



U-SENSE.IT s.r.l
Measurement systems for digital factories



**UNIVERSITÀ
POLITECNICA
DELLE MARCHE**

CONTACTS

U-Sense.IT s.r.l.
c/o Università Politecnica delle Marche,
Dipartimento DIISM,
Via Brece Bianche,
60131 Ancona
P.IVA 02867540425
Tel. +39 3357864806
E.mail info@u-sense.it
Sito [www. u-sense.it](http://www.u-sense.it)

SOCIETAL INFORMATION

Innovative startup
Year of establishment: 2020
Phase: growth
Share capital: € 30.000

TEAM

1 CEO
1 Business manager
1 CTO
2 R&D Project Manager
1 Computer vision scientist
1 Optical system scientist
1 Mechanical Design

OTHER INFORMATION

2 Patent applications in 2021

VISION

The vision of U-Sense.IT srl is to provide SMART measurement systems to improve the integration of operators in digitally connected, industrial and non-industrial contexts.

Measurement tools for the Industrial Internet of Things (IIoT) connect operators to the production process according to the "human-in-the-loop" paradigm, integrating them into the digital factory in total consistency with the principles of Industry 4.0 and Zero Defect Manufacturing. In this context, U-Sense.IT is focused on the development of portable optoelectronic sensors with integrated Artificial Intelligence algorithms for dimensional measurements and visual inspection.

MARKET OPPORTUNITIES

U-Sense.IT is aimed at the market of optoelectronic sensors used in various application sectors, such as the automotive sector, that of household appliances up to that of furniture. These sectors have in fact shown, in recent years, an increasingly growing interest in the adoption of these types of measuring instruments aimed at quality control of their products. The possibility of having tools available to connect operators to the digital infrastructure of the factory, through a rapid and reliable transmission of the data they produce, constitutes a further element of interest for these sectors in relation to the ability to evaluate the quality of the production process. Alongside the world of large companies, a lively interest is also being activated on the part of all those professionals who see in these tools a possibility to improve the quality of the service offered to the customer.

U-Sense.IT is currently developing sensors for two target sectors, the automotive and the household appliance.

In the automotive sector, the focus is on the final stage of vehicle assembly, where the relative positions of bodywork components such as doors, tailgate, lights and aesthetic elements, must be checked following manual assembly operations. In such complex operations the superiority of human operators in terms of dexterity, flexibility and intelligence is still preferred to robotic or automated solutions. In particular, the verification of the GAP and FLUSH between adjacent parts is relevant both for aesthetics and for functionality (aerodynamics, sealing). Operators today use hand tools, feeler gauges and gauges; in addition, there are digital solutions that make use of laser scanners, but they have been shown to have limited performance on a large variety of surfaces.

In the household appliance sector, the focus is on the verification of compliance carried out on induction hobs. In this context, there is a need to carry out checks on the internal elements of the hob without accessing them directly.

COMPETITIVE ADVANTAGE

U-Sense.IT offers measurement tools for quality control in the production line that differ from competitors on the market for uniqueness, portability, ergonomics, but above all for adaptive capabilities obtained through Artificial Intelligence algorithms integrated into the system platform.

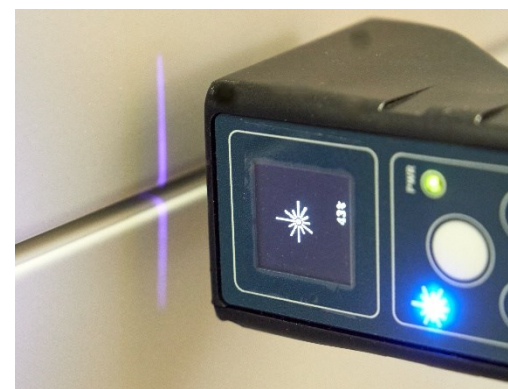
BUSINESS MODEL

The business model is B2B. Customers can be directly OEMs of the various sectors concerned or Technology Providers.

INDUSTRIAL (AUTOMOTIVE, WOOD
FURNITURE, AERONAUTICS, HOUSE
HOLD APPLIANCES)

G3F – SMAT PORTABLE IoT SENSOR for GAP&FLUSH

The G3F is an ergonomic, smart and contactless laser triangulation system for measuring and verifying the correct alignment of adjacent surfaces (GAP & FLUSH), such as car body parts or surfaces that characterize appliances. Correct alignment of these surfaces is a key factor in the assembly line. The G3F was designed and built to ensure maximum efficiency and safety for the operator when carrying out these measures, as well as to ensure the sharing of results with the central production server. Thanks to the implementation of patented Artificial Intelligence algorithms, the G3F guarantees speed and reliability of the measurement on surfaces of different colors and materials.



INDUSTRIAL (HOUSE HOLD APPLIANCES)

VISIR – VISION SYSTEM FOR CERAMIC GLASS INDUCTION COOK HOBS

The VISIR system is a portable device capable of carrying out a quick and efficient check of the components present under an induction hob without the need to remove the glass-ceramic hob to carry out the inspection. Thanks to optical components optimized in the spectral band of transparency of the glass-ceramic and an interface with smartphone via a dedicated APP, VISIR allows the operator on the production line to view and verify the correct assembly of the components of the hobs.

