

OEM Product Development Timeline

A practical stage-gate roadmap from product concept to production readiness.

Stage 1 Concept & Requirements

- Define function and intended use
- Confirm specifications, materials and target volume
- Identify initial manufacturing route and risks

Stage 2 Engineering & DFM

- Review geometry and manufacturability
- Review tolerances, materials and assembly
- Identify tooling and production implications

Stage 3 Prototype

- Develop prototype / engineering sample
- Check fit, function and appearance
- Record and prioritize design changes

Stage 4 Tooling

- Finalize tooling requirements
- Review tooling design where appropriate
- Build tooling and conduct trial shots / trials

Stage 5 Sample Validation

- Confirm dimensions and appearance
- Validate function and performance
- Review assembly and finalize changes

Stage 6 Pilot Production

- Run controlled production quantity
- Validate process repeatability
- Confirm inspection, assembly and packaging

Stage 7 Mass Production

- Release approved specifications
- Confirm production plan
- Monitor quality and manage changes

— Key Decision Gates

- Prototype ready → Tooling
- Tooling sample → Validation
- Validation → Pilot
- Pilot → Mass Production

Important Note

Actual timing varies with product complexity, tooling, testing, certification requirements, supplier capability and design iterations.