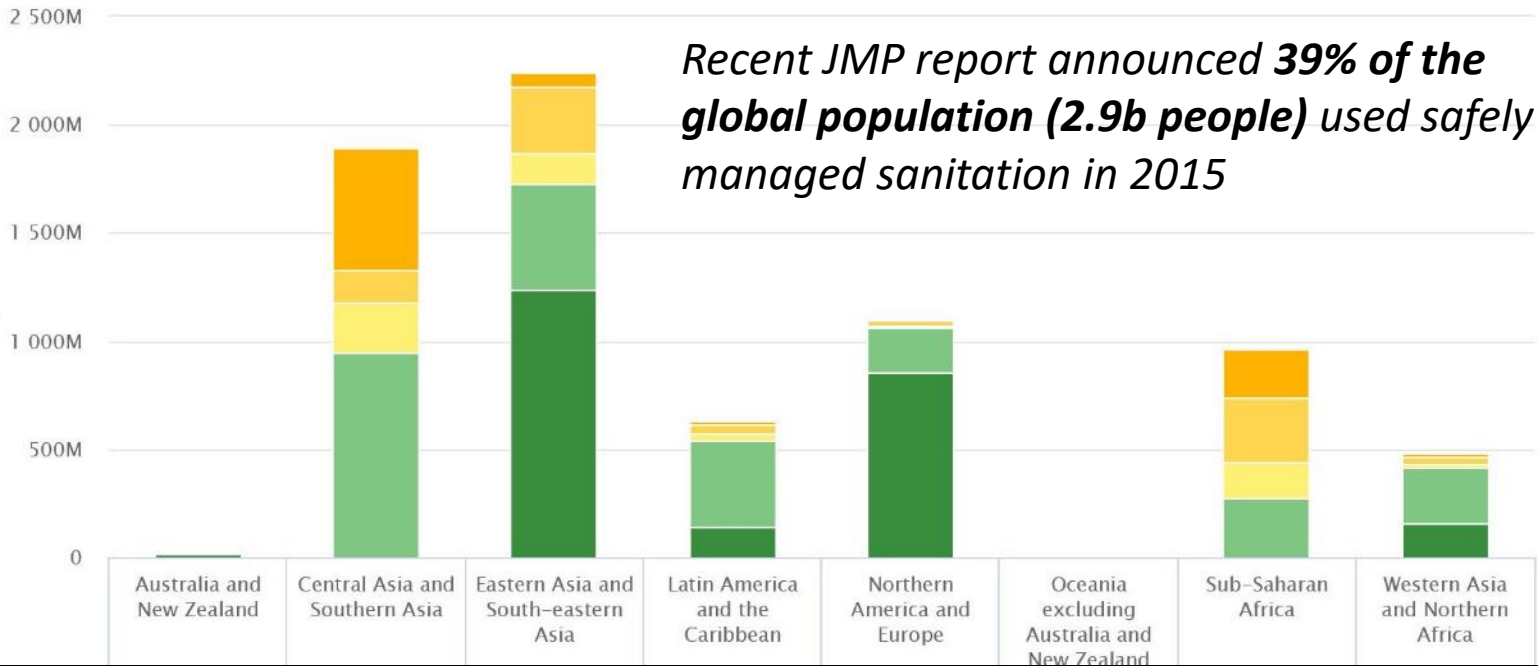


BILL & MELINDA
GATES foundation

BIRTHING A SUSTAINABLE NON-SEWERED SANITATION SERVICES INDUSTRY

Doulaye Kone, PhD. Deputy Director
Water, Sanitation & Hygiene



JMP 2017

- Some 3 in 10 people worldwide, or **2.1 billion**, lack access to safe, readily available water at home,
- 6 in 10, or **4.4 billion**, lack safely managed sanitation, (WHO) and UNICEF 2017)

- Only 11% of urban Sub-Saharan Africa is connected to sewers in 2015, down from 13% in 2000**



TODAY'S TOILET SOLUTIONS

In the **DEVELOPING** world



BIG CITIES ARE PARTIALLY SEWERED

(i.e. Map of Dakar sanitation network, Source ONAS)

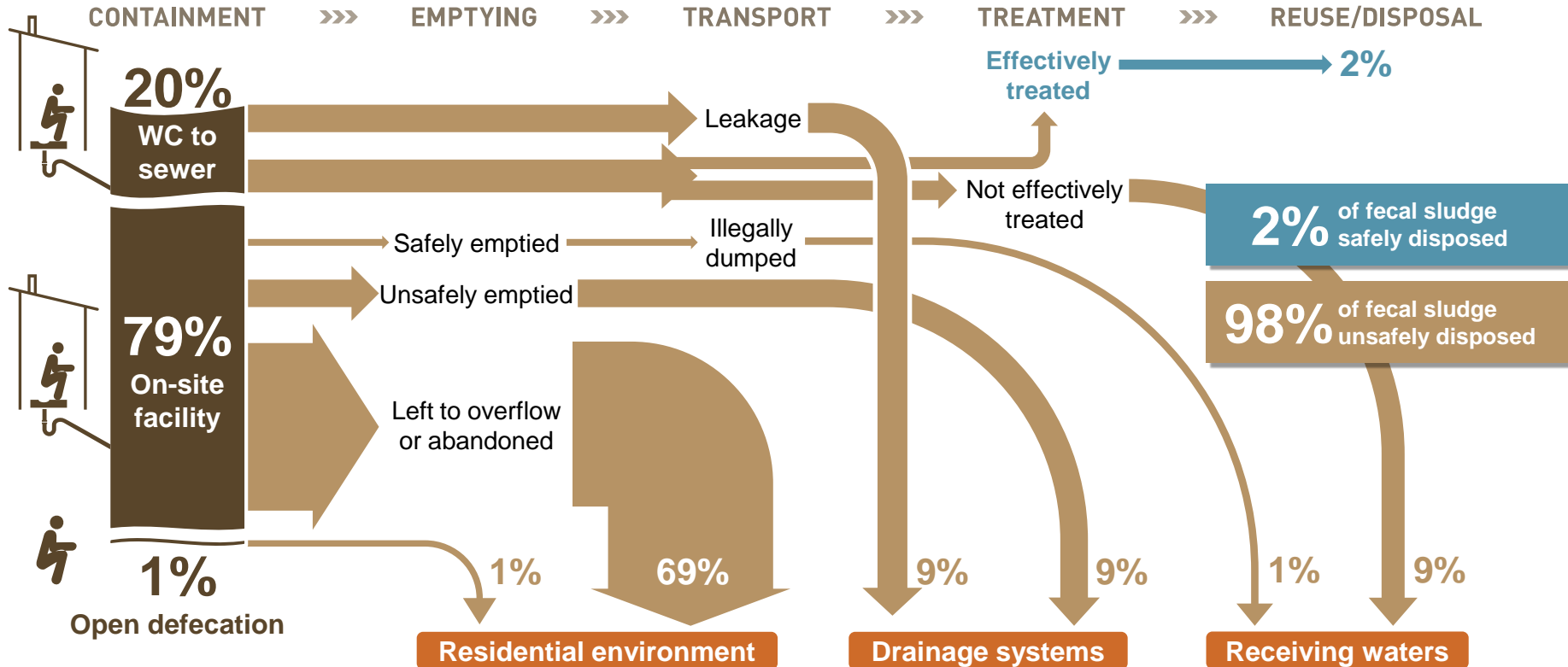


In the DEVELOPING world – Fecal Sludge Management is a neglected utility service and yet an untapped growing business opportunity

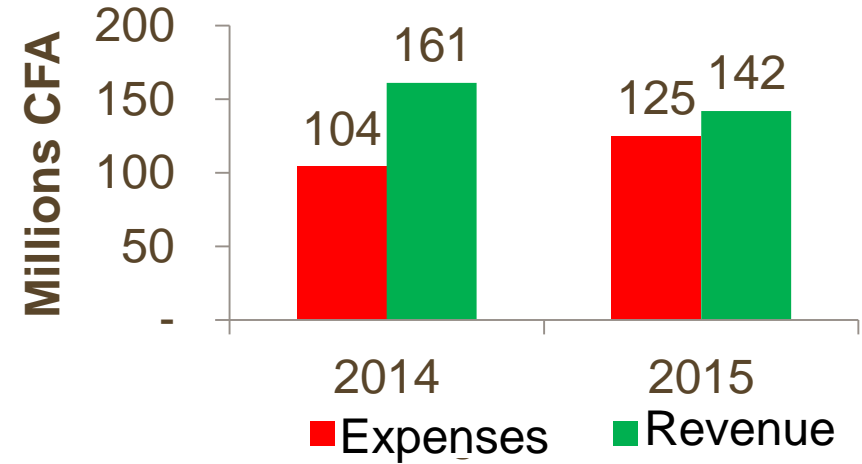


POOR FSM IS AKIN TO INSTITUTIONAL OPEN DEFECATION

Sludge direct to the environment when no service chain

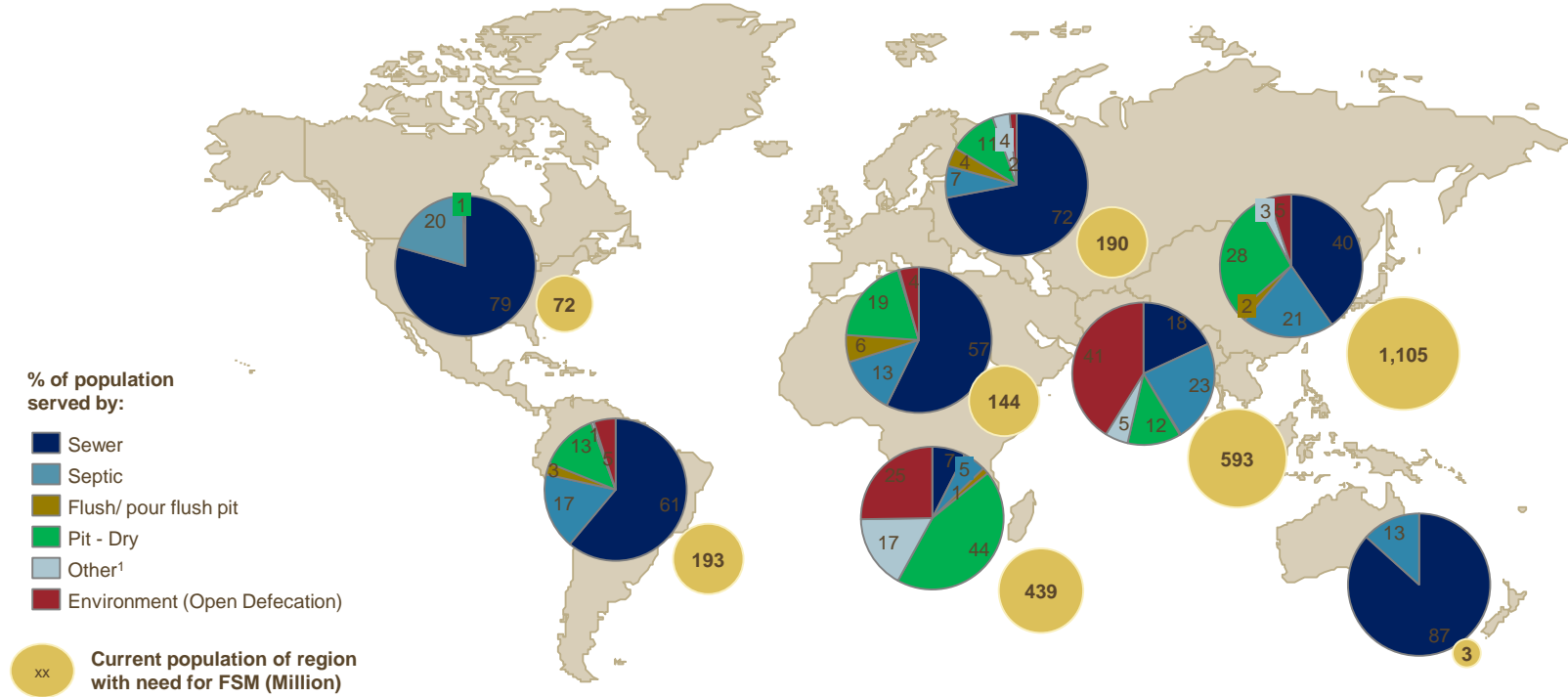


MEANS OF IMPLEMENTATION FOR SDG 6 AND NEED FOR SERVICE STANDARD: MAKE SANITATION A PROFITABLE UTILITY SERVICE



- PPP contracts for a private utility service
- Innovative local financing (with commercial banks)
- Innovative technology adoption and business creating jobs

FSM MARKET : ~2.5 BILLION PEOPLE WORLDWIDE TODAY IN NEED



1. Open pits, pits without slabs and composting toilets included in "Other" as these do not need FSM (open pits/ pits without slabs covered up when full)
 Source: UN JMP sanitation data, BCG analysis



Activities relating to drinking water and wastewater services — Guidelines for the management of basic on-site domestic wastewater services

*Activités relatives aux services de l'eau potable et des eaux usées —
Lignes directrices pour la gestion sur site des services d'eaux usées
domestiques de base*



THE REINVENTED TOILET PROGRAM IS DESIGNED TO ADDRESS EACH OF TODAY'S LIMITATIONS

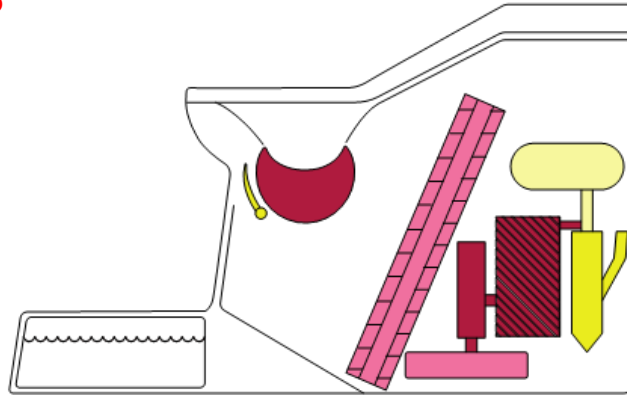
The Reinvented Toilet is a modular, transformative technology that offers a non-sewered sanitation solution, eliminating the need for a piped collection system. The aim of the Reinvented Toilet is to: destroy all pathogens onsite and recover valuable resources, operate without sewer, water or electricity connections and cost less than \$0.05/user/day in a sustainable business model.

ELIMINATE PATHOGENS

- Eliminate safety concerns via handling
- Reduce disease burden
- Improve environmental safety

OPERATE OFF GRID

- Eliminate need for external inputs such as water and energy
- Make portable and easy to install



CONVEY LOW LIFE-CYCLE COSTS

- Reduce need for pit emptying
- Ensure a sustainable business model, including maintenance via service providers

PRESENT MODULAR, ATTRACTIVE INTERFACE

- Reduce / eliminate construction costs
- Provide clean and dignified product
- Eliminate odors and waste

FECAL SLUDGE REUSE

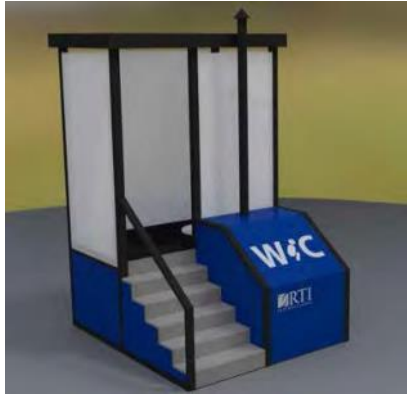
JANICKI OMNI PROCESSOR S200



FS BIOGAS PLANT - OUAGADOUGOU



TOILETS THAT KILL PATHOGENS, TURN FECES/URINE INTO COMMODITY AND OPERATES WITHOUT SEWER, WATER CONNECTION



THE EMERGING MARKETS IS OFF-GRID, NO FLUSH. RESOURCE RECOVERY UTILITY SERVICE AND BUSINESS MODELS NEED TO BE RETHOUGHT

