Does Boundary-Scan Make Sense to You ?

Boundary-Scan will make sense to you when one or more of the following points apply to your situation:

- You want to perform ISP of CPLD's or Flash memory devices on your facility and you want to simplify logistics around the programmable devices
- You do have problems with physical access (fixtures) with ICT due to fine pitch SMD or other under-the-package bonded devices such as microBGAs, etc.
- You are only using functional testing because the ICT-methodology is too expensive for the relatively low number of boards in your activity
- Your costs and development time for fixtures and ICT programs are becoming excessive high
- Your HW designers hate to spent too much time on bugging prototype boards due to production faults
- Your engineers don't have time to spent on designing functional tests with good coverage for production faults
- Time-to-market of your products is vital for your company
- You do have too many scrap boards in your production: boards that can not be repaired due to lack of diagnostics

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Boundary-Scan DFT Checklist

- Maximize using BS-compliant devices rather than their non-BS equivalents
- Keep separate analog and digital power supplies and allow the tester to turn off the analog supply during BS testing
- Ensure that the BS chain configuration is supported by a test related SW that will be used
- Put all field-programmable devices together at either end of the BS chain
- Perform an analysis to ensure that all components and interconnections have safe states after each BS test operation
- Keep separate TDI and TDO pins to reduce possibility of shorts between them
- Keep oscillator's outputs to be controllable via BS accessible output cells
- BS devices which are not used for programming but are accessing the Flash memory, should support the *HIGHZ* or *CLAMP* instructions
- The Flash memory WE control line should be brought out to the edge connector so that it can be driven by an external test controller, this facility can be used to significantly reduce the Flash memory programming time
- Identify series components to improve interconnect coverage, e.g. in-line MUX, non-inverting buffers, series resistors

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