

**FILIPPO CAMILLO** / Product Designer / PDF Portfolio

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## Confidentiality

Some case studies in this portfolio are under non-disclosure agreements (NDAs). As such, I have masked some information to protect the confidentiality of the projects. Please refrain from sharing this portfolio since it contains some confidential information.

## 28. Other projects

A collection of other relevant projects:  
Milkman web app, Iveco engine reflashing tool, Remote diagnosis display, ADAS cameras calibration, Hydrogen carbon-cleaning machine



## About

Hello! I am **Filippo Camillo**, a Digital Product Designer based in Italy.

I've been designing digital experiences for over seven years. I've also been developing mobile products for a decade in different roles. Interest and passion in Human Behavior and Human-centered design made me the

UX evangelist within the company. My secret mission is to spread the culture of good design and design thinking approaches every day. I'm a "Design Thinker", and I believe in the power of idea generation techniques and the iteration model.

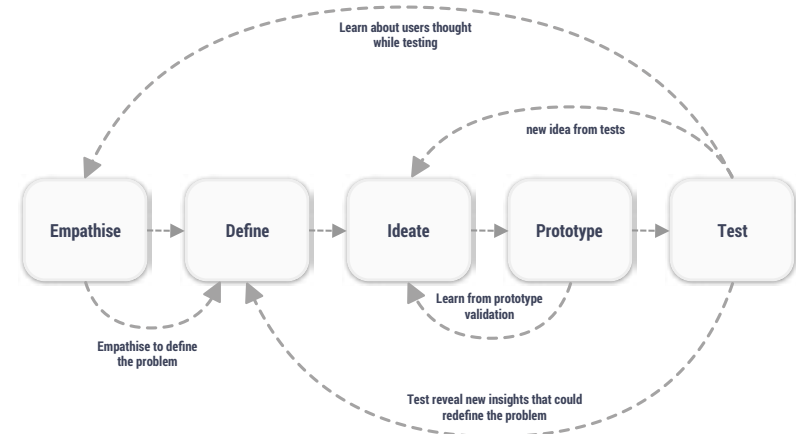
I love traveling and getting in touch with different cultures. I have a strong passion for photography, music, technology, and behavioral psychology.

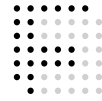
## Current position

My focus now is on designing products for mobile, desktop, and web platforms, but I'm also into products that interact through TV panels, displays, voice commands, remote controls, or even just LEDs.

I hope to have even more opportunities in the future to work on products with a strong and original component of interaction.

I'm also team leader of the iOS and Android developers team, and this gives me superpower when it's time to discuss with the engineering.





Case Study 1

# OZONE SANITIZER

During the first COVID-19 lockdown, we were already aware of the upcoming primary need for safety in our lives. We needed to get back our lives, having access to sanitized shared spaces like offices, schools, homes, hospitals, and vehicles.

This is the story of how I made a positive difference for my company and collectivity during the 2020 economic and health crisis.

# My role

I was responsible for the product experience and design of the companion mobile apps. I lead the UX work, producing all major deliverables and presenting these to the stakeholders, including top management, between March and May 2020.

I worked on creating the design and the interaction with the system, both software, and hardware. I also lead the team of mobile developers –as team leader– and let their magic implement the product architecture and UI we had defined. We built a fully functional prototype and two mobile apps in less than a month.

# The challenge

The top-level managers approached with two primary objectives in mind; first, promote a concrete solution to the feeling of unsafety generated by the virus spreading and, second, enhance the brand perception during the pandemic.

The idea was to develop a Sanificator, a device that removes air pollutants and viruses from the air. We already had in-house part of the

needed technology and knowledge of the ozone generators, so the company wanted to take advantage of this asset. For sure a good starting point but it wasn't clear how to make the difference.

The main challenge was –no doubt– technically hard, but the time deadline required for prototypes and production made it even harder.

How to fulfill all these requirements in just six weeks?

# The discovery

## Emphasise

We had a range of interviews with 15 stakeholders, co-workers, and friends selected among our customers, collaborators, and friends;

## Insights

1. the company user based is mainly composed by mechanical workshops, car dealers and car makers.
2. hospitality and transportation operators are highly interested into decontamination of environments because they wish to start again host and escort people from all around the world
3. they are concerned about the Ozone related risks for the human health.
4. the majority of them is **not technically prepared to operate an Ozone generator device**, so they could take wrong decisions and compromise the result of sanification.

## Personas

To summarize the data collected from the interviews, I created three personas representing the insights. We focus our attentions to:

Repair Workshop

Car dealers

Bed&Breakfast and hotel owners



## Competitor Analysis

Most of the competitor products we analyzed were manually operated and no feedback about the sanification process was provided with users left alone on the entire sanitization process.

# Ideate

“In an upcoming era dominated by uncertainty, **we wanted to deliver an inclusive product** –no matter the operator’s technical level or seniority– that could respond to the **need for safety** and give back healthier environments easily.”

To differentiate ourselves in an already established market, we needed to draw a map of useful features for the product and fulfill users’ and operators’ needs that weren’t already satisfied by competitor solutions. We were thrilled by the opportunity to create something more meaningful.

We deferred some of the features with low impact, even if with a low effort. We put aside the external wireless temperature sensors, even though it could improve the speed of sanitification process using it as active parameter for the algorithm).



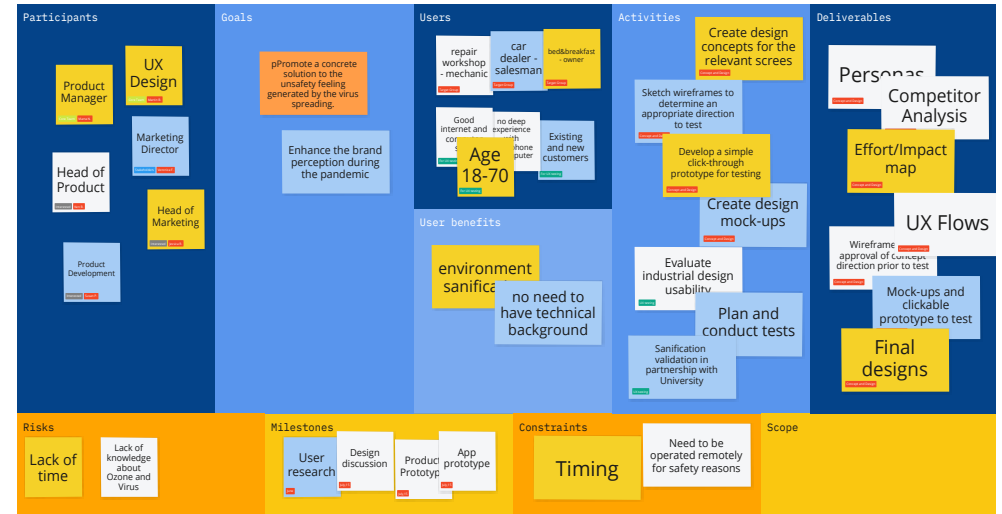
We map all the features and opinions on an effort/impact canvas

The best solution for the connectivity was Wi-Fi since it enables a multipoint connection (one device, multiple remote controllers) and enable a remote control web panel. But again, the timing of the project didn't give a choice, and we temporarily opted for already in-house hardware based on Bluetooth Low Energy.

# Main points to address the insights:

1. **Main focus on car sanitization** since represents the majority of the company customer base.
2. **Focus also on the hospitality and transportation operators.** Furthermore, the hospitality professionals need a centralized panel that controls multiple sanificators installed on each room and locks the door or piloting a display panel to prevent human exposure to Ozone.
3. Ozone could be dangerous for human health when the concentration is high and long in time. Even though this is not how we intend to use the ozone, **interviewed were concerned**. This fact led us to **consider as a priority the ability to remote controlling and monitoring the process**, even outside the environment, dramatically reducing the exposure to the Ozone molecules. To respond to this need, we decided to develop a smartphone app for iOS and Android. **We also introduce the concept of conversion of Ozone in Oxygen**, which takes place at the end of the sanification process that demonstrates to cut the time required before the environment can be considered safe.

4. We decided to **develop an ozone sanificator completely automated**, thanks to high precision sensors and algorithms that govern the entire process. In this way, **no prior technical experience is required for the operator**, and there's no risk for human health.



UX Project Canvas

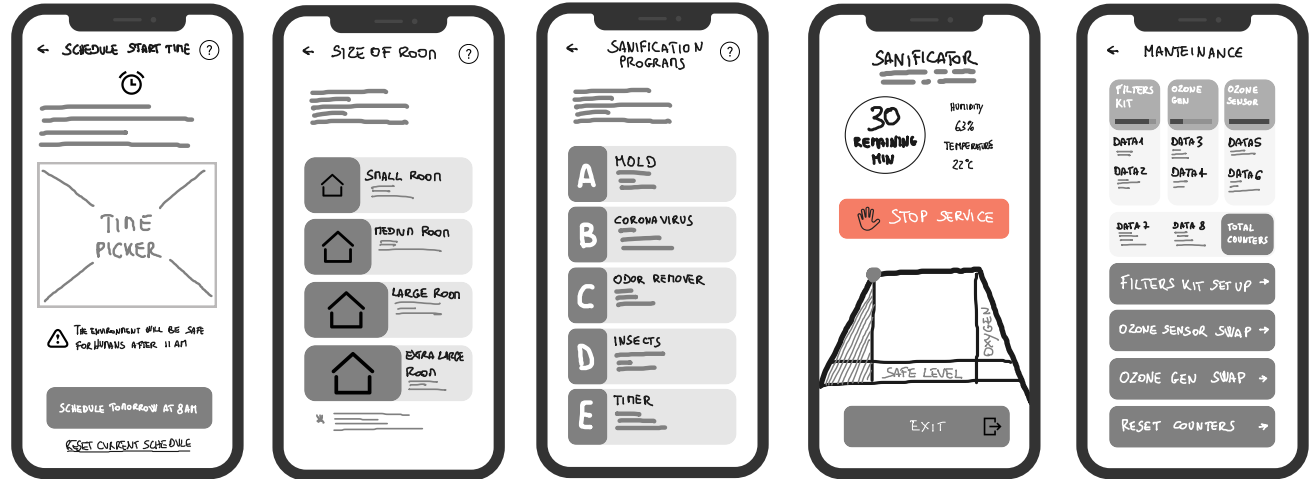


# Prototype

I built wireframes and a prototype using Miro iPad app in order to get the idea and validate all the flows that we decided to implement.

The focus was on the main points we got as output of the discovery and ideate phases.

The industrial design department built a prototype of the device as well for the first batch of test.



# The solution

In six weeks, we set out to completely overhaul the Sanificator Devices Experience with a highly automated sanificator monitored and remotely operated by a companion app for Android and iPhone. We wanted a more painless sanification process -even for non-technical operators- taking advantage of advanced sensors built-in. The ease of use impacted every corner of the product, from production to delivery, from development to maintenance procedures.

**We have delivered a solution that give back a sense of safe and healthy to environments.**

Consequently, we **have improved the company perception** as a brand able to develop and distribute an innovative product in few months, even during a lockdown.



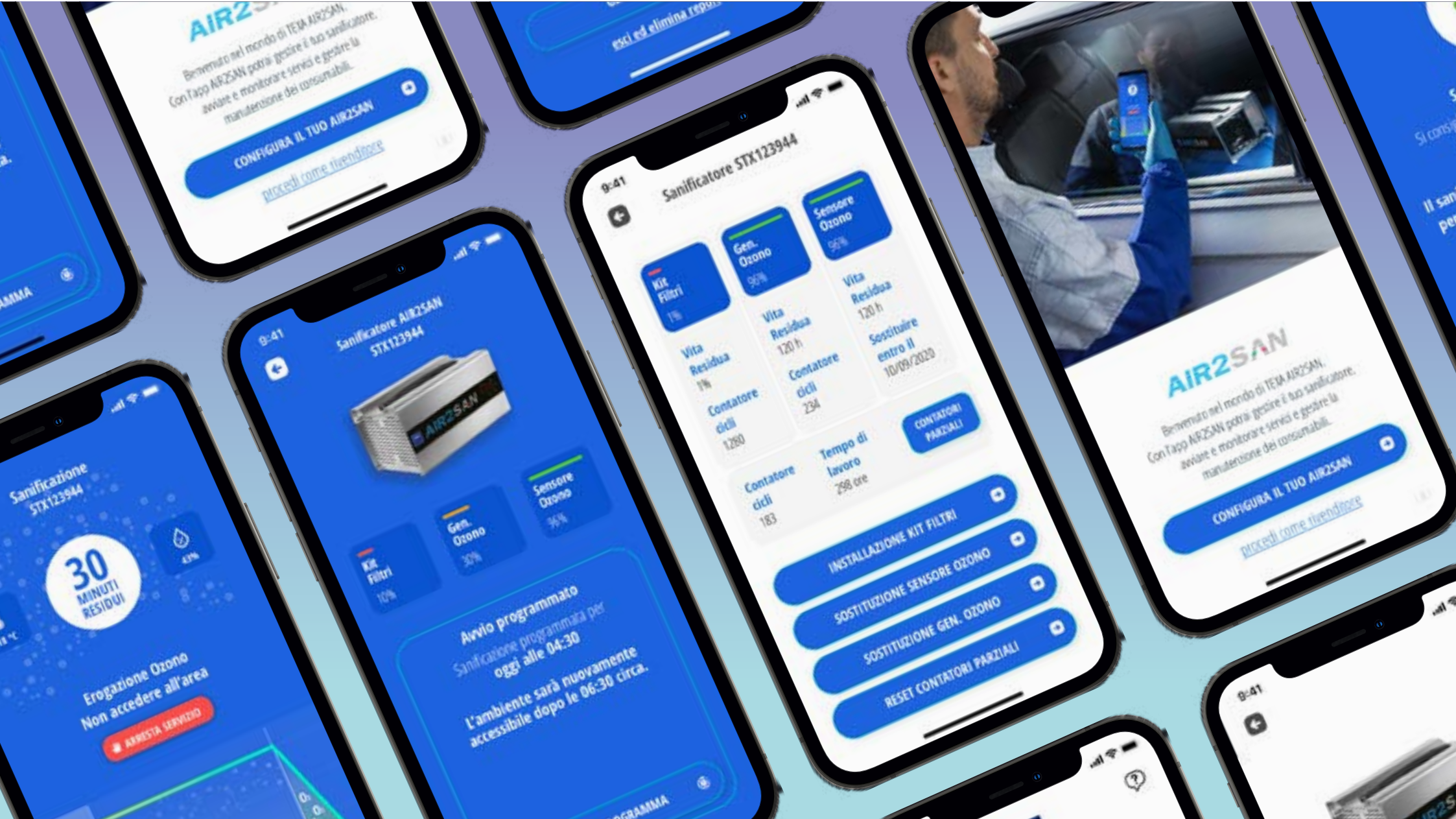
ease of use with automatic programs



safety with automatic ozone conversion to oxygen



main focus on car and rooms



**AIR2SAN**

Benvenuto nel mondo di TEA AIR2SAN.  
Con l'app AIR2SAN potrai gestire il tuo sanificatore  
avviare e monitorare servizi e gestire la  
manutenzione dei consumabili.

**CONFIGURA IL TUO AIR2SAN**  
[piccetti.com/teadirect](#)

...sci ed elimina residui

AMMA

9:41

Sanificatore AIR2SAN  
STX123944



- Kit Filtri 10%
- Gen. Ozono 33%
- Sensore Ozono 76%

**Avvio programmato**  
Sanificazione programmata per  
oggi alle 04:30  
L'ambiente sarà nuovamente  
accessibile dopo le 06:30 circa.

Sanificazione  
STX123944

**30**  
MINUTI  
RESIDUI

Erogazione Ozono  
Non accedere all'area

**ARRESTA SERVIZIO**

9:41

Sanificatore STX123944

- Kit Filtri 1%
- Gen. Ozono 90%
- Sensore Ozono 98%
- Vita Residua 1%
- Vita Residua 120 h
- Contatore cicli 1280
- Contatore cicli 234
- Contatore cicli 183
- Tempo di lavoro 298 ore
- Vita Residua 120 h
- Sostituire entro il 10/09/2020

- CONTATORI PARZIALI**
- INSTALLAZIONE KIT FILTRI**
- SOSTITUZIONE SENSORE OZONO**
- SOSTITUZIONE GEN. OZONO**
- RESET CONTATORI PARZIALI**

**AIR2SAN**

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**CONFIGURA IL TUO AIR2SAN**  
[piccetti.com/teadirect](#)

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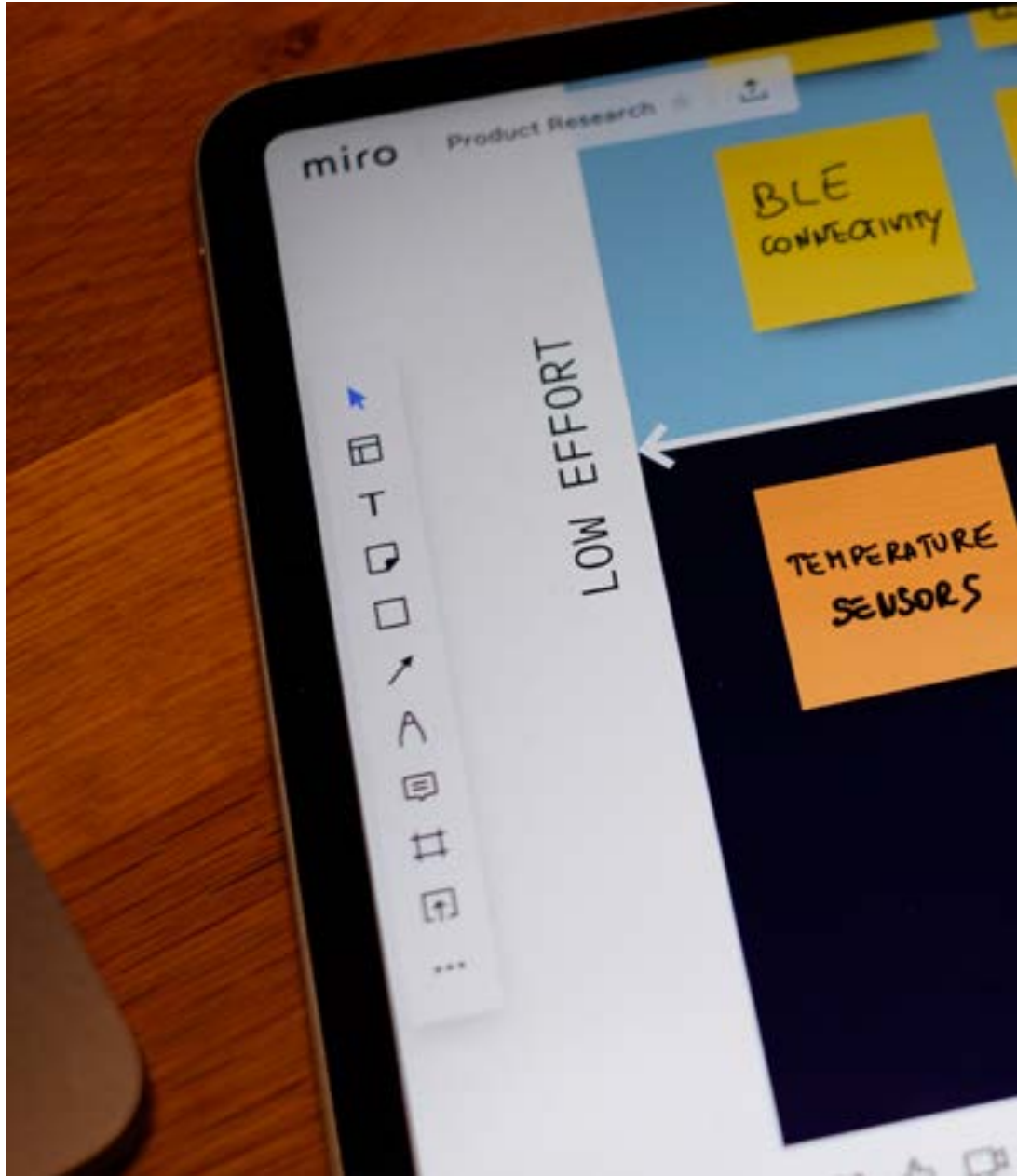


# Metrics

The company **sold 15000 units** in few months corresponding to **10 millions euros of revenue**. We also had at least 6300 downloads of the apps and 3k sessions per month in the first two months after initial release.

It's a great result if we consider the price tag of a sanificator (more or less € 700 per unit).

The apps are 99,78% crash-free with an average vote of 4.8 out of 5.0.





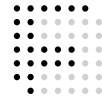
## Lessons learned

Having worked on this project, it's clear to me what it means to have tight timing to create a product with a high complexity and touchpoints distributed on both software and hardware parts.

The lockdown represented a further obstacle. I was nervous at the beginning, but I soon learned to trust my team and organize all the tasks efficiently. I also applied active communication via business chats and short daily virtual stand-up meetings to ensure everyone was on the same page. All the collaborative deliverables have been created with online shared board Miro.com on an iPad Pro with Apple Pencil.

## Next Steps

For the next software iteration, we already scheduled the Windows app to integrate into the company's Diagnostic Tools. For the 2.0 hardware, we planned a new minimalistic and self-configuring Bluetooth remote control and a new Wi-Fi adapter which will connect directly to the internet and expose its status as a IoT device via MQTT protocol. We also plan to have compatibility with software like Home Assistant to integrate into personal domestic hubs.



Case Study 2

# KONFORT TOUCH

This is a journey on the air conditioning recharging station world (A/C Service for automotive) that helped the company renew the success of a market leader product.

## My role

I was responsible for the product experience and design of the whole system based on Android 10. I lead the UX work, producing all major deliverables and presenting them to the PM and top management.

I created the design and the interaction with the system and supervised the UI implementation. I also had the responsibility of defining the system architecture and leading the team of software developers as their team leader. I think this fact worth to be mentioned even though not the objective of the story.

# The challenge

An A/C recharging station is an industrial-grade machine whose main task is to maintain the air conditioning system for vehicles, from cars to buses and trucks.



The company asked me to take a journey on the air conditioning recharging station world and renew the product's success, which is worth alone around 60% of the company's revenues.

Tight timing and constant pressure from the CEO and president were be the first challenges to deal with; however, the toughest challenge was the lack of requirements and ideas. "We need a new product extremely innovative while not upsetting the user. Good luck with your job" they said. I accepted it with honest joy and enthusiasm, but I needed to verify the real pain that led our customers to walk away.

The marketing department and I started remote interviews with selected car repair workshops and various internal stakeholders (customer support, production, and product team). We selected external participants by age, role, and size of the workshop.

# The discovery

We quickly gain insights into our users' needs and a concrete understanding.

## Insights

1. the product target is mainly composed of mechanical workshops
2. the main issue was with the interaction; the current display is not touch-capable, and the input device is an old-style keyboard integrated into the chassis. Nowadays, customers perceived it as a hurdle. **(fig. 1)**
3. It often happens to touch the non-touch responsive display with consequent frustration. Their brains are used to touch screens like smartphones or tablets, and they are now more familiar with that kind of gesture than before. **(fig. 2)**
4. The software menu is tough to navigate with the keyboard, and the most used features are concealed. **(fig 3)**
5. The product has a vehicle database onboard with all the specific oil and refrigerant gas quantity parameters for each vehicle. Very convenient but extremely hard to use. It is still perceived as a killer feature compared to competitors.
6. Software, Firmware, and Vehicle Database are not easily updatable. The customers care a lot about the vehicle database update because new vehicles and variants are released on the market every month, and they want to be ready.
7. Performance: they would love a faster A/C service
8. In the last 90 days, 60% of customer support activities were "how-to" cases. The customers are not always able to do what they need to. It turns out that the customer care department finds it very hard to provide support for this specific product line due to its complexity and different application contexts.





Fig 1 - Physical keyboard is perceived as a hurdle.



Fig 2 - It often happens to touch the non-touch display

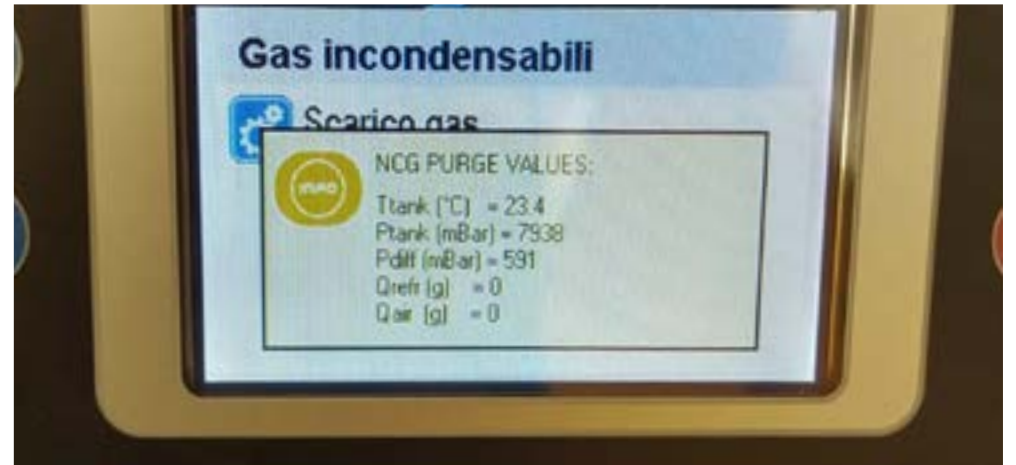


Fig 3 - The software menu is tough to navigate.

# Personas

To summarize the data collected from the interviews, I built two personas that represent the typical users.

We focus our attentions to:

Workshop owner

Customer care operator



# Competitor Analysis

The competitor benchmark has been interesting. Most of the product we analyzed lacks of usability but they have a high-level reliability and vehicle compatibility. Also most of competitors has a touch display which donate a sense of modern product in contrast with our product which was not touch enabled.

# Ideate

We ideate a product that responds directly to the users' pains and fulfills their needs.

## Main points to address the insights

### Target

The machine is operated by technicians that know how an A/C system works. They are often trained operators working in an official repair service network. For this reason, we chose to maintain a high technical language and obtain a perception of a professional-oriented product.

### Interaction

We choose an IPS 10" color display with a touch panel. In this way, we removed the physical keyboard and introduced more natural touch gestures for navigation and activation. We reproduce the numerical keyboard on the screen, and this keyboard should appear close to the area in which insert the input value.

### Navigation

The navigation has been completely renewed to expose the most popular features we observed in years of statistics. I defined a hierarchy of features prioritizing the most appreciated features such as vehicle database selections or custom A/C Service.

### Database of vehicle

With vehicle database onboard, operators don't need to fetch information about gas and oil quantity and type from official manuals. They have to select the correct vehicle and engine code. However, I decided to push further the vehicle selection, walking away from classic tree selection (brand - model - engine) to a more natural typo-proof free search.

### Connectivity and software update

The final product will have Wi-Fi connectivity to provide software and database update via OTA. This responds to the customer's need to have a vehicle database updated. Still, it also helps the company protect the product from security breaches and improve the product continuously and automatically.

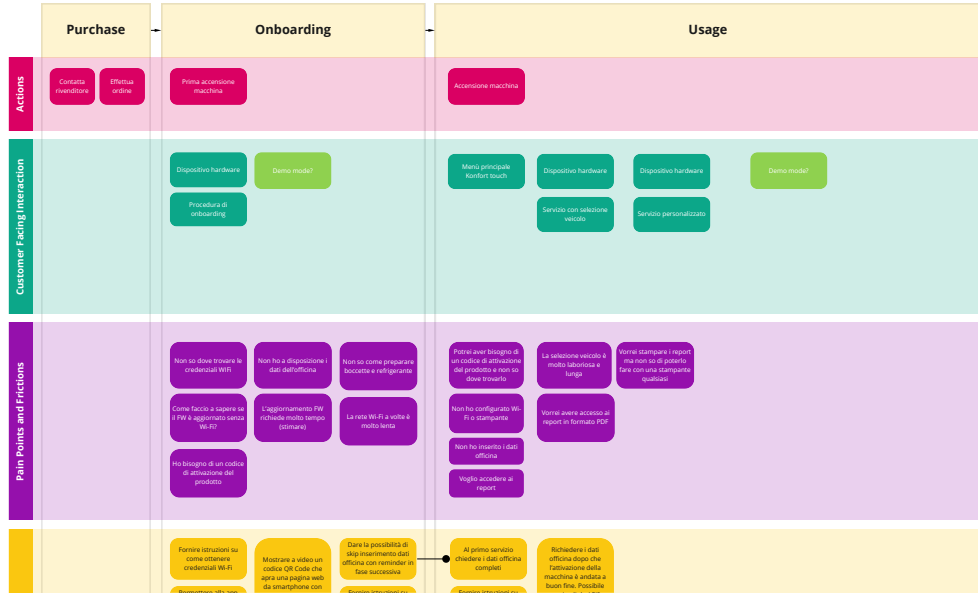


Fig 4 - Customer Journey map

## Remote Assistance

Advanced assistance enables a faster and most effective response and lets customers overcome usage or mechanical issues. We decided to implement a remote assistance system through screen sharing and valves and tubes control.

## Performance

The CEO and the product team decided that the mechanical performance improvement had a too high cost compared to the benefits, and also it would have a high impact on the time to market timing.

## Visibility of System Status

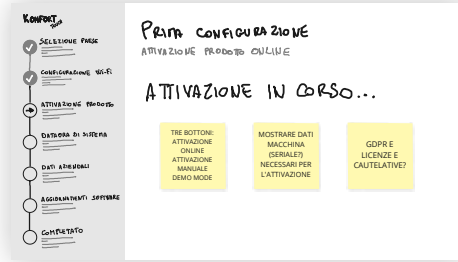
I couldn't convince the industrial design department and the CEO to keep the array of the status LED on top of the machine as in the previous model. The LEDs are more visible even from a distance than the display, which is more efficient and rich only at a close distance.

## Onboarding

To focus further on the workshop owners and try to walk in their shoes, I also define a Customer Journey Map (fig. 4). We found out that the onboarding procedure was missing in the current product and the overall experience was rough. The machine needs to be configured before the first use, so I designed an onboarding procedure that is also the first interface presented to the user.

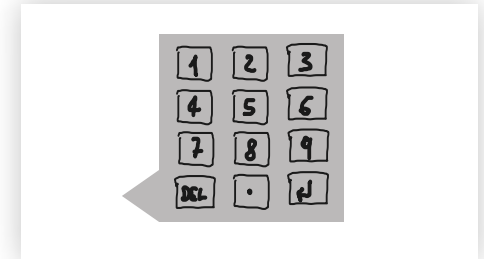
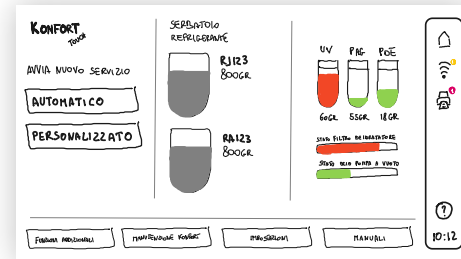
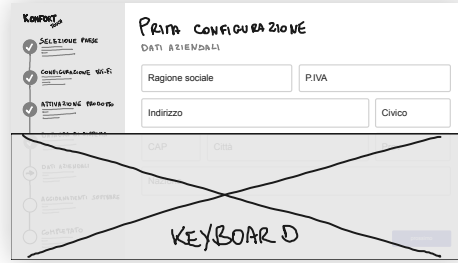
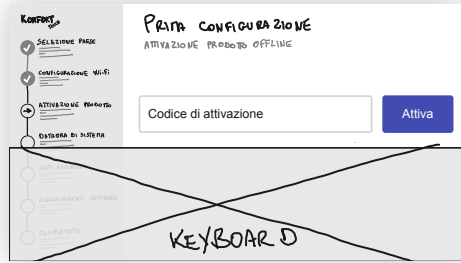
# Prototype

The lo-fi prototype has been created with Miro and a Apple Pencil.



AGGIORNAMENTI SENZA ATTIVAZIONE?

-LISTA DI BACKUP  
-DATI INCLUSI (eplan ecc)  
AVVIO (PIN)





# The Solution

## Improved interaction

I started from the core of the product, the A/C Service. The A/C service configuration is now a one-page process (fig 5) compared to the previous version with more than seven separated steps. Also, to speed up the parameter input, I designed a series of floating controls (i.e., numeric keyboard, fig 7 and selectors, fig 8) placed where users need them (close to the input area),

The parameters inserted are also real-time validated showing the result on-screen (fig 6).



Fig 5 - Service configuration

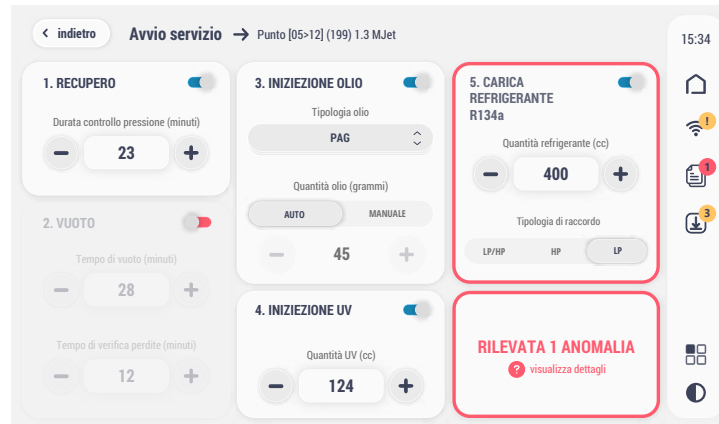


Fig 6 - Service configuration with validation errors

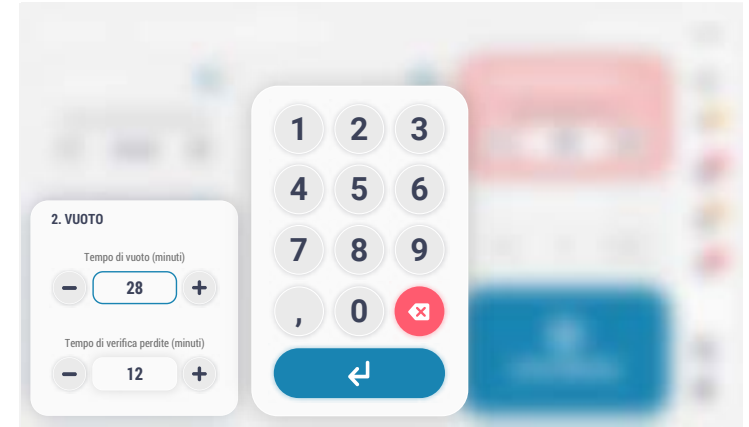


Fig 7 - Floating keyboard always close to the input

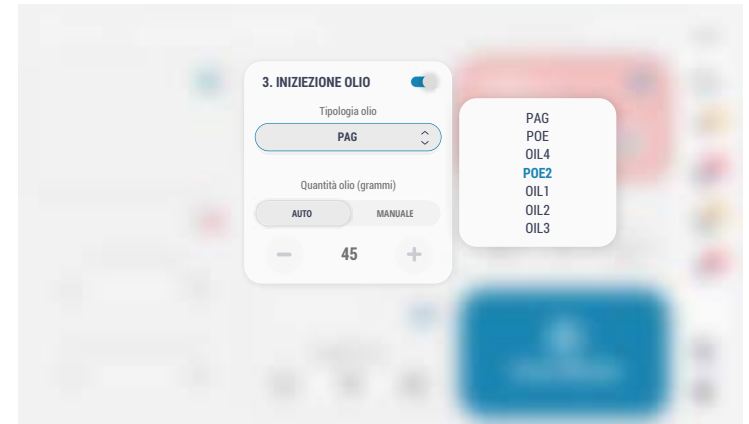


Fig 8 - Floating selector always close to the input

## Optimized navigation

The main screen is now optimized and exposes the most used features according to user research results (fig 9).

We accepted the need for advanced remote assistance, introduced the feature, and opened the platform to other app integration, increasing the product value (fig 10).

## Connectivity and software update

The software is updated Over-The-Air (fig 11) thanks to the Wi-Fi connection configured quickly during the onboarding procedure. The onboarding is a crucial



Fig 9 - Optimized menu for fast interaction

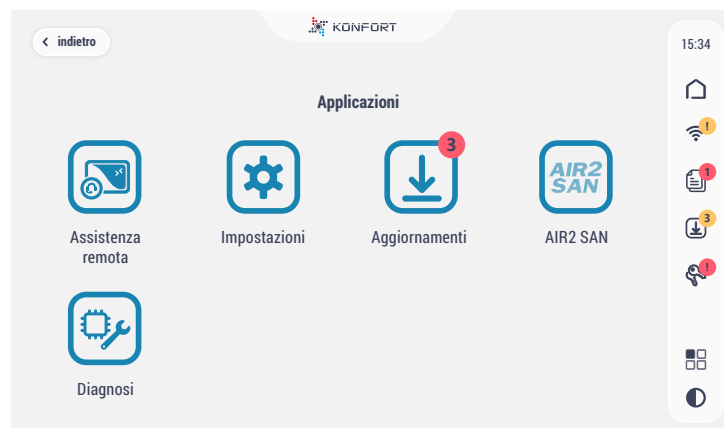


Fig 10 - Remote assistance and apps

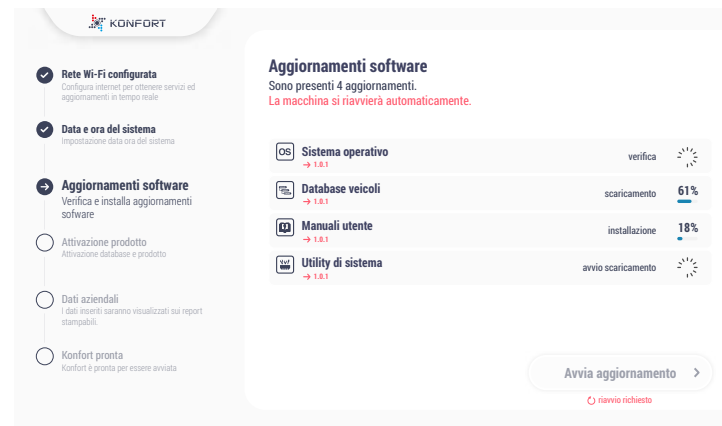


Fig 11 - OTA Software update



Fig 12 - Onboarding database procedure step-by-step



part of the software, responsible for the first configuration and update of both software and firmware.

## Database of vehicle

I designed a brand new experience for the vehicle database. The user can now search vehicles, models, brands, engine codes, vehicle codes within an intelligent search field. Moreover, the software will take care even of typos and misspellings with proper suggestions. It's swift and convenient, the most appreciated innovation by testers (fig 13, 14, 15, and 16).



Fig 13 - Vehicle selection with smart search



Fig 15 - Assisted vehicle variants selection



Fig 14 - Assisted model selection



Fig 16 - Assisted vehicle VIN selection

## System status

The A/C service status is real-time updated (fig 17), as well as the vital parameters (fig 18) reachable system-wide.

The system status (gas tank levels and filter status) is always reachable and notified when they represent an issue or a warning (fig 19).

## Dark Mode

I also discover that users would use the product both inside and outside of the workshop but also in the dark. For this reason I designed a Dark mode easily swappable from the sidebar (fig 20).



Fig 17 - Service status with LED simulation

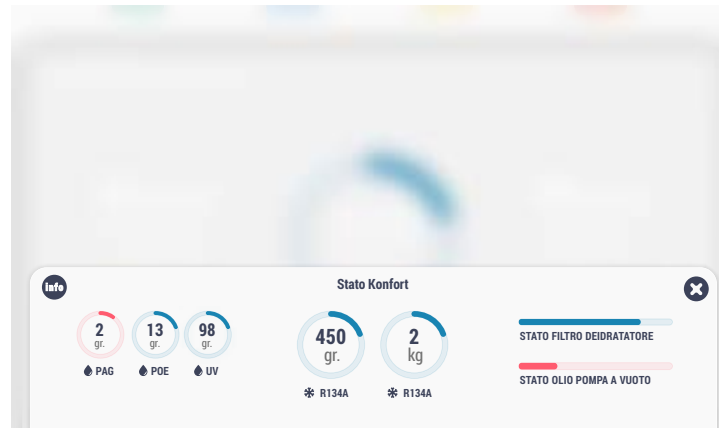


Fig 18 - Swipe up status panel during A/C service



Fig 19 - System status always available (warning)



Fig 20 - Dark Mode for better visibility

# Lesson Learned

Every new project brings challenges, victories, defeats, and learnings. **This project is no exception.**

I understand what it means to work with solid constraints and multiple unforeseen issues encountered on the path:

1. a legacy and its habits that the old product brings on the table;
2. hard technical complexities;
3. tight timing;
4. need to fast react to sudden changes.

One of the biggest challenges I had to face was the unexpectedly poor performance of the touch-screen. The display was supposed to be an IPS; it was actually a TN, an older technology with inadequate color depth. I had to redesign the interface removing part of the gradient and details like shadows or light borders. I had to design and continuously test the design on the actual display to fine-tune the colors, opacity, and complete calibration.



## Next Steps

The idea for the next months is to convert the whole range of products to the touch-screen approach. The next iteration will have a 7" IPS screen, and the challenge will be to redesign the same interface for a smaller screen without change the interaction and the user experience.

Other projects **NOT YET RELEASED**

# Hydrogen carbon cleaning

I designed the interaction experience and UI of a professional product which use hydrogen to carbon clean the engine. I also designed the companion mobile applications.

## My role

I was responsible for the product experience and design of the whole system based on Android 10 OS. I lead the UX work, producing all major deliverables and presenting them to the PM and top management. I curated also the Design System Library.

I created the design and the interaction with the system and supervised the UI implementation. I also had the responsibility of defining the system architecture and leading the team of software developers as their team leader.

I completed the user experience with a companion app for iOS and Android OS which is able to test and finalize the cleaning process and produce reports and statistics.



MAIN SCREEN DARK/LIGHT THEME



MOBILE COMPANION APP

## Dati motore

GIRI MOTORE



TEMPERATURA



1500 cm3 - Diesel

Diagnosi OBD

280.000 km

Prevalenza città

## Stato H2Blaster

Livello H2O  
OK

Pressione  
OK

## Stato servizio



DURATA  
PREVISTA  
1h30m



SOSPENDI



1 Decarbonizzazione

2 Prova su strada



Other projects

# Milkman web app

I handle the creation of a business intelligence tool for a door-to-door food delivery company operating in Italy, Germany, Austria, and soon in other European markets. It's aimed to optimize the driver's shifts and manage the customers and prospective customers actively.

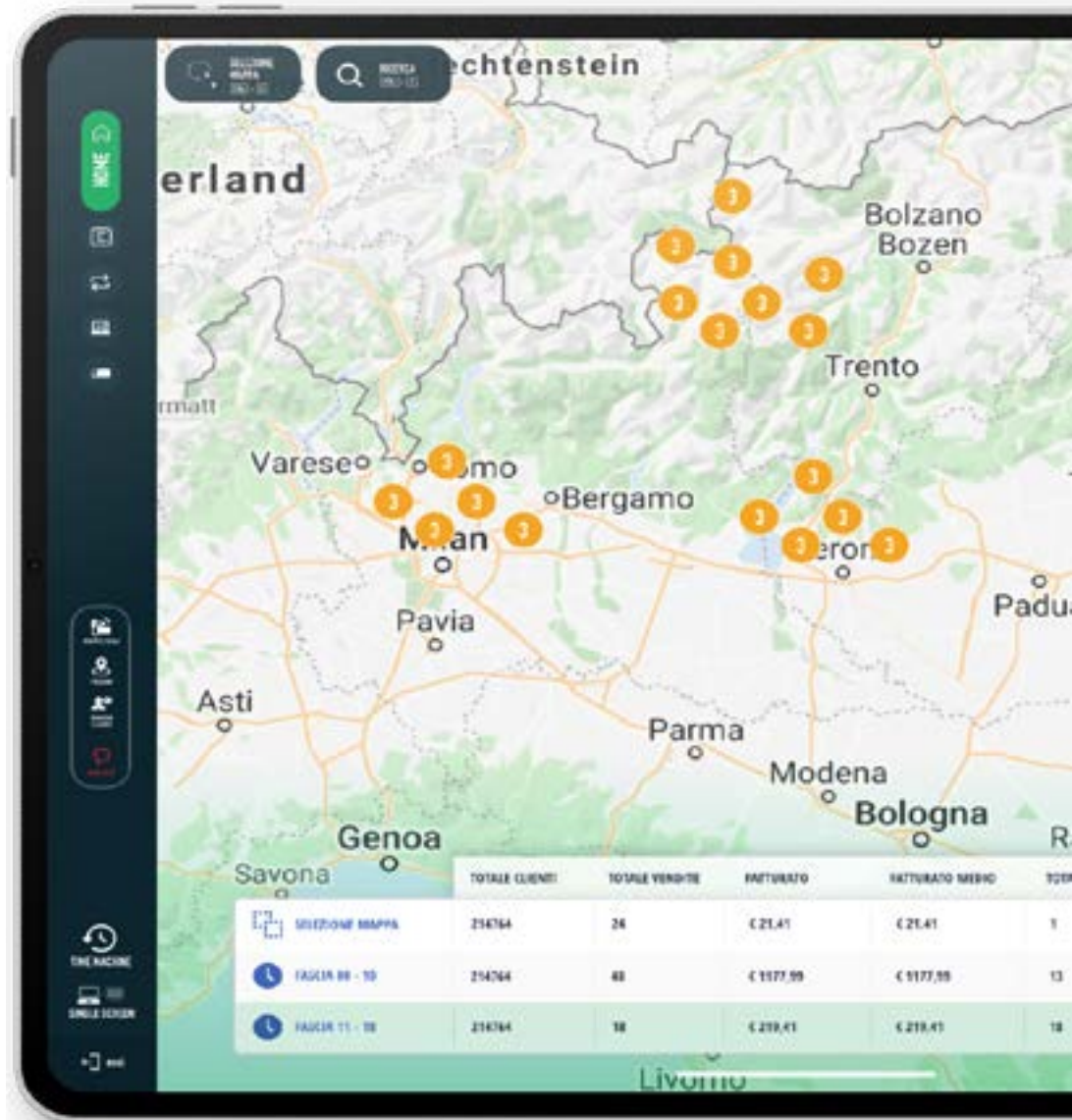
I designed the experience and interface for two different contexts:

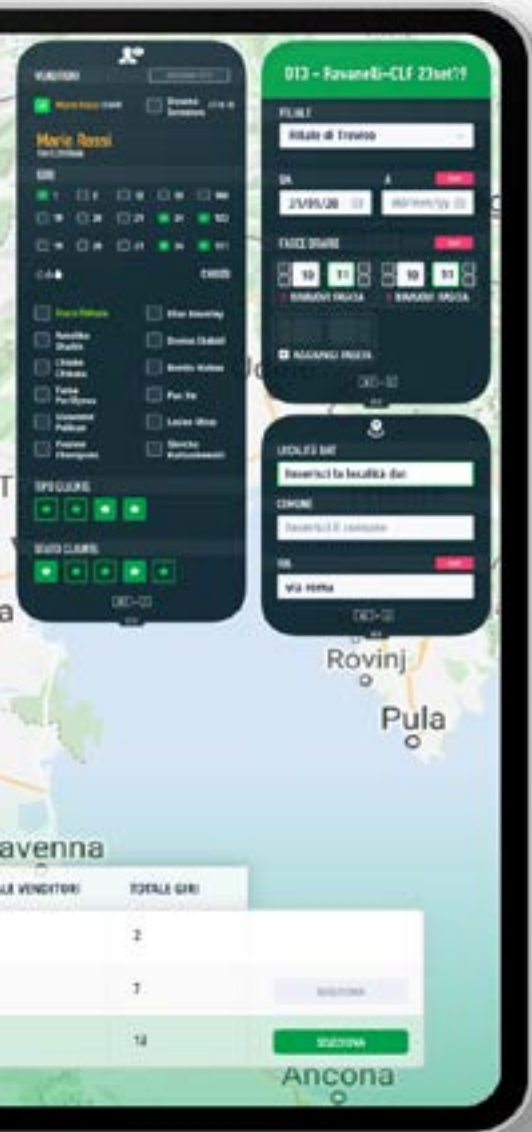
- **single-screen mode** for mobility context
- **multiple screens mode** for office context where the operators can take advantage of external screens and compare different data sources or maps simultaneously.

## My role

I was responsible for the product experience and design of the whole system. I lead the UX work, producing all major deliverables and presenting them to the customer stakeholders.

I created the design and the interaction with the system and supervised the UI implementation.





View of shifts and routing for drivers



View of customer details and positions

Other projects **NOT YET RELEASED**

# ADAS cameras calibration

I designed the interaction experience (digital and physical) and UI of a device that calibrates and checks the ADAS cameras and Lidar radar for the autonomous vehicle features.

## My role

In the past, static calibration panels did the job, but there are too many different panels nowadays.

The company asked me to design an intelligent product that resolves this issue. I then developed a product concept that takes advantage of a 75 inch TV to show the right panels and guide the operators step-by-step through all the complexity of the process.

The system shows the real-time information and feedback on the main screen (a tablet or a PC) and the second screen (the TV screen).

The second screen is handy and precious since it let the operator perform the calibration completely hands-free.

I also pushed the interaction further to simplify the guided process; the operator can use the TV remote control to confirm and respond to simple questions while moving around (or inside) the vehicle.





## SECOND SCREEN (75" TV OLED)



+

## MAIN SCREEN (13" TABLET)



+



## DESIGN SYSTEM - DARK AND LIGHT THEME

Other projects

# IVECO engine reflash tool

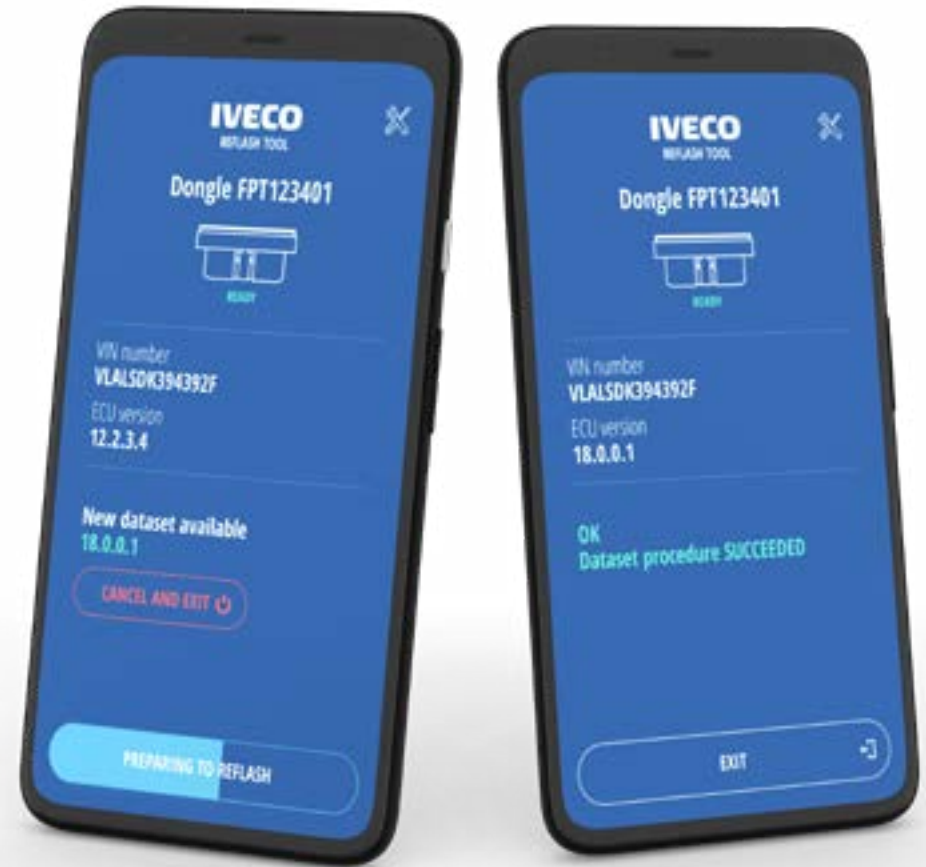
I designed the Android app whose purpose is to support an international vehicle recall campaign that fixed a severe issue.

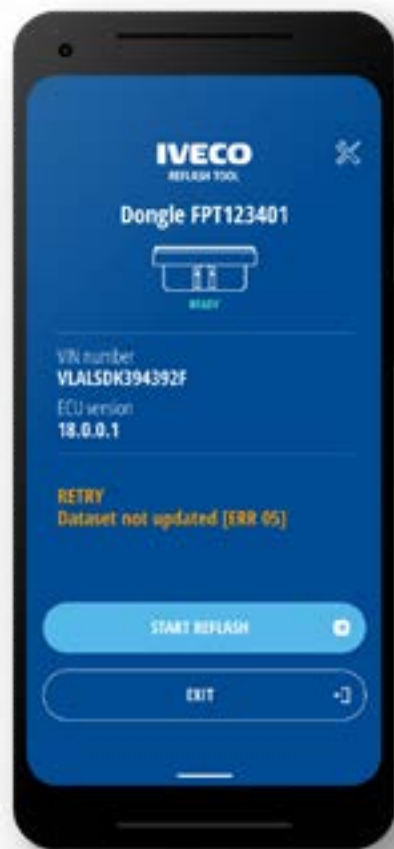
## My role

I proposed developing a smartphone app that, through a low-cost Bluetooth OBD dongle delivered directly to the truck's owner, could fix the issue without stopping the vehicles. The customer accepted with enthusiasm the idea as it would save an exceptional amount of time and money.

I was responsible for the product experience and design of the whole system. I lead the UX work, producing all major deliverables and presenting them to the customer stakeholders.

I created the design and the interaction with the system and supervised the whole implementation process leading the team of software developers.





Other projects

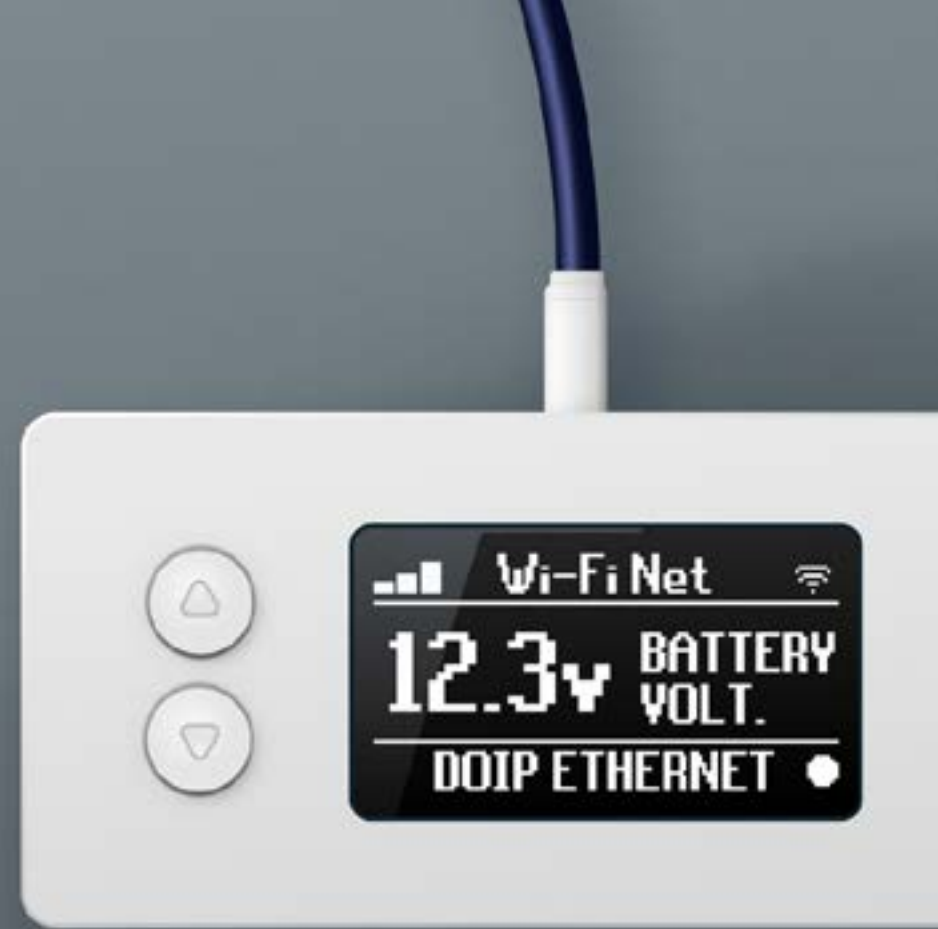
## Remote diagnosis display

I designed the 128 x 64 pixels display of an advanced and internet-connected interface between the vehicle's computers and PCs. The main challenge was matching the small display size and resolution with a large amount of information to deliver.

### My role

I was responsible for the product experience and design of the display. I lead the UX work, producing all major deliverables and presenting them to PM and the other stakeholders. I conducted several interviews and tests to understand which info was relevant to the scope of the product.

It has been challenging to represent all the different states, modes, errors while delivering a consistent experience. I also lead the design of the companion Windows app for the first configuration.





SIAI US BAR  
CONNESSIONE CON  
VISUALIZZATORE

- WiFi 8392\_WIFI
- Access Point
- Bluetooth
- USB

POTENZA DEL SEGNALE  
MODALITA' WIFI STATION

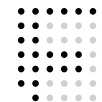


WiFi 8392\_WIFI

BATTERY VOLTAGE

12.3v

READY



**FILIPPO CAMILLO**  
Product Designer

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