



DEVELCO

Technology Development Partner



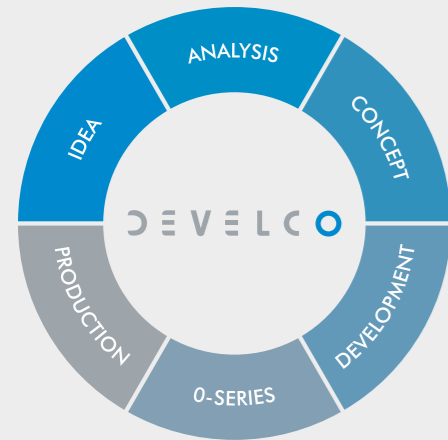
PRODUCTION MANAGEMENT

# PRODUCTION MANAGEMENT

We have a deep process knowledge of electronics production and offer assembly of prototypes at inhouse SMT assembly machine and production management of your products at external Electronics Manufacturing Services EMS Partners. We handle New Product Introduction NPI efficiently and bring newly developed products into production. We are responsible for production start-up, production operation, and delivery of finished products.

The production management starts in the early phases of the Develco Project Model for product development:

- **Concept:** Time Plan, Estimation of Costs, and Selection of EMS Partners
- **Development:** SMT Assembly of Prototypes for Verification of the Product
- **0-Series:** Verification of the Production Process at selected EMS Partners
- **Production:** Production Start-up, Production Operation, Product Life Cycle, and Additional Services



## Assembly of Prototypes

Prototypes constitute an important element in technology development of new products. The purpose of the prototypes is to reveal possible errors for correction and to verify that the final developed product will be ready for production of 0-Series build.

As a part of the product development we assemble the first prototypes at our inhouse SMT assembly machine in smaller quantities ranging from 1 to 50 pieces.

If any leaded components or box-build/mechanical components are part of the product, we can also take care of that assembly as well as the purchase of the necessary components.

### Various Purposes for SMT Assembly of Prototypes

- Verification of Product Design, Hardware, Embedded Software, and Mechanical Integration
- Functional Tests
- Field Tests
- Environmental Tests
- Approvals



## Production Start-up

In the production start-up we handle important steps such as selection of and agreement with all suppliers, documentations, specifications, and plans. Afterwards we manage production start-up, 0-Series build, and production process verification.

### Selection of and Agreement with Suppliers

- Electronics Manufacturing Services EMS Partners
- Sub-suppliers
- Cashflow

### Production Start-up

- Production Documentation
- Test Documentation
- Packaging, Labelling, and Shipment
- Material Inspection Specifications
- Process Control Plans
- Test and Assembly Equipment
- Pilot Build and Product Verification

### 0-Series Build

#### - Production Process Verification

- Build Quality Evaluation
- Yield Evaluation
- Production Release

## Production Operation

In the production operation we manage daily handling of your orders of electronics products at the selected EMS Partners. We support the EMS Partners and ensure that the quality of the product and the production process follow the agreed conditions with your company.

### Order Management

- Forecast Management - Customer versus EMS Partners
- Order Handling
- Quote Management
- Release of Production Orders
- Management of Minimum Order Quantity MOQ
- Excess Stock Handling
- Consign Stock Handling
- Cancellation of Orders
- Management of Purchase Price Variance PPV
- Order Follow-Up
- Logistics Handling
- Ad-Hoc Production Orders

### Support to EMS Partners

- Sourcing Support
- Test Issue Handling
- Production Process Support
- Custom Test and Process Equipment Support

### Product and Production

#### Process Quality

- Production Process Quality
- Outgoing Quality Control
- Recurring EMS Audit
- Production Workmanship of Institute of Printed Circuit IPC Classes
- Non-conformance, Warranty Handling, and Repair

## Product Life Cycle

Your company probably wants to have your products in the market for a long time. We follow your products through the entire product life cycle, provide engineering support to the selected EMS Partners, and make the necessary changes in the production of your products. Examples could be change of product design or choice of new components if some components become obsolete.

### Engineering Support

- Engineering Change Order ECO Handling
- Maintenance of Production Documentation: Bill of Material BOM, Test, Approved Vendor List AVL, and Assembly Instruction
- Version Control of Manufacturing Baseline
- Component Obsolescence - Last Time Buy LTB
- Second Source: Selection and Approval of Alternative Components
- 3-party Custom of Component Handling
- Recommendation for Update or Re-design

### Product Phase-out

- Last Time Buy LTB
- Excess Stock Handling
- Agreement with EMS Partners
- Custom Equipment Handling

## Additional Services

Throughout the production we can on request or as an ongoing service continuously verify the health of your products and the production of your products. After evaluation of your products and the production we will recommend possible improvements and changes to optimize either the product or the production of your products.

### Production Health Check

- Evaluation of Production Location: National and International
- Process Optimization of Volume: Test, Equipment, and Process Changes
- Cost Optimization
- Yield Optimization

### Product Management

- Bill of Material BOM and End of Life EOL Screening
- Technology Evaluation
- Cost Optimization
- Possibility for "Facelift"



