COMPARISONS WITH AVAILABLE BIO TOILETS IN WORLD MARKET

	Pit Latrines	WC	Urine Diversion	Digester	ECOLOO
Enclosed	No	No	Yes	Yes	Yes
Odour level	High	Low	Low/High	Low	Zero
Environmental impact	High	High	Low	Low	Zero
Compost waste	No	No	Varies	Yes	Yes
Require maintenance	Yes	Yes	Yes	Yes	No
Incur cost to build	Yes	Yes	Yes	Yes	No
Number of hole(s)	One	One	Two	One	One
Produce organic fertilizer	No	No	Varies	No	Yes
Require dust/sand to cover waste	No	No	Yes	No	No
Urine diversion system	No	No	Yes	No	No
Require construction work	Yes	Yes	Yes	Yes	No
Cause pollution to earth	Yes	Yes	No	No	No
Cause disease	Yes	Yes	Yes	No	No
Sustainable	No	No	Yes	Yes	Yes
Require sewage removal/collection	No	Yes	Yes	Yes	No

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Suite 66-1, Amber Business Plaza 2, Jalan Jelawat 1, 56000 Kuala Lumpur, MALAYSIA
Mobile: +6010 512 1967 | www.ecoloo.eu | zuraina@ecoloo.eu

Ready to install	No	No	No	No	Yes
Price	Affordable	Varies	Affordable	Expensive	Affordable

COMPARISON BETWEEN ECOLOO & DRDO
INSTALLATION IN INDIAN RAILWAYS

	ECOLOO	DRDO
Environmental Impact	Zero	Zero
Total Enclosed System	✔	✔
Decentralized	✔	✔
Eco Friendly	✔	✔
Price	Reasonable	?
Long Term Solution	✔	✔
Odour Free	✔	✗
Water Free	✔	✗
Sewage Free	✔	✔
Energy Free	✔	✔
Ready to Install	✔	✔
Generate Sewage	✗	✔
Generate Fertilizer	✔	✗
Require Fertilizer Collection	✔	✗

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Require Water to Wash	✔	✔
Require Water to Flush	✗	✔
Require Maintenance of Toilet	✔	✔
Require Maintenance of System	✔	✔
Maintenance Level	Low	High
Maintenance Cost	Low	High
Maintenance Involvement:		
• Cleaning for Hygiene	✔	✔
• Bacterial Culture Add-On	✔	✔
• Fertilizer Collection	✔	✗
• Residue Collection	✗	✔
• Require Spare Parts & Tools	✗	✔
Require Preventive Maintenance Schedules	Low	High
Risk on Clogged System	Zero	Yes if choked
Require Bacterial Culture	✔	✔
Bacterial Culture Process	Aerobic	Anaerobic
Bacterial Culture Amount	30g per month	?
Bacterial Culture Processing Time for Stool	4-7 Days	?

Biological Culture Processing Time for Urine	1 Hour	?
Bacterial Culture Visit Frequency	Once in 1-3 Month	Once in 2-3 Months
Bacterial Culture Handling	Safe & Easy	Complicated & Risky During Storage & Transportation
Require Goggles, Glove & Mask	✔	✔
Bacterial Culture Safety	✔	✔
Bacterial Culture Form	Powder	Liquid
Require Test on Effluent Discharge	✗	✔
Ease of Installation of Toilet on Trains	Just Plug & Use	Require Proper Installation
Ease of Installation of Collection Tank Under Trains	Just Plug & Use with Minor Piping	Require Major Installation
Collection Tank Size	Small	Large
Use of Chlorine in Process	✗	✔
Cause pollution to earth	✗	✗
Cause disease	✗	✗
Constraints:		
• Risk of over-flowing of un-processed waste on tracks & in coaching depot	Not Applicable	✔
• Unacceptable design of collecting & cleaning non-bio-degradable wastes	Not Applicable	✔

• Risk for leakages of collected waste from joints	Not Applicable	✔
• Choking of the toilet bowls by foreign objects	Not Applicable	✔
• Risk of over-flowing of processed waste on tracks & in coaching depot	Minimal, on tracks only	Not Applicable
• Risk of Parts Getting Damaged	Low	High
• Risk of Missing/Stolen Parts	Low	High

FINDINGS ON WC IN EUROPE

	Traditional WC	EcoLoo
Water required per flush	8 litres	0 litres
Toilet visits per person – per day - average	6 persons	6 persons
Number of persons	10,000 persons	10,000
Operation days per year	365 days	365 days
Total water usage per year	**175,000,000 litres**	**0 liters**
Local water price per litre (EURO0.02 per litre)	€306,600	€ 0
Sewage disposal cost per litre (EURO0.01 per litre)	€153,300	€ 0
Total direct savings	**€459,900**	**€ 0**
Indirect savings of water used:		
- transportation / pumping cost of fresh water	100%	0%
- transportation / pumping cost of sewage	100%	0%
- sewage for disposal and treatment	100%	0%