Test Engineer Real Job Role & Responsibility
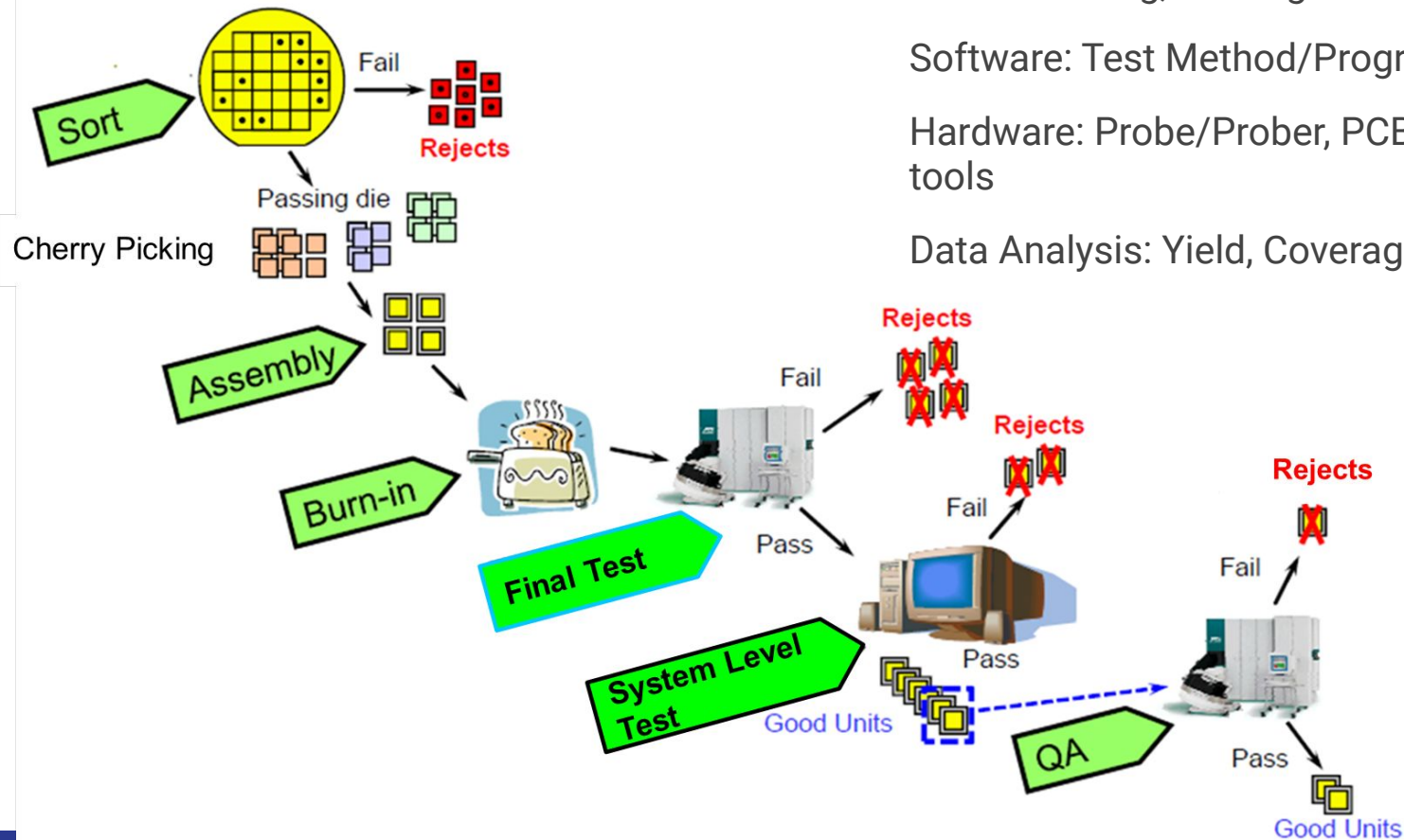
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Test Engineer

Test engineering requires a test engineer to thoroughly test materials, processes, and mechanical or electrical systems to ensure that customers receive high quality and functional products. Tests are performed for various components and functions in order to identify and fix technical problems.

Responsibilities of a Test Engineer

- A test engineer or a manufacturing test engineer is entrusted with activities that vary depending on the industry they work in, though generally, a Test Engineer is in charge of the conception or development and implementation of qualification and development tests with regard to new, improved or optimized products and systems.

*https://www.freelancermap.com/blog/what-does-test-engineer-do/

Which part will you work on

Design: DFx, i.e. Design for Test, Design for Manufacturing, & Design for Debug

Software: Test Method/Program & EDA tools

Hardware: Probe/Prober, PCB, Tester, FI & FA tools

Data Analysis: Yield, Coverage, Diagnosis

Software Related Jobs

Writing codes for tester runtime library or Test Automation

- Advantest/Teradyne
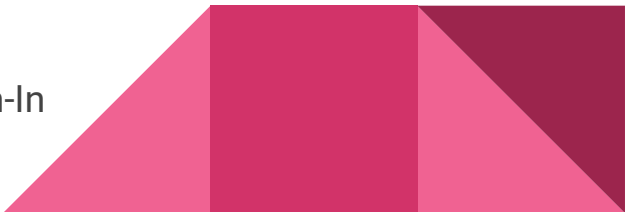- Fabless such as Qualcomm, Nvidia, Intel, AMD, etc

EDA tool

- SCAN ATPG (Tessant, TestMax), Diagnosis development
- Memory Compiler, BIST, etc
- Yield Insights, Yield Explorer

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Hardware Related Jobs

Product Development Engineer

- Develop test flow/plan to ensure product functionality and quality
- Sort Test or Chip Probe (CP) vs Package Test or Final Test (FT)
- System Level Test
- Tester related hardware configuration and design including probe card and load board, Sockets, Thermal Tools
  - Extra skill sets: Power Integrity/SIgnal Integrity, PCB design
- Fault Isolation/Failure Analysis (FI/FA) & Debug
- Product Qualification & Reliability
  - Extra Skill sets: Device Physics under stress conditions & Burn-In

Data Analysis Jobs

Data Analyst or Data Scientist, Foundry (Product) Engineer

Domain knowledge in Device/Process, Product

Data crunching: Statistics; Excel/JMP

Design of Experiments (DOE): Data -> Information-> Insights

- How the data was collected under what conditions
- Can ML/AI help?