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Advancing remote sensing through knowledge and technology transfer: The Role of FERN.Lab in a rapidly expanding market

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Remote sensing and earth observation (EO) data has long been used outside of academia in the agriculture and forestry sectors for monitoring and forecasting activities. The last 5 years has also seen important financial sectors such as environmental liability insurance and environmental regulatory compliance adopt remote sensing data into their workflows. This is pushing remote sensing and EO data to the main stream. This rapid growth has resulted in a large knowledge gap for government agencies, NGOs and companies looking to use remote sensing data in their operations. The benefits of using the data are clear but many entities don't know where to begin. The number of available sensors and the spatial and spectral resolution of those sensors can be overwhelming to non-experts and the handling and creation of actionable, unbiased information from these data is not trivial.

FERN.Lab, a working group dedicated to Knowledge and Technology Transfer (KTT) of remote sensing research within the department of Geodesy at the Helmholtz-Zentrum Potsdam, Deutsches GeoForschungsZentrum (GFZ), is uniquely positioned to fill this technology and knowledge gap. KTT of remote sensing research plays a crucial role in developing and implementing solutions to address major global challenges and extends beyond traditional business and technology-related activities. The interdisciplinary nature of remote sensing and EO research and the rapid market growth, create significant opportunities for partnerships, product development, and application expansion, amplifying the societal impact of GFZ research in this field.

FERN.Lab is dedicated to initiating, promoting, and supporting transfer activities that valorize remote sensing technologies for societal benefit. By leveraging a highly skilled interdisciplinary team, FERN.Lab has successfully delivered both technology and knowledge transfer to a diverse network of non-academic partners. Through "push" and "pull" approaches, the lab develops custom solutions for external partners while promoting existing GFZ technologies with market potential. This is realized through contract research and R&D projects as well as internal pilot projects, webinars, workshops and training courses. Specializing in capacity building, sustainable software development, data services, and innovative remote sensing methods, FERN.Lab is at the forefront of advancing remote sensing technologies and fostering scientific literacy in this rapidly expanding market.

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