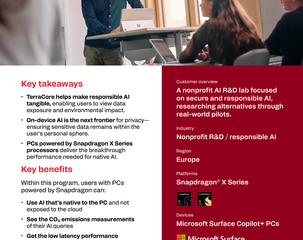
Snapdragon | aiherizon

Behind the breakthrough

aiherizon R&D: Leading the charge in responsible AI



Key takeaways

- **TerraCore helps make responsible AI tangible,** enabling users to view data exposure and environmental impact.
- **On-device AI is the next frontier** for privacy—ensuring sensitive data remains within the user's personal sphere.
- **PCs powered by Snapdragon X Series processors** deliver the breakthrough performance needed for native AI.

Key benefits

Within this program, users with PCs powered by Snapdragon can:

- **Use AI that's native to the PC** and not exposed to the cloud
- **See the CO_2 emissions measurements** of their AI queries
- **Get the low latency performance** of edge AI powered by a built-in NPU

Customer overview

A nonprofit AI R&D lab focused on secure and responsible AI, researching alternatives through real-world pilots.

Industry

Nonprofit R&D / responsible AI

Region

Europe

Platforms

Snapdragon® X Series

Devices

Microsoft Surface Copilot+ PCs

Microsoft Surface

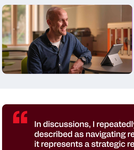
Key tools

- **TerraCore / rAI app**
- **Local LLM inference**
- **Microsoft Azure AI Foundry**

The new AI demand: Responsible AI

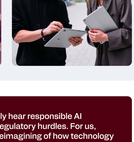
Most organizations want employees using AI—and right now—but many want to better understand security risks and environmental impact as they integrate AI into workloads. A critical gap becomes apparent: the need to navigate the complex trade-offs between computational power, data security, and resource consumption. aiherizon R&D, an independent research and development organization based in Freiburg and Munich, Germany, is pioneering frameworks with research into responsible AI and developing solutions for it.

They're asking: How do we balance high-utility AI design with the technical requirements of data privacy and resource efficiency?



For Dr. Michael Jülich, Founder & Chief Scientist at aiherizon R&D, responsibility is not a secondary constraint; **it is the core architectural blueprint.**

Tackling responsible AI demands a rigorous rethinking of how tech is deployed. The exploration spans everything from powerful cloud-based large language models (LLMs) to the emerging generation of AI PC chips.



> In discussions, I repeatedly hear responsible AI described as navigating regulatory hurdles. For us, it represents a strategic reimagining of how technology and ethics come together. We're not building for compliance alone; we're building for the common good.
>
> — DR. MICHAEL JÜLICH
> Founder & Chief Scientist, aiherizon R&D

Innovation by design

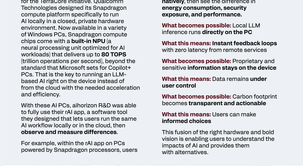
Security and resource efficiency are two of the biggest challenges in AI today. While cloud-based LLMs offer immense power, they also spark growing concerns regarding data sovereignty and the **significant environmental footprint** of large-scale data centers.

These challenges sparked the interest of Dr. Jülich, who was then the Director of Digital Transformation at Educational Foundation Freiburg. Dr. Jülich and Volker Lettgen, CTO of Microsoft Tech for Social Impact, collaborated on a project to train students in **ethical AI use**. Their efforts gave rise to the creation of aiherizon R&D, now led by Dr. Jülich.

aiherizon R&D has since broadened its focus beyond education to help industry and NGOs address two critical questions:

- **Data sovereignty:** Can sensitive information be processed entirely on-device, ensuring it never leaves the user's control?
- **Environmental transparency:** Can AI's CO_2 impact be monitored and optimized in real time without compromising performance?

To address these issues, **aiherizon R&D launched TerraCore**, a collaborative project with input from leading industry partners like Microsoft and Educational Foundation Freiburg, with support from Qualcomm Technologies, Inc.

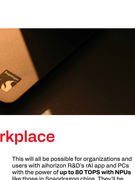


TerraCore: Where AI transparency becomes reality

The TerraCore project addresses the critical imperatives of modern AI, providing users with unprecedented transparency into both their data privacy and their energy consumption. The Responsible AI (rAI) app serves as a command interface, empowering users to actively negotiate the privacy and environmental parameters of their AI engagement by enabling them to:

- Choose whether to run an AI task in the cloud or **on the device**
- Instantly evaluate the **privacy trade-offs** and **real-time carbon emissions** for each task





> CO_2 tracking and data privacy are not just technical features—they are systemically embedded into the user experience.
>
> — MORITZ GOEKE
> Technical Lead, aiherizon R&D

Enabling the AI shift

PCs powered by **Snapdragon X Series** chips are making on-device AI possible for the TerraCore initiative. Qualcomm Technologies designed its Snapdragon compute platform specifically to run AI locally in a closed, private hardware environment. Now available in a variety of Windows PCs, Snapdragon compute chips come with a dedicated NPU, a neural processing unit optimized for AI workloads that delivers **up to 80 TOPS** (trillion operations per second), beyond the standard that Microsoft sets for Copilot+ PCs. That is the key to running an LLM-based AI right on the device instead of from the cloud with the needed acceleration and efficiency.

With these AI PCs, aiherizon R&D was able to fully use their rAI app, a software tool they designed that lets users run the same AI workflow locally or in the cloud, then **observe and measure differences**.

For example, within the rAI app on PCs powered by Snapdragon processors, users could give the same prompt to a cloud-based LLM and to an LLM **running natively**, then see the difference in **energy consumption, security exposure, and performance.**

What becomes possible: Local LLM inference runs **directly on the PC**

What this means: **Instant feedback loops** with zero latency from remote services

What becomes possible: Proprietary and sensitive **information stays on the device**

What this means: Data remains **under user control**

What becomes possible: Carbon footprint becomes **transparent and actionable**

What this means: Users can make **informed choices**

This fusion of the right hardware and bold vision is enabling users to understand the impacts of AI and provides them with alternatives.

Seeing proof in education

In the ongoing responsible AI workshops at Educational Foundation Freiburg, teachers and students use the **rAI app** to see the implications of their AI choices. Via the rAI app, they can select cloud vs. local AI and see the impact on:

- **Environmental metrics**: See if and how opting for local AI can save energy and CO_2 emissions.
- **Privacy module**: Instantly detect sensitive data and make suggestions on what to keep local.
- **Performance clarity**: Clearly see when local or cloud is the right solution.

The team's mission is clear: to make the responsible use of AI **visible, understandable, and actionable** for everyone. For the first time, schools can securely leverage AI to handle sensitive items like personal and administrative data.

Students have discovered a new level of agency—making deliberate choices about privacy and energy, not just accepting defaults. They can now generate prompts using both a cloud-based LLM and an on-device LLM, allowing them to choose options that consume less energy.

Scaling to the workplace

Beyond education, aiherizon R&D's rAI app demonstrates **immense potential across a variety of industries**—essentially for any business or organization leveraging AI. The responsible AI module is designed to deliver key benefits to:

- **Developers** seeking secure development environments and rapid iteration
- **Organizations** in finance, healthcare, legal, the public sector, and other industries that require strict control over sensitive data
- **Sustainability-focused teams** who want real, transparent carbon footprint data

This will all be possible for organizations and users with aiherizon R&D's rAI app and PCs with the power of **up to 80 TOPS with NPUs** like those in Snapdragon chips. They'll be able to see the possibilities of **real-time, on-device AI with the privacy that today's world and businesses demand.**

Pioneering onward

aiherizon R&D is just getting started. TerraCore represents stage one of a broader mission: building an **evolving architecture of responsible AI where users are both protected and empowered.**

Security, responsibility, and agency aren't afterthoughts—they're **the engine of progress**. aiherizon R&D is working on a bright and responsible future for AI.

> For us, responsible AI begins where possibility meets responsibility, when privacy, resource efficiency, and human agency shape every design decision.
>
> — DR. MICHAEL JÜLICH
> Founder & Chief Scientist, aiherizon R&D

How do we balance high-utility AI design with the technical requirements of data privacy and resource efficiency?

Learn more

Snapdragon. That's how.

Snapdragon is a product of Qualcomm Technologies, Inc. and/or its subsidiaries.
Snapdragon is a trademark or registered trademark of Qualcomm Incorporated.

© 2026 Qualcomm Technologies, Inc. and/or its affiliated companies. All rights reserved.