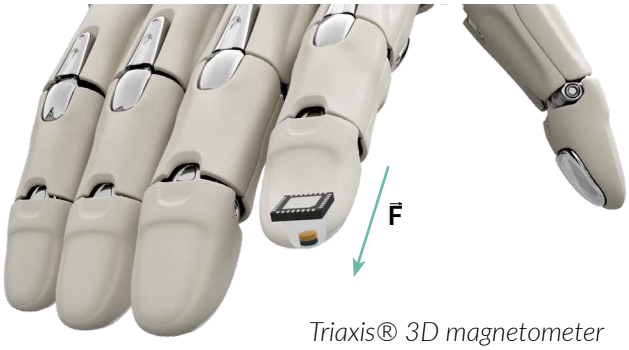
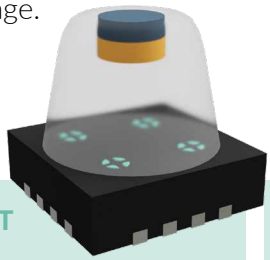
TACTAXIS™

Give robots a sense of touch

Melexis brings a tactile sensor designed for industrial robots and humanoids that need the sense of touch. It's compact (5 mm x 5 mm x 5 mm), soft and provides the 3D force vector acting on the surface. Our force sensor is fully integrated and will be mass manufactured using semiconductor technology. While robust against stray field and temperature changes, it offers cost and reliability advantage.



Triaxis® 3D magnetometer and a magnet embedded in an elastomer



INNOVATE WITH HEART

Give robots a sense of touch

- Get close to the human sense of touch on robots
- Help robots to handle fragile objects, manipulate unpredictable shapes and allow slip detection
- Increase the safety level of collaborative robots with force feedback

APPLICATIONS

Where a sense of touch is needed

- Grippers
- Autonomous mobile robots
- Exoskeleton

SECRET INGREDIENTS

- Technology: magnetic position sensor (Melexis core expertise)
- Process: industrial-grade manufacturing of the elastomer (with or without embedded magnet)
- Patents: stray field rejection, slip detection algorithm, sensor integration

Abbreviations definition

- Taxel — "Tactile Pixel"
- Triaxis — Enable magnetic 3D field measurement (www.melexis.com/triaxis)

References

- Mass-manufacturable 3D Magnetic Force Sensor for Robotic Grasping and Slip Detection https://www.mdpi.com/1424-8220/23/6/3031
- Video from Niryo using Tactaxis https://youtu.be/Vr6BKE63iqM

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