

Fabrication Additive

Etat des lieux

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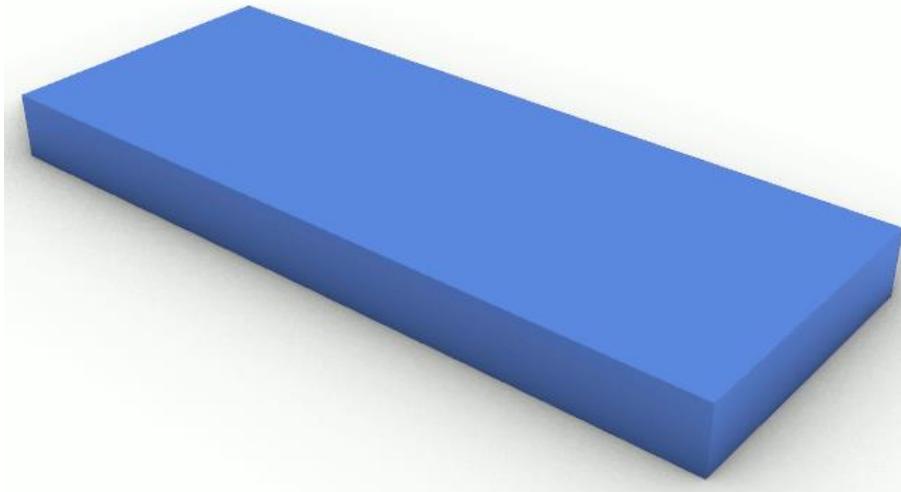
UMR 5272



ISO52900: process of joining materials
to make parts
from 3D model

usually layer upon layer

opposed to subtractive manufacturing



and formative manufacturing methodologies

1984: premières technologies de prototypage rapide

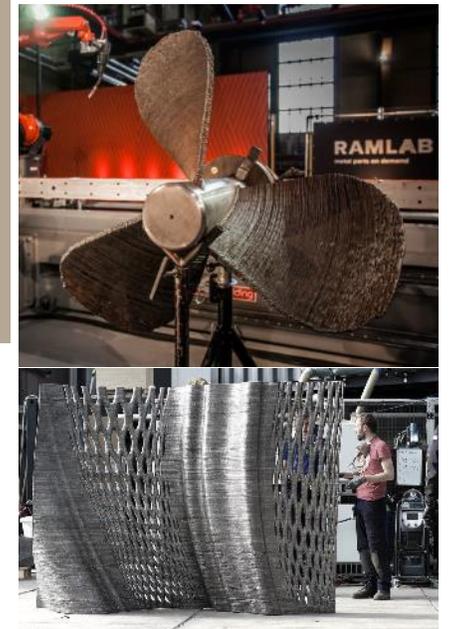
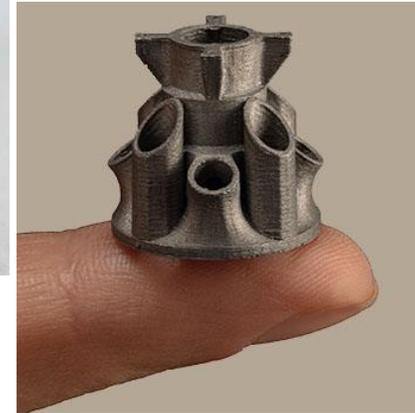
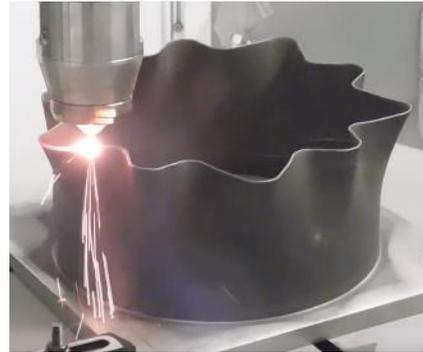
2000: premières expériences industrielles

1995: première machine de fabrication additive métal

2010: Démocratisation et forte augmentation du nombre d'acteurs

Les moyens en fabrication additive métallique

Poudre			Fil	
Lit de poudre	DED*	Indirecte	Indirecte	DED*
EBM	Laser Powder	Binder Jetting	MIM like	WAAM
LBM			ADAM	Laser Wire
				EBAM



* Direct Energy Deposition

Cas du DED (WAAM)



Barre extrudée

x 20



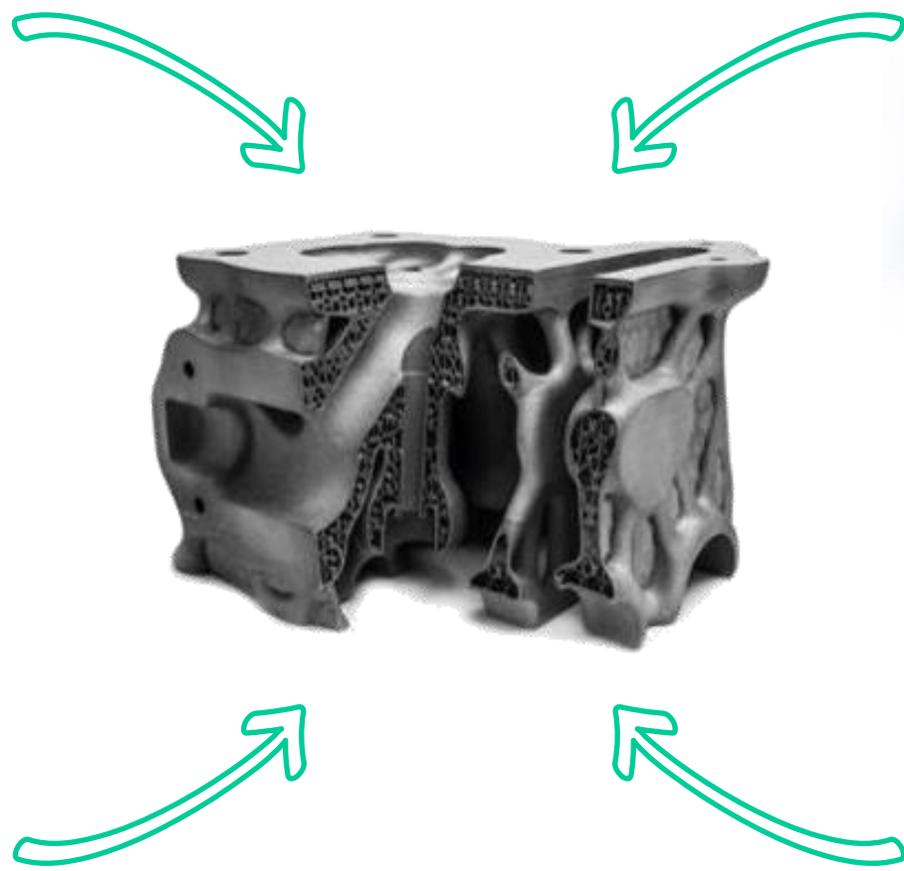
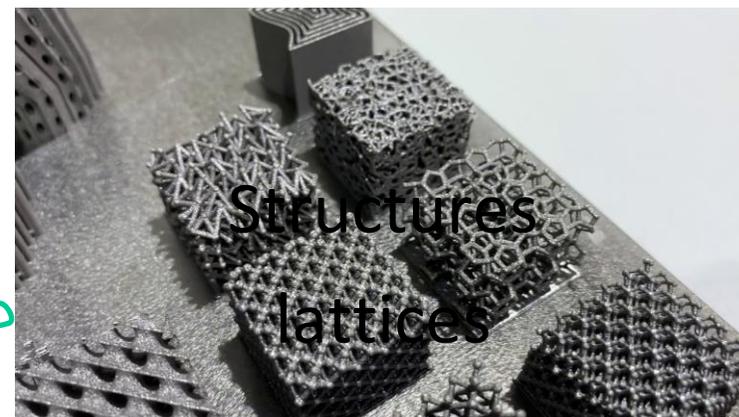
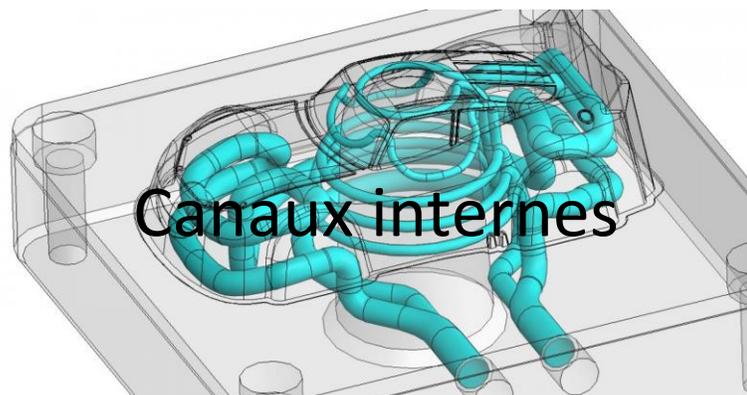
Pièce à réaliser

x 2,5



Brut réalisé par fabrication additive

Libertés de design





~ 500 véhicules / jour
~ 10 €/kg



500 véhicules
~ 1 214 €/kg

