

Message from the Coordinator

Since the last newsletter in July 2016, the consortium worked on the first fabrication run of the M3TERA platform, the first chips got delivered and the fabrication of the offset reflector antenna has been started.

In July 2017, the first project period (M01-M18) could successfully be concluded and the results were presented at the review meeting. Furthermore, in period 2 there was the M3TERA General Assembly, Technical & Advisory Board Meeting in Neuchâtel, where the consortium received very valuable feedback from the Advisory Board members.

IN THIS ISSUE

- Message from the Coordinator
- Review Meeting in Brussels and GA/Technical/AB Meeting in Neuchâtel
- Research Highlights
- Participation in past and upcoming Conferences

2nd Review Meeting in Brussels / Belgium

As the first 18 months of M3TERA passed, the consortium travelled to Brussels to present the project results so far to the EC and the external experts. The 2nd Review Meeting of M3TERA took place on **29th September 2016** and on 28th September 2016 M3TERA partners met to prepare for the meeting and align the presentations.

The following achievements within the 1st project period were reported:

- M3TERA made excellent progress towards technical objectives and fully achieved its objectives and milestones.
- M3TERA was represented at well-known occasions like ISSCC, GeMIC, MIKON, ICC, GSMM, etc. A conference paper to EMBS has been accepted.
- Promising simulated demonstration of performances of MEMS tunable filters.
- Full antenna design meeting specification in D1.1 with a full study of tolerances that would be realistic to mechanically implement. Some elements of the design are still missing and are planned for period 2.
- A full set of design rules have been implemented promising a smooth transfer to industrial production.

The project officer and the reviewers were impressed by the results shown and the very well managed project. We are thankful for the valuable feedback they gave and will include it into the continuous project work.



M3TERA GA / Technical & AB Meeting in Neuchâtel / Switzerland

From **8th – 9th November 2016**, partner CSEM hosted the official General Assembly/ Technical and AB Meeting in Neuchâtel. The meeting started with the General Assembly Meeting and in the afternoon, there was an Advisory Board workshop, where the Advisory Board members (Antti Räisänen from Aalto University, Roberto Sorrentino from University of Perugia and Christian Evers from Rhode & Schwarz) had valuable discussions with the M3TERA consortium and provided fruitful advice and feedback. On the second day of the meeting there was a project internal technical meeting in order to discuss ongoing and future work within the work packages.



KEY Data:

Start Date: 1 February 2015
End Date: 31 January 2018
Duration: 36 months
Project Reference: 644039
Project Total Costs: € 4.255.743,75
EC Contribution: € 3.742.961,25

Consortium:

Project Coordinator:

Technical Leader:

Scientific Leader:

7 partners (4 countries)

Dr. Klaus-Michael Koch
coordinaton@m3tera.eu

Dr. Franz Dielacher
franz.dielacher@infineon.com

Dr. Joachim Oberhammer
joachim.oberhammer@ee.kth.se

Project Website

www.m3tera.eu



FOLLOW US ON 

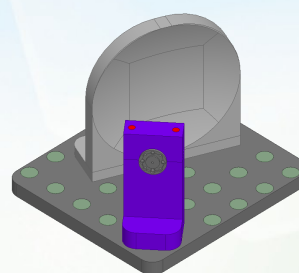
https://twitter.com/m3tera_h2020

Some research highlights of the previous months

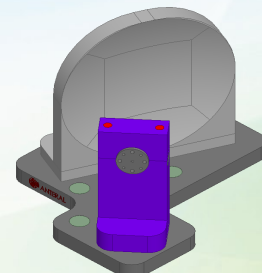
The fabrication of the offset reflector antenna started. This fabrication will be done in aluminium and using a milling machine. Moreover, Anteral optimized the mechanical design of the system accordingly to a 3D printing fabrication process. This solution is also going to be fabricated in the following weeks in order to compare both performances and to provide a low cost option.

KTH finished the fabrication of the first fabrication run of the M3TERA platform for D2.3 "Microsystem Platform 1st Prototypes" and the first chips got delivered to Chalmers for the assembly with dummy MMICs. Furthermore, KTH finalized the mask design for the micromachined diplexers for Ericsson. Chalmers is working with another Infineon tapeout. Amplifier, mixer, frequency multipliers and multi-functional transmitter and receiver have been designed in this tapeout run. Several circuits, including Mixer, PA and LNA, as well as the eWLB based MMIC to platform transition have been tested.

The preliminary result is very promising. Some platform structures were delivered to Chalmers and are now tested with Chalmers designed MMICs. There is also a patent application for this concept which is processed by Infineon.



milling model



3D printing model



first platform fabrication

Past Conferences

38th Annual International Conference of the IEEE Engineering in medicine and Biology Society (EMBS)

16th - 20th August 2016, Orlando/USA: CSEM presented the paper "Human Physical Condition RF Sensing at THz range"

RFIT 2016 – 2016 IEEE International Symposium on Radio-Frequency Integration Technology

25th August 2016, Taipei/Taiwan: CHALMERS participated in a workshop.

ESSCIRC/ESSDERC-2016

12th - 15th September 2016, Lausanne/Switzerland: IFAT participated in TPSB (Technical Program Steering Board) and conference attendance.

European Microwave Week (EuMW 2016)

3rd - 7th October 2016, London/UK: Aitor Martinez (Anteral) gave a presentation about "High Gain Antenna for Millimetre-Wave Communications".

HERMES partnership meeting

17th November, Geneva/Switzerland: CSEM presented M3TERA

KEY Data:

Start Date: 1 February 2015
End Date: 31 January 2018
Duration: 36 months
Project Reference: 644039
Project Total Costs: € 4.255.743,75
EC Contribution: € 3.742.961,25

Project Website

www.m3tera.eu

Consortium:
Project Coordinator:

Technical Leader:

Scientific Leader:

7 partners (4 countries)
Dr. Klaus-Michael Koch
coordinaton@m3tera.eu
Dr. Franz Dielacher
franz.dielacher@infineon.com
Dr. Joachim Oberhammer
joachim.oberhammer@ee.kth.se

Participation in upcoming Conferences, Partnerships & Papers:

- IFAT is invited to the [iBROW project](#) meeting in January 2017.
- CSEM submitted paper to the [ISMICT2017 conference](#). The paper is about 3D printed plastic lens antennas as inexpensive solution for multipurpose M3TERA platform. Paper title: **3D Printed Antennas for Mm-wave Sensing Applications**.
- Chalmers, IFAT and Ericsson submitted a paper to the [IEEE International Microwave Symposium \(IMS2017\)](#).
- ANTERAL is planning to attend the [IRMMW-THz conference](#) in Cancun, in August 2017.
- The next **M3TERA Review Meeting** is planned for June 2017 in Neuchâtel (CSEM).



FOLLOW US ON [Twitter](#)

https://twitter.com/m3tera_h2020