AUTOMOTIVE
CONTROL OF ELECTRODES FOR HYDROGEN VEHICLES

CHALLENGES

Whether encouraged by regulations or market-driven, new automotive engine technologies are clearly the way forward. Hydrogen vehicles producers are increasing their manufacturing capacity and accelerating their production rate.
This growth comes with numerous challenges linked to the manufacturing control of fuel cells' electrodes such as the **absence of surface defects** and the **strict respect of their dimensions**. These new types of control **must be fast and traceable** to reach or exceed the quality standards of the traditional automotive industry.

SOLUTION

INSPEX OUT , a control solution by industrial vision. It is adapted to the control of fuel cells' electrodes and enables:

- The automated control and detection of surface defects (scratches, impacts, punches, etc) by linear camera and image analysis
- The control of dimensions such as the height of channels by laser profilometry
- The control of the absence of fractures with a camera, backlight and image analysis
- The robotized handling of the parts and their sorting (good / bad / per defect type)

BENEFITS

Reliable control

- Defects detection is more rigorous and less impacted by human factors than visual control
- The controlled dimensions (a few hundred microns) are measured with a precision better than a few microns

Fast and traceable control

- A rate of 1 controlled part every 10 seconds
- Each picture and control data is saved and stored during a user-defined time
- Each electrode is identified by laser-marking

INSPEX OUT

VERSATILE CONTROLS

- Surface defects (cracks, scratches, deformation, etc), incorrect assemblies (absence or wrong positioning of screws, connectors, etc), finish (color, burr, etc), dimensions, foreign objects
- On mono or multi-material parts and systems of various sizes and shapes

FAST AND EASY INSPECTION

- Achieved in a few seconds, user independent
- Non-destructive, non-intrusive, adapted to online control

AUTOMATION OPTIONS

Loading and unloading of parts, camera angles, sorting and marking, etc