

# Ultrafast Lasers with **R**adial and **A**zimuthal **P**olarizations for High-efficiency Micro-machining Applications

## Beneficiaries – Call Topic Objective ICT-2013.3.2 Photonics iii) Laser for Industrial processing



Time-Bandwidth Products AG -  
Switzerland

**4** Class 4 Laser Professionals AG -  
Switzerland



Next Scan Technology BV -  
Netherlands



Universität  
Stuttgart

UNIVERSITÄT STUTTGART  
INSTITUT FÜR STRAHLWERKZEUGE  
STUTTGART LASER TECHNOLOGIES

Universität Stuttgart -  
Germany



GFH GMBH -  
Germany



Centre National de la  
Recherche Scientifique -  
France



Schweisstechnische Lehr- Und Versuchsanstalt SLV  
Mecklenburg- Vorpommern - Germany

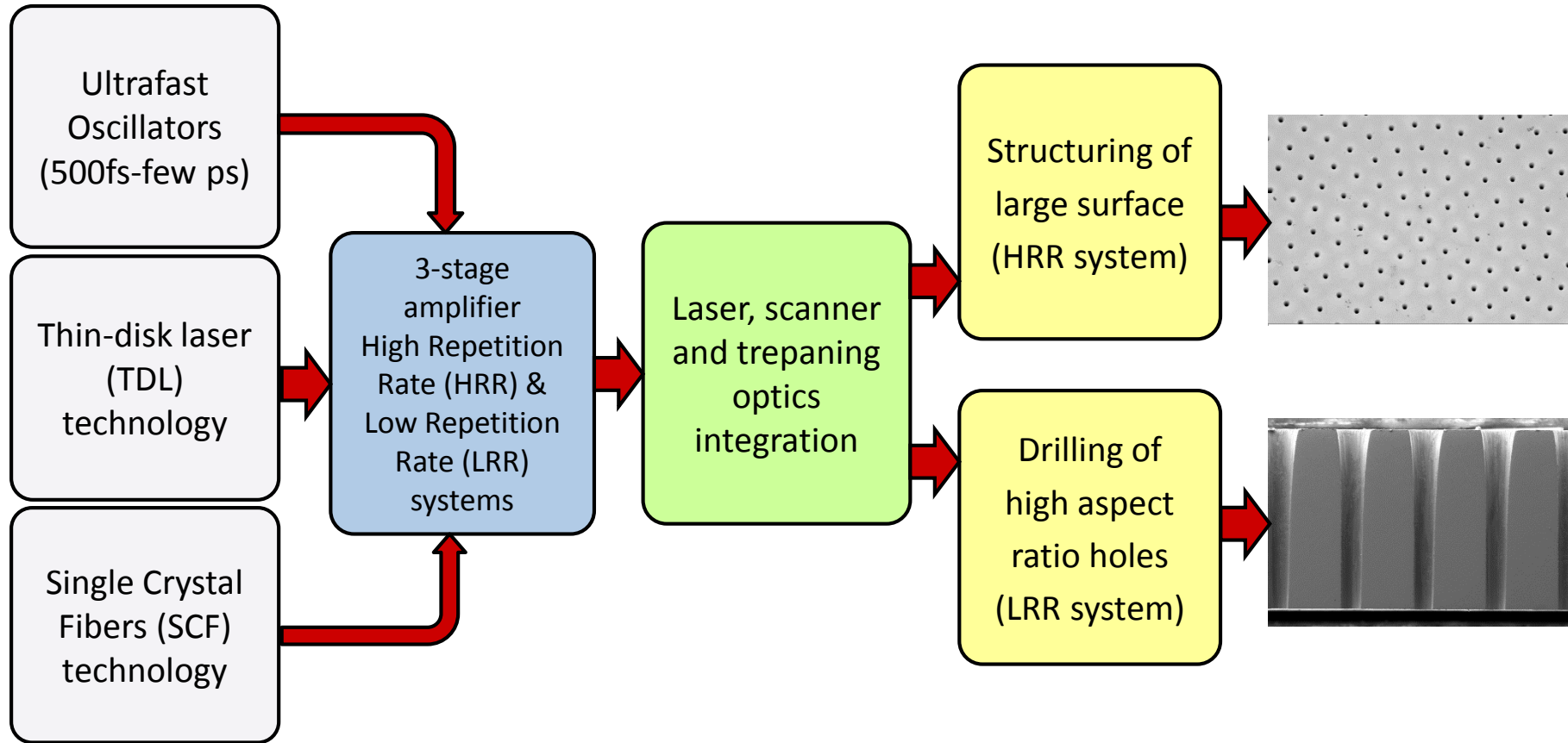


Fiberocryst SAS -  
France

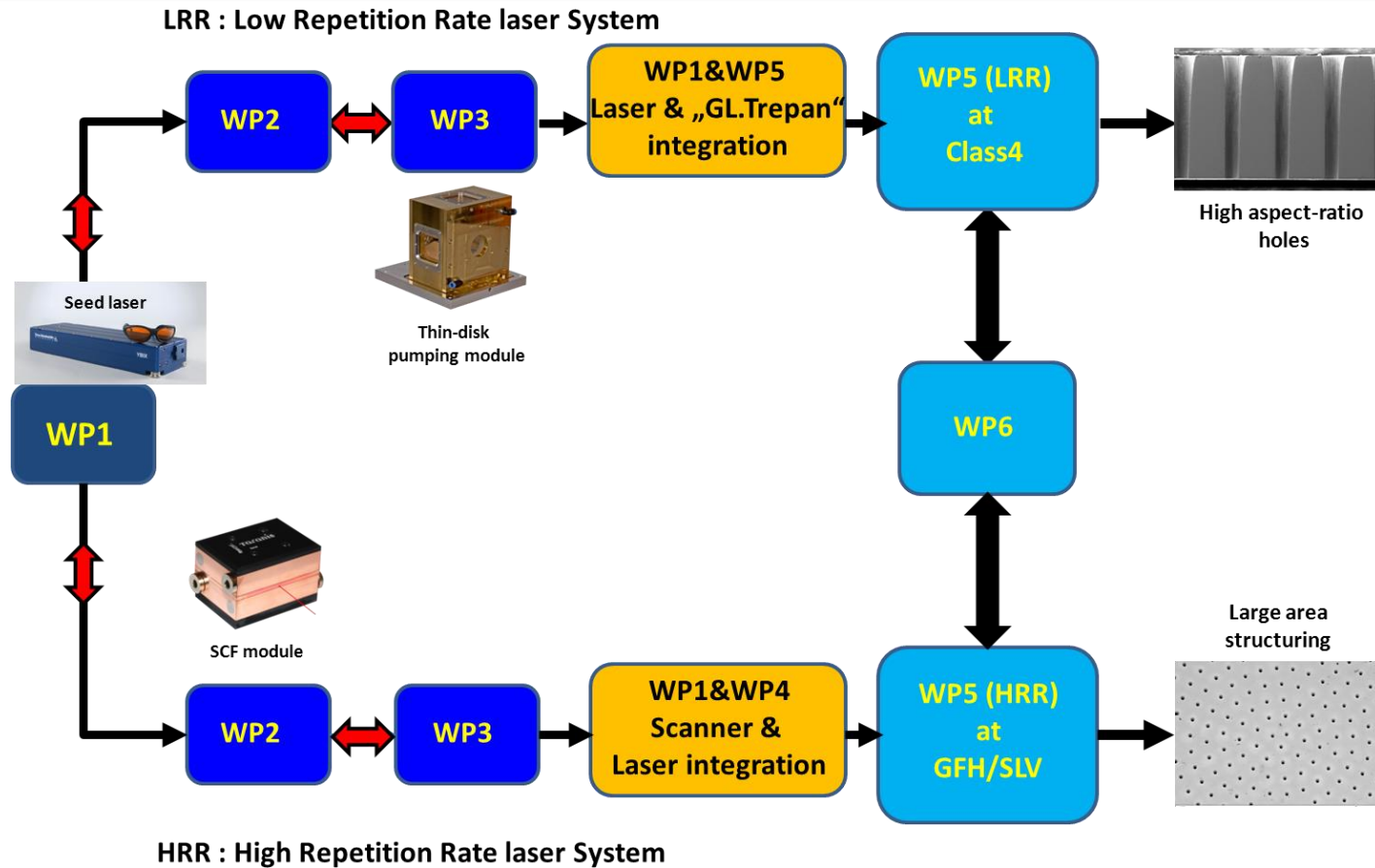
## Project aims

- The following primary objectives have to be targeted:
  - Highly flexible high-power ultrafast laser source (objective 1) with average output power of 500 W<sub>1</sub> at High Repetition Rates (20-40 MHz) and 200W<sub>2</sub> at Low Repetition Rates (0.2-1 MHz)
  - Cost-efficient solutions for a broad range of applications (objective 2)
  - Optimization of demanding high-volume applications regarding efficiency as well as quality (objective 3)
- Within the project, mainly two attractive applications shall be investigated to demonstrate the potential of the source:
  - Fast, large-area structuring, of Lab-on-a-Chip wafers
  - Precision trepanning drilling of high-aspect ratio holes

## Overview project structure



## Overview work package structure



## Project concept

