Beeta FIWARE Case Study

Project Name	Beeta – Building Energy Efficiency Trusted Advisor		
Company Name	TERA srl	**Country**	Italy
FIWARE Accelerator:	INCENSe		
Funding Period	June – September 2015	**Grant Funding**	€150,000
Website	http://www.terasrl.it/en/	**Contact person**	Giovanni Riganti
Target Sector	Energy- Utilities	**Email**	giovanni.riganti@terasrl.it

Vision and Market Need

Tera's solution, Beeta™, is addressing problems coming from low performance in energy production of photovoltaic (PV) systems and high energy consumption in homes and small buildings.

Beeta is based on a leading edge gateway, a cloud based software platform and a mobile App: through the monitoring of user's energy consumption (and/or PV plant production), elaborating environmental and field data, Beeta provides users with custom indexes and suggestions useful to increase their energy consumption awareness and to improve their energy usage. In a fully automation version, the system also takes care of appliances monitoring and control.

Beeta aims to become a "trusted advisor" for energy efficiency for households and small building's owner. It combines an easy-to-install and remotely upgradable hardware unit with a modular and scalable cost effective solution able to overcome to the main market barriers and challenges.

Beeta™
Building Energy Efficiency
Trusted Advisor

The value proposition was validated through pilot projects, surveys with target users and market studies.

Beeta helps people to save on energy bills. To get real benefits users have to change their own habits and to maintain energy efficiency behaviours over time. Beeta is targeting those aspects and to do so it leverages innovative hardware, custom insights and software/mobile APP which as a combined solution are able to engage users over time.

Beeta's aim is to tackle current market challenges, which are not currently addressed by existing similar solutions. These include: technology fragmentation, user specific insights and capability to effectively enable user habits changing.

Beeta allows to maximise the return on investment on PV plants and to get real savings by supporting user's behaviours changes in daily energy consumptions. Benefits for users are in terms of energy saving (cheaper bills), CO2 emissions reduction and, for the prosumers (owners of Photovoltaic plant with power <100kWp), low production costs and higher profits.

Tera estimates that buildings without a photovoltaic system can save up to €200 per year on their bills, while the savings increase up to €400€ per year where there is also a photovoltaic system. Users can start experiencing the Beeta advantages just using the mobile without having to install hardware.

The launch of Beeta on the European market is planned for the end of 2016/Q1 2017.

The initial investment from FIWARE was 150,000€, added to other external and internal investments. Tera is currently looking for additional investment of €2 million.

Market Potential

Beeta is addressing the whole Home Energy Management System (HEMS) market. HEMS market in the coming 5 years is estimated to have 25/26% yearly growth rate, with worldwide market size of $3 billion by 2020. Annual revenue is expected to peak in 2020, when a government-mandated deployment of millions of smart meters and related HEM equipment (e.g. UK) in homes and small business in Europe has to be completed.

Tera is initially targeting prosumers, which are the most sensitive and that could have a shorter return on investment when adopting the solution. At the second stage the whole consumer market will be addressed in partnership company already introduced on it (e.g. Energy Utility, Service Providers, Telecom operator, Insurance company.)

In terms of geographical focus, Tera aims to scale up to the European level with initial focus on Italy, Spain, Germany, France, and UK. Currently, at local level Tera is addressing the largest regional (Puglia region) market of photovoltaic plants installed in Italy.

Tera staff have a strong knowledge about HEMS market and customer needs based on more than 25 years of experience in renewable energy market. The unique features of the mobile APP allow Beeta to effectively engage users therefore providing substantial energy saving.

FIWARE Usage

FIWARE technology has been implemented in Beeta to gather data from the gateway and make them available to the Context Broker and related subscribed applications such as CEP. Data elaborated from CEP based on proprietary algorithms are sent back to the Context Broker for further interaction with users (desk software, mobile APP).

Currently, Beeta implements the following FIWARE enablers: Publish/Subscribe Context Broker; Complex Event Processing (CEP); Wirecloud GE; IDAS GE and Flume Cygnus GE.

The main benefits offered by FIWARE include flexibility and interoperability with other platforms. Being open source, FIWARE facilitates easier tools integration and overcoming the problem of Vendor-lock-in.

Competitive Positioning

Competitors today are focused on proposing control technology (even if advanced) for energy management. This is more comparable for a smart home automation system rather than focused on changing the energy habits of users. Moreover, prosumers solutions currently available on the market are limited to the DIY without any guarantee of accounting.

Competition is fragmented between Smart Thermostat competitors (NEST, Tado, Honeywell, ATAG One), HEMS gateway competitors (Samsung, Bosch, Toon, Alarm.com) and PV monitoring system competitors (Solar Log, SMA).

Compared to existing solutions, Beeta offers more flexibility and economic advantages. Beeta runs a Software as a Service (SaaS) model without an upfront hardware fee. Moreover, it is suitable for multi-utilities (electricity, gas, water meters) and is interoperable with off the shelf devices.

Beeta is targeting both B2B and B2C markets:

- Energy Utilities and Households Service providers for the generic HEMS market (B2B)

- Prosumer (B2C): Photovoltaic Energy producer (<100kWp plant) and energy consumer at the same time in home and small buildings

Business Model

The pricing model has been determined by analysing expected users energy saving and related return on investment, competitors prices and business models. Finally, prices are checked in terms of profits for Tera considering direct and indirect costs.

In order to maximise the customer acquisition, Tera is implementing a multi-channel commercial strategy: partnerships, advertising, social media for marketing and engagement

Tera has the following sales strategy for Beeta solution:

- Direct Sales to Energy Utilities and Households Service Providers
- Direct Sales to Prosumers (E-commerce and call-center)
- Beeta is currently undergoing a pilot phase in Bari city, and it has been installed in private and public buildings and PV plants. In the coming months a refinement of the SW will be implemented based on feedback from the field.

Beeta is planned to be released on the market in late 2016 / Q1 2017.