



ephyca

Company presentation

July 2025

www.ephyca.com





We are Ephyca

ENHANCING HEALTH, SAFETY, AND USER EXPERIENCE

by

turning data into insights on physiological and cognitive states

ENGINEERING SERVICES

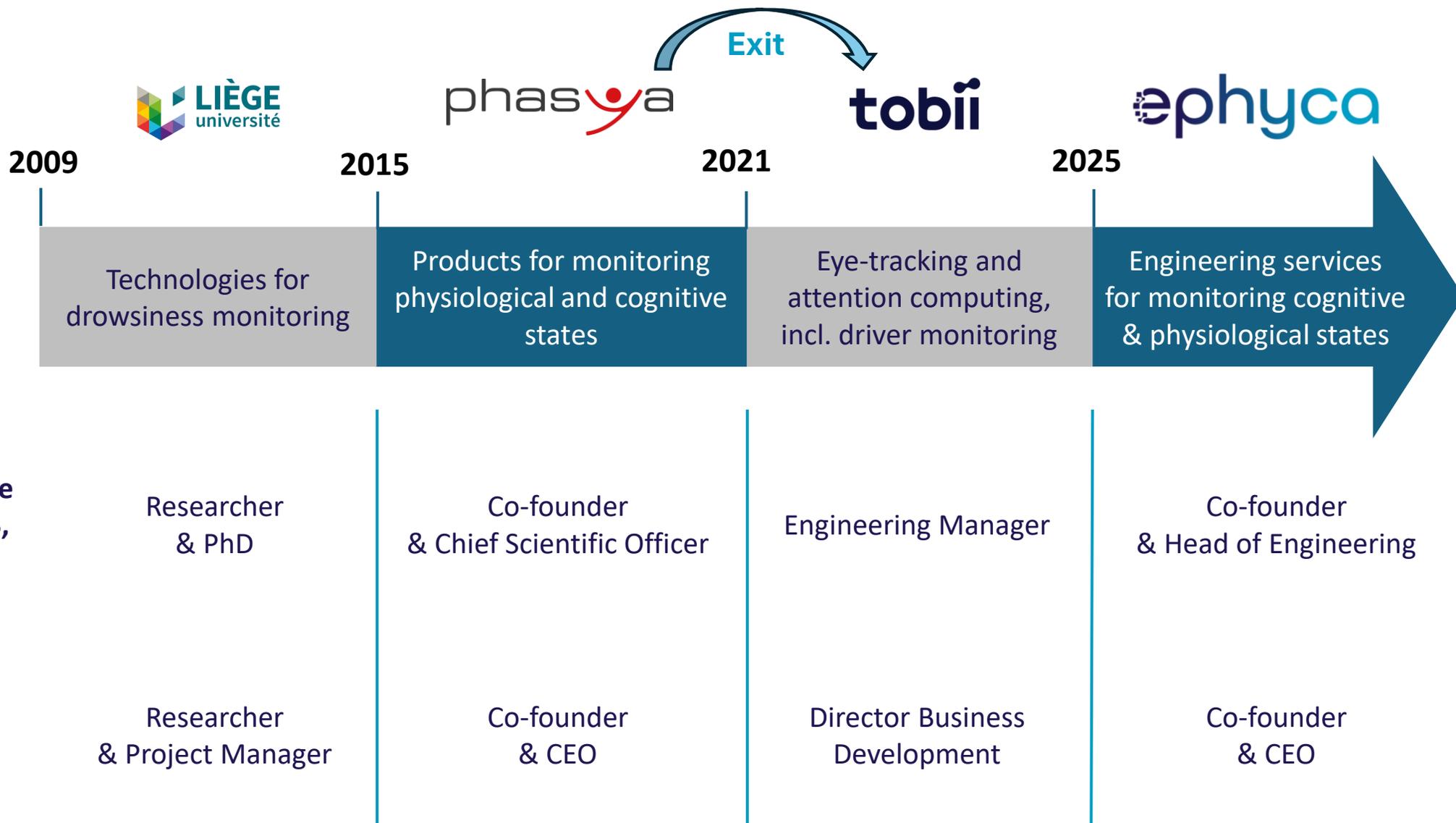
**MULTIDISCIPLINARY
expertise**

**15+ YEARS
experience**

**FOCUS
on your use case**



Our story



**Clémentine
FRANÇOIS,
PhD**



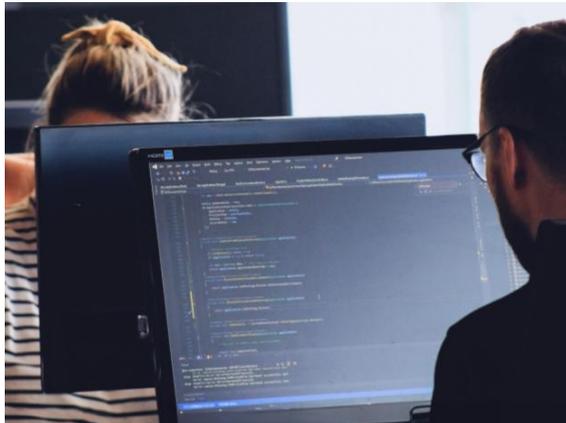
**Jérôme
WERTZ**



Our services

Our team helps

- to develop, test, and validate solutions for monitoring physiological and cognitive states
- to analyze user states



**Algorithm & software
development**



**Data collection
& analysis**



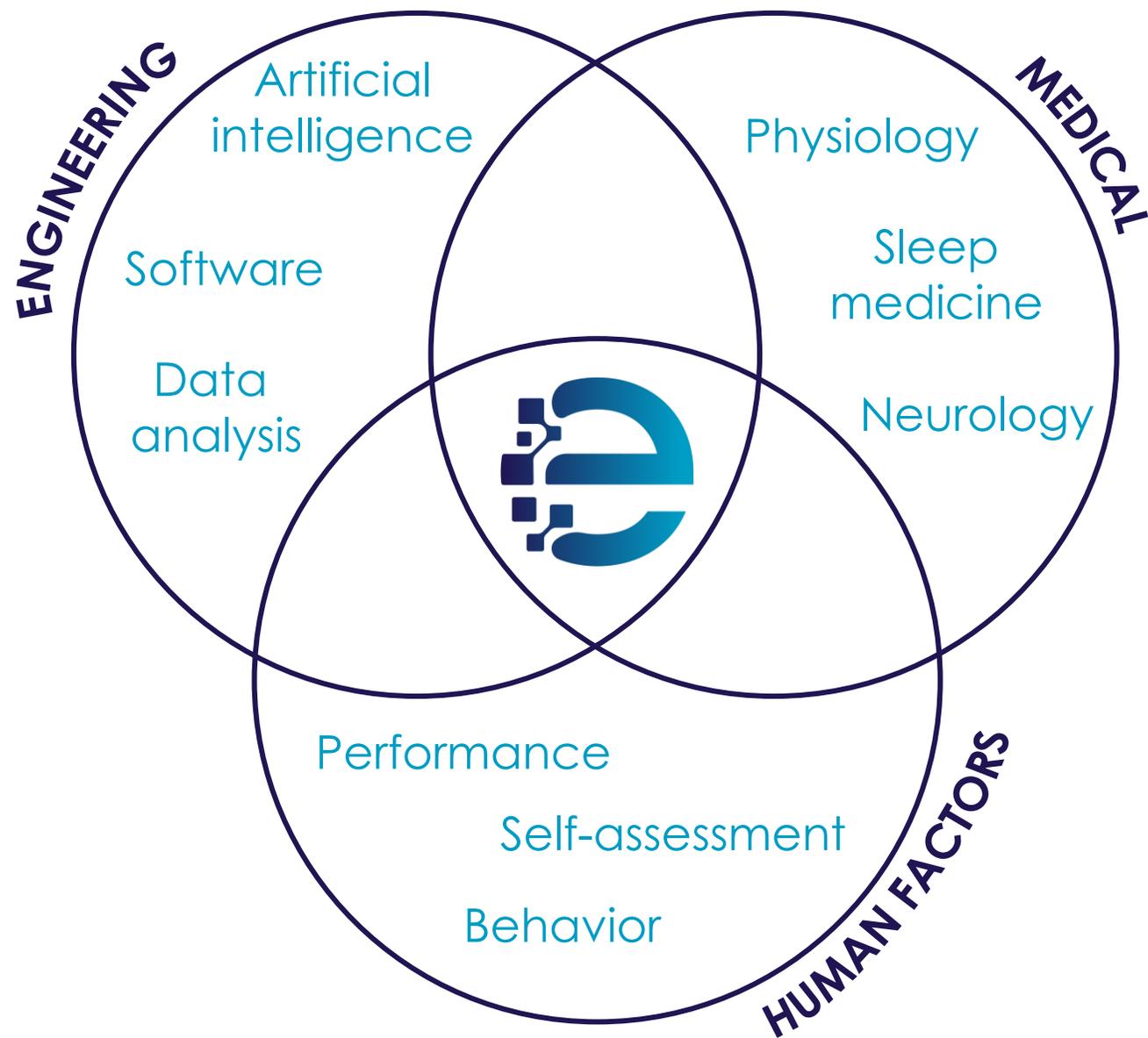
Test & validation



Sensor benchmarking



Our multidisciplinary approach





Automotive



Medical



Aviation



Defence



Rail



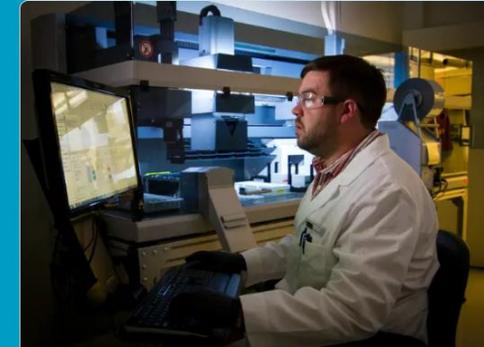
Control room



Training & simulation



User experience



Research



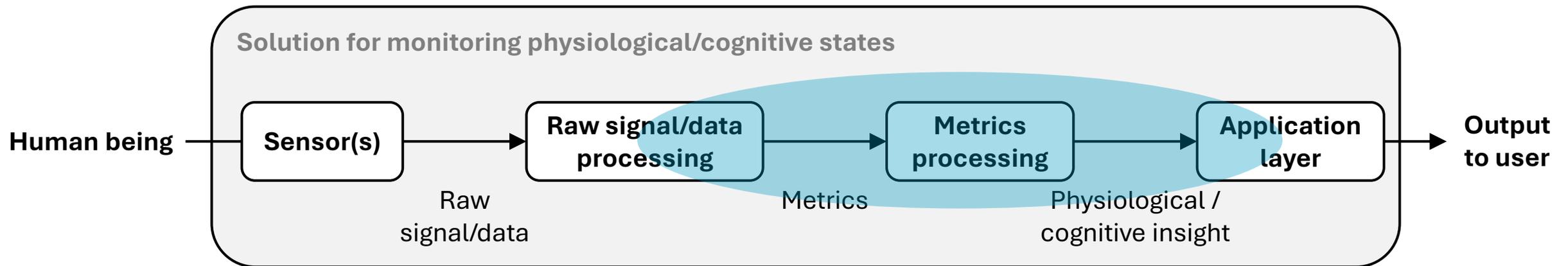
Algorithm & software development



Making a leap in your software development.

Our engineering team develops and improves your software for monitoring physiological and cognitive states. Ephyca can support you in all development steps, from requirements definition to the validation.

- ✓ Deterministic or stochastic approach
- ✓ Single input data or data fusion
- ✓ Embedded or PC-based solution





Data collection & analysis

Building your dataset from A to Z.

Our team supports you in the full data collection and analysis process. Depending on your internal resources and priorities, the different steps can be fully performed by Ephyca or done in collaboration with your team.



Goal definition

Together, we define the goal of the data collection.

Protocol definition

We determine the population sample, the relevant data to collect (incl. ground truth), the test environment, and the equipment in order to meet the goal.

Implementation of the setup

We implement the data collection environment and equipment according to the protocol.

Participants recruitment and management

We recruit and manage the participants to the data collection, including the full administrative work (e.g. consent form, compensation, etc.)

Data collection

We collect the data with the participants.

Data cleaning, labelling, and analysis

We make sure the dataset is good enough to be further processed. We can also label the data and analyse it further.





Test & validation



Validating a solution in real or simulated environment.

Our experts can help you in the full test and validation process. Depending on your internal resources and priorities, the different steps can be fully performed by Ephyca or done in collaboration with your team.

Requirements

Protocol definition

Implementation of the setup

Participants recruitment & management

Data collection

Data labelling and analysis

Reporting

Together, we analyse the solution requirements.

We determine the population sample, the relevant ground truth, the test environment, and the equipment.

We implement the data collection environment and equipment according to the protocol.

We recruit and manage the participants to the data collection, including the full administrative work

We collect the data with the participants.

We label the dataset thanks to the ground truth and compare the solution with the ground truth.

We deliver a report about the solution performance.

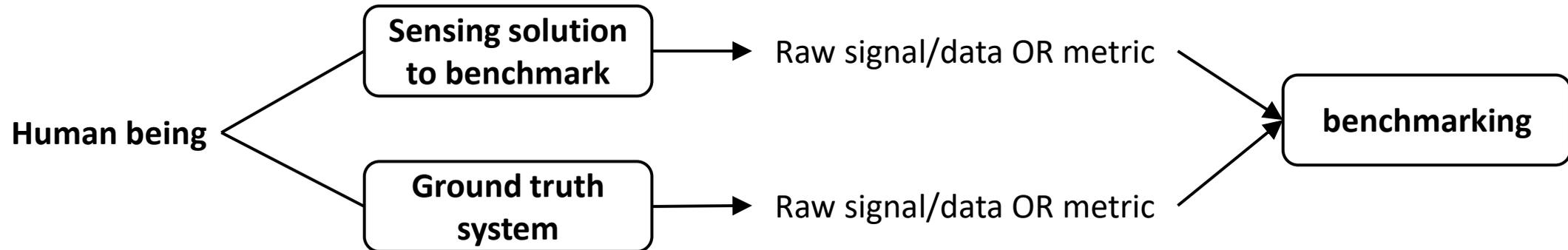




Sensor benchmarking

Qualifying sensor data quality for your use case.

Our team assists you in the benchmarking of data outputted by a sensor to prevent the “shit in, shit out” effect on your software solution. The qualification of sensor data prior to the development of your software ensures the final use case requirements are met.

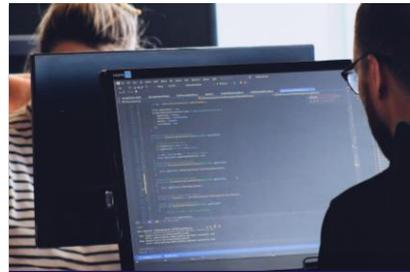




Your needs, our services

Our team helps

- to develop, test, and validate solutions for monitoring physiological and cognitive states
- to analyze user states



Algo & SW development



Data collection & analysis



Test & validation



Sensor benchmarking

YOUR NEEDS	Product development				
	Test of supplier solutions				
	Labelled dataset				

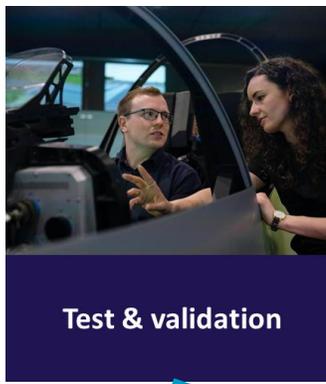


Additional slides





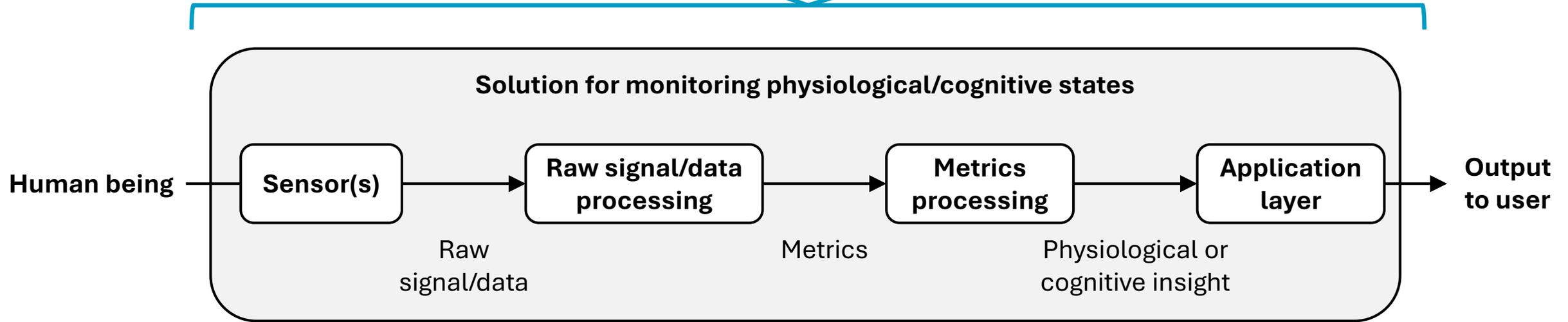
Your product, Our services



Test & validation



Data collection
& analysis



Data collection
& analysis



Sensor benchmarking



Algorithm & software
development



Data collection
& analysis





Co-founders background – Knowledge overview

- **Development and validation of products and technologies (mainly software) for monitoring physiological and cognitive states**
 - Data collection (in simulated environment and real conditions)
 - Data labelling, including several types of ground truth (physiological, performance/behavioral, self-assessment)
 - Algo / software development
 - Test and validation (in simulated environment and real conditions)
- **Experience with the following states**
 - Drowsiness
 - Cognitive load
 - Stress
 - Mind wandering / mind blanking
 - Visual distraction
 - Intoxication (driver under influence of alcohol)
 - Motion sickness
 - Disorder of consciousness





Co-founders background – Automotive

- Several customer projects (at Tobii and Phasya)
- Data collection and tests in simulator and vehicle
- Clementine led the technology development at Phasya, then she managed the Biomedical Engineering dpt of Tobii (involved in the development of Tobii's driver monitoring software)
- Jerome was part of CLEPA WG for driver monitoring (GSR and NCAP). Deeply involved in the DDAW discussions.
- Short video about Phasya (dated 2020) approach to SW development and validation for driver monitoring:

<https://www.youtube.com/watch?v=RU3njfexqK4>



Tobii collaborates with Automotive Motion Lab in a research project to detect driver drowsiness without cameras ✕ f in

TUE, MAY 16, 2023 08:23 CET Report this content

Tobii, the world leader in eye tracking and pioneer in attention computing, and Automotive Motion Lab, a joint initiative by Stellantis and other late driver drowsiness detection technology, are pleased to announce a joint initiative by Stellantis and other late driver drowsiness detection technology, a testament to Tobii's commitment to making roads safer with innovative technology.

OUR PARTNERS

ZENITY ERICSSON verizon
seeingmachines Polestar
:) Affectiva phasya

VEONEER demo at CES 2020



Co-founders background – Other customer projects (at Phasya and Tobii)

- Aviation
- Defense
- Rail
- Consumer electronics
- Medical



Samsung
Newsroom U.K.



Samsung's work with Tobii, a global leader in eye-tracking and attention computing that develops software to monitor drowsiness, is one example. If users choose to, Samsung's Privileged Health SDK enables Tobii to sense real-time heart rate captured by Galaxy Watch sensors and process them to determine the user's level of drowsiness. Also, Harman, a

