

Guideline for Supplier Evaluation



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1 Introduction

Research and technology are key drivers of today's life. They motivate us to create strong connections. Being part of the US based Amphenol Corporation – which is one of the world's largest interconnect manufacturers – allows KE Elektronik to combine the creativity and flexibility of a small and medium sized enterprise (SME) with the growth potential of a worldwide operating group.

Our core competencies are plastics technology, cable assembling, as well as construction and connection technology. We deliver directly to the leading tier 1 suppliers in electrics and electronic, which operate in the automotive and aviation sector. Their products are delivered to almost all the worldwide operating vehicle and aircraft manufacturers.

KE Elektronik develops user specific wire harnesses and plug connector solutions. Well-known and leading vehicle and commercial vehicle manufacturers trust in our know-how and strong technology.

Automotive

KE Elektronik operates with its automotive products mainly in the following areas

- Emission reduction (NOx, COx, soot particles and particular matter)
- Fuel reduction (start-stop-Automatic, 9-speed-automatic transmission, Hybrid)
- Comfort (camera systems, door opening system, automatic parking system)
- Safety (lane-change assistant, distance warning system)

The majority of our new products are designed and developed at our location in Kressberg-Marktlustenau, Germany. As well all the necessary machineries, tools and systems for serial production are developed here. After completion we decide according to the location of our customer, in which KE plant (Europe, Asia or America) the product will be produced.

Aviation

KE Elektronik operates with its aviation products mainly in the following areas:

- Interior (interior lighting)
- Comfort (sun blinds, seat adjustment)
- Safety (emergency power supply)
- Infotainment (interior acoustics)

KE Elektronik delivers, via their German system-suppliers, to the largest American and European aircraft manufacturers.

In order to meet the needs of our customers and their corporate goals, KE Elektronik needs a global supplier base that consistently maintains its performance and qualification at the highest level.

This is measured by the continuous supplier evaluation.

Should a supplier fail to achieve the set goals, measures will be taken to fulfill these set common goals.

1.1 Basis of Assessment

The suppliers of KE Elektronik are periodically assessed for their performance in price, quality, delivery, service, sustainability and EHS / energy performance.

- The valuation scheme consists of four main criteria, which are evaluated differently and add up in total to 100%.
- A main criterion might consists of various single criteria which are as well added up in total to 100%.
- The maximum number of points is 100 (100% degree of fulfillment)
- In order to obtain no performance-distorting effects, only single criteria are evaluated which are capable of being rated
- If a single criterion can not be rated (0), the weighting of all remaining single criteria will be averaged
- Deviations of the ideal state are punctured with point deduction as a function of the characteristic number.

2 Frequency of Assessment and Communication

Classes	Different Types of Suppliers	Frequency of Assessment	Frequency of Supplier Communication
A	Raw materials/ material supplier	Monthly	Annually
F	Sorting companies	Monthly	Annually
F	External laboratories	Quarterly	Below threshold triggers communication
F	Calibration providers	Quarterly	Below threshold triggers communication
C	Shipping companies	Quarterly	Below threshold triggers communication
B	Tools for machines and devices	Annually	Below threshold triggers communication
D	Special machines- and devices supplier	Annually	Below threshold triggers communication
G	Components supplier (for machinery and plant construction)	Annually	Below threshold triggers communication
E	Maintenance providers	Annually	Below threshold triggers communication

3 Structure of Evaluation

3.1 Class A: Row Materials / Material Supplier

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 40 %	Quality certificates	4.1.1	25 %
	QAA	4.1.2	15 %
	PPM	4.1.3	15 %
	Amount of complaints	4.1.4	30 %
	Processing time D3	4.1.5	5 %
	Processing time D5	4.1.5	5 %
	Product safety officer	4.1.6	5 %
Delivery 30 %	Adherence to delivery dates	4.2.1	70 %
	Adherence to quantity stipulations	4.2.2	20 %
	Additional freight costs	4.2.3	10 %
Sustainability 10 %	REACH / ROHS	4.3.1	25 %
	Conflict minerals	4.3.2	25 %
	Human trafficking	4.3.3	25 %
	GMMOG/LE	4.4.3	25 %
Price 10 %	Price development	6	100 %
Service 5 %	EDI	4.4.1	35 %
	Labelling KE label / VDA 4994 (GTL)	4.4.2	35 %
	Digital invoicing	4.4.3	30 %
EHS / Energy 5 %	Environmental certificate	4.5	50 %
	Health and Safety certificate	4.5	25 %
	Energy certificate	4.5	25 %

3.2 Class B: Tools for machines and devices

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 30 %	Quality	6	100 %
Service 30 %	Reliability	6	50 %
	Flexibility	6	50 %
Price 20 %	Price level	6	100 %
Delivery 20 %	Adherence to delivery dates	6	100 %

3.3 Class C: Shipping companies

Main Criterion	Sub-Criterion	Chapter	Weighting
Service 70 %	Reliability	6	60 %
	Communication	6	15 %
	Flexibility	6	25 %
Quality 30 %	Amount of complaints	6	100 %

3.4 Class D: Special Machines and Devices Supplier

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 40 %	Quality	6	100 %
Service 35 %	Reliability	6	34 %
	Flexibility	6	33 %
	Service	6	33 %
Price 25%	Price level	6	100 %

3.5 Class E: Maintenance Providers

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 60 %	Quality	6	100 %
Service 40 %	Reliability	6	50 %
	Flexibility	6	50 %

3.6 Class F: External Laboratories / Calibration Providers / Sorting Companies

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 60 %	Quality	5.1	100 %
Service 40 %	Reliability	6	50 %
	Flexibility	6	50 %

3.7 Class G: Components supplier (for machinery and plant construction)

Main Criterion	Sub-Criterion	Chapter	Weighting
Quality 25 %	Quality	6	60 %
	Quality certificates	5.1	40 %
Service 20 %	Reliability	6	34 %
	Flexibility	6	33 %
	Service	6	33 %
Price 35 %	Price level	6	100 %
Delivery 20 %	Adherence to delivery dates	6	100 %

4 Sub-Criteria Suppliers Class A

4.1 Quality

4.1.1 Quality – Quality Certificates

The sub-criterion quality certificates is used to determine the effectiveness of the quality management system. The highest score of a valid certificate for a sub-criterion will be included in the supplier evaluation. The following management systems are evaluated:

Scores	Managementsystem
100	IATF 16949
95	AQAP 2110 TL900-H EN 9120
90	ISO 9001

For the evaluation we can only consider those certificates, which are known to us at the time of the valuation.

We won't ask the supplier to submit us their valid certificates. The supplier has to provide valid and existing certificates. Existing certificates, which have not been handed in, are dealt with according to Chapter 10: "Formal Notice".

To guarantee an unambiguous evidence and an ideal processing we kindly ask you, when sending certificates always to cc supplier@ke-elektronik.de in your email.

4.1.2 Quality – QAA

The criterion is evaluated with a score of 100, if an agreed, up-to-date and signed by both parties quality assurance agreement exists. The Sub-criterion is evaluated with a score of 1, if no quality assurance agreement exists between the supplier and KE Elektronik.

4.1.3 Quality – PPM

When exceeding the agreed ppm rate and suffering the consequential downgrade according to the table below, does not exempt the supplier from his obligation to handle all complaints. These have to be dealt with according to the legal and contractual regulations concerning the liabilities for defective products. The zero-defect strategy is also a binding part of the contract.

Calculation:

The ppm-defect rate comprises all complaints made by KE Elektronik. This means complaints arisen by the incoming goods inspection, the manufacturing, the 0 km as well as complaints made by our customers. The calculation of the ppm-defect rate "F" shall be in accordance with the VDA standards and is defined as follows:

$$F = \frac{\text{complained units / time period}}{\text{delivered units / time period}} \times 1.000.000 \text{ [ppm]}$$

Points	Corresponding ppm-Value
100	0
90	1-5
80	6-10
70	10-20
50	20-50
25	50-100
1	Greater than 100

Only such complaints as are clearly the fault of the supplier (i.e. justified complaints) will be used in this calculation. All faulty units will be counted no matter how complex they are. In the event of units rejected unjustifiably, the overall number of quality complaints shall, upon completion of the final analysis of defects, be adjusted accordingly. Details as to quantities

shall always be in regard to the same time period. The ppm-defect rate shall remain in the KE Elektronik statistics, until the supplier has proved that it is not responsible for that/those defect(s) or has informed KE Elektronik of the actual number of defects.

4.1.4 Quality – Amount of complaints:

This section assesses the number of justified defect complaints, however note complaints shall not be counted. The assessment is based on the following scheme:

Points	Number of Complaints
100	0
90	1
80	2
70	3
50	4
25	5
1	Greater than 5

4.1.5 Quality – Processing Time D3 / D5

KE Elektronik’s supplier receive when they are notified of a complaint also an 8D report. The discrepancy between completion date and deadline is assessed as follows:

Points D3	Deviation Days
100	0
50	1
1	Greater than 1

Points D5	Deviation Days
100	0
75	1
50	2
25	3
1	4 and greater

4.1.6 Quality – Product Safety Officer

This criterion is assessed with 100 points, if the supplier has appointed a Product Safety Officer by first name, last name, phone number, email address and if in case a change in this position occurs, the supplier submits to KE the new information without being prompted.

The criterion is assessed with 1 point, if there is no designated Product Safety Officer, if there was a change and no information has been submitted to KE for the period and if KE hasn’t received a confirmation (every 5 years) that the appointed Product Safety Officer is

still in charge and responsible for product safety. If there exists no designated PSO KE Elektronik will consider the general manager as the PSO.

4.2 Delivery

4.2.1 Delivery – Adherence to Deliver Dates

We use the sub-criterion adherence to delivery dates to record the on-time delivery of goods. We assess the deviation between the actual delivery date and the date which was confirmed by the supplier. Basically each delivery is part of this assessment. The assessment is conducted for each single goods receipt item, same accounts for adherence to quantity. The recorded assessments, during the observation period, are averaged and combined to an average grading, based on points, for adherence to delivery over the assessment period.

The allocation of single assessments is assessed as follows:

Points	Delivery date deviation in days	Agreed date
99	1+	Exceeded
98	2+	
97	3+	
96	4+	
95	5+	
90	10+	
85	15+	
80	20+	
60	30+	
5	50+	
1	99,9+ and greater	
99	1-	Undercut
98	2-	
97	3-	
96	4-	
95	5-	
90	10-	
85	15-	
80	20-	
60	30-	
5	50-	
1	99,9- and greater	

4.2.2 Delivery – Adherence to Quantity

We assess the adherence to quantity by comparing the delivered quantity with the ordered quantity. We assess each single goods receipt item.

Each observation period's average, calculated with all achieved single-points, is used as the total points for this sub-criterion.

The allocation of single-points is assessed as follows:

Points	Deviation from the delivery quantity in %	Delivery quantity
99	1%+	Exceeded
90	11%+	
80	31%+	
1	50% and more+	
99	1%-	Undercut
90	11%-	
80	31%-	
1	50% and less-	

4.2.3 Delivery – Additional freight costs

The evaluation is based on the evaluation of the number of special loads. There is no purely quantitative assessment, also the reasons of special trips are be considered. Therefore, an evaluation takes place in the form of a soft fact.

4.3 Sustainability

4.3.1 Sustainability – REACH/ROHS

If KE has a supplier's self-disclosure on file, with the additional guarantee to submit changes without being prompted, KE will assess this sub-criterion with 100 points.

In case there is no self-disclosure on file, KE will assess this sub-criterion with 1 point.

4.3.2 Sustainability – Conflict Minerals

As conflict minerals are considered natural resources, where the extraction can lead to the worst human rights violations, violations of the international humanitarian law and international crime offenses, when the systematic exploitation and trade of such natural resources happens in a conflict zone. To prevent such extraction, the latest version of the conflict minerals report must be handed in.

If KE has received such report, in the latest version, KE will assess this sub-criterion with 100 points. On the contrary if such report in its latest version has not been handed in it will be assessed with 1 point.

Further information can be found at the following link:

<http://www.responsiblemineralsinitiative.org>

4.3.3 Sustainability – Human Trafficking

KE Elektronik expects that its suppliers shall adhere to all currently valid national Social Acts as well as consider all internationally valid ethics and environmental standards. Suppliers can use, as an assistance, the self-assessment questionnaire provided by the United Nations Environment Program (UNEP). http://www.eicc.info/implem_tool.html. Has the supplier handed in a binding obligation the criterion is evaluated with a score of 100.

4.3.4 Sustainability – GMMOG/LE

Global MMOG/LE is a self-assessment tool for logistics. This audit tool is used as a standard tool within the automotive sector. Further information can be found at <https://www.odette.org/>. Here you can download the latest Global MMOG/LE version.

Has KE's purchasing department received such mentioned self-audit for the assessment period, then it is assessed with 100 points, if not then this sub-criterion is assessed with 1 point.

4.4 Service

4.4.1 Service – EDI

Our goal is to establish an integrated data system between us and our suppliers without any manual interfaces (media disruptions). Out of this reason an information transmission via Electronic Data Interchange (EDI) is a mandatory requirement to engage in a supplier relationship with KE. The supplier uses EDI to receive information from KE (VDA4905) or to send information to KE (VDA4913). Has the requirement be fulfilled, then it is assessed with 100 points. Does the supplier not have an existing EDI connection with KE, then this criterion is assessed with 1 point.

4.4.2 Service – Labelling KE Label/VDA 4994 (GTL)

All packaging must be unambiguously labeled in accordance to VDA 4994 or Mat-Label 2.6. The labelling with a white label must be securely attached to the packaging and must be easily readable. The label shall guarantee the traceability. Are the criteria fulfilled, then it is assessed with 100 points. Is the labelling faulty or inadequate, then this sub-criterion is assessed with 1 point.

4.4.3 Service – Digital Invoicing

The goal is to achieve the highest level of automation without manual interference, with regard to the following criteria:

- Implementation expenses for KE and the supplier
- Handling costs per invoice for KE and the supplier
- Automatic processing rate for KE and the supplier

The sub-criterion is assessed with 1 or 100 points depending on the degree of implementation.

4.5 EHS/Energy

Regarding the sub-criteria environment certificate / health and safety certificate / energy certificate the assessment is conducted according to the following certificates:

Points	Certificate	Sub-Criterion
100	DIN EN ISO 14001	Environment Criterion
100	EMAS	Environment Criterion
100	ISO 45001	Health & Safety Criterion
100	OHSAS 18001	Health & Safety Criterion
100	ISO 50001	Energy Criterion
89	No certificate	Relevant Sub-Criterion

For the assessment only those certificates can be taken into account which have been known to us at the time of assessment.

KE will not contact the supplier to inquiry which currently valid certificates are available. It is the responsibility of the supplier to make all currently valid certificates available to KE. Available certificates which have not been handed in, will be dealt with in accordance with the response times mentioned in Chapter 10 (response times regarding formal notice management certificates).

To guarantee an unambiguous evidence and an ideal processing we kindly ask you, when sending certificates always to cc supplier@ke-elektronik.de in your email.

5 Sub-Criteria Class F and G Suppliers

5.1 Quality Certificates

We use the sub-criterion “quality certificates” to determine how effective the quality management system actually is. The highest score of a valid quality certificate is included in the supplier evaluation. The following management systems are rated for class F:

Points	Management System
100	ISO / IEC 17025
100	ISO 9001 (for factory calibration)

For the supplier class G, the following management systems are evaluated:

Points	Management System
100	ISO 9001

For the assessment only those certificates can be taken into account which have been known to us at the time of assessment.

KE will not contact the supplier to inquiry which currently valid certificates are available. It is the responsibility of the supplier to make all currently valid certificates available to KE. Available certificates which have not been handed in, will be dealt with in accordance with Chapter 10 (Formal Notice).

To guarantee an unambiguous evidence and an ideal processing we kindly ask you, when sending certificates always to cc supplier@ke-elektronik.de in your email.

6 Soft Facts Evaluation

To rate the suppliers’ performance in categories where no key indicators are available, KE allows itself to assess soft facts. These are evaluated by various KE employees from different departments.

Soft facts are a team based assessment. Occurred events are compared with similar occurrences with other suppliers within the same supplier type and subsequently assessed.

7 Result of Evaluation

After the evaluation, the results are graded using a defined scale “A, AB, B, and C suppliers”. Subsequently, the suppliers will receive an email about this overview.

Classifications	Scores
A	100 – 90
AB	89 – 80
B	79 – 70
C	69 - 0

A-Supplier:

The result meets our requirements.

This result is the requirement and basis for a long-standing business cooperation.

AB-Supplier:

The result meets, with some restrictions, our requirements.

KE Elektronik expects from this supplier to independently rectify defects and by the continuously improvement develop into an A-Supplier.

B-Supplier:

The result, achieved by this supplier, does no longer meet KE Elektronik’s requirements.

KE Elektronik expects from this supplier subsequent optimizations regarding rectifying defects and to enhance its performance.

C-Supplier:

The result achieved by this supplier is not acceptable to KE.

As part of our supplier management we have to decide if there is a further business relationship.

The following measurements can be triggered (depending on each different case):

- Joint measurements to improve supplier performance
- Business on hold until the performance has improved to our satisfaction
- Process audit conducted by KE Elektronik
- Third party audit
- Termination of the business relationship (termination in accordance with agreed schedule).

8 Feedback to Supplier Evaluation

If you received classification AB, B or C, please send us a corresponding action plan within the below mentioned response time, after receipt of the evaluation, to improve your quality performance.

KE Elektronik expects a timely and effective implementation of improvement actions, in cooperation with the respective contact person (SQM/PUR/SCM/PLC).

9 Formal Notice

Should there be no reply from the supplier, the system will issue a formal notice automatically.

To guarantee an unambiguous evidence and an ideal processing we kindly ask you, when sending action plans and management certificates always to cc supplier@ke-elektronik.de in your email.

Formal Notices for Action Plan Supplier Evaluation	
A	n.a.
AB	20 calendar days
B	20 calendar days
C	20 calendar days

Formal Notices for Management Certificates		
	Time	Repercussions:
1. Notice	At the expiry date of the certificate	Demotion to C Supplier Concerning supplier evaluations regardless of the points accumulated
2. Notice	30 days after the expiration of the certificate	New business on hold; remains C-Supplier

It is only feasible to prevent the repercussions when a valid interim certification of the certification company is presented to KE Elektronik.

Only the German version of the supplier evaluation is binding and not the translations in other languages. (Es gilt ausschließlich die deutsche Version der Lieferantenbewertung Übersetzungen sind nicht bindend.)

Revision			
Revision status	Modified on	Modified by	Modification
1	18.10.08	N. Böhmer	Initial document
2	26.11.18	C. Huber	Update 3.7
3	28.01.19	N. Böhmer	4.2.3 Additional freight costs introduced, rating changed inside chapter 4
4	06.03.19	N. Böhmer	4.1.3 / 4.1.4 Correction Rating 0 to 1
5	03.04.19	N. Böhmer	4.5 adding OHSAS 18001
6	16.07.19	H. Blattner	3.7 Update 5 Reformulation of the chapter 5.1 Explanation of the subcriterion of the supplier class G