

Beyond the Bottle

Designing sustainable infant bottle feeding at Erasmus MC Sophia Children's Hospital

The Erasmus MC Sophia Children's Hospital currently uses disposable feeding bottles to deliver formula milk for infant feeding. More than **555 kilograms** of feeding bottles are discarded from the paediatric intensive care unit (PICU) alone every year.

The prolific use of disposable medical products is a major contributor to the overall resource consumption of the healthcare sector, and reusable bottles cannot currently be introduced due to hygiene and safety requirements. Disposable feeding bottles are ranked **fifth in terms of climate impact** among 50 other medical disposables.

Based on an **in-depth investigation** into the current feeding practices and waste flows at the Sophia Children's Hospital, a lightweight feeding pouch is proposed. Compared with rigid bottles, this design reduces the material weight required to transport an equivalent amount of formula milk by **60%** which annually saves more than **329 kilograms of plastic waste** from the PICU.

The smaller size of feeding pouches reduces the volume of generated waste by two-thirds, as well as requiring **40% less transportation capacity** compared to an equivalent amount of rigid bottles.

The feeding pouch is recyclable by design through the mono-material construction and supports both teat-based and enteral feeding. As enteral feeding is used in more than 80% of patient cases, a **bedside pole holder** has also been developed. The **stackable preparation and transportation tray** ensures safe transportation and storage.

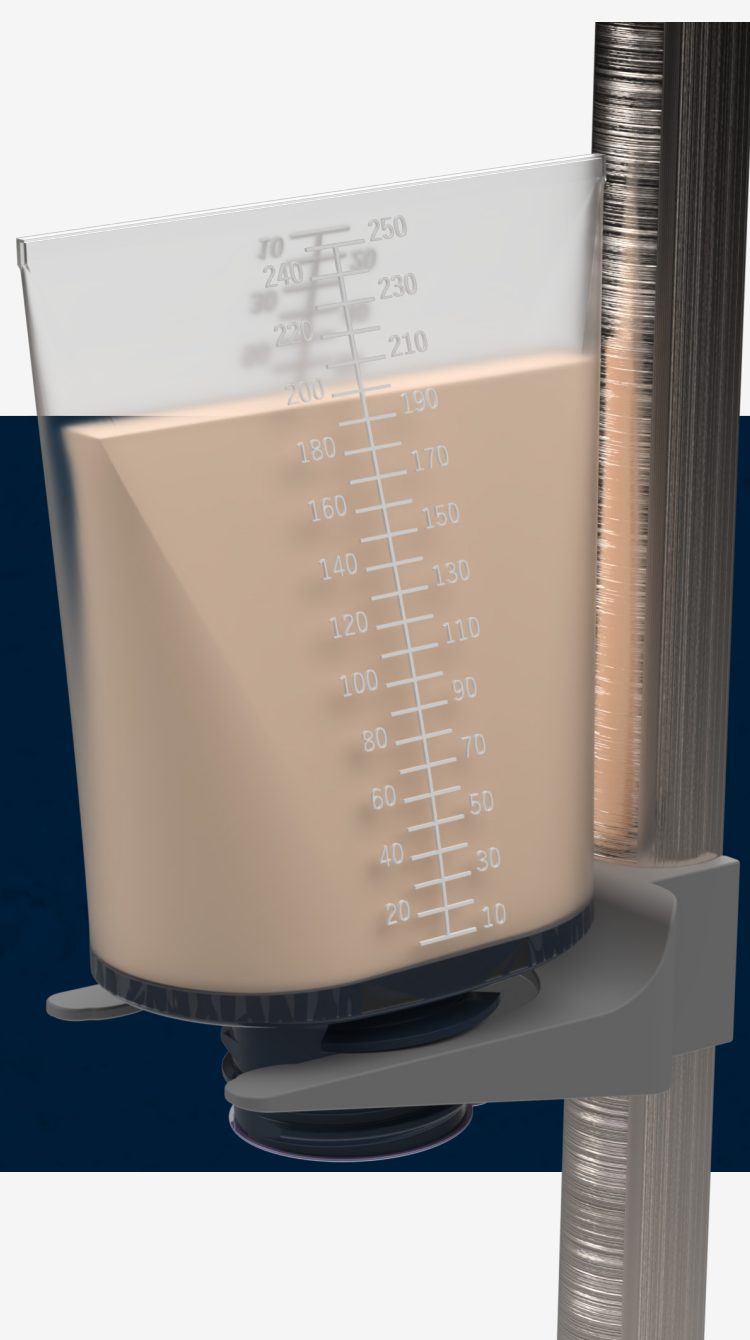


— **60% lighter than a rigid bottle for the same volume**

— **More than 300 kg plastic waste saved in the PICU each year**

— **Supports both teat-based and enteral feeding**

— **Recyclable by design with a mono-material construction**



— **Bedside pole holder for enteral feeding**



— **Preparation and transportation tray**

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Design for Interaction

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