

# Gracias!Danke

Dear  
Customer

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Cretec Cybernetics specialises in machine vision-based automation solutions and multidimensional image processing. Cretec Cybernetics was created from the merger of Cretec GmbH and VisionOnline S.L. - incorporating more than 20 years of real-world industrial automation experience. Our mission is, to provide a pan-european response to globalized and local industrial production companies needs, for better, faster and more reliable inspection solutions.

Intelligent and digitally interconnected systems are the technical basis for this. With the growing help of Artificial Intelligence and Deep Learning, we today solve tasks, that seemed impossible yesterday. We match modern industrial robots and cobots perfectly into cutting-edge machine vision based solutions for handling, inspection and assembly.

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Cretec Cybernetics



# Global Knowledge & Local Support

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# Hot Heat, Over Thermography

## User interface

The graphic user interface was designed to provide maximum power combined with simple operation.

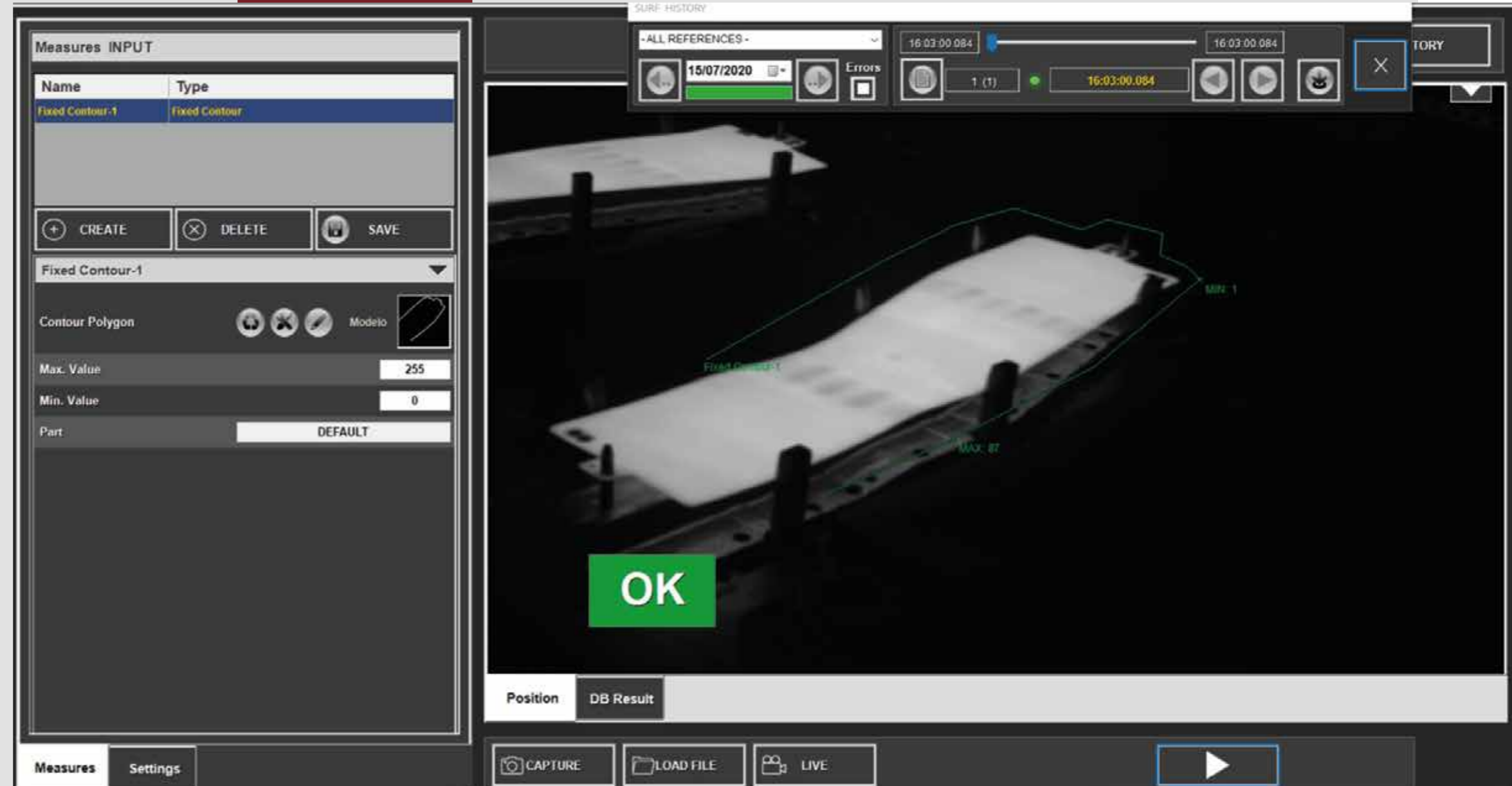
- Touch Panel, no need for programming PC or any other peripheral devices.
- Creation of new recipes and references.
- Graphic editor for control tools.
- Administrator and user access levels.
- Works with one press if molds operated separately.
- Access to data history and help documents.

## Communication with the press

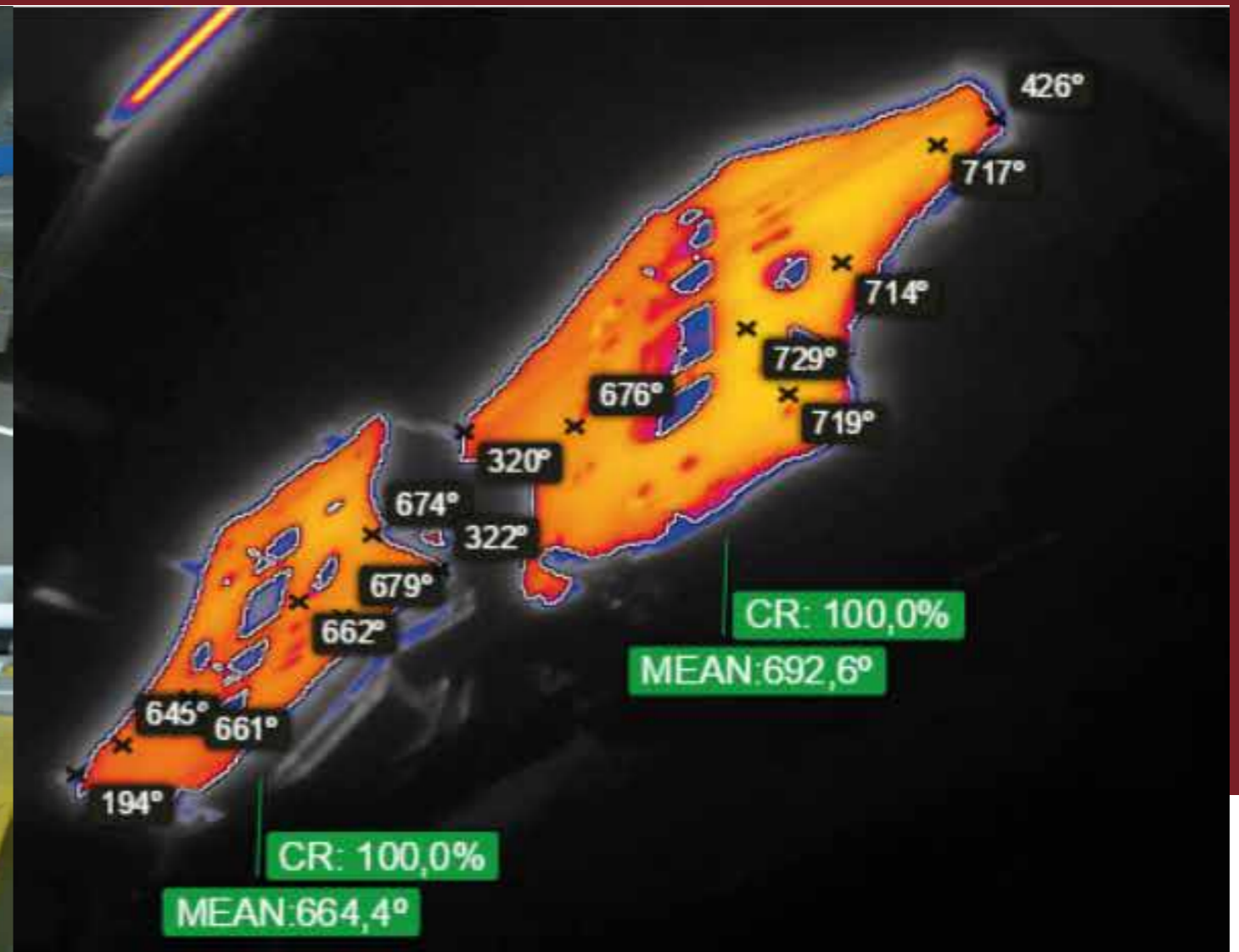
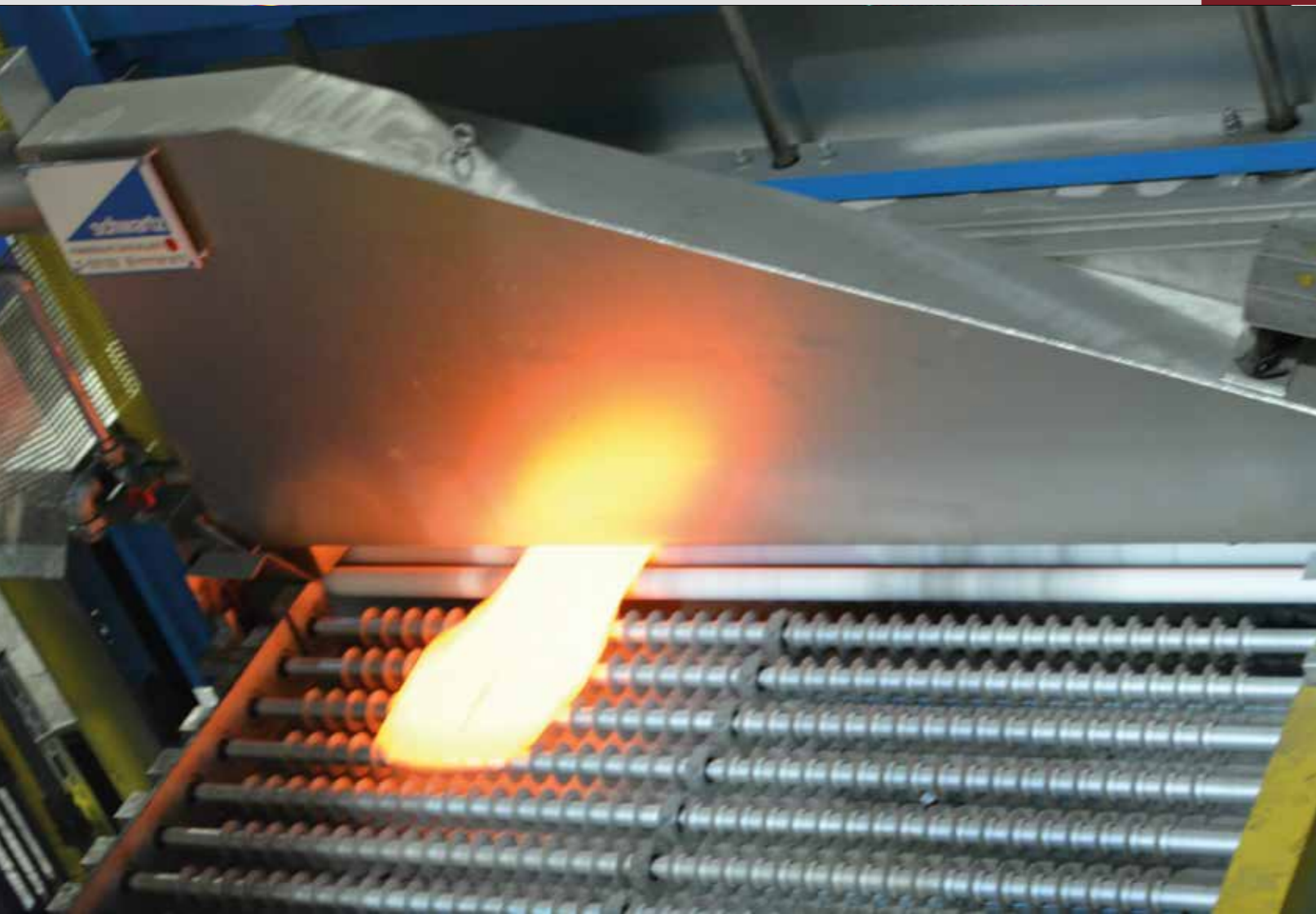
Real-time communication is provided over PROFINET.

Data from the press and the furnace are registered for every cycle:

- Cycle time
- Time in air
- Cooling time
- Press force
- Cushion force
- Water temperature and flow
- Furnace temperature
- Remaining time
- O2 and CO2 values



# Hot



## Data structure and saving

Complete data for every cycle is registered in a SQL Server. Database and replicated in the plant server.

At production end, a video is generated with all the images of each cycle of that production.

# Hot Options

- Higher resolution thermographic cameras.
- Additional thermographic camera at the furnace exit.
- Additional thermographic camera for finished parts at unload conveyor.
- Position correction for robots for blank loading at the destacker.
- CQI-9 module for **Heat Treat System Assessment**.



# Hot Thermographic control module

HOT offers an “in-Feeding” inspection that permits data acquisition and control just in the moment the blank is positioned in the mold and previous to the stamping process itself. It also allows part control just when the part is expelled from the mold.

The main advantages of using a thermographic system inline are:

- Blank temperature data exactly from the moment of pressing.
- Temperature distribution of the resulting part.
- Maximum and medium temperatures of the blank or finished part, hot-spots or regions of interest.
- Registration and putting into relation of press data and inspection values.

**Control tools:**

- Hot Spots
- Max, median and percentage temperatures
- Polygon-formed Areas of Interest
- AOI and part tracking



**Technical Specifications:**

- Image acquisition with IR filters on high-sensitivity monochrome cameras.
- Two cameras for each mold offers optimal field of view while keeps press movement area clear and does not penalize press cycle time.
- Not affected by changes of ambient lighting conditions.
- IP67 protection class for all relevant components.
- Protection housings against mechanical impact.
- Fast and easy edition and creation of new recipes and references.
- Automatic recipe selection by communication with the press PLC.
- Addition of new controls, modifiable thresholds and tolerances.
- Offline change-log for verification **of changes and new configurations**.

# Hot Options

HOT machine vision system becomes a basic tool for hot forming processes, because it:

Guarantees the product properties and the production process stability. Improves quality as it assures correct contact between blank and mold.

Raises productivity of serially produced references.

HOT unifies in one system all inspection processes that hot forming requires

## Solution Hot (Heat Over Thermography)

HOT provides all the necessary components for the deployment in production lines:

Only one control station with a touch screen and graphic user interface for all relevant components.

Position control of blanks in the mold.

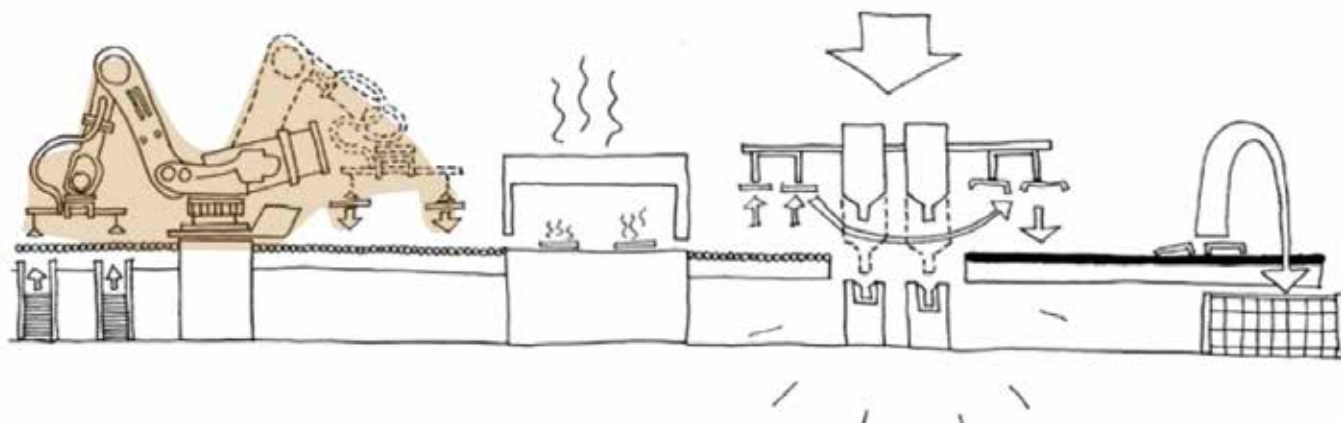
**Thermographic acquisition system** for control of blank and pressed part.

Image and data registration in data base.

Data communication interface to plant server and remote data management application.

100% modular, adapts to Small, Medium, XL or Custom hot forming presses.

*Aim: Quality control and productivity improvements for hot forming presses.*



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