

Aptasense

Rapid detection of MRSA on hospital surfaces

The problem

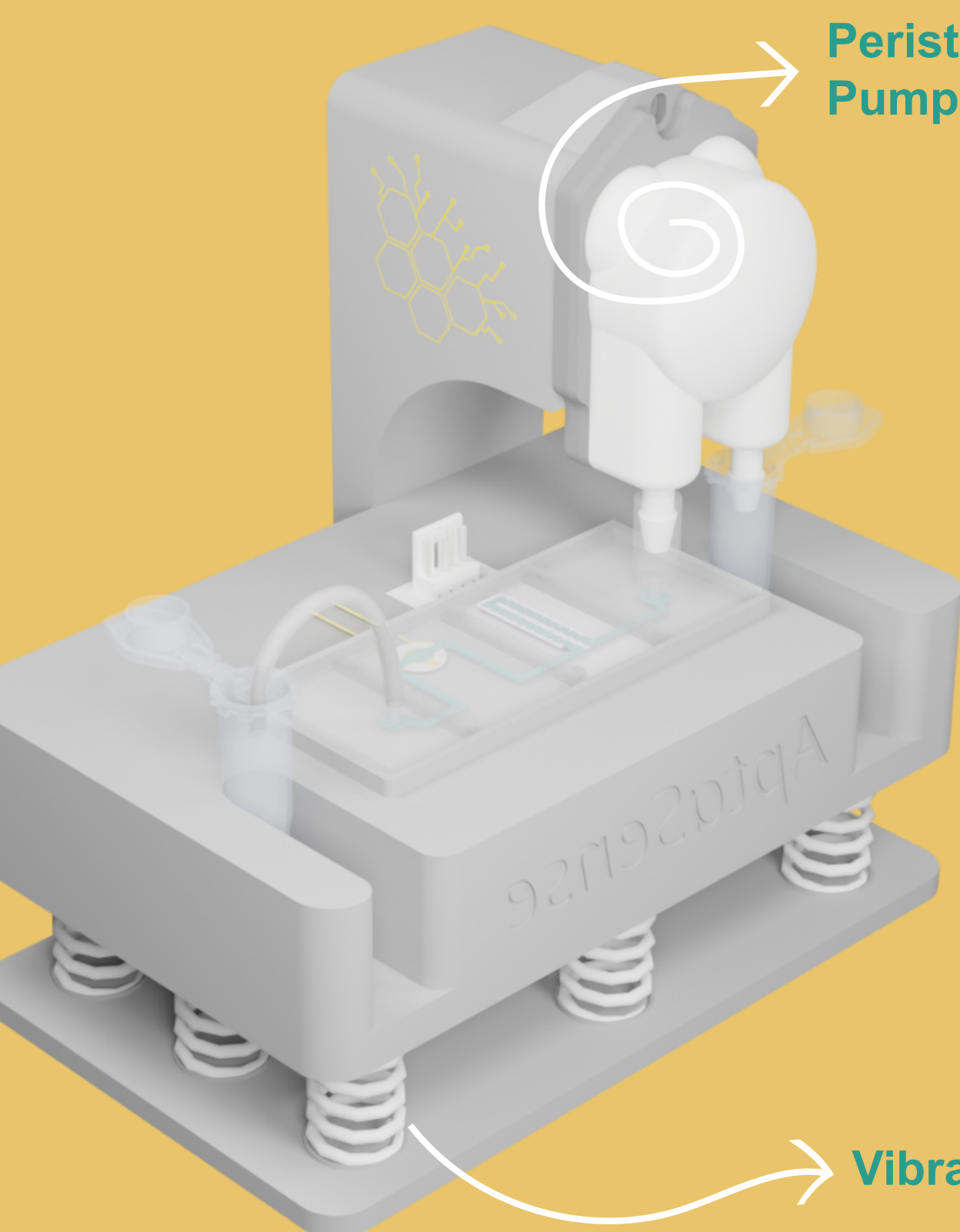
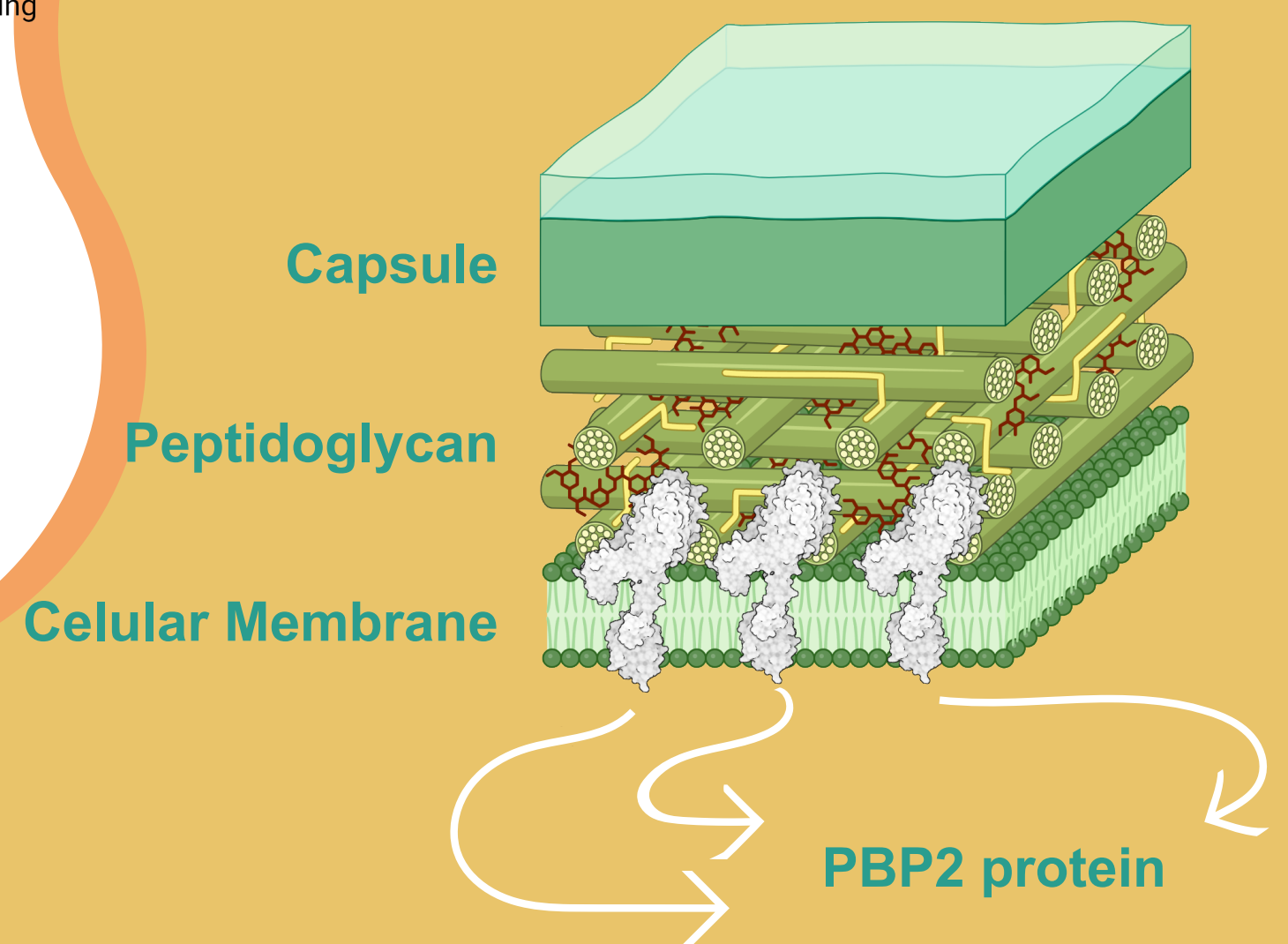
Current detection systems either achieve high sensitivity and specificity or perform well in terms of speed, cost, and ease of use. Hospitals require a quick and affordable test that allows daily monitoring of Methicillin-resistant *Staphylococcus aureus*.

	Sensitivity	Specificity	Speed	Equipment	Ease of use	Cost	Applications
Cultures							
Culture	■	■	■	■	■	■	General surface testing Confirmatory analysis
RODAC plates	■	■	■	■	■	■	Surface contamination levels
Nucleic acid amplification							
Next generation sequencing	■	■	■	■	■	■	Comprehensive microbial profiling Epidemiology, research
PCR	■	■	■	■	■	■	Specific pathogen detection Clinical diagnostics
LAMP	■	■	■	■	■	■	Rapid on-site field testing Field applications
Rapid detection kits	■	■	■	■	■	■	On-site testing Quick screening
	Best ■						Worst ■



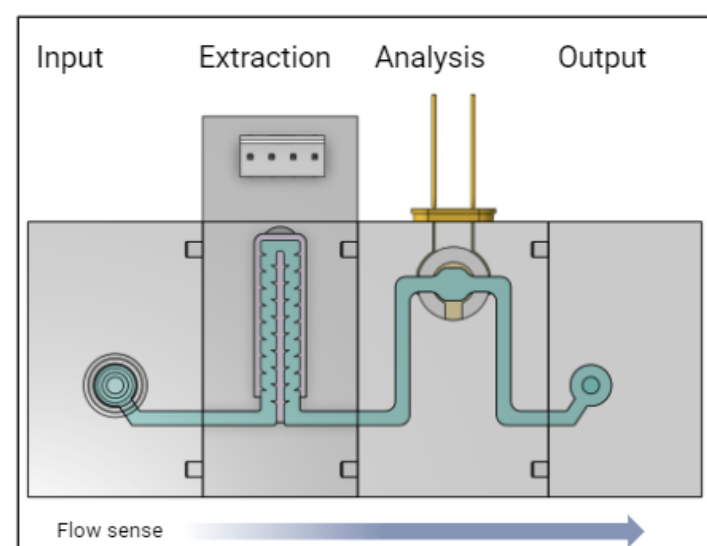
Methicillin-resistant *Staphylococcus aureus*

Methicillin normally works by stopping bacteria from making their cell walls, but MRSA bacteria have a special protein, PBP2a, that allows them to bypass this blockade and keep building the cell wall, leading to resistance.

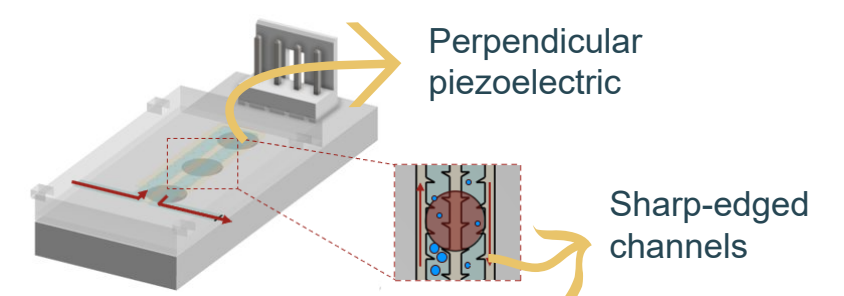


Our solution: AS 4.2

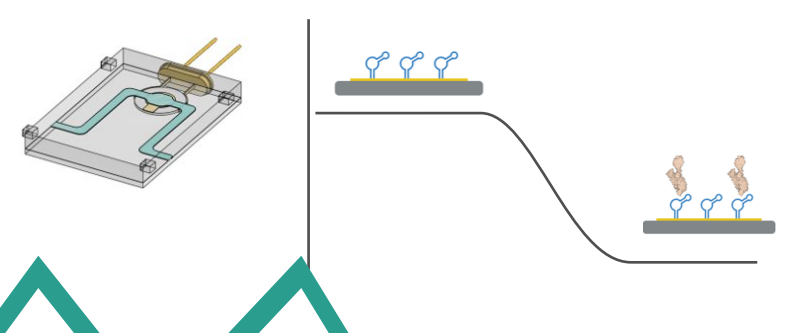
2-stage microfluidic chip



1 Sonication-based cell lysis



2 Aptamer bioactivated QCM



With reusable chips!

