

# Product Life Cycle Assessment for Mobile Product

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## ● Background

Samsung Galaxy series, cutting edge smart devices was analysed based on life cycle assessment(LCA) methodology according to international standard ISO 14040 series in order to determine potential environmental impact across the whole life cycle including pre-manufacturing, product manufacturing, distribution, product use and disposal phase. Product bill of material (BOM), parts and components logistics, energy consumption in product use and end-of-life scenario data were utilized to model the environmental impact using a dedicated LCA S/W and its database. Potential environment impact was quantified in total 12 environmental impact categories including Global warming, Abiotic depletion, Acidification, Eutrophication, Ozone layer depletion etc.

## ● Calculation basis

Standard	ISO 14040:2006 and 14044:2006
Database	Ecoinvent 2.2
Method for impact assessment	Life cycle impact assessment classification and characterization factors according to CML 2001 as provided in the SimaPro 7.1.5 LCA tool
LCA software	SimaPro 7.1.5

## ● System boundary of LCA

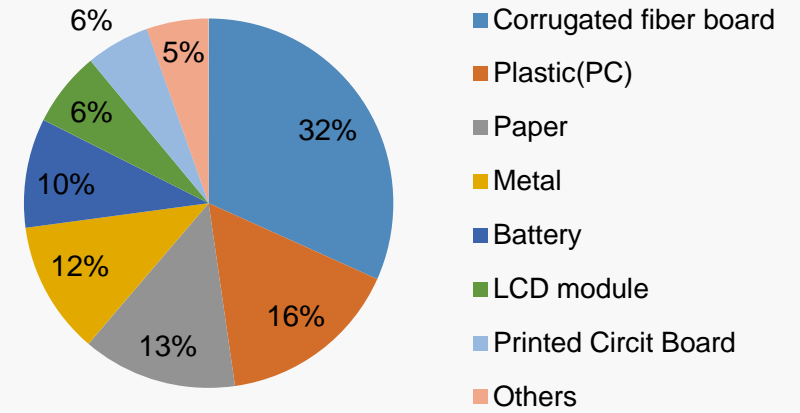
Pre-manufacturing	Parts and materials constituting the products and its transportation (from supplier to Samsung factory)
Manufacturing	Product assembly by Samsung Electronics (Data collection period : April ~ May, 2015)
Distribution	From China or Vietnam to United States
Usage	2 years use
Disposal	Waste treatment of parts and material

## ● Product Features

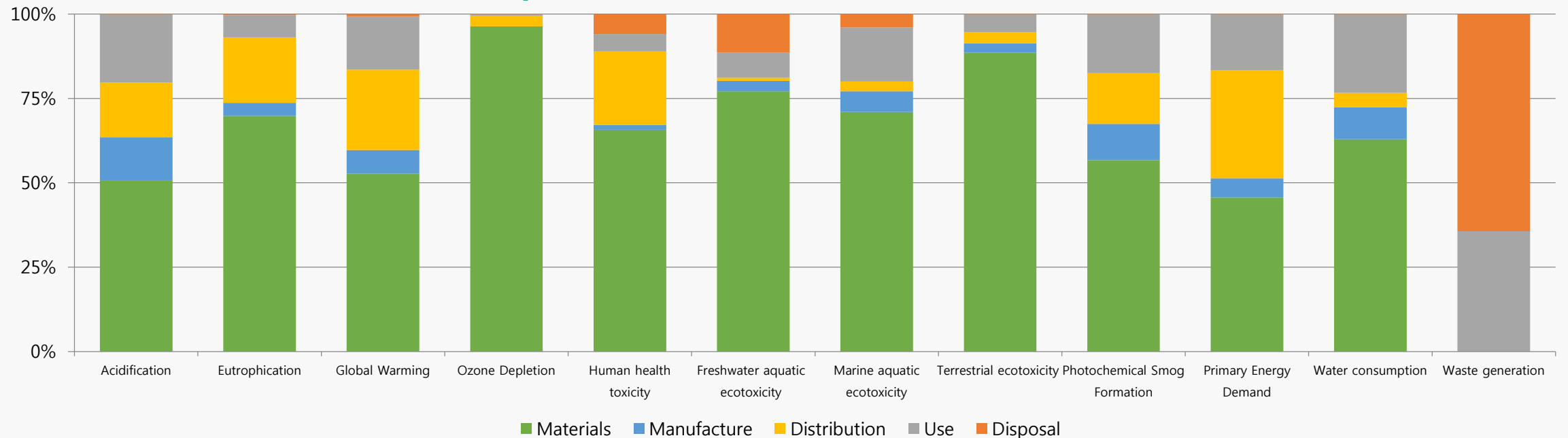


Model name	SM-G920V (Galaxy S6)
Processor	Octa-Core 2.1GHz, 1.5GHz
Dimension	143.4 x 70.5 x 6.8 mm
Display	Super AMOLED 5.1"
Memory	32GB
Battery	2550mAh
Camera	Main : 16M pixel / Front : 5M pixel
Wt.(g)	Product : 138g / Packaging 261 g

## ● Material Use



## ● Characterised Environment Impact

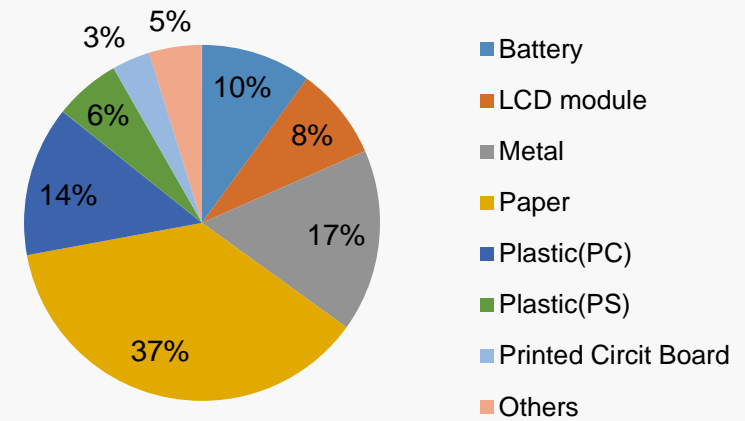


## ● Product Features

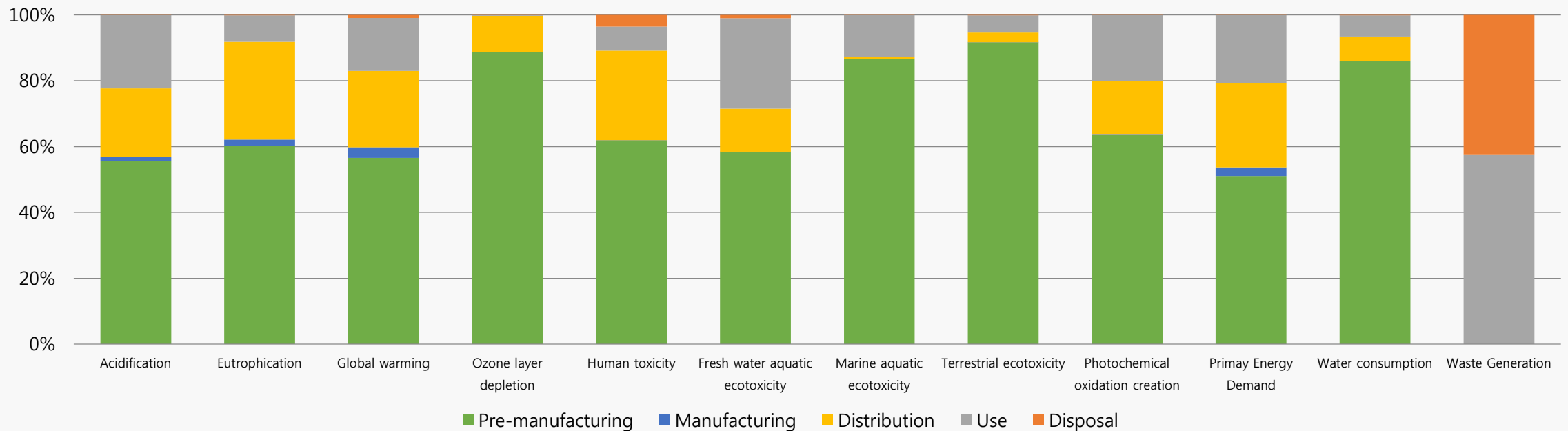


Model name	SM-N920V (Galaxy Note5)
Processor	Octa-Core 2.1GHz, 1.5GHz
Dimension	153.2 x 76.2 x 7.62 mm
Display	Super AMOLED 5.7"
Memory	32GB, 4GB RAM
Battery	3000mAh
Camera	Main : 16M pixel / Front : 5M pixel
Wt.(g)	Product : 192g / Packaging 259 g

## ● Material Use



## ● Characterised Environment Impact

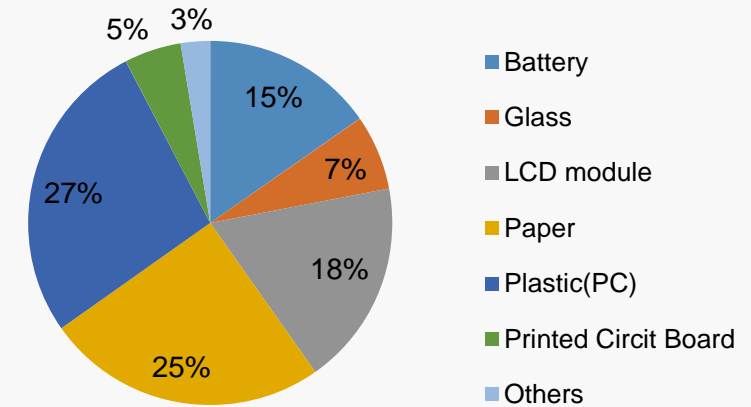


## ● Product Features



Model name	SM-T377P (Galaxy TAB E)
Processor	Quad-Core 1.2GHz
Dimension	212.1 x 126.0 x 8.9 mm
Display	TFT 8.0"
Memory	1.5GB RAM
Battery	5000mAh
Camera	Main : 5M pixel / Front : 2M pixel
Wt.(g)	Product : 192g / Packaging 259g

## ● Material Use



## ● Characterised Environment Impact

