

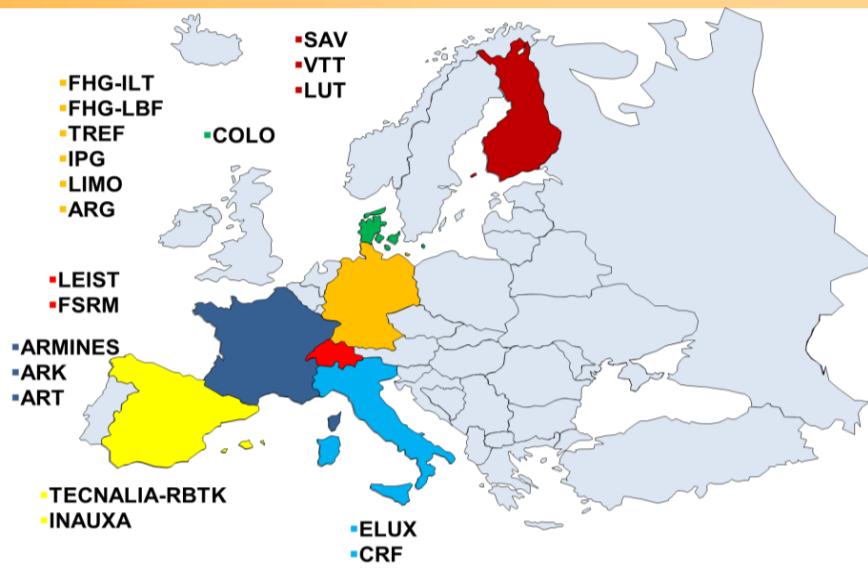


## WP9 – DISSEMINATION, TRAINING AND TRANSFER OF KNOWLEDGE

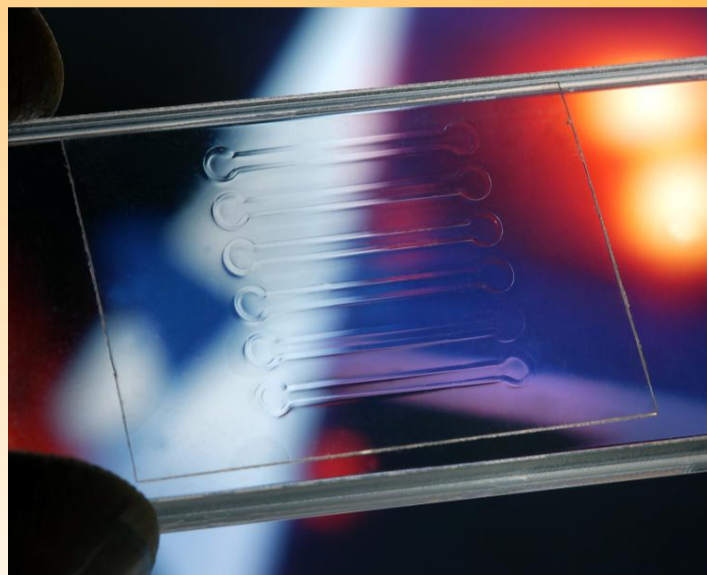


### ABSTRACT

- Title: "Extending the Process Limits of Laser Polymer Welding with High-Brilliance Beam Sources" (POLYBRIGHT)
- Duration: October 2009 - September 2013
- Consortium: 18 partners from 7 European countries
- Budget: 10.2 Mio € of which 6.6 Mio € EC funding (FP7 program)



The PolyBright consortium



Laser welded transparent PMMA polymers without IR absorber

### METHOD

The consortium is composed of laser companies, optics suppliers, material specialists, laser processing experts, machine suppliers.

Fields of research:

- Development of new high-brilliance lasers with higher NIR wavelengths
- Welding of polymeric materials without use of IR absorbers.
- Development of new processes and machinery based on high brilliance lasers

### HIGHLIGHTS

- Fiber laser with 500 W output power, wavelength 1567 nm, multimode 200  $\mu\text{m}$
- Diode lasers in the 1.5 - 1.9  $\mu\text{m}$  range
- Beam shaping with diffractive and refractive optical elements (DOE, ROE)
- Scanner-based laser welding (Quasi-simultaneous, Remote, TWIST)
- Dynamic mask welding

### OUTLOOK

- Application Areas: Medical, Automotive, White Goods
- Short-term potential: several 100 laser installations per year
- Long-term potential: large market share in the multibillion € polymer market

### CONTACT

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