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## Leonardo Lima de Carvalho

ToLife

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“ I saw an opportunity to cut mortality rates and patient waiting times in half. ”

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<b>COUNTRY</b>	Brazil
<b>INDUSTRY</b>	Healthcare
<b>EMPLOYEES</b>	31
<b>YEAR SELECTED</b>	2012
<b>WEBSITE</b>	<a href="http://www.tolife.com.br">www.tolife.com.br</a>

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## COMPANY SNAPSHOT

A fatal case of inefficiency is plaguing the healthcare system in Brazil: every hour, 30,000 people check into a Brazilian emergency room. Each patient takes approximately two hours to be seen by a doctor, and more than half of these cases turn out to be non-critical conditions that distract doctors from treating the seriously ill. But Leonardo Lima de Carvalho and his company ToLife have created an innovative system that solves this inefficiency by automating the triage process based on patients' risk rating using the internationally-recognized Manchester Protocol. Leonardo has cut both the risk of mortality caused by a cardiovascular complication and the average patient waiting time in half. In its first year alone, ToLife's system was implemented in more than 5,000 healthcare units across more than 850 cities in the state of Minas Gerais..

Leonardo doesn't come from a traditional healthcare background, but he's always had an entrepreneur's ingenuity. His first venture started while studying Computer Science at Pontifícia Universidade Católica de Minas Gerais, when he noticed a campus cleaning service stopping at the same time every day for lunch. Recognizing an opportunity, he partnered with a restaurant owner to provide the cleaner with meals to resell to the employees. By the time he graduated in 1999, he was serving 650 meals a day and making US\$3,600 per month. After receiving his undergraduate degree, Leonardo continued his studies and earned a graduate degree in Software Engineering at Universidade Federal de Minas Gerais in 2003. After working at some of the biggest software manufacturers and telecommunication companies in Brazil and teaching for 13 years, he was appointed to become the public entrepreneur of Minas Gerais, mandated to manage the implementation of the Manchester Protocol and network care practices in the state's hospitals.

In pursuing this mission, Leonardo became all too well acquainted with the patient care problems that plagued Brazil. In 2009, he left the government and started ToLife to address the challenges he was unable to solve while in the public sector. Relying on friends and family for funding, he developed a prototype. In less than a year, ToLife not only won a FINEP grant for its innovation and launched the actual product but also won the approval of the state of Minas Gerais, leading more than 850 cities to purchase Leonardo's system.

ToLife's integrated system manages the flow of patient care in emergency units based on a patient's risk factors and the capacity of the care centers in the surrounding area. It is composed of three parts leased in a bundle: the hardware, Trius; the software, Emerges; and support from ToLife's service center. The Trius contains peripherals to measure common vitals, such as body temperature, blood pressure, heart frequency, and glucose level. After vitals are taken on the Trius, Emerges feeds information in real time to the overall network of care centers in a region to optimally manage the flow and distribution of patients.

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