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# Contact Lenses for Human Machine Interaction

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**Abstract**

Thanks to advancements in microelectronics and nanotechnology, contact lenses are emerging as a versatile platform for a variety of human-machine interaction applications that include healthcare Yuan et al. (2021, 2020), security, gaming and entertainment. During this presentation, I present a brief history of smart contact lenses and provide an overview of current systems. I discuss why these platforms are particularly useful for HMI applications. Moreover, I present the building blocks of these platforms and the current challenges in achieving truly autonomous and self-driven devices. For example, flexible multi-junction solar cells can be used to satisfy the energy needs of these devices Abdellatif et al. (2018); Escher et al. (2016). Towards the end of the presentation, I discuss a proposed smart contact lens platform that includes hybrid energy harvesters Xia et al. (2020), sensors, a power conditioner and a communications module. The presentation is available here.

**Keywords**

Contact Lenses, Human Machine Interaction, Wearable Electronics

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