

## REN (Référentiel Environnemental du Numérique - Reference frame of Environmental Negative impacts) - *Production Phase*

Impacts	Hardwares			
	Laptop	Smartphone	Server (Data centre)	Connected TV
Primary Energy (MJ)	6640	717	/	/
GHG (kgCO <sub>2</sub> e)	514	61	588	441
Gallium [ Ga ] (mg)	8	0	/	200
Indium [ In ] (mg)	18	7	/	12100
Tantalum [ Ta ] (mg)	540	45	/	/
Copper [ Cu ] (g)	171	20	/	885
Cobalt [ Co ] (g)	12	6	/	/
Palladium [ Pd ] (mg)	1	5	/	/
Ore Extracted Volume (L)	7	2	/	227

Metals

Source : <https://theshiftproject.org/>