

Safe Launch: Controlled series launch for new parts and suppliers

Safe Launch refers to a structured, time-limited monitoring procedure during the launch of new or modified parts, processes and suppliers, before and during the first weeks of series production. The aim is to identify and resolve launch problems early, before they lead to supply stoppages, rework or warranty cases. For buyers and supply chain managers, Safe Launch is a central instrument of launch protection, with which quality requirements are bindingly agreed with suppliers. The term is established particularly in the automotive sector, but is increasingly also applied in the general supply industry.

Key facts

- Safe Launch is a time-limited monitoring and approval procedure during the series launch of parts, processes or suppliers.
- Typical elements are intensified inspection, 100% inspection, increased reporting and defined exit criteria.
- Many customers require confirmation by a supplier self-audit or their own launch run-out run.
- In practice, a Safe Launch often runs for three to six months or over an agreed quantity.
- The costs of the intensified inspection scope are borne by the supplier as a rule; this should be regulated in the framework agreement.
- Safe Launch supplements PPAP/PPF and first article inspection, but does not replace them.

Definition: Safe Launch

Safe Launch (also Safe Launch Plan or Launch Support) is an agreed procedure for safeguarding the series launch, in which supplier and customer stipulate additional controls, documentation and escalation routes for a limited period. It serves to accompany the transition from prototype production to series production with heightened attention.

Distinction from PPAP and first article inspection

First article inspection, i.e. PPAP (Production Part Approval Process), demonstrates that a process can produce capable parts under series conditions. Safe Launch begins afterwards: it monitors the first series weeks and months, in which process variation, staff changes or material batch fluctuations first take full effect. The two procedures therefore take effect at staggered times and complement each other.

Typical triggers for a Safe Launch

Safe Launch is usually agreed for new parts, a change of production site, relocation of tooling, process changes, substitute suppliers after a quality incident, and safety-relevant or complex components. Buyers in practice also rely on this instrument after longer supply suspensions or for restarts following quality problems.

Legal and contractual anchoring

Safe Launch requirements are typically specified in the filling requirements of the enquiry process, in quality agreements or as an annex to the supply contract. It is important to clearly regulate who bears the additional costs of the intensified inspection and under what conditions the Safe Launch ends. In individual cases, the contractual validity should be legally reviewed.

Methods and procedure of the Safe Launch

An effective Safe Launch follows a documented plan with clearly defined activities, responsibilities and control frequencies. It begins before the start of series production and ends only once all agreed exit criteria have been sustainably met.

Safe Launch plan and checklists

The basis is a written plan specifying inspection depth, sample size, documentation obligations, reporting intervals and contact persons. Common elements are 100% inspection of critical characteristics, additional final inspections, intensified incoming goods inspection at the customer, as well as labelled or marked launch parts so that launch inventories remain traceable.

Self-audit and launch run-out run

Many customers require a Safe Launch self-audit from the supplier, which independently demonstrates compliance with the plan, or their own launch run-out run (trial run) before the start of series production. Several hundred parts are produced under real series conditions and fully inspected. Only with an error-free result does series production start with Safe Launch monitoring.

Exit criteria and termination

The Safe Launch does not end after calendar time alone, but only when defined criteria are met: typically several weeks or an agreed quantity without relevant defects, stable process metrics and completed corrective actions. The exit decision should be formally confirmed and documented by the customer's quality manager, similar to how an award decision is traceably recorded in the award file.

Key KPIs for managing the launch

Without measurable criteria, a Safe Launch remains a formality. Buyers and quality assurance should therefore manage it on a KPI basis from the outset and evaluate it regularly in the launch report.

Quality and process metrics

Key indicators are the scrap and rework rates, ppm rate at the customer, First Pass Yield and process capability indices for critical characteristics. If a metric deteriorates, the escalation levels agreed in the plan take effect, up to and including a launch stop.

Delivery and schedule metrics

In parallel with quality, on-time delivery and delivery accuracy must be monitored, as launch bottlenecks often also reveal capacity problems. A systematic analysis of delivery delays identifies systematic patterns of lateness before they endanger supply. The results also feed into the supplier score and have an effect beyond the supplier evaluation.

Launch costs and economic viability

The additional effort for controls, documentation and approvals should be recorded and set against the launch benefit. An analysis along the Total Cost of Ownership (TCO) shows that intensified launch controls typically pay off as soon as they prevent even a single field failure or production stoppage.

Risks and controls during the launch

Safe Launch significantly reduces launch risks, but does not eliminate them. Buyers should be aware of typical weak points and safeguard them through suitable controls.

Typical risks

Common problems are formally fulfilled but substantively empty Safe Launch plans, inadequately trained launch personnel, unresolved capacity issues at the supplier and a lack of traceability of launch inventories. In practice, an exit too early based purely on time criteria has repeatedly led to renewed instability with field failures.

Controls and escalation

Effective countermeasures are sample audits at the supplier, bilaterally agreed escalation plans with defined response times, and linking the Safe Launch with the supplier audit and the vendor onboarding of new sources. For critical parts, transport insurance taken out early also supports the safeguarding of launch logistics and alternative sourcing.

Role of procurement

Procurement anchors Safe Launch requirements already in the demand specification and in the enquiry documents, negotiates cost responsibility and exit criteria, and tracks the launch through to formal termination. The launch performance subsequently feeds into the supplier evaluation and thus into future sourcing decisions.

Current developments in Safe Launch

Launch processes are becoming increasingly digitalised: Safe Launch plans, inspection records and launch reports are maintained in shared portals or supplier portals. At the same time, supply chain requirements and sustainability obligations are tightening the launch context.

Digital launch management

Instead of Excel lists, companies are increasingly using digital checklists, automatic ppm evaluations and dashboards that show launch metrics in near real time. This shortens response times and makes the launch status transparent to management as well. In addition, planners rely on S&OE to manage launch bottlenecks operationally on a daily and weekly cycle.

Sustainability and new topics in the launch

New suppliers are now also assessed on ESG criteria in addition to quality; evidence such as Scope 3 emissions or reporting under the GRI Standards is gaining importance in launch approval. Anyone who also reviews these topics in the Safe Launch avoids later remedial pressure.

Safe Launch beyond the automotive sector

Originally an automotive concept, Safe Launch is spreading in mechanical engineering, electronics and

medical technology. Drivers are more complex products, shorter launch cycles and the experience that launch costs can exceed preparation costs many times over. Within the framework of supply chain financing such as Supply Chain Finance, a stable, documented launch can also strengthen confidence in new supply relationships.

Typical metrics

ppm at the customer: < 50 ppm

customary benchmark during the launch; stricter requirements depending on the component

First Pass Yield: > 98 %

proportion of parts produced without defects on the first pass

On-time delivery during the launch: > 98 %

delivery accuracy during the Safe Launch phase

Error-free weeks until exit: 6–8 weeks

frequent practice measure; supplemented by quantity criteria

Practical example

A medium-sized mechanical engineering company qualifies a second supplier for a complex cast part in order to reduce a risky single source. Because the new supplier sets up the tooling at a second site, procurement agrees a Safe Launch of four months or 50,000 parts.

- Launch run-out run with 300 parts before series approval, including full dimensional and material testing
- 100% inspection of critical characteristics at the supplier with daily data transfer to a shared dashboard
- Weekly launch report with ppm figures, on-time delivery and open issues; escalation from a defined defect threshold
- Formal exit only after eight error-free weeks and a completed 8D report on an earlier edge-case finding

Conclusion

Safe Launch is a proven instrument for making the risk of series launches manageable. It shifts the inspection effort to where defects are most expensive: at the interface between supplier and series production. What is decisive are a written plan, measurable exit criteria and consistent management by procurement and quality. Anyone who anchors Safe Launch early in the specification and contract avoids disputes over cost responsibility and competence. For buyers, the effort is almost always worthwhile, because a prevented production stoppage or field failure typically justifies the entire launch effort.

Frequently asked questions

What does Safe Launch mean in procurement?

Safe Launch is a time-limited monitoring procedure during the series launch of new or modified parts and suppliers. It comprises intensified inspections, increased documentation requirements and defined escalation and exit criteria. Procurement anchors the requirements contractually and tracks the launch

through to formal termination.

How long does a Safe Launch last?

In practice, a Safe Launch typically runs for three to six months or over an agreed quantity, for example 30,000 to 100,000 parts. What is decisive, however, is not the time but the exit criteria: several error-free weeks or batches, stable process metrics and completed corrective actions. The termination is formally confirmed and documented.

Who bears the costs of the Safe Launch?

As a rule, the supplier bears the additional costs of the intensified inspection scope, as it is responsible for a stable process start. In cases initiated by the customer, such as a site relocation at the customer's request, deviating arrangements are common. Cost responsibility should be bindingly regulated in the quality agreement or supply contract.

What is the difference between Safe Launch and PPAP?

PPAP, i.e. the first article inspection, demonstrates before the start of series production that the process can produce capable parts. Safe Launch, by contrast, monitors the first series weeks and months with intensified controls. The two procedures take effect one after the other in time and complement each other; Safe Launch does not replace PPAP approval.

When is a Safe Launch required?

Typical triggers are new parts, site or tooling changes, process changes, new substitute suppliers, and safety-relevant or complex components. A Safe Launch is also common after quality crises or prolonged supply suspensions. Many customers generally mandate it for defined part categories.

Which KPIs are used in a Safe Launch?

Key metrics include the ppm rate, scrap and rework rates, First Pass Yield and process capability indices for critical characteristics. In addition, on-time delivery and delivery reliability are monitored, as capacity problems also become visible during the launch. The KPIs are evaluated at the agreed reporting intervals and determine the exit.