

Sourcing, manufacturing & compliances

Journey from idea to factory

Process

- Prototype
- RFQ
- Preliminary sampling
- Vendor Evaluation
- Mould and production tooling
- Production sampling
- Quality assurance
- Product certification
- Import
- Warehousing and Distribution

Questions ?

Aspects - Engineering

- Component lead times
- Component costs
- Pin-to-pin replacements
- Alternative parts
- Battery life
- Wireless performance

Aspects - Business

- Cost
- Branding and packaging
- Intellectual property
- Safety and regulatory requirements

RFQ

- Get quotations early
- Get enough quotations
- Search for manufacturers of similar / derived / parent products
- Search for pre-certified products

Vendor Evaluation

- Visit them, more than once
- Take as much time as you need
- Gauge :
 - Transparency
 - Cooperation
 - Competency
 - Experience
- Be very very very explicit about terms
- Don't overcommit volumes at the start

Production Tooling

- Takes time to make and rectify
- Costs are not only for tooling
- You know your design, they don't
- Dumb down the instructions
- One-click / one-step processes work best

Production Sampling

- Attention to detail :
 - Appearance
 - Functionality
 - Fabrication processes
 - Assembly processes
 - Testing
 - Packaging

Quality Assurance

- Learn from production samples and factory visits
- Inspect yourself
- Inspection agencies
- Your specifications are the law

Certifications

- Reasons

- Compliance : Safety, interoperability etc.
- Regulatory : Registration, taxation etc.

- Find :

- Applicable standards
- Labs to perform the test
- Regulatory body to register with
- Agency to manage above (optional)

Import

- Get certification completed before moving shipment
- Shipping terms [FOB, Ex-Works, CIF, DDP]
- Ship by :
 - Air
 - Sea
- Account for Custom duties
- Lookup HS codes
- Account for logistics charges
- Documents required for import

Lifecycle Management

- How will you handle
 - inventory
 - distribution
 - activation
 - upgrade
 - repair
 - return

Common Reasons for Failure

- Bad quality product
- Cash flow issues
- Underestimating cost
- Underestimating complexity

Exercise

Wireless Photo Frame

Project Planning

Time Taken in Days	Task
2	PCB Design
5	PCB Fabrication
2	PCB Assembly and test
14	Component lead time
28	Vendor selection
45	Industrial and mould design
60	Mould Tooling
30	Sampling iterations
30	Testing and Certification
21	Regulatory Compliances
?	Further iterations
7	Quotation per order
7	Make payment
35	Manufacturing Time
30	Shipping Time

Godspeed !