## Nano-immuno sensor

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The integrated system shown is a real-time, on-line measurement systems based on the Photosystem II algal biosensors. It comprises

- Fluidic components to maintain the algae alive.
- Fluidic components and interfaces to supply the samples and to supply the maintenance solution to the algal cells in their cavities.
- Photonic components for illumination and detection measurements
- The necessary electronics and read-out software to operate the system and read-out the measurement data.

The measurement protocol comprises a reference and sample measurement being performed in series using a single cavity. If – during the autonomous operation on a buoy or unmanned surface vehicle– a cell finally fails because the algae could not be regenerated a new cavity is used for measurements. In total there are six cavities available.



