



# Revolutionizing antibiotic testing with 1hr results

Dutch Life Sciences  
December 2024





# AMR: antimicrobial resistance



Drug-resistant diseases will cause 10 million deaths each year by 2050

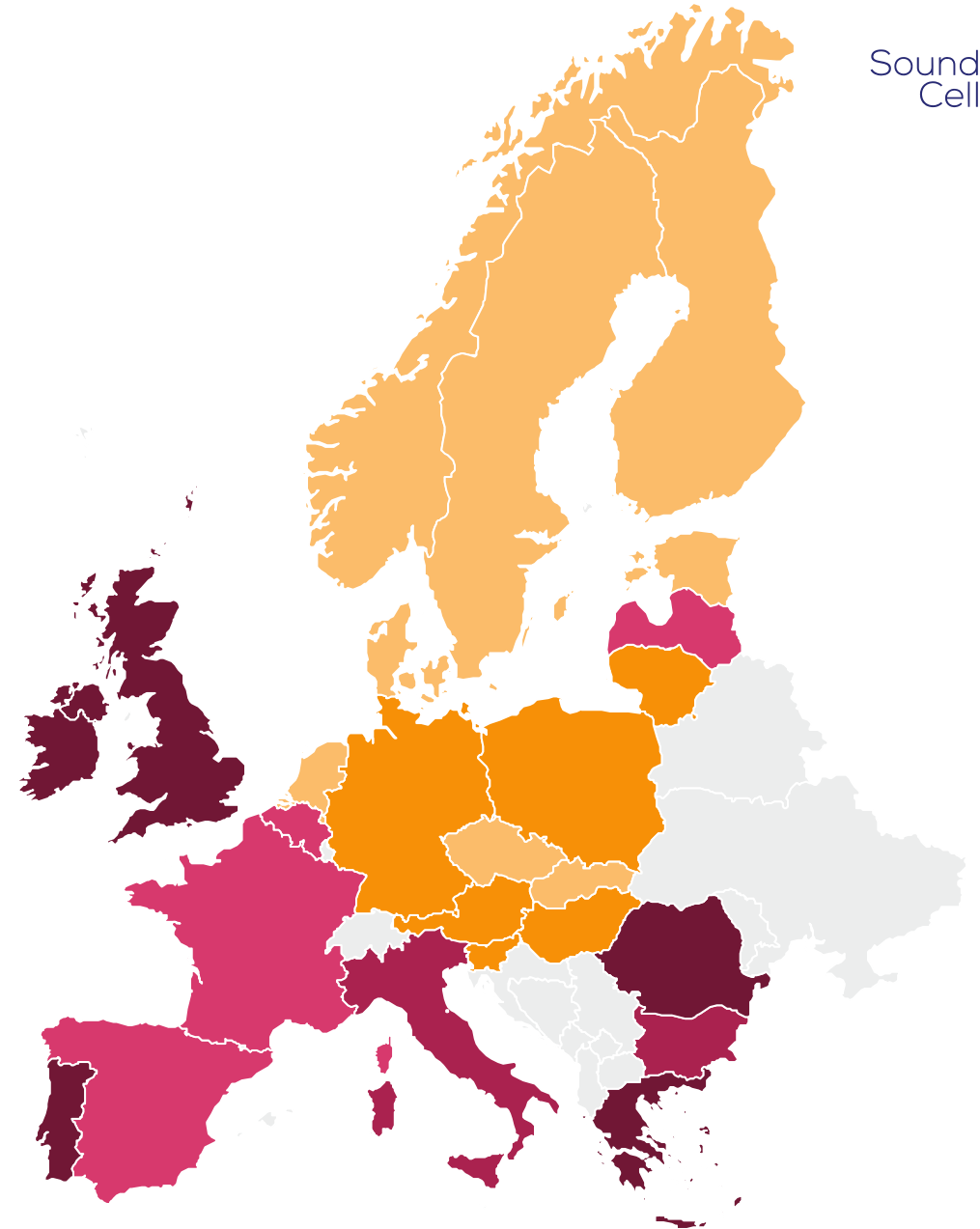
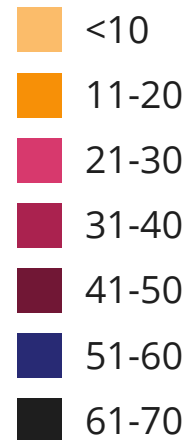


An economic burden of >€2.9 trillion



Current antibiotic susceptibility testing (AST) methods are slow only adding to the problem of antimicrobial resistance

## Resistance %



# Problem

*Current antibiotic susceptibility testing solutions are slow*



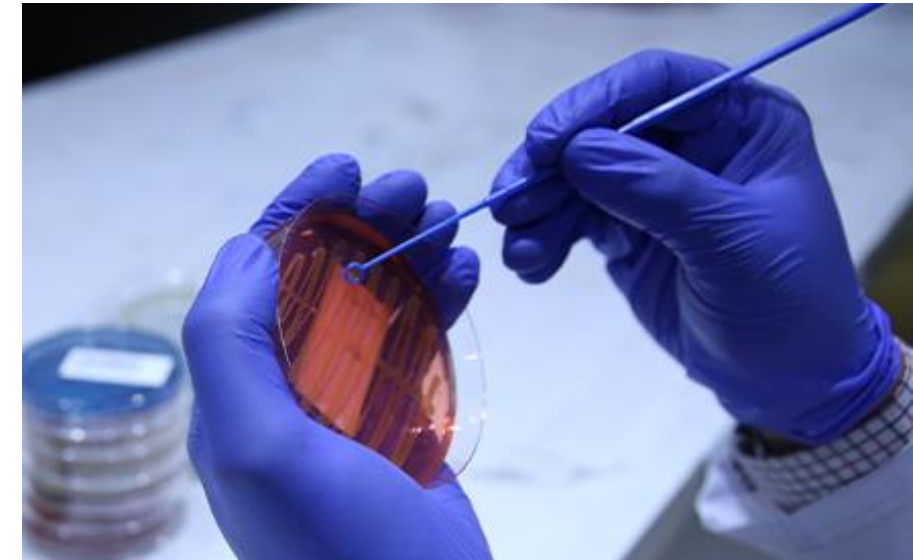
## Microbiologists urgently need to know:

### 1. What is the pathogen I am dealing with (ID)?

- **Solved** >25 years ago: MALDI-TOF technology
- Affordable pathogen identification within 30 minutes

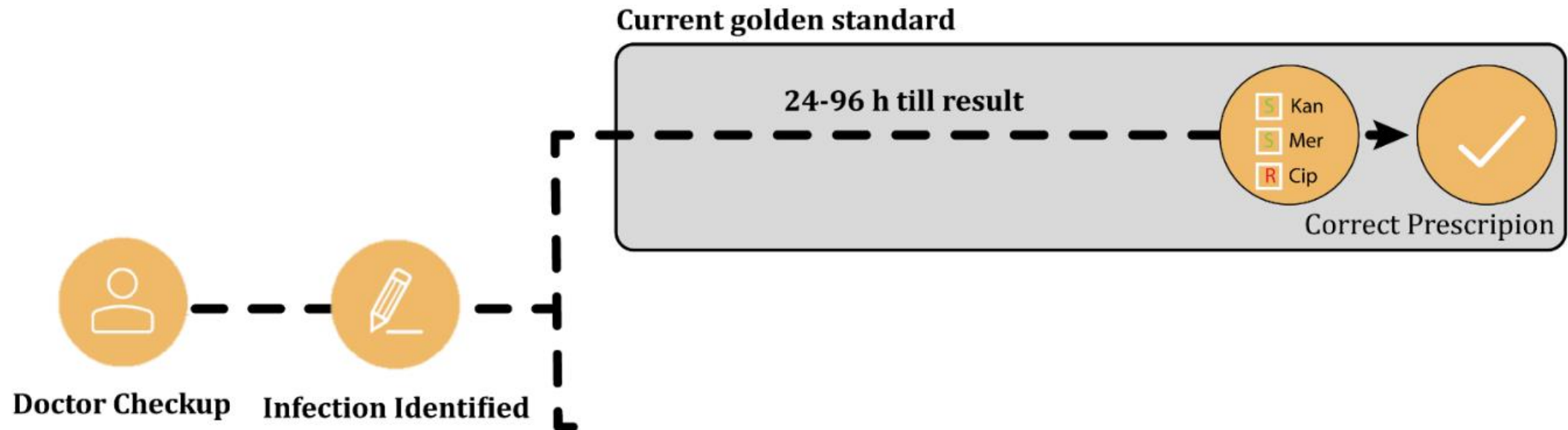
### 2. What therapy is effective (AST)?

- **Current tests are slow, providing results after 2-3 days**
- Rising antimicrobial resistance further increases urgency for rapid testing



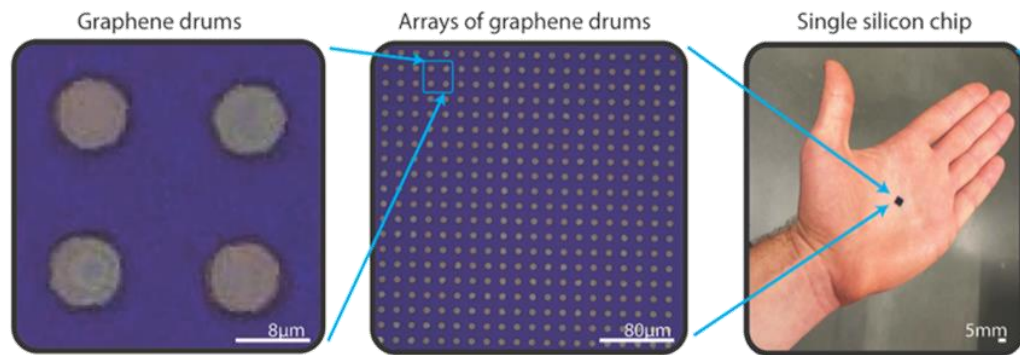
# Our Solution

*By providing AST <1hr, SoundCell enables same day testing results*





## Graphene sensors



## Antimicrobial cartridges



## Measurement Platform



## Patents

- [WO202111266](#) (NL 2024356 – 02/12/2019) – 2D material detector for activity monitoring of single microorganisms
- [NL 2031130](#) (02/03/2022) – Clinical sample preparation
- Methods for simultaneous readout of nanomotion on suspended sheets with adhered micro- and nano-organisms

Peer reviewed: Nature Nanotechnology

Clinical partners

Reinier Haga  
Medisch Diagnostisch Centrum



Erasmus MC  
University Medical Center Rotterdam

Amsterdam UMC

# Value Proposition

*Same day results significantly improves patient health and hospital efficiency*



## Impact of same-day results



### Patient Health

- ✓ Decrease in mortality >46%\*
- ✓ Length of stay reduction >5 days
- ✓ Reduced risk of secondary adverse events



### Hospital efficiency

- ✓ Cost savings of >€450/patient\*\*
- ✓ Payback period <1 year
- ✓ Improved antibiotic stewardship

\* For sepsis, every hour delay of correct treatment is associated with a 6% rise in mortality (Delinger et. al, Surviving sepsis: campaign guidelines for management of severe sepsis, *Crit Care Med.* 2004).

\*\* NL: € 2.153 per ICU bed/per day (€ 4.651 in US) in case of antibiotic resistance. NL resistance of c. 4%.

# Ongoing Pilot Testing with Hospitals

Tested Species		
Species	Type	Kingdom/Domain
<i>E.coli</i>	Clinically relevant	Bacteria
<i>A.Baumannii</i>	Clinically relevant	Bacteria
<i>P. aeruginosa</i>	Clinically relevant	Bacteria
<i>K. pneumonia</i>	Clinically relevant	Bacteria
<i>S. aureus</i> (incl. MRSA)	Clinically relevant	Bacteria
<i>E. faecalis</i>	Clinically relevant	Bacteria
<i>P. mirabilis</i>	Clinically relevant	Bacteria
<i>S.agalactiae</i>	Clinically relevant	Bacteria
<i>S. enteritidis</i>	Clinically relevant	Bacteria
<i>B. subtilis</i>	Non-pathogenic	Bacteria
<i>M. smegmatis</i>	Non-pathogenic	Bacteria
<i>C. albicans</i>	Clinically relevant	Fungi
<i>C. parapsilosis</i>	Clinically relevant	Fungi
Tested drugs		
Antibiotics		Antifungals
Ampicillin	Imipenem	Amphotericin B
Amoxicillin	Kanamycin	Fluconazole
Cefuroxime	Meropenem	Micafungin
Ceftriaxone	Rifampicin	
Ciprofloxacin	Streptomycin	
Chloramphenicol	Penicillin	
Colistin	Vancomycin	
Gentamycin		

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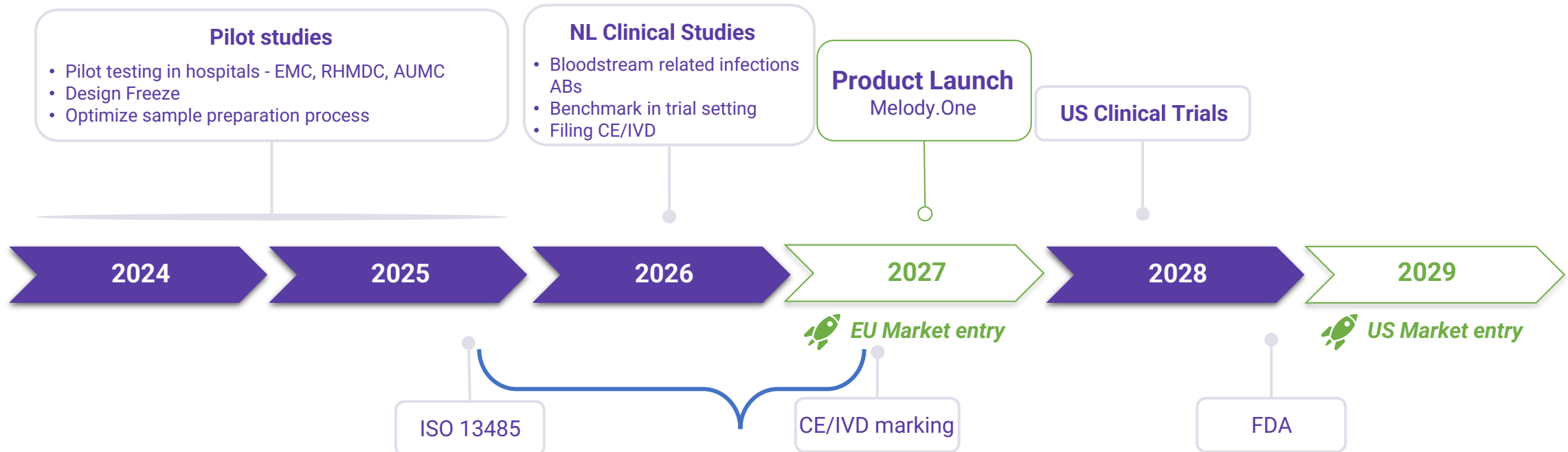
# Roadmap

Our roadmap facilitates EU sales by 2027 and US sales by 2028/2029



Milestones

Date



Funding



EIC  
Transition















## Looking for a 4M equity round

- Perform clinical trials
- Secure CE/IVD
- First sales in NL & BE
- 22month runway

# Competitive Landscape

SoundCell offers a true first scalable same-day AST solution



	 Speed (h)*	 Same-day AST**	 Scalability***	 Price (€)	 Market Share (%)
SoundCell – Melody.One	1		High	40	In dev.
Resistell - RAST	4		Low	>100	0%, CE/IVD
iFast	4		Medium	30	In dev.
BioMerieux - Vitek Reveal	6		Medium	>100	<1%
BioMerieux - Vitek 2	34		High	6	~25%
BD - Phoenix M50	36		High	6	~25%
Manual AST	48+		Low	2	~40%

\*Positive blood culture = T(0).

\*\* Actionable same-day AST requires ID & AST within 4h. After 4h, physicians are generally not able to (de)escalate therapy within the same working shift.

\*\*\* Refers to potential throughput capacity and ability to test a wide variety of antimicrobial/antibiotic combinations.

# Potential

*Rapid AST has the potential for a >€1bn exit*



## Recent exits



✓ **Becton, Dickinson and Company** acquires Edwards Lifesciences' Critical Care product group for \$4.2 B (2024)



✓ **BioMérieux** acquires Specific Diagnostics for \$416M (2022)



✓ **Roche** acquires GenMark Diagnostics for \$1.8B (2021)

# Our Team

## SoundCell Team & Partners



### The founding team



**Irek Roslon** | CEO  
Business & Engineering

Nanomotion nanotechnology expert, 7+ years of experience in graphene drums for sensing. Experience in engineering food processing lines.



**Aleksandre Japaridze** | CTO  
Medical & Biotechnology

Co-leading European synergistic network COST EUTOPIA, 10+ years of experience in biophysics and molecular biology.

### Advisors



**Peter Steeneken** | Co-founder  
Nanotechnology & IP Advisor



**Farbod Alijani** | Co-founder  
Funding acquisition & Scientific Advisor



### Our team – 12 FTE



[www.soundcell.nl](http://www.soundcell.nl)

[www.linkedin.com/company/soundcell-bv](https://www.linkedin.com/company/soundcell-bv)



### Incorporation & housing



### Clinical Partners



### Funding Partners

