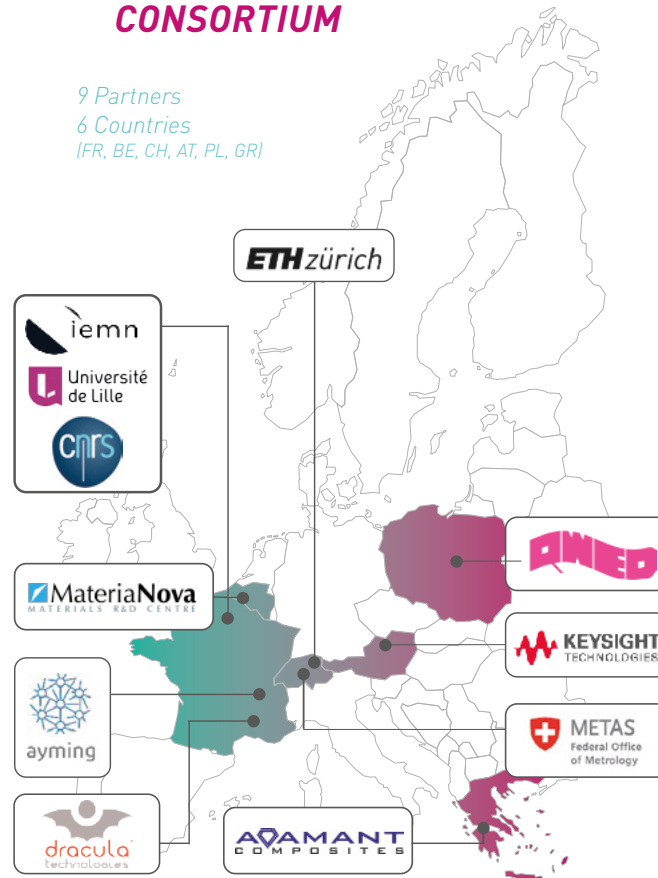


AN AMBITIOUS PROJECT

An ambitious project gathering a complementary Characterization/Modelling/Materials/Products set of European competences in the field of emerging energy products.

CONSORTIUM

9 Partners
6 Countries
(FR, BE, CH, AT, PL, GR)



MMAMA

SEE SMALLER AND DEEPER
UNDERSTAND AND PRODUCE BETTER

Multiscale (or Macro- to Nano-scale) microwave characterization tools and methods for efficient manufactured thin film hybrid materials and devices.



Coordinator: IEMN, University of Lille / CNRS
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www.mmama.eu

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The MMAMA project aims at enabling advanced material analysis and boosting its quality and production efficiency thanks to the GHz measurement and modelling platform in a wide community.

PROJECT OBJECTIVES

MMAMA will notably allow:

- / Development of Scanning Microwave Microscopy (SMM) technology
- / Establishing new SMM calibration routines
- / Establishing electromagnetic 3D models and modules for advanced materials including modelling platform
- / Validation of high frequency characterisation technology through the fabrication and the characterisation of reference materials and structures
- / Demonstration of multi-scale microwave imaging technologies at pilot scale for in-line and off-line production
- / Development of standard operating procedures and implementation of open access environment

FROM LABORATORY LEVEL UNIQUE INSTRUMENTATION, MODELLING AND ADVANCED MATERIALS...

1. Instrumentation and modelling:

Development of SMM technology on electrical resolution, bandwidth, and microwave probes. Improvement of the SMM towards better suitability for industry relevant challenges. Bridge the gap between the capabilities of the currently available simulation technologies and the specific requirements of SMM.

2. Advanced hybrid thin film materials:

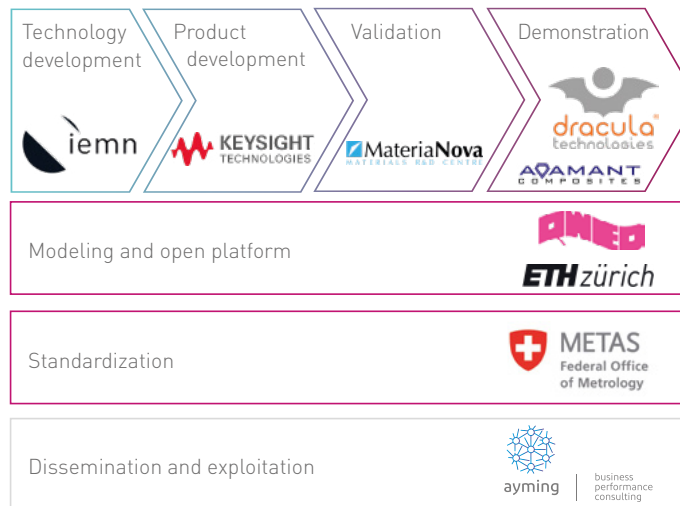
Fabrication and characterisation of reference materials and structures for validation of SMM technologies at the lab scale.

MOTIVATIONS

Beyond R&D and demonstration of nano-scale and macro-scale microwave instruments and techniques' interest at production scale. MMAMA will notably allow standardization of practices and:

- / Allow off-line & lab characterization to generate data and application database
- / Monitor and compare in-line pilot with application database to optimize materials

MMAMA'S VALUE CHAIN



...TO IN-LINE CHARACTERIZATION SOLUTIONS FOR EMERGING MANUFACTURED PRODUCTS FOR ENERGY APPLICATIONS

1. In-Line instrumentation:

Demonstration of macro-scale microwave characterisation techniques for in-line pilot production.

2. Open Innovation Environment:

Development of standard operating procedures and implementation of open access environment.