

*Dear readers,*

Over the past few months, many of our updates have focused on healthcare applications and wearable sensing technologies. This month, we're shifting the focus back to robotics. Alongside the kickoff of a new collaborative research project, we'd also like to revisit one of our own developments that many of you first saw integrated into our robotic gripper demonstrations: the **NanoSen Gripper Matrix**.

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Many of you have already seen our Gripper Matrix as part of our robotic gripper demonstrator. Until now, however, it has mostly stayed in the background. Over the coming months, we'll be taking a closer look at the technology itself, explaining how the matrix works, why it was developed and the role it can play in future robotic applications.

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## Smarter Heating for Electric Vehicles

Heating remains one of the largest energy consumers in electric vehicles, directly affecting driving range during cold weather.

**AutoHeatNSens** addresses this challenge by combining distributed heating elements with embedded sensing technologies and intelligent control strategies. Instead of heating the entire cabin, the system is designed to deliver heat precisely where it is needed while adapting automatically to passenger occupancy and comfort requirements.

The project will develop functionalized interior components integrating:

- distributed heating elements
- occupant detection
- force and pressure sensing
- printed electronics
- adaptive thermal management
- AI-supported control strategies

The final demonstrator will validate the technology under real vehicle conditions.



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## Official Kickoff

Last week, the project consortium met for the official kickoff at KÖSTLER GmbH in Annaberg-Buchholz. The meeting brought together expertise from across the automotive and research landscape: **KÖSTLER GmbH** as project coordinator and automotive interior specialist, **Fraunhofer ENAS** with its expertise in printed electronics, **NanoSen** with Force Sensing Impedance (FSI) technology, and associated partners from Portugal, including sports car manufacturer **ADAMASTOR**. Together, we officially launched a collaboration that will continue until 2029.

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## Looking Ahead

Between long-term research collaborations and the continued development of our own sensing technologies, the coming months promise to be an exciting time at NanoSen. We look forward to sharing more about the Gripper Matrix, [AutoHeatNSens](#) and several other ongoing developments as they progress.

Best regards,

## The NanoSen Team

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