

**METIS - 612339-EPP-1-2019-1-DE-EPPKA2-SSA-B****A Sector Skills Alliance**

|                            |                                                                               |
|----------------------------|-------------------------------------------------------------------------------|
| <b>Project Acronym:</b>    | METIS                                                                         |
| <b>Project Full Title:</b> | MicroElectronics, Training, Industry and Skills                               |
| <b>Key Action:</b>         | Cooperation and Innovation for Good Practices (KA2)                           |
| <b>Action:</b>             | Sector Skills Alliances in vocational educational education and training      |
| <b>Action Type:</b>        | Sector Skills Alliances for implementing a new strategic approach (Blueprint) |
| <b>Call for Proposals:</b> | EAC/A03/2018                                                                  |
| <b>Reference:</b>          | 612339-EPP-1-2019-1-DE-EPPKA2-SSA-B                                           |
| <b>Start Date:</b>         | 1 November 2019                                                               |
| <b>End Date:</b>           | 31 October 2023                                                               |

**Deliverable D5.1 METIS Quality Plan**

WP5 Quality Assurance

Due Date: 31/01/2020

Submission Date: 28/01/2020

Lead Partner: CIMEA

Status: Final

Authors: Giovanni Finocchietti, Manuela Costone

Reviewers: METIS project partners

Deliverable Type: Document

Dissemination Level: Confidential, only for members of the consortium (including EACEA, Commission services and project reviewers)

**Version history**

| Version | Date       | Author                   | Partner | Description |
|---------|------------|--------------------------|---------|-------------|
| 0.1     | 19/12/2019 | Finocchietti,<br>Costone | CIMEA   | QA plan     |
| 0.2     | 15/01/2020 | Finocchietti,<br>Costone | CIMEA   | QA plan     |
| 0.3     | 28/01/2020 | Finocchietti,<br>Costone | CIMEA   | QA plan     |

## CONTENTS

|                                                                                                |    |
|------------------------------------------------------------------------------------------------|----|
| Introduction .....                                                                             | 4  |
| 1. The METIS Project.....                                                                      | 5  |
| 1.1 Management and Coordination Structure .....                                                | 6  |
| 1.1.1 Project Coordinator .....                                                                | 6  |
| 1.1.2 Steering Board .....                                                                     | 6  |
| 1.1.3 Operational Management Team .....                                                        | 6  |
| 1.1.4 Work Package Teams.....                                                                  | 7  |
| 2. Monitoring & Evaluation and Quality Assurance.....                                          | 8  |
| 2.1 M&E and QA Leader .....                                                                    | 8  |
| 2.3 Project Coordinator .....                                                                  | 9  |
| 2.4 WP Leaders .....                                                                           | 9  |
| 2.5 Project Partners.....                                                                      | 9  |
| 2.6 External METIS Quality Committee .....                                                     | 9  |
| 2.7 External expert .....                                                                      | 10 |
| 2.8 Risk Identification .....                                                                  | 12 |
| 2.9 Deliverables .....                                                                         | 12 |
| 2.10 The METIS M&E and QA Roadmap.....                                                         | 13 |
| 3. Activities, actors, methodologies, operational tools.....                                   | 14 |
| 4. Quality Assurance Timing and Measures.....                                                  | 15 |
| METIS Roadmap per Work Package.....                                                            | 16 |
| Work Package 2 (EU Sectoral Skills Strategy, Skills Anticipation and Monitoring) .....         | 16 |
| Work Package 3 (Design Innovative METIS Training).....                                         | 16 |
| Work Package 4 (METIS Training Delivery: Validation and Fine-Tuning) .....                     | 17 |
| Work Package 5 (Quality Assurance and Evaluation).....                                         | 18 |
| Work Package 6 (Dissemination & Exploitation).....                                             | 19 |
| Work Package 7 (Long Term Action Plan and Microelectronics Observatory & Skills Council) ..... | 20 |
| Work Package 8 (Project Management).....                                                       | 22 |
| 5. Annexes.....                                                                                | 23 |
| Annex 1 - Consortium meeting individual assessment questionnaire (by partners) .....           | 24 |
| Annex 2 - Deliverable assessment form (on material deliverables).....                          | 25 |
| Annex 3 - Internal biannual evaluation questionnaire (by partners) .....                       | 26 |
| Annex 4 - Dissemination event report sheet (by organisers).....                                | 27 |
| Annex 5 - Dissemination event evaluation questionnaire (by participants) .....                 | 28 |

## Introduction

The Quality Plan for the general monitoring and evaluation of the METIS Project:

- introduces the METIS Monitoring & Evaluation and Quality Assurance System
- defines working procedures, guidelines, timing and operational tools to ensure the quality standards of the Project's activities, deliverables and outcomes
- defines qualitative instruments to monitor the quality of the Consortium and of the Project Management
- identifies a set of key performance indicators
- defines tools to assess the quality of the dissemination and communication activities.

The METIS Project's planning, development and analysis of activities is shared among the project partners. The Plan implements and facilitates the use of assessment tools for the Project's participants in an ongoing (formative) and final (summative) process. All partners, irrespective of their role in specific work packages or activities, contribute to the monitoring of the Project implementation, in order to contribute to the overall formative and summative evaluation, and also self-evaluate the Project activities carried out. The participants', users' and target groups' satisfaction are monitored also with the support of an external evaluation expert. Detailed and exhaustive interim and final reports on both internal and external Quality activities will be produced during the Project's lifetime.

Monitoring & Evaluation and Quality Assurance are horizontal aspects of the METIS Project implementation. They permeate the Project as a whole at different levels (partner and Consortium; activities and outputs; workplan and timeline; budget) and are closely linked with all the other Project's activities, whose tasks are monitored, evaluated and benchmarked against qualitative and quantitative levels.

This Quality Plan is intended to be a practical document, a set of guides and instructions to enable the Project Team to quickly identify the correct formats, processes and procedures to ensure that the METIS Project achieves the overall standards necessary for fulfilling its objectives. For this reason, this document may be modified during the Project's lifetime, subject to the needs and opportunities that may emerge and will be recognised as relevant by partners.

The METIS Quality Plan contains three chapters:

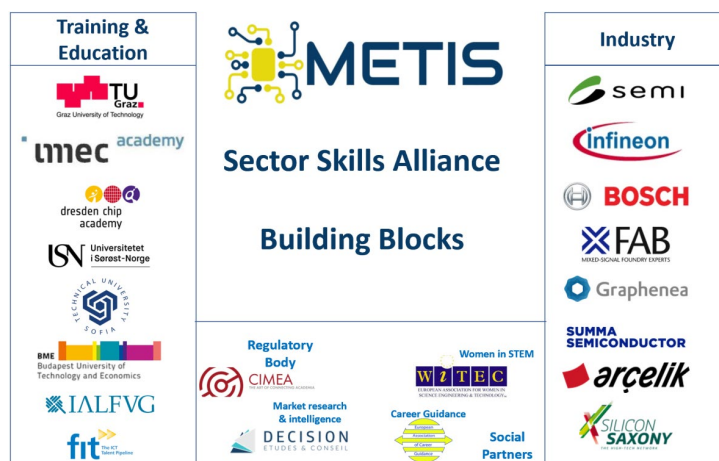
- a first chapter introduces the METIS Project, describes its management and coordination structure, and explains interactions between management and coordination and quality assurance
- a second chapter describes the METIS quality assurance system, the roles and tasks of the actors involved, the methodology and the tools developed to evaluate the Project outcomes and results
- a third chapter describes the timing and the quality measures for each work package, including indicators of achievement.

The questionnaires and forms to be used in the Quality Assurance process are included as annexes.

## 1. The METIS Project

The METIS Project - MicroElectronics Training, Industry and Skills is funded by the Erasmus+ Programme under KA2 - Cooperation for innovation and the exchange of good practices - Sector Skills Alliances. It has the objective to establish a sustainable framework to make the EU microelectronics sector overcome severe skills shortages and advance its competitiveness. The Project is implemented by a Consortium of 20 partners from 14 countries representing industry (start-ups, SMEs, large firms), national and EU industry associations, formal educational providers and regulatory bodies in the field of accreditation and certification:

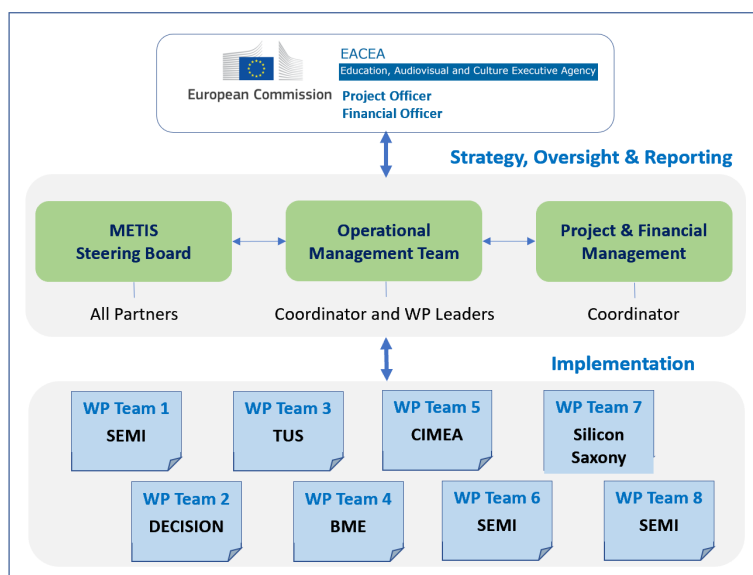
- SEMI Europe, Germany (Project coordinator)
- Infineon Technologies Austria AG, Austria
- Robert Bosch GMBH, Germany
- X-FAB France, France
- Graphenea Semiconductor, Spain
- Summa Semiconductor Ltd, Finland
- Arcelik, Turkey
- Silicon Saxony, Germany
- Technische Universität Graz, Austria
- Interuniversitair Micro-Electronica Centrum imec, Belgium
- Dresden Chip Academy - SBH Südost GmbH, Germany
- Universitetet i Sørøst-Norge (University of South-Eastern Norway), Norway
- Technical University of Sophia, Bulgaria
- Budapest University of Technology and Economics, Hungary
- IAL Innovazione Apprendimento Lavoro - Friuli-Venezia Giulia, Italy
- Fast Track into Information Technology CLG (FIT), Ireland
- CIMEA - Centro di Informazione sulla Mobilità e le Equivalenze Accademiche, Italy
- Forefinger WiTEC - European Association for Women in Science, Engineering and Technology, Cyprus
- European Association of Career Guidance, Sweden
- DECISION Etudes & Conseil, France



More information on the METIS Project on: [www.metis4skills.eu](http://www.metis4skills.eu)

## 1.1 Management and Coordination Structure

The overall Project management is ensured by the Coordination and Management Structure, the general organisation of which is described in the graph below.



### 1.1.1 Project Coordinator

SEMI Europe is the Project Coordinator and leads the overall management of the Project. The main responsibilities of the Coordinator are described in the METIS Roadmap (D1.1) and the METIS Project Management Plan (D8.1). The Project work plan, activities and timeline, milestones, management and operational structures, financial and budgetary projection, risk management are also described in the two documents, detailing also guidelines, procedures and tools for coordination, communication and reporting.

### 1.1.2 Steering Board

The Steering Board (SB) is composed of one representative from each participating organisation to oversee the correct implementation of the METIS Project. The SB may consult and involve associated partners as External Advisory Group to provide specific inputs and feedback on strategic issues arising during the Project implementation. The SB also acts as Internal QA Committee.

### 1.1.3 Operational Management Team

The Operational Management Team (OMT) is composed of Work Package Leaders (see table below) and chaired by the Coordinator. Its main role is to safeguard the technical content-related progress, focusing on operational aspects such as: action plans for tasks, timetables, responsibilities, etc.; exchange of information, experience, tools; collaborative and creative problem solving for technical and implementation challenges.

| Work Package                                                          | WP Leader                                      |
|-----------------------------------------------------------------------|------------------------------------------------|
| WP1 - Preparation                                                     | SEMI Europe                                    |
| WP2 - EU Sectoral Skills Strategy, Skills Anticipation and Monitoring | DECISION                                       |
| WP3 - Design Innovative METIS Training                                | Sofia Technical University                     |
| WP4 - METIS Training Delivery; Validation and Fine-Tuning             | FIT Fast Track into Information Technology CLG |
| WP5 - Quality Assurance and Evaluation                                | CIMEA                                          |
| WP6 – Dissemination and Exploitation                                  | SEMI Europe                                    |

|                                                                               |                             |
|-------------------------------------------------------------------------------|-----------------------------|
| WP7 - Long Term Action Plan and Microelectronics Observatory & Skills Council | Silicon Saxony, SEMI Europe |
| WP8 - Project Management                                                      | SEMI Europe                 |

#### **1.1.4 Work Package Teams**

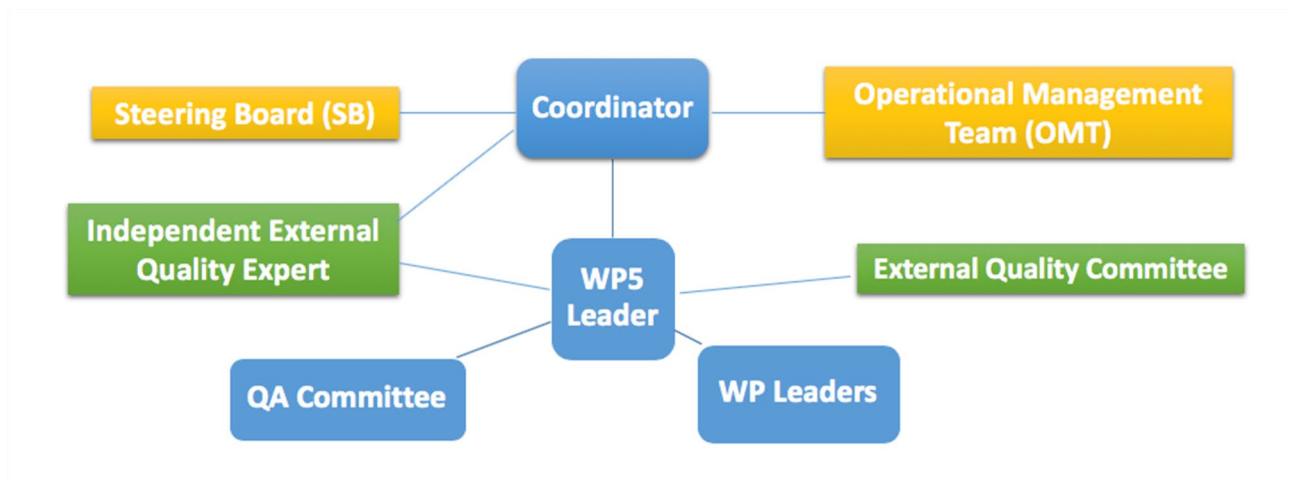
WP leaders establish Work Package Teams (WPT) to carry-out activities according to the Work Plan. WPT are chaired by the WP leader, whose tasks include, among others: manage resources to realise and monitor deliverables and milestones within their WP; report to the Project Coordinator on progress and potential deviations from the work plan, deliverables and milestones; disseminate information to partners; assure the quality of the activities and the outcomes within their WP.

## 2. Monitoring & Evaluation and Quality Assurance

This chapter describes the Monitoring & Evaluation and Quality Assurance (M&E and QA) System to be accomplished during the METIS Project, the roles and tasks of the actors involved in internal and external Quality Assurance, and introduces the methodology adopted to implement the process and the tools developed to evaluate the outcomes and results against the Project objectives. Monitoring & Evaluation actions lead to Quality Assurance to ensure timeliness and relevance of Project overall activities and results.

M&E and QA are based on procedural and administrative activities, implemented in a coherent system. The management system, procedures, and quality assessments need to be assured by internal review to ensure compliance with the overall Project plans, to guarantee that the implementation of activities and the production of results and outcomes contribute to the achievement of the Project objectives (both on a quantitative and a qualitative level), to avoid deviation, anticipate risks and devise mitigation measures.

**The METIS Monitoring and Evaluation and Quality Assurance System**



### 2.1 M&E and QA Leader

The M&E and QA Leader, in cooperation with the Project Coordination and partners, is responsible for all Quality Assurance and Evaluation activities foreseen in the METIS Project as described in WP5. As lead organisation, CIMEA coordinates and manages all M&E and QA workplan, timeline, activities and outputs, including the drafting of the QA Plan, and of the Interim and Final Quality Reports.

### 2.2 Internal QA Committee

The Internal QA Committee cooperates with the M&E and QA Leader and with the Project Coordinator in planning, organising and carrying on the Project quality-related tasks. A further activity is to provide internal quality assurance of the overall Project structure and organisation. The Committee is composed of one member per partner with relevant experience in M&E and QA. In order to avoid fragmentation and duplication of structures and tasks, the Steering Board also takes on the role of Internal QA Committee. The composition of the Internal QA Committee is shown in the following table.

### The METIS Internal QA Committee Members

| Name                        | Partner institution                                                                                |
|-----------------------------|----------------------------------------------------------------------------------------------------|
| Emir Demircan               | P1 - SEMI Europe, DE                                                                               |
| Wolfgang Simoner            | P2 - Infineon Technologies Austria AG, AT                                                          |
| Thomas Fleischmann          | P3 - Robert Bosch GMBH, DE                                                                         |
| Carole Lauriat              | P4 - X-FAB France, FR                                                                              |
| Amaia Zuturuza              | P5 - Graphenea Semiconductor, ES                                                                   |
| Sami Suihkonen              | P6 - Summa Semiconductor Ltd, FI                                                                   |
| Bekir Ozyurt                | P7 - Arcelik, TK                                                                                   |
| Frank Bosenberg             | P8 - Silicon Saxony, DE                                                                            |
| Bernd Deutschmann           | P9 - Technische Universität Graz, AT                                                               |
| Jeroen Geusens              | P10 - Interuniversitair Micro- Electronica Centrum imec, BE                                        |
| Dagmar Bartels              | P11 - Dresden Chip Academy – SBH Südost GmbH, DE                                                   |
| Roy Kenneth Skulstad-Hansen | P12 - Universitetet i Sørøst-Norge, NO                                                             |
| Slavka Tzanova              | P13 - Technical University of Sophia, BG                                                           |
| Oliver Krammer              | P14 - Budapest University of Technology and Economics, HU                                          |
| Marianna Muin               | P15 - IAL Innovazione Apprendimento Lavoro - Friuli-Venezia Giulia, IT                             |
| Peter Davitt                | P16 - Fast Track Into Information Technology CLG (FIT), IE                                         |
| Giovanni Finocchietti       | P17 - CIMEA - Centro di Informazione sulla Mobilità e Equivalenze Accademiche, IT                  |
| Mia Norling                 | P18 - Forefinger WiTEC - European Association for Women in Science, Engineering and Technology, CY |
| Gregory Makrides            | P19 - European Association of Career Guidance, SE                                                  |
| Olivier Coulon              | P20 - DECISION Etudes & Conseil, FR                                                                |

### 2.3 Project Coordinator

The task of the Project Coordinator is the overall supervision of M&E and QA activities at project level. The task is performed in cooperation with the Steering Board and the Operational Management Team.

### 2.4 WP Leaders

The tasks of the WP leaders' M&E and QA are: ensuring that monitoring, evaluation and quality activities carried out in their respective WP are implemented coherently; reporting on them to the WP5 Leader.

### 2.5 Project Partners

The tasks of the Project partners are: monitoring the implementation of the Project e.g. tasks, timeline, budget, deliverables (irrespective of their role in WPs); contribute with comments and inputs.

### 2.6 External METIS Quality Committee

Associated partners (APs) are the components of the External METIS Quality Committee. The Committee acts as a stakeholders' "external sounding board". In their role of peer reviewers, the associated partners are addressees of the main deliverables of the project. If they deem it appropriate, they can provide the QA and WP leaders with critical feedbacks.

The External METIS QA Committee is composed by the institutions included in the following table.

### The External METIS QA Committee Members

| <b>Associated Partner organisation</b>                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Fraunhofer IPMS, DE                                                                                                                           |
| ST Microelectronics, FR                                                                                                                       |
| ASML, NL                                                                                                                                      |
| ASML International, NL                                                                                                                        |
| AENEAS: Association for European NanoElectronics ActivitieS, FR                                                                               |
| CEA Tech, FR                                                                                                                                  |
| Soitec, FR                                                                                                                                    |
| SPTS, UK                                                                                                                                      |
| Edwards, UK                                                                                                                                   |
| Fabmatics, UK                                                                                                                                 |
| Recif Technologies, FR                                                                                                                        |
| Evatec Advanced Technologies, CH                                                                                                              |
| VAT, CH                                                                                                                                       |
| Siltroni, DE                                                                                                                                  |
| VDMA - EMINT (German Engineering Association: Electronics, Micro and Nano Technologies Division), DE                                          |
| Comitato Sindacale Interregionale Friuli-Venezia Giulia, IT                                                                                   |
| National Institute for Public Policy Analysis (INAPP), IT                                                                                     |
| Eurotech, IT                                                                                                                                  |
| Cluster "Microelectronics & Industrial Electronics Systems", BG                                                                               |
| INES Solaire - Formation, FR                                                                                                                  |
| Grenoble INP with CIME Nanotech, FR                                                                                                           |
| Irish Business and Employers Confederation (IBEC), IE                                                                                         |
| Technology Ireland, IE                                                                                                                        |
| Education and Training Boards Ireland (ETBI), IE                                                                                              |
| Engineers Ireland, IE                                                                                                                         |
| Regione Autonoma Friuli-Venezia Giulia, IT                                                                                                    |
| Electronic Coast, NO                                                                                                                          |
| Tempus Public Foundation - HE Department for Erasmus Mundus Joint Master Degrees and for Erasmus+ Capacity Building / Knowledge Alliances, HU |

## 2.7 External expert

The task of the external expert is to monitor from an external point of view the quality of the METIS Project. His/her skills include: The expert is entrusted to give advises and recommendations to the project coordinator during the project and write an evaluation report at the end of the project. The External expert informs the partnership about the Project implementation, providing an external perspective to achievements so far reached, and the overall performance of the Project against Project plans and objectives. The external expert also provides recommendations on the various aspects of Project implementation, including quality of the Consortium, working relations, internal communication, processes, results, etc.

The External expert carries out the mid-term and quality assessment of processes and results and produces the Mid-Term and Final External Quality Report (formats of the reports are provided in the Annexes). In addition to capturing the overall quality of the Project in all its aspects, the Final External Quality Report will

also highlight lessons learned and good practices to inform the work of partners in further exploiting METIS Project results beyond its lifetime.

### **2.7.1 Selection procedure**

Partners will be invited to spread a call for expression of interest for the selection of the external expert and propose suitable candidates, possessing the required expertise. The external expert will be selected on the basis of the criteria listed in the Terms of Reference (see below). Candidates are asked to demonstrate the requested expertise by presenting their CV, written in English and in Europass format. The Project Coordinator, with the collaboration of the WP5 Leader will be responsible for selecting the most appropriate expert, on the basis of the required expertise. The call for expression of interest will be launched by the Coordinator within 28.02.2020. Deadline for the submission of candidatures will be 30.04.2020. The selection procedure will be completed by 30.05.2020.

### **2.7.2 Terms of Reference**

#### ***Profile of the external expert:***

The selected external expert has to demonstrate some relevant skills, including:

- robust understanding of quality processes, expected activities, outputs and quality review processes;
- proven professional experience in evaluation process and monitoring process of international collaborative projects, in order to efficiently evaluate the final products and contents of the training activities, publications and other materials, as well as to monitor the administrative aspects and the management and functioning of the project from an organisational point of view;
- excellent English language and reporting skills.

#### ***Task***

- to review METIS processes and products;
- to participate in 2 project meetings.

#### ***Deliverables***

**Mid-term Report** about project implementation provides an external perspective to achievements so far reached, and the overall performance of the project against project plans and objectives. It also provides recommendations on the various aspects of project implementation, from quality of the consortium, working relations, internal communication, processes, results, etc.

**Final Report** ensures an external and professional perspective into project processes and results. In addition to capturing the overall quality of the project in all its aspects, it also provides valuable lessons learned and good practices to inform the work of partners in further exploiting project results beyond its lifetime.

#### ***Timeline:***

Mid-term report: October 31, 2021

Final Report: October 31, 2023

#### ***Conditions for the service***

The external expert is provided full access to all project documentation to empower her/him to carry out a thorough assessment of the project. The external expert undertakes to carry out the required service within the specified timeframe. The external expert agrees to maintain the confidentiality of data that may be generated or disclosed during the provision of the required service.

#### ***Total Fee amount***

€ 10,000.00 (ten thousand Euros).

## **2.8 Risk Identification**

WP Leaders will report on the M&E and QA for their respective work packages, activities and deliverables. This constant monitoring, evaluation and quality control will allow to identify operational risks. Should this occur, the WP5 Leader will address the Coordinator, the Operational Management Team and the Steering Board to raise the issue. The Steering Board will devise proper mitigation measures or venues to reap the opportunities, according to what is established in the METIS Project Management Plan.

## **2.9 Deliverables**

### **Quality Plan D5.1**

The METIS Project Quality Plan is drafted by CIMEA as WP coordinator, with active contribution from all partners. The Plan introduces the set of working procedures and processes to ensure the quality standards of the Project. The main aim of the Plan is to monitor on a regular basis the implementation of the Project activities (including the interactions among partners), as well as the quality of the deliverables and of the Project's outcomes. This document constitutes the deliverable D5.1.

### **Interim Internal Quality Reports D5.2**

Three Interim Reports are envisaged at the end of each year of implementation. They are drafted by CIMEA as WP coordinator and are fed by the internal six-month reporting from partners, include also a M&E and QA component. The Interim Quality Reports will contain details about M&E and QA activities and results, as well as outline measures to be undertaken in order to improve – if needed – any aspects of the Project implementation (communication, relevance of deliverables, internal processes, etc.). The structure and contents of the reports will be based on a format to be decided at a later stage.

### **Final Quality Report D5.5**

The Final METIS Quality Report will be drafted by CIMEA as WP coordinator with active contribution from all partners. It will describe how M&E and QA activities have been carried out, the involvement of the External Quality Assurance Committee and the results of the peer reviews carried out by the External Quality Committee. The Report will also compile the results of the formative evaluations carried out during the Project as well as the results of the summative evaluation that will be completed at the end of the Project to identify lessons learned and good practices that will inform the exploitation of results beyond the Project's lifetime. The structure and contents of the report will be based on a format to be decided at a later stage.

### **Mid-term External Quality Report D5.3**

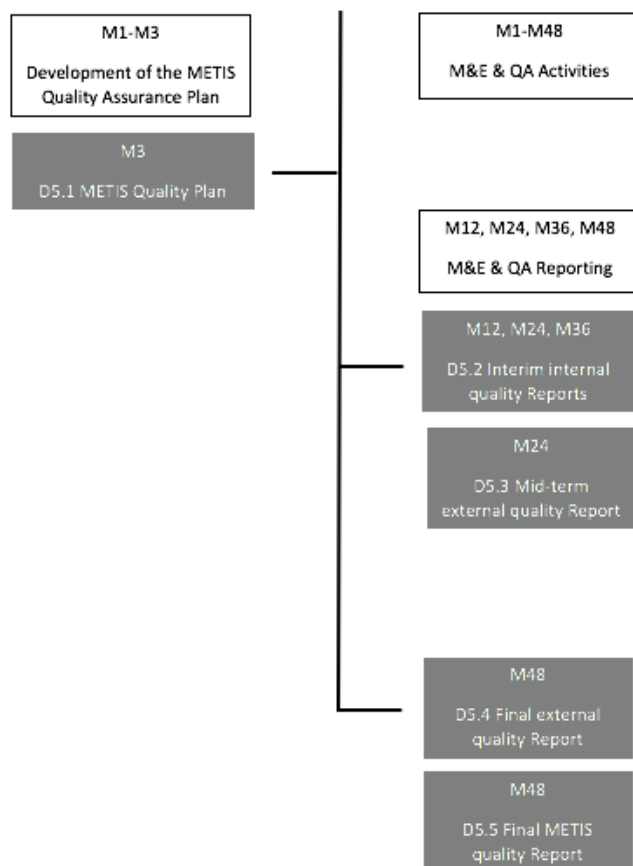
The Mid-term External Quality Report will be drafted by the independent external quality expert that will be retained by the METIS Project and will have full access to all project documentation. The Report will inform project implementation, providing an external perspective to achievements so far reached, and the overall performance of the project against project plans and objectives. The Report will also provide

recommendations on the various aspects of project implementation, from quality of the consortium, working relations, internal communication, processes, results, etc.

### **Final External Quality Report D5.4**

The Final External Quality Report will be drafted by the independent expert. In addition to capturing the overall quality of the Project in all its aspects, the Report will highlight lessons learned and good practices to inform the work of partners in further exploiting the Project results beyond its lifetime. The structure and contents of the report will be based on a format to be decided at a later stage.

## 2.10 The METIS M&E and QA Roadmap



### **3. Activities, actors, methodologies, operational tools**

The M&E and QA of the METIS Project are aligned with the responsibilities and tasks of the partners in carrying out the activities and producing the deliverables as envisaged in the Project Description and in the Partner agreements. Activities and deliverables are monitored by using evaluation questionnaires. Feedbacks are collected by CIMEA as M&E and QA Leader. Results (including statistics as appropriate) are disseminated to the Project members during consortium meetings and/or via e-mail.

In order to support pro-active participation and avoid bureaucratisation, in reporting and dissemination priority will be given to qualitative feedback and to proposals and suggestions, as well as to risk identification (if a possibility arises). Thus, in addition to multiple choice questions, questionnaires also include open questions to collect comments and proposals.

The following processes and activities will undergo a specific M&E and QA procedure:

- Consortium meetings
- Drafting and finalisation of deliverables
- Dissemination events
- Internal six-month partner evaluation
- Internal Quality Reports
- External Quality Reports.

Consortium meetings will be evaluated by all partners on the basis of a questionnaire (Annex 1). Results will be collected and processed by CIMEA and disseminated as indicated. Feedbacks, proposals and recommendations will also be used as inputs for the drafting of the Interim Internal Quality Reports.

In the process of developing deliverables, partners will be consulted by the responsible WP leaders to evaluate the drafts and make proposals and recommendations as appropriate (Annex 2). Feedbacks and recommendations will be used by responsible WP leaders and partners involved in finalising the deliverables. Feedbacks will also be used as inputs for the drafting of the Interim Internal Quality Reports.

Dissemination events will be evaluated by participants on the basis of a questionnaire (Annex 5). The events will be also evaluated by the local organisers on the basis of a format that will include also relevant information on the contents, participation, etc (Annex 4). Questionnaires will be collected by the organisers, who will give a feedback to the WP leader and partners. Feedbacks will also be used as inputs for the drafting of the Interim Internal Quality Reports.

The internal six-month reporting requirements include also a M&E and QA component, so as to keep constant track of the evolution of the Project activities and results and their evaluation by the partners (Annex 4).

A detailed description of the Internal and External Quality Reports is available in paragraph 2.7.

#### **4. Quality Assurance Timing and Measures**

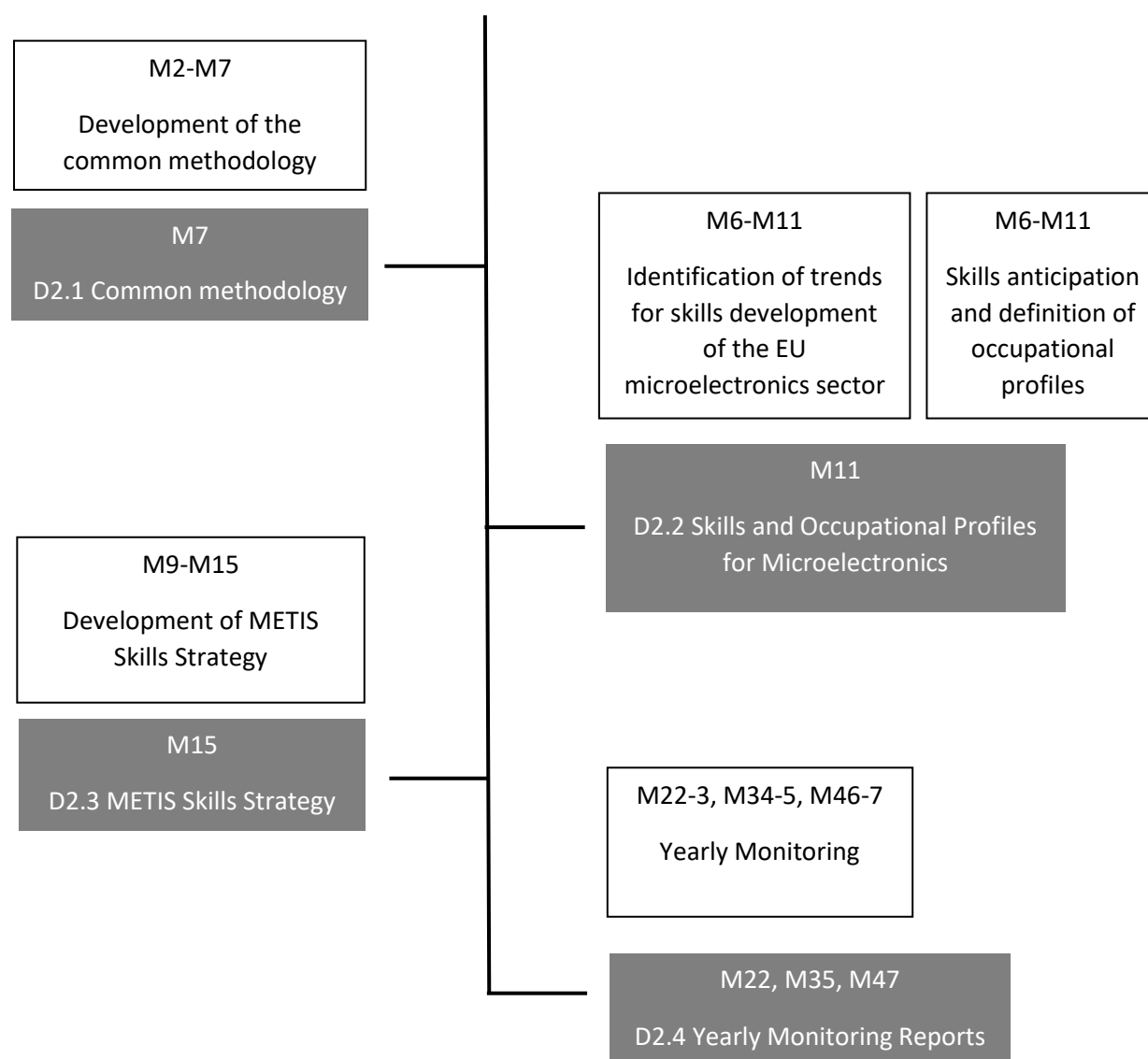
To monitor the quality of the Project, qualitative and quantitative measures are applied to evaluate activities and project deliverable of the METIS Project; details on timing and measures are shown in the METIS Roadmap, delivered in the framework of the first Work Package, Preparation (see below).

## METIS Roadmap per Work Package

The roadmap includes a short overview of each WP, and a timeline of tasks (in white boxes) and deliverables (in grey boxes).

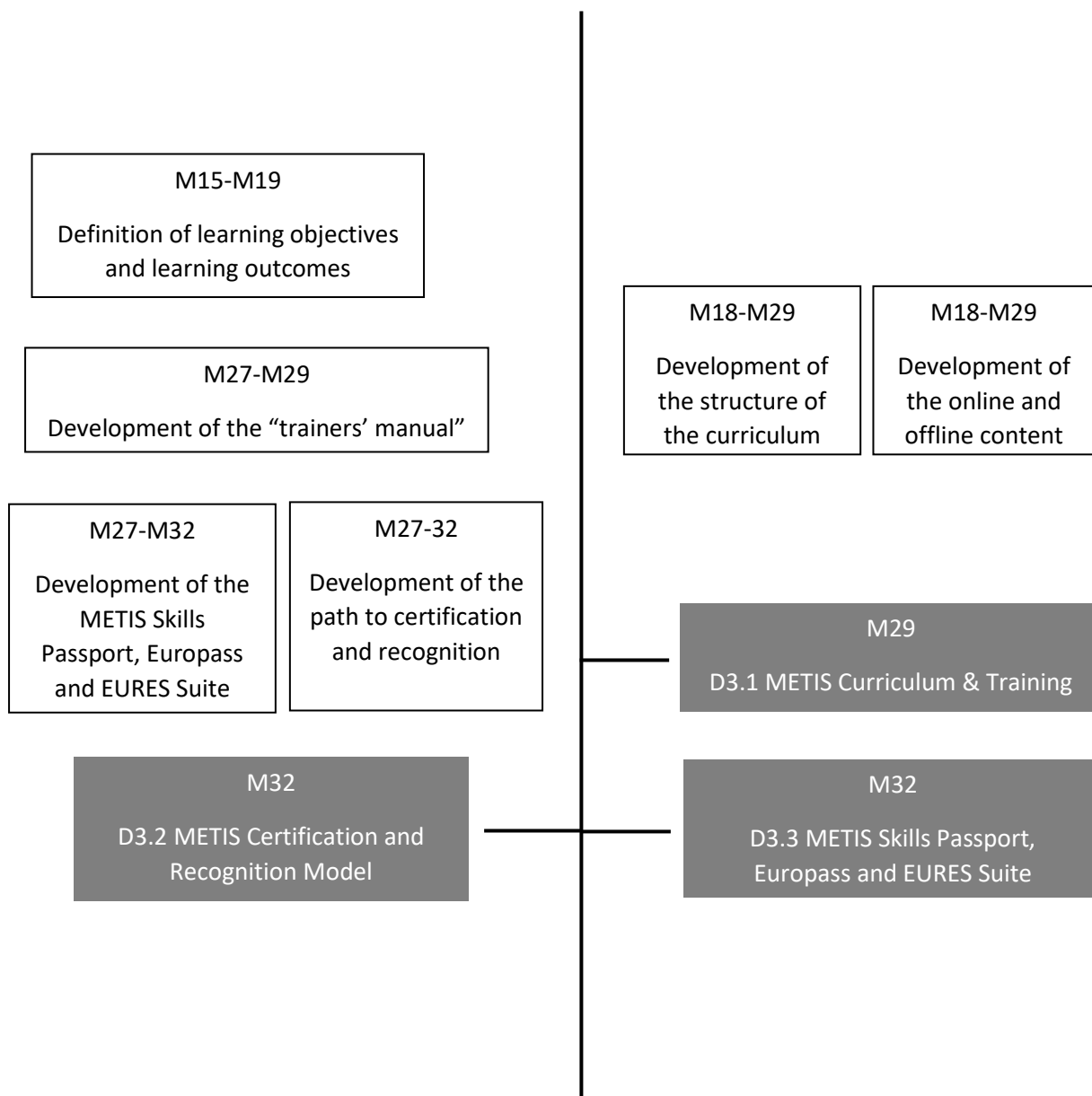
### Work Package 2 (EU Sectoral Skills Strategy, Skills Anticipation and Monitoring)

In WP2 the partners will develop the microelectronics sector skills strategy to support the objectives of the established growth strategy for the sector. To accomplish this, the partners will identify the major trends affecting jobs and skills needs in the sector, develop a common methodology to assess the current situation and anticipate future skills needs, define and/or develop occupational profiles with corresponding skills and competences and set up a continuous and robust monitoring on a yearly basis.



### Work Package 3 (Design Innovative METIS Training)

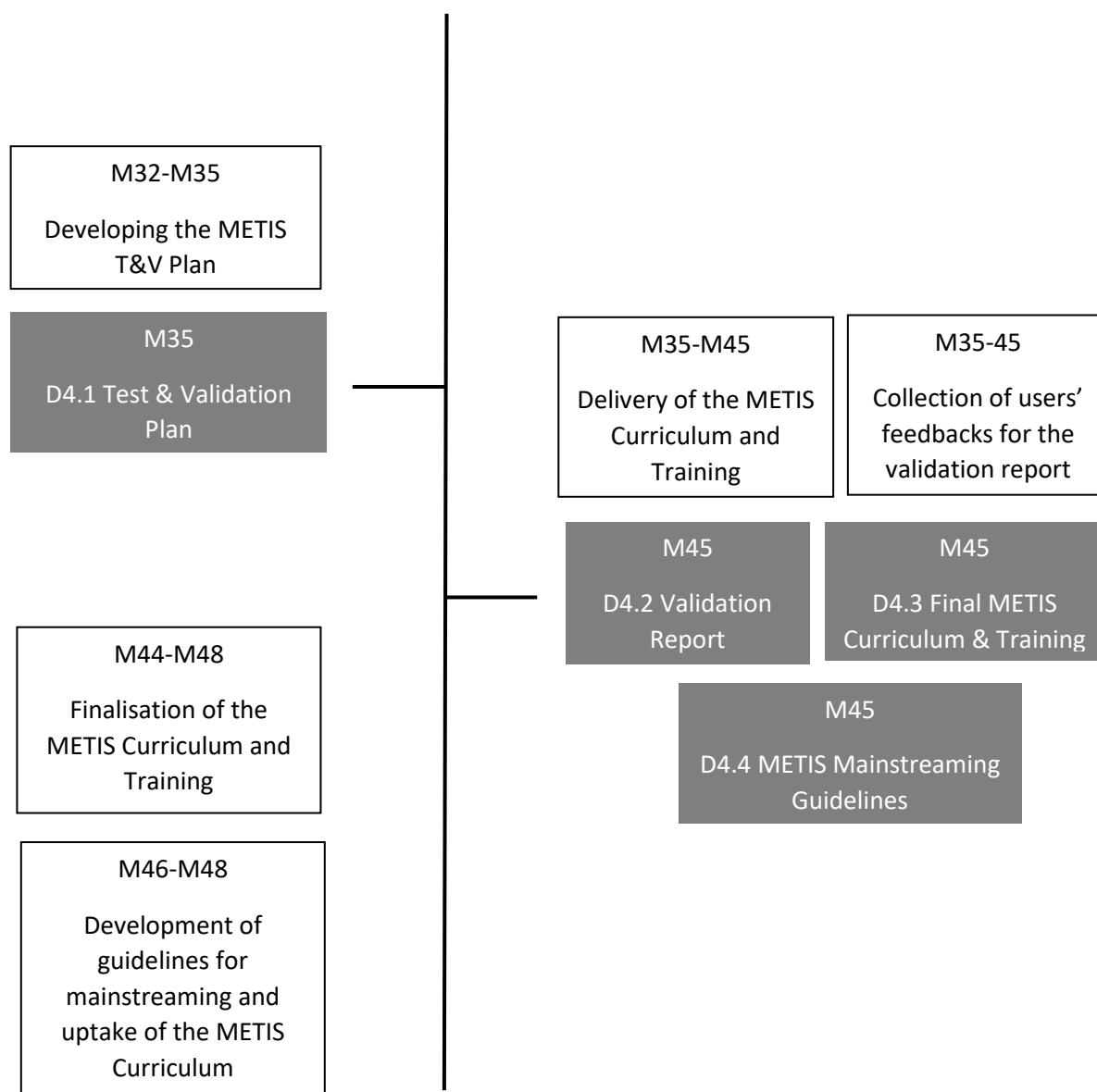
The objective of WP3 is to develop the METIS curriculum and training on a) electronic components design, b) electronic systems design, c) basics of electronics manufacturing, and d) key competences & innovative thinking.



#### Work Package 4 (METIS Training Delivery: Validation and Fine-Tuning)

During the WP4, the partners will test and validate in real-life scenarios the METIS Curricula and Training developed in WP3, to check their effectiveness against the outcomes of WP2 (Occupational profiles and Skills Strategy). The validation will lead to the final version of the METIS curricula and training, based on feedback of users in both VET and industry at both trainers' and trainees' levels.

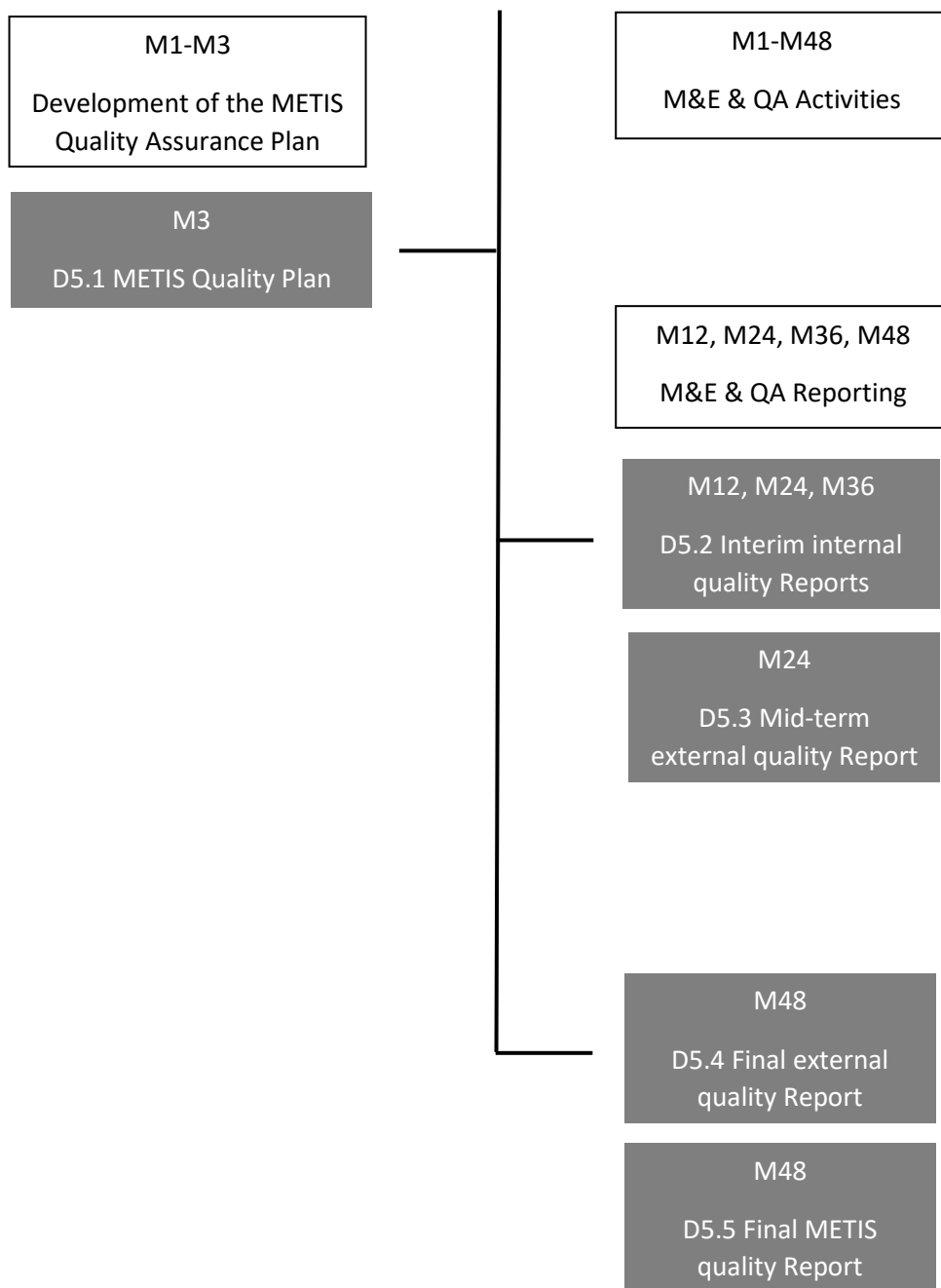
The testing will be carried out by all industry and academia partners, as well as by associated partners – aiming at least at 900 users.



### Work Package 5 (Quality Assurance and Evaluation)

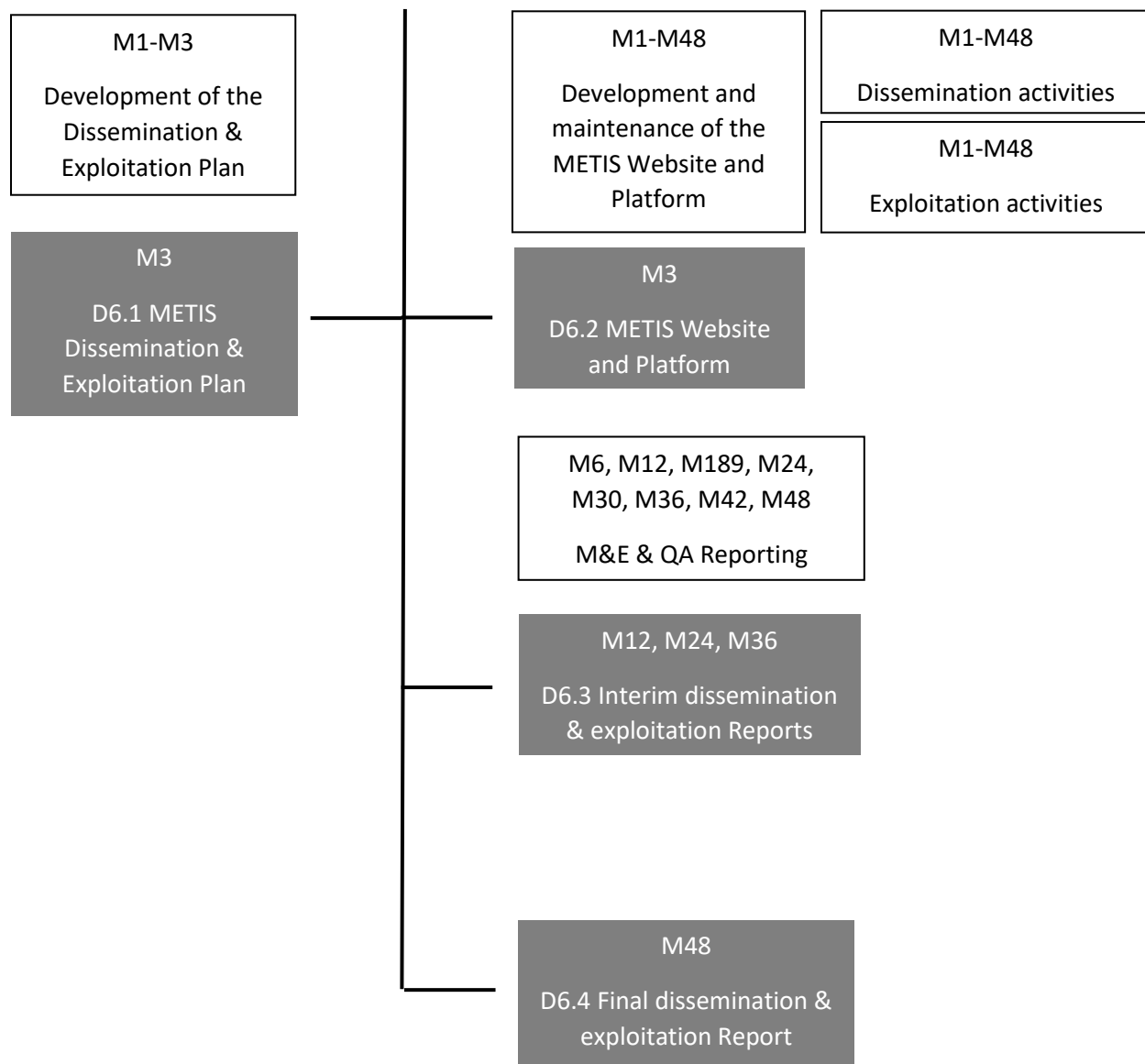
The objective of WP5 is to monitor all activities carried out and results produced during the project and evaluate them against project objectives. The Internal QA Committee is composed of one member per

partner (the WP5 team) and the External METIS Quality Committee will be comprised of Associated Partners to ensure objective quality control.



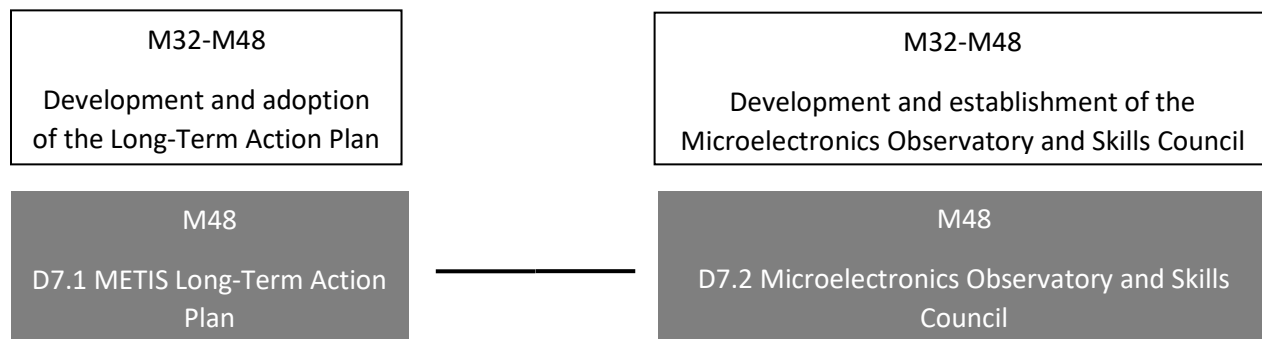
### Work Package 6 (Dissemination & Exploitation)

The dissemination and exploitation of the activities and outcomes of the project will reach approximately 3 million people, inside and outside the consortium (industry, education, learners, policy makers at local, regional, national and European level). The objective is for the results of METIS to be communicated both during and after the implementation of the project.



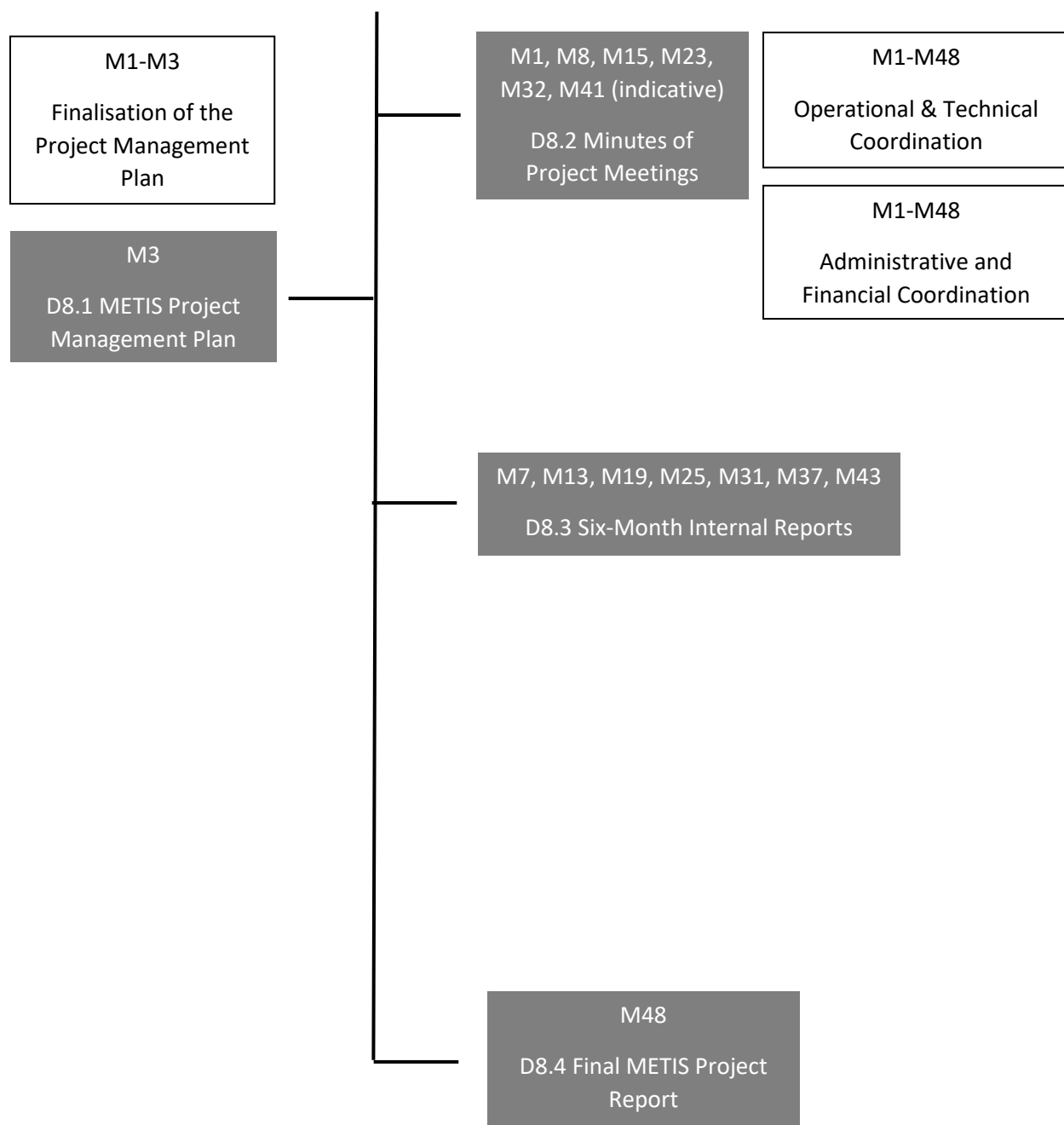
### Work Package 7 (Long Term Action Plan and Microelectronics Observatory & Skills Council)

The WP7 teams will establish sustainable mechanisms to promote the messages of METIS beyond the end of the project. In this framework, the Microelectronics Observatory & Skills Council will be created, enabling stakeholders internal and external to the project to come together and shape the future of the sector.



### Work Package 8 (Project Management)

WP8 tasks will ensure the correct management and oversight of METIS, establishing coherent methods and tools so that the implementation of the project runs smoothly. Additional emphasis will be placed on ensuring the fluid communication between partners and WP teams, as well as with EACEA.



## **5. Annexes**

- Annex 1: Consortium meeting individual assessment questionnaire (partners)
- Annex 2: Deliverable assessment form (material deliverables)
- Annex 3: Internal biannual evaluation questionnaire (partners)
- Annex 4: Dissemination event report sheet (organisers)
- Annex 5: Dissemination event evaluation questionnaire (participants)

**Annex 1 - Consortium meeting individual assessment questionnaire (partners)**
**Meeting: .....**

|                                                         | Very satisfied | Satisfied | Dissatisfied | Very dissatisfied |
|---------------------------------------------------------|----------------|-----------|--------------|-------------------|
| Organisation of the meeting                             |                |           |              |                   |
| Information provided before the meeting                 |                |           |              |                   |
| Time allocation for each session (including discussion) |                |           |              |                   |
| Contents of the consortium meeting                      |                |           |              |                   |
| Explanation of administrative aspects                   |                |           |              |                   |
| Expectations met in the meeting                         |                |           |              |                   |
| Relevance of the outcomes/results for your own work     |                |           |              |                   |

|                                                        |
|--------------------------------------------------------|
| Additional comments, suggestions for improvement, etc: |
|                                                        |

**Annex 2 - Deliverable assessment form (material deliverables)**
**Deliverable: .....**
**Partner organisation name: \_\_\_\_\_**
**Name of the person filling the form: \_\_\_\_\_**

| Topic                                                                   | Issues to be addressed                                                                              | Assessment                    | Comments | Recommendations |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------|----------|-----------------|
| 1. Compliance with METIS objectives                                     | Does the deliverable comply with the overall objectives of the project?                             | YES<br>NO<br>PARTIALLY        |          |                 |
| 2. Compliance with the specific objectives of the WP                    | Does the deliverable comply with the WP objectives as specified in the WP description?              | YES<br>NO<br>PARTIALLY        |          |                 |
| 3. Correspondence with the description of work of the relevant activity | Does the deliverable correspond with the activity description as specified in the Application Form? | YES<br>NO<br>PARTIALLY        |          |                 |
| 4. Compliances with the deliverables format                             | Is the deliverable presented using the project's deliverable format?                                | YES<br>NO                     |          |                 |
| 5. Adequacy of complementary information                                | Examples of complementary info: External sources, Bibliography, List of Contacts, Methodology used  | YES<br>NO                     |          |                 |
| 6. Adequacy of written language                                         | Level of written English                                                                            | EXCELLENT<br>ADEQUATE<br>POOR |          |                 |

**Additional comments (challenges faced, positive aspects, suggestions for improvement, etc):**

### Annex 3 - Internal biannual evaluation questionnaire (partners)

The purpose of the questionnaire is to evaluate the METIS project by project partners at its mid-term of implementation. It is intended to be used for measuring the project management, effectiveness of information exchange and the sustainability of the project.

**Partner organisation name:** \_\_\_\_\_

**Name of the person filling the form:** \_\_\_\_\_

|                                                                                                              | Very satisfied | Satisfied | Dissatisfied | Very dissatisfied |
|--------------------------------------------------------------------------------------------------------------|----------------|-----------|--------------|-------------------|
| Project management (e.g. scheduling, task assignment, work process & deadline monitoring)                    |                |           |              |                   |
| Governance (e.g. decision-making, consultation and problem-solving)                                          |                |           |              |                   |
| Management of financial issues                                                                               |                |           |              |                   |
| Communication among partners and with the project coordinator                                                |                |           |              |                   |
| Quality & impact of the dissemination activities (e.g. website, presentations at conferences, etc)           |                |           |              |                   |
| Quality & impact of the sustainability aspects (i.e. within the life cycle and after the end of the project) |                |           |              |                   |
| Improvement of the skills in your organization                                                               |                |           |              |                   |
| Functioning of the partnership                                                                               |                |           |              |                   |

|                                                                                                 |
|-------------------------------------------------------------------------------------------------|
| Additional comments (problems encountered, positive aspects, suggestions for improvement, etc): |
|                                                                                                 |

**Annex 4 - Dissemination event report sheet (organisers)**

Organiser of the event: \_\_\_\_\_

Name of the person filling the sheet: \_\_\_\_\_

Event: \_\_\_\_\_

Date: \_\_\_\_\_

Venue: \_\_\_\_\_

Type of event: (national, international, press conference, promotional event, etc.): \_\_\_\_\_

|                                             |                       |
|---------------------------------------------|-----------------------|
| Description of the event                    |                       |
| Organiser(s)                                |                       |
| Agenda                                      | Link to the agenda    |
| Links to further information                | e.g. at METIS website |
| Number of participants                      |                       |
| Invitation sent out on                      |                       |
| Information material was sent out on        |                       |
| Number of invitations sent                  |                       |
| Problems faced during the preparation phase |                       |

|                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------|
| Additional comments (strong and weak aspects, suggestions for further dissemination, links to next events/activities, etc): |
|                                                                                                                             |

**Annex 5 - Dissemination event evaluation questionnaire (participants)**

Event (name, date, venue): \_\_\_\_\_

| Issue                      | Very satisfied | Satisfied | Dissatisfied | Very dissatisfied |
|----------------------------|----------------|-----------|--------------|-------------------|
| Management of the event    |                |           |              |                   |
| Structure of the programme |                |           |              |                   |
| Venue and facilities       |                |           |              |                   |
| Presentations              |                |           |              |                   |
| Discussions                |                |           |              |                   |
| Time for networking        |                |           |              |                   |
| Catering (if applicable)   |                |           |              |                   |

|                                                                       | Strongly agree | Agree | Disagree | Strongly disagree |
|-----------------------------------------------------------------------|----------------|-------|----------|-------------------|
| The information I got will be of immediate use to me                  |                |       |          |                   |
| This event covered to a very high extent the topics I have expected   |                |       |          |                   |
| I enjoyed the cooperation and interaction with the other participants |                |       |          |                   |
| My expectations were met or exceeded                                  |                |       |          |                   |
| The materials distributed were useful and informative                 |                |       |          |                   |
| The discussions were relevant for the participants                    |                |       |          |                   |
| The working methods were suitable for the topics and the participants |                |       |          |                   |
| The overall organisation was professional                             |                |       |          |                   |
| The time management was effective                                     |                |       |          |                   |
| The communication methods were effective                              |                |       |          |                   |
| I would recommend this kind of event to my colleagues                 |                |       |          |                   |

|                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------|
| Additional comments (strong and weak aspects, suggestions for further dissemination, links to next events/activities, etc): |
|                                                                                                                             |