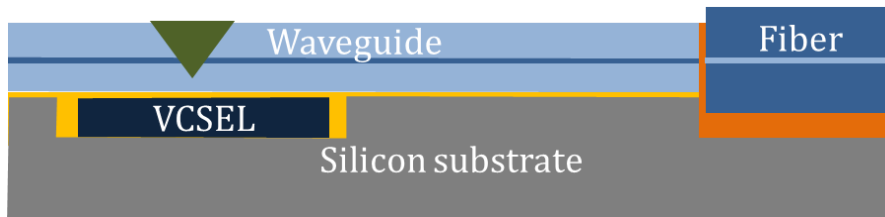


FIREFLY Status of results - October 2014

While the project is coming to an end, the developments are mainly aimed at the realization of technology demonstrators. The final result will be a Photonic Integrated Circuit (see figure) combining the technologies that have been proven in sub-demonstrators.



The final demonstrator of FIREFLY will combine the following new components:

- 1550 nm embedded VCSEL
- Imprinted waveguide stack made of Ormocer® materials
- 45 degree mirror, guiding light from the VCSEL into waveguide stack
- glass fibre connected to the waveguide stack

Processes:

- Design and modelling of components and lay-out (Tyndall, TE Connectivity)
- Silicon processing (TNO)
- VCSEL manufacturing (Vertilas)
- VCSEL placement (Imec, TE Connectivity)
- Material development (Momentive, TNO, Utrecht University)
- Waveguide manufacturing (VTT, IBM, TNO)
- Mirror manufacturing (Imec, VTT, TNO)
- Photonic Crystal structures (not yet part of the PIC; TNO)
- Fiber coupling (TE Connectivity)

