Datalogic
Supplier's Quality Guidelines

Revisions:

Rev	Effective date (dd-month-yyyy)	Description of the main changes vs previous revision	Authors / Reference Points	Process Owner
03	Sep 1st, 2022	• Updated paragraphs numbering. • Added paragraphs 6.1; 6.2; 6.4; 6.6; 7.1; 7.2; 7.10. • Updated paragraphs 7.6; 8.1.	A. Domenichini	S. Menarbin
02	09 June 2017	• Changed document coding name from GM_SSS_006_SQG to GP0103. • Updated paragraphs # 6.1; 7.5; 7.6; 7.7; 8.2; 9. • Added paragraphs # 3; 6.2; 7.3; 7.4; 8.1; 10; 12.	I. Fasolato A. Domenichini	S. Menarbin
01	20 July 2015	First issue (document was named "GM_SSS_006_SQG_01").	I. Fasolato P. Morselli	S. Menarbin

Approvals:

Name	Responsibilities	Approval date (dd-month-yyyy)	Signature
S. Menarbin	Chief Quality Officer	Aug 23rd, 2022	Meeting Aug 23rd, 2022 – h 15.00 – 16.00
A. Pallone	Chief Purchasing Officer	Aug 23rd, 2022	Meeting Aug 23rd, 2022 – h 15.00 – 16.00

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1 - OBJECTIVE

These "Supplier's Quality Guidelines" rule the quality requirements related to the supply of materials and products to Datalogic except Informatics Inc. and Solution Net System Inc. (hereinafter DL). Suppliers of DL are parts of Datalogic production chain.
This document is the basis for the cooperation between DL and its Suppliers and it is part of the Quality Policy in coherence to the general strategy of DL. Particular attention is directed to the customer expectations and to the pursuit of the Zero-Defect Target, with a supply quality without anomalies.
The "Supplier's Quality Guidelines" also define the minimum requests for the Supplier' system management, related to quality assurance.

2 - FIELD OF APPLICATION

The "Supplier's Quality Guidelines", in compliance with ISO9001 and ISO14001, are applied to all the processes for the supply of raw materials, semi-finished and finished products.
The "Supplier's Quality Guidelines" are complementary to the Datalogic General Terms and Conditions of Purchase which are effective between the parties ("Datalogic T&C of Purchase") and/or to any agreement signed by the Supplier and DL.
The Supplier is totally responsible for assuring the quality of his own suppliers.

3 - DOCUMENTS PRIORITY ORDER (ONLY FOR QUALITY PURPOSES)

If a conflict arises between the requirements of this document and other DL documents, the following order shall apply:

1. Purchase Order.
2. Agreements with Suppliers (e.g., Datalogic T&C of Purchase, MSA, ODM, etc.) and/or any amendment or deviations agreed and signed in writing by the parties
3. DL relevant specifications (e.g.: drawings; blueprints etc.) of the ordered product, to the extent applicable.
4. DL general specifications (technical standards) of the related commodity, to the extent applicable.
5. DL Supplier's Quality Guidelines (current document).

4 – SUPPLIER'S QUALITY MANAGEMENT SYSTEM

According to these "Supplier's Quality Guidelines", Supplier commits itself to adopt and maintain perpetually a certified quality management system as specified by ISO9001, or, anyway, a system that satisfies Datalogic's requirements.

The clear development targets of the Supplier must be the ISO9001 and ISO14001 (Environmental management system) rules. Supplier commits itself to execute all the actions that are necessary in order to pursue the Zero-Defect Target, always improving its processes. Following the logic and the goal of the "FREE PASS" of incoming materials, DL requests that the supply control is performed by the Supplier and that the Quality Assurance is provided by the Supplier. For every supply the Supplier must include a Conformity and Quality Certificate (hereinafter CQC) that certifies the quality and the conformity of the related supply.

Supplier commits itself to take part in the quality improvement programs shared with DL.

Supplier's Quality System Management must be based on prevention rather than defect detection.

Supplier is responsible for the use of appropriate control and measurement equipment.

All control and measurement equipment must be checked by a maintenance and monitoring system.

If DL gives to the Supplier some control and measurement equipment, the Supplier must integrate them in his maintenance and monitoring system.

Each control and measurement equipment must show the following information:

- Equipment number
- Equipment calibration state
- Date of next inspection.

5 – SUPPLIER'S PREQUALIFICATION AND QUALIFICATION

5.1 QUESTIONNAIRE

Before starting to work with a new supplier, DL sends a general questionnaire (GM_SSS_004_SEQ "Supplier Evaluation Questionnaire"); it is necessary for a pre-evaluation of the adequacy/not adequacy of the Supplier to DL standards.

The Supplier must return the questionnaire fully filled in and signed.

5.2 AUDITS

DL has the right to define, through verification audits, if the Supplier quality assurance method is compliant to DL standards. These audits can be performed as plant and/or process and/or product verification audits and must be agreed in advance by a prior written notice. The Supplier

commits itself to submit to verification his own sub-suppliers and DL has the right to perform the audit near its sub-suppliers in accordance with the Supplier.
The usual audit frequency is once a year, but it can be increased, depending from the Supplier's quality trend.

6 – DESIGN REVIEW / SAMPLES / PRODUCTION RAMP UP

6.1 FINAL APPLICATION DEFINITION

In case final application of DL device is not specified into drawing or relevant documentation of a purchased part, be noted that DL devices typical applications are: *"automatic data capture fixed or handheld devices, or industrial applications, with possible safety features"*. If application is not fully understood, supplier shall ask clarifications to DL. Information about final application of DL device is also meant for supplier to fully apply quality prevention according to ISO9001 and to good common sense.

6.2 DESIGN FOR MANUFACTURING (DFM) / ENGINEER QUERIES

During DL design review stage, supplier is required to fully cooperate with DL in order to analyze all specifications and their mass-production feasibility. Supplier is required to define severity of each query about specifications, explaining what is feasible, what is unfeasible and what is borderline. Long-term reliability of supplied material shall be included in supplier's considerations (see par. 7.6).

6.3 FIRST SAMPLING

In all the following instances, DL could ask for a first sampling:

- New Supplier
- New product or component
- Changes in the product or component design
- Changes in the product material/components
- Changes in the product or component manufacturing process
- Use of new production equipment
- Engagement of new sub-suppliers
- Transfer of the production plant
- After a delivery stop due to serious quality problems.

In order to approve the mass production conditions, the first sampling operations must be performed on the basis of the design and/or the specifications more recently validated and/or approved by DL.
First samples must be entirely produced using serial operational equipment in operational serial conditions.

All the first samples used for the inspection must be picked out from a significant production quantity and must be supplied with a Quality and Conformity Certificate CQC (see point 4.3 SUPPLY) according to the Control Plan, CP (see SUPPLIES) related to the part, that should list all the detected measures of the design or, at least, the significant ones.

6.4 PROCESS QUALIFICATION

Supplier shall qualify own production process according to statistical logic. An appropriate sampling shall be chosen in in order to perform process assessment:

a) sample size shall be large enough to warrant respect of process capabilities (Cpk) required by DL within a statistical confidence interval of 95%.
b) samples shall be picked up with a simple random sampling, in such a manner that they are representative of the variation of the process over a significant time (e.g., 1 or more shifts). According to ISO3534-2:2006, "simple random sampling" means "sampling where a sample of n sampling units is taken from a population in such a way that all the possible combinations of n sampling units have the same probability of being taken".
c) samples should be possibly picked in subgroups (5-9pcs each) so to compare performance of process in short and medium time.
d) measured with an appropriate measurement system (minimum GageR&R$_{PROCESS}$ 30% *).
e) each one sample piece shall be numbered, so to later measure it again in case needed.

("GageR&R$_{PROCESS}$" is defined as the ratio between GageR&R and 6 times the standard deviation of observed production process)*

In order to approve supplier's qualification outcome, DL could require supplier to produce a PPAP (Production Part Approval Process) documents set. The approval by DL is released in good faith at the best know-how level of the time being, after check of documents and samples provided by supplier; however it does not represent implicit approval nor acceptance of any possible not-

conformities affecting the provided documents/samples but passed unnoticed during normal DL check activities.

6.5 Changes Management

Any change to the manufacturing process and/or to the product which may affect the quality of product and/or approved samples itself or impact those parameters and specifications already communicated and agreed in writing with DL, shall be notified by Supplier in writing and in advance before the implementation. Some examples of above mentioned *parameters that may affect quality of goods* include, but not limited to: materials; processes; designs; specifications; production sites/lines; etc.

For changes impacting on production sites/lines/processes, the written change notification shall be issued by Supplier to DL at least twelve months in advance.

For changes impacting only on materials/components, the written change notification shall be issued by Supplier to DL at least six months in advance, and the change actual implementation shall be subject to a prior written approval by DL.

In any of the above mentioned event, DL shall have the right to issue a last time buy Purchase Order (produced by Supplier at original conditions of product and manufacturing) within six months since DL's receipt of the above change notice. Supplier shall accept to deliver such products within eighteen months from the date of the receipt of the last Purchase Order, unless otherwise agreed in writing between the Parties. This shall apply without prejudice of any remedy available to DL by law or by contract.

6.6 Significant Requirements

A significant requirement (e.g.: dimension and tolerance) is a requirement that, if mismatched, could lead to issues on final device like for example: safety issues; reliability issues; conformity to law regulations; limitations to efficiency or to usability or to customer experience; issues during assembling or other production processes; and so on.

Mismatch of one or more significant requirements may lead to 100% sorting or to reject the batch.

Significant requirements are normally visibly marked by DL designer in specifications/drawing (for example: a bubble line around dimension; a "Cpk" stamp; etc.). The meaning of the marking is recalled in the drawing itself. Also requirements with a tolerance range tighter than general one are significant, as well as those characteristics that are significant according to supplier's own know-how. In case there are no significant requirements marked, supplier shall ask DL designer's confirmation before production.

Cosmetic requirements shall be always considered as significant requirements.

7 – SUPPLIES

7.1 HOMOGENEITY OF BATCHES

Supplier shall guarantee the homogeneity of the supplied batches, understood as the uniformity of each characteristic (being it specified or not by DL) among different pieces belonging to same batch, and between different batches. Changes or fluctuation of parameters which might make the supplied goods unfit for their final application into DL products, are not acceptable.

7.2 PROCESS CAPABILITY

Supplier production process shall be able to output parts whose variability distributions is normal (i.e. gaussian) and stable (i.e. free from special causes of variation). Unless otherwise required in drawing or in relevant specifications, significant requirements (see par. 6.6) shall be fit with a process critical capability index of min 1,33 in the long term ($Cpk_{LT} \geq 1,33$); other requirements shall be fit with a process critical capability of min 1,00 in the long term ($Cpk_{LT} \geq 1,00$).

7.3 CONTROL PLAN (CP) REALIZATION

The Supplier must guarantee that his products and materials are compliant to the quality requirements listed in product specifications. So he must establish instructions related to the production test both for product and processes, particularly related to special (critical and/or significant) characteristics.

Those instructions must be listed in a Control Plan (hereinafter CP), implemented and constantly updated.

A CP must be implemented by the Supplier during the living of a product and must be updated to the state of the art, in relation to the requirements that are valid at the moment and during the mass production phase.

The main information that must be specified in the CP are:

- Code and description of the part under CP
- For each supply, number or percentage of units under test
- Details of the performed tests: characteristics and dimensions to be tested/checked and related acceptance range, in order to guarantee product/material conformity during the production process.
- Any information related to possible Not conformity/Claims received.

DL can ask to share the CP and has the right to introduce more checks, mainly as a consequence of possible process/product problems that could arise.

7.4 Controls' management and production of the Conformity and Quality Certification (CQC)

The mass production controls' results, performed by the Supplier following the CP must be detailed on a Conformity and Quality Certification (hereinafter CQC) that must be sent to DL as electronic file.

The CQC must specify:

- Code and description of the part under CQC
- Identification code of the production batch
- Quantity of produced pieces
- Complete description of the used materials and their batch (if they're raw materials, plastic or metal)
- CP steps, the related measures and results PASS/FAIL
- Date and signature

After a first period, in agreement with DL, it's possible to decide to just save the CQC in the Supplier's database, avoiding to dispatch it in every shipment.

DL has anyway the right to request the supplier to send the CQC report within 24 hours from the DL request.

7.5 Relevant usage timings of products

Shelf life of a product is defined as the minimum duration of time starting from its original production date until just before it becomes unfit to be used by DL.

For each ordered product, Supplier shall written notify to DL the *Shelf Life* duration – if any – and related storage conditions. *Shelf life* declared by Supplier shall be reasonable and consistent with third-party applicable Standards acknowledged by DL.

Each product bearing a *Shelf Life* also has an *Expiration Date*, defined as the original production end date plus the *Shelf Life*.

Residual Usage Time is defined as the time left since the receiving date of the product in DL final destination warehouse until the *Expiration Date*.

Unless otherwise agreed in writing, DL is entitled to reject goods received from Supplier with a *Residual Usage Time* shorter than 70% of the original *Shelf Life*.

For those products without an *Expiration Date*, Supplier shall not ship to DL products manufactured earlier than 24 months before.

7.6 Long-term Reliability of supplied products

Supplier shall promptly notify DL before supplying a product with a *lifetime* shorter than 7 (seven) years since the receiving date of the product in DL final destination warehouse. *"Lifetime"* is

defined as the earliest time age within a 95% confidence interval by when max 5% of supplied products have failed

7.7 Identification and Traceability

Batches traceability must be guaranteed by the Supplier, in order to achieve a FIFO material management and for the poor quality batches identification.
All the items delivered to DL must therefore be identified through a label in accordance with DL requirements of "GM_SSM_002_SPS_XX" in last revision issued.
Finished products must be received clean, so without any working residual.

7.8 Packing

When not otherwise specified, the choice of the appropriate packing for the item(s) is let at the Supplier's choice, in accordance with DL requirements of "GM_SSM_002_SPS_XX" and "GM_SSM_007_SPI_XX" in last revision issued.
In specific cases, the packing is decided together with DL, producing a related packing specification instruction.

7.9 Not Conformity detected by the Supplier

If, during the production process, the Supplier finds out some Not Conformity concerning the manufactured goods, it must immediately inform about it DL in writing, specifying the kind of detected Not Conformity, its entity and the countermeasures adopted to solve the problem.

7.10 Business continuity plan

Supplier shall take all the necessary risk-management precautions to ensure a continuous supply to DL and avoid business disruptions. These measures include for example: fire extinguishing systems, redundant equipment, safety stocks, disaster recovery plans, succession plans, etc.

8 – FIELD RETURNS AND CLAIMS

8.1 Quality incoming inspection by DL

DL reserves the right to perform the Quality incoming inspection on the goods received from Supplier, as well as to decide which set of tests to execute in case, without prejudice of the other remedies available to DL (e.g. the right to issue formal Not Conformity Report to Supplier in case unexpected defects then arise during DL production processes or later).

Notwithstanding any contrary provisions, DL reserves the right to oppose any defects to Supplier and claims for the relevant damages, irrespective if a quality incoming inspection is carried out by DL.
Quality assessment and Not Conformity definition could be based on statistical mathematics considerations.

8.2 Not Conformity Management detected by DL

If a Not Conformity is detected, DL will send to the Supplier a Not Conformity Report, specifying:

- Date of detection of the Not Conformity
- Code and description of the item
- Quantity of the not conform units
- Related Purchase Order (if the Not Conformity is detected during the incoming phase)
- Description of the Not Conformity
- Supplier Production Batch (if traceable)
- Decision of DL regarding the not conform pieces (Return to the supplier, Waiver, Reworking)
- Decisions about the products/materials at stock

Upon receiving the Not Conformity Report, the Supplier must answer within three working days (Monday to Friday excluding public holidays), specifying the adopted temporary and corrective actions (or about to be adopted) in order to avoid the problems due to the Not Conformity and its repetition in the future.
If requested, the Supplier must send an 8D Module related to the communicated Not Conformity.
DL reserves the right to charge all of its costs to sort-rework the Product at the current local DL hourly rate plus materials, including but not limited to the cost for initial processing for such Not Conformity equal to five (5) hours of labor at the current applicable DL hourly rate for each Not Conformity Report.
DL has anyway the right to charge the Supplier for all the costs sustained in relation to a claim, in terms of, including but not limited to:

- Internal cost for evaluation and selection of the units (good vs defective)
- Internal cost related to the units scrapped or rejected to the supplier
- Internal cost related to the reworking of the faulty units

9 – ENVIRONMENTAL POLICY

The Supplier declares and guarantees to comply with all the applicable laws in force during the whole production process.
Specifically, the Supplier shall comply with all relevant laws and regulations.

10 – QUALITY RECORDINGS KEEPING DURATION

Supplier will comply with obligation to retain quality documents (e.g.: CQC; control plan; quality records; Cpk; etc.) for five years after the end of the supplying to DL. Documents requiring longer archiving duration will be defined by DL to Supplier, in case. Supplier grants to DL full access to inspection of the documents and/or proper copies upon request and at its charge.

11 – CONTINUOUS IMPROVEMENT OF THE SUPPLIER AND PERFORMANCE EVALUATION

DL goal is to settle a long term co-operation with its suppliers.
DL evaluates, periodically, the quality performance of it Supplier, on the basis of a process-oriented evaluation system.
In this context, DL will evaluate the following results:

- Conformity/Not-Conformity of the supplies
- Number of claims related to the number of the supplies

DL has the right to involve the Supplier in order to develop together continuous improvement activities.

12 – COMMUNICATION

Every written notification regarding Quality topics (including but not limited to: Not Conformity Reports; requests of corrective actions; etc.) may be sent by DL to Supplier through electronic communication, without prejudice of the other means available to DL as per agreements with Supplier. Unless otherwise notified in writing by Supplier, DL shall use for this type of notifications the ordinary email address used for sending the Purchase Orders.

Even though some written communication are in local languages, English is the standard language for written communication and shall prevail over any other language version of the same document.

13 – MISCELLANEOUS

Any breach of these "Supplier's Quality Guidelines" and/or any relevant laws, regulations, directive applicable to environmental, product, safety, health, labor, integrity and security obligations of the Supplier and its products shall be considered as a material breach and shall imply a defect of the product, allowing any appropriate remedy to DL, as per the applicable Datalogic T&C of Purchase.

Please if you have any question, please contact your local Supplier Quality Engineer (SQE).

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