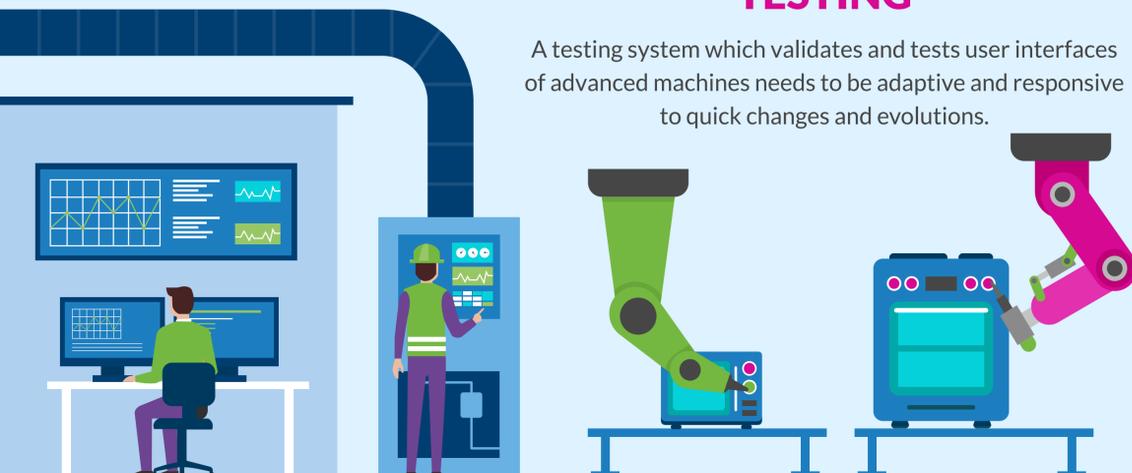


# HUMAN-MACHINE INTERFACE TESTING

A testing system which validates and tests user interfaces of advanced machines needs to be adaptive and responsive to quick changes and evolutions.



As industries adapt to disruptive advancements in technology, the lack of right HMI test validation tools could stifle the pace of product development while a good HMI testing process could accelerate it.

## HMI TESTING: THE BOSCH WAY

Our system has built-in



Eye to keep watch



Intelligence to sense and classify



Brain to learn



Arms to act upon

### Bosch's smart Graphic Testing System (GTS)



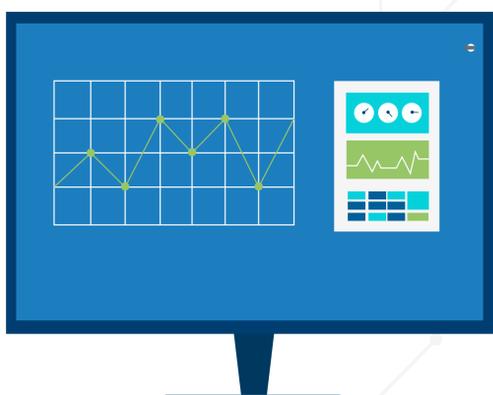
Reduces configuration time



Eliminates the need for frequent test list updates



Maintains accuracy of test results



## BENEFITS OF GTS BASED HMI TESTING:

- ✓ High Accuracy  
*Pixel Perfect*
- ✓ Non-invasive  
*No instrumentation*
- ✓ Real-time turn around  
*Unimaginably fast*
- ✓ Consistency & Regression  
*First time and always*



## USE CASES



### Text Validation

GTS is capable of performing automated text and all language translations with pixel perfect accuracy

### Display & Touch Validation

GTS tests for the common touch-based interactions like click, flick, scroll and other defined events for validating display outcomes



### Luminance Detection

GTS is the perfect test solution to validate various lighting conditions on displays, light sources, projection units and other consumer products.



### Color Identification

GTS is an intelligent color picker, capable of classifying and matching colors. Useful for medical equipment monitoring, detecting road-sign warnings and indications in automobiles.



### Sequence & Alignment Detection

GTS is highly smart in detecting broken sequences in manufacturing industry and also in logical flow transitions in User interactive screens.



### Sound / Voice Monitoring GTS

GTS can discriminate sound waves against recorded tones to validate alarms, tones, volume from appliances used across domains. It can also distinguish right pitch and tone in voice samples.



### Validate patient information and projection system

GTS is capable for adapting for testing Patient information system.



## WHAT MAKES BOSCH GTS UNIQUE

- ✓ Works seamlessly with HDMI interface
- ✓ All bands of radio signals both near field and far away can be tested
- ✓ IoT Products in a network behaving as Edge Device, Gateway, Router, and Cloud & Apps are all testable
- ✓ Touch and Button simulation available for smart devices as well as for conventional hard-button devices
- ✓ The audio input-output systems can work with single tone, multi tone, waves, and audio signal processing generators to natural voice inputs.
- ✓ Real time animations and 3D models verifiable against reference videos and models without any instrumentation in the code.

