• european training network on full parallax imaging



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The project studies the phenomena of lightfield formation, propagation and perception in order to develop future imaging devices, which recreate the visual world realistically. Different disciplines deal with these phenomena. Physics and optics look at light as either wave or ray phenomenon and study its propagation and diffraction effects therein. Computer graphics deals with properties of materials, lighting conditions and corresponding ray rendering. Computer vision studies object recognition, scene analysis and interpretation. Visual neuroscience builds computational models to describe and quantify how our vision works. Naturally, different fields of science approach relevant problems using different concepts and terminology.

TThe research programme is organized in three work packages (WPs), where individual projects are integrated in order to address the challenges in full parallax imaging:

WP1: Sensing and content creation, focusing on problems of optimal spatialangular resolution for lightfield sensing The programme will advance the knowledge in the area of 3D scene sensing, lightfield analysis and interpretation, and visualization of full parallax 3D content

The network combines five underlying fundamental areas for training and research:

- visual neuroscience
- optics
- visual computing
- signal and data processingmanagement of innovation

research

WP1 Sensing and Content Creation

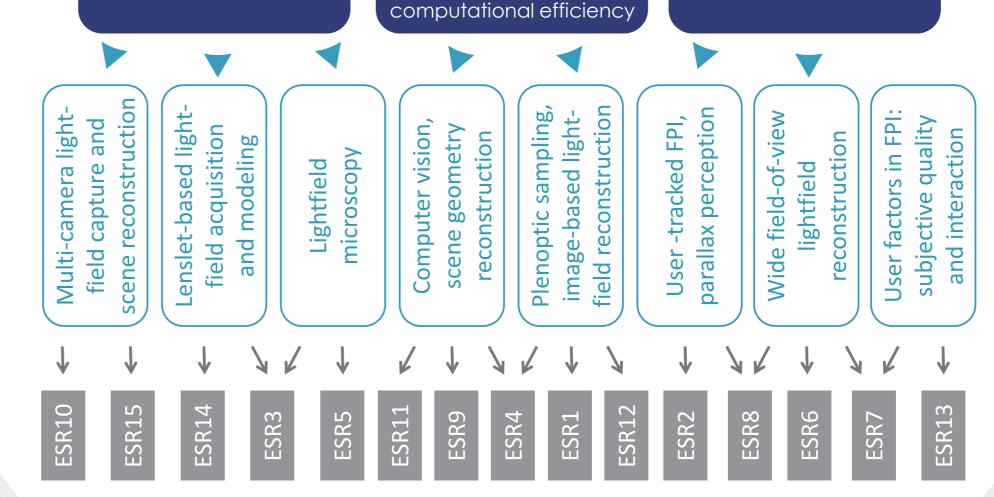
Problems of scale and spatio-angular resolution Problems of data analysis, interpretation and

WP3 Vision and Visualization

Problems of field-of-view and ray distribution

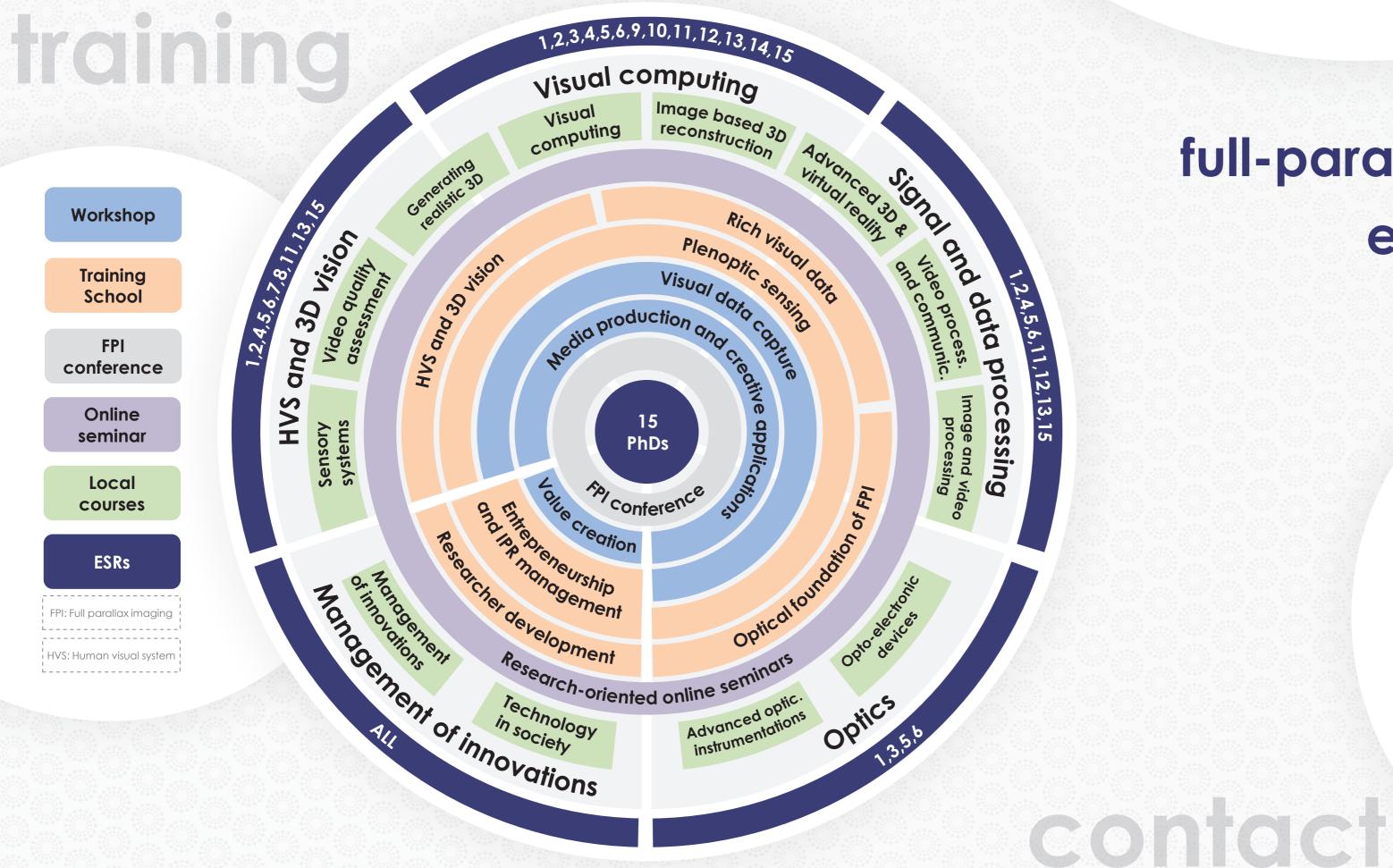
WP2: Computational imaging and compression, focusing on problems of analysis,interpretation and compression of lightfield dataWP3: Vision and Visualization, focusing on problems of full parallax visualization

of 3D data



WP2 Computational Imaging

and Compression



full-parallax-imaging.eu etn-fpi.eu

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