Polaris Insight

Meet Mark Oude Alink

Polaris is a unique program where experts work within their own domains while striving for a shared goal. To strengthen collaboration, the Polaris Insights Series introduces the people behind the project.

In this first article, we meet Mark Oude Alink, secretary of the Technical Advisory Board (TAR). He connects experts, reviews research proposals, and helps shape Polaris' technical direction. But beyond his role, he's also a dedicated researcher, runner, and skilled billiards player—bringing both precision and endurance to his work.

Get to know Mark and his impact on Polaris!

The Strategic Role of TAR Secretary Mark Oude Alink

Mark Oude Alink is at the heart of the Technical Advisory Board (TAR) within the Polaris program, seamlessly navigating between technical expertise and strategic coordination. As the TAR secretary, he plays a pivotal role in ensuring the smooth operation of the advisory board, bridging the communication between TAR members and the Management Team (MT). Beyond his organizational role, Mark is also a dedicated researcher and lecturer at the University of Twente.

A Dedicated Academic and Family Man

Meeting Mark in his office at the university, one immediately notices his dual dedication to both work and family. Sharing his office with part-time professor and TAR chairman Frank van Vliet, Mark's environment reflects his deep roots in academia. Born in Hengelo in 1984, he now resides in Delden with his family. A true family man, his office proudly displays a photograph of his partner and two young sons, taken in a nature reserve near their home.

Outside of work, Mark is an avid cyclist and runner, having even completed marathons. These days, he maintains his fitness with regular 10–15 km runs. Additionally, he has a passion for billiards, winning the "Delden Open" three-cushion tournament in 2023.

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The Educator and Researcher

In his academic role, Mark currently supervises five PhD students across various research topics. Mark's primary research focus is on low-power RF communication. A large technical poster in his office from a previous employer illustrates a 2013 Bluetooth Low Energy chip.
He worked on a later version, designed to operate with minimal power consumption.

"*This chip was designed specifically for Bluetooth Low Energy and consumes just 10 milliwatts when actively transmitting or receiving. Nowadays, they're down to 2 milliwatts*."

He explains that power reduction is critical in communication technologies, particularly for battery-powered devices. Conversely, in radar applications, power consumption is less of an issue since transmission power is measured in kilowatts, making receiver efficiency a lesser concern.

The TAR Secretary: A Key Role in Polaris

As TAR secretary, Mark orchestrates communication between TAR members and the Management Team. The Polaris consortium appointed the TAR in November, with 11 members representing each technical consortium partner. This diverse group ensures a broad perspective in evaluating research proposals and identifying potential blind spots in technical developments. TAR's role extends to advising on research directions that align with Polaris's overarching objectives.

The Strategic Position of the TAR

TAR, the Technical Advisory Board, is responsible for guiding the technical strategy of the Polaris program. This includes reviewing research proposals and ensuring alignment with Polaris's goals. Mark describes TAR as a "watchdog," ensuring the program stays on course.
The board evaluates key factors such as innovation potential, impact on applications like MRI or radar, and opportunities for collaboration. If multiple proposals cover similar research areas, TAR facilitates discussions among universities to explore synergies. Strengthening connections between industry and academia is crucial for Polaris, and TAR plays a significant role in identifying such opportunities.
Beyond proposal assessments, TAR also contributes to the research agenda, shaping the strategic direction of Polaris. Although the board is still in the early stages of this responsibility, its influence on research priorities will grow as the program progresses.

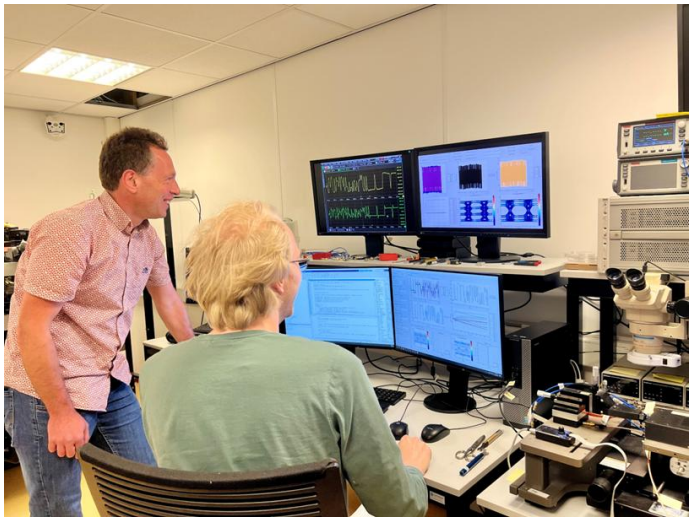
Practical Implementation

In the initial phase of Polaris, TAR had to establish its working methods: defining collaboration among 11 members, setting meeting frequencies, and aligning on strategic priorities. Together with TAR chairman Frank

van Vliet and vice-chair Simon van den Berg, Mark manages the agenda, currently focusing on reviewing PhD research abstracts. Soon, the board will also evaluate Activity Plans and other strategic documents.
Meetings occur every three weeks, either online or in person. Abstracts are received via the PSO, distributed among TAR members for review, and subsequently discussed collectively. Mark plays a crucial role in synthesizing individual reviews into coherent recommendations. These discussions often reveal common viewpoints and lead to well-balanced advice for the Management Team, which makes the final decision.

During a tour of the lab, we meet Jelle, one of Mark's PhD candidates, who passionately explains his study and demonstrates a measurement setup for high-speed electro-optical communication.

As the setup struggles to generate the high bitrates his chip can handle, Jelle is devising a workaround by mixing the frequency band to achieve the desired results.



The Appeal of Polaris

Polaris is a large-scale program involving substantial funding and numerous stakeholders, making coordination and decision-making a complex challenge. Unlike smaller research projects with limited teams, Polaris demands extensive collaboration, making strategic alignment essential.

Unlike isolated research projects, where PhD candidates might work independently on niche topics, Polaris encourages broader communication and integration. Mark highlights the importance of ensuring research remains relevant at a higher level. "In a small project, you can get tunnel vision, focusing only on your research without considering the bigger picture. But in Polaris, we push researchers to engage with industry experts like those from Thales or NXP to understand real-world needs."

Mark also appreciates the opportunity to engage with program management, gaining insights into subsidy accountability and large-scale research coordination. Writing parts of the initial Polaris proposal was an enjoyable challenge, and now seeing its execution unfold is even more rewarding.

Conclusion

As Polaris embarks on its ambitious eight-year journey, TAR plays a crucial role in steering the program's technical direction. Collaboration, strategic decision-making, and fostering innovation are at the core of its mission. With a dedicated and energetic secretary like Mark Oude Alink—whose endurance as a marathon runner mirrors his commitment to long-term research planning—TAR is in capable hands, ensuring Polaris stays on track for success.