PRoF Award abstract – Call 2016

<Project acronym and name>

1. Research Outline

Acronym	ALMA Live
Project name in English	Driver Health Monitoring Platform
Pitch (1 sentence)	ALMA Live saves lives by 24/7 real time monitoring and analysing physiological drivers' data to prevent them from falling asleep at the wheel.
Executive summary (max. 10 lines)	
Every vehicle has hundreds of sensors, but we know anything about the drivers. ALMA.care closes this gap by monitoring drivers in real life and screening their streaming physiological data with our predictive algorithms. ALMA Live will be our first algorithm predicting sleep 10 to 15 minutes before drivers tend to fall asleep and giving them sufficient time to park their vehicle safely. Afterwards we'll start rolling out extra algorithms screening for cardiac arrythmia, hypoglycemia, epileptic seizures and other potentially dangerous conditions. So the use of our solution is not limited to the transportation sector, but elderly care and chronic ill will benefit as well.	

2. Cause and context of the research

Last year a young mother and her 2 children died in an accident not far from my home. Afterwards it seemed that the driver was sleep deprived. Every year more than 1.2M people die in traffic and in 23% of the fatal accidents trucks are involved. Fatigue is the official main cause in 20% of the incidents, but these numbers are an underestimation. The American National Highway Traffic Safety Administration conservatively estimates that about 40% of heavy truck incidents are due to fatigue.

3. Innovation results achieved

ALMA is bringing healthcare into the truck cabin. By monitoring real time driver associated physiological data we will predict possible dangerous conditions and prevent (fatal) accidents from happening.
Once we have finetuned our solution in the transport sector nothing will hold us from implementing it in the elderly care (cardiac rhythm, glycemia, hydration), chronically ill (glycemia, cardiac rhythm, seizures) and other domains.

4. Link to the PRoF values

Our final solution will definitely bring a feeling of safety to all drivers, elderly, chronically ill and their families, knowing they are 24/7 monitored and possible dangerous conditions will be prevented before they actually happen. People with epilepsy won't drive their cars on days with an increased risk of seizures and diabetics won't lose consciousness by a sudden drop of blood sugar.

5. Applicable IPR rules

At the moment our solution is protected by protecting our algorithm(s) from being published. In time our IP can be protected by patents and we will do this if necessary.

6. Information on the partners

At the moment we are part of KBC Startit and normally we will be selected for the iMinds iStart incubation program as well.
Several transportation companies are eager to start a pilot and H.Essers, the biggest Belgian transportation company, will support our proof of concept.
Prof. dr. Pedro Brugada is a big fan of our solution and he mentions us as 'tech of the future' in his key notes.
IMEC is working on an accurate PPG-sensor and they are willing to cooperate as soon as ready.

Addendum: Contact information

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