



HOSMARTAI

AI for the smart hospital of the future

Pilot #3

Presenters: Enrico Dal Pozzo, Sara Federico,
Giorgia Pregnolato



We want to tell you about Violetta. One of the patients that are helping us co-designing the solution I'm presenting.

Violetta is 70. 8 years ago her **life changed** completely, but not for the better.

She had a **STROKE**. She saved herself, but she **could no longer move** the left side of her body and **could not walk**.

Violetta is Venetian, that's a problem because in **Venice you walk** a lot, at most you can have a boat ride.

But Violetta is also lucky, in Venice there is a **hospital at the Lido**. It's specialised in **motor neurorehabilitation**, exactly what she needed.

There are **innovative rehabilitation devices** that help her improve.

For several years Violetta had the opportunity to receive therapies. Doctors say that **she needs to work on herself everyday** if she wants to **recover** and be **independent**. She is extremely motivated and wants to continue... because she's getting better. Every day.

Problem. The Lido di Venezia is an **island of an island**. Hard to reach hospital. To get there from the mainland, the "terraferma", where there are cars and no boats... it takes **2 hours**. You will say what it has to do with it, Violetta is Venetian. Yes, she is. But those who work in the hospital aren't. **Staff is lacking** and there are other patients who need physiotherapy even more than her. This year there is **no place for her**.

Or maybe **there is**? Can we imagine a way to help Violetta continue her path of autonomy in the movements? Well...By increasing resources, **hiring more staff** perhaps. **Simple** answer. Unfortunately the management said there are **no economical resources**. And the staff is difficult to recruit; we are on an island.

But...we found a solution. A **home-automation system** provided by **VIMAR** integrated in the rehabilitation room. A technology that is familiar to many, but which is **not yet so used in a hospital**.

Violetta **no longer needs** a physiotherapist to **accompany** her to do rehabilitation. She knows she has to **show up at 11.00**. She inserts her **badge**, positions herself on the **rehabilitation device**, uses an **app to make a self-assessment** of her progress provided by **AUTH**, starts working.

Meanwhile a **notification** arrives on the **physiotherapist's phone**:

Violetta is correctly positioned in the rehabilitation device and has started working!

The physiotherapist **checks her progress**, checks how the session went and since he has already **taken the boat** home... He uses the app to **turn off the lights** and close the room, after verifying that everything is in order.

Violetta worked alone. And she is happy because she has the **opportunity to improve more and**

more. In addition, now the physiotherapist can predict the amount of **work she needs to achieve her results**, thanks to **data collected** during the session. It's a virtuous circle.

You will say... Well it is **not safe to leave a patient alone**. True. You're right. But we have thought of this. Some patients will work independently, others that are partially autonomous will have a **physiotherapist in the room to help correct exercises and for any needs**.

But the ratio will no longer be one-on-one, we have one physiotherapist and three patients who have the opportunity to work in the room. And it's the **data** collected that help us **identify which patients can work** independently and which cannot.

What if an **accident** happens? Patients fall...there's a malfunction...? The app would send **notifications** for this as well.

It's a **small revolution**, but it doesn't end here. We have a little dream, at the moment it is only partially achievable.

Some of our patients do **tele-rehabilitation at home** using a kit. They need the physiotherapist on video call to be able to use it... What if we **integrate this kit with the home-automation system**? We could offer the service to hundreds of people who need it. Everyday. That's why we think it is worth to talk about this.



Thank you!