



PRECISION ENGINEERING  
Your partner in automatization

# PHOTOMATIQ®

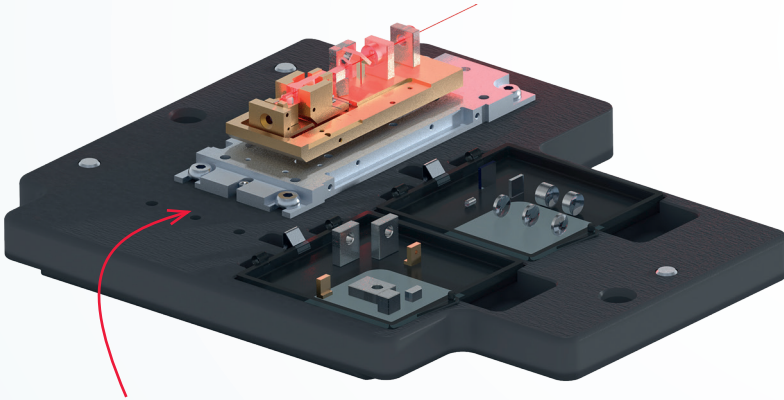
## PHOTONICS PACKAGING EQUIPMENT



FLEXIBLE PRECISE AND PRODUCTIVE AUTOMATION PLATFORM

## FIELD OF APPLICATION

From process development to mass manufacturing



### YOUR PRODUCT HERE

Please feel free to contact us for a pre-feasibility study

Photomatiq® is ideally suited for the **automated micro-assembly** of the following products:

- Laser DPSS
- Laser diode
- Lidar
- Laser bar stacking
- Fiber optical connector
- Fiber to PIC coupling
- Fast Axis Collimator
- ...

**PHOTOMATIQ** is a customizable **assembly platform** which aim at fully- and semi-automated **ultra-precise** micro assembly based on **high-precision alignment**. The platform especially suits the requirements of demanding **photonics** systems



- Scale up your **production**
- Improve your **time to market**
- Increase your **ROI**
- Improve the **quality** of your products
- **Proof of concept** testing session in ISP's HQ
- **Limit** the risk

## ACCURACY: 2 HIGH PRECISION ROBOTS WORKING SIMULTANEOUSLY

### Robot 1

X, Y, Z,  $\Theta_x, \Theta_y, \Theta_z$   
Integrated Goniometre  
Resolution : +/- 0,1 $\mu$ m

### Robot 2

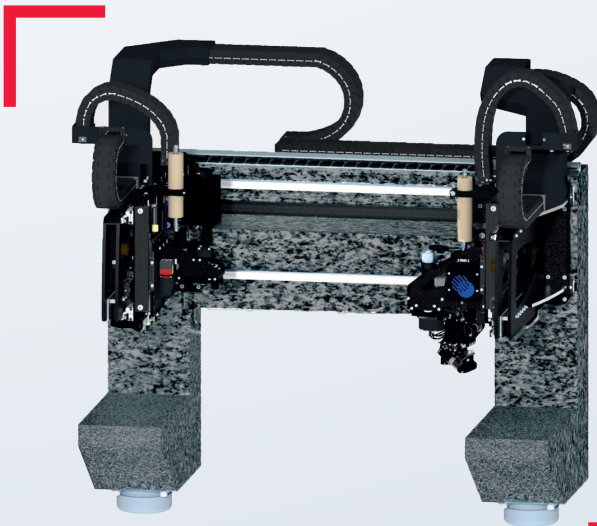
X, Y, Z,  $\Theta_x, \Theta_y, \Theta_z$   
Integrated Goniometre  
Resolution : +/- 0,1 $\mu$ m

Large working area  
300X200mm  
Magazine as well as  
**automatic parts loading/  
unloading** are available as  
an option.

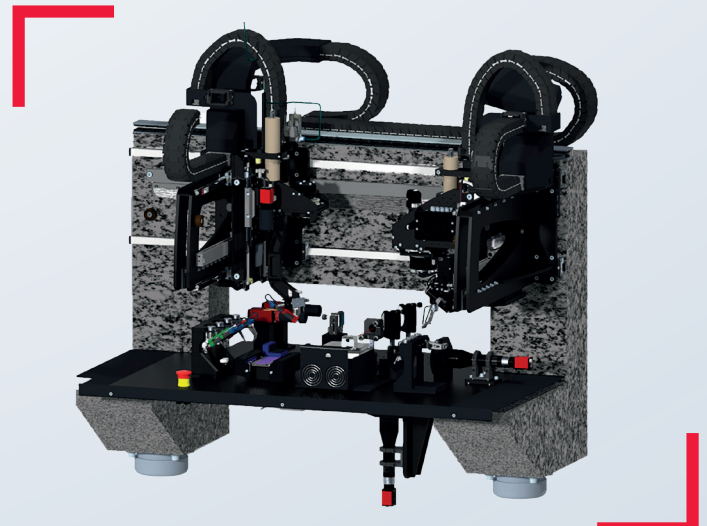
Vibration absorbers

Reference marble made  
of granit to ensure a  
high level of stability

## MODULAR MACHINE ARCHITECTURE

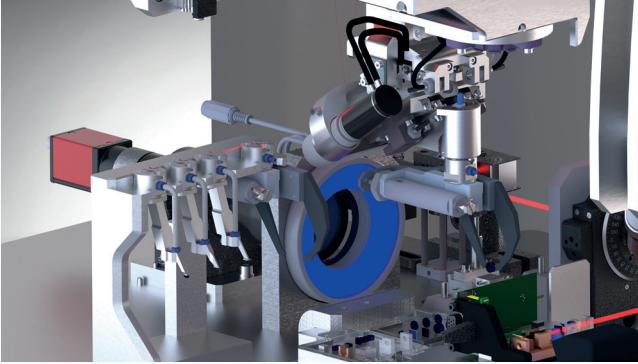


Common base



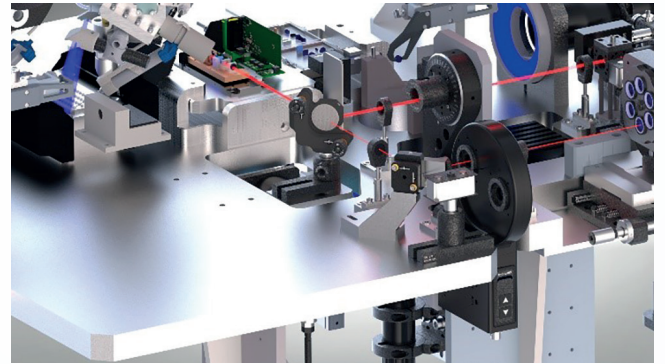
Customization to fit  
your application

## ACTIVE AND PASSIVE ALIGNMENT CAPABILITIES



### Passive alignment

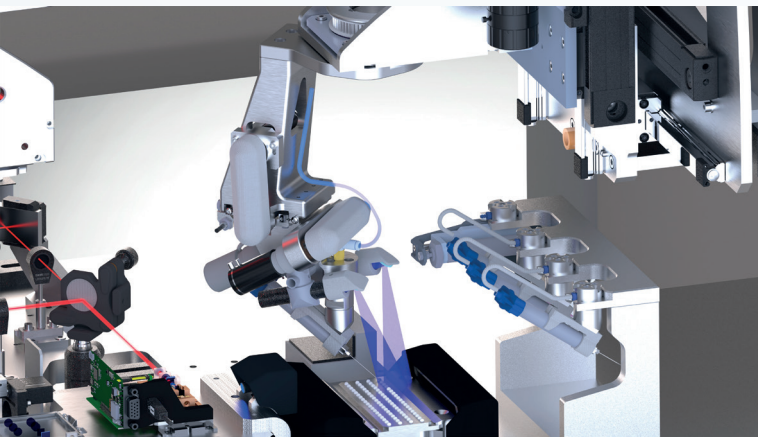
In a passive alignment process, the relative position and orientation between two components is evaluated and adjusted based on the camera measurements.



### Active alignment

The major advantage of active alignment is achieving very high product performance, while individual components do not need to be extremely geometrically accurate

## GLUING WITH IN SITU UV CURING



- Integrated **time/pressure dispenser**
- Customized **pattern**
- **Autocalibration**
- **Repeatable** dispensing
- <math><300\mu\text{m}</math> cordon width
- **45° needle** orientation to dispense under the components
- Alternative technologies such as **jetting** and **dipping** are also available as an option

## PROOF OF CONCEPT

Please feel free to **contact us** using the following form to know more about Photomatiq®.

ISP can propose **proof of concept** as well as testing session to make sure of the compatibility with your assembly process.



[isp-system.fr/en/contact](http://isp-system.fr/en/contact)





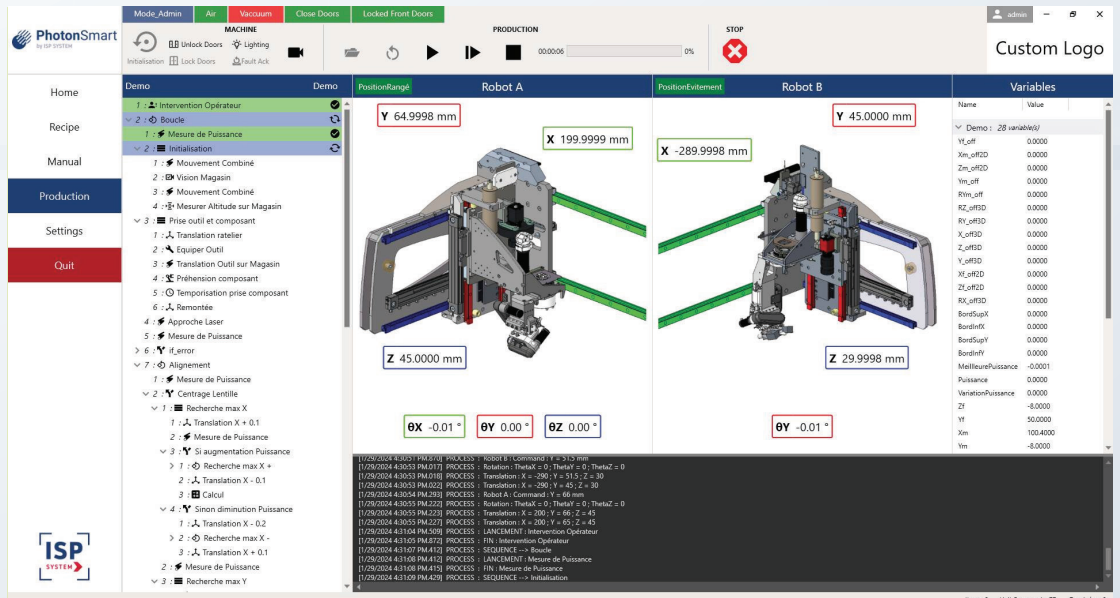
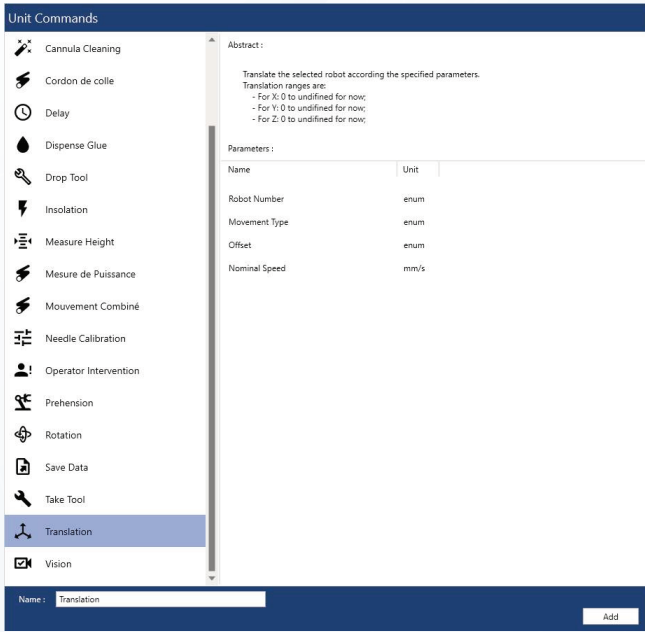
# PhotonSmart

by ISP SYSTEM

The **open control** PhotonSmart software allows non-automation experts to operate the machine, edit new recipes, and supervise the production.

Just **pick and drop** the pre-developed function blocks into an assembly sequence to **create your own** manufacturing process

- Fine tune your process through the **development mode**
- **Supervise** your production and manage the **traceability**



Discover PhotonSmart functionalities in this short video:




## OUR REFERENCES

ACTEMIUM • AIRBUS • AIRBUS HELICOPTER • ALSTOM TRANSPORT • ALSYOM • AMPLITUDE LASER • ARIANE GROUP • ARQUUS • ASML • BERTIN TECHNOLOGIES • CEGELEC • CEA • CEA-DAM • CNES • CNIM • CNRS • DASSAULT AVIATION • DGA • ECA ROBOTICS • ESA • ESSILORLUXOTTICA • ESRF • ETIENNE LACROIX • FIVES MACHINING • GE MEDICAL SYSTEM • HORIBA SCIENTIFIC • IMV TECHNOLOGIES • IXBLUE • JOHNSON CONTROLS • LABORATORY FOR LASER • ENERGETICS • LECTRA • LIEBHERR AEROSPACE • MBDA • NAVAL GROUP • NEW TL • NEXANS • NEXTER • ONERA • OPTSYS • OXXIUS • RADIAL • RATP • REOSC • RUAG • SAFRAN REOSC • SAFT • SAINT-GOBAIN • SAVOYE • SIEMENS HEALTHCARE • SODERN • SPIE • TECHNETICS GROUP • THALES • THALES ALENIA SPACE • TIFLEX • TRESICAL • TRIXELL • VALEO • XEROX



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