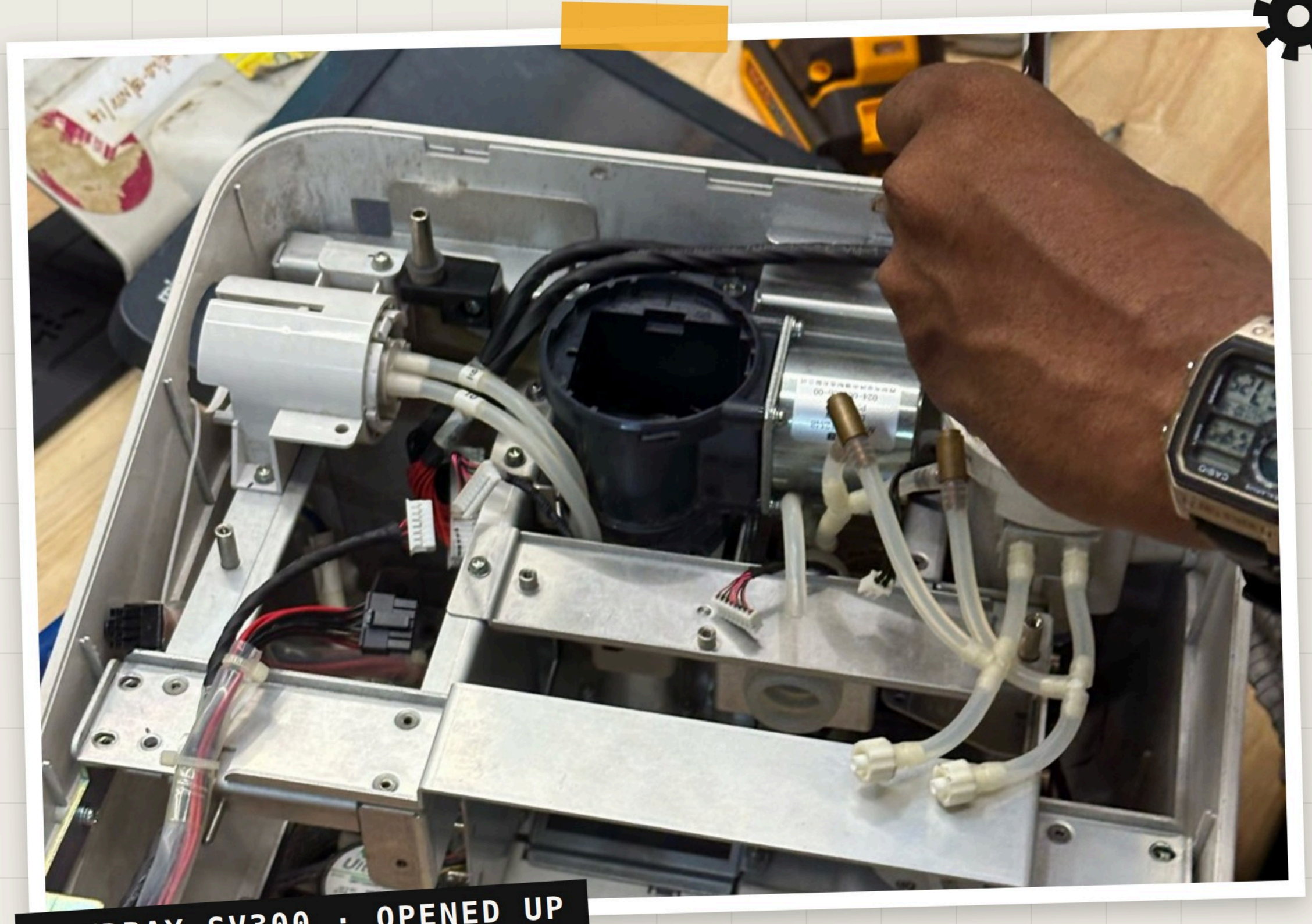
REFLECTIONS · 18 OCT 2026

We opened up condemned hospital devices.

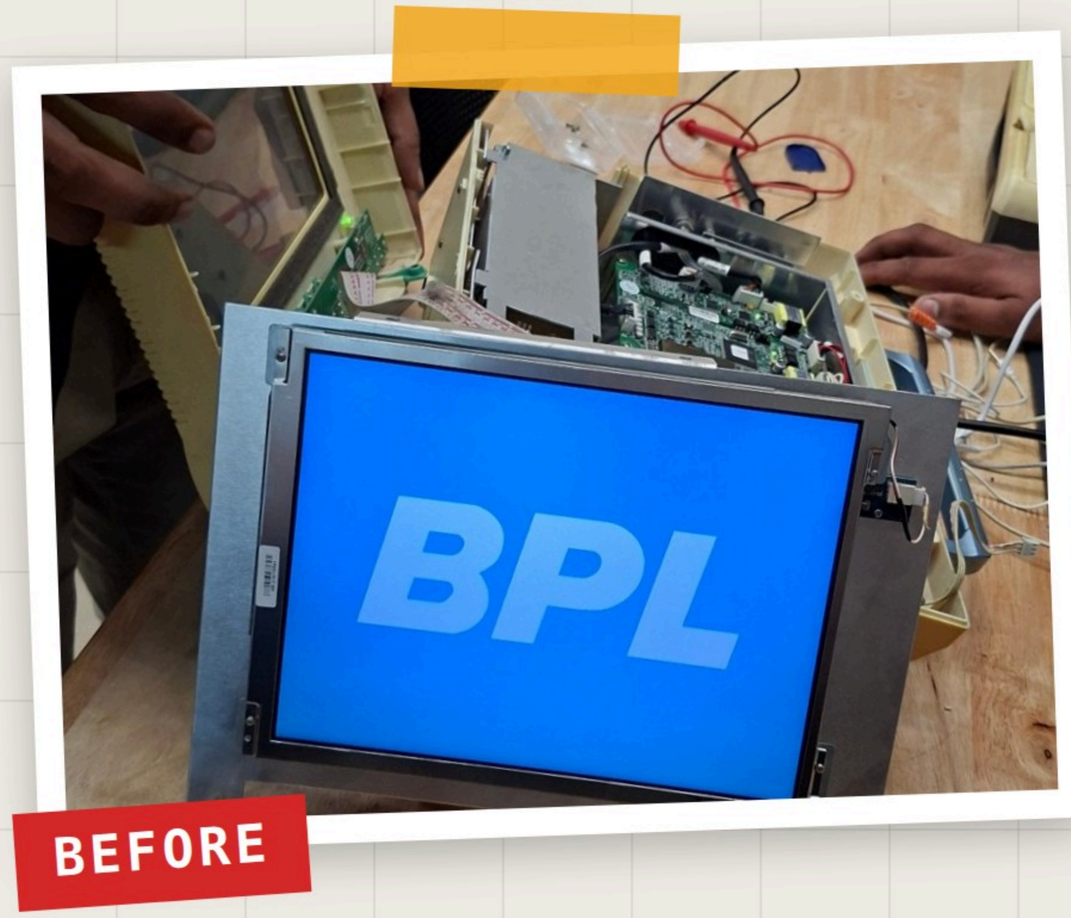
Here’s what we found inside.



MINDRAY SV300 · OPENED UP

CASE 01 · BPL PATIENT MONITOR

Stuck on the boot screen.
Back to showing vitals.



BEFORE



AFTER

1. It powered on, showed the brand logo, and went no further.

2. The team suspected invisible micro-cracks in the solder joints, the kind pump vibration and cuff stress can cause over time.

3. They applied flux, reflowed it with a hot-air rework station, and rechecked the capacitors with a multimeter.

4. Switched back on, it booted past the logo to live vitals.

CASE 02 · MINDRAY SV300 VENTILATOR

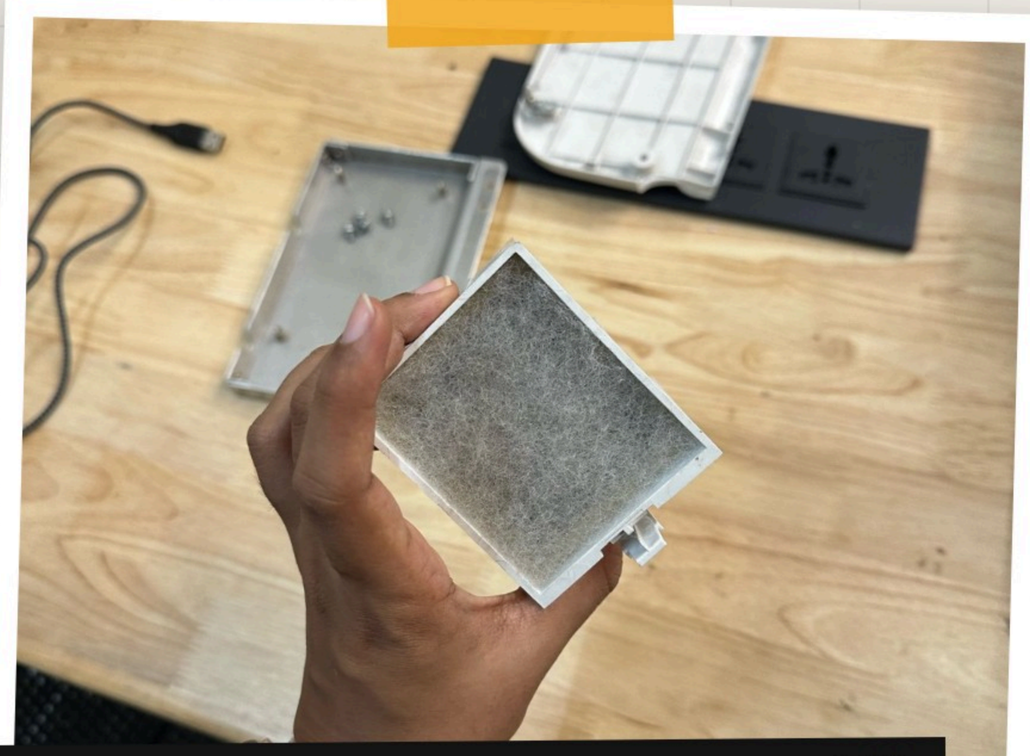
Two faults found: the display and a motor in the gas-supply unit.



DISPLAY: FAULT



GAS-SUPPLY MOTOR: FAULT



INTAKE FILTER: DUST-LADEN



BATTERY: HAND-MARKED

ALSO ON THE BENCH

Small fixes, big lessons.

1. A nebuliser, fixed
2. An old BP cuff, glued back to life
3. NIV filters, dusted and cleaned
4. A pulse oximeter sensor, opened and studied by electrical engineers



THE BENCH

Medical students, computer science and electrical engineers, TinkerHub makers and biomedical engineers, side by side.

WHAT WE LEARNED

No paper trail

Many devices had no record of maintenance contracts, servicing or routine care.

Donated, then lost

Donated devices often never get registered with the biomedical team, so they fall outside maintenance and warranty.

Care nobody taught

Basic care like filter changes isn’t something most healthcare workers are trained in.

Calibration

It’s costly. How much of it actually happens?

“We look after our phones and computers better than the devices patients depend on.”

WHAT'S NEXT

From one bench to an ecosystem.

1 A low-cost maintenance tracker

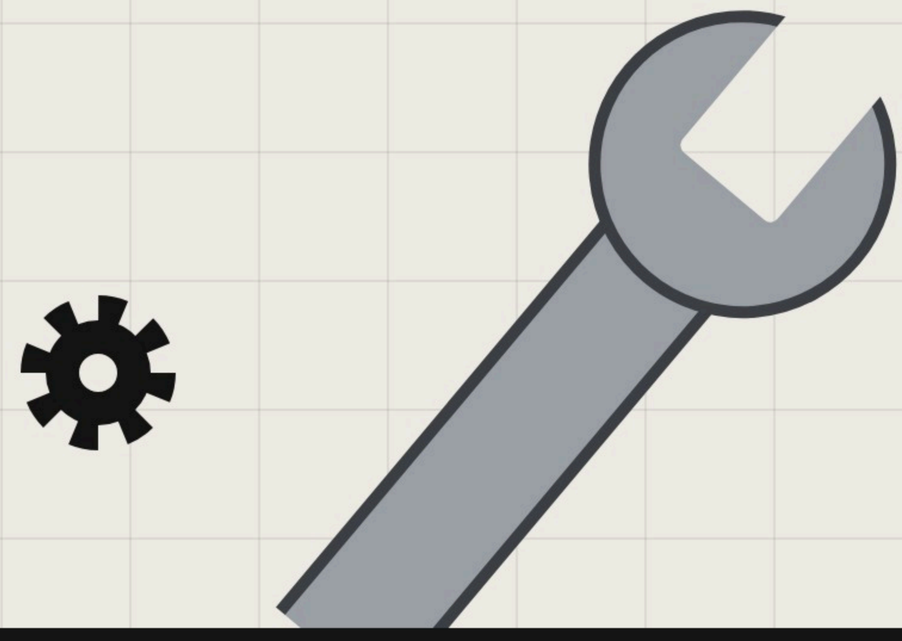
Log each device's model, faults, photos, service history, spare-part costs and repair status, so recurring faults stop hiding.

2 More repair cafés and deconstruction labs

Every condemned device is a lesson in how real equipment ages and fails.

3 A biomedical ecosystem for Malabar

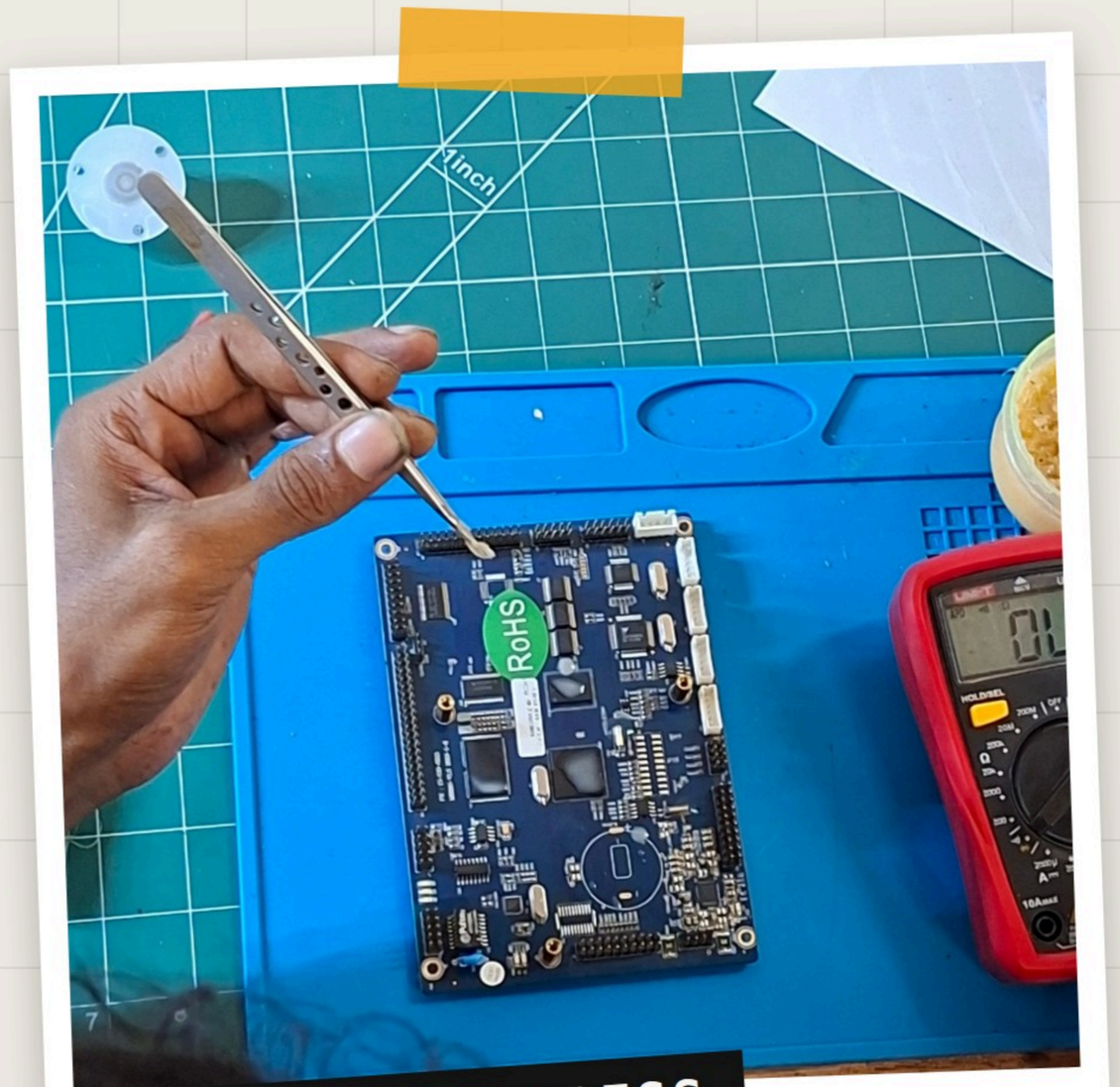
Clinicians, engineers and makers building devices that are cheaper, local and built to last.



BUILT TOGETHER

Thank you.

To the TinkerHub community’s computer science and electrical engineers and makers, the iHub Biomedical team, TinkerSpace Calicut, and IEDC GMC Kozhikode.



REFLOW IN PROGRESS



HEPA INTAKE FILTER

Is this work valued?
What’s the path forward for Malabar’s biomedical ecosystem? 👇