An excellence centre within an institute of micro- and nanotechnologies in Bucharest, Romania (II)

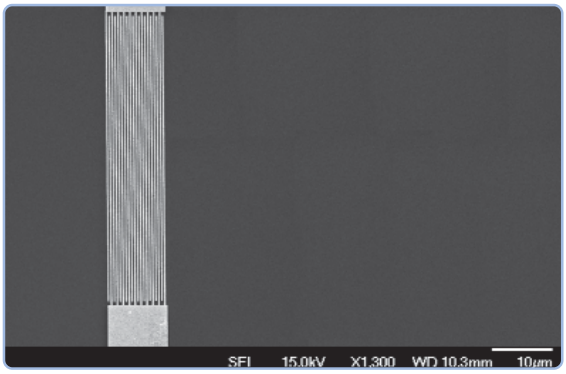
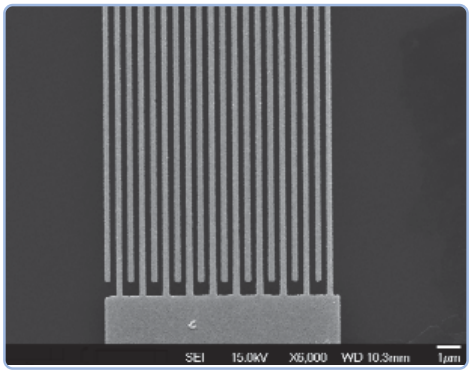


Fig. 3 New experimental AlN SAW structure for GHz applications manufactured and measured at IMT-Bucharest. Fingers and pitches with a width on 250 nm have been obtained with the new purchased nanolithographic equipment (Vega-SEM and Elphy Plus EBL). ***Envisaged applications in the new generation of mobile phones.***



Previous record of European cooperation of the two IMT laboratories (see also the figures, below). **The Laboratory of RF-MEMS** has coordinated "Micromachined Circuits for Microwave and Millimetre Wave Applications" (MEMSWAVE, 1998-2001, FP4-INCO). MEMSWAVE was nominated in 2002 among the top ten European projects for the Descartes Prize (the best European co-operative research project). This lab was a key partner in the FP6 network of excellence "Advanced MEMS for RF and Millimetre Wave Communications" (AMICOM, 2004 - 2007), and is also involved in the recently approved FP7 STREP **"MEMS 4 MMIC"** (2008-2011) call ICT-2007-2.

The Laboratory of Microphotonics (***Dr. Dana Cristea, dana.cristea@imt.ro***) was also participating in several FP6 projects: the network of excellence 4M (Multi-Material Micro Manufacture: Technologies and Applications); NoE, FP6-NMP ; WAPITI, STREP, 2004-2007, FP6-IST; ASSEMIC, Marie Curie Network, (FP6-Mobility), and it is now involved in the FP 7 Integrated Project **FlexPAET** (2008-2010), call NMP-2007-1.

The main objectives of the MIMOMES project are described below:

"Exchange of know-how and experience". This activity will be done **by twinning with two research centres: LAAS-CNRS** in Toulouse, France, and **FORTH-IESL-MRG** in Heraklion, Greece.

"Recruitment of incoming experienced researchers" will allow IMT to **hire Post-Doctoral researchers with expertise in nanophotonics and microwave millimetre wave devices, and MEMS** for advanced communication systems and sensors. The researchers will be initially hired for 24 month fellowships. At the end of the period, the researchers will have the possibility to become full time IMT employees.

"Acquisition, development or upgrading of research equipment" will provide to IMT **a Scanning Near field Optical Microscope (SNOM)** and an **upgrade to 110GHz of the existing 65 GHz set-up for "on wafer" millimetre wave characterization**.

"Organisation of workshops and conferences" will support **knowledge transfer at national and international levels** through organisation of scientific international sessions and seminars, while ***"Dissemination and promotional activities"*** will consist in publication of research results in peer reviewed journal and presentation at international conferences.

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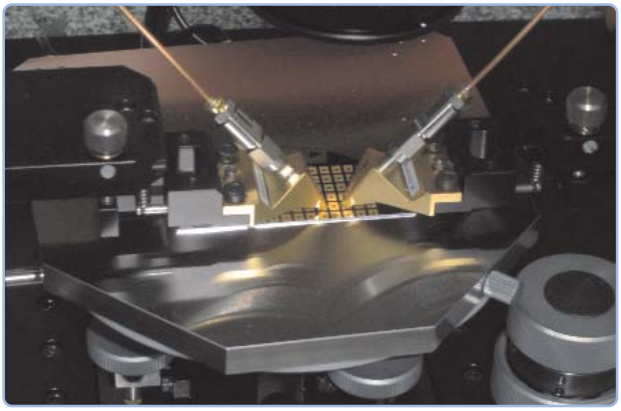

Fig. 4. The new "on wafer" microwave measurement equipment till 65 GHz purchased by IMT-Bucharest in 2007 in the frame of the National Programme CEEX (Module 4). The corresponding MICROLAB will also provide ***services for companies.***