

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK (LIGHT VERSION)

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-26-01-000104
DATE : 15/01/2026

Protection des informations : Cocher la case :

- ☒ Le présent cahier des charges ne contient aucune information de niveau « Diffusion Restreinte » ou « classifiées » ou relevant de la protection du potentiel scientifique et technique de la nation, ce qui permet la mise en ligne de ce document sur la plate-forme dématérialisée du CEA,
- ☐ Le présent cahier des charges contient des informations Diffusion Restreinte (DR) ou relevant de la Protection du Potentiel Scientifique et Technique de la Nation de ce fait la mise en ligne sur la plateforme dématérialisée du CEA de ce document **est possible via un conteneur chiffré ZED !**
- ☐ Le présent cahier des charges contient des informations classifiées, de ce fait **la mise en ligne** sur la plate-forme dématérialisée du CEA de ce document **est strictement interdite**.

Diffusion	
External	XFab
Internal	
By email as an attachment Hard copy	

Name	Position	Entity	Date	Signature
Author(s)				
LE MAITRE	Author, in charge of IC design	LETI/DOPT/SNAP/LISE		
SIMON Julia	Device Responsible	LETI/DOPT/SNAP/LITE	NA	NA
ALLEGRE Jules	Technical referent RIF	LETI/DOPT/SNAP/LITE	NA	NA
Auditors				
GASSE Adrien	Project manager	LETI/DOPT	NA	NA
BILDE Jeremy	Device integration Responsible	LETI/DOPT/SNAP/LISE	NA	NA
HAMEAU Frederic	CMOS Design Responsible	LETI/DTIS	NA	NA
ACCART Thibault	Ingénieur qualité	LETI/DPFT	NA	NA
Approvers				
BALLAIN Thierry	Officier de Sécurité	Direction du Centre Site de Grenoble		
FELLOUS Cyril				
CLEMONT Delphine				
GAUGIRAN Stéphanie	Service Manager	LETI/SNAP		
CONSONNI Marianne	Laboratory Manager	LETI/DOPT/SNAP/LISE	NA	NA

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699

DATE : 15/01/2026

CONTENTS

1 PURPOSE	5
2 PERFORMANCE OBLIGATION	5
3 APPLICABLE DOCUMENTATION	5
3.1 GENERAL	5
3.2 REFERENCE DOCUMENTS	5
4 TECHNICAL SPECIFICATION	6
4.1 PROCESS DESIGN KIT	6
4.2 BASE WAFER SUBSTRATE	6
4.3 TECHNOLOGY NODES	6
4.4 PROCESS MATURITY	6
4.5 LAYER STACK	6
4.6 DESIGN RULE COMPATIBILITY	7
4.7 DENSITY AND DUMMIES	8
4.8 PERIFERY AND FIELD SIZE	8
4.9 WAFER MAP SHIFT	8
4.10 WAFER TEST	9
4.11 WAFER PROPERTY OF HYBRID BONDING	9
5 SCOPE OF BENEFITS	9
5.1 MINIMUM VOLUME	10
5.2 OPTIONAL VOLUME	10
6 DELIVERABLE	10
7 WAFER ACCEPTANCE	11
8 OPERATING PROCEDURES	11
8.1 TECHNOLOGICAL ENVIRONMENT	11
8.2 CONTRIBUTORS AND THEIR RESPECTIVE ROLES	11
8.2.1 CEA Grenoble	11
8.2.2 Supplier	11
8.3 RELATIONS WITH CEA GRENOBLE	11
8.4 DELIVERY REQUESTS	11
8.5 ACKNOWLEDGING THE RECEIPT OF DELIVERY REQUESTS	12
8.6 COMPLIANCE AT RECEIPT	12
8.7 CERTIFICATE OF ANALYSIS	12
8.8 GUARANTEE	12
8.9 DELIVERY TIME	13
8.10 DELIVERY CONDITIONS	13
8.11 INTERPRETING THESE SPECIFICATIONS	13
9 INFORMATION AND CONSULTANCY - OBLIGATION TO PROVIDE INFORMATION	13
10 GENERIC RESOURCES	13
11 SUSTAINABLE DEVELOPMENT	14
12 QUALITY	14
12.1 PART IDENTIFICATION AND TRACEABILITY	14
12.2 WAFER COMPLIANCE FOR RE-INTRODUCTION INTO CONTRACTOR FAB	14
12.3 SECURITY	14
13 EXECUTION CHECKS	15
13.1 SERVICE INSPECTION	15
13.2 MONITORING SERVICES AND ACTIVITY REPORT	15

Glossary

ADR: European agreement on the international carriage of dangerous goods by road
BHT: High technology building
BSDI: Industrial waste record
BT: Transport office
CACES: Safe operating proficiency certificate
Spec.: Specifications
CEA: Commissariat à l'Energie Atomique et aux énergies alternatives (CEA - French Alternative Energies and Atomic Energy Commission)
CEA Grenoble: CEA office in Grenoble
CI: Site manager
CRCV: Radiological testing of vehicle loads
CS: Security correspondent (information protection)
CSP: Clean room consumables
CT: Technical correspondent for the contract
DATI: Alarm device for lone workers
DIA: Internal purchase request
DIB: Ordinary industrial waste
DOPT: Département Optronique et PhoTonique (part of LETI)
DPEI: Département Projet, Exploitation et Ingénierie
DPFT: Département des PlateFormes Technologiques (part of LETI)
ELPS: Local first aid teams
PPE: Personal Protective Equipment
FDS: Safety datasheets
FEFO: First Expired, First Out
FIFO: First In, First Out
FLS: Local Safety Unit
CAPM: Computer Aided Production Management
HCT: Collective Working Hours (from 7:55 AM to 4:35 PM)
HNO: Non-Working Hours (from 8:30 PM to 6:00 AM)
HO: Working Hours (from 6:00 AM to 8:30 PM)
ISI: Site safety engineer
LBB: End-to-End Link
LPE: Company access pass
LETI: Laboratoire d'Electronique et de Technologie de l'Information
MINATEC: Innovation campus for Micro and NAnoTEchnologies
PC 41: Control station for building 41
PP: Prevention plan
PPS: Simplified prevention plan
PQP: Special quality plan
RDO: Order distribution network
SFETN: Service Facilities Exploitation et Travaux Neufs (part of DPFT)
SMA: Purchasing Service



If this symbol appears in the margin of the document, close attention will be paid to the point(s) in question during the analysis of the proposals and throughout the service.

1 PURPOSE

These Specifications define the procurement conditions for 200mm CMOS wafer with interconnect network for CEA Grenoble under a contract based on order forms.

200mm CMOS wafer with passive interconnect network are hereafter referred to as the "Supply wafer".

Under this contract, the CEA will issue successive delivery requests to the supplier by e-mail. The supplier will then confirm the delivery date to the site according to the terms of the contract by e-mail.

These Specifications define the characteristics of the needed CMOS base interconnect wafers provided by a foundry (i.e the provider), for CEA- project related to optical communication and display.. The wafers supplies are destined to be used for 3D assembly with a GaN optical integrated circuit process, and must enable the usage of 4 level metal layers (Back-end-of-line, BEOL) without active device (Front End of Line, FEOL). GaN Optical integrated circuits (OIC) are fabricated at CEA.

The objective of the final product serves two domains

- The demonstration of LETI GaN technology in the field of optical communication, including emitting device and receiving device
- The demonstration of LETI GaN technology in the field of display

2 PERFORMANCE OBLIGATION

According to the contract based on order forms for the supplies described in these Specifications, the supplier is bound to a performance obligation and must deliver the supplies in accordance with the agreed provisions.

3 APPLICABLE DOCUMENTATION

3.1 General

The detailed list of documents included in this chapter is not exhaustive, and is intended to identify the main documents applicable to the services described in these Specifications. CEA Grenoble will update the list as often as necessary in compliance with security rules, changes to regulations and the supplier's recommendations as part of the monitoring of technological and regulatory developments.

3.2 Reference documents

The administrative order for the site, CEA safety instructions and circulars apply on the CEA Grenoble site, particularly the following texts:

- General purchasing conditions;
- Internal rules at CEA Grenoble.

These documents can be viewed on-site or forwarded on request. The supplier must inform CEA Grenoble of all changes to regulations in the fields covered by these Specifications and any inherent effects on the contract.

4 TECHNICAL SPECIFICATION

CEA-LETI's basic requisites in terms of 200mm interconnect network are the following.

4.1 PROCESS DESIGN KIT

The supplier must supply to the CEA LETI the process design kit enabling design of interconnect network. It includes full access to targeted technology description, including:

- Design Rules Manual with all design rules and process options
- BEOL Stack description, including Metal and dielectric property (resistivity, permittivity)
- Reliability rules
- Technology files for EDA tools (Cadence Virtuoso and Calibre DesignRev, and Klayout)
- Design Rules Checks technological file for Siemens Calibre mmDRC
- Dummies Generation technological file for Siemens Calibre mmDRC

4.2 BASE WAFER SUBSTRATE

The interconnect network must be built above low resistivity 200mm Si wafer in 100 crystal orientation, should be isolated from the surface of the substrate.

4.3 TECHNOLOGY NODES

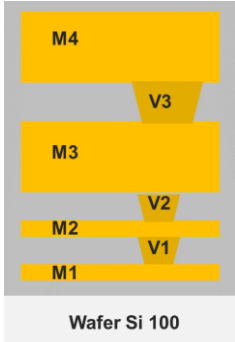
Although the present document specifies only metal interconnect layers, the CMOS technology with which the interconnect layers must be fabricated should be at least CMOS 130nm, or more advanced nodes (CMOS 65nm, CMOS 45nm etc).

4.4 PROCESS MATURITY

The wafer must be fabricated using a highly reproducible process over TRL8 in the scale of Technology Readiness Level, which correspond to a complete and qualified system.

4.5 LAYER STACK

In order to meet RF requirements, the metal stack should be composed of the following layers and thicknesses

Layer (1)	type	Thickness (μm)	Material	Resistivity mOhm/sq	Dielectric permittivity (2)	
M1	Thin metal routing < 0.5μm	<i>Please report to full specification document</i>	Cu		<i>Please report to full specification document</i>	
V1	Via from M1 to M2		Cu			
M2	Thin metal routing < 0.5μm		Cu			
V2	Via from M2 to M3		Cu, AlCu			
M3	Thick metal routing > 3μm		Cu, AlCu			
V3	Via from M3 to M4		Cu, AlCu			
M4	Thick metal routing > 3μm		Cu, AlCu			

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699

DATE : 15/01/2026

- (1) The layer names are purely generic names and are not related to any known technological stack
- (2) This does not include barrier layer

The last material must be a dielectric layer that is fully encapsulating the last metal layer, except at specific place needed for wafer testing.

The alignment of the supplier's proposal with the specifications of this stack is mandatory for the offer to be considered a valid candidate.

4.6 DESIGN RULE COMPATIBILITY

The general rules must respect the following:

- grid $\leq 0.01\mu\text{m}$
- metal routing at 0° , 90° or 45° or 135°

In order to be compatible with the design of GaN OIC, the following design rules must be accepted. This table does not include space with width dependency or more advanced rules generally used in a Design Rule Manual. The appreciation of the compatibility with the CEA-LETI GaN OIC will be let at the judgement of CEA technical experts.

Layer	Rule	Value(μm)
M1	Minimum M1 width	<i>Please report to full specification document</i>
	Minimum M1 space	
	Maximum M1 width	
V1	V1 size	
	V1 spacing	
M2	Minimum M2 width	
	Minimum M2 space	
	Maximum M2 width	
V2	V2 size	
	V2 space	
M3	Minimum M1 width	
	Minimum M1 space	
	Maximum M1 width	
V3	V3 size	
	V2 space	
M3	Minimum M1 width	
	Minimum M1 space	
	Maximum M1 width	

The alignment of the supplier's proposal with the design rule compatibility is mandatory for the offer to be considered a valid candidate.

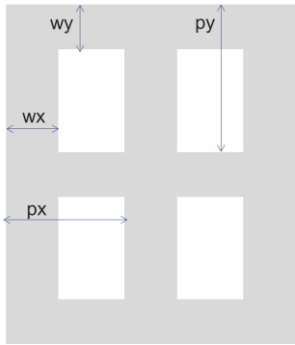
The CEA-LETI design of GaN OIC is relying on several metal mesh that should be compliant with the design rules. Those meshes are defined in the following table.

Layer	wx	px	wy	py
M1	2.1	6.25	2.1	10.84
M2	2.1	6.25	2.1	10.84
M3	2.1	6.25	5.71	10.84
M3	2.1	12.5	2.1	10.84

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699
DATE : 15/01/2026

M4	2.1	6.25	5.71	10.84
M4	2.1	12.5	2.1	10.84
M4	2.1	6.25	2.1	5.42



The diagram shows a 2x2 grid of squares. The width of each square is labeled 'wx' and the height is labeled 'wy'. The pitch between the centers of the squares is labeled 'px' (horizontal) and 'py' (vertical).

4.7 DENSITY AND DUMMIES

The supplier should deliver a dummies generation kit (or tiling kit) to be used with Siemens Mentor mmDRC tools, that will produce dummies shapes to fulfil density requirements.

4.8 PERIFERY AND FIELD SIZE

The CEA-LETI design field must be surrounded by an inner periphery ring of 150µm. The supplier outer periphery is expected to be 60µm or less.

The supply wafers must be compatible with the following table (all dimension in µm).

Design field	20580 x 20580
Design field + CEA-LETI periphery	20880x20880
Full circuit with foundry periphery	21000 x 21000
Photo repetition pitch	21000

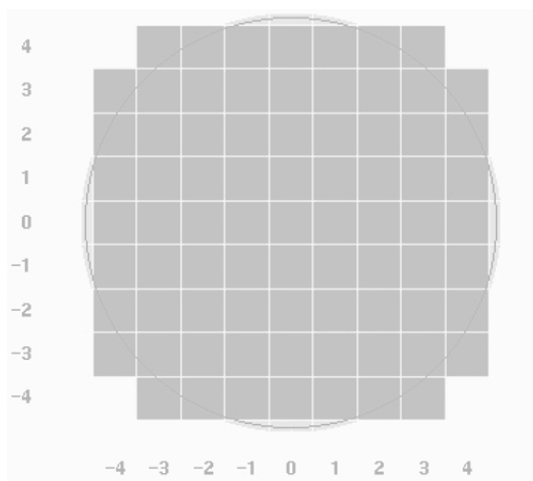
The compatibility of the supplier's proposal with those specification is mandatory for the offer to be considered a valid candidate.

CEA-LETI will have in the last metal layer alignment marks and SPM structure in the periphery area. Those structures require no-dummies area and may not be fully compliant with design rules, but exceptions will be waived. Positions of supplier alignment marks with respect to these marks will be discussed to fulfil minimum distance in between alignment marks to avoid interferences.

4.9 WAFER MAP SHIFT

If needed, **the supply wafers must be compatible with a wafer-map shift of zero.** In this configuration, the centre of the middle die aligns with the center of the 200-mm wafer.

The wafer map includes process on the whole wafer surface including edge dies.



4.10 WAFER TEST

Unless stated otherwise by CEA LETI at the order request, the metal layer should be tested at the wafer foundry to detect open, short, assess the continuity and assess resistivity of the metal, and permittivity of the dielectric. To ensure bonding yield of the subsequent process, CEA-LETI may require testing of a selection of wafers from the batch, leaving the remaining wafers untested.

4.11 WAFER PROPERTY OF HYBRID BONDING

The wafers will be stacked using a 3D integration process with a GaN optical IC, and therefore must fulfill planarity requirement. Those parameters should be checked by CEA-LETI at wafer acceptance step.

Parameter	Value
Thickness of the last passivation dielectric layer	<i>Please report to full specification document</i>
Bow / Warp max	
Topography	
ICQ defectivity	

The supplier's proposal must be compatible with those specifications.

5 SCOPE OF BENEFITS

The provider undertakes to carry out all the services in accordance with the aforementioned specifications. The provider shall in no case undertake any service other than those defined in the specifications without the prior written consent of the CEA-LETI.

The Services specifically described in the specifications referred to in Articles 1 & 2 of this specification shall comprise a firm phase and few options which shall be organized as follows.

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699

DATE : 15/01/2026

5.1 Minimum Volume

The present document specifies the supply of one batch of 25 wafers, including the mask creation for the 4 level of metal and 3 level of via.

Core request	1 full mask set 1 batch of 25 wafers	2026
--------------	---	------

5.2 Optional Volume

Additionally, CEA-LETI may request additional masks and wafer batches between 2026 and 2030 (a four-year period). The current specifications optionally define additional mask sets, batches of 25 wafers, and individual masks for one of the four metal levels and three via levels, in case a mask correction is required for a new wafer batch. The mask set or individual masks will not be delivered to CEA-LETI but will be used by the supplier for the fabrication of new wafer batches.

Option	Description
Option 1	Full mask set (7 masks)
Option 2	Full mask set (7 masks)
Option 3	Full mask set (7 masks)
Option 4	Full mask set (7 masks)
Option 5	1 batch of 25 wafers
Option 6	1 batch of 25 wafers
Option 7	1 batch of 25 wafers
Option 8	1 batch of 25 wafers
Option 9	1 batch of 25 wafers
Option 10	1 single mask
Option 11	1 single mask
Option 12	1 single mask
Option 13	1 single mask
Option 14	1 single mask
Option 15	1 single mask

6 DELIVERABLE

The CEA will issue an order under the contract based on order forms in this respect, and will indicate the specific items required on the quote request.

Task	Deliverable	Expected delivery time
IC design kit	The supplier will deliver the IC design kit at the order.	< 1 week after order design
Mask set report	Report including all the data base verifications performed on the mask set by the Provider.	1 week after maskset database delivery by the CEA
Wafers manufacturing and delivery	Report on process lot technology parameter results on request, manufacturing results including all the controls performed at the different production steps. The comparison of all of the data vs. the technology specifications in a standard integration	3 months after verification report is completed

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699

DATE : 15/01/2026

	flow will be also provided by the contractor upon request The contractor will do its best efforts to recover the technology specifications from batch to batch.	
Wafer report	The supplier must supply report with: <ul style="list-style-type: none">• n and k value of dielectric for ellipsometry thickness requirement• Thickness of the last passivation layer• Thickness of the last metal• Bow/warp of the wafer	At the time of wafer delivery

7 WAFER ACCEPTANCE

The parameters described in section 4.11 will be checked by CEA-LETI at wafer acceptance step. Any major shift with respect to these specifications will jeopardize the yield of subsequent process at LETI, therefore the wafers will be rejected.

8 OPERATING PROCEDURES

8.1 Technological environment

LETI carries out R&D in micro and nanotechnologies. It can boast its own clean rooms rated between ISO3 and ISO8 (as per standard ISO 14644-1), laboratories and related areas (basements, production units, corridors, tertiary premises) for this purpose.

Clean rooms are used at all times thanks to alternating user shifts.

8.2 Contributors and their respective roles

8.2.1 CEA Grenoble

- LETI/DPFT/SFETN monitors technical aspects of services. The Technical Correspondent is designated for this purpose.
- The Purchasing Service of CEA Grenoble monitors commercial aspects of the services provided by the supplier.
- The Environmental Health and Safety Unit is the priority contact for all safety aspects (e.g.: Safety datasheet, PPE, etc.).
- The Quality Unit monitors quality aspects of the services and supplier documents. The Quality Unit is in charge of monitoring anomalies, programming audits and the associated improvement actions.

8.2.2 Supplier

The supplier will provide the services defined in these Specifications.

8.3 Relations with CEA Grenoble

The supplier will designate a priority correspondent, who will report directly to Technical Correspondent for the monitoring of technical aspects.

The supplier will provide CEA with an e-mail address and a telephone number for the purpose of sending delivery requests for Supplies.

The supplier must immediately report any type of anomaly, incident or accident which occurs during the services to the Technical Correspondent.

The supplier may be required to contact users to organise some of the services defined in these Specifications. The supplier must inform the Technical correspondents of these contacts.

8.4 Delivery requests

SPECIFICATION TO SUPPLY 200MM CMOS WAFER WITH PASSIVE INTERCONNECT NETWORK

N° Chrono : DRT-LETI-DOPT-SNAP-LISE-25-11-002699

DATE : 15/01/2026

The CEA will send successive delivery requests to the supplier by e-mail, as required to meet its needs under the contract based on order forms.

These delivery requests are assigned their own number and the reference of the contract based on order forms.

The supplier can only deliver the Supplies after receiving a delivery request from the CEA, indicating the following items:

- the reference of the contract based on order forms,
- the number of the delivery requests,
- the reference of the Supplies,
- the quantity requested,
- the delivery time (standard or urgent),
- the delivery site (Building 41.76, or remote stock).

Delivery requests are governed by the provisions of the contract based on order forms and are submitted with reference to the unit prices established in the contract based on order forms or, for "unlisted" Supplies, the quote issued by the supplier.

8.5 Acknowledging the receipt of delivery requests

The CEA sends delivery requests by e-mail to the attention of the Supplier. The Supplier will meet all delivery requests.

The supplier will indicate the forecast delivery date to the site by e-mail within 2 working days following the receipt of the delivery request.

Should the supplier be unable to deliver according to the terms of these Specifications, the supplier will indicate the reasons in the e-mail acknowledging the receipt of the delivery request. These reasons must be validated by the Technical Correspondent.

8.6 Compliance at receipt

The Supplies are considered as conform if:

- the Supplies correspond to the CEA's delivery request (reference and quantity),
- the Supplies are in good condition. The CEA will indicate its reservations in writing in all other cases,
- the Delivery slip indicates:
 - the contract reference and the delivery request reference,
 - the descriptions and references of the Supplies delivered,
 - the quantities delivered and the ratio to the quantities ordered,
 - the CEA recipient for the delivery,
- Transport packaging is compatible with the products transported and satisfies ADR requirements;
- packaging satisfies the basic "clean concept" rules. Indeed, most packaging is directed to controlled dust areas. Any packaging which fails to satisfy these criteria will be considered as non-compliant and returned to the supplier at its cost and subject to its liability.

In the event of non-conform Supplies, the CEA will inform the supplier in view of analysis and corrective actions. Comments on the results of this analysis will be included in the 6-monthly report.

In addition, in the event of non-conform Supplies, the supplier will replace the defective Supplies as rapidly as possible after receiving a request from the CEA by e-mail. In all events, the supplier is responsible for all aspects of returning these Supplies, specifically costs, security, safety and compliance with regulations as a minimum.

8.7 Certificate of analysis

For each delivery of a new batch, the Supplier sends the corresponding analysis certificates to the Technical Correspondent.

8.8 Guarantee

Should an anomaly occur during the product's life cycle, the CEA will inform the supplier in view of analysis and corrective actions. Comments on the results of this analysis will be included in the 6-monthly report.

During the warranty period, the Contractor will replace any defective Supplies as rapidly as possible following receipt of the e-mail from the CEA, according to the conditions described in para. 4.11 of the Specifications.

8.9 Delivery time

In his response, the supplier indicates the standard and urgent delivery times for each of the products, which he undertakes to respect. At the start of the contract, these deadlines become contractual and are included in the performance obligation

8.10 Delivery conditions

Goods can be delivered to the CEA Grenoble site from Monday to Friday, from 8:30 AM to 12:00 PM and from 1:30 PM to 4:00 PM. The CEA Grenoble site opening schedule is defined at the start of each year and indicates closure dates and periods for the site (approx. 10 days each year). No deliveries will be accepted if the site is closed. The CEA Grenoble site opening schedule can be provided on request.

Supplier deliveries are carried out in accordance with the instructions given in the delivery request e-mail,¹ i.e.: at Receipt at CEA Grenoble, which will check the orders and packaging and is responsible for the delivery of the supplies on the site,

Packaging and labelling must indicate information and provide effective protection, for both handling and storage operations, up to the final destination, and comply with applicable regulations and standards.

If special storage conditions (temperature, lighting, etc.) are required, they will be identified and displayed in special characters.

The supplier will check that the packaging used complies with regulations and meets technical requirements.

8.11 Interpreting these Specifications

The supplier is considered to be aware of the delivery points at CEA Grenoble, and to have fully appraised all requirements for the planned deliveries, in terms of access and service options and any specific safety/security aspects.

The supplier is fully aware of the type of deliveries required, their scope and all of the inherent requirements, regardless of type.

The supplier has therefore ensured its awareness of the premises and has fully appraised all requirements for the planned services.

9 INFORMATION AND CONSULTANCY - OBLIGATION TO PROVIDE INFORMATION



The supplier will provide feedback and expertise, and ensure technological and regulatory monitoring to the benefit of CEA Grenoble.

Any element that doesn't allow the supplier to correctly perform the services described in this supply specifications must be the subject of an alert to the Technical Correspondent.

The supplier must ensure to notify the CEA of any changes relating to the Supplies: the Safety data sheet, the technical characteristics, the container, packaging... at least 2 months prior to the date of effect of the modification.

If part of the Supplies is withdrawn from sale, the supplier will provide the CEA with at least 6 months' notice of withdrawal and propose an alternative product to the CEA, if applicable.

10 GENERIC RESOURCES

The CEA will not provide the supplier with any specific resources at delivery.

The supplier must deliver the Supplies to the unloading area.

The supplier must dispose of packaging in a manner which allows the CEA to easily collect it using conventional equipment.

¹ These delivery points are likely to change over the period of execution of this contract. No amendment will be drafted for the contract and/or no supplier compensation will be due based on these changes.

11 SUSTAINABLE DEVELOPMENT

CEA Grenoble works to improve its environmental performances as part of the "Sustainable Development" policy and encourages its suppliers to accompany this approach.



The supplier will describe its sustainable development strategy and its proposals for specific improvements to the service covered by these Specifications in its proposal.

12 QUALITY

The supplier will deploy a quality system equivalent to standard ISO 9001 version 2015 for all of its activities. The supplier must provide a copy of its accreditation certificate, if accredited by a certification organisation.

The supplier will be notified of any significant and/or repeated non-compliance with these Specifications and must take corrective action within the set period. Should non-compliance occur and no corrective action be taken, the supplier will be subject to penalties as per the contract.

The indicators used to monitor services are listed in these Specifications. CEA Grenoble may request additional information and the supplier may add other indicators with the agreement of the CEA, if the proposed indicators are relevant and beneficial to the due execution of the services. These indicators are described and checked at contract monitoring meetings.

CEA Grenoble reserves the right to check the effective use of the system at any time using quality audits, which can be carried out on the premises of the supplier and at the CEA Grenoble site.

The supplier will monitor quality actions, and in particular:

Contribute to drafting improvements records;

- Failure analysis;
- Anomaly processing;
- Tracking corrective action.

An improvements plan is drafted and tracked by the supplier throughout the performance of the contract.

This plan is based on the various comments made when analysing the record of improvements and the supplier's own expertise. This plan is included in the activity reports.

12.1 Part Identification and traceability

Each wafer shall be identified with a unique code allowing a full traceability.

12.2 Wafer compliance for re-introduction into Contractor Fab

The contractor will have to specify in a dedicated document the criteria for the re-introduction of the wafers in its line (this document has to be approved by CEA-Leti before the signature of the contract). If all criteria are met, the contractor will have to reintroduce the wafer in its line.

12.3 Security

The bidder will present in the answer to this specification the ways and means used to preserve Intellectual Property of the Beneficiary all through the fabrication process. This includes protection strategies related to the exchange of data with the Beneficiary, and to the storage of information in the Contractor IT infrastructure.

For wafers C (2d & 3d):

- the rejected wafers at the re-introduction step or during the completion of remaining BEOL steps must not be scrapped by the manufacturer, but identified and delivered to the CEA for destruction. The contractor has to transmit a detailed report on the issues occurring that has led to the rejection of the wafers.
- If trial wafers/lots are used by the manufacturer for engineering purpose, those wafers/lots must be identified and delivered to the CEA for destruction.
- No destructive inspection of the wafer can be done (FIB-MEB, FIB-TEM or other), without explicit authorization from CEA Leti.

13 EXECUTION CHECKS

13.1 Service inspection

The service inspection is based on the objective criteria defined for each task.

The data required to calculate the indicators is saved by the service provider, who will present results in 6-monthly activity reports.

Task	Indicator	Target	Method used to calculate the indicator
Lead Time	Deadlines indicated in the contract	0 late deliveries	Period between the delivery request dispatch date and the delivery date
Conformity	Supplies delivered as per para. 4.11 of these Specifications	0 non-conformities	Number of non-conformities

13.2 Monitoring services and activity report

The supplier will draft an activity report and send it to the CEA by e-mail at the end of each 6-month period.

This activity report must particularly include the following:

- a report on the Supplies delivered during the past 6-month period,
- any difficulties encountered during the 6-month period,
- tracking indicators,
- an analysis of any anomalies detected, proposed improvements,

The CEA may ask the supplier to add or delete references from the list of products every 6 months, in the form of an amendment to the contract based on order forms.

The CEA may organise meetings on the CEA Grenoble site to complement the aforementioned report as far as necessary. These points are followed up with a report drafted by the supplier's manager and sent to technical correspondents at the convenience of the organiser.