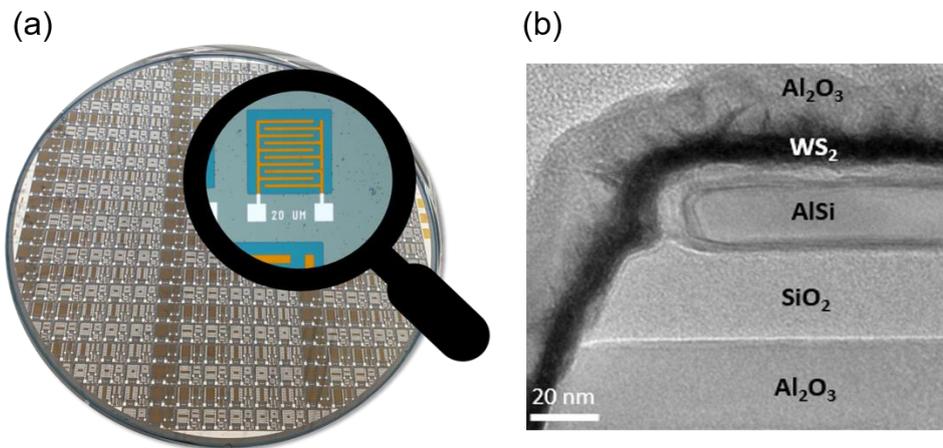
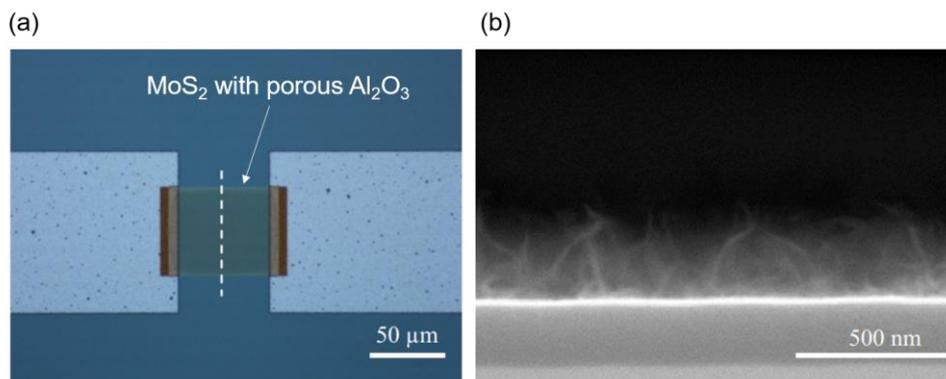


**Figure 1.** a) 8" wafer homogeneity for the resistance of the MoS<sub>2</sub> layer on SiO<sub>x</sub>/Si grown by ALD. b) Cross-sectional SEM image of the MoS<sub>2</sub> deposited on 8" SiO<sub>x</sub>/Si wafers.<sup>[1,2]</sup>



**Figure 2.** a) Top and microscopic view of WS<sub>2</sub> grown by ALD and patterned on IDE structures.<sup>[4]</sup> b) Cross-sectional TEM image of the WS<sub>2</sub> patterned on IDEs with protective Al<sub>2</sub>O<sub>3</sub> capping layer.<sup>[4]</sup>



**Figure 3.** a) Microscopic image of structured MoS<sub>2</sub> between AlSi electrodes with porous Al<sub>2</sub>O<sub>3</sub> capping layer.<sup>[2,3]</sup> b) Cross-sectional SEM image of the MoS<sub>2</sub> with porous Al<sub>2</sub>O<sub>3</sub> capping layer.<sup>[2,3]</sup>

### References:

1. R.-M. Neubieser, J.-L. Wree, J. Jagosz, M. Becher, A. Ostendorf, A. Devi, C. Bock, M. Michel, A. Grabmaier, *Micro and Nano Engineering* **2022**, *15*, 100126.
2. R.-M. Neubieser, Dissertation **2023**, Universität Duisburg-Essen.
3. R.-M. Neubieser, L.G. Weckelmann, M. Michel, M. Unruh, D. Zanders, A. Kostka, A. Devi, A. Grabmaier, *IEEE Sensor Letters* **2025**, *9*, 1-4,
4. L. Doman, N. Boysen, T. Gemming, H. Shi, A. Devi, **2026** (*under review*).