



**SPIRE  
Pre-Brokerage  
event**

**21 September 2017**

**MICROWAVES AS AN  
INNOVATIVE PRODUCTION  
TECHNOLOGY**

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# UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Microwave Division (DiMaS), ITACA Institute at Universitat Politècnica de València



**+ 100 Employees**  
**Annual Budget > 5 M€**  
**External funding > 2M€**  
**2 Spin-off**

## Relevant Experience in EU PROJECTS



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

- 79 H2020 projects
- > 32 MEUR financed

## Two main areas using microwave technology:

- Microwave heating processes
- Characterization of materials and processes



**MICROSHOE**



# SKILLS

## Industrial Microwave Heating

- Design and manufacturing
- From Lab (TRL4) to Pre-industrial scale (TRL6-7)
- Including in-situ and real-time control.
- Optimization of process efficiency and product quality.

## Material characterization

- Determination of the material interaction with the microwave fields
- Advanced in-situ characterization up to more than 1000°C



Complete engineering support for the development of microwave demo units



Advanced equipment for in situ monitoring of ultra-fast microwave heating processes

# SPIRE TOPICS CE-SPIRE-02/03-2018

## Our main contribution to the topics

**CE-SPIRE-02-2018**

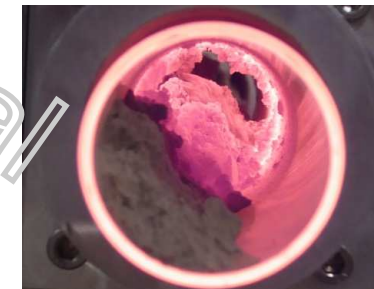
**CE-SPIRE-03-2018**

- Innovative production technology (microwave) allowing flexibility:
  - Compact equipment that can be containerised
  - Portable pilot plants for small productions
- Developed at TRL6 in several sectors: ceramic, polymers, metals, etc.
- Demonstrated energy savings and increased efficiency



TRL6 - Microwave applicators in industry plants

Portable Flexible Modular



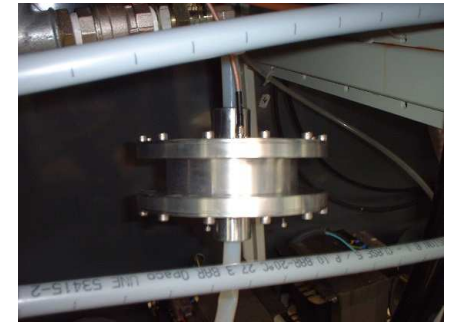
Microwave technology for continuous-flow high-temperature processes

# SPIRE TOPIC CE-SPIRE-05-2019

## Our main contribution to the topic

### CE-SPIRE-05-2019

- Microwave sensors for on line monitoring
  - feedstock composition, moisture, etc.
  - Contamination of components
- to adapt the process and improve efficiency
- Non-invasive, non contact
- For liquid, powder, solid materials
- Successfully installed in industry (chemical, ceramic, polymers)



Microwave applicators and sensors for in-situ and real-time control of the process



# Microwave Division (DiMaS)

Close contact with industry (big companies and SMEs)



Join Our Network





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