

New product development design for sustainable innovation

In collaboration with De'Longhi Appliances



Think a **NPD toolkit** that support
the company through the design of
circular appliances and guide
consumers to **sustainable
behaviours**.



"To produce **household appliances**, the European industry uses every year about **500 kt of steel, 200 kt of plastics, 60 kt of copper and 40 kt of aluminum**.

During usage, the total energy and water EU consumption sums up to **25 TWh and almost 2 km³ of water per year**.

Only 35% of appliances are collected and **recycled**".

(Bressanelli G. et al., 2020)



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Circular economy

(APPLiA, 2021)










- How to design **lasting appliances**?
- How to design rich **experiences** that create **meaningful associations**?
- How to build an emotional **story** behind objects?
- How appliances can become **cherished possessions**? (assuming more meaning and value over time)
- How can designers **make users aware of the importance of extending the life of appliances**?

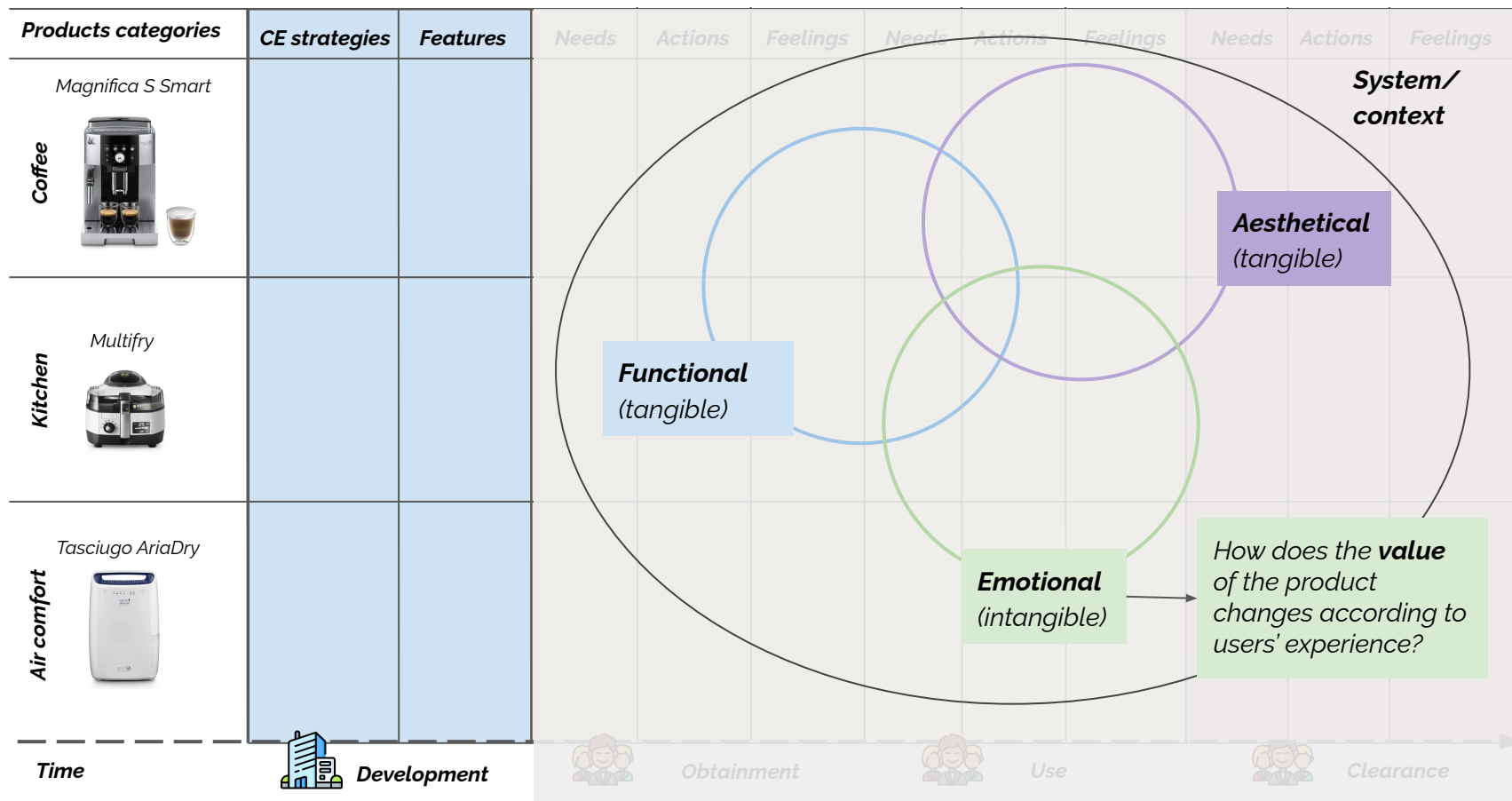
De'Longhi products' values map

Products categories	CE strategies	Features	Needs	Actions	Feelings	Needs	Actions	Feelings	Needs	Actions	Feelings
<div>Magnifica S Smart</div> <div>Coffee</div> <div></div>											
<div>Multifry</div> <div>Kitchen</div> <div></div>											
<div>Tasciugo AriaDry</div> <div>Air comfort</div> <div></div>											
Time	<div></div> Development		<div></div> Obtainment			<div></div> Use			<div></div> Clearance		








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Coffee <i>Magnifica S Smart</i> 			New Ecodesign for Sustainable Products Regulation (European Commission, 30 March 2022) <ul style="list-style-type: none"> Product durability and reliability; Product reusability; Product upgradability, reparability, maintenance, and refurbishment; The presence of substances of concern in products; Product energy and resource efficiency; Recycled content in products; Product remufacturing and recycling; Products' carbon and environmental footprints; Products' expected generation of waste materials. 								
Kitchen <i>Multifry</i> 											
Air comfort <i>Tasciugo AriaDry</i> 											
Time 	Development			Obtainment		Use		Clearance			





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Coffee  Magnifica S Smart											<ul style="list-style-type: none"> How do the users decide if an appliance is needed or not? (e.g. family discussion, comments...) How do the consumers evaluate different offers/make choices? (e.g. Internet searching, testing...)
Kitchen  Multifry											<ul style="list-style-type: none"> Which product features are users interested in? Do user make considerations about environmental impacts? How do consumer obtain the objects? (e.g. gift, online shop, physical store, sharing platforms...)
Air comfort  Tasciugo AriaDry											<ul style="list-style-type: none"> How do they feel before and after getting the product?
Time	 Development		 Obtainment			 Use			 Clearance		

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Products categories		CE strategies	Features	Needs	Actions	Feelings	Needs	Actions	Feelings	Needs	Actions	Feelings
Coffee	Magnifica S Smart	<ul style="list-style-type: none">What activities need to be carried out to use the product?How do consumers use the object?Does the object have a clear interface/intuitive functions?How do the consumers feel while using the product?Are the consumers aware of sustainable use practices? (e.g. energy-saving modes...)										
Kitchen	Multifry											
Air comfort	Tasciugo AriaDry											
Time		 Development	 Obtainment		 Use		 Clearance					

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Coffee	Magnifica S Smart											
		<ul style="list-style-type: none"> How do the users prepare products for clearance? (e.g. cleaning, repairing, dismantling...) 										
Kitchen	Multifry											
		<ul style="list-style-type: none"> How do the users liquidate the products? Why? Do the user consider circular clearance opportunities? How do the users feel before, during and after liquidating the product? 										
Air comfort	Tasciugo AriaDry											
												
Time		 Development	 Obtainment	 Use		 Clearance						