



SPACE  
FOR BUSINESS  
BUSINESS  
FOR SPACE



## TECHNOLOGY DESCRIPTION

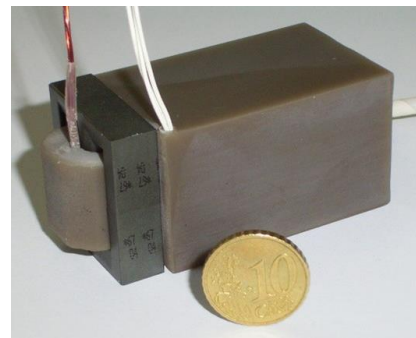
Travelling-Wave Tube Amplifiers (TWTA) are broadband high frequency-amplifiers used in communication satellites. TWTA consist of a high voltage supply unit and of a travelling-wave tube. To achieve a compact design, the high voltage supply unit is entirely encapsulated within a solid insulation material with a high dielectrical toughness. In addition, for the mechanical installation of the unit, a highly reliable epoxy resin system was developed and qualified up to a nominal voltage of 30 kV.



## INNOVATIVE ASPECTS

Special properties of the high voltage casting are:

- Low dimensions and weight of the casted high voltage modules
- Low outgassing
- High dielectrical toughness
- Low thermal expansion coefficient
- High thermal conductivity
- Good behaviour under partial pressure
- No ageing
- Broad thermal range



## TECHNOLOGY READINESS (in space application)

TRL 9 (2024)

## COUNTRY OF ORIGIN

Germany

## LATEST UPDATE

06/2024

### TAGS

#high voltage

#casting

#amplifiers

#dielectrical

#epoxy resin

#satellites

### APPLICATION AREAS

Aviation

Energy

Electrical &  
Electronic  
Engineering

Construction &  
Civil Engineering

Infrastructure &  
Smart Cities

Mechanical  
Engineering

Transport &  
Logistics

# TECH CARD

