



# EuroCC in the Netherlands

Speaker:

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NCC Netherlands / SURF

4<sup>o</sup> Encontro de Computação Avançada (Covilhã, Portugal)  
5th November 2024

# NCC Netherlands

Services to help in the access to and adoption of HPC:

- 50.000 core hours (in-kind contribution from SURF)
- Basic consultancy up to 8h HPC/AI
- Advanced consultancy for promising use cases
- Regular catalogue of training activities

Integration with the existing HPC support landscape

- Complementarity with national academic access
- Facilitation of multi-tier computations





# Industry engagement channels

- Talks at informal meet-ups organized by Startup Hubs in cities.
- Online HPC AI Meetups : how SMEs use HPC
- Being an active ambassador where we go to events
- Through Advisory Board member of NCC NL





# Industry retention strategies/ community engagement

CxO Brunch



ACUD 2023  
(Advanced Computing  
User Day  
2023)



# Services

## Access to HPC Facilities

We help you with an assessment of the computational needs for your institution or company.

## Basic Support

Individual guidance, assessment of potential applications and technological routes, identification of suitable providers and basic support with high performance visualisation.



## Specialised consultancy

Software deployment indifferent HPC architectures, parallelisation and distribution, code optimisation, performance analysis, and assistance with software and hardware technology transfer

## Training

Courses and events for different knowledge levels on subjects of HPC, AI, HPDA, Quantum and many other advanced computing topics.

# Customer Journey

Week numbers are informative



## Step 1

Pre-Scan Assessment

- Skills Scan : Tech Stack &
- Proj. MGMT Skills
- (Optional) Report [HPC4SME](#)
- Confirmation email
- Next steps



Week 0

Week 1



## Step 2

Fit/Exploration Interview:

- Problem statement/ Use Case / Workshop
- Data classification (Sensitive etc.)
- SURF Way of Working
- Project Assets List Assesment/ Preparation



Week 2



## Step 4

Kick-off Meeting:

- Onboarding
- Goal setting
- Meet the team
- Training AI/HPC
- Access HPC platform
- Weekly check-ins

Week 3-5

Week 20



## Step 6

End-of-Project:

- Presentation
- Achievements
- Challenges
- Lessons learned
- Next steps

Week 40



## Step 7

Community onboarding:

- Access to HPC network
- Events
- Stay in touch!



## Step 5

Mid-term check-in:

- Challenges
- Help
- GO/NOGO



## Step 3

PoC – Proof-of-Concept Proposal

- SURF Usage Agreement: Data Privacy
- Onboarding/Offboarding
- Approval for Public Communications
- Collab for White Papers & Scientific Articles/
- Conferences/ Publication





# 02

## Structured Open Calls

### Open calls:

- Multiple cut-off dates
- 5 minutes typeform
- Automated notifications
- Rule for responsiveness:
  - 2-5 days
  - 1 Onboarding Lead
  - Update to CRM
- Intake meeting

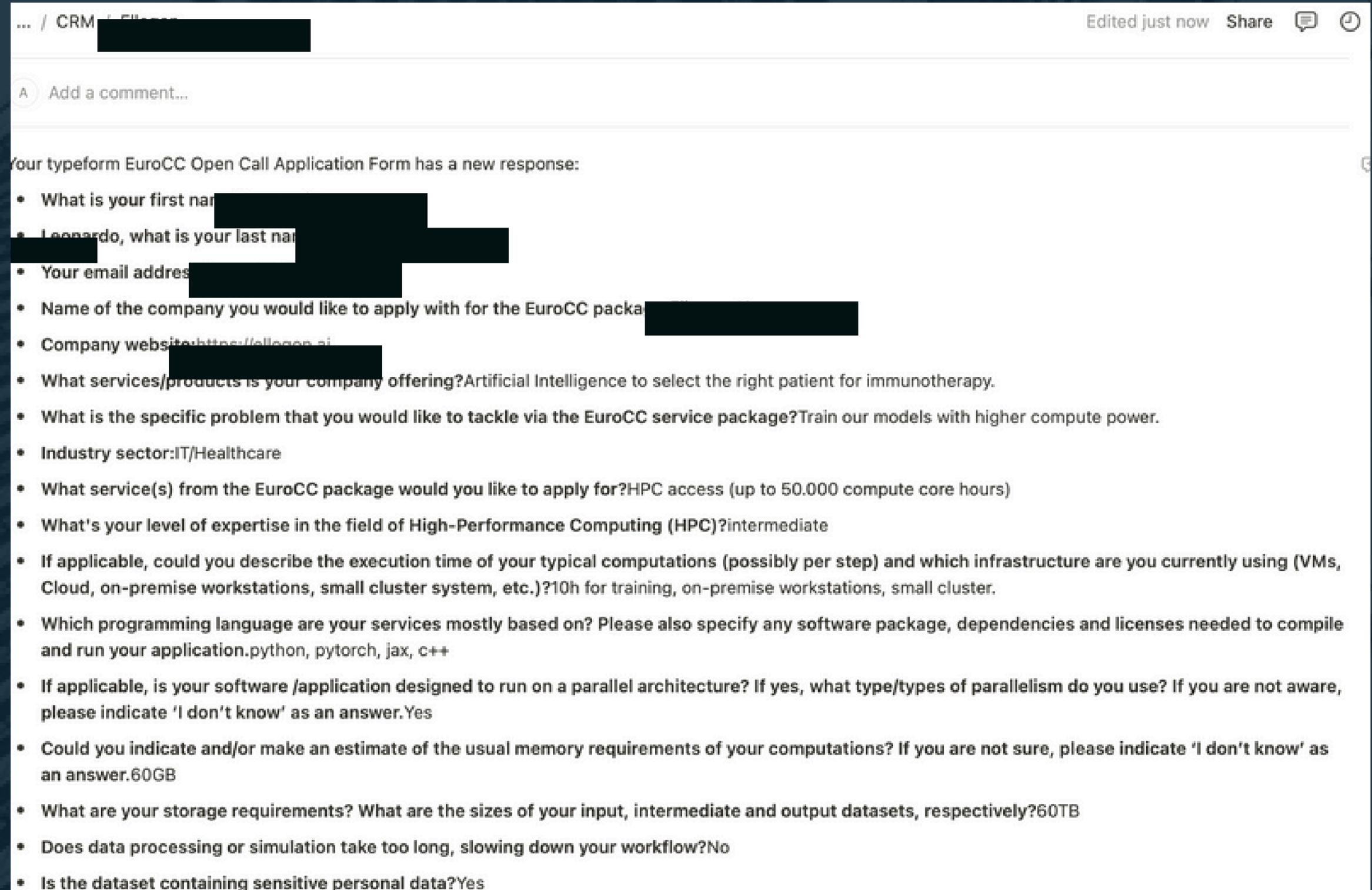


Fig. Example Application from one SME



# 02 Structured Open Calls

## Subject: EuroCC Application for HPC

Dear [REDACTED]

Thank you for your application to the EuroCC open call for SME's in The Netherlands. We are pleased to announce that your application has been selected to be granted support from the EuroCC Netherlands – NCC(National Competence Centre) for HPC.

The EuroCC package offered to SME's like yours in The Netherlands come at no cost motivated by the national and European ambition to boost innovations and scientific breakthroughs in the ecosystem. The services are as mentioned below:

- up to 8h HPC/AI consultancy
- 50.000 SBU's (app. 390 GPU hours) : compute available until app. 1<sup>st</sup> October 2025.
- up to 1TB or 2TB storage on Snellius

To best understand your needs and share more details about the granting process, we would like to invite you to a 30 min online call. Would you please book a timeslot at your convenience [here](#).

In the meantime, we invite you & your team to register for the online Supercomputing trainings with the live trainer at the [website of EuroCC Netherlands](#). If you are a first-time user of HPC, we highly recommend you sign up for the Introduction to Supercomputing training on October 8th [here](#). During the online trainings you will get a hands-on experience on the National Dutch Supercomputer called Snellius and a training user account. Snellius is the National Supercomputer hosted at SURF and you can find more information about the system publicly at this [link](#).

We would also like to share the speaking opportunity for you to present at the Advanced Computing User Day 2024 in Amsterdam (see previous conference in December 2023 [on LinkedIn](#)) or simply register as an attendant. You can find more information about ACUD 2024 here: <https://eurocc-netherlands.nl/calendar/advanced-computing-user-day-2024/>

Looking forward to seeing your timeslot booking.

### About EuroCC Netherlands

EuroCC (European Competence Center) is the European network of 33 NCCs (National Competence Centers) national HPC competence centers with the aim of bridging the existing HPC skills gaps and infrastructure while promoting cooperation across Europe.

EuroCC Netherlands has the mission to facilitate the knowledge sharing and access to HPC infrastructure for topics of HPC, HPDA and AI among all interested national and EU organizations : research institutes, SMEs, big industries, public administration and society in general. The HPC/AI consultancy hours fall under the State Aid Regulation and Access to HPC compute hours are a contribution in-kind by SURF. Both HPC compute hours and HPC/AI consultancy hours come at no monetary costs for the applicants to the regular HPC access in The Netherlands. More information [here](#)

SURF is the national collaborative organization of all knowledge institutions in The Netherlands and is the national coordinator for the EuroCC Netherlands. More info [here](#)

Kind regards,  
Andreas Moss



# 02

## Structured Open Calls

# Onboarding training for SMEs

### INTRODUCTION TO SUPERCOMPUTING, PART I

October 8 @ 1:00 pm - 4:30 pm



### INTRODUCTION TO SUPERCOMPUTING PART I

If you need to perform many calculations, or analyses that are too big for your own system, clusters and supercomputers will provide the computing power you need. In this course, you will learn how to work with these large computing systems!

[Sign up](#)

### What will you learn in this training?

In this training you will:

- understand what is high-performance computing (HPC)
- learn basic details on clusters and supercomputers
- do practical exercises on the [national supercomputer Snellius](#) effectively
- apply the essential best practices on how to work effectively with large HPC systems

### For whom?

Anyone who wants to know how to perform very large computing tasks.

 Science Park 140,  
Amsterdam

 [info@eurocc-netherlands.nl](mailto:info@eurocc-netherlands.nl)

 [www.eurocc-netherlands.nl](http://www.eurocc-netherlands.nl)



02

Structured Open Calls

# GO/NOGO moment after the intake meeting

Expectations:

- be a speaker
- write a publication/blog
  - mention of EuroCC

 *Proof-of-Concept Proposal*

## Proof-of-Concept Grant Proposal

<b>Proposed by:</b>	<b>Addressed to:</b>
EuroCC Netherlands	Spatialise
SURF	Website: [REDACTED]
Website: <a href="http://eurocc-netherlands.nl">http://eurocc-netherlands.nl</a>	Email: [REDACTED]
Email: <a href="mailto:eurocc@surf.nl">eurocc@surf.nl</a>	Contact p [REDACTED]
Contact persons: Andreea Moga, Clicia dos Santos Pinto, Monica Rotulo	

**General description:** [REDACTED]

The EuroCC project in the Netherlands is going to support opportunities in the following activities:

- o Development and optimization of machine/deep learning models for soil nutrient monitoring and prediction for agricultural lands using data from multiple sources.

**Overall terms:**

- The granted resources in the Dutch national supercomputing facilities hosted at SURF in the Netherlands (on behalf of EuroCC Netherlands) are the following:
  - 50,000 SBU's - equivalent of 390 GPU hours in the Dutch national supercomputer Snellius
  - 8 hours of consultancy (when needed)
  - Up to 2 TB of project space (upon request, please see conditions below)
- The specific consultancy time will be provided by the **contact advisor** from EuroCC Netherlands **Monica Rotulo** ([monica.rotulo@surf.nl](mailto:monica.rotulo@surf.nl)).
- General support on how to use the system is considered to be included by providing the necessary information and tutorials on how to work with the system, which will be provided when the access logins are granted. The contact advisor may be the primary reference for questions about the project and general use of the system when needed. A direct contact with the SURF Service Desk may only be done upon agreement with the contact advisor.
- The general usage agreement of SURF supercomputing facilities must be accepted in order to access the granted compute time at the time of user login. Please see <https://portal.cua.surf.nl/user/eua> for more details.
- The granted compute time is available until the 31<sup>st</sup> of January 2025.
- In case that the project space is indicated above as a granted resource, please note that this usage and need must be agreed and approved by the contact advisor according to the needs of the proof-of-concept.
- The compute time of 50,000 SBU's on Snellius cannot be increased. When this compute time is finished, the proof-of-concept will be finished too.
- After the proof-of-concept is finished, a summary of the output must be reported. The format

1

 *Proof-of-Concept Proposal*

is free, and it may be a text and/or other type of dissemination material (e.g., white paper, scientific paper, interview, blog post, etc.). Any public dissemination of the material must be agreed between EuroCC Netherlands and **Spatialise**.

- A basic description of the project will be included as part of the deliverables associated with the EuroCC project for the goals of internal reporting. The presence in a public deliverable will be considered public dissemination (see above point).
- Any intellectual property rights (IPR) generated from this proof-of-concept are in full ownership of **Spatialise**. EuroCC Netherlands will not and may not claim any IPR rights from this basic proof-of-concept.
- Any relevant exploitable or dissemination outcome from this proof-of-concept must acknowledge the support of EuroCC project. For example: "This project has been possible with the support of the EuroCC project implementation in the Netherlands (NCC Netherlands), funded by the European High-Performance Computing Joint Undertaking (Grant Agreement 101101903).
- Extended consultancy time may be granted upon request and special interest from EuroCC Netherlands and **Spatialise**. The terms and conditions of further interaction will be agreed separately, and will not directly be inherited from the present document, unless agreed otherwise by EuroCC Netherlands and **Spatialise**.
- Extended access to compute time may be possible on different infrastructure. Once the proof-of-concept is finished, EuroCC Netherlands have the compromise to provide **Spatialise** with the necessary information for a possible continuation path for further computations. Further subsidized opportunities may be provided, but without any guarantee of keeping an access to compute time without associated costs.
- **IMPORTANT NOTE:** the granting of resources and consultancy time as an European subsidy may be subject to tax declaration. Please check with your accountant for any possible implications.

**Next steps:**

- **In case of acceptance of the granted proof-of-concept, please reply to the email [eurocc@surf.nl](mailto:eurocc@surf.nl) if you agree with the proposal as stated in the above terms or if further changes/adjustments are needed.**

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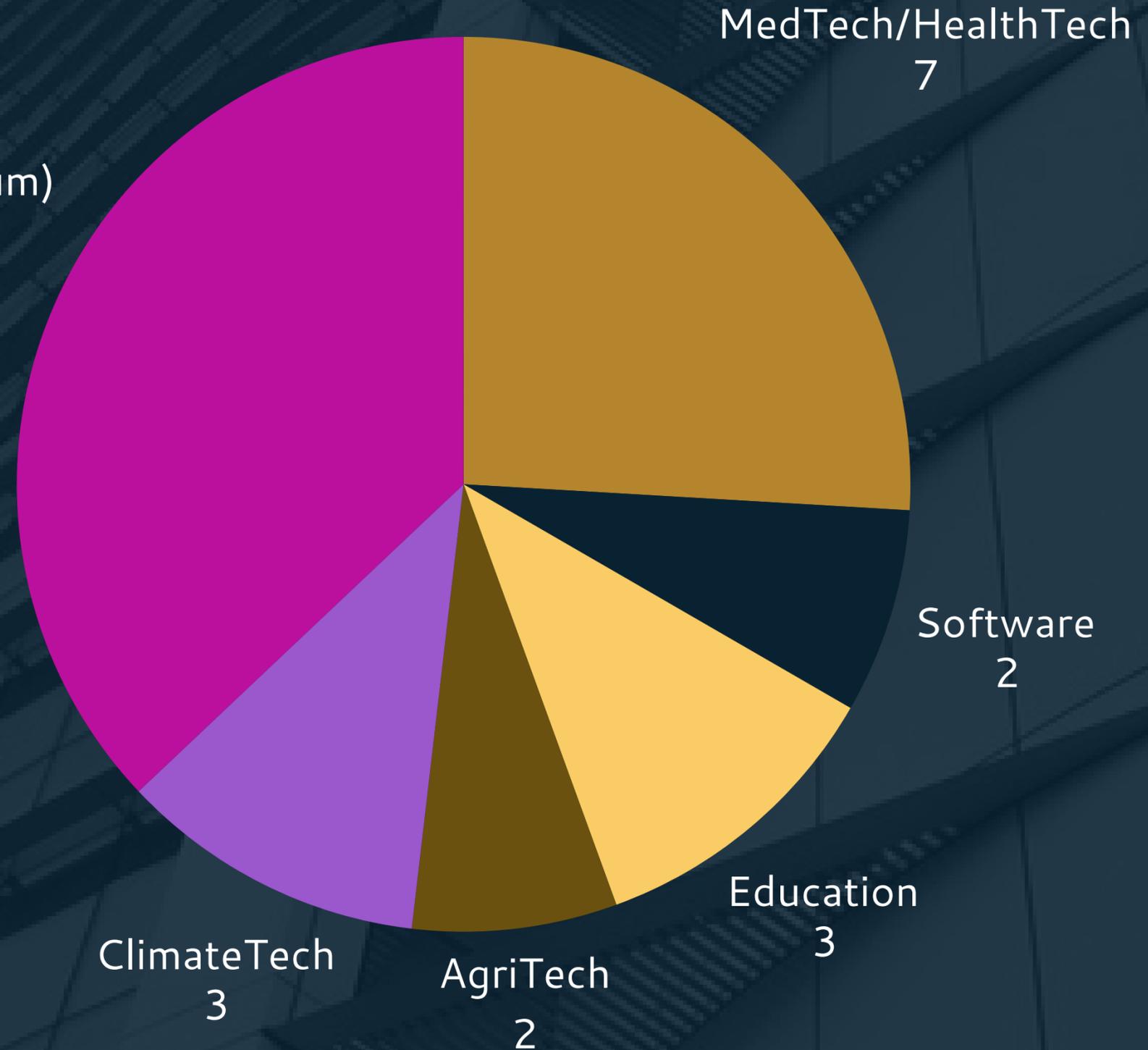


02

Structured  
Open Calls

# Open Calls

Other(HR/AI/Quantum)  
10



A total of 27 applications out of which 11 active on HPC for PoC came through:

- First Open Call for SME's #1 December 2023
- Second Open Call for SME's #2 February 2024
- #3 April 2024
- #4 June 2024
- #5 September 2024



# GenAI

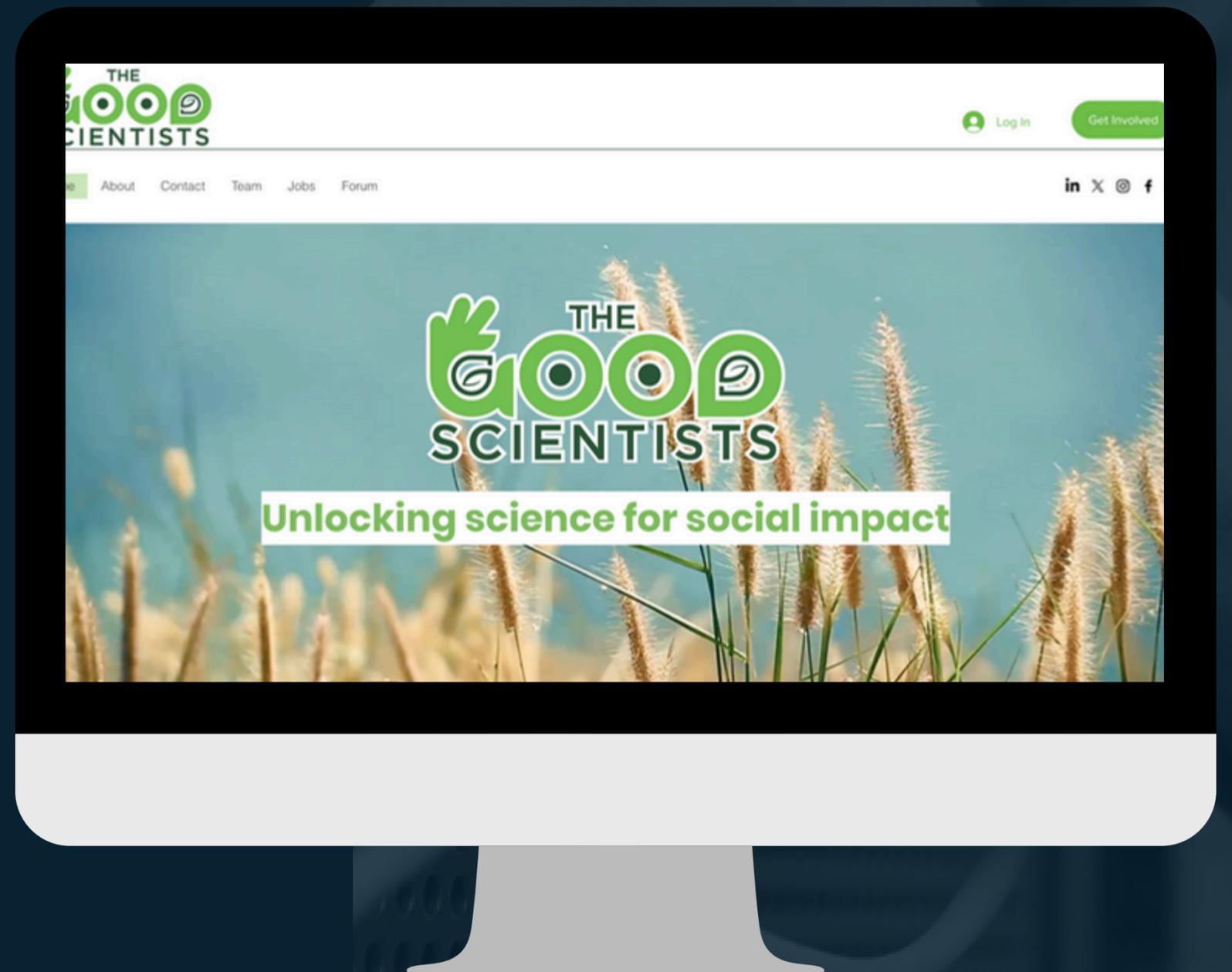
# Use Case 1

## The Good Scientists



**Match-making platform for scientists and impact-driven projects**

maximize the impact of scientists and researchers and their work



# The Good Scientists

## Field

- A Social Impact Project Marketplace
- Scientific Expert Network.



## Goal

A reduced response time for the recommendation by handling efficient workload balancing and the efficient use of GPU resources.

## Solution and Use Case Description

- LLM-based recommender system for a match-making platform for scientists and impact-driven projects
  - Fine-tuning of the specific Large Language Model for the matching platform
  - Improved accuracy of the results (expert-findings)
  - Improved efficiency and performance of training models

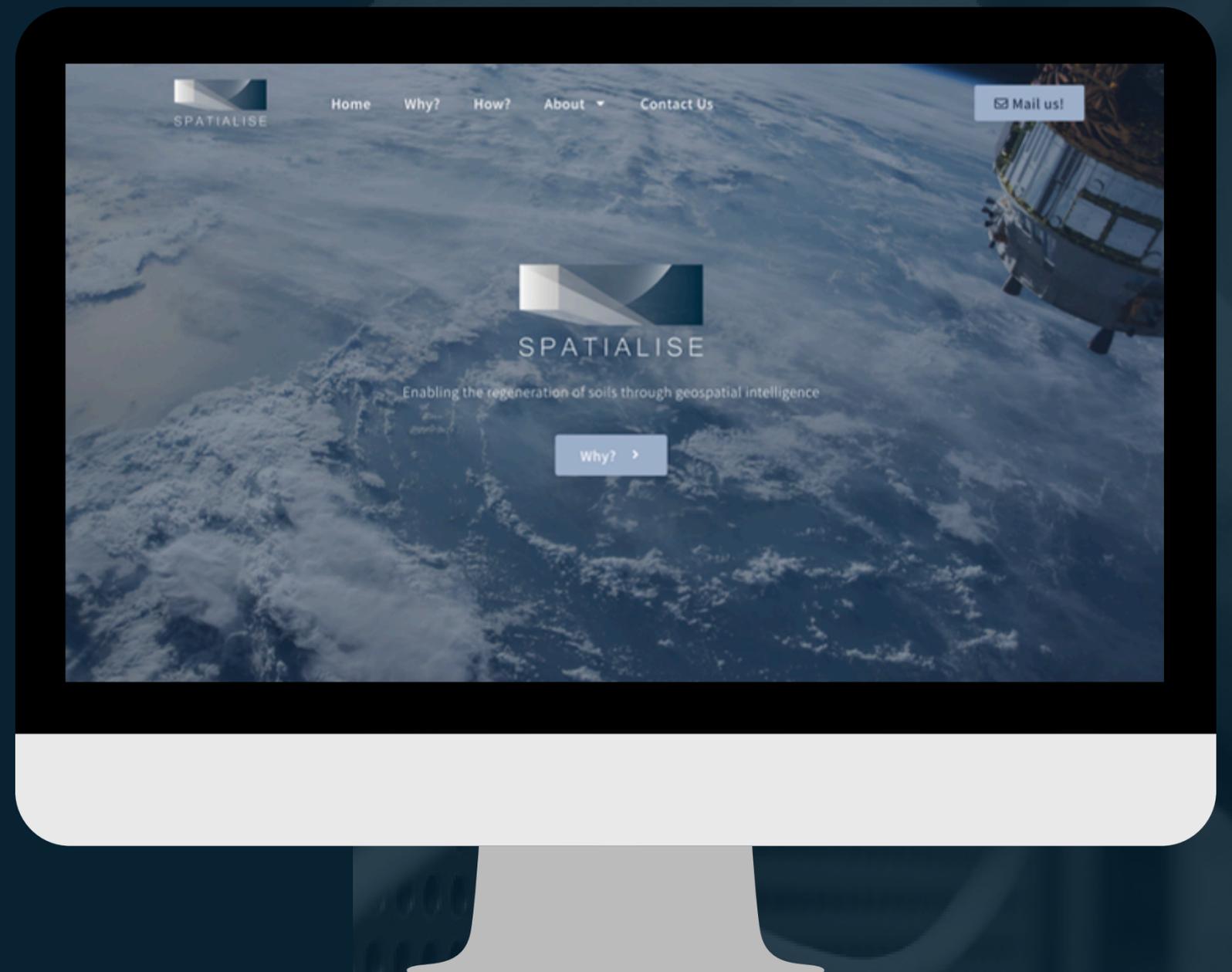


# Use Case 2

## Spatialise



**Soil nutrient monitoring tool for sustainable agricultural lands**  
using satellites and machine learning



# Spatialise

## Field

Sustainable Agriculture  
Technology



## Problem

Soil health monitoring

## Solution and Use Case Description

Spatialise developed a soil health monitor. The product estimates soil nutrients of farmland topsoils, using satellite data and AI. Remotely, scalable and at unmatched precision. This information is valuable for monitoring and evaluating the carbon footprint of food value chains: from farm to fork. Next to that, the data provides insights and analytics of regenerative agriculture, such as land restoration initiatives.

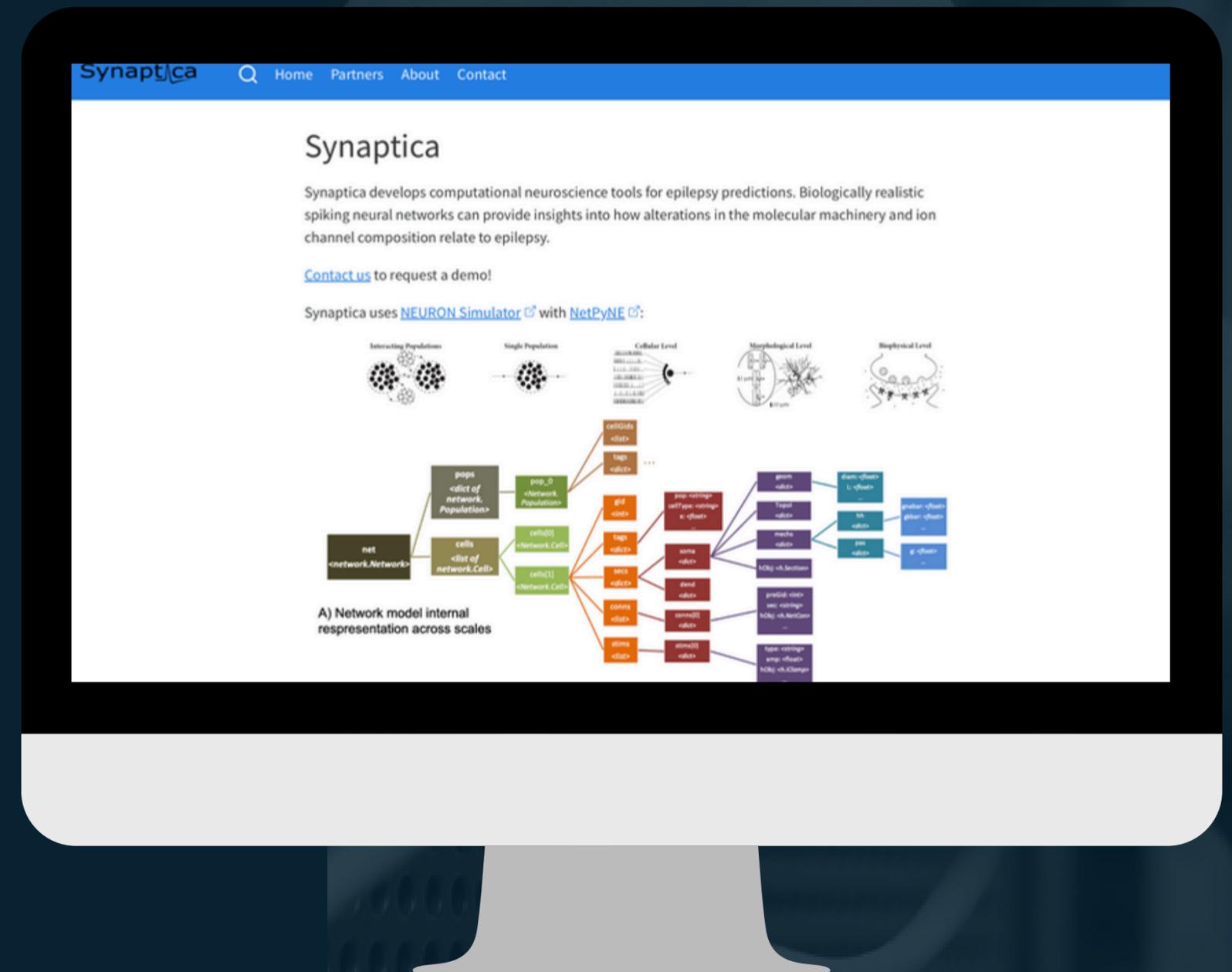
# Use Case 3

Synaptica



## Genetic-driven neural simulations for epilepsy

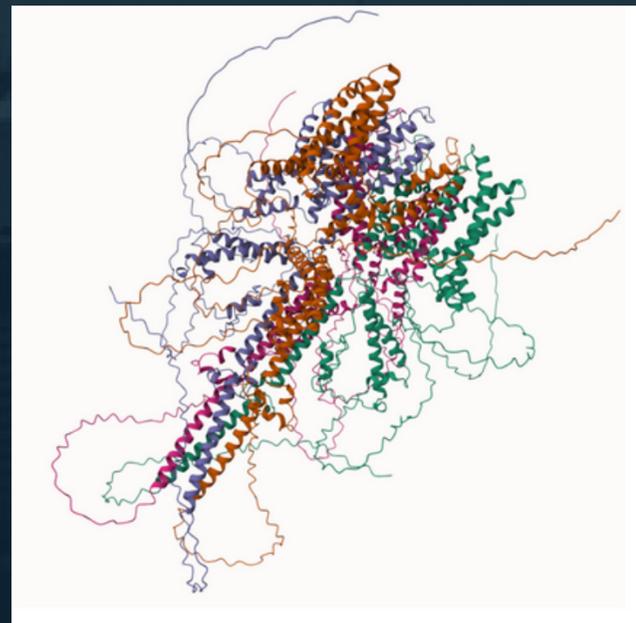
using different sets of genetic variants



# Synaptica

## Field

MedTech/DeepTech



## Problem

Epilepsy detection among patients and healthy subjects with a history of diagnosed epilepsy in the family

HPC: long simulation time was slowing the pace of their R&D (simulations were taking several days to a week on their local cluster).

## Solution and Use Case Description

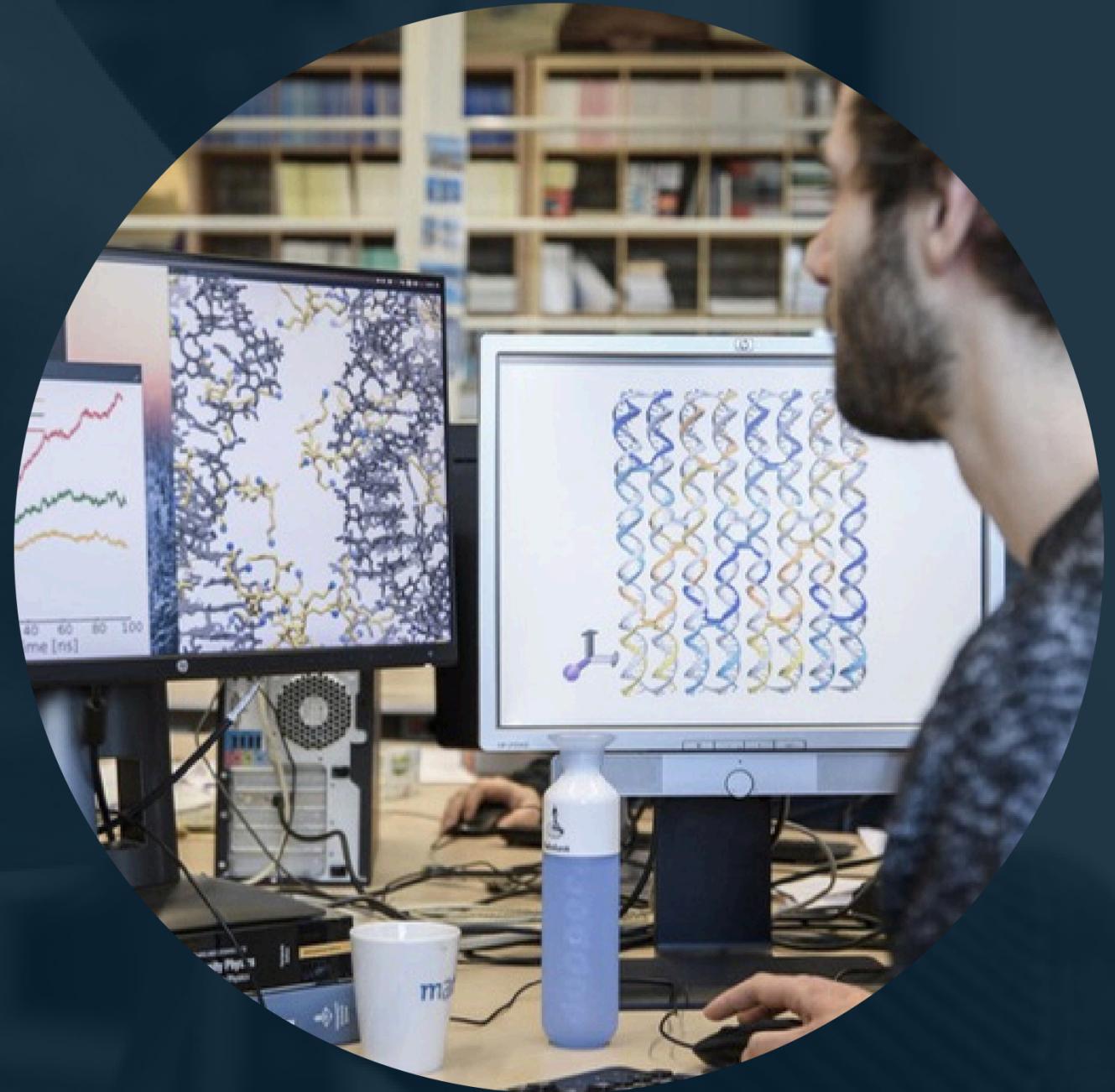
Currently doing research with Alpha Fold 2 and latest weights and biases for the model on Snellius.

Focus at the moment is simulating different network architectures and evaluate the impact of different sets of genetic variants.

Tools: Neuron Simulator (C++) developed by Yale University and other Python libraries

# Next to HPC access to SME we help with:

- access to HPC facilities specialised consultancy
- AI/HPC experts/system administrators
- knowledge transfer for further collaboration
- Opportunity to publish white papers / scientific articles / present achievements at (international) conferences
- Support in applications for funding
- Access to the EuroCC events



# General landscape

- HPC is an important tool for sustainable computing
- Cloud is a good entry point, HPC should be a next step
- Connection with many national and European initiatives
  - European Digital Innovation Hubs
  - EPICURE
  - Minerva
  - Virtual Training Academy





# Thank You

[eurocc-netherlands.nl](http://eurocc-netherlands.nl)