

ONGOING PROJECT: DEPOZ

Repair and Functionalisation by Laser Metal Deposition



Objectif : Master LMD process for aerospace applications

Repair & functionalization

Support M&P specifications for industrial deployment

Increase knowledge on peculiar metallurgy of AM products

Process simulation & multiscale modelling

Main activities

- Design guidelines
- Process maps
- Process simulation
- Materials allowable & behavior laws
- Multiscale microstructures characterizations incl. interface
- Thermal treatments specifications
- Defects & NDT Strategy vs. Targeted application
- Databases: Materials properties & Defects
- Full scale demonstrators



5.7M



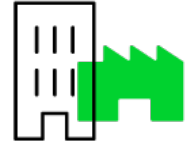
58
months



AIRBUS, ALTRAN, BEAM,
ELEMENT, IREPA LASER,
LATÉCOÈRE, LAUAK,
LIEBHERR,
MECAPROTEC,
OERLIKON, POLY-
SHAPE, SATYS, SAFRAN,
TIMET

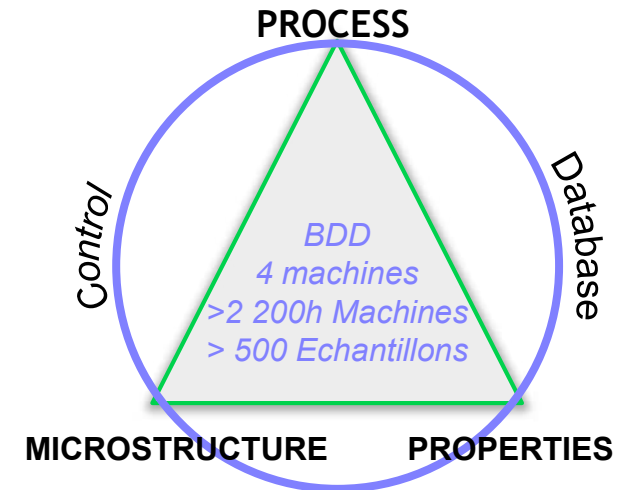


21
Delivrables



5,2
FTE
1
Publication

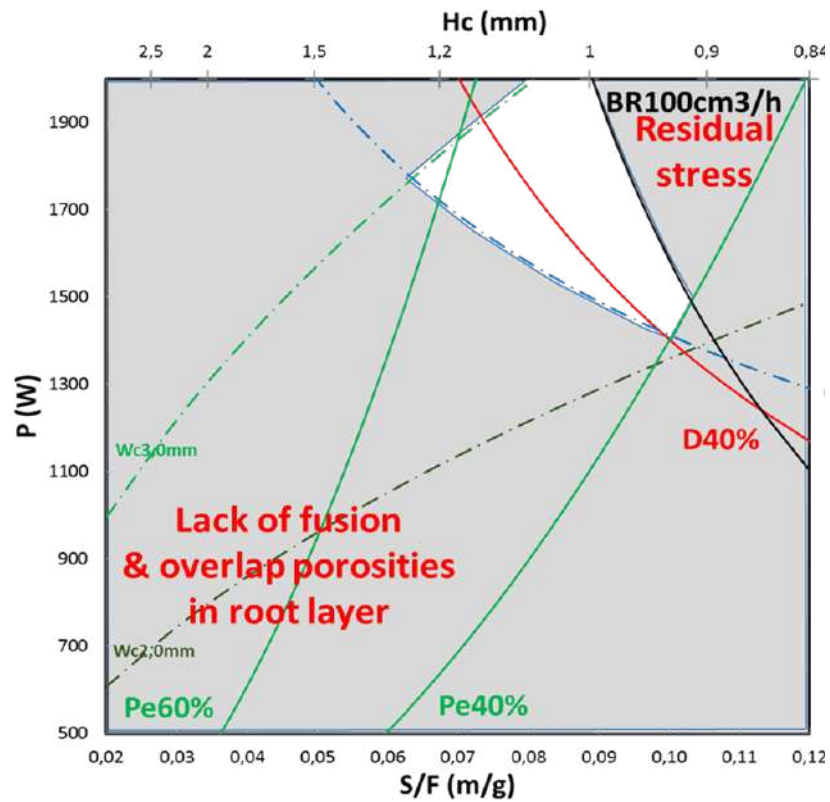
Studied alloys: Ti64 et Ni718



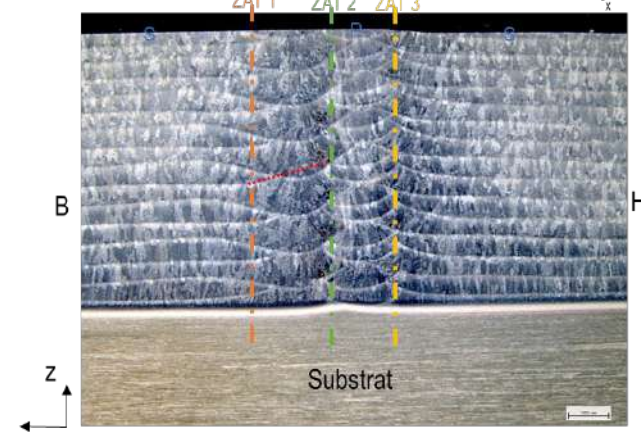
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Building strategy vs. macro & microstructure



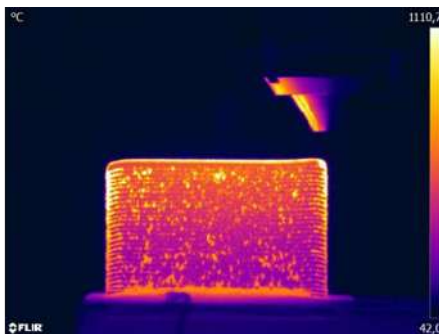
Echantillon CD6 : Face longitudinale (yz)



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*Machine Variability
Parametric study*



*Monitoring In situ
camera infra
rouge*



Optimized Building strategy



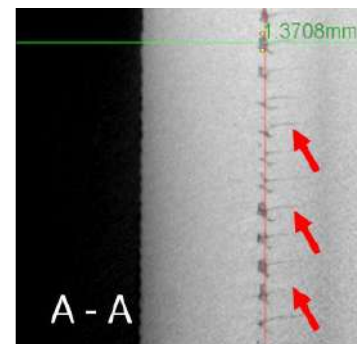
Paramètres standards



Paramètres DéPoZ optimisés



*Defects vs. building
strategy*



WP1 Proof of concept

