

# 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 km<sup>3</sup> 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**?

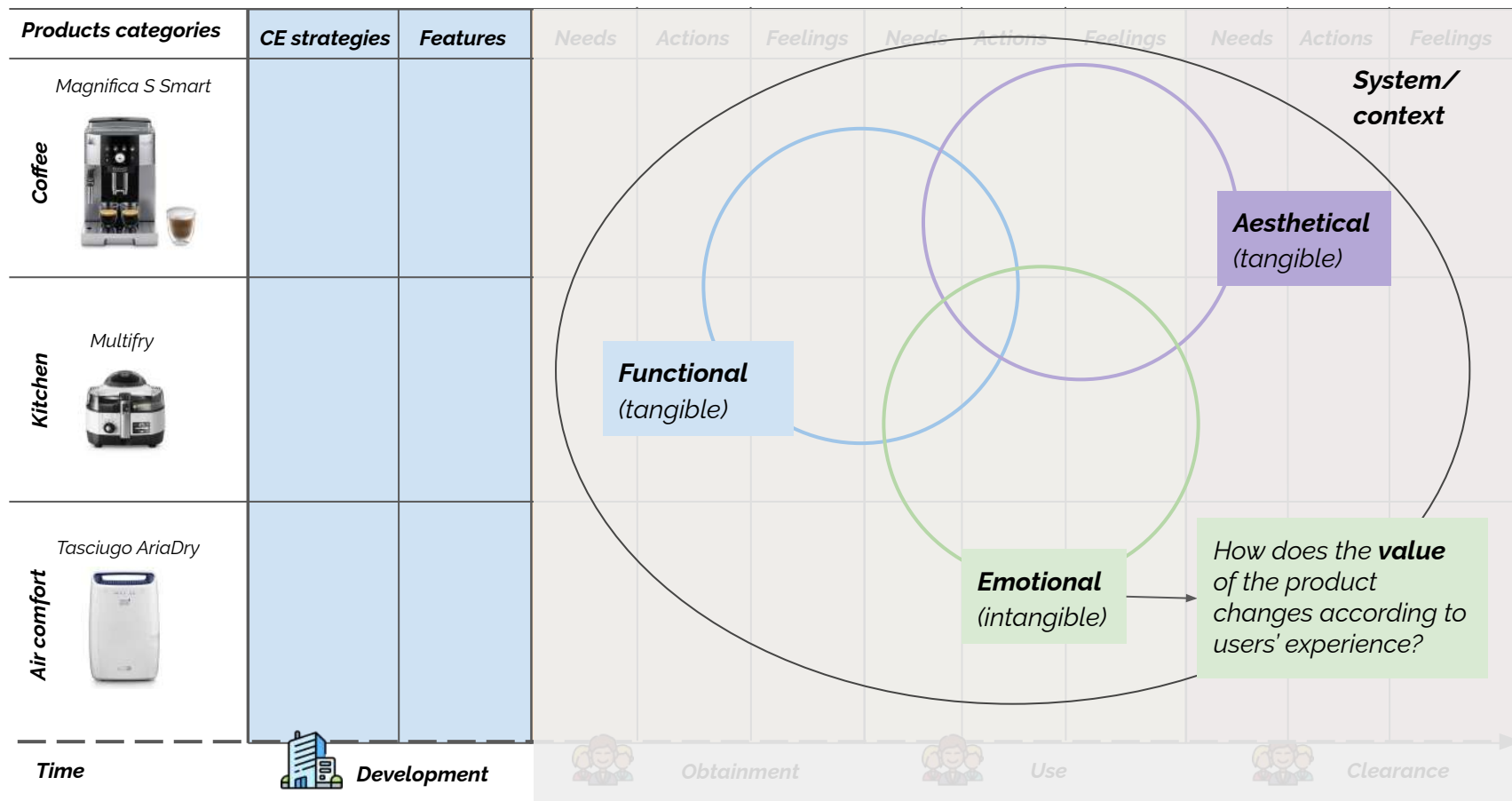
# De'Longhi products' values map

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








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

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- 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...)
- 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...)
- How do they feel before and after getting the product?

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Coffee	Magnifica S Smart	<ul style="list-style-type: none"><li>What activities need to be carried out to use the product?</li><li>How do consumers use the object?</li><li>Does the object have a clear interface/intuitive functions?</li><li>How do the consumers feel while using the product?</li><li>Are the consumers aware of sustainable use practices? (e.g. energy-saving modes...)</li></ul>												
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Coffee	Magnifica S Smart											
		<ul style="list-style-type: none"> <li>How do the users prepare products for clearance? (e.g. cleaning, repairing, dismantling...)</li> </ul>										
Kitchen	Multifry											
		<ul style="list-style-type: none"> <li>How do the users liquidate the products? Why?</li> <li>Do the user consider circular clearance opportunities?</li> <li>How do the users feel before, during and after liquidating the product?</li> </ul>										
Air comfort	Tasciugo AriaDry											
												
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