

New technique enables the fast and cheap manufacturing of high-performance circuits

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Credit: Asociación RUVID

Researchers of Valencia's Polytechnic University (UPV) and the Spanish National Research Council (CSIC) have developed a new methodology that makes it possible to manufacture high-performance circuits for telecommunications in a fast and cheap way. It integrates 3-D printing, which enables the use of metals and polymers. Furthermore, the researchers also suggest a technique that makes it possible to metalize

the printed materials and imbue them with conductivity.

"3-D printing allows us to prototype very quickly, but 3-D printing is usually done with plastic materials. As we needed the devices to be conductive in order to use them in microwave applications—circuits—they had to be metalized. And to do so, we have developed a technique that makes it possible to obtain a piece manufactured with a plastic material but with a very stable and lasting metallic coat that has very good conductivity," explains Carmen Bachiller, professor at the higher technical school of Telecommunication Engineering and [researcher](#) for the iTEAM of the UPV.

Researchers of the Chemical Technology Institute (UPV-CSIC) have also taken part, collaborating with the development and application of the metalization of plastic materials.

The technique patented by the UPV and CSIC is of special interest for the fast and cheap designing and manufacturing of microwave circuits used, for example, in devices placed aboard small satellites, vehicles and mobile communication base stations.

"This technique makes the prototyping of high-frequency devices for communications easy, quick and cheap. Furthermore, it makes it possible to design and manufacture any desired component. And with the suggested integration system, the pieces are easily assembled and exchangeable," concludes Carmen Bachiller.

Provided by Asociacion RUVID

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