SL NO	Distribution List
1	**All GLODESI Employees**
2	**ALL SUPPLIERS**

Date	Revision	Reason for change	Prepared by	Reviewed by	Approved by
01.08.2022	E	minor changes made on section 6 supplier performance rating	Akash	Sampathu	Sukesh.k
30.12.2020	D	Section 12 added	Sukesh.k	Sampathu	Pavan VVR
03.10.2019	C	Revised	Sukesh.k	Sampathu	Amar Reddy
30.11.2017	B	Update on Sl. No. 8,9,11,12	Sukesh.k	Sampathu	Amar Reddy
29.06.2016	A	Initial release	Ravi.B.H	Venkatachalam	Sethuraman

1. Scope

This procedure describes the minimum quality system requirements for suppliers.

2. Purpose

The purpose of this procedure is to provide for a uniform procedure and to define responsibilities associated with the process. This document shall be provided to suppliers.

3. Responsibility

Overall responsibility: All suppliers.

All suppliers will be audited for implementation of these requirements as per the audit plan. –

Responsibility: Head Quality, Glodesi and Head –SCM, Glodesi

4. Applicable Documents

Supplier assessment rating procedure:

5. Applicable Forms

Supplier Assessment form:

Supplier performance rating form:

Supplier Registration form:

6. Procedure

All suppliers must be certified to ISO9001/AS9100, apart from the certification, supplier

Should follow the requirements given in this procedure.

1. **Receiving Inspection**
    a. Verify with respect to requirements in Purchase Order
    b. Test report / CoC (Certificate of Conformity) is required for each material
    c. Chemical composition of material to be checked in labs, if manufacturer's report is not available. (Manufacturer's report must be traceable to physical identification on the material.) Third party labs used for checking the raw material must be NABL approved.
    d. Dimensional inspection if any (if they get partial manufactured parts from their suppliers) must record the reading using check list.
    e. Appropriate sampling used if necessary (which must be accordance with IS/Mil standards) we prefer to have IS2500 with Level2 (general level).
    f. If any special process is being done, then supplier to enclose special process validation & standards to be mentioned for which the validation is done.

2. **Storage and Identification**
    a. All material / components must have identification at all times; starting from receiving till it is shipped and delivered to customer.
    b. Whenever material is cut from stock it shall be ensured that material is not cut from the identified end.
    c. Route card/ Job card must carry the batch number of the material used.
    d. All Shelf life items are to be stored in Environmental conditions mentioned in drawing / specifications of the particular products.
    e. During machining, last product to be identified always in each batch before supply.

    Route cards: must contain the details of machine used, Equipment used for measurement, operator details (who has done the operations & inspection) & Traceability of the material used i.e. heat number/ lot number / Serial number

3. **Traceability**
    a. All material must have end to end forward and backward traceability.
    b. Forward traceability:
    The supplier must be able to establish beyond doubt that whatever material received at the supplier's stores was used in which all products and ultimately shipped to which all customers.
    c. Backward traceability:
    Once the product is made and delivered to customer, on request, the supplier must be able to establish which all material and processes were used in that particular batch/ serial number of the product.

d. Serial number/ Batch number
In order to maintain traceability it is mandatory that all product supplied to GLODESI are either serial numbered or at least batch numbered.
A batch is the lot of production which is processed at the same time under the same operating conditions.

4. Product Realisation

a. Review of requirements

Supplier shall put a process in place and fix responsibility to review the GLODESI requirements as mentioned in Purchase Order and other quality requirements. All requirements and all associated specifications must be thoroughly studied. These requirements then shall become part of the Process plan and Quality Plan of the supplier.

b. Process Plan and Control Plan

Control plan and process plan shall be made in such a way that no requirement of GLODESI is person/ memory dependent.
Supplier shall submit Control plan to GLODESI for approval.

Control Plan: A control is a document which lists all the processes step by step and identifies its specification / acceptance criteria, the reference method to be used and its associated spec. reference, it also lists with what tool this will be performed and with what measuring/ test equipments the output of the process will be checked including the frequency of check and samples size, if applicable. It further lists, in case the result is not found within the specs. What action shall be taken.

Process Plan: It is a document cum record. The process plan lists the process, step by step, and has provision for sign off by Operator and QC inspector. It lists in-process inspection at appropriate place.

c. In-process inspection

Supplier shall plan in-process inspection considering 1. All the processes, output of which cannot be inspected at subsequent stages and 2. To make sure that non-conformances are identified at critical phases of operation so that effect of non-conformance does not affect delivery schedule and cost of the project.

In-process inspection steps shall be part of process plan and control plan.

GLODESI reserves the right to include mandatory inspection points at appropriate stages, which will require supplier to inform GLODESI in advance of the impending

inspection point/s and hold the process for inspection, unless otherwise waived by GLODESI in writing.

d. Final Inspection and release

Final inspection shall be done as per pre-defined check list. This check list shall not only contain the drawing dimension requirements but shall also contain requirements in "notes" given in the drawings, surface roughness requirements mentioned on the drawing and the material. It shall also cover requirements given in the associated specs. and workmanship standards. It shall also contain any specific requirements such as packing spec, and also labelling and shipping requirements.

A competent person, independent of mfg. team of the supplier shall review the final product and its associated documents and ensure that all requirements have been complied with before releasing the product for shipment. Release of product must be signed off.

Traceability Requirements in Final inspection report to consists of,

Batch Number of the production / Serial number of the part.

Raw Material Traceability – Lot number/heat number/batch number etc..

Traceability for Anodising/Passivation/conversion coating – Heat number/Batch number etc.

Documentation requirements

1) Final inspection report – Covering Critical dim & visual inspection as per Drg/QIP.
2) Raw Material Test report from Material supplier / 3rd party test report(Supplier should be NABL Approved)
3) Salt spray test report for – Anodizing/Passivation/conversion coating(Test should as per test plan provided by us)
4) Wet tape test report for conversion coating
5) Test report for any other test specified in the drawings
6) In process inspection report.(which should cover first piece & Periodic inspection details)
7) Incoming inspection report for the raw material purchased.

e. Calibration

i. **Master list:** Supplier shall establish and maintain a master list of instruments which need to be calibrated. The master list shall contain the following information as a minimum:

1. Unique sl. No. of the instrument
2. Description of the instrument
3. Make of the instrument
4. Location of the instrument
5. Least count and accuracy of the instrument
6. Name of the calibrating agency
7. Frequency of calibration
8. Date of Calibration
9. Due date of next calibration
10. Qualification of person / Master instrument traceability if calibration done in house at supplier place.

ii. Frequency of Calibration

Supplier shall assign frequency of calibration for each instrument. The calibration frequency shall be based on the frequency of use, environment in which it is used and handling conditions of the instrument.

In between if any damage found to instruments calibration needs to be done.

iii. Assign Responsibility

Supplier shall assign a person who is responsible for calibration activities, this person shall also be responsible for making sure that concerned persons are informed in advance of the due date of calibration and makes sure that instruments are sent for calibration in time.

iv. Out of calibration condition

If during calibration or during any other activities it is found that a particular instrument is out of calibration, then following must be done:

1. Quarantine the instrument.
2. Analyse whether products already supplied to customer can be out of tolerance.

3. If the above is yes – then trace all the products which were inspected/ produced using this instrument and send a re-call/ alert note to the customer.
4. Mutually agree with customer to provide replacement/ rework.

f. Selection of IMTE

Supplier shall use an instrument for measurement / test which is in general 10 times better accurate than the tolerance requirement. Supplier shall not use any instrument which is less than five times better than tolerance requirements, unless otherwise approved by GLODESI in writing.

g. Non-Conforming article Control

Non-conformance: A condition where in the observed values are not as per specification/ requirements.

Once a non-conforming product is found at any stage of manufacturing, the article shall be identified suitable and placed in a quarantine area until the disposition is taken.

Authorised persons shall decide on the disposition of the product, suppliers are permitted to take the following decision:

i. Rework to specification using standard rework method. (A standard re-work method uses the processes as used in normal production of the item.)
ii. Scrap

Suppliers, who are not design responsible, are not permitted to take – "Use As Is" decision, they shall contact GLODESI for further instructions.

If Non-conformance identified by GLODESI after supply of material, the product would be scrapped or rework disposition will be given which needs to be completed immediately & supplied.

Quality Alert: If you find any defect of a particular lot after the parts has been shipped to GLODESI, information to be communicated on immediate basis through a quality alert & appropriate action plan needs to taken for sorting/rework/scraping of defective parts, quarantine the material if any available at WIP/Stores or transit for similar defects & take action.

Corrective Action

Supplier shall establish and maintain a system of performing root-cause analysis and taking appropriate corrective actions to eliminate the root cause.

Records of root cause analysis and corrective action must be kept.

h. Customer Complaint handling

GLODESI will formally inform the suppliers of any non-conforming condition detected at GLODESI or at its customers.

Any customer complaint shall be dealt with utmost urgency and preliminary response shall be provided within 24 hrs of receipt of the complaint. A formal response identifying the root cause and corrective action plan shall be provided within 10 days of receipt of the complaint. If it is not possible to respond within this time, the supplier shall request GLODESI for extension of the date of formal response with justification.

Verbal response is not acceptable.

i. Record Retention

Supplier shall retain all quality records for a period mutually agreed between GLODESI and supplier. If it is not mutually mentioned it should be for minimum of 8 years from the date of acceptance of products from GLODESI. The method of storage shall be appropriate and suitable with the storage period. The storage shall provide for easy and fast retrieval of the records.

The following are part of quality records:

i. Purchase Order
ii. Incoming inspection records
iii. Material test certificates
iv. In-process and Final inspection records/FAI documents
v. Process records / Assembly records
vi. Inspection records
vii. CoC and test reports of Raw material / Components
viii. Deviation records

ix. Traceability records

K. Preventive maintenance of Machine.

Supplier shall maintain a master list of machines with proper identification on the machines, each machine should have preventive maintenance plan covering Daily/weekly/Monthly maintenance requirements with effective record control for the same.

L. Customer Property

Supplier shall maintain a list for the items provided by GLODESI example machine, Equipment, material, documents & Drawings, if any damages or loss of these items must be informed to Glodesi, if any changes in the drawing rev, supplier should return back the old rev drawings & there master must be updated accordingly.

Periodic inspection to be carried out for customer supplied tools or samples etc.

M.First Article Inspection

Supplier shall plan & conduct the FAI samples, a minimum of 5 parts will produced & checked for the 100% dim including Notes provided in the drawing, any testing such as plating thickness, Salt spray test, Pencil hardness test, etc.. , GLODESI has the right to participate in the FAI trail & a joint inspection, supplier should submit the FAI samples a along with COC, Dim report, raw material test reports, plating thickness reports, Salt spray test reports, process plan/Route card/ process control records & Traceability records. GLODESI will verify FAI & parts for dim check etc.. & give an approval for the further production.

N. Packaging Requirements;

Supplier should follow GLODESI packaging specifications, if specifications not available, supplier should submit a plan for packaging, and Glodesi will review & approve the packaging accordingly. Even after approval Supplier will have responsible to accept product damage if any during transit from supplier place to GLODESI.

4.1 Special Process Controls

The suppliers shall follow below the instructions who is performing special processes

Like Heat treatment, Magnetic particle Inspection, Anodizing, Passivation, conversion

Coating, Epoxy primer and top coat etc.

1. Metallurgical and chemical processing shall be accomplished under controlled Conditions by the supplier in accordance with exact work instructions. Supplier can only process parts at customer approved sources only.

2. Processes, Equipment, and personnel shall be subjected to strict qualification and/or Certification requirements and /or re-certification as conditions dictate.
3. Metallurgical and chemical process verification shall be conducted by the supplier to Ensure consistent compliance to engineering drawing and specification requirements.
4. Suppliers shall submit their CoC's for every consignment to GLODESI.

5. Responsibility of Quality

Any inspection by GLODESI or its customers or its appointed inspection agency does not absolve the supplier of responsibility of quality. Supplier shall take complete responsibility of any quality issue aroused later.

6. Supplier Performance Rating

GLODESI has a system of rating the performance of suppliers regularly. The following parameters are considered while arriving at performance rating

a. Quality of products supplied
b. On time delivery
c. Response time ,clarity in communication, document accuracy and initiative for cost reduction

The supplier rating will be computed once in Six months and shall be provided to suppliers. Suppliers with poor performance shall take corrective actions and provide written response to GLODESI.

7. Right of Access

Supplier shall provide access to its premises where work related GLODESI products are performed, to GLODESI and its customers and third party inspection/ audit agencies / Statutory/ Regulatory with minimum of one day notice.

8. Right to conduct audit

Supplier shall permit audit by GLODESI or its customers or their appointed third party. GLODESI undertakes to inform in advance of any such audits and conduct audit on mutually agreed date and time.

9. SUPPLIER RESPONSIBILITY TO AVOID COUNTERFIET PARTS.

All suppliers are required to take the following actions:

1. Implement and enforce a written Counterfeit Parts Prevention and Control Plan designed to preclude, detect, and remove any counterfeit components/parts from all deliveries to GLODESI.

As an integral part of this plan, the supplier shall maintain a database of counterfeit components/parts received and applicable source data.

2. GLODESI requires that suppliers review for counterfeit component/parts avoidance, detection, migration and disposition, as best practice review and confirm internal procedures are appropriate and effective.

3. Actively cooperate with GLODESI in the implementation of this policy to eliminate counterfeit components from all products.

4. Ensure this policy and the expected actions are communicated to quality and business leaders throughout your company and your suppliers and their sub-tiers.

10. USE OF NON-AUTHORIZED SUPPLIERS/DISTRIBUTORS/BROKERS

The use of Non-Authorized suppliers/Brokers/ distributor without express written consent by GLODESI is hereby strictly prohibited. Should business reasons (obsolescence, cost, lead time, customer commitments, etc.) dictate the use of such suppliers, the following process is required:

1. Supplier shall notify in writing the Purchasing Representative at GLODESI of a requirement to utilize a non-authorized source.

2. Supplier shall provide specific details regarding the suggested source, the known details on component pedigree, date code, and use of this suggested verification/test plan for component Verification.

2A. parts not available through a OCM, OEM or authorized distributors for such OCM/OEM may be procured from a Broker without C of C only after GLODESI approval and Component authenticity verification per Component Verification section And Testing/Analysis Table.
Broker/distributor shall have an active counterfeit part detection program. GLODESI may review relevant databases to evaluate broker's history of supplying counterfeit components prior to approval.
Suppliers shall notify the appropriate GLODESI buyer to request Design activity for component replacement or re-design.

3. Supplier shall provide all details in writing on a supplier request form document which includes a customer sign off and approval section.

4. GLODESI shall review the supplier request and will either approve, reject, or return with comments of requested changes including but not limited to additional or alternative verification requirements.

Visual inspection, part marking inspection, and C of C inspection shall be included as critical verification steps in all such instances.

5. Should GLODESI provide approval, the supplier shall provide Certification of Conformance, verification documentation, and any test results promptly to GLODESI.

6. Supplier is not approved to deliver product(s) to GLODESI until signed approval is provided and certification of conformance and test results are provided and confirmed to be compliant to the details agreed upon in the approved supplier request form.

11. General conditions.

a. For Superseded, EOL (end of life), Obsolete parts (SEO), seller shall notify buyer with a Written notice in advance of 3 months in addition to the lead time of the SEO parts. For EOL parts seller to provide & ensure LTB (Last Time Buy) for GLODESI

b. Parts supplied shall be free of Foreign Object Debris (FOD). Follow the FOD prevention Methods.

c. Supplier shall have process of counterfeit parts prevention and detection in their Supply chain,

d. Supplier shall ensure the awareness among its employee on their contribution to Product or service conformity

e. Supplier shall notify and get approval from Glodesi, on any change in the Approved process, products, including change in their external supplier or location of Manufacturing.

f. Supplier shall ensure the awareness among its employee on the importance of ethical Behaviors.
g. Supplier shall ensure the awareness among its employee on the product safety Requirement with in supplier organization and report if there is any product safety Concerns identified.

h. Ensure the Qualified work force with necessary training and competency.

i. Ensure the flow down of requirements to their sub supplier including customer Requirements.

j. Supplier should ensure that all material supplies are free of conflict minerals (i.e. raw materials from conflict-affected and high-risk areas). Below mentioned information related to conflict material can be used as guidelines, however supplier needs regularly verify international conventions, regulations in this regard.

What Materials are involved in Conflict of Minerals,
- Tungsten
- Tantalum
- Tin
- Gold

From where it should not be bought
- Democratic Republic of Congo (DRC)
- Republic of Congo
- Angola
- Burundi
- Central African Republic

- Rwanda
- South Sudan
- Tanzania
- Uganda
- Zambia

k. Supplier should promptly ensure to resubmit the Quality management certification upon Renewal and in case of certificate withdrawal same needs to be notified to Glodesi immediately.

12. Prevention of Bribery & Corruption:

GLODESI rejects and prohibits all forms of bribery and corruption. GLODESI expects its suppliers and contractors not to offer, promise or give a bribe or other undue advantage, either directly or indirectly, to GLODESI and its employees, representatives or agents. Failure to comply with this policy, may be grounds for disciplinary actions, up to and including dismissal or termination of contract. GLODESI will reconsider its relationship with those business partners that attempt to bribe its employees, representatives, or agents.