

Are you interested? Here is all you need to do:

1 Step 1: Consultation without obligation

Just send several sample parts, if possible with characteristic faults. If there are no samples available yet, just send us similar parts or CAD drawings.

Quickly and without obligation you will receive first answers/ estimations to your questions: Is it possible? How much will it cost?

**Your time spent sending us your samples:
Just 10 minutes**

2 Step 2: Discussing an accurate specification sheet

On the basis of the central questions and first talks we will create the specifications of the inspection system and discuss them with you. You will receive a proposal at no cost and without obligation.

**Your time spent on first inspection specifications:
Just 2 hours including preparations**

Feel free to contact us in case of any questions about the proceedings. We will be happy to help you!

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4 Steps to Camera Inspection
- Guidelines for the Plastics Processing Industries -

1 Checking Your Requirements



2 Defining What to Inspect



3 Integrating the Inspection System



4 Making Use of the Advantages



1 Checking Your Requirements

Central question: Where are automation and high quality most beneficial?

Inspection is necessary if

- At present, parts are inspected 100% manually
- Parts are to be inspected, but manual inspection impossible
- Customer requires detailed information about quality control

Inspection is possible if

- Faults are visible (at least with a microscope, special lighting, etc.)

Inspection is cost-effective if

- Handling automation is present (unloading or storage)
- High number of parts is produced (continuous production and/or shift operation)
- Production has optimization potential



2 Defining What to Inspect

Central question: Which faults are most important?
What are the boundary conditions of the production process (cycle time, handling, etc.)?

Typical inspection tasks include:

Moulding faults

Black dots, dust imprints, inclusions, streaks

Dimensional errors

Part dimensions, displacement of imprints or foil

Print image or laser faults

Faulty typeface or pattern, unclean edges

Cleaning faults

Removable dust, flakes, or burrs

Surface faults

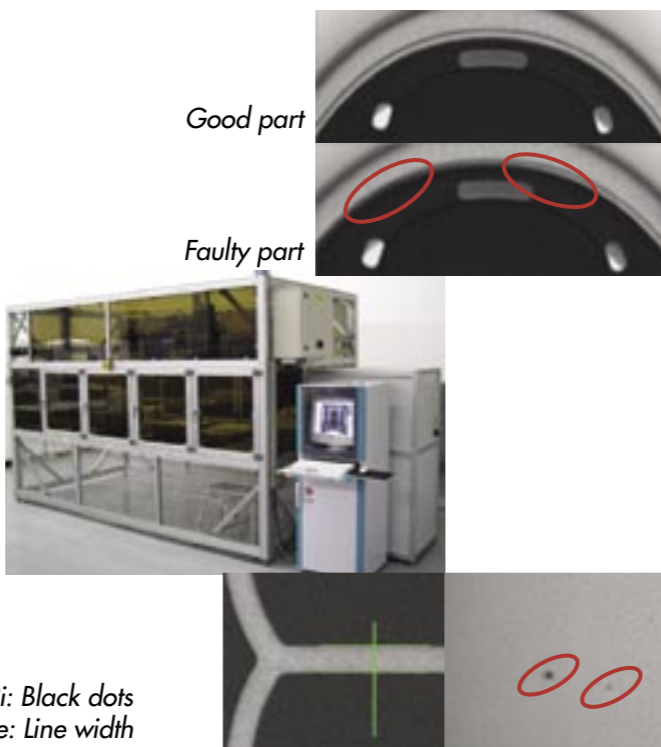
Dirt imprints, scratches, orange peel

Lacquer faults

Dirt inclusions, scratches, lacquer runs, and oversprays

Assembly faults

Missing parts, damage



Ri: Black dots
Le: Line width

3 Integrating the Inspection System

Central question: When should the system be operational?
Who will be involved with integrating the system?

Design phase

- First sample parts with faults
Intego: Free feasibility study
- Layout of production unit
Intego: Free consultation

Project/Construction phase

- Assembly and preliminary acceptance at Intego GmbH
- Relocation and integration into the production line
- Service via remote maintenance and on location, for example, adjustments to a new model type

Timeframe: 3 - 6 months,

Price range: 35,000 - 170,000 Euro

To avoid initial start-up problems

- Define faults and sample parts as early, exactly, and realistically as possible
- Involve the quality and the production department, and if necessary the end customer
- Schedule time for fine adjustment of the imaging equipment **after** starting the automation (at least 50% good parts in continuous operation)

4 Making Use of the Advantages

Central question: How can the inspection system support production?

Increase quality

Reliable 100% error checking increases quality

Raise production rate

Sources of error are recognized immediately and can be eliminated.

Realize additional benefits

- Integrated control loops help to manage production directly
- Statistics functions permit process optimization
- Inspection records for additional diagnostics of the production process

