



Internship Offer

Subject: ***Industry 4.0 : New concept of Semiconductors handling.***

Period: 6 months duration, 2021

Student profile: Last year of Bachelor or ongoing Master

Profile: Automation, micromechanics, mechanics.

Student Allowance: yes.

Company: ismeca europe semiconductors SA (Cohu Holding)
Rue de l'Helvétie 283 CH-2301 La Chaux de Fonds

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Introduction:

Ismeca is a company active since 50 years in the handling of semiconductor devices for test and inspection, nowadays inside the group Cohu. With the evolution of embedded technologies, miniature electronic devices are ubiquitous. Today the production rate of these parts exceeds one million units per day on a single machine. Their size reaches in standard 0.2x0.4x0.15 mm. **Our measurement scale is the micron and the millisecond.**

Facing with this evolution, we invent new solutions to handle these devices in an automated process and want to integrate the most performing technologies.

Scope:

In collaboration with our Marketing and Engineering departments, evaluate concepts and technologies to condition semiconductor devices from our Turret Handler into carriers/medias compatible for Factory Automation (Industry 4.0).

Current solution is to carry output devices into plastic embossed carrier tape through a Tape & Reel module. Automation logistics and robots from the novel 4.0 Factories model must adapt to this module. We are willing to draw a completely new process starting from factory need and create a new output module, eventually a new media.

Existing solutions in the semiconductor front-end industry could be explored. A technical-marketing assessment is proposed, imagining different concepts, prototypes after a period of technology & market survey with different stakeholders (customers, suppliers, Robot AVG manufacturers) to understand needs, functions and possible future solutions.



Carrier tape (left)



OHT and AGV robots (right)

- Automotive
- Industrial
- Solid State Lighting (LED)
- Mobility
- Communications
- MEMS
- Computing
- High Speed Memory



Semiconductor Device



Rotating Turret equipped with 20 or 32 Pickup heads (PUH)



Ismecca Turret Handler

Means:

- Internet, marketing and engineering departments, Handler equipment will be available in our laboratory.
- Supervision by Lab manager, support of Lab team and engineering teams.