

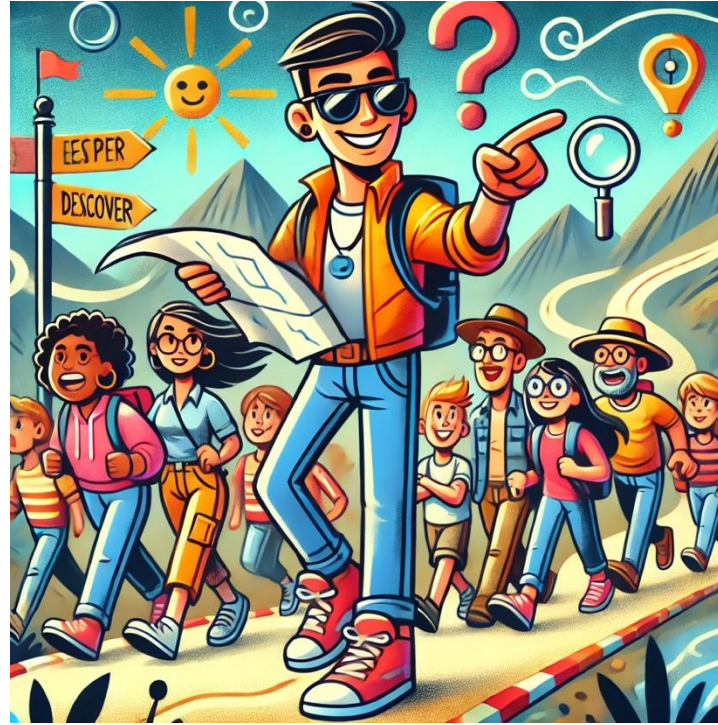


| **First a strategic question**

# | What should be the role of SURF regarding AI?



Visionary



Guide



Follower

# | Draft Mission & Vision

At SURF, we seamlessly integrate and shape technology to support world-class research and education by our members.

As a **tech-savvy organization**, we work to have a deep understanding of the technology. This gives us an edge to take advantage of opportunities, ignore the hype where it doesn't serve us and facilitate innovation at our members.

When it comes to AI, we act as a **trusted partner** in a turbulent ecosystem. We are agile and work in close collaboration with our members to develop **flagship services** and navigate the frontier of technological capabilities. **Public values** and the responsible use of the technology guide us in everything we do.

| **What is happening right now?**

# | Multiple perspectives

Thing we need to do to support our members in their operations



Things we need to do to be able to support our members



# | The impact of AI on SURF...

Just as every other organization, we're busy with a number of things.

- AI affects our ecosystem and therefore our positioning
  - Facilitate strategic discussions
  - Support prioritization
  - Strategic decision making
  - Internal coordination & expertise sharing
- AI impacts our operations
  - AI act preparation, responsible AI guidelines
  - Impact on services review
- AI changes how we should do our work as individuals
  - Internal pilots (e.g., code generation, generative models, assistants)
  - Literacy building, best practices



Making SURF  
AI-ready

# Fulfilling our mission

## 1. Services

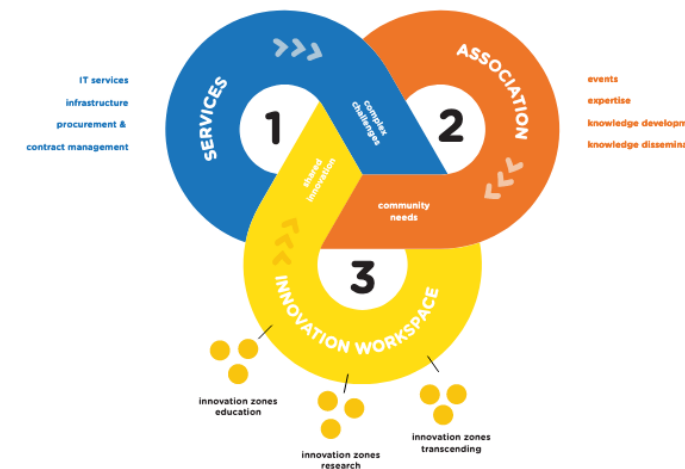
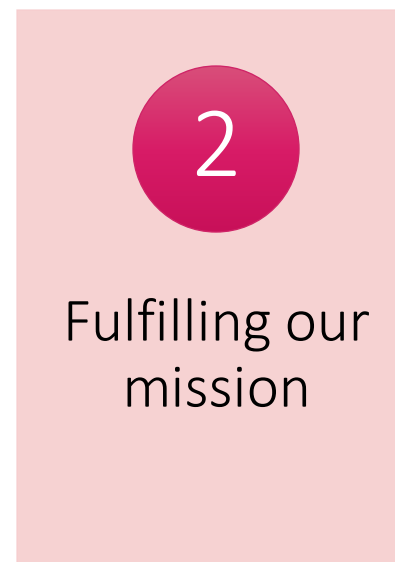
- *Copilot pilot*
- AI in science consulting (health, physics, SSH...)
- *AI factory*

## 2. Association

- Leergang AI, month of AI in education, webinars
- With Npuls: improve sector alignment, knowledge transfer
  - Expedition AI, vraagbaak

## 3. Innovation

- *Exploring the feasibility of a generative AI hub (a.k.a. WiLLMa)*
- *Towards trustworthy foundation models (a.k.a. GPT-NL)*
- Exploring AI maturity models and their applicability to our use cases



Of course, there is overlap between the two classes of activities and we can share insights both ways as much as possible.

# Enabling trustworthy foundation models

What's an infrastructure without trustworthy building blocks?

1. Generative AI is developed and applied in a safe way
2. Generative AI is developed and applied in an equitable way
3. Generative AI serves human welfare and safeguards human autonomy
4. Generative AI contributes to sustainability and our prosperity

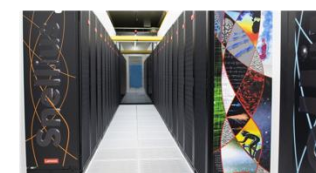
Government vision on Generative AI

<https://www.rijksoverheid.nl/documenten/rapporten/2024/01/01/overheidsbrede-visie-generatieve-ai>



**TNO** innovation  
for life

**SURF**



Nederlands Forensisch Instituut  
Ministerie van Justitie en Veiligheid



**SURF**



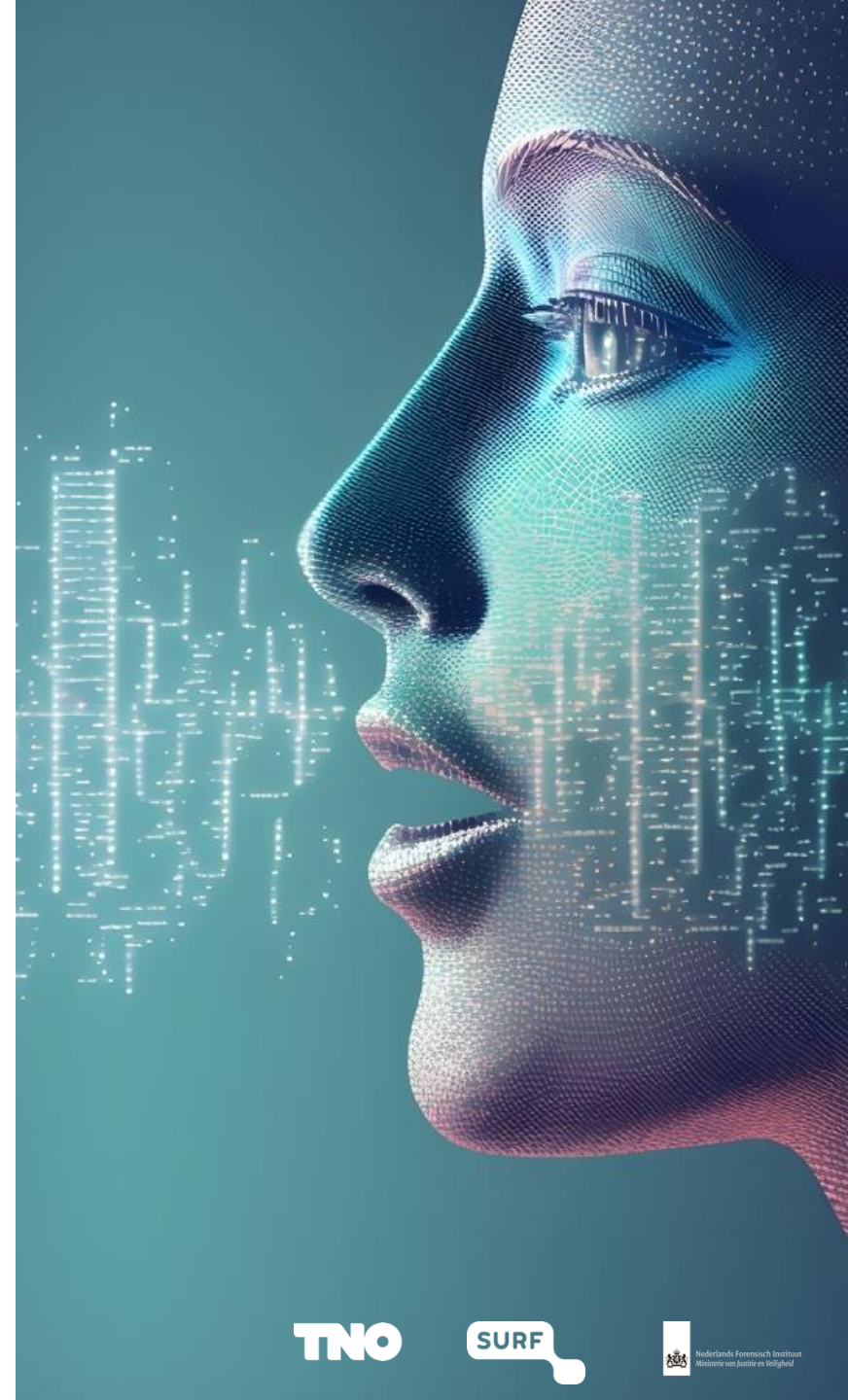
- Develop hands-on skills and expertise
- Nurture diverse innovation ecosystem
- Strengthen Dutch-centric resources (data, benchmarks)
- Publish a state-of-the-art Dutch-centric LM

# | The GPT-NL ambitions

We build a Dutch-centric (~50% Dutch data) from the ground up

- *With data rightfully acquired*
- *Private information removed*
- *With transparency over our choices*

**We strive to be as transparent and compliant as possible throughout the project.**



# | Generative AI hub



Hub of generative AI models (LLMs, audio, text-to-image, etc)

- Open-source models
- Host self-trained models (Erasmus, Leiden, Groningen, GPT-NL?)
- All running on local infrastructure

Improve sovereignty on

- Infrastructure (hosting)
- Expertise



18 juli 2023

## Demissionair Staatssecretaris Van Huffelen doet inspiratie op bij SURF

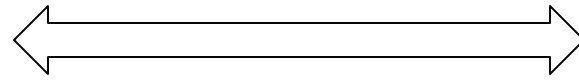
Op dinsdag 18 juli bracht demissionair Staatssecretaris Van Huffelen (Digitalisering en Koninkrijksrelaties) samen met ambtenaren van de ministeries van Binnenlandse Zaken en van Onderwijs, Cultuur en Wetenschap een werkbezoek aan SURF.

**SURF**

# Supporting science

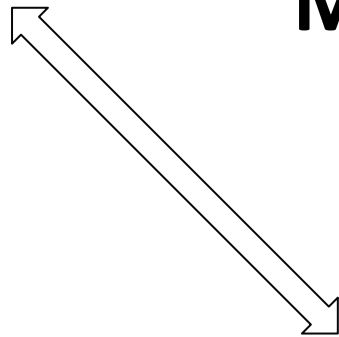


Domain

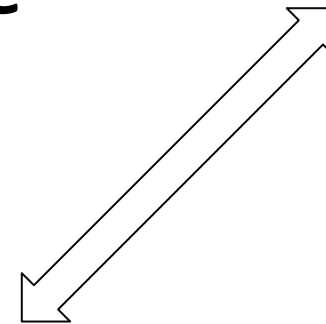


Data

## Modern Scientific Cycle



Machine learning

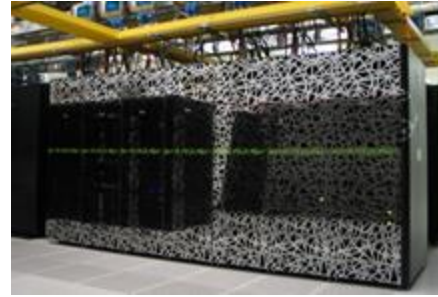


# | Machine learning @ SURF



## Research support and outreach

- Courses, bootcamps, workshops, tutorials
- General HPC and ML consultancy



## Algorithm scaling and efficiency

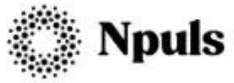
- Collaborations with Intel, Xilinx, AMD, Nvidia, SambaNova, Cerebras
- Collaborations with Dutch Academia & Research
- Contributions to ML/DL libraries and frameworks
- **Efficient data pipelines**
- **Distributed optimization**
- **Efficient inference**



## Algorithm (co)design

- Direct AI consultancy
  - Adoption and enablement of distributed, multimodal AI:
    - for science: medical, physics, chemistry
    - in operations
    - for education
- Responsible & public values alignment
- PoC and **usecases**

# Expedition AI



Npuls

SURF



Expeditie AI



SURF

# | Public values & AI-ACT

Responsible tech: this is how we ensure new technologies meet public values

How do we deal with new technologies responsibly, i.e. in a way that respects public values? By discussing this, we can shape technologies that preserve autonomy, justice and humanity. The SURF publication Responsible Tech cuts through the discussion further and provides tools you can apply immediately.

[Download document](#)



| **And many more!**



**SURF**

# Internal organisation

# Remember our question?



Visionary



Guide



Follower

# | The AI Kopgroep

- Create overview in everything we do
- Navigate the course: strategic advice for SURF
- Coordinate the SURF AI Guild
- *Goal: to help transfer AI from innovation projects to core business*

SURF



# | The SURF AI Guild

- Internal AI literacy
- Coordinate activities
- Work on building blocks in working groups
- Talk about doing the right thing
- Help each other



| Questions?

