

# MULTI-PROJECT FAN-OUT WAFER LEVEL PACKAGING FOR EURO PRACTICE

Early Access MPFOWLP Run available mid 2019  
For more information please contact us!

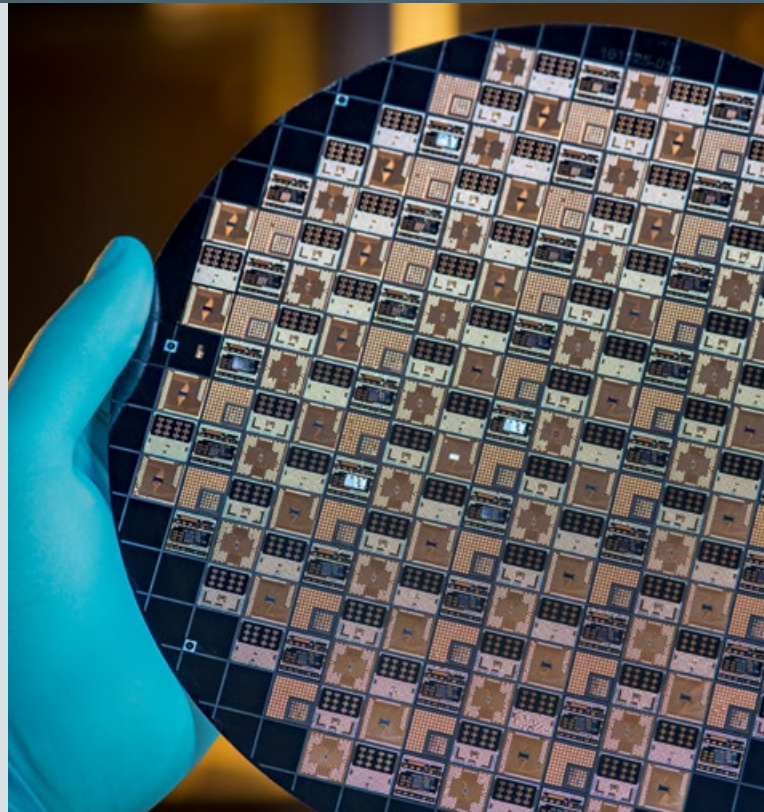
## CONTACT

**Fraunhofer Institute for  
Reliability and Microintegration IZM**

Gustav-Meyer-Allee 25  
13355 Berlin, Germany  
[www.izm.fraunhofer.de](http://www.izm.fraunhofer.de)  
[info@izm.fraunhofer.de](mailto:info@izm.fraunhofer.de)

**Dr. Tanja Braun**

[europactice@izm.fraunhofer.de](mailto:europactice@izm.fraunhofer.de)  
[www.europactice-ic.com](http://www.europactice-ic.com)



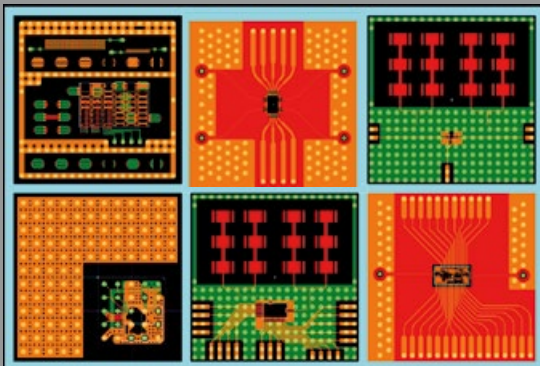
## MPFOWL PACKAGE SPECIFICATION

- Die delivery: WafflePack, wafer, wheel
- Die size: 1.5 – 7 mm edge length
- Die thickness: 200 – 300  $\mu\text{m}$
- Package thickness: 450  $\mu\text{m}$
- Package size: 10x10mm<sup>2</sup>, smaller package size possible with extra effort
- Metal layers: 2
- Integration of e.g. antennas and passive structures in RDL
- Pin-out: BGA
  - Pitch: 500  $\mu\text{m}$
  - Ball size: 300  $\mu\text{m}$
  - Solder: SnAgCu
- Defined packaging materials

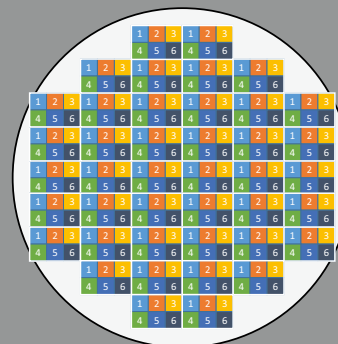
## DESIGN RULES & MATERIALS

Multi-project wafer processing is an established approach in semiconductor manufacturing for fast and low cost prototyping. This idea is now transferred to fan-out wafer level packaging. Here dies from different sources or different technologies with varying thickness and size can be handled and packaged with one integration technology. This offers a path to a well adopted technology, especially for RF applications.

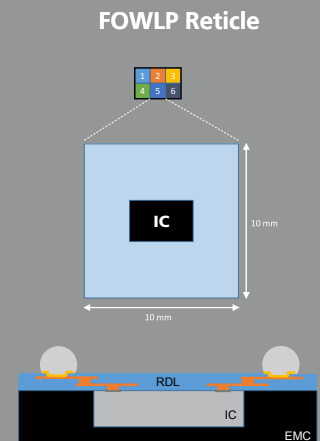
## LOW VOLUME PROTOTYPING MULTI PROJECT FAN-OUT WAFER LEVEL PACKAGING



RF package design example in cooperation with IHP



Multi Project Fan-out Wafer



FOWLP Package