Full Process of PCB Connector Custom Development

1. Customer Requirement Input

- Electrical parameters: Current, voltage, pin count, pitch

- Structural requirements: Mounting style, PCB thickness, space constraints

- Environmental requirements: Temperature, salt spray, vibration, mechanical life

- Sustainability/environmental requirements: Halogen-free, solder-free, recyclable, etc.

2. Requirement Review & Feasibility Assessment

- Technical feasibility

- Mold/structure feasibility

- Cost and lead time evaluation

- Confirmation of environmental/sustainable solutions

3. Preliminary Scheme Design

- Structural sketch

- Terminal design

- Mounting and foolproofing scheme

- Selection of environmentally friendly materials

4. 2D Engineering Drawing Design

- Dimension drawing
- PCB footprint drawing
- Cross-sectional drawing
- Tolerance definition

5. 3D Modeling & Interference Check

- modeling (Step / IGS)
- Interference check with customer PCB/structure
- Confirmation of mating space and assembly path
- Customer confirmation of model

6. Mold Evaluation & Mold Design

- Mold structure design
- Cavitation number and gate type
- Ejection and cooling system design
- Confirmation of mold cost and lead time

7. Mold Manufacturing & Trial Molding

- Mold processing
- First trial molding (T1)
- Dimensional inspection and adjustment
- Appearance and structural verification

8. Sample Production & Assembly

- Plastic part injection molding
- Terminal stamping/plating
- Finished product assembly
- Full inspection of appearance and dimensions

9. Reliability Test & Validation

- Dimensional measurement
- Insertion/extraction force & retention force testing
- Electrical performance (contact resistance, withstand voltage)
- Environmental testing (high/low temperature, salt spray, vibration)
- Environmental/material testing (RoHS, halogen-free, etc.)

10. Sample Approval & Customer Confirmation

- Submission of samples + test reports
- Drawing sign-off

- Specification confirmation

- Customer sample sealing

11. Pilot Production

- Production line process validation

- Yield confirmation

- Packaging and shipping specification

- Capacity evaluation

12. Full Production + Continuous Improvement

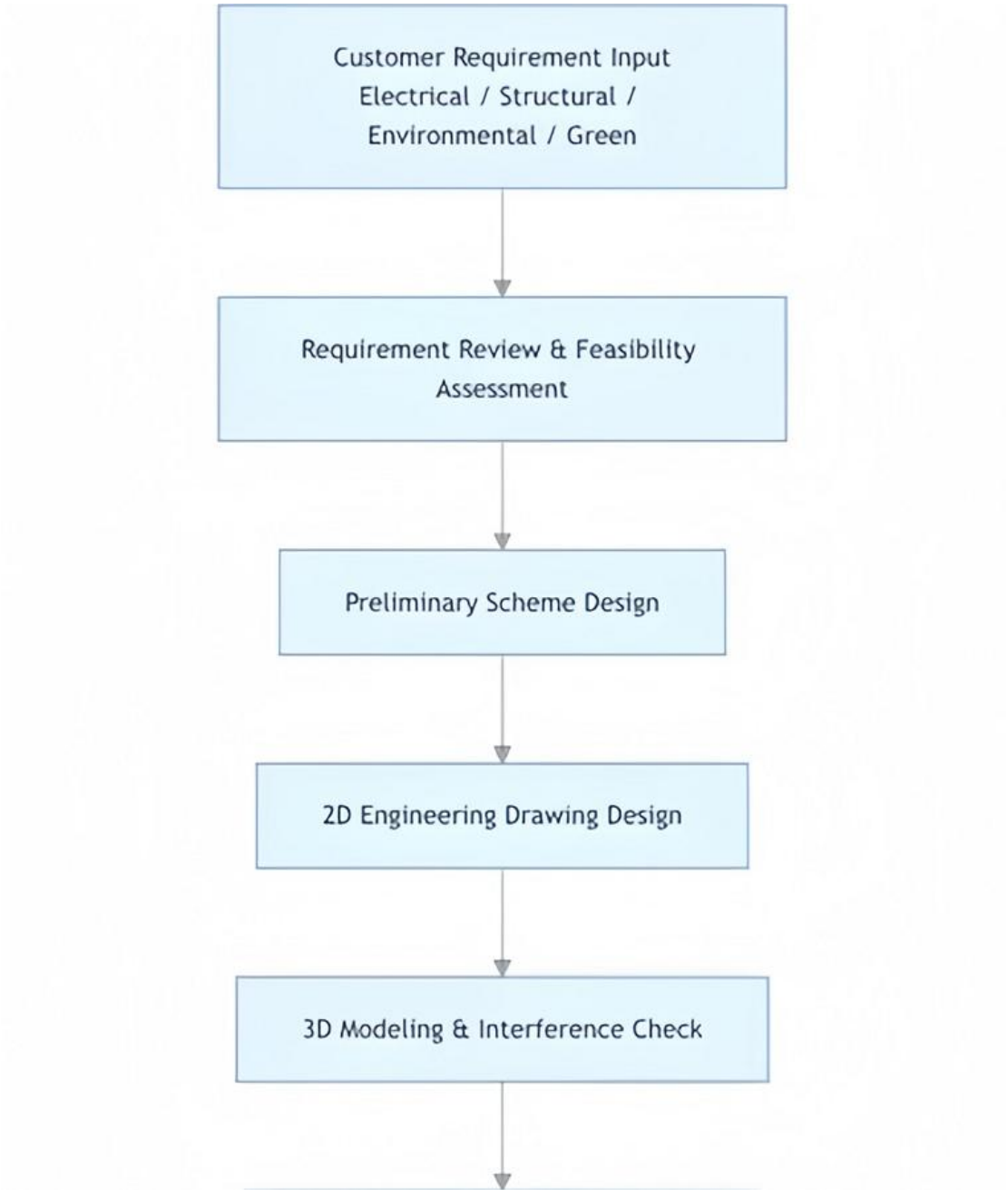
- Mass production

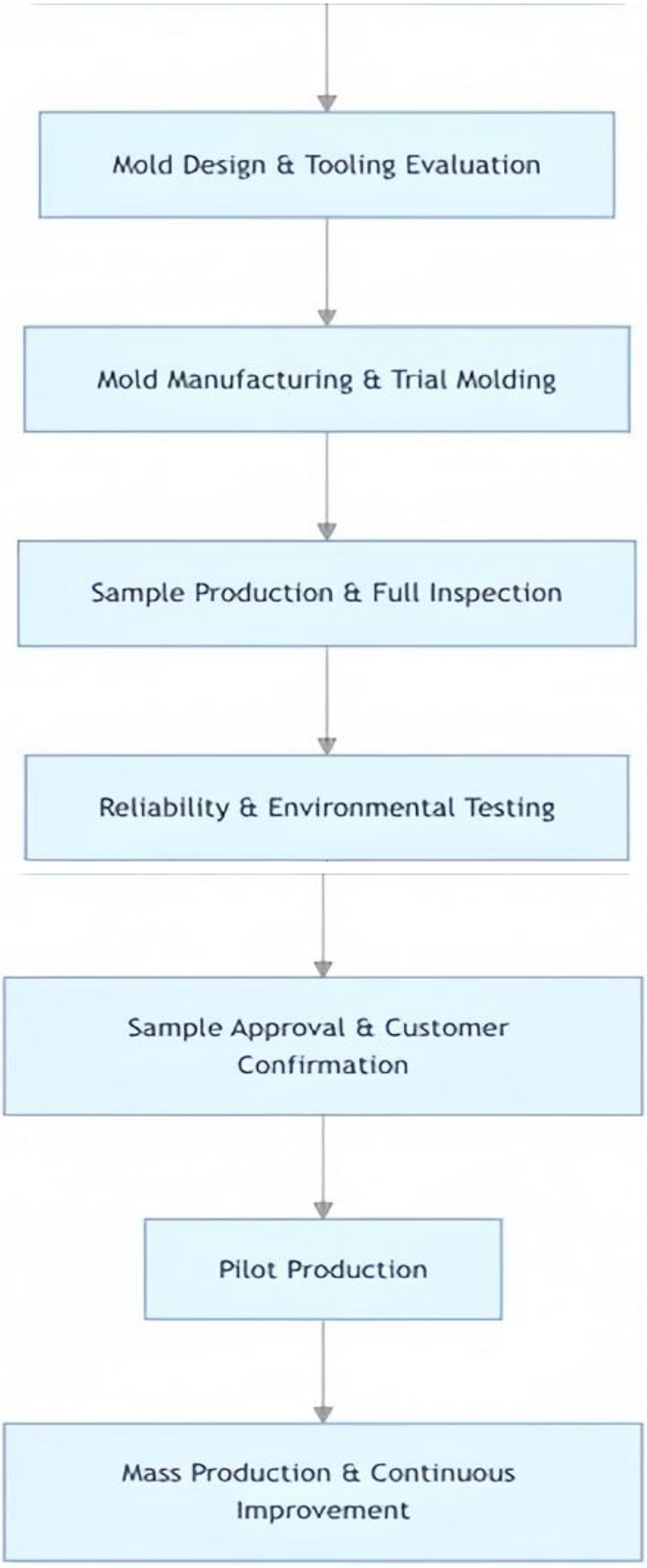
- Quality control

- Engineering Change Notice (ECN) management

- After-sales technical support

PCB Connector Custom Development Flowchart




Mold Design & Tooling Evaluation
Mold Manufacturing & Trial Molding
Sample Production & Full Inspection
Reliability & Environmental Testing
Sample Approval & Customer Confirmation
Pilot Production
Mass Production & Continuous Improvement