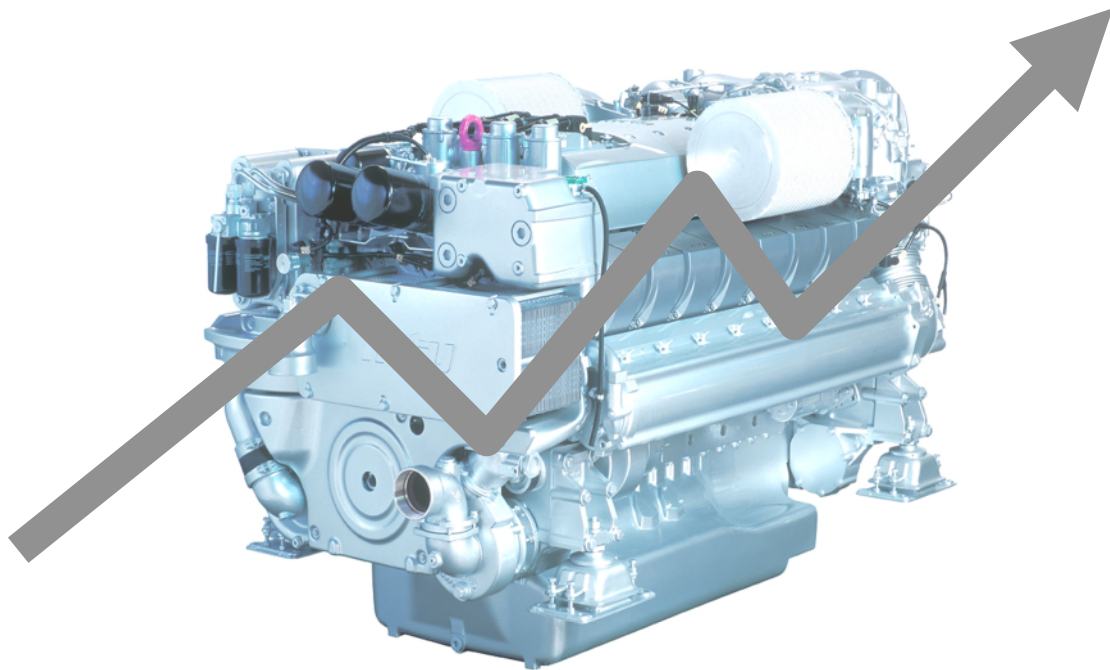




GSES

Global Supplier Evaluation System



Q L P E

Definition

The global Supplier Evaluation System (GSES) of Rolls Royce Powersystems AG was developed to form a standard basis for Target Suppliers. With these suppliers, RRPS intends to cover most of its future procurement volume. The evaluation is based on major criteria including quality, logistics, purchasing and environment/health & safety which are again detailed in sub-criteria.

Fulfillment of these criteria is measured on a scale between 0 and 100 points by applying specific definitions. Taking into account weighting factors, this results in rates for the fulfillment of the main criteria on which the overall assessment is based. Depending on the point score, a supplier is evaluated as **A, AB, B or C-supplier** (A = 100-90 points, AB = 89-80 points, B = 79-60 points, C = 59-0 points).

AB- and B-suppliers are asked to correct any existing deficiencies. C-suppliers are asked to introduce urgent corrective measures. Repeated assessment as a C-supplier jeopardizes the target supplier status. RRPS aims at maintaining long-term supplier relations with A or AB suppliers.

Philosophy

This supplier evaluation system is based on a philosophy which intends to find solutions, uncover potential and develop existing strengths in cooperation with the suppliers and on the basis of the results and comparative figures determined; on the other hand, it also provides for the development and implementation of solutions and alternatives for existing weaknesses. Suppliers are regarded as partners who can help counteract the ever-increasing competitive pressure.

Target

The target of this supplier evaluation system is the objective and standardized evaluation of suppliers by applying the criteria referred to above. This objectivity makes it possible to directly compare suppliers with each other and thus reveals the strengths and weaknesses of individual suppliers. The system of specified evaluation criteria facilitates achievement of this target.

Criteria and weighting

Main criterion	Weighting	Objective [points]	Sub-criteria	Weighting	Manual/ automatic determination
Quality	40%	100	PPM	45%	automatic
			Rate of notifications	33%	automatic
			Rate of residual quality costs	0%*	automatic
			Audit	11%	manual
			Support quality	11%	manual
Logistics	25%	100	Meeting delivery deadlines	70%	automatic
			Supplying agreed quantities	10%	automatic
			Logistical supply quality	10%	automatic
			Support logistics	10%	manual
Purchasing	25%	100	Price level	40%	manual
			Price development	40%	manual
			Financial stability	10%	manual
			Support purchasing	10%	manual
Environment/ Health&Safety	10%	100	_____	_____	manual

* Until further notice no evaluation of residual quality costs because of technical reasons

Handling

Criteria which can be determined automatically are updated each month. Manual criteria are evaluated once per year (January) for the previous year and continue to be applicable for the current year until the next evaluation.

Description of Criteria

Main criterion: Quality		Weighting: 40%	
Sub-criteria		Points	Evaluation basis
PPM - rate	45%	100	0 PPM
		0-99	PPM rate >0 (for a description refer to page 4)
Rate of notifications	33%	100	No quality notifications
		0-99	No. of quality notifications weighted with place of detection and divided by complexity and diversification (for a description refer to page 5)
Rate of residual quality costs	0%*	100	No residual quality costs
		0-99	Rate of residual quality costs proportional to incoming-goods value >0 %
Audit Audit grade assigned only if entire process chain has been audited.	11%	0-100	This criterion is evaluated by the respective audit heads based on the following aspects: <ul style="list-style-type: none"> ▪ Number / type of complaints ▪ Organization, tidiness, cleanliness at supplier's facility ▪ Cooperation during audit ▪ Intensity of follow-up of measures (not possible with initial audits) ▪ Activities for quality improvement ▪ Certification
Support quality (The following are taken into account: response time and quality of 8D reports; reduction of repeating faults; information of process changes; information provision/handling; proactive approach re. quality problems; reaction to enquiries; contacts and their availability; flexibility.)	11%	100	Excellent cooperation and flexibility
		80	Good cooperation and flexibility
		60	Average cooperation and flexibility
		40	Below-average cooperation and flexibility
		20	Poor cooperation and flexibility
		0	Very poor cooperation and flexibility

Note: Evaluation between fixed point scores is also possible

* Until further notice no evaluation of residual quality costs because of technical reasons

Determination of the PPM points :

Based on the annual delivery of a material number, complained parts cause the PPM rate (parts per million). PPM points are determined by the PPM rate of a material number depending on the subclass of the part and the complexity of the component, as well as the delivered quantity of the last 12 months (rolling) by the PPM guide value.

The PPM guide value is an empirically determined theoretical PPM value depending on the subclass, complexity and supplied quantities of the material number, leading to 90 PPM points when reached. The PPM target for each vendor is 0 PPM!

About an analytical investigation a PPM guide value for the supplier emerges from all delivered material numbers. The deviation of the current PPM rate of the supplier of his PPM guide value crosses a hyperbolic to the PPM point value (see. figure). The PPM guide value changes automatically with changing range of parts or delivery quantity.

Example:

PPM guide value = 1.000 PPM

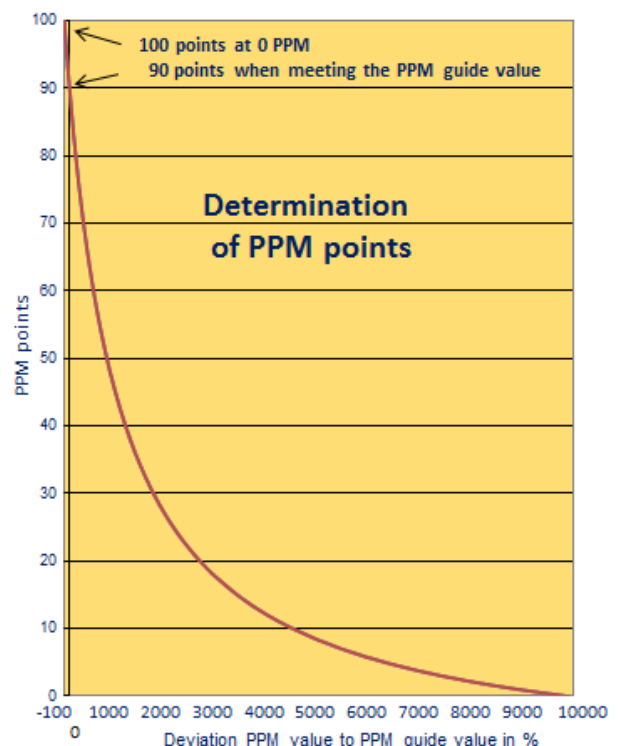
PPM actual value = 3.000 PPM

Deviation = +200%

PPM points = 75

Schematic diagram:

Parts subclass	Parts complexity	PPM guide value <100 pcs./a	PPM guide value <1.000 pcs./a	PPM guide value <10.000 pcs./a	PPM guide value >10.000 pcs./a
Standard parts	all	nn	nn	nn	nn
Raw material	1	nn	nn	nn	nn
	2	nn	nn	nn	nn
	3	nn	nn	nn	nn
	4	nn	nn	nn	nn
Castings machined	1	nn	nn	nn	nn
	2	nn	nn	nn	nn
	3	nn	nn	nn	nn
	4	nn	nn	nn	nn
Electronic material	all	nn	nn	nn	nn
Finished parts PPAP	1	nn	nn	nn	nn
	2	nn	nn	nn	nn
	3	nn	nn	nn	nn
	4	nn	nn	nn	nn
Finished parts w/o PPAP	all	nn	nn	nn	nn



Determination of the point score for rate of notifications:

Weighted notifications with respect to level of complexity and diversification (different material numbers) of the delivered components are incorporated in the rate of notifications.

Weighting of notifications:	<i>Type</i>	<i>Factor</i>
	1 Initial sample	x2
	2 Raw material	x 0,2
	3 Linecall low	x 2
	4 Linecall medium	x 7,5
	5 Linecall major	x 15
	6 Field/Customer	x 3
	7 Rest (without 1-6)	x 1

complexity:	<i>Factor</i>	<i>Level</i>	Diversification:	<i>Factor</i>	<i>Level</i>	<i>Qty. of deliv. mat.nr.</i> <i>12month roll</i>
	1	low		1	low	<10
	2	medium		2	medium	<100
	3	complex		3	complex	<1000
	4	very complex		4	very complex	>=1000

The ratio of the weighted notifications and the product of the level of complexity and of diversification results in the point score rate of notifications by using a formula (Hyperbola).

Example:

2x Initial sample notifications

3x Linecall low

3x Field notifications

Q index $2 \times 2 + 3 \times 2 + 3 \times 3 = 19$

the Q index is extrapolated by year

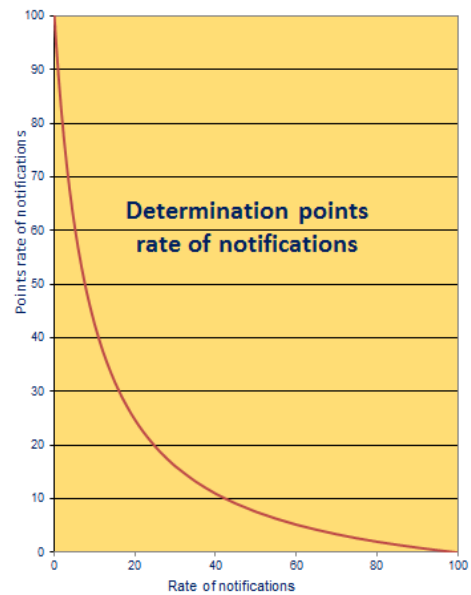
e.g. on 25th January x 365/25, or on 31th Dec. x365/365 etc.

Complexity 2,4

Diversification 3

Rate of notifications:

$$\frac{2 \times 2 + 3 \times 2 + 3 \times 3}{2,4 \times 3} = 2,6 \rightarrow 86 \text{ points}$$



Main criterion: Logistics		Weighting: 25%	
Sub-criteria		Points	Evaluation basis
Meeting delivery deadlines	70%	1 or 100	<p>Automatic determination via SAP based on the following criteria: Determination of average schedule compliance of all incoming goods per month.</p> <p>The evaluation of purchase orders and delivery schedules is derived from the following point system: Delay of up to one day* 100 points; Delay of more than 1 day 1 point</p> <p>Premature delivery up to five days 100 points; Premature delivery more than 5 days 1 point</p> <p>*The aim is delivery exactly on schedule. Due to possible unforeseen problems (e.g. during transportation), a leeway of one day is granted.</p> <p>For delivery schedules, backlog status is also evaluated. When backlogs appear in the delivery schedule, 1 point is allocated (compliance with deadline and volume).</p> <p>The objective for approved delivery deadlines is fixed for all suppliers at 100 points!</p>
Supplying agreed quantities	10%	1 or 100	<p>Automatic determination via SAP based on the following criteria: Determination of average quantity compliance of all incoming goods per month. The evaluation of purchase orders and delivery schedules is derived from the following point system:</p> <ul style="list-style-type: none"> ▪ Excess supply of less than 2% 100 points; Excess supply of more than 2% 1 point ▪ Short supply of less than 2% 100 points; Short supply of more than 2% 1 point <p>For delivery schedules, backlog status is also evaluated. When backlogs appear in the delivery schedule, 1 point is allocated (compliance with deadline and volume).</p>
Logistical supply quality	10%	0-100	<p>Automatic determination via SAP based on the following criteria:</p> <ul style="list-style-type: none"> ▪ No. of quality reports „logistic“ in relation to no. of deliveries ▪ 0% - 10% claimed deliveries ⇒ 100 points to 0 points > linear evaluation; ≥10% of claimed deliveries = 0 points
Support Logistics (taken into account: batch size; reacquisition times, packaging requirements; proactive management of product start-up/changes; process integration - supplier adapts to meet RRPS requirements and achieves high level of process consistency; provision/handling of information; pro-active approach to supply problems; reaction to enquiries; processing of reminders/warnings; contacts and their availability / contactability; flexibility re. short-notice requests, delivery call-offs, direct call-offs.)	10%	100	Excellent cooperation and flexibility
		80	Good cooperation and flexibility
		60	Average cooperation and flexibility
		40	Below-average cooperation and flexibility
		20	Poor cooperation and flexibility
		0	Very poor cooperation and flexibility



Main criterion: **Purchasing** Weighting: **25%**

Sub-criteria		Points	Evaluation basis	
Price level	40%	100	Supplier's prices are within target range	
		60	Supplier's prices are outside target range	
		0	Supplier's prices are well outside target range	
Price development	40%	100	Price development is within target range	
		60	Price development is outside target range	
		0	Price development is well outside target range	
Financial stability	10%			Rating
		100	Financial stability is proved or ensured via affiliation with Group.	AAA
		90	Financial stability seems to be ensured subjectively.	AA
		80	No verified information available	A
		60	-	BBB
		40	Deliveries to RRPS only against cash in advance or bank guaranties. Or: Suppliers who have been rated as critical.	BB
		20	-	B
0	Supplier is involved in insolvency proceedings!	C, D		
Support purchasing SEmL assessment only if relevant (simultaneous engineering with suppliers)	10%	100	Excellent cooperation and flexibility Very good cooperation with SEmL ; frequently makes own proposals	
		80	Good cooperation and flexibility Good cooperation with SEmL; occasionally makes own proposals	
		60	Average cooperation and flexibility Cooperation with SEmL, shows own initiative now and then	
		40	Below-average cooperation and flexibility Below-average cooperation with SEmL, hardly any own initiative	
		20	Poor cooperation and flexibility Poor cooperation with SEmL, no own initiative	
		0	Very poor cooperation and flexibility No cooperation with SEmL	

Note: Evaluation between fixed point scores is also possible.



Main criterion: **Environment / Health & safety**

Weighting: **10%**

Points	Evaluation basis
100	Environmental and health & safety certificate available (ISO14001, EMAS / BS-OHSAS 18001 or comparable certificate)
90	Environmental or health & safety certificate available (ISO 14001, EMAS..../ BS-OHSAS 18001.....)
80	Environmental / health & safety certificate aimed for within 18 months or RRPS audit re. environment / health & safety is OK.
60	Compliance with legislation, technological status or No information available.
0	No identifiable environmental / health & safety awareness; supplier development necessary.

Note: A 0-point score for the major criterion "Environment/ health & safety " will not be accepted permanently by RRPS. If no activities for improvement can be observed, the business relationship will be terminated.

Grade		Points
1,0	excellent	100
1,5	excellent – good	90
2,0	good	80
2,5	good – fair	70
3,0	fair	60
3,5	fair – needs improvement	50
4,0	needs improvement	40
4,5	needs impr. – needs signif. impr	30
5,0	needs significant improvement	20
5,5	needs signif. impr.- unacceptable	10
6,0	unacceptable	0

Example:

LB Report Supplier Evaluation



Supplied site: Friedrichshafen / Überlingen

Rolls-Royce Power Systems AG

Vendor		Supplier number	21
Calendar year	2017	Value of parts supplied	1,037,545 EUR
No of compl. parts	240	No QL notifications*	4
Last update	2017-11-17 08:20:25	Address	-

Overview

Main criterion	Weighting	Sub-criterion	Weighting	Points sub-criterion	Points main criterion
Quality	40 %	PPM	45 %	72	
		Rate of notifications	33 %	89	
		Rate of residual quality costs	0 %		
		Audit	11 %	80	
		Support quality	11 %	60	77
Logistics	25 %	Meeting delivery deadlines	70 %	50	
		Supplying agreed quantities	10 %	91	
		Logistical supply quality	10 %	77	
		Support logistics	10 %	80	60
Purchasing	25 %	Price level	40 %	90	
		Price development	40 %	90	
		Financial stability	10 %	90	
		Support purchasing	10 %	100	91
Environment/ Health&Safety	10 %				60
Overall evaluation					75

1 - A-Supplier [100-90 Pts] 2 - AB-Supplier [89-80 Pts] 3 - B-Supplier [79-60 Pts] 4 - C-Supplier [59-0 Pts] 5 - no Evaluation classification: **3**

Details

PPM	PPM-rate	PPM guide value	Deviation from PPM guide value	PPM points
	16,912	4,932	243 %	72.0

Rate of notifications / notification type

Q index	Level of complexity	Level of diversification	Rate of notifications points			
8	2.0	2	89,0			
Total no. of notifications						
PPAP	Raw materials	LC minor	LC medium	LC major	Field	other
0	0	4	0	0	0	0

Logistical supply quality	No. of QL reports (log)	No. of Inc. Goods	Points
	3	128	77

PPM and rate of notifications include only quality notifications concluded and with status 8D.
Until further notice no evaluation of residual quality costs because of technical reasons