



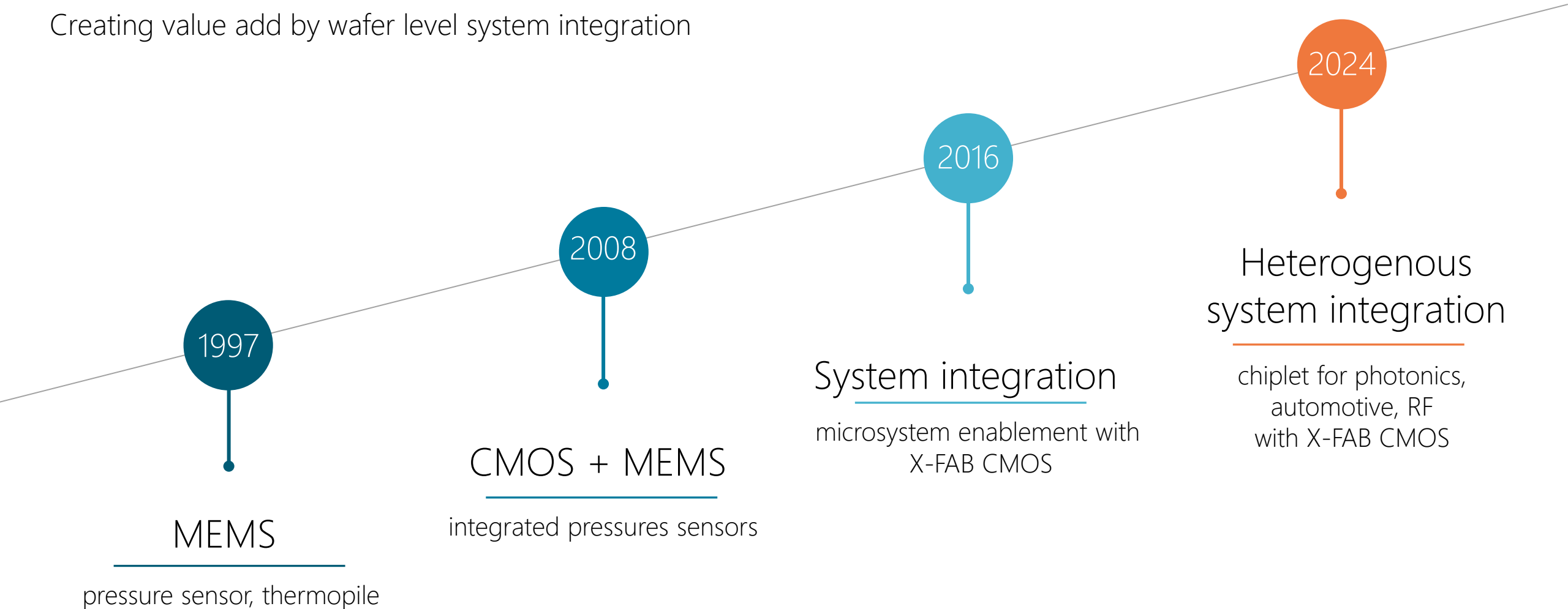
Specialty business: MEMS

Creating value-add for X-FAB CMOS business

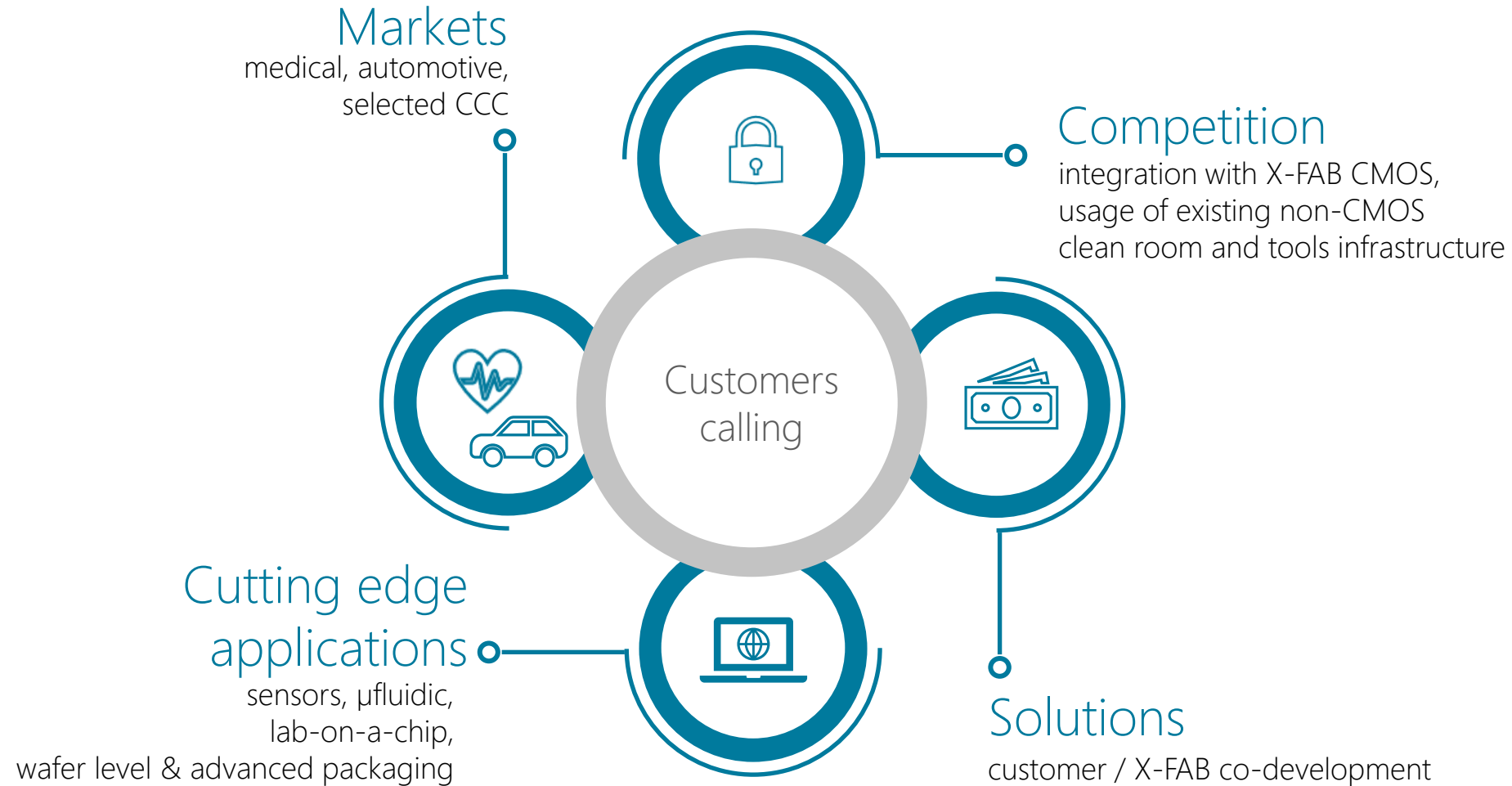
Volker Herbig | VP Business Unit MEMS

Evolution of the business model is driving MEMS revenue growth

Creating value add by wafer level system integration

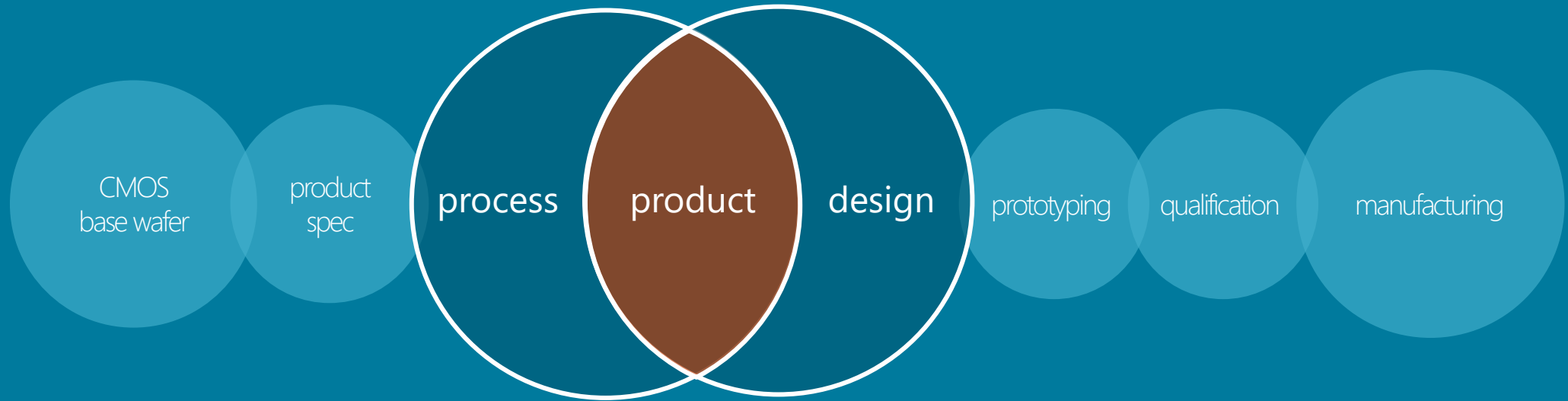


Operating in the sweet spot creates an ideal business environment



Value-add is enabled by process customization

Customer & X-FAB collaboration space



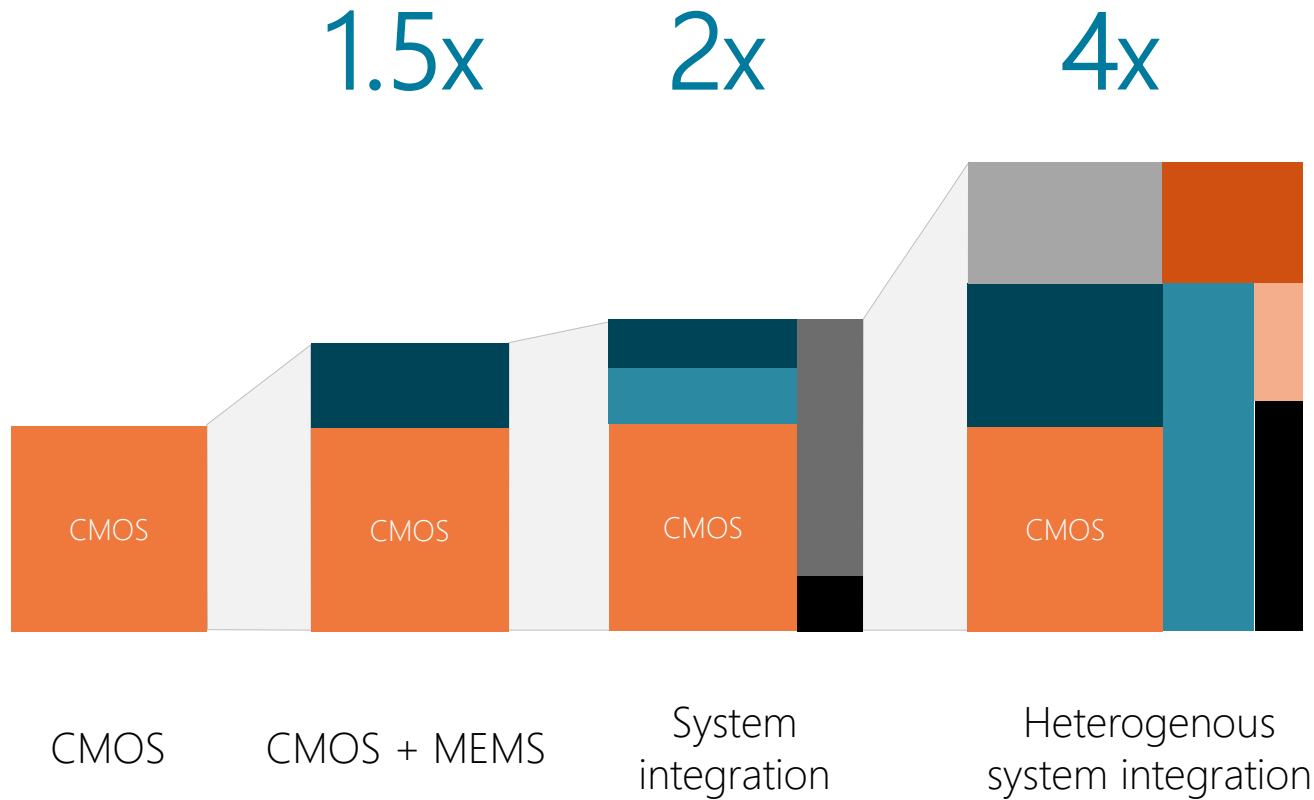
Co-development is increasing product **value**



Fewer projects but with **higher** reward and substantial **customer commitment**

Value-add is increasing CMOS ASP up to 4x

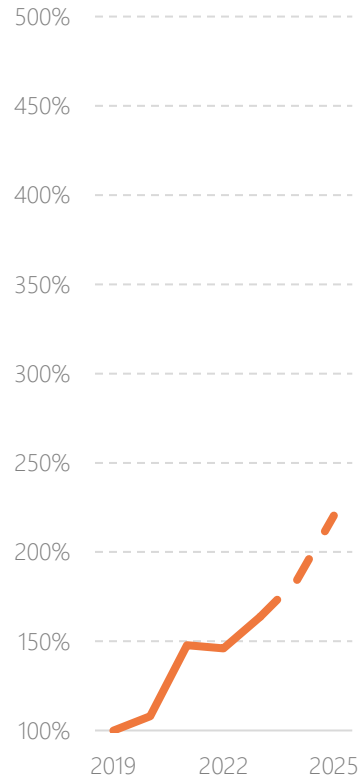
Wafer-level system integration is creating high value on CMOS



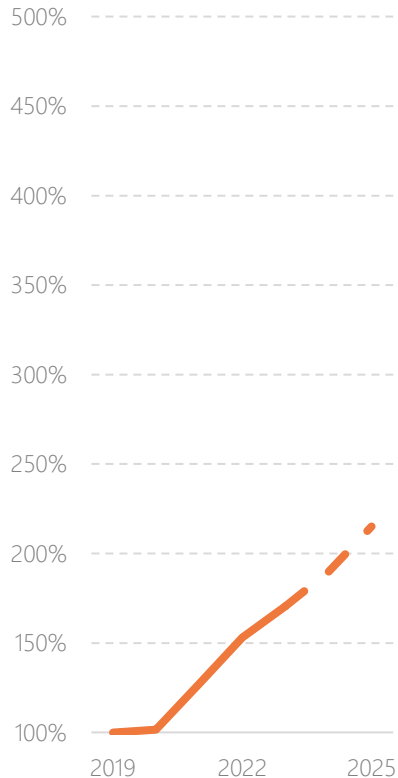
Fewer but **high-value** MEMS process layers

Average selling price and volume expansion are driving growth

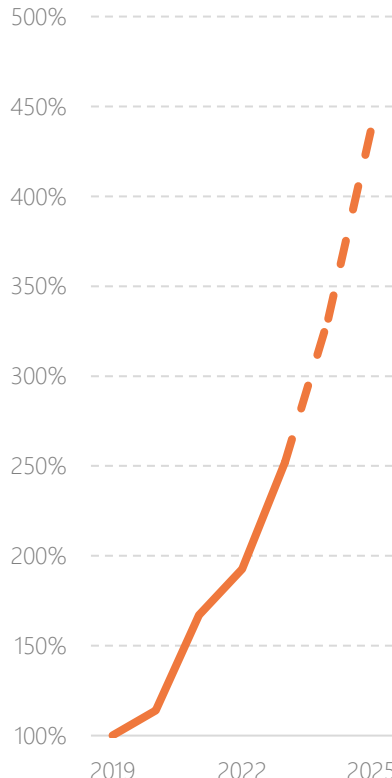
Wafer



ASP



Revenue



4

Systems integration products launched since 2019

2.2x

Wafer volume

2.2x

Average selling price

4.4x

Revenue growth

Applications enabled by wafer level system integration

Medical grade temperature sensor on your wrist



High density automotive head lights



Applications enabled by wafer level system integration

Ultra high brightness in- and outdoor displays



Smart guide wires for in situ stroke clot analysis



Applications enabled by wafer level system integration

Fast human genome sequencing



- > A research effort led by Stanford scientists set the first Guinness World Record for the fastest DNA sequencing technique, which was used to sequence a human genome in just 5 hours and 2 minutes.

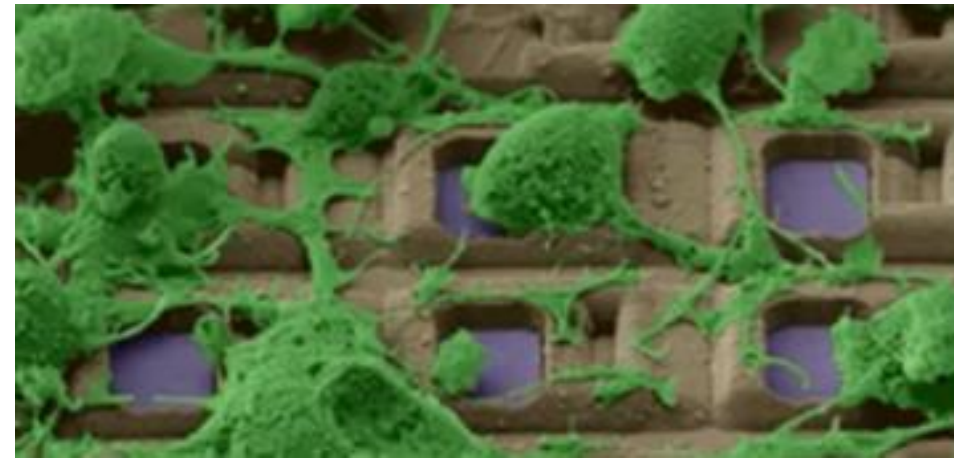
Jan 2022

- > Previously this would have taken several years to achieve

Researchers were able to quickly determine that Matthew Kunzman's heart failure was the result of a genetic condition — a finding that cleared the way for him to be placed on a heart transplant list immediately.
Courtesy of Jenny Kunzman

X-FAB Group

In vitro high-density electrical cell interaction recording



MEMS applications

The most accurate pressure sensor ever made

PCB-less series

Melexis
MEMS ENGINEERING

For all combustion powered applications

THE MOST ACCURATE PRESSURE SENSOR IC EVER MADE

MLX90822
MLX90824

The advertisement features a large grey pressure sensor on the left. To its right, three images illustrate combustion-powered applications: an engine, a motorcycle, and a chainsaw. Below these, two small images of the MLX90822 and MLX90824 sensor chips are shown.

Microdroplet spray device for drug delivery and beauty



xfab

Thank you.

     xfab.com