HEALTH IN YOUR HANDS



We universalize early diagnosis for all and deliver a positive impact for people's health

We are Usense

USENSE

Developing smart devices and IA for personalized and predictive health for all Pending analysis

Scan

History

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The integrated solution that qualifies urine data for an augmented health early diagnosis experience

Jimini

USENSE IN A NUTSHELL

A GROWING STARTUP...

Founded in 2019 by 3 associates



Guillaume Lemetais CEO



Jonathan Franklin CFAO



Jean-Christophe Tixier C00

- And now working with **25 people**
- 1 CE marked product commercialized on medical market
- Implemented in 3 European countries and in the USA
- **5** patents on technologies and ecosystem of the solution
- More than **20 000 samples** collected for our studies
- 7 scientific studies in progress
- **10 M€ raised** in dilutive and non dilutive financing
- Winner of the i-Nov by **BPI France**
- Nominee of US Galien Prize in Best Startups category









...SUPPORTED AND WORKING WITH A LARGE NETWORK

Medical partners



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HAMAMATSU

NORDLANDSSYKEHUSET NORDLÁNDA SKIPPIJVIESSO

Business partners

Technological partners

life.auamented



Using urine as a mirror of your health, urine is the next revolution

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Unlock the power of urine



With +3000 molecules, Urine is yet...

Under-used
 Under tapped
 Under diagnosed
 Useful

...matrix rich in information validated by guidelines and scientific publications and with multiple source of advantages...

REFLECT HOMEOSTASIS UNLIMITED QUANTITY

NON-INVASIVE

Thanks to AI and combined technologies, Urine-based analysis now experiences a revolution with the transition from urine dipsticks and large laboratory machines to Usense



Jimini, our first solution

The first and only connected urine point-of-care to assess multiple health parameters in few seconds



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Jimini, a patented mini lab

Embedding unique combination of miniaturized technologies to create a mobile biological lab

Embedded electroanalysis methods developed with CEA

Proprietary Artificial Intelligence allowing a state-of-the-art signal processing

Photonics technology from UV to IR

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Jimini, a 360° connected solution



Data Platform

Pred Gambly Hesure AI Al Isa Data is transformed by proprietary Artificial Intelligence (machine learning and deep learning models) leveraging a state-of-the-art signal processing



Tablet App

The solution sheds light on the numerous advantages of biological fluids with the intention of revolutionizing their analysis and utility

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Jimini, an augmented experience for users

Non-invasive

Easy sampling for everyone, in every situation

Jimini

No consumables

Infinitely reusable and sustainable

Point-of-care

Results as close to the patient as possible

Connectivity

Portable and compact medical device to track results in real time

Instant results

Biomarkers assessments in few seconds vs several hours

Easy preparation

Samples can be tested in any container, with limited preparation

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PRODUCT ECOSYTEM A matter of Hardware, Software and AI

USING COMBINATION OF TECHNOLOGIES

To generate a unique health fingerprint



Shared and validated by scientific advisory board composed of Scientists, Specialists, Biologists, Researchers and Data experts



Transformed by proprietary Artificial Intelligence leveraging a state-ofthe-art signal processing



Validation of several biomarkers' vs gold standard methodology

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ALGORITHM

Biomarker concentration prediction, using algorithms adapted to each cluster

STATISTICAL MODELS

MACHINE LEARNING AND DEEP LEARNING MODELS

SUPPORT BY OUR UX ORIENTED APP AND DASHBOARD

As software as a multimodal platforms

BROLOGY MONITORING





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Devices & IT management

Usense will guarantee the tracking and the cybersecurity of its devices, no matter where they are. Check and calibrations' monitoring is facilitated with specific alerts when they need to be done. Monitoring them allows to meet the COFRAC requirements

A perfect mobile app combining **best in class UX & UI** for our first in class users

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Our app will allow to quickly create and export patient records in the practitioner's dashboard (Secure connection, Sample measurement, Display of biological results, Calibration, History, etc.)





Infections

Infection

Measurement & Data-visualization

Facilitating real-time monitoring of Usense data is a priority: clinical and organizational data will be displayed on our dashboard. Customization of monitoring tools will allow each practitioner to organize his dashboard with priority data according to his needs

HOW WE LEVERAGE DATA ?

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Rely on our Nisa's Intelligent Assistant equation paving the way to an augmented P4 medicine with our Jimini

((Combining multiple data sources + Data science and engineering expertise + Bioethics issues) x Dataviz simulation of physiological and metabolic processes) / personalization to each individual

+2M DATA (USENSE DB)

We rely on a network of unique public and private partners to aggregate millions of healthcare data sets (biological, anthropomorphic, medical history, etc.).



EXPERTISE DATA BIOETHICS MODELS

Data from partner hospitals and hundreds of analysis laboratories based in France and internationally

DATAVIZ SIMULATION

Usense focuses on the simulation of specific profile of each individual by crossreferencing with their physiological and *metabolic* characteristics

OBJECTIVES

Generate pilot projects to develop personalized standard biological values combining biological, anthropomorphic and clinical data







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PREDICTION & PREVENTION

Big data and personalized mapping of risk factors will contribute the risk assessing of developing or aggravating a pathology and anticipate patient care. The 3 stages of prevention will finally be accessible to all



Primary prevention: Reducing risk of disease Secondary prevention: Promoting early & easy detection Tertiary prevention: improving the overall quality of life and well being

Health monitoring Facilitating diagnosis Evolution of health status Help in setting up therapy





OUR FIRST USE CASES

SUMUP



Overview of parameters exploitable by Usense

DIPSTICK BIOMARKERS DETECTABLE BY Jimini

Leukocytes Nitrites Urobilinogen

> pH Blood Urine density Ketones

> > Glucose

Infection - Kidney/bladder infection or pathology Infection - Urinary tract infection Metabolism - Liver cell damage

Metabolism - Metabolic function markers
Infection - Kidney/bladder infection or pathology
Nutrition - Marker of hydration and renal activity
Nutrition - Metabolic function markers

Nutrition - Prediabetes marker

Crea Sod Pota Osn Chlo Urea PBC

These parameters are part of the Usense development roadmap, and some will require specific work to achieve optimum performance levels

BIOMARKERS USUALLY MEASURED IN THE LABORATORY DETECTABLE BY Jimini

atinine	Metabolism - Muscle mass/kidney health marker
lium	Nutrition - Salt consumption marker
assium	Nutrition – diet quality marker
nolality	Nutrition - Marker of hydration and renal activity
orine	Metabolism - Kidney health marker
a	Nutrition - Protein consumption marker
G & TUP	Genetic diseases - Monitoring tool for hemin treatment Screening/Diagnostic aid PHA Differential diagnosis of gynecological abdominal pain



JIMINI TO ADDRESS 3 MEDICAL USE CASES



Acute Hepatic Porphyria

AHP screening:

Rapid screening of porphyria to reduce diagnosis wandering

Differential diagnosis of abdominal pain involved in pathologies like endometriosis or dysmenorrhea

At home monitoring of AHP treatment: Monitor tool for hemin treatment and follow-up patients personalization

Biomarkers

- Porphobilinogen
- Total Urinary Porphyrins

Urinary Tract Infections

- **Urine dipstick Substitution:** Measuring levels of nitrites and leukocytes for the rapid triage of patients
- Urine cytology substitution: Measuring 4 key UTI markers to replace the existing cytology machines in analytical labs while providing a quotable solution

Biomarkers

- Nitrites
- Leukocyte

- Erythrocyte
- Bacteria



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Nutrition & Metabolism

Medical application:

Measuring in routine 10 urine biomarkers to assess general health and nutritional status carried out by biological laboratories

Non-medical application:

Measuring 11 urine biomarkers linked to nutrition and general health to assess dietary intake, metabolic processes and renal function

Biomarkers

- Creatinine
- Osmolality
- Sodium
- Potassium

- Magnesium
- Glucose
- Urea
- Ketones, etc.

Our targeted clients, step-by-step approach to secure the adoption cycle

Universalize health assessment

BtoB our first clients

For private laboratories

Reducing results delay, offering dipstick alternative and optimizing the end-to-end value chain of samples

For public & private healthcare institutions

Improving time to treatment, patient pathway and facilitate decision making Connecting patients and their practitioners or CRO for monitoring pathologies

Classic, mobile and Point of Care labs Internal laboratories, Point of care, Emergencies, EHPAD, NGO, etc.

For at home Health care practitioners

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BtoBtoP

For Patients

Through public or private healthcare institutions and new business model, making every patients the CEO of its own health

Nurse, Health operators, Practitioners All families' health, Autonomous patient



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plug-and-play solution

The current competition technologies are clotted and cannot answer the needs of today's biology

The Gold-Standard methods: Laboratory machines allowing an accurate measurement, but which are non-mobile, bulky and expensive

Urine dipstick:

Allow a fast and qualitative assessment of a few urine biomarkers, as a first-line analysis, but which are very inaccurate and have a bad repeatability



Mobile lab

Usense's technologies within MediGo, a mobile lab designed by Renault

CLOSER TO THE PATIENT: TOMORROW'S MOBILE LAB

Take full advantage of Jimini connectivity and point of care features to be at the patient's doorstep



All-in-one lab

Decentralized health

This project is powered by industrial partnerships and is now ready for use by local communities :

PRAESENS CARE SENS **JCDecaux**

Launched at Vivatech 24, #U1stVision is the first in citizencentric mobile services, bringing together 21 medical data streams including Jimini : all within a single truck

Multi-functional modules are dispatched rapidly and efficiently - bringing decentralized, humanized, continuous and secure services to citizens at speed and scale

Fast diagnosis

Connectivity

orange

Renault Group THALES

ATOS



CNES/MEDES Partnership Usense's technologies for space conditions



Jimini – Medical Device

Orbital Systems" R&T prizewinner Adaptation of the device for space flight

PRODUCT VERSATILITY: EXAMPLE OF CNES / MEDES

Take full advantage of Usense tools to promote and adapt to Jimini to the space

The project aims to design a medical device prototype suitable for use in space, meeting the unique requirements and specific constraints of the space environment. The main objective is to provide a reliable and efficient diagnostic aid for the management of medical emergencies and health problems

Use Jimini and urinalysis to prevent pathological changes

ANTICIPATE

Anticipating deterioration in health and preparing for return to Earth:

Use of monitoring tools to model the evolution of critical parameters and try to prevent health deterioration, or to plan the best course of treatment if it has already set in



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Real-time integration of Jimini data and other measurements taken in space or on Earth

MONITOR

Follow-up of the astronaut during missions:

Regular monitoring of astronauts' state of health, with a global analysis of health status and personalized advice

HEALTH IN YOUR HANDS

contact@usense.healthcare