

Update : 2/10/2021

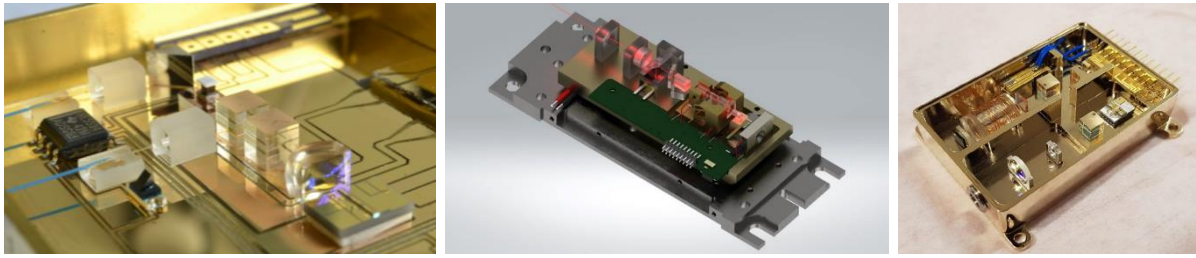


## PHOTONICS AUTOMATED MICRO-ASSEMBLY EQUIPMENT

### 1 – Field of application

#### **Automated production of optical packages such as LASER, LIDAR, ...**

The machine is able to handle automatically the dispensing of adhesive materials followed by the placement of optical components using an active alignment process at submicron resolution.

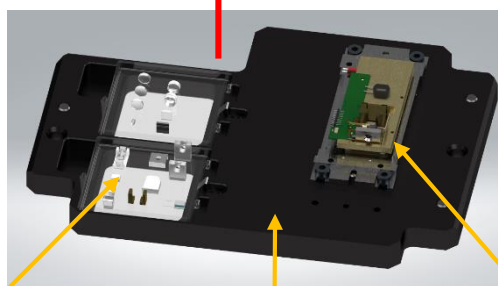
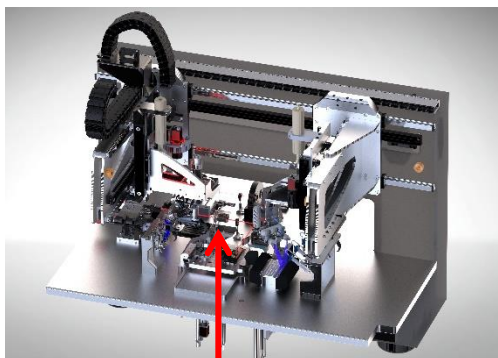
*Non-contractual photos*

**Typical application:** optical components in the mm range to be actively aligned in a package/substrate...

## 2 – Main process steps

1. **Carrier loading**
2. **Adhesive dispensing:**
  - 4 axis robot X,Y,Z, $\theta_z$
  - Automatic syringes changer (up to 3)
3. **Optical components placement:**
  - 6 axis robot X,Y,Z, $\theta_x$ ,  $\theta_y$ ,  $\theta_z$
  - +/-0.1 $\mu\text{m}$  resolution
  - 2.5D part recognition
  - Passive alignment
  - Automatic tool changer (up to 8 tools)
4. **Optical components active alignment**
  - Beam profile characterization
  - Cavity alignment
  - Optical power measurement
  - Polarization
5. **In situ UV curing**
  - with shrinkage limitation

Working area : 360X190mm



Optical components  
*(On gel pack)*

Carrier  
*(Customized with specific fittings according to the application requirements)*

Substrate

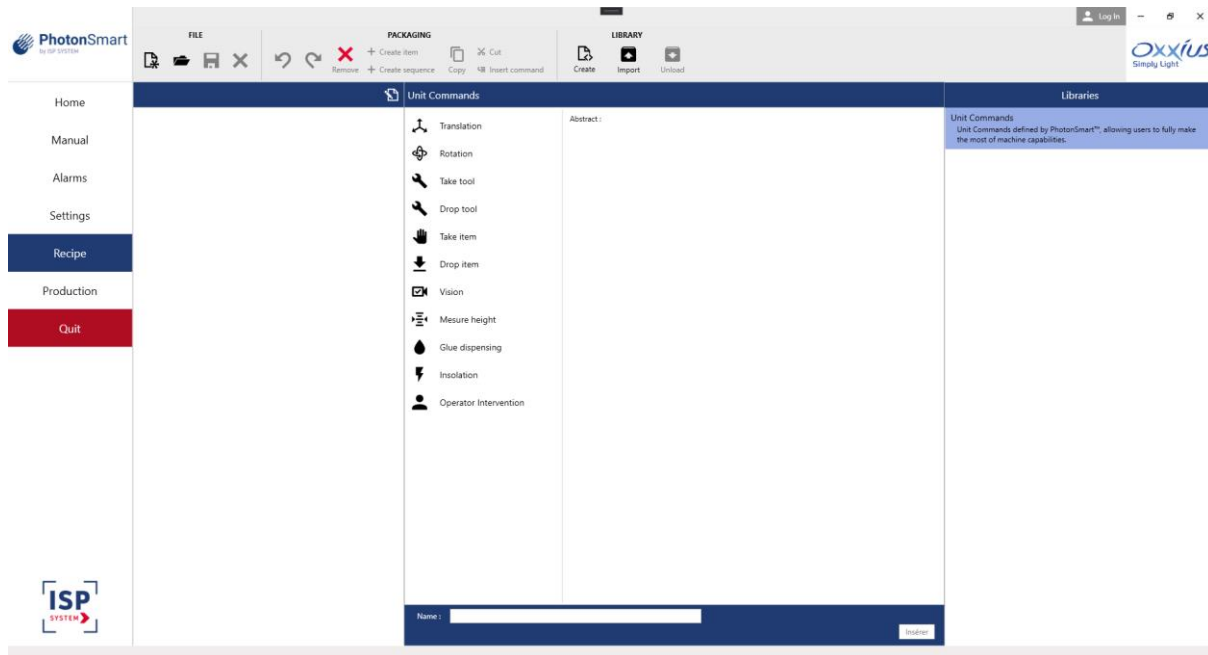
### 3 – Easy assembly scenario creation: PHOTONSMART™

#### Manufacturing recipe creation:

- Easy: Successive steps through the user friendly interface
- Secure: First run in step mode and low speeds
- Available libraries :
  - Final products
  - Components
  - Tools
  - Process
  - Analyser

#### Traceability:

Complete report including recipe's parameters, measurements results, as well as final placement positions



## 4 – Dimensions and weight

- **Footprint:** 1080X1150mm
- **Height:** 1950mm
- **Weight:** 1250Kg

## 5 – Questions, demo and testing

To make sure the PHQ-500 fit your requirements, ISP System can propose proof of principle testing sessions as well as full machine demo on site or by Visio conference. Please feel free to contact us: [contact@isp-system.fr](mailto:contact@isp-system.fr)

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