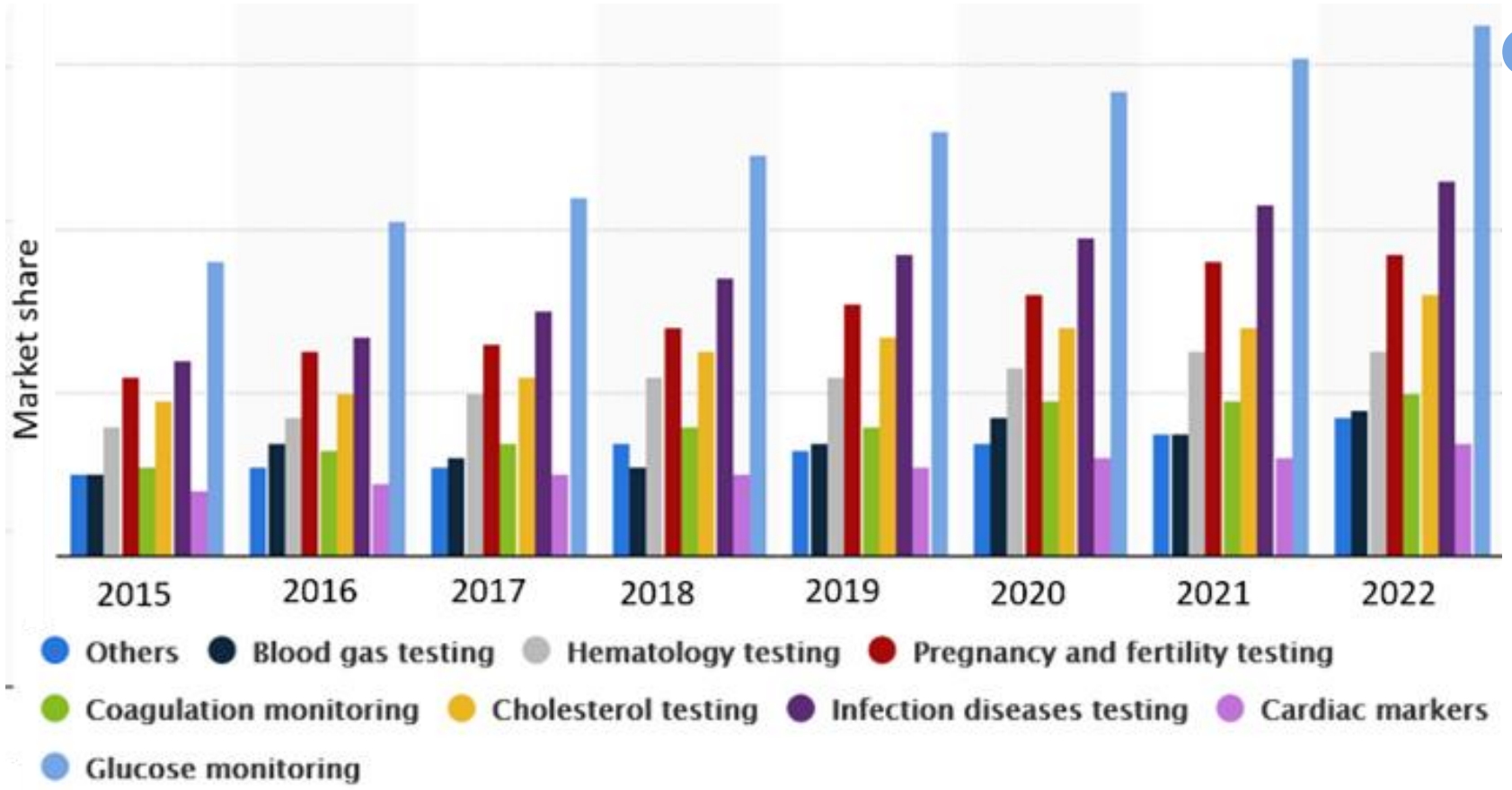

IQ Biozoom
Manage personal wellness painlessly.

Point of care diagnostics growing @ 10%



Glucose

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IDTechEx Research

1 in 9 USD spent on diabetes worldwide

422 M diabetics worldwide

52 M in Europe alone

84% want non-invasive monitoring

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Pain-free & convenient glucose monitor

I TEST SALIVA (NON-INVASIVE)

I AM AFFORDABLE

I AM GLUCOPEN®

I FIT IN YOUR HAND

I WORK FOR ALL TYPES OF DIABETES

I AM SUITABLE EVEN FOR BABIES

I CAN BE IN EVERY EMERGENCY KIT

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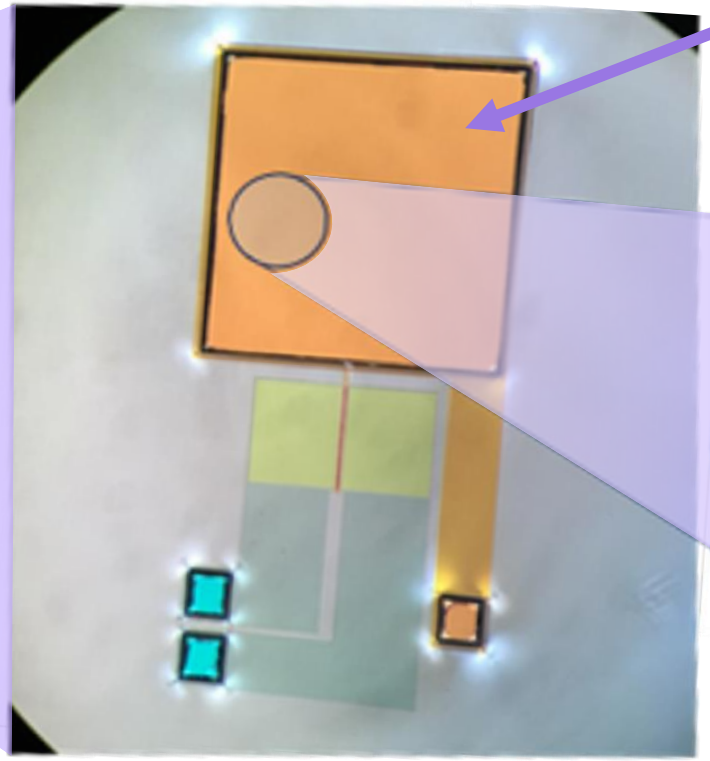
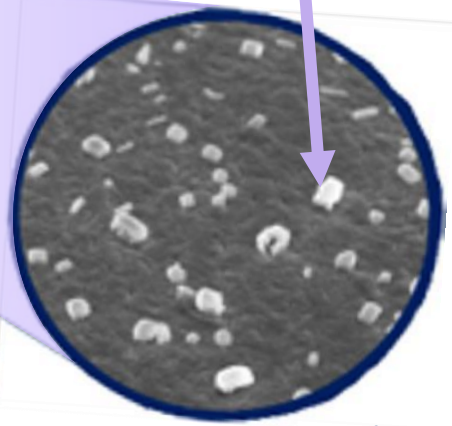
Novel transistor-based sensor leverages enzymes

Add saliva



Thin-film Transistor

Enzyme



Direct measure of glucose

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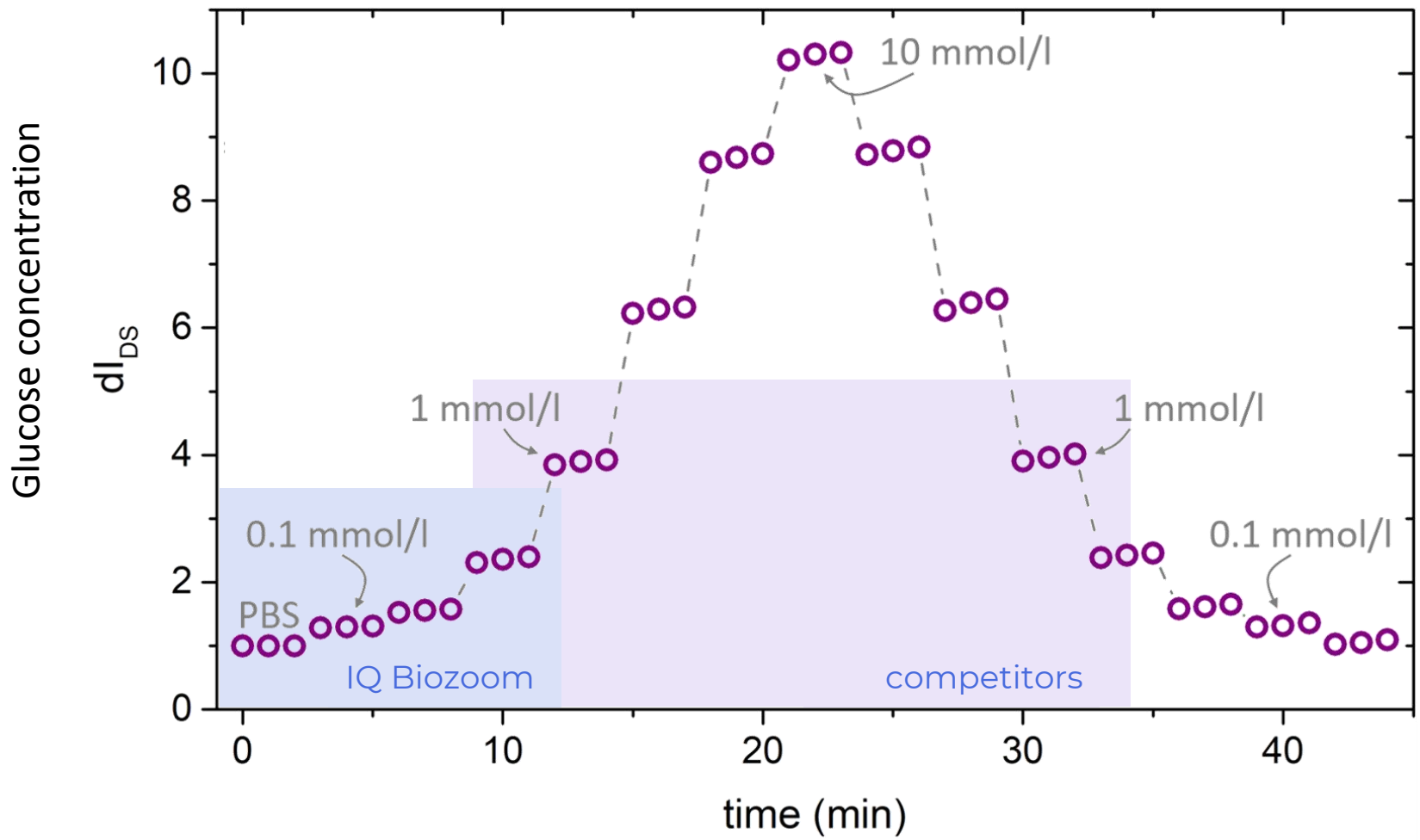
Acute sensitivity demonstrated



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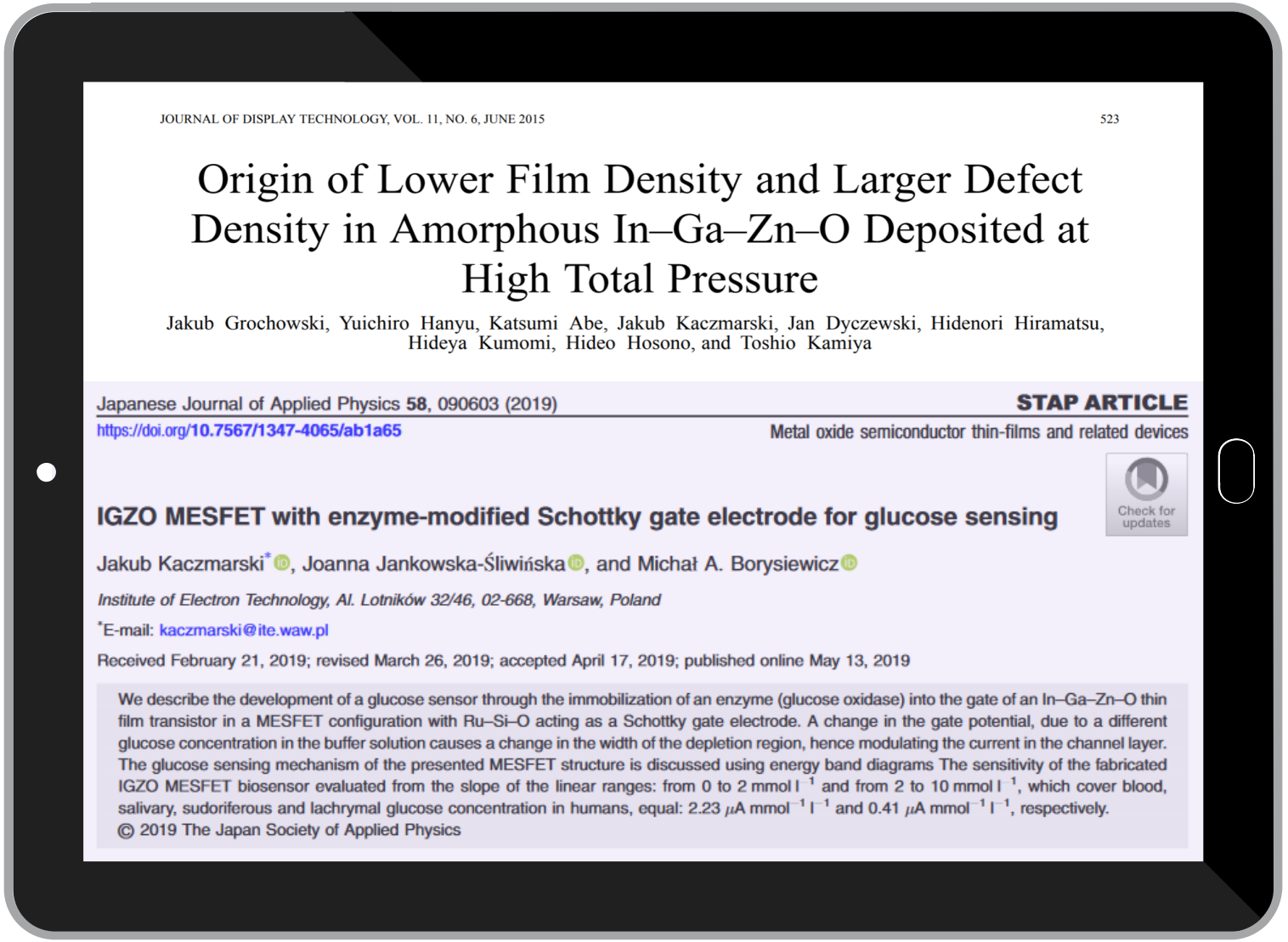
Recognized as first in world



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Origin of Lower Film Density and Larger Defect Density in Amorphous In–Ga–Zn–O Deposited at High Total Pressure

Jakub Grochowski, Yuichiro Hanyu, Katsumi Abe, Jakub Kaczmarski, Jan Dyczewski, Hidenori Hiramatsu, Hideya Kumomi, Hideo Hosono, and Toshio Kamiya

Japanese Journal of Applied Physics **58**, 090603 (2019) **STAP ARTICLE**

https://doi.org/10.7567/1347-4065/ab1a65 Metal oxide semiconductor thin-films and related devices

Check for updates

IGZO MESFET with enzyme-modified Schottky gate electrode for glucose sensing

Jakub Kaczmarski*, Joanna Jankowska-Śliwińska, and Michał A. Borysiewicz

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We describe the development of a glucose sensor through the immobilization of an enzyme (glucose oxidase) into the gate of an In–Ga–Zn–O thin film transistor in a MESFET configuration with Ru–Si–O acting as a Schottky gate electrode. A change in the gate potential, due to a different glucose concentration in the buffer solution causes a change in the width of the depletion region, hence modulating the current in the channel layer. The glucose sensing mechanism of the presented MESFET structure is discussed using energy band diagrams The sensitivity of the fabricated IGZO MESFET biosensor evaluated from the slope of the linear ranges: from 0 to 2 mmol l^{-1} and from 2 to 10 mmol l^{-1}, which cover blood, salivary, sudoriferous and lachrymal glucose concentration in humans, equal: 2.23 μA $mmol^{-1}$ l^{-1} and 0.41 μA $mmol^{-1}$ l^{-1}, respectively.

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Partnerships established

NHS Cambridge University Hospitals NHS Foundation Trust

Szpital Bielański

Uniwersytecki Szpital Kliniczny im. Jana Mikulicza-Radeckiego we Wrocławiu

University of Cambridge

Kochi University of Technology 高知工科大学

University of Surrey

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Long shelf life, high accuracy, non-invasive

	0.05 mmol/l sensitivity via stable biosensor	Direct measure of insulin	Approved for patients under 18	Non-invasive self calibration
IQ Biozoom	☑	☑	☑	☑
GBS Inc.	✗	☑	☑	☑
Nutrix	✗	✗	☑	☑
Abbott FreeStyle Libre	✗	✗	>4 years	✗
DiaMonTech	✗	✗	☑	☑

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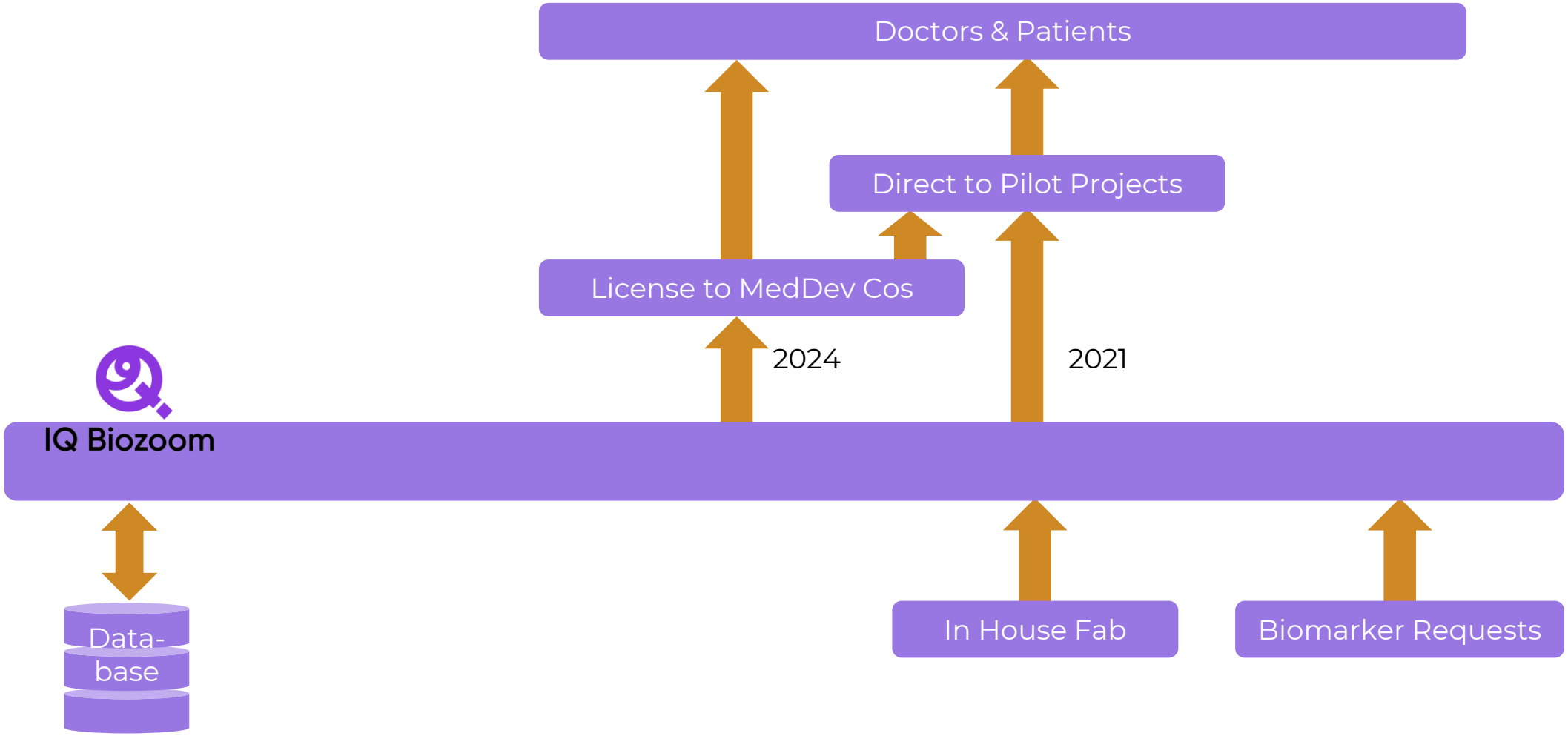
Leveraging pilot studies for new markets



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Multidisciplinary skills plus medical experience

Dorota Dardzińska
CEO

- 15 years in sales industry
- Founder of successfull advertising enterprise - Keino Group
- Works with the B2B sector using the latest communication trends

Jakub Kaczmarski
CTO

- 10 years experience in R&D for electronics and biosensing
- Scientific bridge, manager and point of contact with scientists, engineers, clinicists, entrepreneurs and government agencies.
- PhD in Solid State Electronics

Katarzyna Kaczmarska
VP, Medical Affairs

- Coordination of multidisciplinary projects combining engineering environments with other scientific and business environments
- Research projects expert at the Medical Research Agency
- Biomedical engineer, PhD candidate at the University of Cambridge

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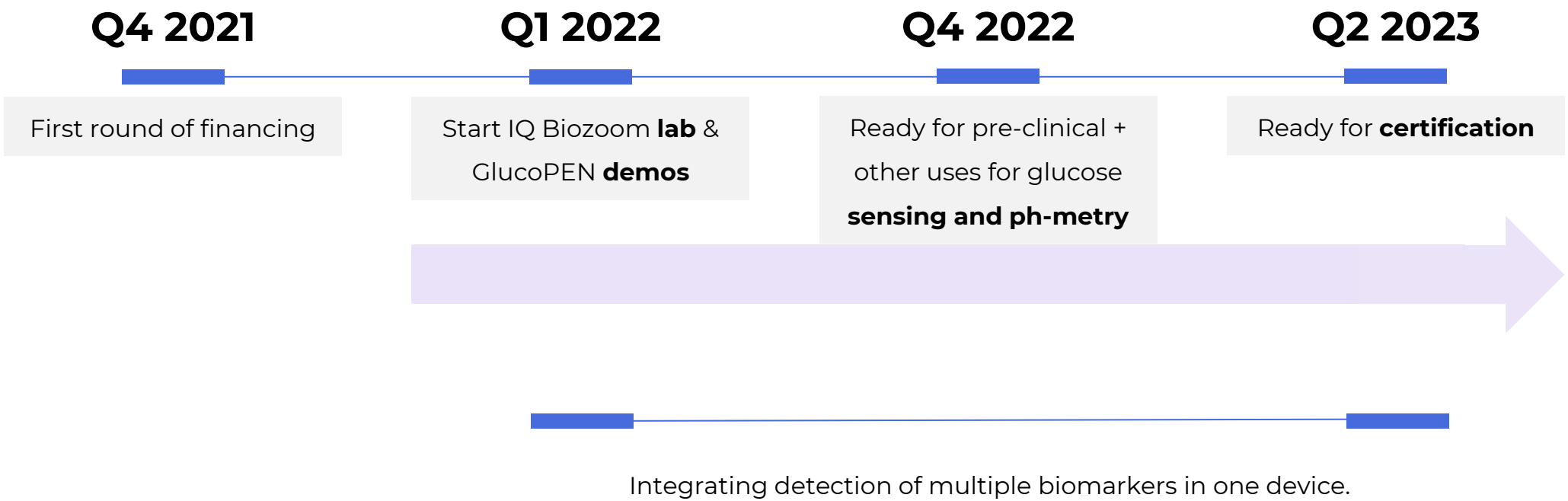
Aiming to certificate by 2024



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Thank you.

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