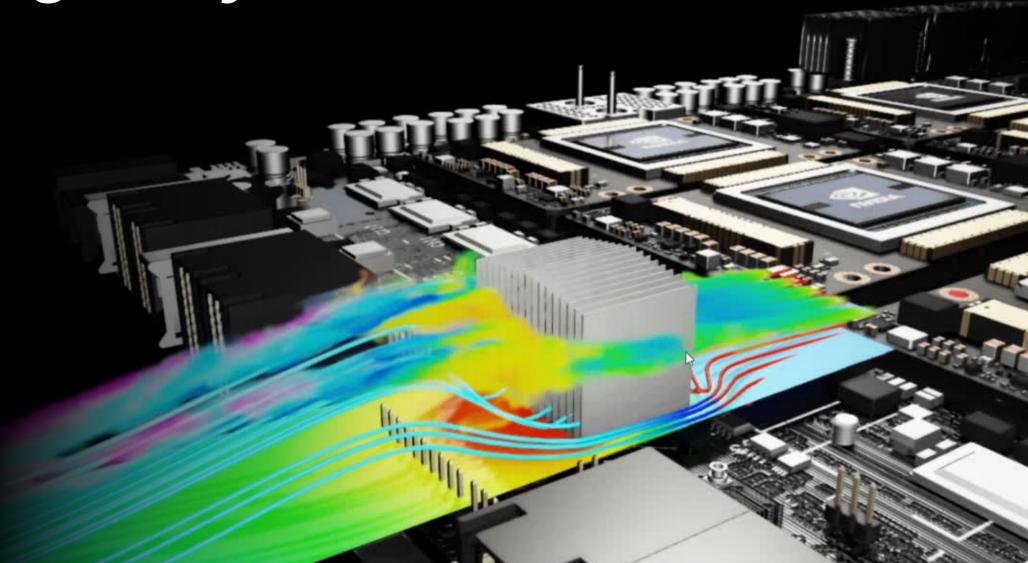
1 CLICK

on the web-based browser



## OUR MISSION

To democratise scientific-grade simulation tools by making it easy for **anyone** to develop physics-based simulations and deploy them in their workflows, regardless of their technical skills. By making scientific simulation almost **real-time**, **user-friendly**, and **accessible**, we want to reach all engineers and physics enthusiasts **globally**.



## CUSTOMER PROFILE (FOCUS ON INDIVIDUALS)

#### 1.

**CFD Engineers.** Works at the engineering consultancy company or/and at the Technical University. They need a reliable, no-code, web-based, fast simulation platform. They create technical analysis about the simulated product or technology characteristics and in academic setting, they write research papers and use Siml.ai for research data.



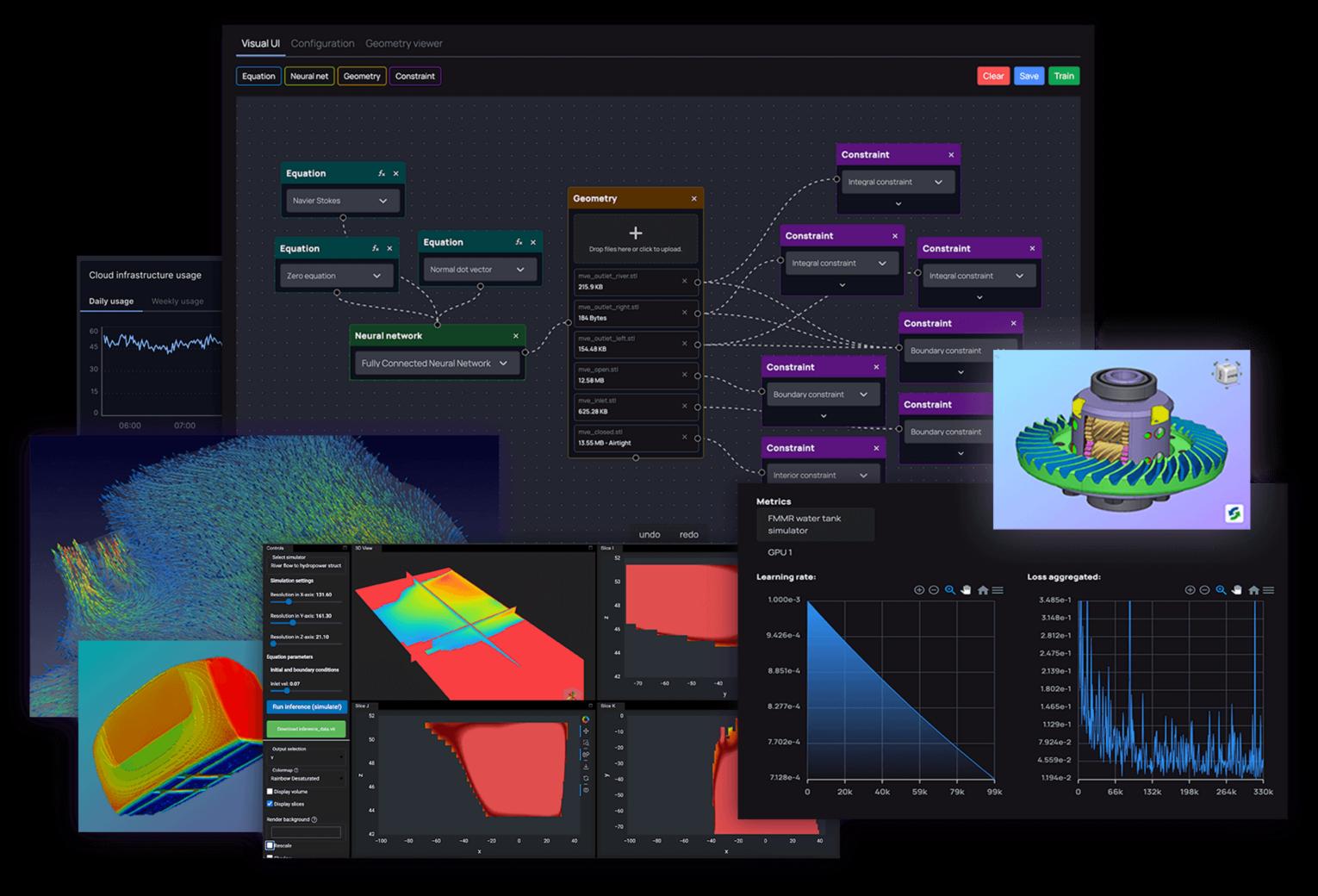
#### **2**.

Engineering/Physics students. They need reliable scientific simulation software for their research papers and other practical projects. Perhaps they have access to another software through their universities, but the interface is slow and complicated, with an outdated design. They want something modern, fast, and affordable.





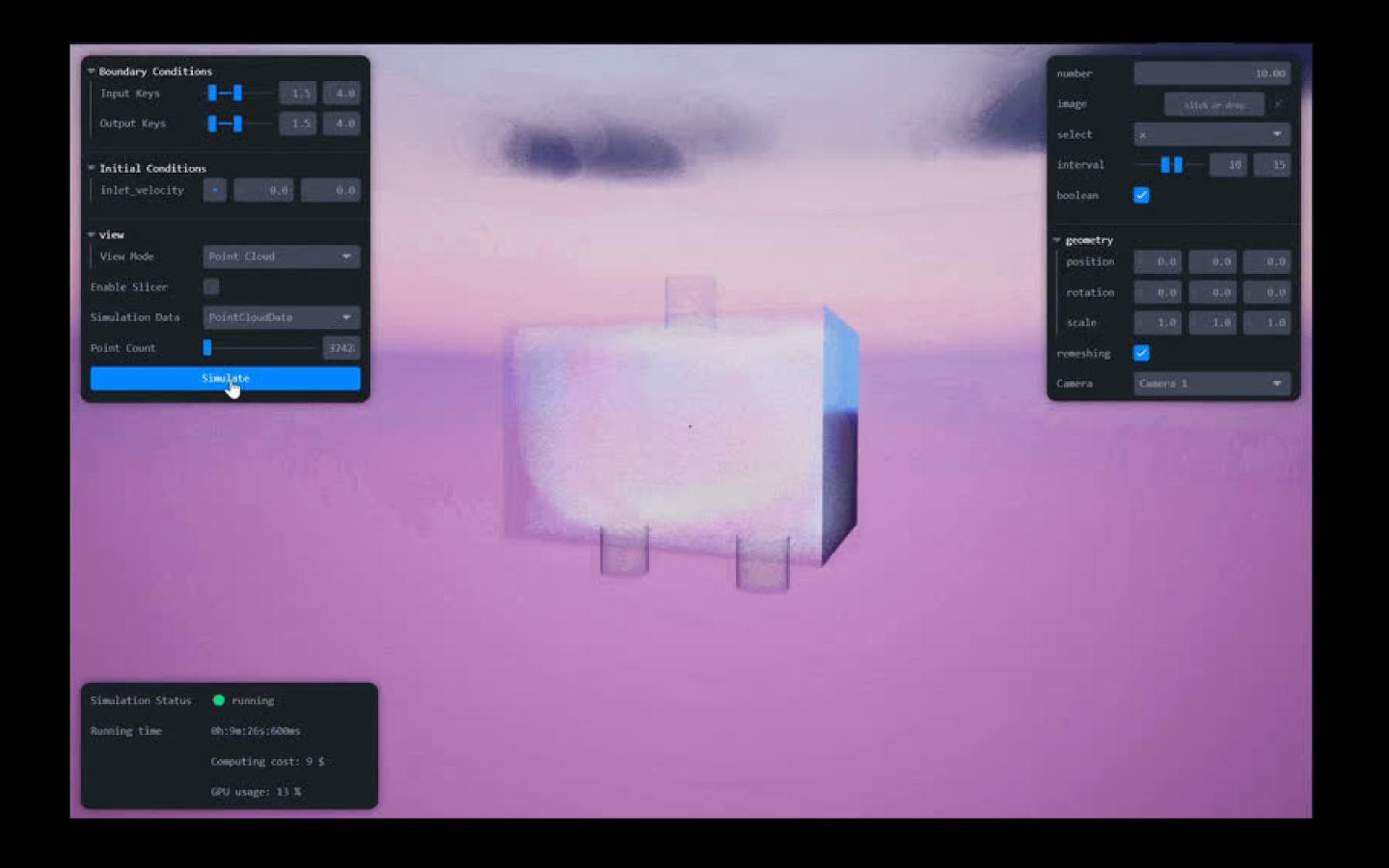
## PRODUCT / MODEL ENGINEER



- Pre-built models and examples
- Bundled equations for multiphysics,
   CFD, heat transfer, acoustics,
   seismics, electromagnetics; or you
   can implement custom physics
   solvers yourself
- Easy-to-use visual interface
- No-code / Low-code
- One-click access to robust cloud infrastructure for training AI models
- Build interactive web apps on top of our Simulator Inference & Training
   Environment (SITE)
- Monitoring dashboards
- Dataset preparation



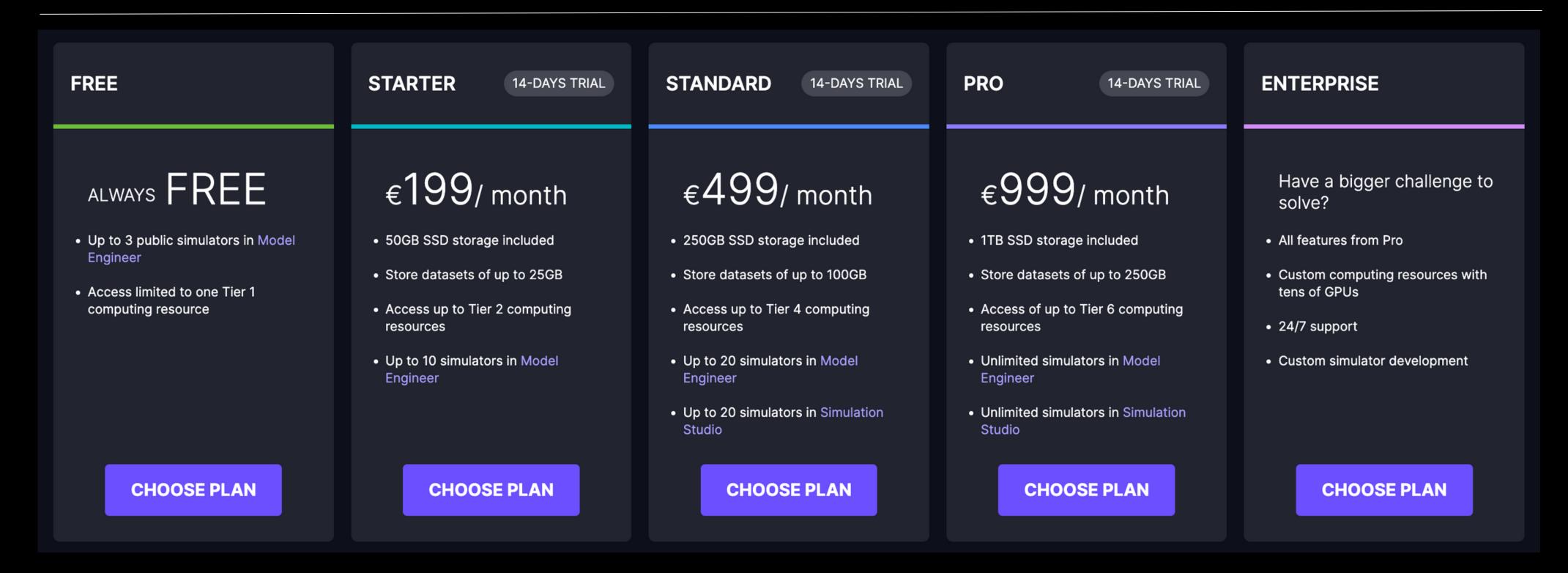
## PRODUCT / SIMULATION STUDIO



- Interactive visualization tool for numerical simulation and virtual physics experiments
- Explore hundreds of variations by running simulations in seconds
- Automated optimization of complex geometries
- Fastest way to build digital twins that need real-time physics simulation
- Support for virtual and augmented
   reality in Q4 2023



## OUR CURRENT PRICES



#### What means "Access to Tier X computing resources"?

Running Al model training & inference workflows inside Siml.ai is billed on "per-minute" basis while the server instance is running in the cloud, additionally to the monthly/yearly subscription the user is paying.



## PILOT CLIENTS



DimensionLab is working with Kovohuty
Krompachy to integrate Siml.ai into their
workflow to achieve 10% cost reductions
of metallurgical processes
(~€100k/week) and process time
reduction under 24 hour/cycle.



Siml.ai helps RFB's engineers increase hydroplant's energy generation efficiency, optimize water structure endurance against strong floods.



Siml.ai is being integrated into TUKE's software library used by their researchers for commercial and research simulations across metallurgy, aerospace, automotive, manufacturing, material science structural mechanics, and civil engineering.



DimensionLab team developed a PoC AI model for near-real-time predictive maintenance of automatic gearbox, which is 5,000x faster than AUFEER Design's proprietary MATLAB-based model.



Siml.ai was used to create Al simulator that can analyze 10's of insulator materials in for multiple temperatures within seconds, reducing the time-to-market of Ecocapsule's new model v2.



Takeda Pharmaceuticals reached out to DimensionLab to develop high-fidelity digital twin with integrated Al simulators for modularizing and speeding up their R&D process.



## PRODUCT VALUE AND GROWTH



Data-driven Al model for predictive maintenance in the automotive industry:

- 99.77% prediction time reduction
- 430x faster (from ~6h to 50 secs)
   99.88% reduction in compute costs
   98.52% energy saved, (significant reduction of CO2 trace), unlocking
   near-real-time iteration times for
   hardware analysis
- Working on a joint collaboration with <u>Škoda</u>



Pioneering sustainable living spaces, adaptable to diverse environmental conditions:

- Optimized Heat Transfer in **Ecocapsule** v2
- Pre-trained simulator for fast
   experimentations with multiple material
   properties and outside temperatures
   between -25°C and +50°C
- 70% enhanced thermal efficiency
- 60% reduced energy consumption

#### 158+ users of Siml.ai

**480**% growth since the alpha launch on July 3rd

### 127% growth

in newsletter subscribers since September



## MEET THE TEAM



Co-founder & CEO

#### **Michal Takac**

13+ years SW engineering experience across various SaaS / crypto / metaverse / Al startups, co-founded 4 startups. PhD in Cybernetics. Slovak Student Personality of the Year 2021 in the category of metallurgy, engineering and energy.

/in/michaltakac/



Co-founder & CFO

#### **Peter Macinsky**

Strategic manager. Peter is a serial entrepreneur in fintech with a strong IT background. Helped to start Solar Turbines (USA) collaboration with R&D team at Ness Košice.

/in/macinsky



Co-founder & BizDev

#### **Branislav Krsak**

Academic consultant in 100+ international projects, PI in 27 projects, R&D commercialization facilitator.

in/branislav-krsak



Co-founder & VP Eng.

#### **Martin Muzelak**

Previously SW engineer at IBM. Finalist at IBM Hack 2019. 2nd place at Falling Walls Lab 2022, PhD. candidate in Cybernetics.

/in/martin-muzelak



Head of R&D

#### Fouzia Adjalia

Pioneer researcher in the field of Al & robotics, ambassador for women in STEM with a particular focus on Al. Keynote speaker at major conferences.

fouziaadjailia.com

**LinkedIn profile** 



Senior SW Engineer

#### **Maros Pekarik**

8+ years of experience in SW engineering and interaction design, specialist in virtual spaces and interactive design. Creative technologist active in robotics and immersive media art.

/in/marospekarik





# Reach us at

# michal@dimensionlab.org

# Thank you!

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**DimensionLab** 

**Partners** 













