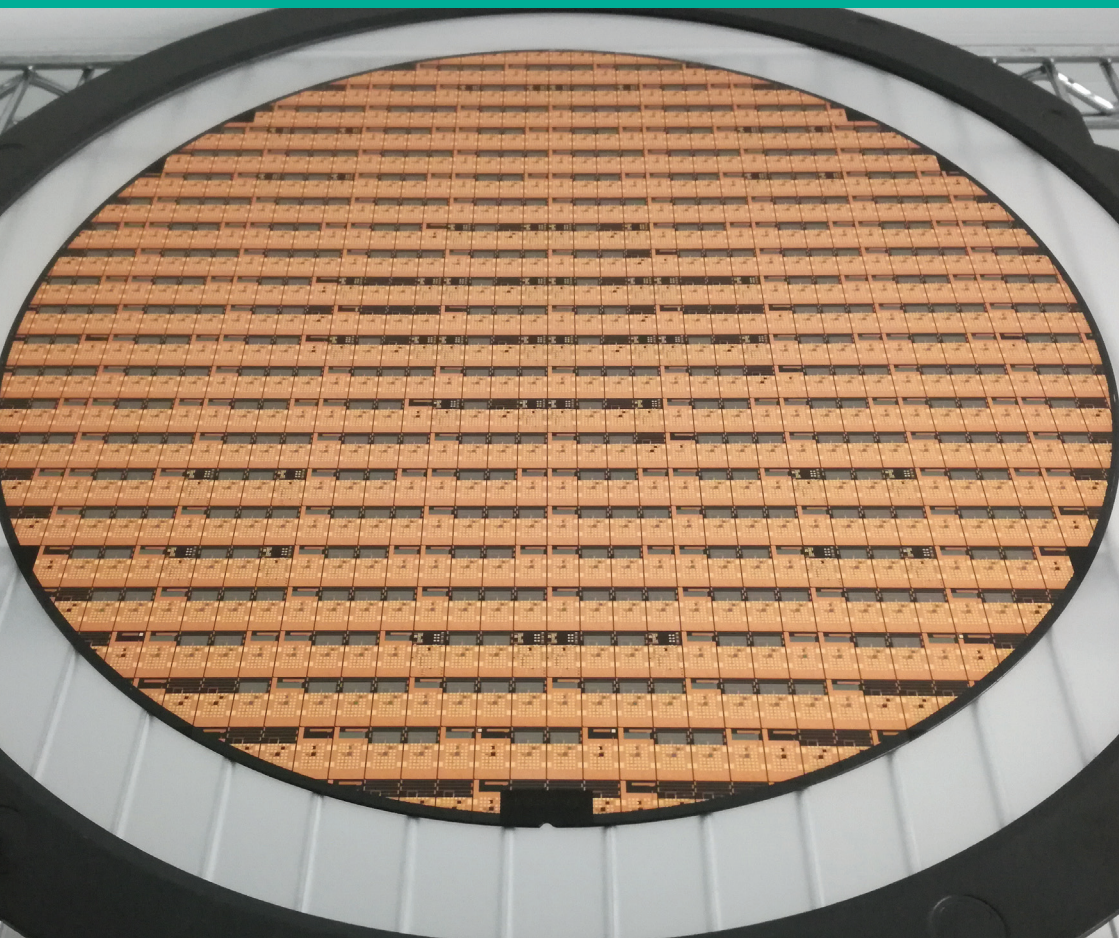
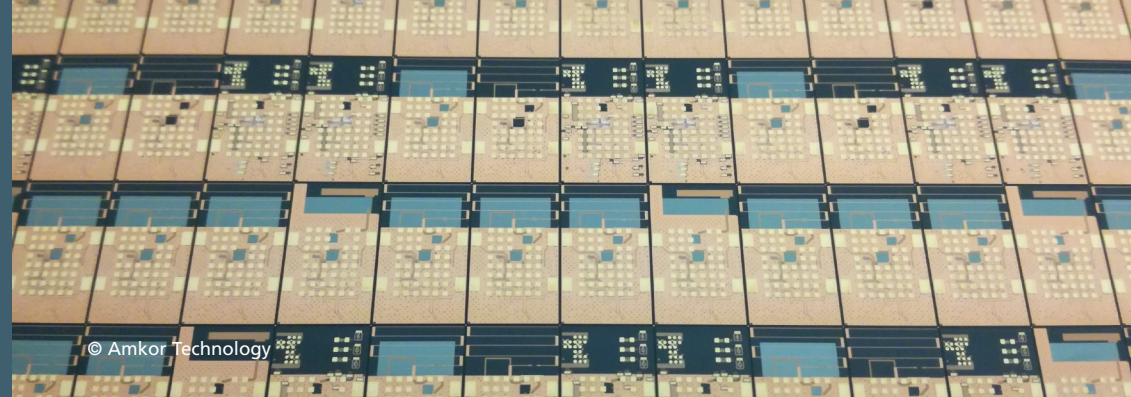


SMALL, FLEXIBLE, AND MODULAR CYBER-PHYSICAL SYSTEMS

# SENSE



# LETTING EVERYTHING SENSE: A SMALL, EASY DEPLOYABLE AND MODULAR TECHNOLOGY ENABLING VIRTUALLY ANY OBJECT TO SENSE, ACT AND PROCESS DATA



## Motivation

Electronic and other device manufacturers looking at the future, want to move towards ubiquitous computing, where physical objects embed sensing, actuating and processing capabilities.

Interconnecting and processing information retrieved through these cyber-physical systems, is a challenge in itself. Additionally, if developers are also concerned with the development of electronics, costs and time-to-market will sharply increase. This hampers business models associated with the Internet of Things (IoT) by slowing dissemination and uptake.

## Solution

We focus on facilitating the creation of modular, small, and flexible cyber-physical systems, that can be harmoniously combined into virtually all products: from heavy machinery to everyday objects, including wearables, kitchen tools or home appliances. Our development ecosystem is based on a

modular hardware architecture that can be encapsulated into a single component, and offers sense, process, energy management and communication capabilities. A physical interface for adding new features is also available. Being an ecosystem, it offers a set of development tools ranging from firmware and software examples to Application Programming Interfaces (APIs) that seamlessly integrate into the most common operating systems.

## Benefit

Taking advantage of wafer-level packaging (WLP) technology, we managed to build a 7x12mm<sup>2</sup> module that can be produced using industrial processes, thus making it available in large quantities at a reduced cost. By offering such a featured ecosystem, that eases and speeds the development process, we allow makers to focus on their value propositions and to create differentiated products, without being concerned with the burdens of electronics design and manufacturing, thus reducing the costs and time-to-market.



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A large, stylized graphic of a circuit board or network diagram. It features a central hexagonal shape formed by multiple concentric white lines. From this central area, numerous white lines radiate outwards, some ending in small circles or horizontal bars, resembling a complex network or a multi-layered PCB layout. The graphic is set against a light blue-grey background.