PROJECT PLANNING FOR MATERIAL CONVERSION

Structured milestone planning for lead-free alloys - Project overview & phase division

The switch to lead-free alloys requires precise scheduling that takes into account both internal capacities and external dependencies. The following template is based on experience gained from successful conversion projects and can be adapted to suit the scope of the project.

PHASE 1: ANALYSIS & PREPARATION

Total duration: 8–16 weeks

Weeks 1-2: Project initialisation

Milestone: Project launch and team setup

Internal resources:

- Project management: 20% (throughout)
- Purchasing: 30%
- Product management: 25%
- Engineering/design: 15%

Activities:

- Define project team and assign responsibilities
- Kick-off meeting with all stakeholders
- Create communication plan
- Approve budget and resources

External coordination:

- Initial discussions with BEULCO regarding project support
- Contact relevant certification bodies

Weeks 3-6: Compliance analysis

Milestone: Regulatory clarity achieved

Internal resources:

- Purchasing: 40%
- Product management: 35%
- Legal department/compliance: 25%

Activities:

- Detailed analysis of affected product groups
- Assessment of regulatory deadlines by target markets
- Review of exemptions
- Initial assessment of the scope of the changeover

External coordination:

- Consultation with BEULCO on regulatory requirements
- Coordination with certification bodies on compliance deadlines
- Contact with industry associations for updates

Deliverable:
Compliance matrix with all affected items and deadlines

Weeks 7-12: Material selection & supplier evaluation

Milestone: Material strategy defined

Internal resources:
- Purchasing: 50%
- Engineering: 40%
- Quality assurance: 30%

Activities:
- Define technical requirements for each product group
- Supplier selection and evaluation for lead-free alloys
- Initial price negotiations and framework agreements
- Material qualification and technical evaluation

External coordination:
- Intensive consultation with BEULCO on material properties
- Supplier presentations and factory visits
- Sample orders for initial testing

Deliverable: Material strategy with prioritised alloys per product group

Weeks 13-16: Economic analysis

Milestone: Investment decision made

Internal resources:
- **Purchasing: 35%**
- **Controlling: 40%**
- **Technology: 25%**

Activities:
- Total cost of ownership calculation
- Budget planning for entire conversion
- Risk assessment and mitigation strategies
- Management presentation and approval

External coordination:
- Detailed cost analysis with BEULCO
- Final price negotiations with suppliers
- Capacity coordination for upcoming phases

Deliverable: Full project approval with budget and schedule

PHASE 2: DEVELOPMENT & VALIDATION

Total duration: 12–20 weeks

Weeks 17-24: Prototype production & testing

Milestone: Technical feasibility validated

Internal resources:
- Engineering/design: 60%
- Quality assurance: 50%
- Product management: 30%

Activities:
- Selection of representative pilot articles
- Design adjustments and optimisations
- Sample production in small batch sizes
- Extensive quality checks

External coordination:
- Close cooperation with BEULCO on machining optimisation
- Coordination of semi-finished product procurement (6-8 weeks lead time)
- Coordination with certification bodies on testing requirements

Critical dependencies:
- Semi-finished product availability (6-8 weeks procurement time)
- Machine capacities at BEULCO
- Availability of testing capacities

Weeks 25-32: Process optimisation

Milestone: Processes suitable for series production established

Internal resources:
- Engineering: 50%
- Quality assurance: 60%
- Production (internal): 40%

Activities:
- Tool optimisation and adaptation
- Define manufacturing parameters
- Adapt quality assurance procedures
- Training for internal teams

External coordination:
- Process optimisation with BEULCO
- Involve tool suppliers
- Certification bodies for approval processes

Deliverable: Validated manufacturing processes for all pilot articles

Weeks 33-36: Initial sample approval

Milestone: Series production approval granted

Internal resources:

- Quality assurance: 70%
- Product management: 40%
- Certification: 60%

Activities:

- Create initial sample test reports
- Complete internal approval processes
- Complete documentation
- Apply for certifications

External coordination:

- Final coordination with BEULCO
- Certification bodies for approvals
- Customer coordination for customer-specific parts

PHASE 3: SERIES LAUNCH

Total duration: 12–52 weeks (depending on the number of items)

Ongoing activities – phased transition

Capacity planning per quarter

Internal resources (permanent):

- Project management: 40%
- Design: 50–70% (depending on number of items)
- Quality assurance: 60–80%
- Purchasing: 30%

Quarterly transition (example for 60 items):

- Q1: 15 items (priority 1 – critical compliance deadlines)
- Q2: 20 items (standard items with medium complexity)
- Q3: 15 items (complex items with optimisation requirements)
- Q4: 10 items (remaining portfolio)

Critical success factors & risk management

Typical bottlenecks & lead times

Semi-finished product procurement:

- Lead time: 6-8 weeks
- Risk: Longer delivery times for special alloys
- Mitigation: Early ordering, safety stocks

Design capacities:

- Bottleneck: Design engineers for drawing adjustments
- Effort: 2-5 days per item
- Mitigation: External support, prioritisation

Quality assurance:

- Bottleneck: Initial sample approvals
- Effort: 1-3 weeks per item
- Mitigation: Parallel processing, additional resources

Certification bodies:

- Lead time: 4-12 weeks depending on complexity
- Risk: Overloading of certifiers
- Mitigation: Early appointment booking, alternative certifiers

Inventory management & transition planning

Coordination with existing warehouses

Stock range analysis:

- Evaluation of existing stocks by item
- Sales forecasts based on forecasts
- Coordination between stock reduction and conversion date

Optimal changeover strategy:

1. Items with low stock levels: Priority changeover
2. Items with high stock levels: Later changeover after stock reduction
3. Fast-moving items: Flexible changeover based on demand forecast

Template application & customisation

Scaling according to project size

Small conversion (< 20 items):

- Phase 1: 6–10 weeks
- Phase 2: 8–12 weeks
- Phase 3: 8–16 weeks

Total duration: 22–38 weeks

Medium conversion (20-60 items):

- Phase 1: 10-14 weeks
- Phase 2: 12-18 weeks
- Phase 3: 16-32 weeks

Total duration: 38-64 weeks

Large conversion (> 60 items):

- Phase 1: 12-16 weeks
- Phase 2: 16-20 weeks
- Phase 3: 32-52 weeks

Total duration: 60-88 weeks

Communication plan and reporting

Regular coordination meetings

Weekly:

- Project team meeting (1 hour)
- Status update to management

Monthly:

- Steering committee with all stakeholders
- Supplier review
- Budget review and forecast update

Quarterly:

- Management presentation
- Strategy review and adjustments
- Risk assessment update

This template serves as a starting point and should be adapted to the specific requirements of your company. Our experts are available for project-specific advice and adaptation of schedules.

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