



Technology with Vision

# HELLA Quality Management

HELLA GUIDING PRINCIPLES FOR  
SOFTWARE SUPPLIERS  
AD-01101



## CONTENTS

<b>1   INTRODUCTION .....</b>	<b>4</b>
1.1 DOCUMENT APPLICABILITY .....	4
1.1 DOCUMENT STRUCTURE.....	4
<b>2   SUPPLIER RATING: DETERMINATION METHOD AND SIGNIFICANCE .....</b>	<b>6</b>
<b>3   SUPPLIER EVALUATION: QUALITY CRITERIA FOR SUPPLIER NOMINATION .....</b>	<b>9</b>
3.1 SUPPLIER CAPABILITY ANALYSIS.....	9
3.2 POTENTIAL ANALYSIS.....	9
3.3 SUPPLIER INITIAL RATING: RELEVANCE AND VALIDITY .....	10
<b>4   SUPPLIER DEVELOPMENT PROCESS: NECESSITY AND LIFECYCLE .....</b>	<b>11</b>
4.1 CRITERIA FOR SUPPLIER DEVELOPMENT .....	11
4.2 DEVELOPMENT PHASES AND EXPECTED RESULTS.....	11
<b>5   SUPPLIER MONITORING .....</b>	<b>13</b>
5.1 AUTOMOTVE SPICE® ASSESSMENT .....	13
5.2 TECHNICAL REVIEW.....	15
5.3 QUALITY EVALUATION.....	16
5.4 SUPPLIER RATING OUTCOME – STRATEGIC SUPPLIERS .....	17
<b>6   METHODS OF SUPPLIER ESCALATION .....</b>	<b>18</b>
<b>7   APPLICABLE DOCUMENTS .....</b>	<b>19</b>
<b>8   REVISION HISTORY .....</b>	<b>20</b>

**AD-01101 VERSION 2021**

## HELLA GUIDING PRINCIPLES FOR SOFTWARE SUPPLIERS

Within a world of continuous transformation from hardware-driven products to software-driven electronic devices and service innovations, HELLA works to improve its organizational processes and the skills of its employees so that it can continue to be a leading player in the market (industry).

Stable and mature development processes are seen as a basic prerequisite for fulfilling HELLA's zero-defect quality policy. HELLA expects and strongly encourages his suppliers to adopt the same principles and mentality.

Thus, **Hella Guiding Principles for Software Suppliers** provides engineering service providers and third-party software supplier (hereinafter referred to as "supplier") with an updated statement of the basic quality requirements that HELLA expects the supplier to meet.

**Hella Guiding Principles for Software Suppliers** encompasses contractually agreed requirements of Hella GmbH & Co. KGaA (hereinafter referred to as "HELLA"), guaranteeing compliance with the quality commitment of "zero defect(s)" of processes and parts of the supplier.

A potential supplier confirms that it has read, understood and accepted the requirements of **Hella Guiding Principles for Software Suppliers** by placing a tender.

Daniel Wehsarg

Head of Purchasing Corporate

Dr. Christof Hartmann

Head of Corporate Quality Management

Dirk Schneider

Head of Quality Management Purchasing

# 1 | INTRODUCTION

## 1.1 DOCUMENT APPLICABILITY

The applicability of this document is limited to those suppliers which:

- are awarded with a project, and
- are external to HELLA (no HELLA subsidiary), and
- does not use the HELLA processes.

The nominated supplier is entirely responsible for the quality of deliveries from his own sub-suppliers with whom they engage. Also, the supplier must ensure that the requirements of the present document and AD-01100: HELLA Standard Development Requirements for Supplier (HSDRS<sup>(1)</sup>) document are also fulfilled by sub-suppliers.

All applicable additional documents are listed in chapter 7.

## 1.1 DOCUMENT STRUCTURE

This document describes the steps and the logical development of the process of cooperation with a supplier, starting with its selection in the pre-contractual phase and following its development within the contractual framework.

The current document is composed according to the following structure:

HELLA GUIDING PRINCIPLES FOR SOFTWARE SUPPLIERS		
<b>Supplier Evaluation</b> (Cap. 3)	<b>Supplier Development Process</b> (Cap. 4)	<b>Supplier Monitoring</b> (Cap. 5)
describes the criteria that a supplier must fulfil in order to be selected for a possible upcoming cooperation with HELLA	explains the necessity and steps of developing a supplier	explains the monitoring of a supplier within the HELLA projects in which it is active
<b>Supplier Rating</b>		

Following the implementation of the activities of **SUPPLIER EVALUATION**, **SUPPLIER DEVELOPMENT** (if applicable) and **SUPPLIER MONITORING**, a supplier rating is determined. The relevance and corresponding procedures by which this rating is determined are described in Chapter 2: "Supplier Rating: determination method and significance".

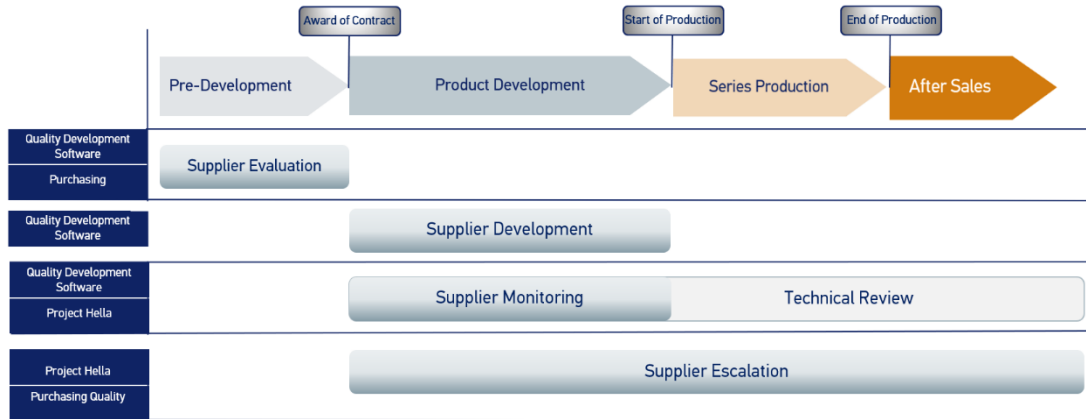
Before awarding a contract to a supplier, its capabilities must be reviewed. This review is made based on multiple criteria. Various activities which must be performed, are described in Chapter 3: "Supplier Evaluation: quality criteria for supplier nomination".

Once a contract has been successfully awarded to a supplier, the supplier will be part of a monitoring process within the project. How this process is carried out, the obligations of the supplier and the impact on his rating are described in Chapter 5: "Supplier Monitoring".

The exceptional conditions in which the supplier may be part of a development process are described in Chapter 4: "Supplier Development Process: necessity and lifecycle".

The activities described in this document for the evaluation of the software quality capability are associated with the phases of the product life cycle, as shown in the following diagram. Also, HELLA communication partners for the supplier are specified, depending on each phase:

### Product Life Cycle: activities and communication



Although the monitoring of the supplier in the project, is carried out only within the "Product Development" phase, the "Technical Review" activities can continue until the end of the "Production series", or, if necessary, "After Sales" phase.

## 2 | SUPPLIER RATING: DETERMINATION METHOD AND SIGNIFICANCE

Determining the rating of a supplier will always play an important role in the cooperation between the supplier and HELLA. This provides an overview of the supplier's development & quality performance and process capability. The rating of a supplier can be determined:

- a. Before the award of a contract
- b. During project lifecycle of the development project
- c. During the supplier's development process
- d. On event, at any time when the situation requires it (e.g. severe problems, high failure rates)

### a. BEFORE THE AWARD OF A CONTRACT

Before awarding contracts to series and development suppliers for which HELLA does not have a valid quality assessment of their software development process, a supplier capability analysis must be performed. This analysis targets the software development process and is performed during the [Supplier Evaluation](#) phase. Following the evaluation phase, the supplier will be categorized an initial HELLA specific rating (see Chapter 3).

The following will be considered when evaluating the supplier rating:

- Development commitment according to HSDRS<sup>[1]</sup> requirements
- Supplier self-assessment Automotive SPICE® (VDA LiSa / SuSA)<sup>[5]</sup>
- Automotive SPICE® Assessment Report (from similar previous projects)
- Potential analysis

### b. DURING THE DEVELOPMENT PROJECT

The [Supplier Monitoring](#) will focus on the processes that were identified as being in scope of the project at the time the contract was awarded.

Depending on the duration and complexity of the development project, the evaluation methods will be defined at the beginning of the contract award (see Chapter 5).

Since in the development project there are causal and temporal dependencies between the processes, the supplier rating will be updated during the project life cycle, considering the results of the evaluations. Thus, the supplier rating can be confirmed, upgraded or downgraded.

Methods that may be used to evaluate the supplier's rating:

- Automotive SPICE® Assessment
- Technical Review
- Quality Evaluation

### c. DURING THE SUPPLIER DEVELOPMENT PROCESS

If a supplier receives a Probation rating subsequent to the evaluation process, it implies that the supplier has agreed to follow a [Supplier Development Process](#). This means that the supplier undertakes to create and implement improvement measures to eliminate the weaknesses identified. This [Supplier Development Process](#) must be coordinated with HELLA and monitored by quality responsables.

During this process the rating of the supplier will be updated according to the outcomes of the progress.

Methods that may be used to evaluate the supplier's rating:

- Potential analysis
- All tools possible used during the DEVELOPMENT PROJECT

d. ON EVENT / AT ANY TIME WHEN THE SITUATION REQUIRES IT

In some cases, **Technical Review** can be performed at any stage of project development. This is triggered by non-conformance and deviations from the specification at delivery but can also be performed as a preventive measure. The result obtained after **Technical Review** is categorized and displayed by a color code indicator (see Chapter 5).

If, following the **Technical Review**, indications of non-compliance caused by the supplier are identified and these are not remedied within the time frame agreed with HELLA, the supplier's rating will be downgraded.

The rating of the supplier's software quality capability can be "A", "B1", "B2", "C" or "P". The following table explains the correlation between the rating based on the process capability levels and the awarding of a contract:

SUPLIER RATING	DEMANDS ON THE PROCESS CAPABILITY LEVEL	CLASSIFICATION CONSEQUENCE
A	All processes reach Process Capability Level 3	<b>The supplier performs at optimum quality</b> Following the evaluation, the capability of the supplier's processes proved to be optimal.
B1	All processes reach at least Process Capability Level 2	<b>The supplier meets partially the quality demands</b> The evaluation does not reveal any major weaknesses in the supplier's processes capability, but there are gaps associated with the defined set of standard processes at organization's level.
B2	All processes reach at least Process Capability Level 1	<b>The supplier meets conditionally the quality demands</b> Supplier evaluation identifies process quality weaknesses in one or more processes. These weaknesses represent a potential risk to the achievement of product quality. Therefore, additional complementary improvement measures are required to mitigate such potential risks. If this rating results from the supplier evaluation phase, the supplier must undertake a development process in order to be awarded a contract.
C	At least one process has Process Capability Level 0	<b>The supplier is not able to meet the quality demands</b> Significant weaknesses in process quality are identified in one or more processes. <ol style="list-style-type: none"> <li>1. If the results of the evaluation are available from the supplier's evaluation phase, the supplier will only be awarded a contract after a new re-evaluation (at intervals of at least one year) in which it demonstrates the improvement of the processes capability.</li> <li>2. If the C rating is the result of the supplier monitoring within the development project (a rating downgrade), then the supplier carries the previously defined contractual consequences (Chapter 6). An improvement program must be implemented immediately by the supplier to achieve the required process capability. This program will be monitored by HELLA and a re-evaluation will be scheduled. Should the results of this re-evaluation also reveal a C rating for the supplier, then the supplier will no longer be commissioned in the future.</li> </ol>
P	-	<b>Probation rating: the supplier can be used conditionally</b>  This rating can only be assigned as a result of the supplier's evaluation phase. The rating "P" reflects the fact that weaknesses have been identified in relation to the development processes. If HELLA considers that the supplier has key competencies and also has the potential to improve its processes, the supplier will be offered to undertake a development process. Only suppliers that undertake a development process receive this rating and can be awarded a contract.

Table 1: Criteria for the ratings based on process capability levels

The rating value is not only influenced by the capability of the processes according to ASPICE.

The initial supplier rating is also related to the supplier's acceptance of the HSDRS requirements. Depending on the compliance ratio the supplier evaluation might be canceled, and supplier C rating assigned accordingly.

Moreover, in the SUPPLIER MONITORING phase, the supplier's performance in the project is taken into account when determining the supplier rating.



### 3 | SUPPLIER EVALUATION: QUALITY CRITERIA FOR SUPPLIER NOMINATION

Before successfully awarding a contract to a supplier, HELLA will ensure that the supplier meets the necessary quality requirements to successfully perform the assigned future tasks. The analysis is targeted on processes capability. If required, additional assessments will also be conducted to identify functional safety and cybersecurity characteristics.

#### 3.1 SUPPLIER CAPABILITY ANALYSIS

The process capability will be determined as an outcome by the following activities:

1. the supplier will commit to carry out the development in accordance with the requirements of HSDRS.
2. the supplier will conduct a self-evaluation (Supplier self-assessment Automotive SPICE®: SuSA) that should be based on a recent Automotive SPICE® assessment and a current judgment for the requested development. SuSA can be done by the supplier for developing projects, or for projects already in series production. If no official assessment is available, the software evaluations carried out in the respective projects by the project quality assurance department in accordance with Automotive SPICE® can serve as a basis for SuSA.
3. the supplier must be able to present a valid report, concerning an ASPICE assessment, issued by an accredited certifying company (3<sup>rd</sup> party audit). This report must not be older than two years.
4. If the outcomes of the previous three points do not provide a conclusive picture of the supplier's processes capability, the **Potential Analysis** is used as an additional qualification tool. The Potential Analysis will focus on evaluating supplier experience from similar projects and the capability of core software development processes.

#### 3.2 POTENTIAL ANALYSIS

The potential analysis focuses on the analysis of the core process capability according to Automotive SPICE®, namely:

- Supporting Process Group:
  - Quality Assurance
  - Configuration Management
  - Problem Resolution Management and Change Request Management
- Management and Acquisition Process Group:
  - Project Management
  - Risk Management (if applicable)
  - Supplier Monitoring (if applicable)
- System and Software Engineering Process Group:
 

<ul style="list-style-type: none"> <li>■ Software Requirements Analysis</li> <li>■ Software Architectural Design</li> <li>■ Software Detailed Design and Unit Construction</li> <li>■ Software Unit Verification</li> <li>■ Software Integration and Integration Test</li> <li>■ Software Qualification Test</li> </ul>	<ul style="list-style-type: none"> <li>■ System Requirements Analysis</li> <li>■ System Architectural Design</li> <li>■ System Integration and Integration Test</li> <li>■ System Qualification Test</li> </ul>
---	---

The potential analysis is conducted by HELLA assessors at the supplier's development site or, in special cases, via online video conference.

The duration of a potential analysis can be a maximum of three days if conducted on site. If conducted online, the duration may vary.

A common date for the performing of the potential analysis is to be agreed between the supplier and HELLA. In order to avoid delays of the contract award process, the potential analysis must be accepted within the next two weeks from the decision on its necessity. Non-acceptance may result in terminating the cooperation with the supplier and assigning it to the C rating.

### 3.3 SUPPLIER INITIAL RATING: RELEVANCE AND VALIDITY

After the evaluation phase, the supplier may receive one of the following ratings, depending on the level of capability:

- A – the supplier performs at optimum quality
- B1 – the supplier meets partially the quality demands
- B2 – the supplier meets conditionally the quality demands
- C – the supplier is not able to meet the quality demands
- P – the supplier can be used conditionally

The rating of a supplier received as a result of the evaluation phase does not remain valid during the development project. It can be retained, upgraded or downgraded depending on the outcome of the process capability levels (see Chapter 5). The suppliers who have received the B2 or P rating after the evaluation phase will not be awarded a contract, if the recognition of the target agreement and the coordination of the development process do not take place before the award decision or at the latest six weeks after the qualification result is announced.

As explained above (Table 1), a supplier that has received a B1 rating can be awarded a corresponding project of its process capability levels. Only if the supplier accepts a target agreement based on an agreement of the development program, the supplier can be assigned with a project that exceeds the capability of his processes.

## 4 | SUPPLIER DEVELOPMENT PROCESS: NECESSITY AND LIFECYCLE

Supplier Development Process provides an array of approaches for identifying non-compliant suppliers and improving their process capability by applying supplier-specific measures.

The Supplier Development Process encompasses the activities of working with an evaluated (but non-compliant) supplier on a one-to-one basis, monitoring its performance improvement, and reviewing its progress against agreed-upon goals.

### 4.1 CRITERIA FOR SUPPLIER DEVELOPMENT

Supplier Development Process aims to lead to an improvement in the overall rating of the supplier in terms of quality of product or service delivery and improvement in process performance.

For the development process, suppliers are therefore considered whose process capability shows weaknesses after the evaluation phase, but who:

- have the potential to improve their process capability and/or
- have key competencies and know-how in an area that is of interest to HELLA.

### 4.2 DEVELOPMENT PHASES AND EXPECTED RESULTS

After the evaluation phase, the supplier may be proposed for Supplier Development Process. Since this can be a resource-intensive process, it must be agreed upon by both parties. Following this initial agreement, the following steps shall be performed:

1. critical performance areas as well as opportunities for improvement will be identified: in this step, an in-depth analysis of the processes in which gaps have been identified must be conducted. This is performed by HELLA specialists and is based on HSDRS and the Process Assessment according to ISO/IEC 330xx with the Process Assessment Model (PAM) Automotive SPiCE®. If a potential analysis was not carried out during the evaluation phase, it will be performed at this time. Based on specific demand, analyses can also be performed focusing on functional security and/or cyber security aspects.
2. the supplier agrees on improvement measures and commits to targets: after the need for improvement has been identified, the corrective measures, the necessary steps and the timeframe for their implementation are determined by mutual agreement between HELLA and the supplier. In order to receive a contract, the supplier must agree to these terms no later than four weeks after they have been jointly defined.

One of the core activities of the Supplier Development Process consists of performance monitoring by HELLA against the supplier's committed targets. Milestones shall be defined at the beginning of the Supplier Development Process to check progress and the degree to which targets have been achieved. In this regard, HELLA will play an active role in verifying the supplier's quality assurance activities. Therefore, the supplier must regularly inform HELLA about the process quality status.

If, after an evaluation, it is determined that the targets have not been met, HELLA may deploy specially trained personnel to better support the supplier by collecting and reporting the quality status from the supplier (see Chapter 5). The supplier bears the costs incurred. This will continue until the supplier demonstrates that the planned objectives have been achieved and he can implement the agreed development program in accordance with the contractual terms.

Verification of the agreed targets takes place during a project awarded to the supplier. Thus, all specific verification methods that can be applied during the development project (see Chapter 5) are valid throughout the [Supplier Development Process](#). If an ASPICE assessment is needed, this will be communicated at the time the project is awarded to the supplier. HELLA reserves the right to request the supplier to perform an ASPICE assessment by a 3rd party in case of serious deviations from the agreed development goals. The supplier is liable for the costs incurred.

The supplier's rating is changed during the development process as follows:

- once per defined milestone
- as a result of a planned or unplanned assessment
- after a new review due to the non-fulfillment of the established targets

An escalation program is initiated on the part of HELLA if necessary measures and improvement programs that have been defined as part of the development process are not implemented by the supplier in a timely and sustainable manner, or if recurring errors are identified (see Chapter 6).

## 5 | SUPPLIER MONITORING

The software developed and delivered to HELLA must meet expected quality criteria. By “software” shall be understood:

- software as a standalone product
- software embedded into component hardware parts
- stand-alone software incorporated into a hardware component but having an assigned part number.

At the same time, process capability criteria according to Automotive SPICE® must be fulfilled as defined in the supplier contract award. Therefore, the initial goals, contractually defined between HELLA and the supplier, are monitored during the development of the project.

The monitoring of the supplier can be performed using one or more of the following methods:

- Automotive SPICE® Assessment
- Technical Review
- Quality Evaluation

### 5.1 AUTOMOTIVE SPICE® ASSESSMENT

An assessment of the supplier's process capability for software-related work products and delivered products containing embedded software is performed based on Automotive SPICE® and VDA Automotive SPICE® Guidelines<sup>[4]</sup>.

The assessment might be:

- stipulated contractually when awarding the contract to the supplier
- requested by HELLA, even if it was not originally specified in the contractual agreement, if significant deficiencies were identified during the project subsequent to other quality evaluations of work products (e.g. as a result of deviations identified by a "Technical Review").

#### ASSESSMENT COVERAGE

HELLA has defined Assessment Scope and Assessment Capability Target as Level 3. That shall be demonstrated by the results of an independent assessment for the following subset of processes, corresponding to VDA scope:

Type	Clause	Automotive SPICE Process	Assessment Scope & Assessment Capability	
Primary Life Cycle Processes (LCP)	SYS.2	System Requirements Analysis	Level 3 Automotive SPICE®	
	SYS.3	System Architectural Design		
	SYS.4	System Integration and Integration Test		
	SYS.5	System Qualification Test		
	SWE.1	Software Requirements Analysis		
	SWE.2	Software Architectural Design		
	SWE.3	Software Detailed Design and Unit Construction		
	SWE.4	Software Unit Verification		
	SWE.5	Software Integration and Integration Test		
	SWE.6	Software Qualification Test		
	ACQ.4	Supplier Monitoring (if the supplier outsources any development activities)		
Supporting LCP	SUP.1	Quality Assurance	Level 3 Automotive SPICE®	
	SUP.8	Configuration Management		
	SUP.9	Problem Resolution Management		
	SUP.10	Change Request Management		
Organizational LCP	MAN.3	Project Management		Level 3 Automotive SPICE®
	MAN.5	Risk Management (if applicable)		

Table 2: Assessment process dimension

Depending on the project, the scope of the assessment may also vary.

The capability levels for each process presented in Table 2 are determined by rating the process attributes for each capability level.

The rating is calculated using a Process Attribute Ratings, as follows:

Table 3: Process Attribute Ratings

Process Attribute Ratings	Evaluation of the achieved process attribute	Achievement Level
N	Process attribute <b>not</b> achieved	0 to ≤ 15%
P	Process attribute <b>partially</b> achieved	> 15% to ≤ 50%
L	Process attribute <b>largely</b> achieved	> 50% to ≤ 85%
F	Process attribute <b>fully</b> achieved	> 85% to ≤ 100%

A certain capability level is reached when its process attributes are rated L or F and all process attributes of lower capability levels are rated with F:

Table 4: Capability Levels

	Process attribute				
	PA 1.1	PA 2.1	PA 2.2	PA 3.1	PA 3.2
L1 (Performed)	L or F				
L2 (Managed)	F	L or F	L or F		
L3 (Established)	F	F	F	L or F	L or F

## ASSESSMENT RULES

- All assessment activities will be performed in either the English or German language. This will be agreed in advance with HELLA.
- The assessment shall always consider the VDA Automotive SPICE® Guidelines.
- If an assessment is required by HELLA and the supplier is responsible for its organization, HELLA reserves the right to veto the use of a specific Assessment Provider. Therefore, the supplier must designate the preferred evaluation provider to be approved prior to nomination. The Supplier shall be also responsible for inviting representatives of HELLA to observe the assessment activity.
- In the event of an assessment by a 3<sup>rd</sup> party, the supplier shall provide HELLA with a preliminary copy of the assessment report after completion of the assessment and then with a complete assessment report within 4 weeks after completion of the assessment.
- If the assessment is performed by HELLA assessors, the assessment result will be announced directly at the end of the assessment. Also, at the end of the assessment, the short report is signed by the assessors and the person responsible for the supplier as acknowledgement. A detailed assessment report will be prepared within the next four weeks detailing any identified deviations from each process. The supplier must use the deviations identified in the assessment report as the basis for developing and implementing the improvement action plan.
- If, as a result of the assessment, the processes do not meet the capability levels specified in the contract, the supplier will prepare an action plan within 4 weeks of submission of the final assessment report, indicating how the processes shall be improved. The improvement action plan must be reviewed and approved by HELLA.
- The supplier's progress shall be monitored by HELLA and the supplier shall provide HELLA with the adjusted action plan. This plan shall be delivered by the supplier in a mutually agreed interval, but not exceeding three months.
- If the supplier is rated "C", a subsequent assessment may be required within the current project. During this assessment, those processes that were previously assessed at a level below the contractually agreed level must be reassessed.
- If the re-assessment is performed by HELLA and no improvement of the re-assessed processes is observed, the costs of the evaluation may be charged to the supplier.

- The supplier is fully responsible for the necessary improvements. If the required knowledge is not available within the company, the supplier must hire external assistance.

## 5.2 TECHNICAL REVIEW

The **Technical Review** is a form of evaluation that can be performed by HELLA experts at any time during development and series production.

The **Technical Review** focuses on the source code analysis and code reviews as well as aspects of the engineering, management and support processes, if needed.

Two days before the **Technical Review** is to be performed, the supplier will receive a notification about the need to perform it and its content.

The **Technical Review** can be triggered by:

- Technical errors observed regarding:
  - Build design
  - System design
  - Integration
  - Testing
  - Software release problems
  - Other technical problems detected
- Changes in supplier processes and/or deficiencies identified by HELLA
- Changes to development sites that have not been reported to HELLA and/or for which no supplier capability evidences are available (e.g. Automotive SPICE® assessment report).
- Request for confirmation of a previous rating of an assessment or verification of the status of open points subsequent to an assessment, without performing a full assessment.
- None of the above, but as a preventive measure – HELLA has the right to perform a **Technical Review** at any time as a preventive measure to conduct inspections of work products as well as to carry out detailed progress reviews (e.g. software design, code and/or test).

Conclusions regarding process capability and product quality of the current project are derived following **Technical Review**. The resulting report is presented on site and, depending on the result, contains the identified vulnerabilities, a risk evaluation, and a recommendation for necessary improvement measures.

The report includes an overall result indicator (color code), as their meaning is listed in the following table:




Result	Meaning
	No relevant non-compliance has been identified and <b>no risk</b> has occurred
	<b>Moderate risks</b> have been identified that may affect series production or development. As a result, the definition of the necessary measures to mitigate this risk by correcting process deficiencies and possible product defects must be addressed without delay.
	<b>Critical risks</b> that directly affect series production and the development phase have been identified. Based on the identified deficiencies, a program for immediate improvement shall be started by the supplier.

Table 5: The results' meaning following the Technical Review

If risks have been identified, the supplier shall agree on an improvement program to address them. The improvement actions and appropriate planning will be defined and signed on-site immediately after completion of the [Technical Review](#).

As soon as critical risks have been identified, an escalation program is initiated on the part of HELLA. If identified moderate risks are not mitigated within the agreed timeframe, the escalation program is also started (see chapter 6).

If identified risks are found to be caused by supplier activities, the supplier shall reimburse the cost of performing the [Technical Review](#).

### 5.3 QUALITY EVALUATION

If the supplier does not meet the agreed quality level during the project development, then HELLA could initiate the Quality Evaluation procedure as follows:

- [Q-SCAN](#): a HELLA specific Quality Review methodology for evaluating the project & process maturity of the supplier performed by an independent HELLA quality manager or assessor.
- [On-site Quality Consulting](#): refers to the involvement of a HELLA representative in the supplier's quality assurance activities.

#### [Q-SCAN](#)

[Q-SCAN](#) is used to check the status of critical cases where the problems have been identified after previous evaluations (i.e. potential analysis, Automotive SPICE® Assessment, [Technical Review](#)). The supplier will be informed by HELLA in an official note about the necessity of performing the [Q-SCAN](#). Within four days of notification of its demand, the [Q-SCAN](#) must be organized at the headquarters of the supplier.

[Q-SCAN](#) is performed in the format of an ASPICE assessment (without having an official character). All processes and work products where unresolved deviations have been identified shall be reviewed. Depending on the number of these deviations, the duration of a [Q-SCAN](#) can vary (typically 2-3 days)

The cost of performing [Q-SCAN](#) may be incurred by the supplier if:

- It turns out that no improvement actions were taken for the previously identified problems
- The actions taken were not those agreed upon with HELLA, and the results did not resolve the issues
- The actions identified were not implemented in a timely manner, causing the issues to remain active while impacting the project schedule.

The [Q-SCAN](#) performed by HELLA at Supplier could be the last step before starting the Level 3 escalation (see chapter 6).

If [Q-SCAN](#) evaluation results require, an [On-site Quality](#) measure shall be started.

#### [ON-SITE QUALITY](#)

If, after the [Q-SCAN](#), it is determined that the targets have not been met, HELLA may deploy specially trained personnel to better support the supplier by collecting and reporting the quality status from the supplier. This means that a Level 3 Escalation has been initiated.

In a joint kick-off meeting, the general conditions for [On-site Quality](#) are to be defined. Depending on the services provided by the supplier, additional HELLA quality (domain) expert can also be involved in the kick-off meeting if required, in addition to the Quality Manager Software from the HELLA side.

[On-site Quality](#) assurance activities shall be defined according to the requirements of the project and the identified deviations (product and/or process).



**On-site Quality** empowers the HELLA representative to attend the relevant development meeting, to have access to relevant metrics for reviewing progress, to propose improvement actions and to monitor their implementation.

The duration of the **On-site Quality** is determined depending on the project situation and can range from one to four weeks.

If potential for improvement is identified, and related measures are ascertained during the presence of a HELLA representative at the supplier's headquarters, **On-site Quality** activities will be continued by defining monitoring measures for the supplier. This monitoring is performed remotely by HELLA, with agreed-upon countermeasures tracked.

If HELLA's on-site representative does not identify improvement actions or the actions to be taken after **On-site Quality** monitoring are not implemented, further escalation scenarios might apply, and consequences may occur (e.g. blocking of supplier for future business) (see chapter 6).

#### 5.4 SUPPLIER RATING OUTCOME – STRATEGIC SUPPLIERS

The application of evaluation methods within the development project leads to the retention or modification of a supplier's rating. Therefore, the rating of a supplier may vary depending on the result of:

- Automotive SPICE® Assessment
- Technical Review
- Quality Evaluation

At the end of each evaluation, a report is prepared including the new supplier rating. If necessary, after an evaluation, the identified weaknesses and expected improvements are summarized in this report, thereby providing evidence of the rating obtained. Where appropriate, a detailed report or findings sheet will be provided afterwards. The initial report is signed by HELLA representatives and supplier project management.

In the event of a rating lower than that contractually agreed, the supplier must always submit an improvement plan. Before its implementation, this plan must be agreed upon with HELLA. Until a new evaluation of the applied measures, the supplier shall be placed in a surveillance phase. If the supplier receives a C rating after this evaluation, then the escalation process shall be triggered (see chapter 6).

Suppliers that have an exemplary method of resolving quality issues and by which the escalation process is not triggered may be considered strategic suppliers and may have priority in the awarding of future contracts.

## 6 | METHODS OF SUPPLIER ESCALATION

Monitoring supplier performance is a key activity that HELLA undertakes as a basis for working with its suppliers. If any of the monitored parameters indicate a negative performance trend or significant non-compliance, the supplier is considered for in-depth evaluation actions.

Following these evaluations, a set of improvement measures is defined by the supplier and agreed upon with HELLA. If these measures and improvement programs requested by HELLA are not implemented in a timely and sustainable manner, or if significant recurring deviations are identified despite stipulated countermeasures, an escalation procedure will be initiated on the HELLA side.

Suppliers that are determined not to be meeting quality commitments are assigned to the "Non-compliant Supplier Profile". "Non-compliant Supplier Profile" is a program designed to address suppliers with critical quality issues. The assignment in this program and in the corresponding program levels occurs simultaneously with the triggering of a similar level of the escalation process.

Level	Characteristic of the "Low Performance Supplier Profile" stage	Specific actions for the Escalation level
0	<b>Observed supplier:</b> Problems were detected at the supplier (i.e. moderate risks identified after a Technical Review).	Surveillance phase: The supplier shall immediately take improvement measures.
1	<b>High-risk supplier:</b> The identified problems are not managed by the supplier and they persist.	The supplier shall set up an effective problem-solving process and regularly submit its results to HELLA's quality responsible.
2	<b>Critical risk supplier:</b> The supplier needs external help regarding the effectiveness of the implemented measures.	The action plan implemented by the supplier is monitored on-site at the supplier to ensure that it was appropriate and effective. This is done as part of the Automotive SPICE assessment or Q-SCAN. The results of the analysis are documented, and a new action plan is defined. The supplier is responsible for the implementation of the measures and must report to the responsible parties at regular intervals on the respective status.
3	<b>Non-compliant supplier:</b> The supplier needs HELLA's support to define, implement and monitor improvement measures.	The supplier fails to implement the necessary measures to remedy the problems. Existing issues shall be analyzed by a HELLA representative at the supplier's site. The supplier must be prepared to support all suitable activities of the HELLA representatives. The supplier's management must ensure compliance with all agreed actions. During this time, the supplier may be blocked from receiving new contracts from any HELLA company worldwide.

The meaning of the escalation levels and the applicable de-escalation actions are specified in the Supplier Guideline (AD-00385)<sup>[2]</sup>.

## 7 | APPLICABLE DOCUMENTS

Details on the standards and methods of Quality Management specified in this guideline can be found in the respectively latest version of the documents.

**Further Applicable Documents** refers to the next documents (in their current version):

- [1] HSDRS – Hella Standard Development Requirements for Suppliers (AD-01100)
- [2] HELLA Quality Management - Guideline for Suppliers (AD-00385)
- [3] Automotive SPICE® Process assessment and reference model v 3.1 (<http://www.automotivespice.com>)
- [4] VDA Automotive SPICE® Guidelines (<http://www.vda-qmc.de/>)
- [5] VDA LiSa / SuSA – Supplier self assessment Automotive SPICE® ([https://vdaqmc.de/fileadmin/redakteur/Software/Automotive\\_SPICE/Veroeffentlichungen/VDA\\_SuSA\\_English.xlsx](https://vdaqmc.de/fileadmin/redakteur/Software/Automotive_SPICE/Veroeffentlichungen/VDA_SuSA_English.xlsx))

## 8 | REVISION HISTORY

CHAPTER	CHANGE SUMMARY
	■ Initial version

**HELLA GmbH & Co. KGaA**

Rixbecker Straße 75

59552 Lippstadt /Germany

Phone +49 2941 38-0

Fax +49 2941 38-7133

info@HELLA.com

www.HELLA.com

© HELLA GmbH & Co. KGaA, Lippstadt