



TECHNOLOGY DESCRIPTION

A small ophthalmology lens adapter designed for mobile devices is used to capture images of the human retina in space. These images, in combination with artificial intelligence applications, help the user to detect Spaceflight Associated Neuro-ocular Syndrome (SANS) and increased cerebral pressure in the skull during spaceflight or after severe head injury. This technology is also applicable for routine retinal examinations in rural regions without access to specialised clinicians and medical diagnostics.



INNOVATIVE ASPECTS

- Mobile AI supported autonomous device for Human Health & Performance with Risk Assessment to prevent vision loss and mental and cognitive maladaptation.
- The device utilises small, lightweight tools for non-invasive monitoring of SANS.
- Real-time on-device diagnostics
- Low-cost mobile diagnostics for emergency medicine, first responders, occupational health and developing economies.
- AI-supported user guidance and machine learning models for disease detection and early decision making
- 3D-printed, universal mobile device integration



TECHNOLOGY READINESS (in space application)

TRL 7 (2024)



DLR Institute of Aerospace Medicine
DLR HQ Tech Transfer & Innovation

COUNTRY OF ORIGIN

Germany

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06/2024

TAGS #ophthalmoscopy #retina #SANS #mobile device #AI supported #3D-printed

APPLICATION AREAS

Aviation Health Consumer Products Education & Training Chemical Engineering & Biotechnology Safety & Security Space technologies

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TECH CARD

