



# Docking Station

**APLAN**  
*special melting* **INTECO** *technologies*

# WORKERS RISKS EXPOSURES

- HANDLING SLIDE GATE CYLINDER

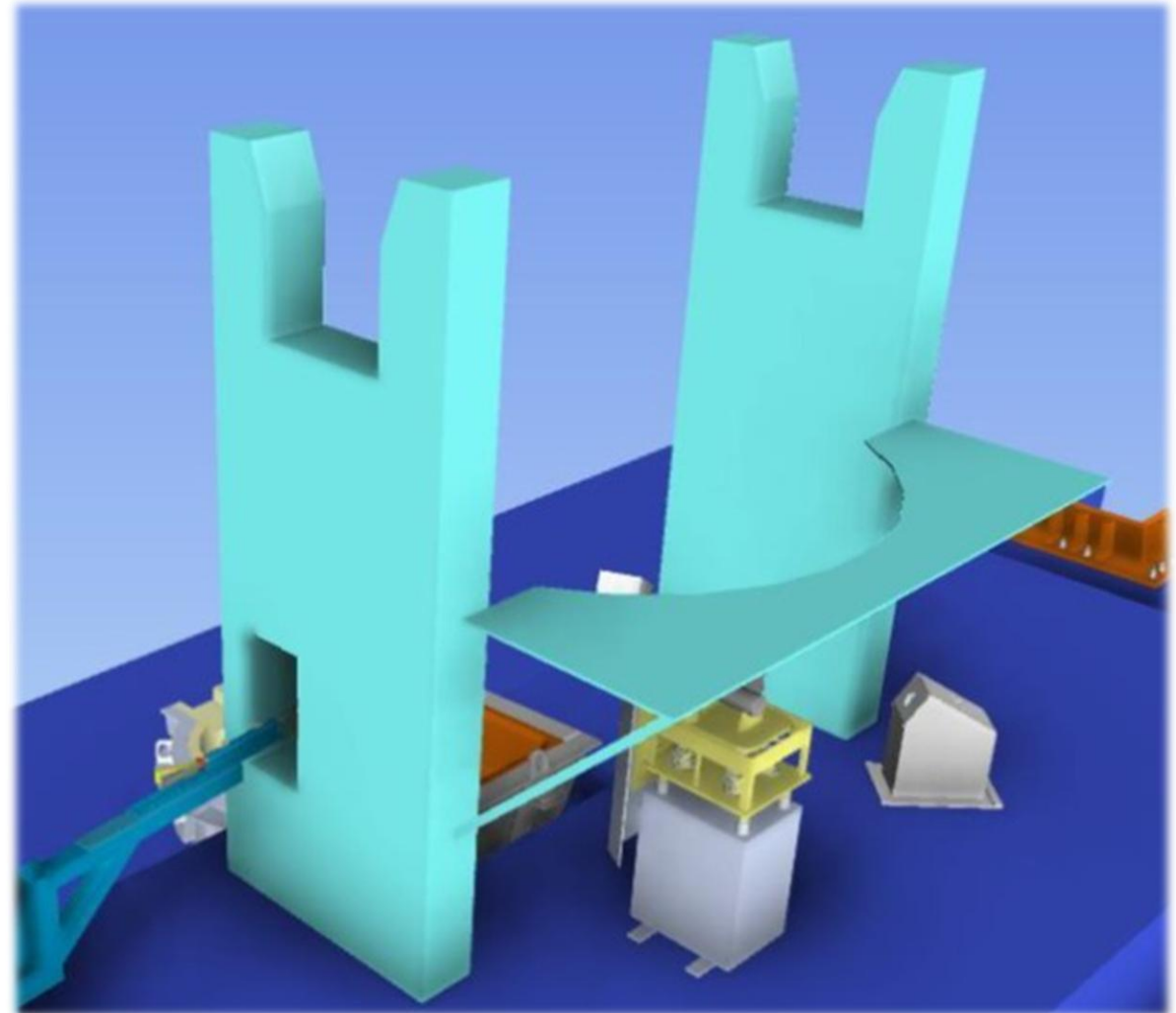
# OVERVIEW

1. Ladle keeps hanging in the crane;
2. Ladle guiding structure;
3. Slide gate docking station;
4. Oxygen Lance manipulator;
5. Camera system.

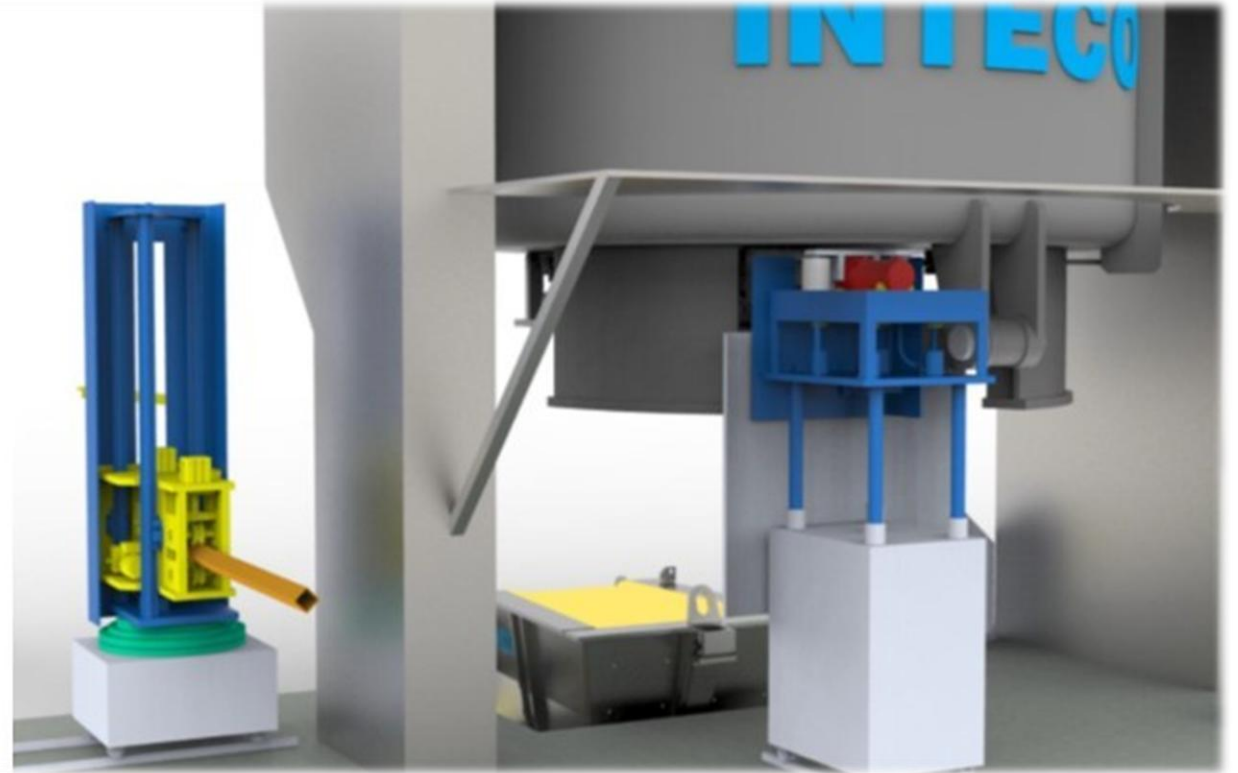
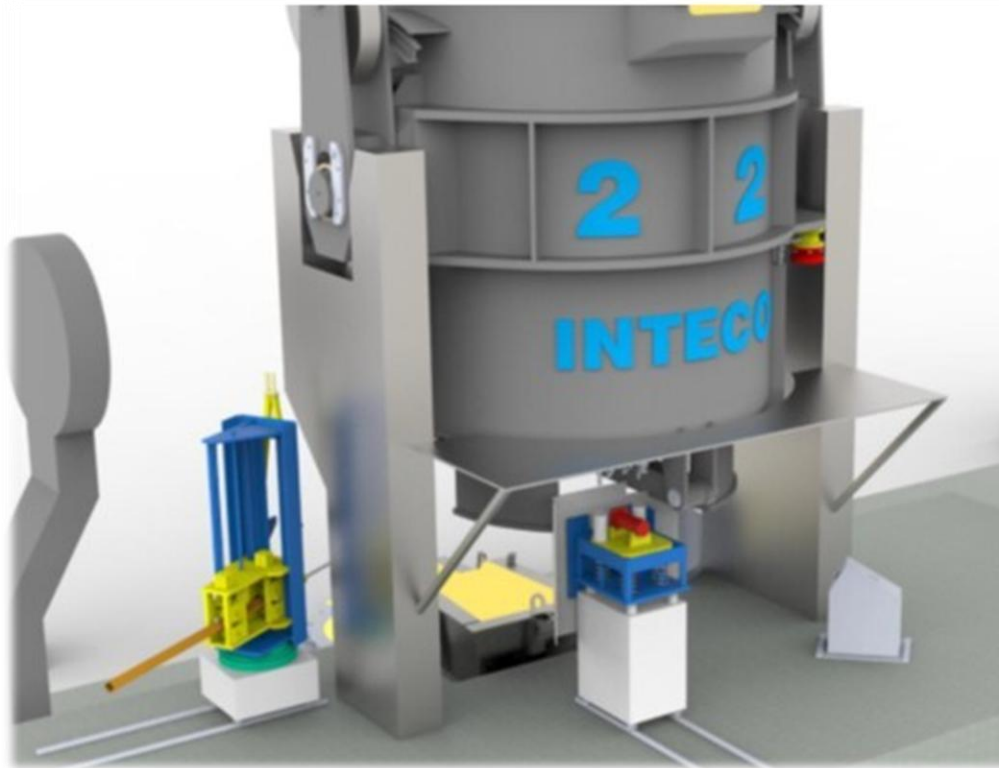


# GUIDING STRUCTURE

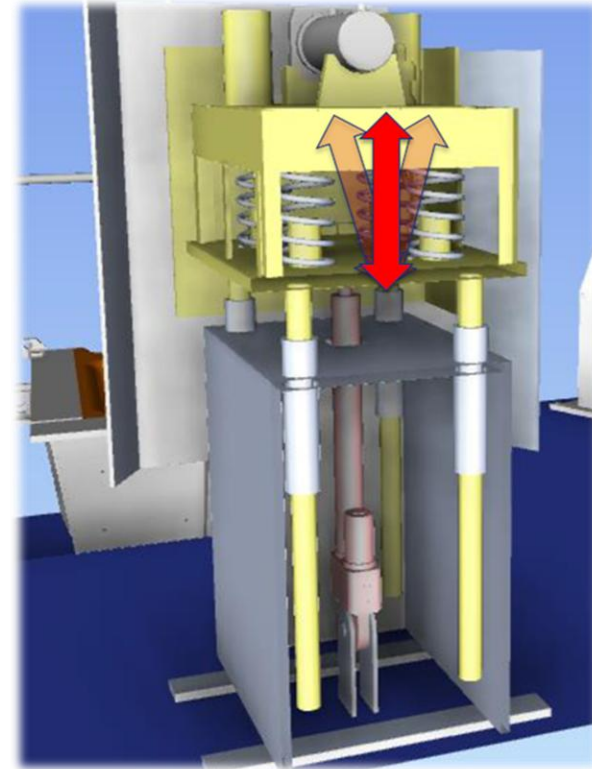
- Ladle keeps hanging in the crane;
- Steel structure with protection roof;
- Guiding system, similar to the system on the Ladle Transfer Car;
- Can be manufactured in Brazil;
- No safety fences needed.



# OVERVIEW

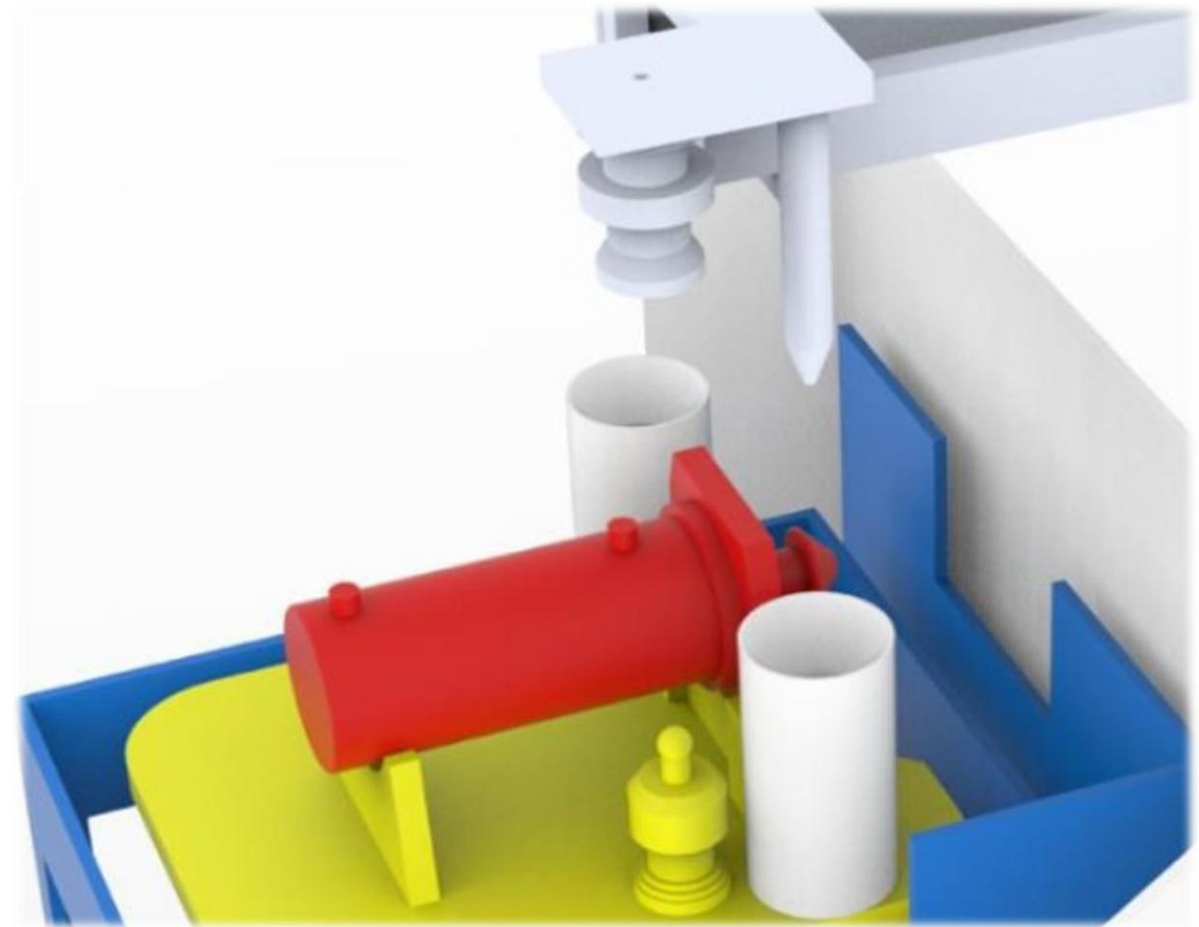


# DOCKING PROCESS



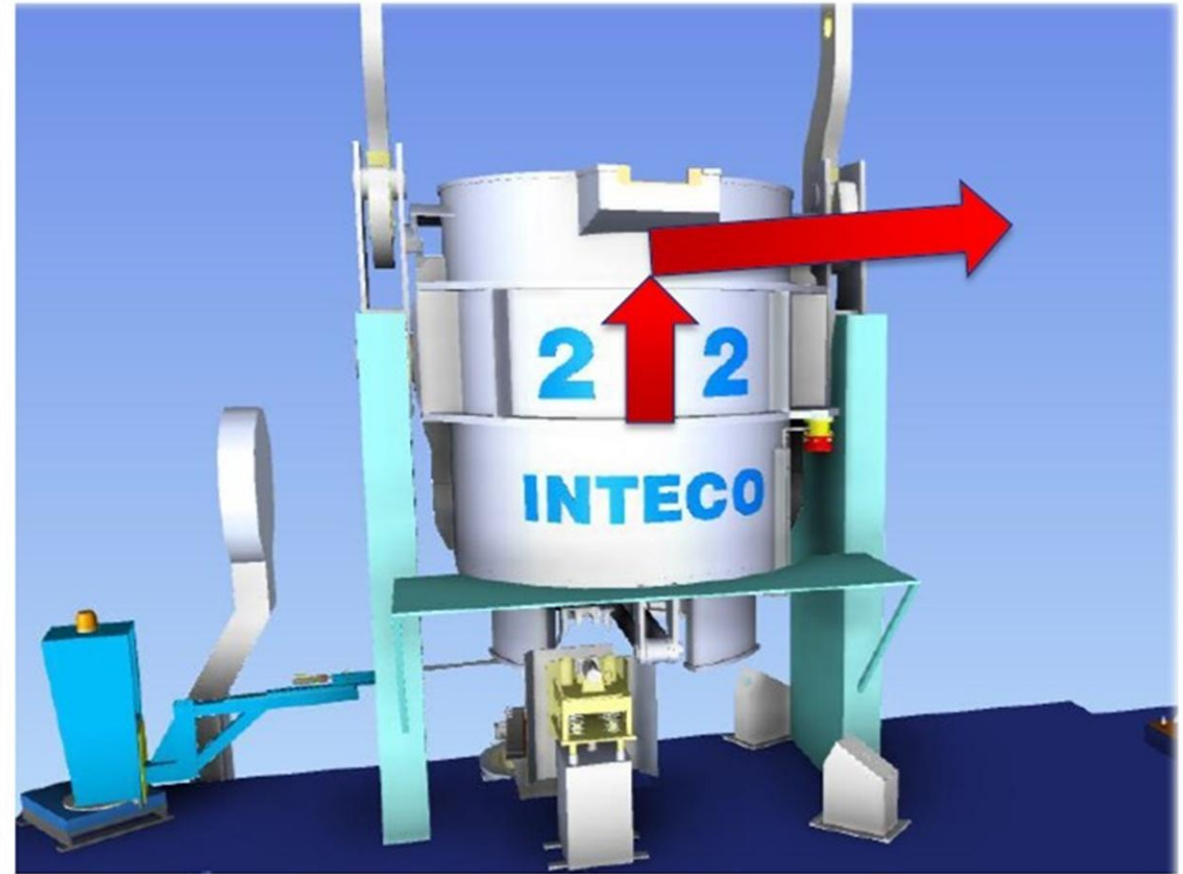
# FEATURES

- Cooling Air for Slide Gate ;
- Fast coupler for Compressed Air.



# EMERGENCY CASE

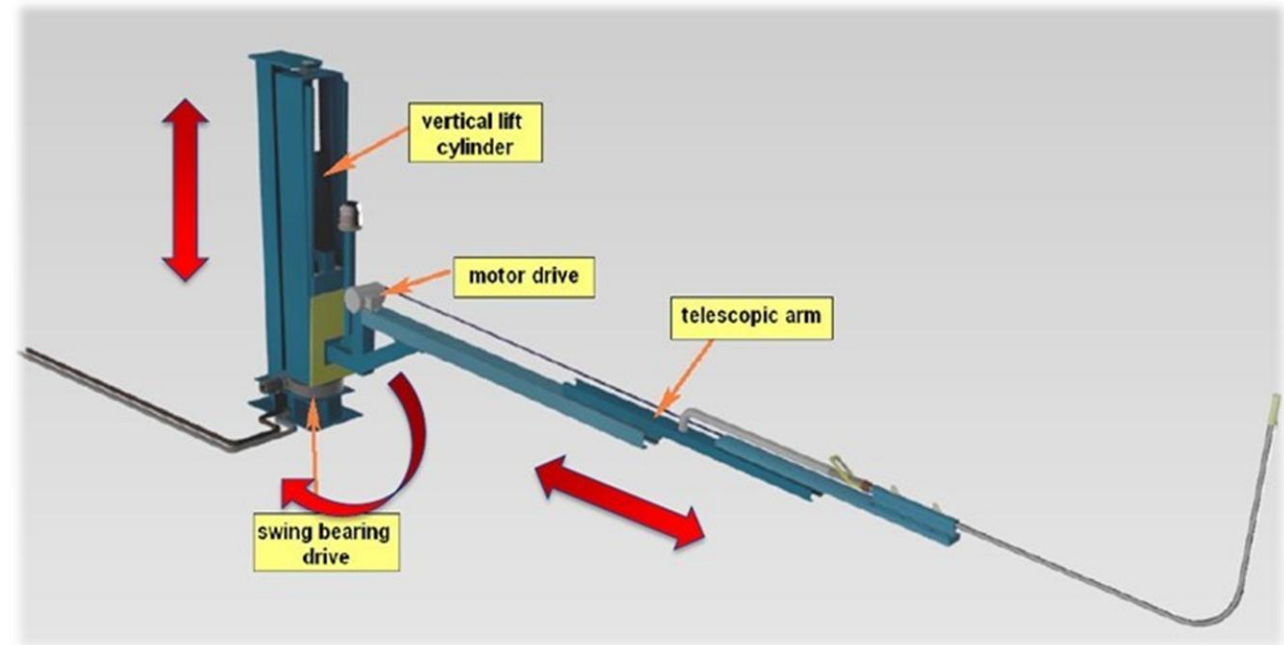
- Ladle keeps on the crane;
- Lift the ladle appr. 80cm;
- Move out to emergency pit;
- No hydraulic hoses will be broken;
- No separate operation are necessary.



# OXYGEN LANCE MANIPULATOR

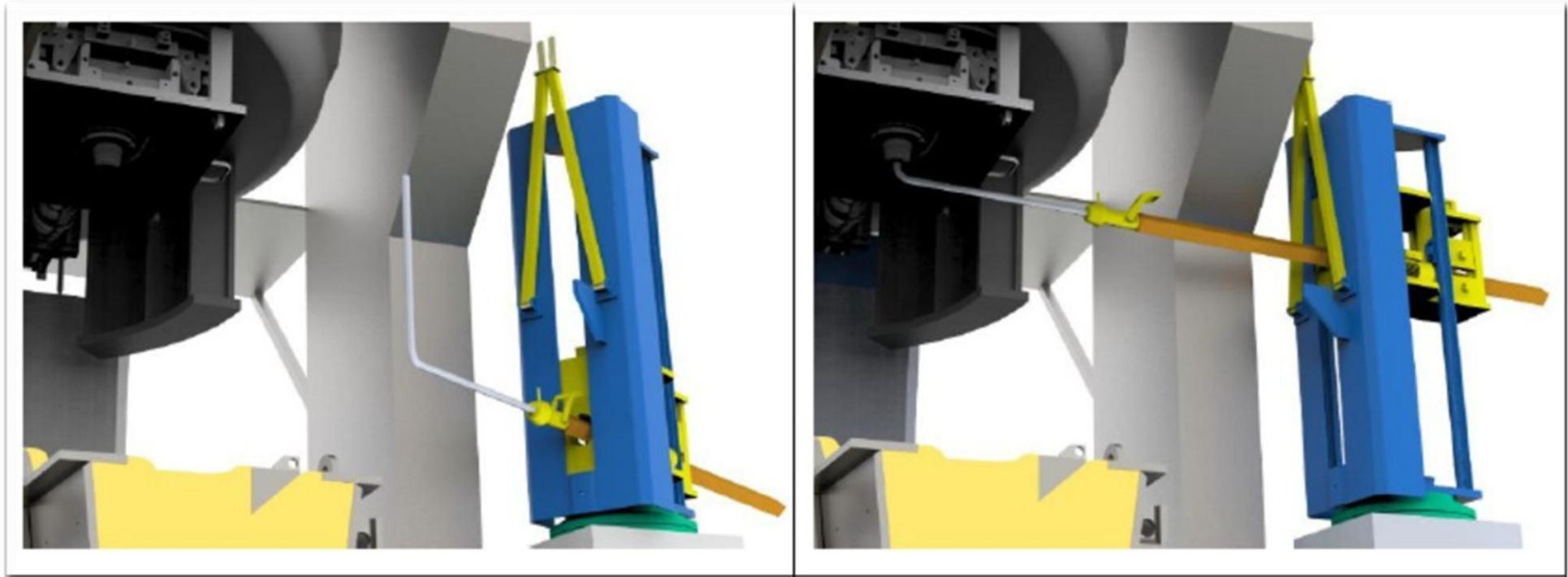
Lance Manipulator in Operating Position:

- Manual operation with joystick and camera support;
- Operator is in the control room;
- Automatic sequence for retraction;
- Fast coupling system for consumable lance;
- Self ignition tip on lance.



# DOCKING PROCESS

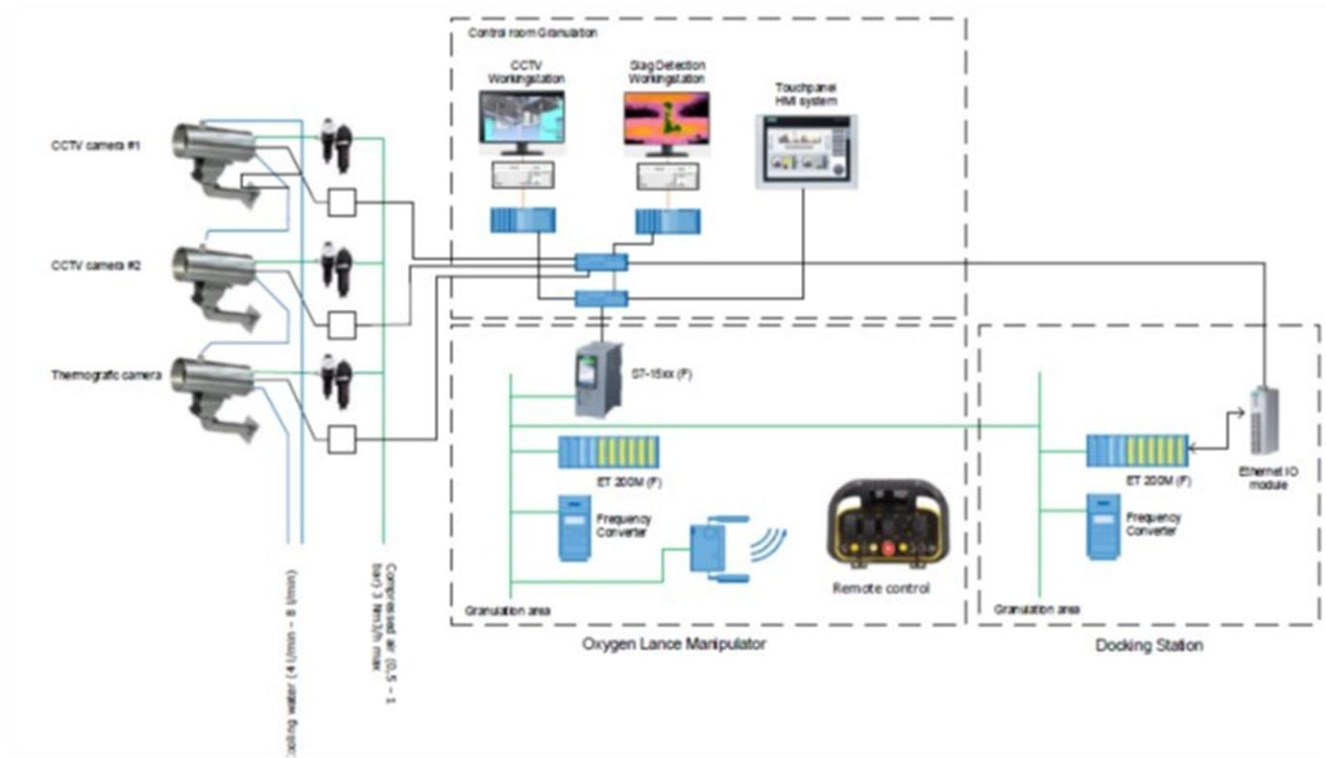
Lance Manipulator in Operating Position.



# ELECTRIC AND AUTOMATION

PLC, HMI and MCC:

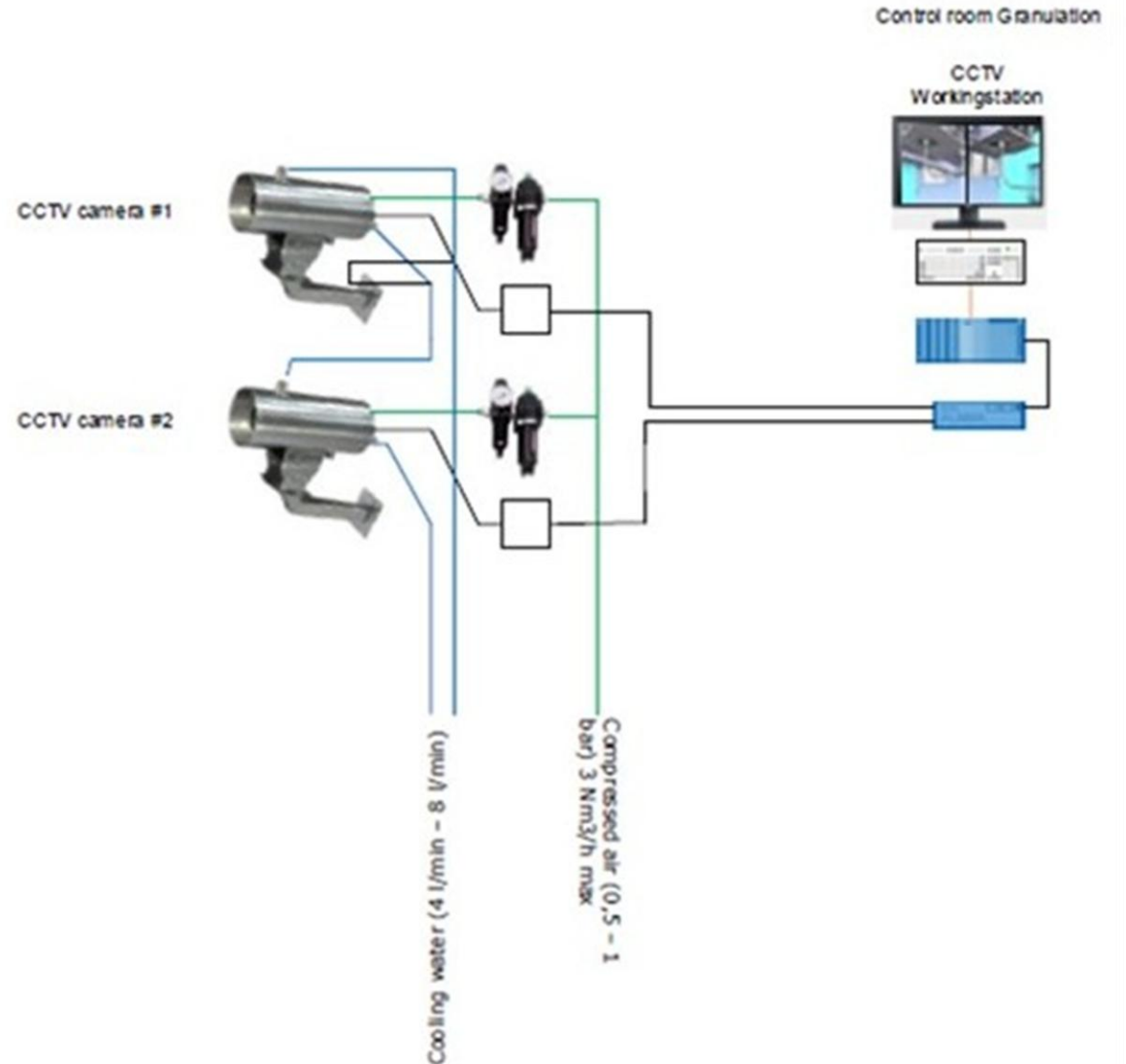
- The docking station and the lance manipulator will be controlled by one PLC;
- For operation and monitoring one common HMI is considered;
- The HMI system will be located in the control room of the granulation.



# CCTV SYSTEM

## System Configuration:


- For the operation of the oxygen lance manipulator two CCTV cameras are considered;
- This two cameras are located in a protected area underneath the ladle;
- With the video screen the operator is able to bring the lance tip into the tapping whole.






# APLAN


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 APLAN process-oriented automation