

Immersive Ski Game

FlightSense Time-of-Flight technology



VL53L8UX



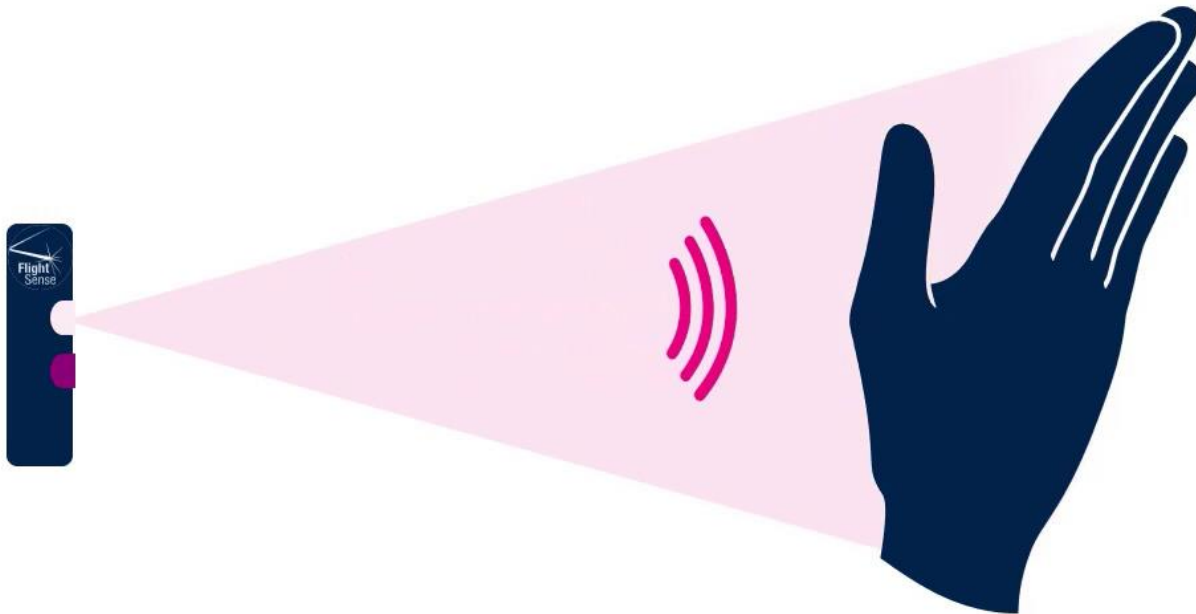
FlightSense portfolio



FlightSense introduction

... Making light work

Time-of-Flight principle



- ST proprietary **FlightSense™** technology

- True distance measurement

- Fast and low power

- Truly invisible 940 nm illumination

FlightSense

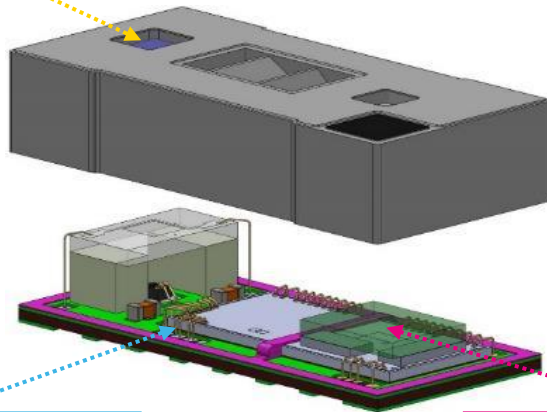
ST pioneer and Leader in Time-of-Flight (ToF)

ST is #1 Worldwide Time-of-Flight sensor supplier

All-in-One (illumination & sensor) Time-of-Flight system

Advanced optics with integrated IR filters

State-of-art assembly & testing
ST manufacturing line in
Shenzhen



Full Class 1 safety
high efficiency VCSEL

Monolithic ToF SoC,
SPAD Array, high safety
Class1 VCSEL driver

4 Generations

of all-in-one ToF solution deployed since 2014

>500 devices

Over 200 phones with ST's Time of Flight technology
Several hundreds of non wireless end products on the market
Unlimited variety of use-cases beyond smartphones

>80,000

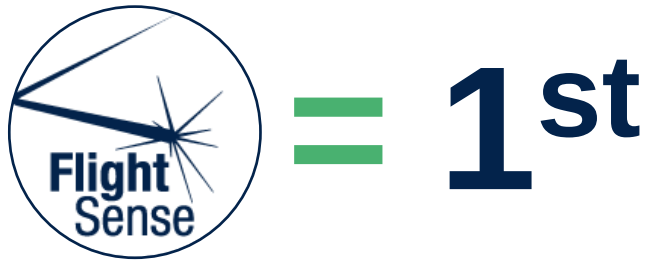
Evaluation kits deployed

>2 Billions

ToF units shipped. Mastering end-to-end supply chain

FlightSense Summary

Leader on Direct ToF



= 1st

8 single-zone ToF sensors

- Wide product portfolio
 - Ranging up to 800cm
 - Histogram mode
 - Very short distance linearity
 - Ultra low power mode



6 multizone ToF sensors

- Up to 16x16 zones
- Wide FoV from 65° to 90°
- Ranging up to 400cm
- Strong ambient light immunity
- 2 new sensors for AI applications

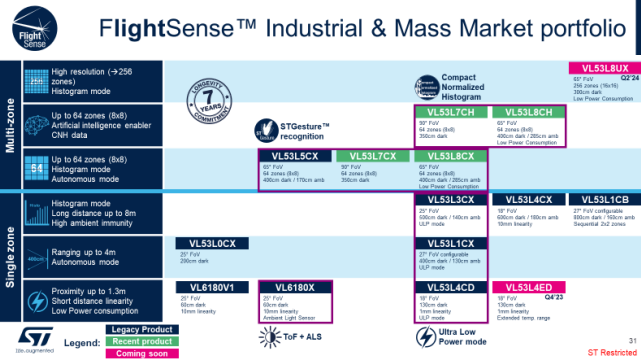


Turnkey solutions

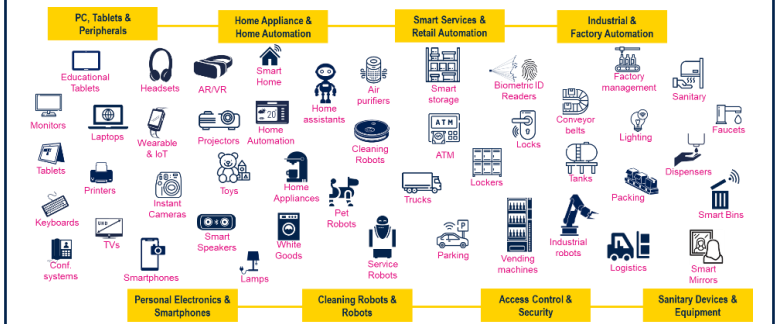
- Gesture recognition
- Presence detection
- Liquid level monitoring
- Content management
- Floor sensing prediction
- ...



Continuous improvement

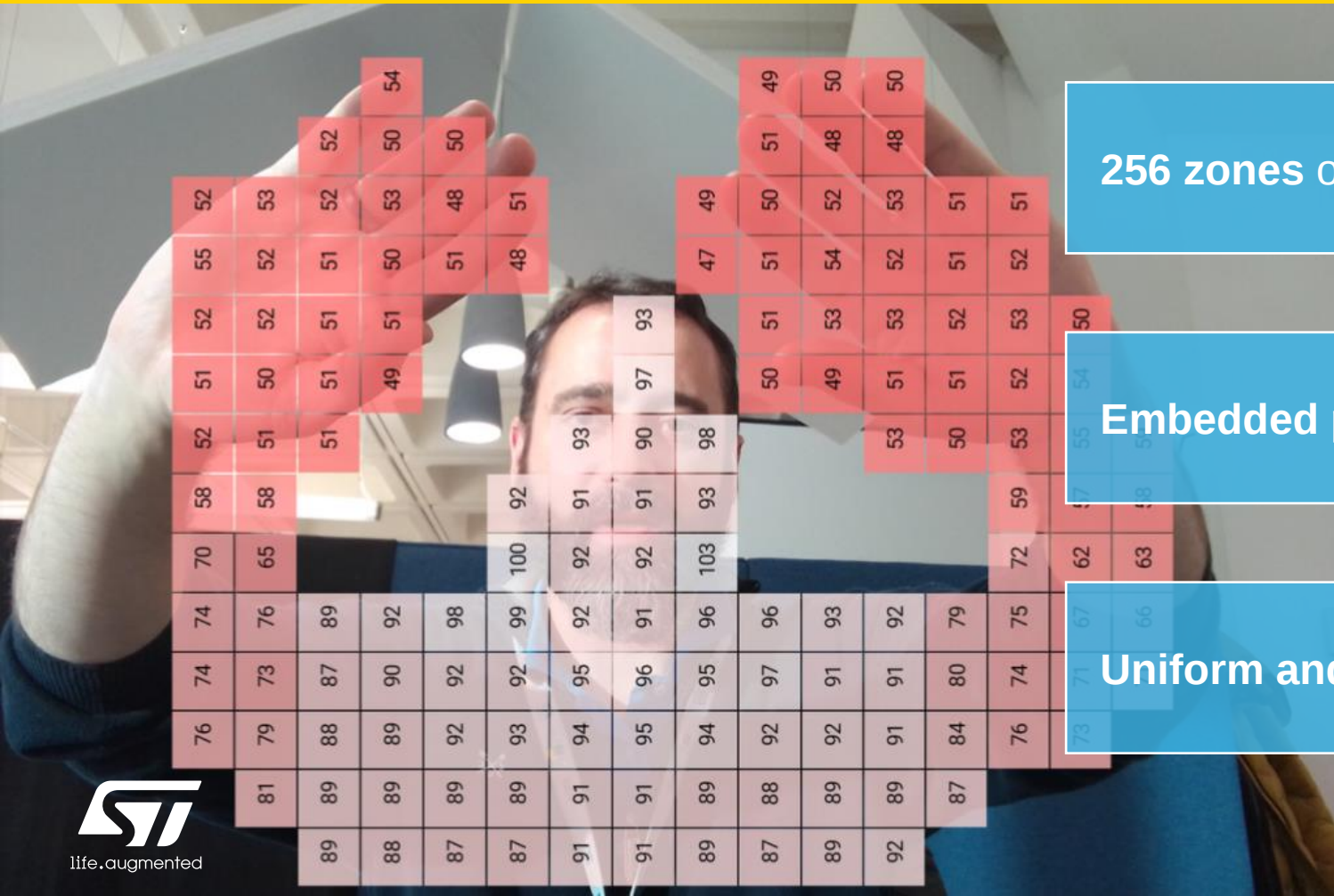


Unlimited markets & applications



Enhanced Time-of-Flight allowing body tracking

From 64 to 256 zones in the same form factor in an all-in-one module

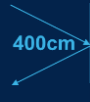


256 zones output at 60 fps with 3 meters ranging

Embedded processing on-chip with 32-bit MCU

Uniform and robust ranging across the field-of-view

FlightSense™ portfolio

Multi-zone	 High resolution (→256 zones) Histogram mode					VL53L8UX 65° FoV 256 zones (16x16) 300cm dark Low Power Consumption	
						VL53L7CH 90° FoV 64 zones (8x8) 350 cm dark	VL53L8CH 65° FoV 64 zones (8x8) 400 cm dark/285cm amb Low power consumption
		 STGesture™ recognition				VL53L5CX 65° FoV 64 zones (8x8) 400 cm dark/170cm amb	VL53L7CX 90° FoV 64 zones (8x8) 350 cm dark
Single zone	 Up to 64 zones (8x8) Histogram mode Autonomous mode					VL53L8CX 65° FoV 64 zones (8x8) 400 cm dark/285cm amb Low power consumption	
						VL53L3CX 25° FoV 500 cm dark/140cm amb ULP mode	VL53L4CX 18° FoV 600cm dark / 180cm amb 10mm linearity
						VL53L1CX 27° FoV configurable 400 cm dark/130cm amb ULP mode	VL53L1CB 27° FoV configurable 800cm dark / 160cm amb Sequential 2x2 zones
						VL53L4CD 18° FoV 130 cm dark 1 mm linearity ULP mode  Ultralow power mode	VL53L4ED 18° FoV 130cm dark 1mm linearity Extended temp. range
Single zone	 Histogram mode Long distance up to 8m High ambient immunity						
Single zone	 Ranging up to 4m Autonomous mode						
Single zone	 Proximity up to 1.3m Short distance linearity Low Power consumption						

