



Project¹ Number: [858438]

Project Acronym: [E-RESCUE]

Project title: [Changing forever the way we rescue crash victims – Saving time and lives during the Golden Hour]

Periodic Technical Report

Part B

Period covered by the report: from [1/05/2019] to [30/04/2020]

Periodic report: 1st

¹ The term 'project' used in this template equates to an 'action' in certain other Horizon 2020 documentation

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1. Explanation of the work carried out by the beneficiaries and Overview of the progress

EXECUTIVE SUMMARY:

Summary of deliverables uploaded:

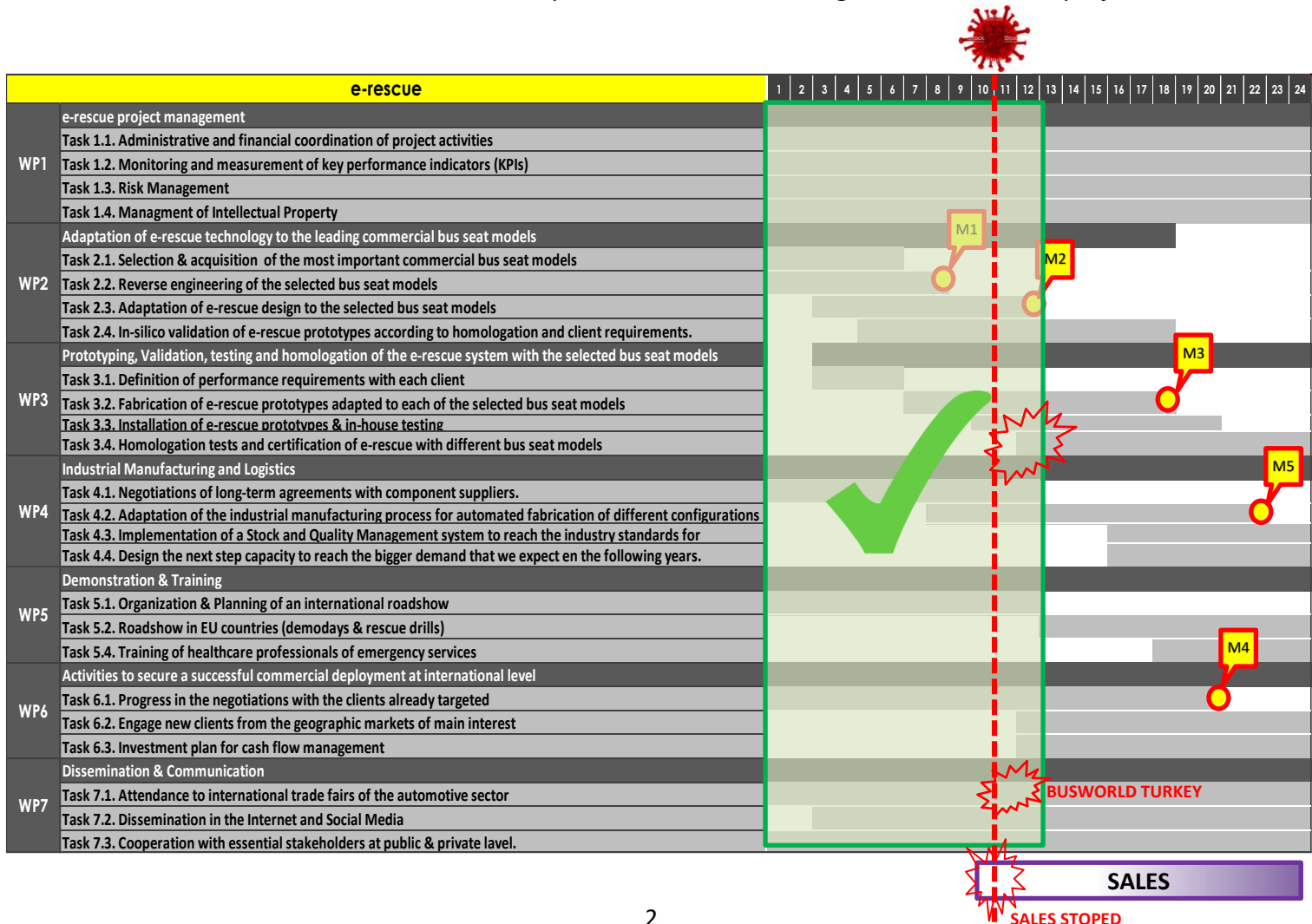
WP No	Del Rel	Del No	Title	Description	Est. Del. Date	Receipt Date
WP7	D7.1	D15	D.7.1. (WP7) - E-RESCUE Phase 2 project website	E-RESCUE Phase 2 web already on the net.	31 Jul 2019	26 Jul 2019
WP3	D3.1	D5	D.3.1 (WP3) - Dossier with the performance requirements of each customer	Dossier with the performance requirements liste...	31 Oct 2019	08 Nov 2019
WP2	D2.1	D3	D.2.1 (WP2) - Report on reverse engineering of selected bus seat models	Report on the bus seats selected for the revers...	31 Dec 2019	01 Jan 2020
WP5	D5.1	D10	D.5.1. (WP5) - Plan for the main events of the international roadshow	Plan to achieve the main events of the internat...	30 Apr 2020	13 May 2020
WP7	D7.2	D16	D.7.2. (WP7) - Interim report on outreach and publicity campaign	Interim report on outreach and publicity campaign	30 Apr 2020	13 May 2020
WP1	D1.1	D1	D.1.1 (WP1) - Mid-term progress report	Midterm progress report about the evolution of ...	30 Apr 2020	14 May 2020
WP4	D4.1	D8	D.4.1. (WP4) - Report on negotiations with component suppliers and distributors	Report about the negotiations and agreements	30 Apr 2020	18 May 2020
WP6	D6.1	D13	D.6.1. (WP6) - Interim Business plan	Interim business plan	30 Apr 2020	19 May 2020

Summary of milestones achieved:

Numbe	Name	Lead Beneficiary	Delivery Date (Annex I)	Achieved	Delivery Date (actual)
1	Knowledge about how E-RESCUE is to be adapted to the leading bus models commercially available.	E-RESCUE	31 Dec 2019	<input checked="" type="checkbox"/>	01 ene 2020
2	Design of prototypes of E-RESCUE adapted to leading bus models commercially available.	E-RESCUE	30 Apr 2020	<input checked="" type="checkbox"/>	12 may 2020
3	Prototypes of E-RESCUE fabricated for leading bus models.	E-RESCUE	31 Oct 2020	<input type="checkbox"/>	<input type="text"/>
4	First commercial agreements in place for post-project sales.	E-RESCUE	31 Dec 2020	<input type="checkbox"/>	<input type="text"/>
5	Serial and automated manufacturing process full optimized	E-RESCUE	28 Feb 2021	<input type="checkbox"/>	<input type="text"/>

Summary of task achieved:

We have completed all the tasks of this period reaching the two established milestones. The deviations come from the coronavirus crisis and are represented in the following Gantt chart of the project.



The effect of the coronavirus crisis has affected us, we had to cancel our trade fair in March (Busworld Turkey 2020), and although if we have continued to maintain relations with seat manufacturers, we have not been able to have face-to-face meetings to obtain their assessment and approval of our new mechanism. In any case, we are still working and we have been able to advance in the internal development of our new mechanism (called MEC-UNI), but the impossibility of meeting with them will affect us a little bit later, in the joint homologation phase: at this time we should already know their opinion on our development, but we have not been able to show it to them: because to do it correctly, they have to see and touch and test the prototype ... and we were unable to manufacture the prototypes during this time (all of our suppliers closed) and we have not been able to visit them either.

The following table shows the summary of the orders that were paused due to the alarm state imposed by the coronavirus crisis:

CUSTOMER	Nº of BUSES	Nº SEATS	INSTALATION PRICE	E-RESCUE PRICE	TURNOVER INSTALATION	TURNOVER E-RESCUE	VAT (21%)	TOTAL TURNOVER	STATUS
	15	627	1.850,00 €	167,00 €	27.750,00 €	104.709,00 €	27.816,39 €	160.275,39 €	✔ Signed
	31	1737	1.850,00 €	167,00 €	57.350,00 €	290.079,00 €	72.960,09 €	420.389,09 €	⏸ Paused
<i>Sagalés</i>	30	1722	1.850,00 €	167,00 €	55.500,00 €	287.574,00 €	72.045,54 €	415.119,54 €	⏸ Paused
ALSA	12	234	1.450,00 €	167,00 €	17.400,00 €	39.078,00 €	11.860,38 €	68.338,38 €	⏸ Paused
	8	304	1.560,00 €	179,00 €	12.480,00 €	54.416,00 €	14.048,16 €	80.944,16 €	⏸ Paused
	12	672	900,00 €	159,00 €	10.800,00 €	106.848,00 €	24.706,08 €	142.354,08 €	⏸ Paused

TOTAL = 1.287.420,64 €

1.1 Objectives

The value chain in the bus transport industry has 4 links:



The 3 first links are our customers because the E-RESCUE system can be installed anywhere in this chain. The key point is that E-RESCUE is a “value differentiator in safety” for all of them, and that is especially important in this highly competitive sector.

Obviously, the next step is to introduce E-RESCUE right from the start of the value chain: this means that our company must become a supplier to the industry at large, thus making the business fully scalable. However, first we must overcome 3 market barriers:

- approving our device for each seat model design selected for each bus model (Homologation).
- publicising this radically new concept of safety device (Communication Campaign)
- teaching the rescue teams how to work with it (Training Rescue Teams).

Overcoming these barriers is the main goal of our SME PHASE 2 project.

Next, we describe the work carried out during the reporting periods towards the achievement of these 3 objectives.

I- HOMOLOGATION:

The goal is to develop and overcome the homologation test for our universal mechanism (named MEC-UNI) that allows us to introduce E-RESCUE from the beginning of the value chain.

Work performed in this field.

- ✓ Cooperation agreements signed with the main seat manufacturers
- ✓ Reception of the seats for analysis
- ✓ Reverse engineering of seats and development of the new version of universal mechanism
- ✓ In-silico validation of the design
- ✓ Prototyping
- ✓ Laboratory test to validate the design

We are now adapting the MEC-UNI to the seats models of the manufacturers that are collaborating on the project to achieve joint homologation.

II- COMMUNICATION CAMPAIGN:

We have created a demo bus, "the safest bus in the world" called SAFETY PIONEER. With this technological demonstrator we carry out rescue drills to publicize our development and train firefighters in their use. Every time a rescue drill is done, the authorities are also invited to see it, to know its benefits and to demand this new level of safety in public tenders for bus transportation.

- ✓ We always work so that each of our activities and actions becomes news in the media. To give an example, our demo bus presentation had an audience of over 12 million viewers.
- ✓ We are constantly making videos of our activities and progress.
- ✓ We have a presence on social networks.

We made a great effort to be present at the largest fair in the bus sector, Busworld Brussels 2019. It was a complete success and we reinforced our contact in the sector by giving a good image. Now they know us all over the world.

III- TRAINING RESCUE TEAMS:

During our rescue drills we have already trained more than 1,000 professionals in the use of E-RESCUE and we have organized an international Roadshow to carry out rescue drills throughout Europe during the next project year.

SPECIAL ACTION AGAINST THE COVID-19 CRISIS:

The coronavirus crisis has affected the entire world. In our case, the crisis has delayed the first large orders that we are about to sign with 4 customers ...

But in E-RESCUE we carry "saving lives" in our DNA, so we have reacted in less than 1 week and have put all our productive capacity at the service of society. We manufacture more than 1,500 masks and 500 protection screens per day and donate them wherever needed, in hospitals and nursing homes.

With this quick response we have helped many people and saved lives, and at the same time, it has served as a means of communication: all our actions have been publicized and all the manufactured items go with our brand. Therefore, a notorious media action has been achieved.

In the meantime, we continue to work on improving the design of our MEC-UNI for final approval, we program in all the details of our next roadshow in Europe, the next FIAA bus fair and we work in the contents of our E-RESCUE ACADEMY... in a word, all our activity continues to be focused on moving forward with the fulfilment of our h2020 project until a commercial activity can truly begin.

IMPACT:

Our MEC-UNI development has been validated in the laboratory and is presented as a solution to introduce E-RESCUE from the beginning in the value chain. This is the key strategy for large-scale, scalable international sales. One unique E-RESCUE universal-design that can reach the particular needs of all the seats models chosen for a big market opportunity.

Our demonstration bus is something unique in the world and will perfectly serve to carry out the roadshow scheduled for the following year ... this will give us more media impact and allow us to train thousands of firefighters and health and rescue professionals.

Socio-economic impact:

E-RESCUE will be installed in more than 80 public service buses (when COVID-19 allows it).

E-RESCUE is valued and scored in tenders for public transport lines.

E-RESCUE is known throughout the sector and valued by passengers.

We have generated 10 jobs.

In summary, despite the coronavirus crisis, we are on schedule and on budget.

1.2 Explanation of the work carried per WP

The following section explains all the work carried out in each work package. The document corresponding to our deliverable "**D1.1 - Mid Term Progress Report**" has been fully included here, which explains exactly the same.



https://youtu.be/5XbBLSrwW_k

Introduction:

In this deliverable the goal is to summarize all the work done during this first project year. The report will summarize the actions chronologically grouped according to the work packages.

Throughout the entire project we have made a great effort to create high quality videos of each action. Please see the videos through the links that we insert in this document. We hope you like it and appreciate all the effort we put into everything we do.

We also want to indicate that from the beginning of the epidemic, in record time of 1 week, we have reacted, and we are collaborating intensely in the fight against the Coronavirus.



All our activity continues to be focused on moving forward with the fulfilment of our h2020 project until a commercial activity can truly begin.

WP1: E-RESCUE project management

Task 1.1: Administrative and financial control

From the beginning of the project, an exhaustive control of all expenses and associated invoices has been carried out (all documents are scanned and classified according to our analytical accounting). In the same way, each trip and meeting that has been held has been detailed (attached to this report you will find the summary of those trips and meetings).

Task 1.2: Monitoring of KPIs

Intensive work has been done to fulfil all the KPIs and to advance in the achievement of the project despite the multiple complications that always appear.

Milestone 1:

In the M6 (Oct 2019) the milestone of meeting the requirements for E-Rescue to be compatible with the main models of selected bus seats was completed. The result is shown in the second deliverable that was uploaded to the platform.

After this moment we have continued talking with the rest of the bus seat manufacturers that interested us and as a result, we have managed to get 2 more of them to join our project: BRUSA (from Turkey) and COMPIN-FAINSA (from France and Spain). Therefore, right now we are waiting to receive their seats to reverse engineer it and adapt our system to their seats.

Milestone 2:

We have reverse engineered all the seats that our cooperators have sent us. The result has been described in deliverable nº3 that was loaded on the platform in December (M8).

As mentioned, due to the recent addition of new cooperators who will send us their seats when the coronavirus issue allows, reverse engineering work will continue with these new seats. The process will take place as quickly as possible so that the development of the new E-RESCUE system is compatible with all the seats we have.

Following reverse engineering, we have created a new type of E-RESCUE mechanism (MEC-UNI) that can be easily adapted with all seat models. This system has been successfully developed, manufactured and tested. In recent weeks, this universal model has been adapted to the available seats.

Task 1.3: Risk management

At the beginning of the project, we had to make the decision to cancel the attendance at a fair (the “Group Travel Expo” in Germany, July 2019) that we were unable to attend (the fair was scheduled very soon within our project and we did not have time to prepare it) and we invest the funds in other actions to make ourselves known:

- Preparation of the “1st Workshop on bus Safety” attended by great personalities and had a significant media impact. (7/01/2019)



<https://youtu.be/HxSUat3gZuo>

- Organization of the official presentation of our demonstration bus which is “the safest bus in the world” (9/26/2019)



<https://youtu.be/DGtQX3LgIo>

We also had to deal with difficult negotiations with clients and especially with the coronavirus crisis that has put the project itself at risk. Due to this "force majeure" problem that affects the entire world:

- We had to cancel our attendance at the BusWorld fair held in Turkey in early March 2020: we managed to cancel the trip but much of the money invested could not be recovered. Attached to this report you will find a document of the work invested in the preparation of this fair, which in the end we were unable to attend.



- The “French Fire Days” we were going to attend in May 2020 were cancelled. Below you will find a copy of the email where we were informed of the cancellation of the event.

Journées techniques IUV - SDIS 86 / ANNULATION --- French Technical Days - CANCEL

Recibidos x



Michel GENTILLEAU

para PETIT-BOULANGER, ALEXIS, Celine, Vollmacher, GUGUMUS, TRICAUD, bruno, tony.delorme@daimler.com, dominique.martin@easylibatteries.com, mi, AIMO-BOOT, Brasseur, Gallay, ▾

lun., 16 mar. 11:47



francés ▾ > español ▾ Traducir mensaje

Desactivar para: francés x

Bonjour

J'ai le regret de vous annoncer que, compte tenu du contexte lié au Coronavirus, nous sommes dans l'obligation d'annuler les prochaines Journées Techniques "interventions d'urgence sur véhicules", prévues les 13, 14 et 15 mai 2020 au centre de formation des sapeurs pompiers de la Vienne.

Comptant sur votre compréhension et dans l'attente de vous rencontrer dans d'autres circonstances...

Cordialement

Hello

I'm sorry to inform you that, considering the context of the Coronavirus, we have to cancel the next Technical Days "Emergency response on vehicles", scheduled for 13, 14 and 15 May 2020 at the SDIS 86 Fire Brigade Training Centre.

We hope you will understand and look forward to meeting you in other circumstances...

Best regards

Lt Colonel Michel GENTILLEAU
Chef du Pôle "Moyens opérationnels"

Avenue Galilée - CS 60120 - 86961 FUTUROSCOPE Cedex

Tel : 05.49.49.18.57 ou 06.11.30.46.99

Mail : michel.gentilleau@sdis86.net



- Due to the state of alert declared in Spain, our activity was going to be prohibited and we would have to be confined to our house without being able to advance in the project... at that moment we made a great decision: to help jointly in the manufacture of masks and protective screens by putting our productive capacity at the service of society. In this way we have obtained a lot of publicity as a solidarity company that is dedicated to "saving lives" (either with our E-RESCUE device or helping society when it needs it most). So, we have drawn up an ambitious plan to help society in such difficult times while achieving a notable media impact ...

- we have put our productive capacity at the service of society ... all our sewing machines and part of our staff are dedicated to manufacturing face masks and protective screens. The city council of our municipality (Guadarrama) and the Mapfre Foundation donate the raw material to us and the town's volunteers come to work with us.

- we have optimized the design and the manufacturing process of the masks and the screens .. thanks to our industrial knowledge and our productive capacity we make 1,500 masks and 500 protection screens a day.

- We have created a new brand "LA RESISTENCIA" (resistance) where the letter "E" is our logo and we mark all products. We are present on social networks and in the news ... now that there is no talk of anything other than coronavirus, we have become an example to follow, we are helping those most in need ... we deliver our products in the main hospitals, nursing homes and the entire population ... our masks and protective screens are now the best marketing tool ...



consequently, we have a huge media impact that places us at the highest level as an innovative and supportive company.

- In a marketing action, we have sent to our clients, the bus operators, some boxes with protective screens. It is great for them because they need it for their drivers and for us it is a good way to keep in touch with our customers and strengthen our relationship.

- Please watch the following videos:

Inicial promo video



https://youtu.be/4j_R6QKkx5I

Official support from local authorities




https://youtu.be/-rp4b2a_g08

On the other hand, by allowing us to attend our offices to carry out this altruistic work, we have taken the opportunity to continue with our development work, which otherwise would have been interrupted.

Task 1.4: Management of Intellectual Property.

During this year we have continued the necessary actions to obtain patents in the countries we had designated. Patents granted in 10 European countries have been maintained. On the other hand, the patent in the USA has received an official action, we have answered it and finally we have been granted the patent in the USA !!!

This is particularly good news because this patent protects our second potential market. Below is the heading of the grant notice.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

23413 7590 04/01/2020
CANTOR COLBURN LLP
 20 Church Street
 22nd Floor
 Hartford, CT 06103

EXAMINER

MORROW, JASON S

ART UNIT	PAPER NUMBER
3612	

DATE MAILED: 04/01/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/081,345	08/30/2018	Sergio DE RICO HERRERO	BEI0232US	7241

TITLE OF INVENTION: DISMOUNTABLE SEAT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	07/01/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

WP2: Adaptation of E-RESCUE technology to leading commercial bus seat models
WP3: Prototyping, validation, testing and approval of the E-RESCUE system with the selected bus seats.

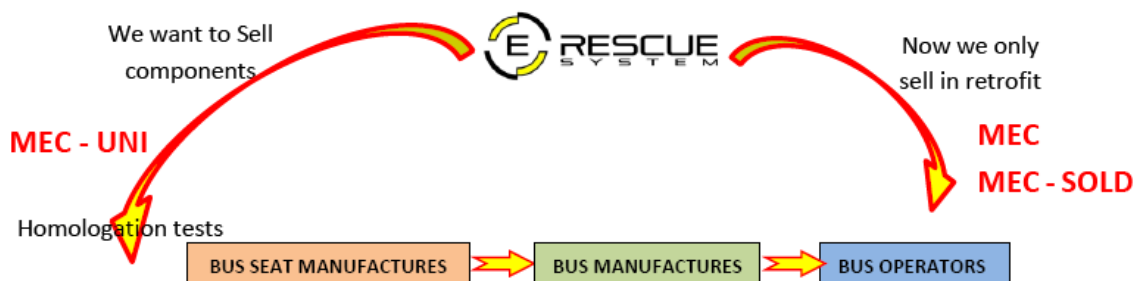
The main objective of our project is the homologation of the E-RESCUE System with the main models of bus seats to gain access to the market from the beginning of the value chain.

It all starts with negotiations with seat manufacturers to get their cooperation on our project. After several meetings and talks (a lots of phone calls), agreements were reached with the main manufacturers.

In the next section we will explain all the points that were necessary to explain to the seat manufacturers so that they agreed to collaborate with us:

- We are developing a universal system to introduce E-RESCUE from the beginning of the production chain.
- We are going to integrate our system into the frame that supports each pair of seats. Therefore, we are going to create something more complex than the current solution and with more mechanical and approval requirements.
- We are working so that this new E-RESCUE mechanism called MEC-UNI can be installed in production lines without the need to modify the design of the current seats. Only for the seats originally of the type "welded to the frame" it will be necessary to create a coupling area because with the MEC-UNI system all the seats will be bolted to our frame.
- This solution is optimal because it will not alter the final height of the seats (with the current mechanisms of the MEC type an element is inserted between the seat and the original frame and this modifies the final height of the seat, which must always be under dimensional limits required by standard).
- This solution will also be limited in the introduced overweight. We work so that the overweight per seat compared to the original frame is between 1 and 2 Kg ... this means an overweight of between 50 and 100Kg for a 50-seater coach that normally weighs more than 14 tons when empty (it is an increase 0.7% of vehicle weight).
- The new MEC-UNI will be manufactured with aluminium profiles with a unique design that allows to have 2 open rails in its lower part. Therefore, the seat manufacturer could put any type of leg or anchor at any point of the profile. This advantage is key for the system to be valid for any seat located in any area within a bus.
- Another important aspect is that the manufacturer will receive a frame that incorporates the E-RESCUE mechanisms for each seat, but to install the seat, it is not necessary to manipulate the mechanisms. The anchor bolts for each seat protrude from the frame, located just where the seat manufacturer indicates. In this way, by not having to open and close our mechanism, the E-RESCUE system will be sealed from our factory and we can guarantee its correct state that it will not be altered during subsequent assembly processes.

In a few months we got the agreement with: KIEL, SUNVIAUTO, MERCEDES SETRA and ISRI. It did not take us long to receive their seats so we could analyse them in our engineering department. 3D laser scanning and reverse engineering of all seat models we received was performed to obtain a virtual CAD model (the results of these analyses can be seen in deliverable number 2.1 and 3.1 that was uploaded to the online platform). After the analysis of the seats and their peculiarities, it was concluded that a new universal mechanism valid for all seat models had to be developed (MEC – UNI).



Recently, in the last month, we got the agreement with BRUSA and COMPIN FAINSA. So, with these new manufacturers the process start again, but thanks to the acquired experience we will do it very fast, so, in a few weeks after the reception of their seats their models will reach the same development point than the first models analysed.



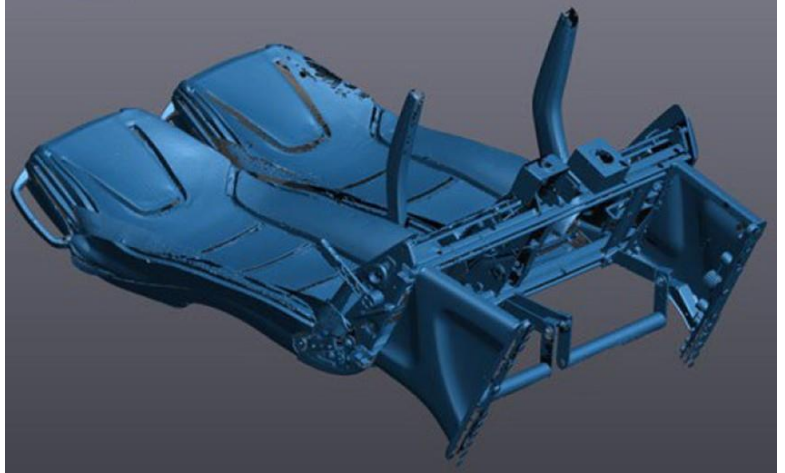
Please see the attached video below to get a global idea of the entire development process.



<https://youtu.be/bVCzaih0Cg>

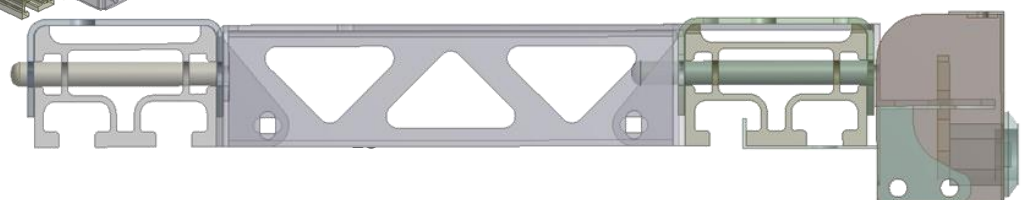
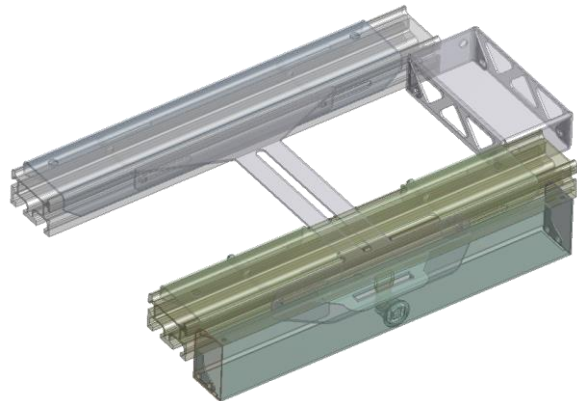
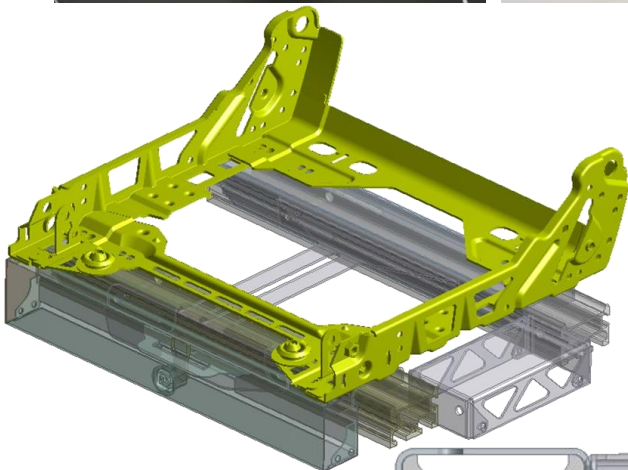
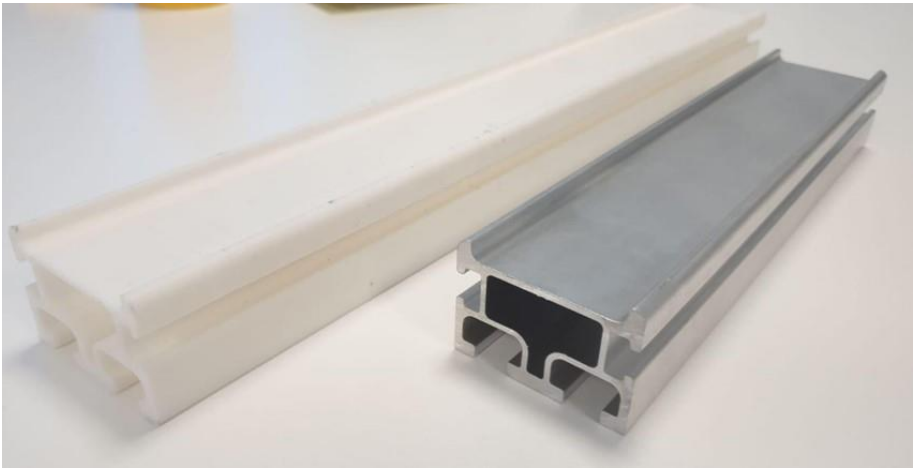
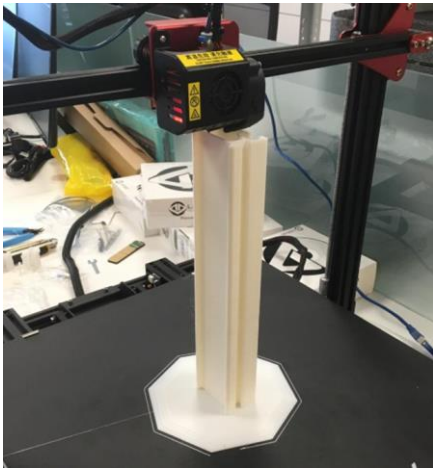
Steps that were implemented:

- ✓ **Task 2.1: Agreements with seat manufacturers (KIEL, SUNVIAUTO, MERCEDES, ISRI + BRUSA, FAINSA) → selection & acquisition of the leading commercial bus seat models to start the development process.**
- ✓ **Task 3.1: Receive the seats and see the “Performance Requirements”. (see Deliverable 3.1)**
- ✓ **Task 2.2: Rent simulation software (ANSYS) and 3D scanner from Creaform and Reverse Engineering Software → 3D scanning and reverse engineering. (see Deliverable 2.1)**

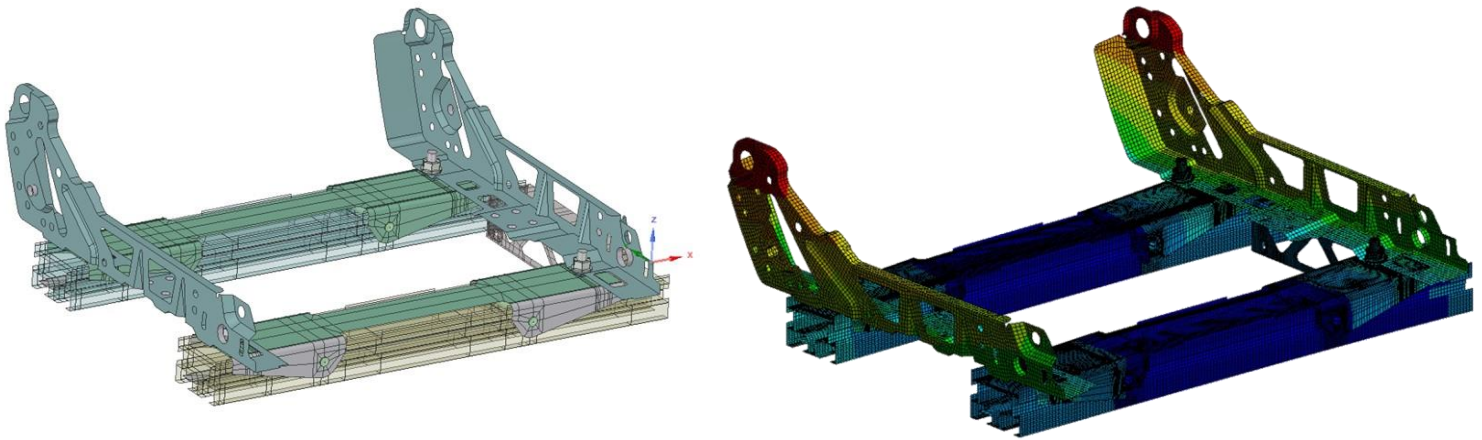


- ✓ **Task 2.3: Design of the first MEC UNI mechanism.**

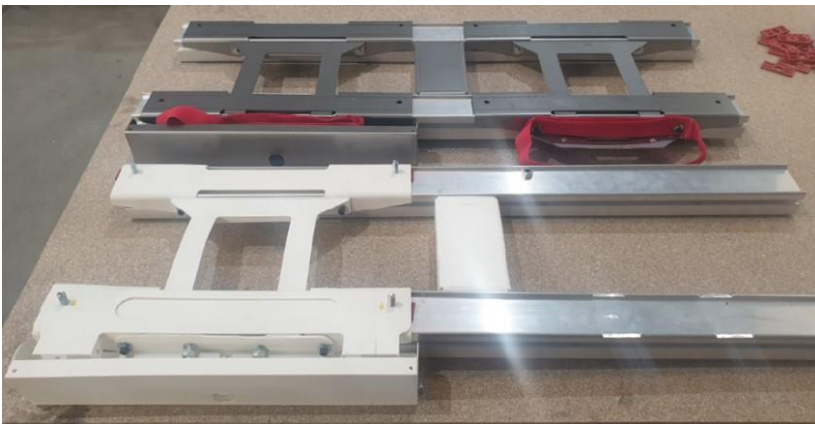
→ The final solution consists of an aluminium frame that incorporates the mechanism inside and without altering its height or weight. All design efforts were focused on optimizing the section of the extruded aluminium profile (3D printed prototypes were used to evaluate the geometry).



- ✓ **Task 2.4: In Silico validation of the MEC-UNI first design according to approval and customer requirements (see Annex 2.1 and 3.1)** → by numerical simulation using ANSYS software, the resistance of the profile was verified by itself and then it was also simulated the resistance of the entire set of MEC-UNI mechanism and seat base subjected to the efforts of the homologation test.



- ✓ **Task 3.2: Fabrication of the first MEC-UNI prototype mechanism**
→ After verification by numerical simulation, it was time to build the designed prototype. The first step was to order an aluminium die with the section that had been designed and a minimum order was made of extruded aluminium profiles. The next step was to make a copy of the parts with a 3D printer, in this way the correct dimension of the mechanism and its coupling with the aluminium profiles could be verified. Then we proceeded to order the remaining parts and manufactured what we could do in our own factory.



In the following images you can see the comparison and accuracy between the 3D printed model and the real model that was manufactured later.

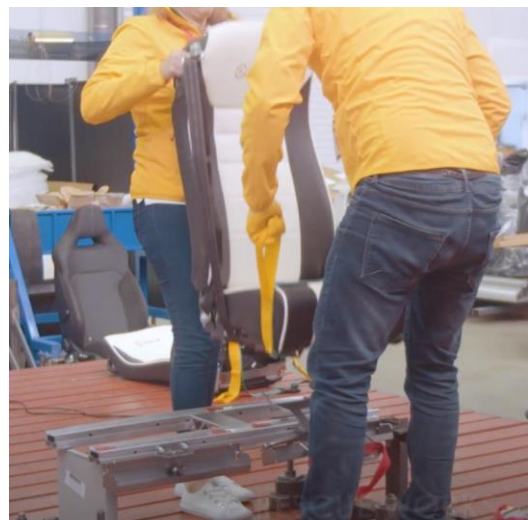


- ✓ **Task 3.3:** The first MEC-UNI was installed with the KIEL seat and we went to the INTA laboratory to face an in-house test like a homologation test → on 2/06/2020 we overcome e test. With the results we understood the new improvements that we should implement.

Below are images of the tensile test carried out on a pair of seats. The chains pull the seat belts simulating the deceleration of the body of a passenger during an accident, in this way a load of 1,300 Kg of force is applied to each belt. The new mechanism that forms the holding structure of both seats must support said loads without breaking and without permanent deformation.



Subsequently, the anchoring mechanism must be able to open and separate the seats from the frame by hand only, without the aid of tools.



Now we are focused on the implementation of the improvements and the adaptation of the MEC-UNI mechanism to all the seats models that we have (Task 3.4 that will take place between months 12 and 24 of the project but we have already started to carry it out).

If you want to innovate, you must learn from mistakes:

In designing the MEC-UNI we also made mistakes that need to be improved. The basic design was tested and passed the test ... the entire design concept is valid. But an alternative was also designed that allows the seats to slide laterally. This variant exists on the market and if we want our mechanism to truly be a universal solution, we must solve this alternative.

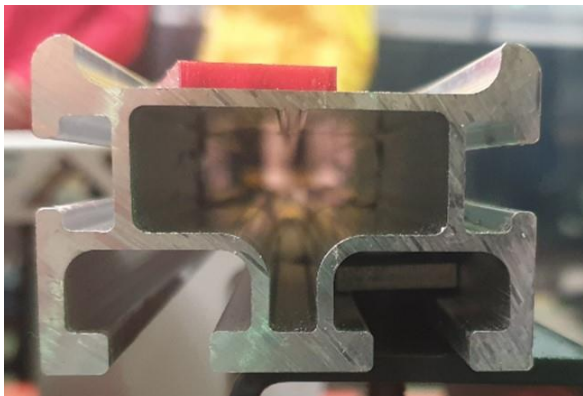
In the sliding alternative, slotted holes were made in the support profile. Thanks to these grooves, the seat slides, but by making the holes larger, it greatly weakens the resistant section of the profiles. The reality is much more complex than the simulations and you cannot calculate the entire resistant set with all its details. Therefore, the simulation was unable to predict failure and once the material cracks, a catastrophic failure occurs.



We have learned the lesson ... we must find another solution to get the side slider version.



In another trial we decided to take the MEC-UNI beyond the limit established by the regulations. It is not only about passing the tests; we also must know where the final resistant limit of the mechanism is and the margin of safety we work.



In the next phase of the MEC-UNI design we will try to optimize the profile design and the missing details.

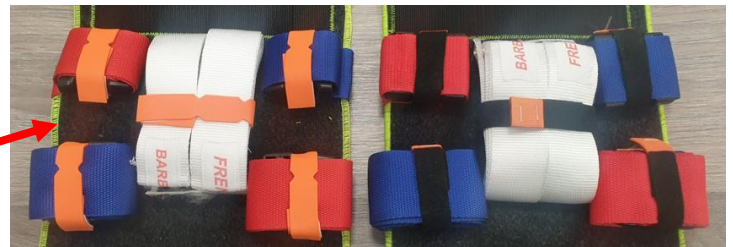
WP4: Industrial Manufacturing and Logistics

Task 4.1: Negotiations of long-term agreements with component suppliers and distributors

In search of a better commercialization of the product, we had worked intensively with the component suppliers to find the most effective and cheapest solutions.

Regarding the design of the immobilization harness:

We have managed to reduce the unit cost of the raw material from 25€ to € 15€. The savings came about due to the change in the supplier of the printed fabrics, of modifying the use of velcros by *eva rubber* strips and of looking for another supplier of the click closure that we use.



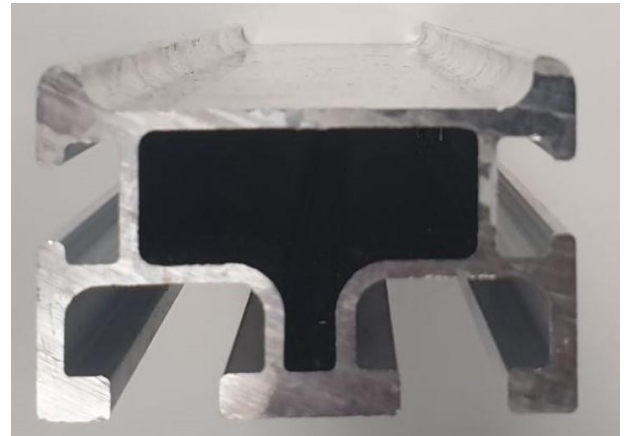
Looking for a better option to buy click type closures, we ended up with a Chinese supplier that sold the same product 80% cheaper whenever a larger order was placed (reduction cost from 1,2€/unit → 0,23 €/unit)



The payment method was negotiated with all the suppliers to avoid the advance payment that requires more financial liquidity.

Regarding raw material suppliers for the manufacture of the mechanism:

Intensive work was done with the supplier of the aluminium profiles to precisely define the new universal profile die. It was also decided to use the strongest and most ductile aluminium alloy on the market. Due to the high demand in our potential market, we agreed with the supplier that they can always supply us and improve the price if the volume of orders increases.



We have worked intensively with our supplier of laser cut and folded metal parts. With this supplier a protocol has been agreed to proceed with the orders: we can send the CAD files directly for their manufacture without the need to make detailed plans; the approximate delivery time is 8 days and they allow us to pay 30 days after delivery of the material. It has also been agreed that for orders larger than the current ones, the prices of the parts will be adjusted.



For the standard screw parts that we usually use, we are still waiting for agreements with the direct manufacturers. We are buying in industrial warehouses, but we must increase our purchase volume to be able to access direct sales from the manufacturers. In any case, at our scale we have guaranteed supply at reasonable costs.

Another great advance has been finding a supplier of double-sided adhesive tape adapted to our needs. This allows us to significantly reduce the cost and manufacturing time because this adhesive tape is much easier to apply (having longer protective papers makes it much easier to peel them off and the installation is done faster) and is more resistant than the previous one.

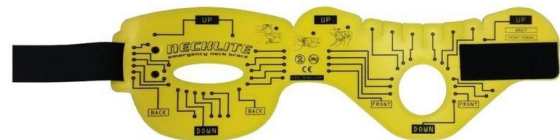


Analysing our catalogue of suppliers, there is one that discards from the others. This is the manufacturer of the cervical collar that we attach to our immobilization harness. The “Necklite collar” is a unique and patented product, only manufactured by its owner in his company FLAMOR (Milan - Italy). And there is no alternative on the market, because we need that collar because it is the only one that can be folded to take up less space and that also adapts to any patient and is even valid for children.

Mr. Limontini understood the importance and magnitude of the project that we presented to him and the great potential market that we could offer him. In this way we agree that he would sell his product directly to us, without intermediaries. It is a successful agreement because we avoid intermediaries and guarantee supply.

To get an idea of the business that we proposed to him, with only the sales that we have planned for this year in which we started our commercial activity, we are going to buy him more collars than he can sell in one year in his main market, Italy.

In addition, the market that we offer him, introducing a collar on each bus seat, and in the future, also in cars, is a market that he cannot access without us. The synergies are obvious and the agreement beneficial for both. In a perfect example of "win win" strategy.

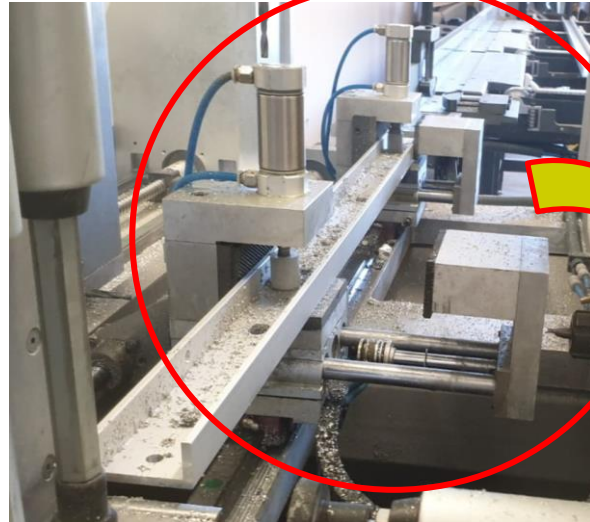
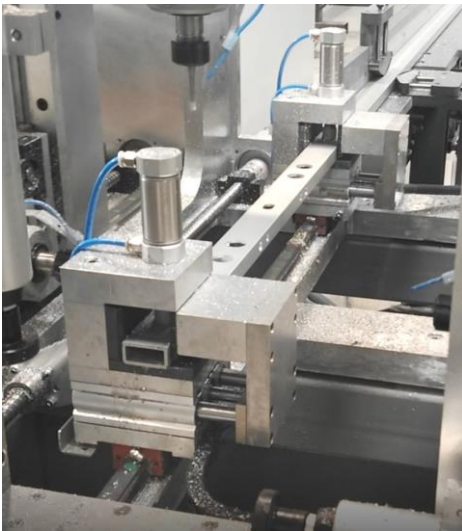


Task 4.2: Adaptation of the industrial manufacturing process for automate fabrication of different configurations for E-RESCUE.

Optimization of the special machining machine to work with the new aluminium profiles that are larger.



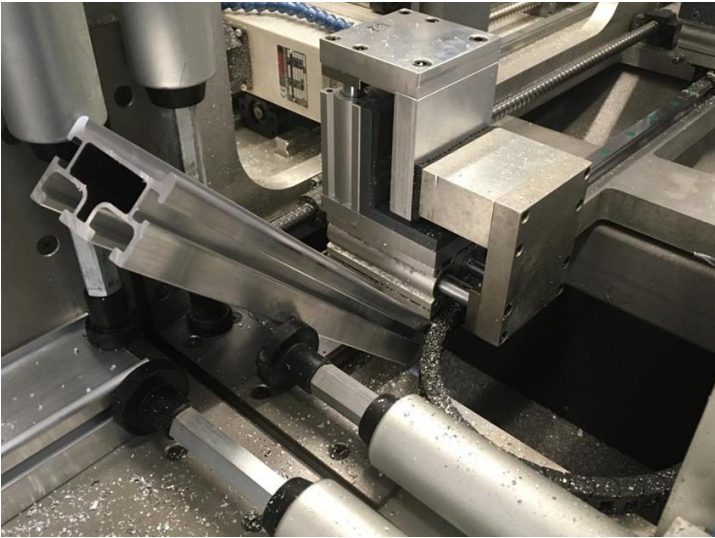
Our machining machine is designed to work with small profiles with a rectangular section and a U-shaped section. As the new development of the universal profile has a larger section, the machine's grippers are not able to grip it. Therefore, it was necessary to speak with the manufacturer of the machine to carry out an entire adaptation operation to the new profile. After several months of work the callipers were redesigned to take a larger profile and movements were optimized: the usual parts are smaller and machined at once, but the new profile requires longer parts that must be machined in two operations .



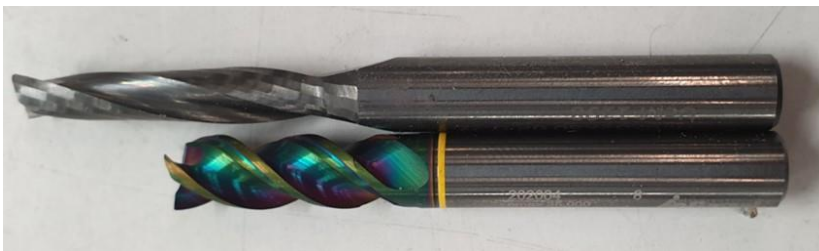
Therefore, a modification of the machine's hardware and software has been necessary so that they understand the new operations that it had to carry out.



Throughout the process we also encountered multiple operational complications and a machine guide also failed and had to be repaired.



Finally, the milling cutters were optimized looking for a new, more precise and faster variant.



After this work, our special machining center is ready to manufacture any part of our mechanisms, regardless of whether it is the previous mechanism model or the future MEC-UNI mechanism.

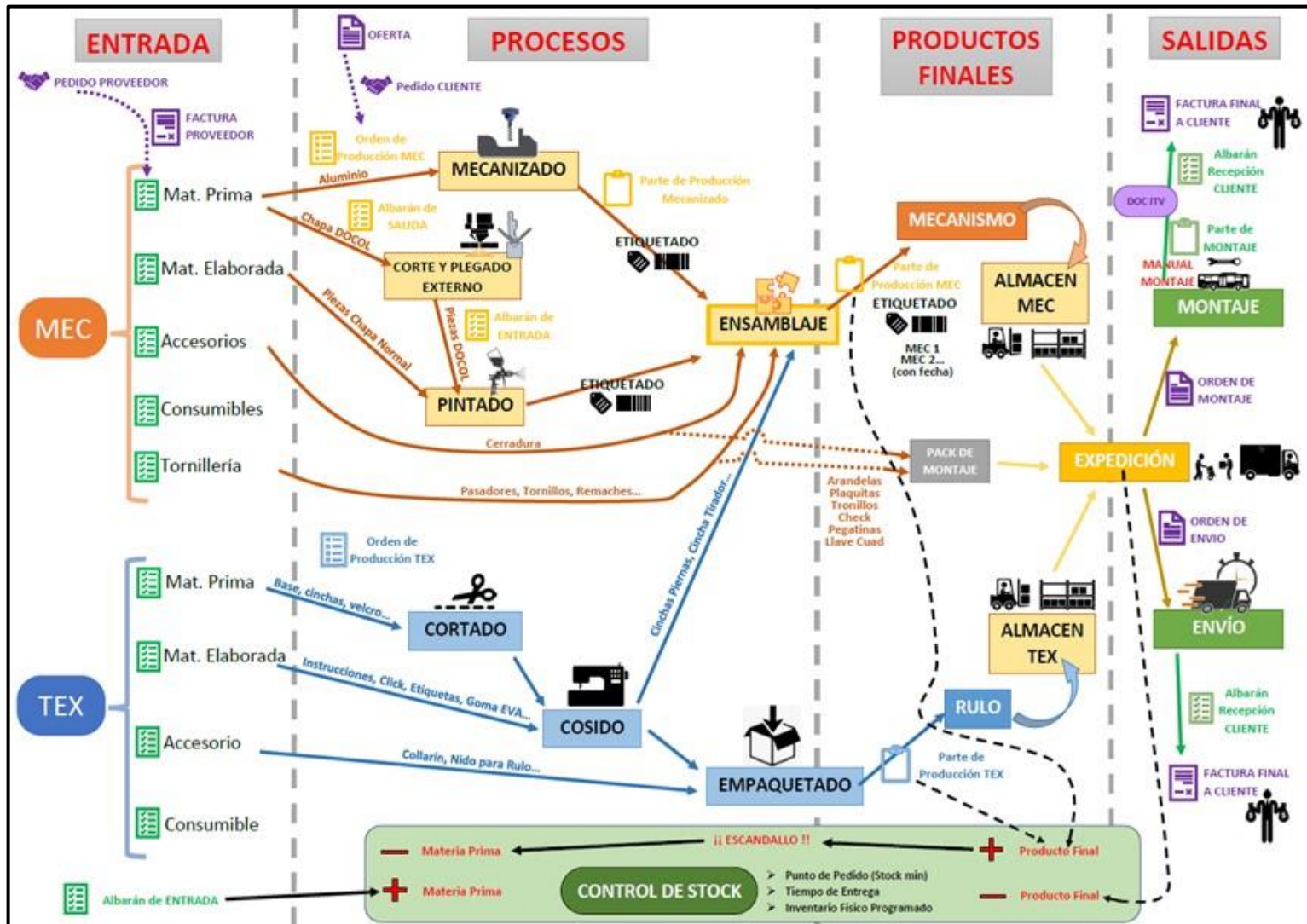


Task 4.3: Implementation of a stock and quality management system to reach the industry standards for components suppliers.

As planned, this task should be done a little later in our project, but we have decided to start working in the previous phases.

By knowing better our product and understanding what the new design is going to be like, we have taken the next step of precisely defining the workflow that must take place in our factory. This step that we have already defined is essential for subsequent automation and control of stock and production.

In the following diagram you can see the workflow in our company to produce both, the mechanism and the textile immobilization harness.



Another important task that we have already undertaken is the exhaustive coding of all the parts and components of our products. Numerical coding defines the barcode associated with each component and allows to organize the flow of parts in the factory, control the stock and guarantee the production to reach successful sales. The realization of an exhaustive catalogue of all the parts and components has allowed us to calculate accurately the price tag of our products. Below is an example of the detailed list of components:

		Matriz HYDRO nº	18153	REC 40x 20 x 4
		Aleación	6082 T6	Anodizado Plata 15 micras
		Longitud Perfil	3	m
		Peso Especifico	1,125	Kg/m
		Peso barra	3,375	kg
		Rendimiento	7	Piezas/Barra
111002000	MP-ALU-REC			
		Pedido mínimo	500	Kg
			148	barras
			1036	piezas
			518	mecanismos

		Matriz HYDRO nº	18112	U 50 x 25 x 5
		Aleación	6082 T6	Anodizado Plata 15 micras
		Longitud Perfil	3	m
		Peso Especifico	1,204	Kg/m
		Peso barra	3,612	kg
		Rendimiento	7	Piezas/Barra
111001000	MP-ALU-U			
		Pedido mínimo	500	Kg
			138	barras
			966	piezas
			483	mecanismos

		Matriz HYDRO nº	19669	Perfil UNI
		Aleación	6082 T6	Anodizado Plata 15 micras
		Longitud Perfil	3,1	m
		Peso Especifico	1,855	Kg/m
		Peso barra	5,7505	kg
		Rendimiento	3	Piezas/Barra
111003000	MP-ALU-UNI			
		Pedido mínimo	500	Kg
			86	barras
			258	piezas
			129	mecanismos

		Proveedor	EQUYMELT	
		Modelo	Rollo Foam Adhesivo - Troquelado 7956FT / Adh 20 x 19 mm / Papel 24mm x 50 m	
		Ancho	19	mm
		Corte Troquel	20	mm
		Largo Rollo	50	m
144020000	CINTA-ADHES-PRECORDADA			
		Pedido mínimo	40	Rollo

		Proveedor	LASERCOR	
		Ref. Lasercor	Normal	
		Chapa	Normal	
		Espesor	1	mm
		Nº de Pliegues	3	pliegue
121101080	MEC 1-TIR			
		Pedido mínimo	55	unidad

		Proveedor	Ferretería - madriferr	
		Modelo	DIN 6923 - tuerca con arandela y bloqueo	
		Metrica	M8	
		Calidad	8.8	
369238008	DIN 6923 - TUERCA-ARANDELA-M8			
		Fundamental para el anclaje de las butacas.		
		Pedido mínimo	100	unidad

		Proveedor	Ferretería - MAYMOL	
		Modelo	DIN 7979 - Pasador con rosca interna	
		Metrica	M8	
		Diametro Exterior	70mm	
37998700	DIN 7979 - PASADOR-M8-L70			
		Pedido mínimo	100	unidad

		231000000	COLLARIN

Proveedor	FLAMOR (Milan)	
Modelo	NECKLITE - producto unico patentado por FLAMOR	
Pedido mínimo	500	Unidad

		221000000	TEXT-INSTRUCCIONES

Proveedor	BORDADOS TREFOR / PLASERTUI	
Modelo	Textil semi elástico impreso por sublimación según nuestro diseño de "Instrucciones"	
Material		
Dimensiones		
Pedido mínimo	1000	unidad

		222000000	CLICK-50

Proveedor	CHINO	
Modelo	Textil semi elástico impreso por sublimación según nuestro diseño de "Instrucciones"	
Material	Poliamida	
Dimensiones	50 mm de ancho	
Pedido mínimo	9000	unidad

		224020000	TEXT-GOMA-EVA

Proveedor	PLASERTUI	
Modelo	Tiene un TROQUEL con el desarrollo de una plancha tamaño A3 donde entran 5 juegos de tiras	
Material	Goma EVA	
Dimensiones	20 x 190 mm (4 u) + 20 x 230 (1 u)	
Pedido mínimo	200	Plachas A3

		212150000	CINCHA-ROJO-50

Proveedor	CAYMON u otros fabricantes	
Modelo	Cincha Polipropileno	
Color	Rojo	
Ancho	50 mm	
Peso especifico	0,05 Kg/m	
Largo Rollo	50 m/rollo	
Peso Rollo	2,5 Kg/m	
Pedido mínimo	5	rollos


























		212540000	CINCHA-AMARILLA-40

Proveedor	CAYMON u otros fabricantes	
Modelo	Cincha Polipropileno	
Color	Rojo	
Ancho	40 mm	
Peso especifico	0,05 Kg/m	
Largo Rollo	50 m/rollo	
Peso Rollo	2,5 Kg/m	
Pedido mínimo	5	rollos

ESCANDALLO RULO

COSTE UNITARIO = 15,31 €

Next table is an example of the price tag for the immobilization textile harness:

	VALORES UNITARIOS					PRECIO UNITARIO		
	Codigo Numerico	Foto	Referencia	NECESIDAD	Unidad	PRECIO Unitario	Unidad PRECIO	PRECIO
TELA MADRE	211000000		TEXT-BASE	1	Unidad	0,65	€/unidad	0,650 €
	221000000		TEXT-INSTRUCCIONES	1	Unidad	0,8	€/unidad	0,800 €
	213250000		VELCRO-PINCHO-50	0,4	m	0,492	€/m	0,197 €
	213130000		VELCRO-PELO-30	0,2	m	0,319	€/m	0,064 €
	241001000		HILO-AMARILLO		unidad	5,37	€/unidad	- €
	224020000		TEXT-GOMA-EVA	1	unidad	0,154	€/juego de 5	0,154 €
	144020000		CINTA-ADHES-PRECORTADA	0,1	m	0,219	€/m	0,022 €
CINCHAS	212150000		CINCHA-ROJO-50	1,95	m	0,196	€/m	0,382 €
	212250000		CINCHA-AZUL-50	1,95	m	0,196	€/m	0,382 €
	212450000		CINCHA-VERDE-50	1,59	m	0,196	€/m	0,312 €
	212540000		CINCHA-AMARILLA-40	1,46	m	0,181	€/m	0,264 €
	222000000		CLICK-50	3	unidad	0,285	€/unidad	0,855 €
BARBUQUEJOS	212340000		CINCHA-BLANCO-40	2,2	m	0,181	€/m	0,398 €
	223001000		TEXT-ETIQ-BARBILLA	1	unidad	0,142	€/unidad	0,142 €
	223002000		TEXT-ETIQ-FRENTE	1	unidad	0,142	€/unidad	0,142 €
	213130000		VELCRO-PELO-30	0,96	m	0,319	€/m	0,306 €
	241002000		HILO-BLANCO		unidad	1,65	€/unidad	- €
CINCHA TIRADOR	212130000		CINCHA-ROJO-30	1	m	0,1	€/m	0,100 €
	223003000		TEXT-ETIQ-TIRAR	1	unidad	0,142	€/unidad	0,142 €
	243006000		CORCHETE-6	2	unidad	0,023	€/unidad	0,046 €
COLLARIN	231000000		COLLARIN	1	unidad	8,3	€/unidad	8,300 €
NIDO	232000000		TEXT-NIDO	1	unidad	0,67	€/unidad	0,670 €
	213230000		VELCRO-PINCHO-30	0,2	m	0,319	€/m	0,064 €
	213320000		VELCRO-DOBLE CARA-20	1,8	m	0,444	€/m	0,799 €
	214020000		CINTA-NARAJA-20	0,12	m	0,97	€/m	0,116 €



ESCANDALLO MEC 1 - KIEL

COSTE UNITARIO = 22,79 €

Next table is an example of the price tag for one model of the MEC1 mechanism.

	VALORES UNITARIOS					PRECIO UNITARIO		
	Código Numérico	Foto	Referencia	NECESIDAD	Unidad	PRECIO Unitario	Unidad PRECIO	PRECIO
ALUMINIO	121100010		MEC 1-UF	1	pieza	2,12795	€/pieza	2,128 €
	121100020		MEC 1-UT	1	pieza	2,12795	€/pieza	2,128 €
	121100030		MEC 1-REC F	1	pieza	2,0148	€/pieza	2,015 €
	121100040		MEC 1-REC T	1	pieza	2,0148	€/pieza	2,015 €
MARCO FIJO	121101050		MEC 1-LI	1	pieza	0,65	€/pieza	0,650 €
	121101060		MEC 1-LD	1	pieza	0,65	€/pieza	0,650 €
	121101070		MEC 1-PC	1	pieza	0,31	€/pieza	0,310 €
	121101120		MEC 1-TOP	1	pieza	0,9	€/pieza	0,900 €
	373374120		DIN 7337 - REMACHE-D4, 8 L12	2	Unidad	0,03547	€/unidad	0,071 €
	144020000		CINTA-ADHES-PRECORTADA	0,25	m	0,219	€/m	0,055 €
TIRADOR	121101080		MEC 1-TIR	1	pieza	1,16	€/pieza	1,160 €
	121101090		MEC 1-RTF	1	pieza	0,6	€/pieza	0,600 €
	121101100		MEC 1-RTT	1	pieza	0,9	€/pieza	0,900 €
	373374120		DIN 7337 - REMACHE-D4, 8 L12	4	Unidad	0,03547	€/unidad	0,142 €
	379798600		DIN 7979 - PASADOR-MB-L60	2	Unidad	0,34	€/unidad	0,680 €
	379798700		DIN 7979 - PASADOR-MB-L70	2	Unidad	0,45	€/unidad	0,900 €
	309335108		DIN 933 - TORN-HEXAMS L10 8.8	2	Unidad	0,03553	€/unidad	0,071 €
	309335188		DIN 933 - TORN-HEXAMS L18 8.8	2	Unidad	0,037	€/unidad	0,074 €
	301275000		DIN 127 - ARANDELA GROWER-M5	4	Unidad	0,00631	€/unidad	0,025 €
	390215242		DIN 9021 - ARANDELA-M5 D24 E2	2	Unidad	0,18	€/unidad	0,360 €
TAPA	121101110		MEC 1-TAP	1	pieza	1,4	€/pieza	1,400 €
	131001000		CERRADURA-CUAD	1	unidad	1,42	€/unidad	1,420 €
	373374120		DIN 7337 - REMACHE-D4, 8 L12	2	Unidad	0,03547	€/unidad	0,071 €
CINCHAS PIERNAS	121101130		MEC 1-PTP	1	pieza	1,52	€/pieza	1,520 €
	309338708		DIN 933 - TORN-HEXAMB L70 8.8	2	Unidad	0,23	€/unidad	0,460 €
	309858008		DIN 985 - TUERCA-AUTOBLOC-M8	2	Unidad	0,03711	€/unidad	0,074 €
FIJACION	306038308		DIN 603 - TORN-SETAMB L30 8.8	1	Unidad	0,0513	€/unidad	0,051 €
	134503005		PLAQUITA-50x30-ES-CUADRADO	1	unidad	0,3	€/unidad	0,300 €
	390218223		DIN 9021 - ARANDELA-MB D22 E3	15	Unidad	0,03944	€/unidad	0,592 €
	309338308		DIN 933 - TORN-HEXAMB L30 8.8	4	Unidad	0,18	€/unidad	0,720 €
	367988000		DIN 6798 - ARANDELA DENTADA EXT-M8	4	Unidad	0,0178	€/unidad	0,071 €
	369238008		DIN 6923 - TUERCA-ARANDELA-M8	5	Unidad	0,0555	€/unidad	0,278 €

Well understanding the workflow in our company and the needs, we have begun to contact companies specialized in adaptation of quality control and stock management. (Wolters Kluvers, Microsoft, ...). This will be a task to complete during our second year of project.

WP5: Demonstrations & Training

The first step in organizing the training and demonstration events is to have the main actor ready: our E-RESCUE demo bus, "the safest bus in the world" called "SAFETY PIONEER".

The purchase and adaptation of this bus has been quite a challenge. From the beginning we knew that we must take great care of the appearance and quality of our technological demonstrator. This section is so extensive that we have created a separate document with the details, and we annex it to this report (Annex 1).

To summarize, we will say that the search for a suitable second-hand bus was so specific that we ended up making an international purchase at the Mercedes-Setra BUS Store in Brussels. After the purchase, we had to manage the transfer of the vehicle to our facilities in Madrid (Spain), set it up, re-register it, vinyl the exterior, condition the interior, install our system in the seats ... a madness of work that lasted 3 months.



And when everything was ready, it was time to present our masterpiece ... and we dedicated ourselves to getting the best images of our bus and organizing a presentation event for all the media. An audience of almost 12 million viewers was achieved.



Video 3: on the news – RTVE - 26/10/2019

Video 4: on the news – LA SEXTA - 26/10/2019

Video 5: on the news – TELE 5 - 26/10/2019

Video 6: on the news – TELEMADRID - 26/10/2019



<https://youtu.be/D-sOkpT3rQ4>

<https://youtu.be/21Rsi293zs8>

<https://youtu.be/7YgIBtzwiwQ>

<https://youtu.be/oV2064MasEM>

Task 5.1: Organization & Planning of an International Roadshow.

According to the original planning, the events were organized for the second year of this project, but we have decided to carry out the events as soon as possible due to the great media impact it gives us and the importance of training firefighters and health workers.

Events held during the first year:

Our main partner in the organization of events is APRAT (Association of Professionals in Rescue of Traffic Accidents) formed by the best firefighters in Spain and with solid international contacts in the fire sector: thanks to them we have contact the World Rescue Organisation and the CTIF (International Association of Fire and Rescue Services).



As a key entity of professionals in traffic accident rescue, the cooperation of APRAT has allowed us to attend all the events they organize with a remarkable synergy. An intense training and outreach action were also carried out in all the rescue drills.

➔ APRAT - “National meeting of rescue in traffic accidents” (9th May 2019) – Valencia (Spain)



https://youtu.be/7NEQ_u5_fHS0

➔ III APRAT Rescue Training 2019 (6th and 7th Nov 2019) – Alcañiz (Spain)



<https://youtu.be/TioA3Fu9pY8>

➔ Conference Emergency 112 Valencian Community - Rescue Drill in a Multiple Victims Accident (29th Feb 2020)



https://youtu.be/q_dFRxEPtAI

➔ **Rescue Drill in a bus (5th May 2020) – Torrelodones (Spain)**

In early March we organized another major rescue drill. This time it was special for the following reasons: the simulation bus was the bus of a client who had equipped it with our E-RESCUE system and all the victims were children from various schools in the region.

The drill had a significant media impact and showed that the normal coaches equipped in E-RESCUE have an added value that is also appreciated in the school transport sector.



<https://youtu.be/WxML0n7qh50>

Roadshow event organization:

After a year of contacts with the main fire and health services agents, we have organized a whole Roadshow plan for our second year of the project. We have scheduled 4 great trips throughout Europe to cover the main cities. In each of them we meet the right people to involve local institutions. On each trip there will be "demo days" in the intermediate cities and a large "rescue drill" in the last destination. In the following map the 4 scheduled trips have been represented. In the organization of these trips, the collaboration of the firefighter Mr. Pepe Ortiz from APRAT has been indispensable, who has programmed the entire project using his multiple contacts and his personal prestige to agree these actions with the fire departments of each city and region. Everything is ready to meet our goal; we just hope that the covid-9 will not interrupt these scheduled actions.

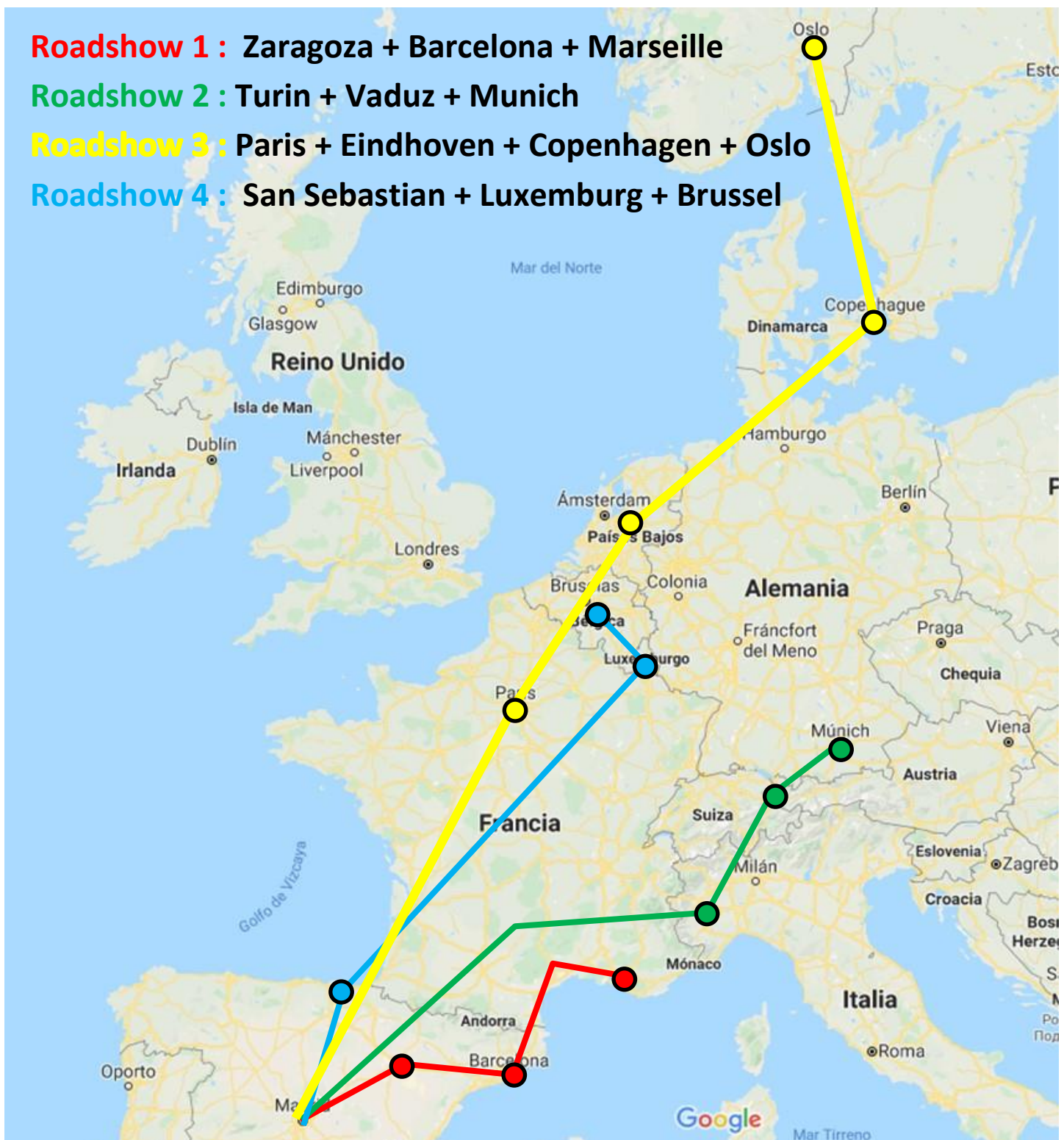
(You can see the organization of these trips in deliverable number 5.1.)

Roadshow 1 : Zaragoza + Barcelona + Marseille

Roadshow 2 : Turin + Vaduz + Munich

Roadshow 3 : Paris + Eindhoven + Copenhagen + Oslo

Roadshow 4 : San Sebastian + Luxemburg + Brussel



WP6: Activities to secure successful commercial deployment at international level.

Task 6.1: Progress in the negotiations with customers already targeted.

Throughout this first year we have held conversations with all our customers, with the seat manufacturers, as well as the bus manufacturers and the bus operators. We are in close relationship with all the links of the value chains in which we are integrating.

As a result of these conversations, cooperation agreements have been reached with the seat manufacturers, as we have already mentioned in previous sections and we now list again these collaboration agreements for homologation of the E-Rescue system with bus seats:

- SUNVIAUTO
- KIEL
- ISRI
- MERCEDES – SETRA
- BRUSA
- COMPIN-FAINSA

(With these collaboration agreements we will be present 80% of the potential market portfolio)



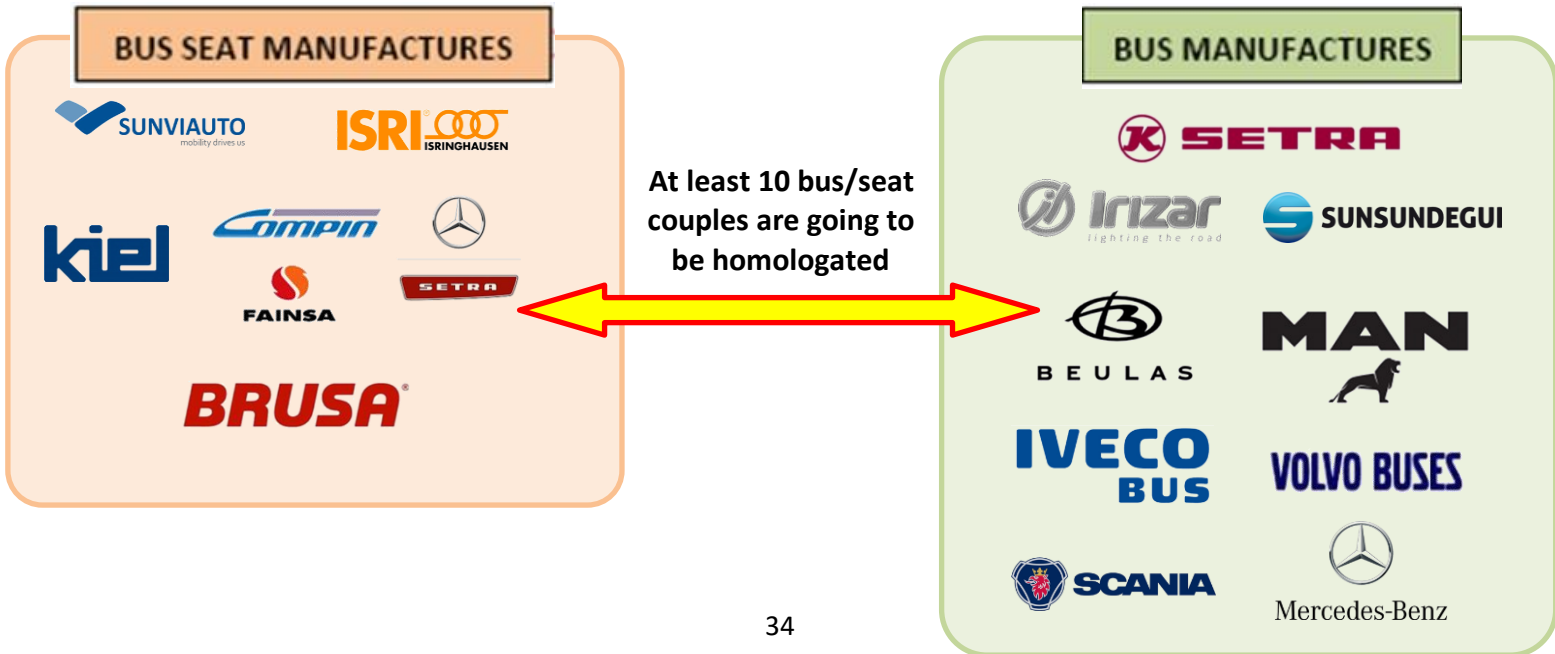
When the e-rescue system is compatible with the seat manufacturers, they will be the ones who choose the bus manufacturers with whom we will be homologated. The choice of the best bus manufacturer for each compatible seat depends on the prior approval of the "seat / bus" combination. Recall that the homologation to be carried out consists of an extension of a previous homologation code unique for a "seat/bus" combination. We reached collaboration agreements for homologation of the E-Rescue system with these bus manufacturers:

- IRIZAR
- SUNSUNDEGUI



(They are the two largest bus manufacturers in Spain that sell worldwide)

The rest of the best bus manufacturers will be engaged in our project when the "seat/bus" combination to be homologated will be finally defined.



WP7: Dissemination & Communication

Task 7.1: Attendance at international trade fairs in the transport sector.

First schedule trade fair: “Groupe Travel Expo” - Germany - July 2019

➔ As we said earlier, our project started the 1^o May 2019 and in only a little bit more than 2 months we were unable to attend this fair. Nevertheless, it was not a critical fair, it is related with the bus sector but is not an important fair. So, we decided to cancel our attendance at this fair to invest the funds in other actions with greater media impact. As we have already explained, the “**1st Workshop on bus Safety**” was organized in **Madrid on July 1st, 2019**. This workshop was attended by great personalities and had a significant media impact. The whole day was prepared with great care creating a very special atmosphere in the auditorium thanks to our personalized seats with seat belts for all the speakers and with several dummies sitting among the attendees.



PERE NAVARRO

Spanish main Government body responsible of road safety.



MAR COGOLLOS

President of AESLEME (Association for the study of Spinal Cord Injury)



BARTOLOME VARGAS

Road Safety Prosecutor of the Ministry of Justice



SERGIO DE RICO

CEO of E-RESCUE



<https://youtu.be/HxSUat3gZuo>



BENITO BERMEJO

Deputy Director of Road Transport - Ministerio de Fomento



PEDRO ANTONIO RUÍZ

President of APRAT (Professional Association of Rescue in Traffic Accidents)



PABLO BUSCA OSTOLOZA

Managing Director of SUMMA 112



RAFAEL BARBADILLO

President of CONFEBUS



Second scheduled fair: "BUSWORLD BRUSSELL" - 18th to 23th October 2019

→ This is without a doubt the most important fair in the world in the bus sector and we worked hard to give the best possible image presenting our unique system in the world. The media repercussion was enormous, and we consolidated ourselves as an innovative company supported by an European Commission project that will soon be worldwide a standard on the roads.



<https://youtu.be/XDaLu30nqY>

In the Annex 6 you will find a few business card from the contacts that we made during the fair.

Third scheduled fair: “BUSWORLD ISTAMBUL” - 5th to 7th March 2020

Because of the Coronavirus problem, we had to cancel our attendance at the BUSWORLD fair held in Turkey in early March 2020: we managed to cancel the trip but much of the money invested could not be recovered. Attached to this report you will find a document of the work invested in the preparation of this fair, which in the end we were unable to attend (Annex 4). In the next fairs that we hope we can attend we will try to use part of the furniture and prototypes that were manufactured for this fair in Turkey.



First Roadshow event initially scheduled: “French Fire Days” - 13th to 15th May 2020

Due to the same Coronavirus problem, this event was also cancelled.

Fourth scheduled fair: FIAA (International Bus and Coach Fair) - Madrid - 6th to 9th October 2020

If the coronavirus allows it, we are ready to triumph at this important bus trade fair. Being the fair in our own city we save the travel and accommodation costs. Therefore, we are going to focus on giving the best possible image and doing important business. With this goal in mind, we have already reserved our space at the fair.



In addition, as a result of our participation in Busworld Brussels, we will also have the presence of a new French collaborator: "AGORA" has developed a pedagogical bus that can tip over to simulate an accident and practice rescue in difficult situations. We have reached an agreement with the owner to equip his bus with our E-RESCUE system. In this way we can show the whole world that the E-RESCUE system also works when a coach capsizes. For this purpose, a large space has also been reserved at the fair for AGORA near our Stand.



Task 7.2: Communication in the Internet and Social Media.

From the beginning of the project, we have understood that media repercussion in all media and on the Internet and social networks is essential.

From month 3 of our project our website **e-rescueh2020.eu** is online and we keep it updated.

We keep also updated our original web site **e-rescue.com**

We have created YouTube, Facebook and Instagram accounts to spread our news and actions.

All the videos that we created are uploaded in YouTube and broadcasted through the social media.

We begin to know the advertising options through these social networks. In the future, we will use selective advertising campaigns to reinforce our actions at fairs and roadshow events.



www.e-rescue.com

www.e-rescueh2020.eu



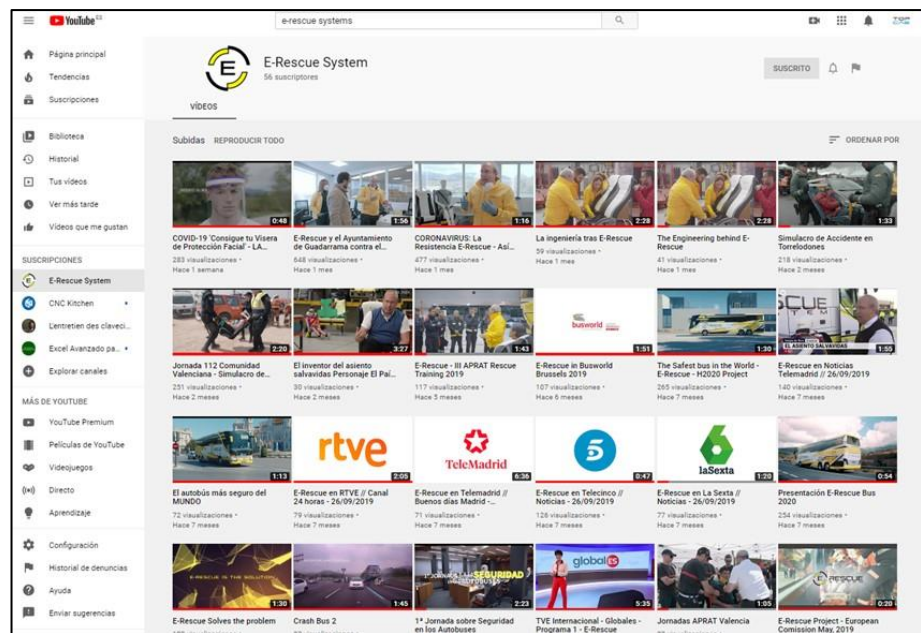
E-Rescue System



@erescuesystem



@erescuesystem



[Home](#) | [E-Rescue System](#) | [Our Supporters](#) | [1st Event Bus Safety](#) | [Gallery](#) | [Press](#) | [Contact](#)

Welcome to the Project Web Page

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 833438 "E-RESCUE"

The Problem

- 30.000 passengers
- 150 used
- €7,6 BN insured costs

According to the European Transport Safety Council - ETSC

E-Rescue solves those problems

- Lack of Space
- Lack of equipment
- Multiple Victims

Bad rescue conditions → More survivors

Average Rescue Time > 2 hours → More deaths

The Solution

E-Rescue solves the problem and changes forever the way we rescue crash victims.

E-Rescue Solves the problem

E-RESCUE IS THE SOLUTION

Post Accident Safety

Post-accident Safety

Post-accident Safety

Post-accident safety devices that facilitate rescue ... already exists in other transports ... now it's up to buses and vehicles.

E-Rescue:

Value Differentiator in Safety for all links in the value chain

BUS SEAT COMPANIES → **BUS & CHASSIS COMPANIES** → **BUS OPERATOR** → **SOCIETY / RESCUE TEAM**

- E-Rescue transforms any bus seat into "Life Saver Seat"
- Also equipped with E-Rescue has a "Post-Accident Safety System" onboard.
- A bus operator with E-Rescue can offer the "Safestest Bus Service".
- E-Rescue halve the number of victims and averted injuries.
- E-Rescue reduces the cost of accidents.

Project H2020: E-Rescue has 3 main goals

- Homologation**
Approving our device for each seat model design selected for each bus model (homologation tests).
- Publishing**
Publishing this radically new concept of safety device.
- Teaching**
E-Rescue Academy will teach the rescue teams how to work with the system.

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 833438 "E-RESCUE"

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Instagram

[@erescuesystem](#) | [Editar perfil](#)

39 publicaciones | 71 seguidores | 24 seguidos

E-RESCUE
 POSITIVE INNOVATIONS & SAFETY
 AEROSPACE INNOVATIONS

Canal de YouTube: <https://youtu.be/4j3GQ3xUj> | www.e-rescue.com

#PUBLICACIONES | #IGTV | #GUARDADO | #ETIQUETADAS

Task 7.3: Cooperation with essential stakeholders at public & private level.

At e-rescue we work to make public institutions aware of the benefits of Post-Accident Safety Systems and the need to promote the implementation of life-saver seats in all vehicles to significantly reduce the social consequences of traffic accidents.

To this end, we began to visit the main people responsible for road safety, both nationally (in our country, Spain) and at the European level. To all of them we explain the benefits of our pioneering safety system and completed the presentation with the multiple studies that endorse us and with the incredible results that we obtain in each rescue drill that we carry out.

As a result, we have already obtained the official support and written recommendation of the Spanish Traffic Department. With this document we work to promote the implementation of the E-Rescue system in public passenger transport lines by bus.



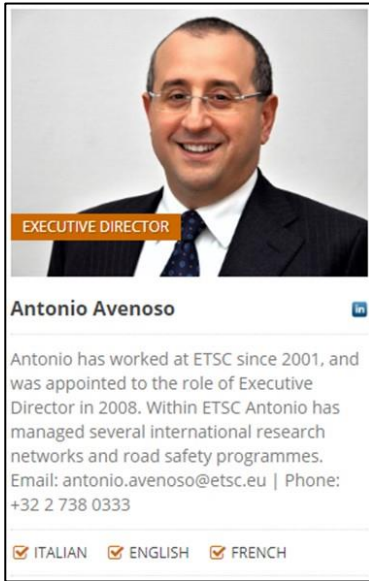
Mr. Pere Navarro Olivella, General Director of the DGT (General Directorate of Traffic of Spain)



At European level, we have already established direct contact with the directors of the ETSC (Mr. Antonio Avenoso) and the EuroNCAP (Mr. Pierre Castaing). We already have the personal support of both, but the ultimate goal of this action is to get the written support of these institutions as well ... and for this, we will take advantage of our demonstrations rescue drills during the Roadshow of the next project year to invite them and get their official support.



We met Mr. Avenoso during our Travel n°6 at the end of June 2019



We met Mr. Castaing in May 2018 during our participation in the "France Firefighters Day" (Poitiers)



BUSINESS: NEW SALES IN 2020

Our business begins to take off:

Thanks to our intense work, our commercial activity has begun. In recent months, we have received requests for offers to equip the buses to be incorporated into public transport services in which the winner of the tender has promised to install E-RESCUE on their buses. The truth is that thanks to bidding with E-RESCUE, the bus operator has obtained extra points in the tender and that has helped him to win. So now these offers will be transformed into orders because the bus operators are contractually obligated to fulfil their offers.

In this situation we have spoken with 4 bus operators to equip their buses with E-RESCUE with a turnover of more than 1,2 M€ !!

It sounds really good ... but the global coronavirus problem has arrived, and everything has stopped.

CUSTOMER	Nº of BUSES	Nº SEATS	INSTALATION PRICE	E-RESCUE PRICE	TURNOVER INSTALATION	TURNOVER E-RESCUE	VAT (21%)	TOTAL TURNOVER	STATUS
	15	627	1.850,00 €	167,00 €	27.750,00 €	104.709,00 €	27.816,39 €	160.275,39 €	✔ Signed
	31	1737	1.850,00 €	167,00 €	57.350,00 €	290.079,00 €	72.960,09 €	420.389,09 €	⏸ Paused
<i>Sagalés</i>	30	1722	1.850,00 €	167,00 €	55.500,00 €	287.574,00 €	72.045,54 €	415.119,54 €	⏸ Paused
ALSA	12	234	1.450,00 €	167,00 €	17.400,00 €	39.078,00 €	11.860,38 €	68.338,38 €	⏸ Paused
	8	304	1.560,00 €	179,00 €	12.480,00 €	54.416,00 €	14.048,16 €	80.944,16 €	⏸ Paused
	12	672	900,00 €	159,00 €	10.800,00 €	106.848,00 €	24.706,08 €	142.354,08 €	⏸ Paused

TOTAL = 1.287.420,64 €

Therefore, our business plan works and the first orders exceed the initial expectations we had when we presented our SME Instrument Phase 2 project. But unfortunately, the coronavirus crisis has paralyzed all our possible business and with great uncertainty about its reactivation. We know that sales are going to take place because customers have already promised to install E-Rescue in their bus fleet, but the sector is paralyzed and we do not know if the delay will be 4, 6 or 8 months. Therefore, all our activity continues to be focused on moving forward with the fulfilment of our h2020 project until a commercial activity can truly begin.

The only signed contract (customer ARRIVA) could not be started to manufacture because our suppliers ceased their activity just at the beginning of the mandatory isolation. For the rest of the orders, we had already defined all the details with the respective customers and in less than 2 weeks we had signed them, but the isolation began at that time.

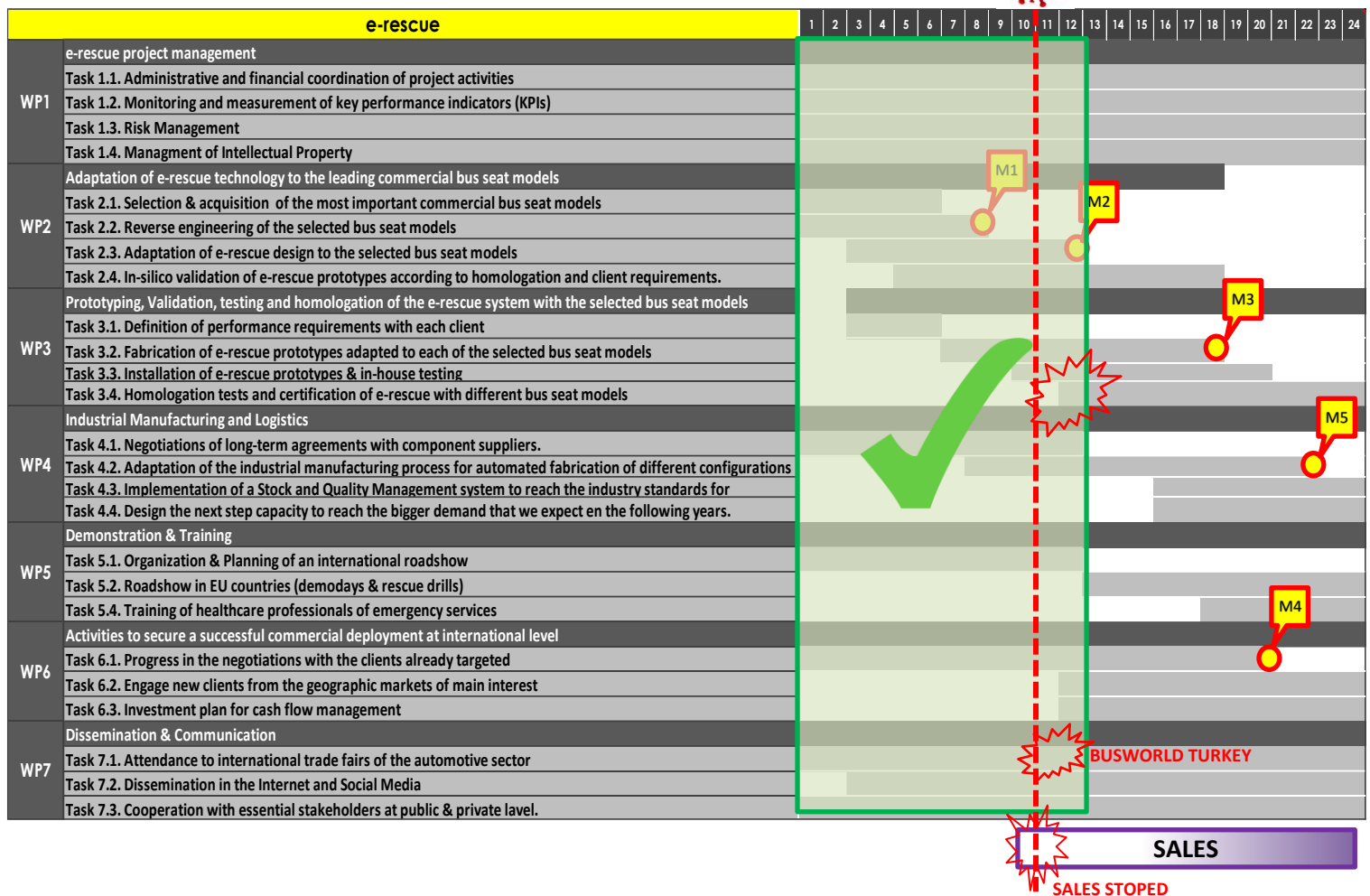
Fortunately, we are confident in a prosperous future for our business because we know that this crisis will one day end and, in addition, the public tenders for the bus lines continue and our customers continue to trust us to improve their offers to get extra points in safety equipment. One year's public tenders are our orders for the following year.

5- Deviations from Annex 1 and Annex 2

5.1 Tasks

We have completed all the tasks of this period reaching the two established milestones. The deviations come from the coronavirus crisis and are represented in the following Gantt chart of the project.

Summary of task achieved:



We had to cancel our attendance at 2 fairs:

- the first, the "Group Travel Expo" (Germany - July 2019): we were unable to attend because it was scheduled very close to the beginning of our project and we were not prepared (we did not have our demo bus). → it was decided to carry out another 2 media events with a great impact: the "1st Conference on bus safety" (July 2019) and the "official presentation of the safest bus in the world".
- the second, Busworld Turkey (March 2020): it was impossible to attend due to the coronavirus crisis. Everything was cancelled so as not to incur more expenses, but what was already paid could not be recovered. This was a "Force Majeure" situation. → only part of the money and effort is lost, but we will work into the next fair, the FIAA 2020 (Madrid – Oct 2020), to have a better impact.

During mandatory confinement we were unable to have face-to-face meetings with seat manufacturers. Therefore, we were unable to show you the new MEC-UNI that we have developed. → This delay will be remedied as soon as possible.

Finally, the crisis affected us directly in our business ... just when we were about to receive the first important orders, the confinement arrived, and the orders were delayed. → we keep in touch with our customer and we will reach the deal as soon as possible to start work in the new orders.

Reaction to the coronavirus crisis:

We have reacted to the coronavirus crisis by helping society when it needed it most, and we have known how to do it by creating one successful media campaign at a time.

The key was to collaborate with public institutions:

- the raw material was donated:

- By the city council of the city where we have our facilities ... the agreement was that if we got the material, we would donate the products.
- by the FUNDACIÓN MAPFRE: they donated a lot of material and advertised us, in exchange we only had to donate the products.

- **volunteer workers:** thanks to the cooperation with the city council, a whole network of volunteers (more than 200 people) was organized who decided to come in shifts to our factory to produce the necessary material (it was a social option and more bearable than staying isolated at home).

- our workers during this time:

- those who could telework, went home, and continued with the design work and communication campaign
- Operators helped create the production system to manufacture face masks and face shields, then continued with their project-related tasks.

In short, the solidarity action that we carry out has helped society and reinforced our image. All the health workers now also know us for having helped them during this crisis.

5.2 Use of resources

Person Months per work package during the 1^o reporting period:

	Person Month		Degree of progress
	Annex 1 (2 years)	1 ^o Reporting Period	
WP1	21	11	51%
WP2	32	27	84%
WP3	45	15	33%
WP4	43	16	37%
WP5	26	7	29%
WP6	22	7	34%
WP7	24	11	45%
TOTAL	213	94	44%

There was no significant deviation from the scheduled use of resources in Annex 1

Transfer of costs categories.

The following tables show the summary of the classification of expenses according to the budget presented in Annex 1. IMPORTANT: for each section a coding has been created that is shown in red, this code indicates first the type of expense (travel, equipment or other products and services), then indicates the assigned WP and finally the detail of the expense concept. For each code, the initial budget, the direct costs incurred during the 1st reporting period and the available margin are shown. New concepts are presented in red and the negative expenses margin too.

		Code	Concept		Budget	DIRECT COST	Expense Margin
TRAVEL	WP1	Proj_Off	Visit to Project Officer	TRAV-0WP1-PROJ	6.000,00 €	1.500,00 €	4.500,00 €
	WP2	TRAV_WP2				- €	- €
	WP3	TRAV_WP3	Visit Homologation Laboratories	TRAV-0WP3-HOMO	- €	1.273,34 €	1.273,34 €
	WP4	Sup_Dis	Visit to Suppliers and Distributors	TRAV-0WP4-SUPP	15.000,00 €	1.366,82 €	13.633,18 €
	WP5	EU_Simu	European visits to organize Simulations	TRAV-0WP5-SIMU	30.000,00 €	4.925,75 €	25.074,25 €
	WP6	Cust_ESP	Travel negotiation customers in ESP	TRAV-0WP6-0ESP	10.000,00 €	140,18 €	9.859,82 €
		Cust_EU	Travel in Europe to see customers	TRAV-0WP6-00EU	40.000,00 €	159,87 €	39.840,13 €
		Cust_Worldwide	Travel in America (USA, MEX, BRA) to meet customers	TRAV-0WP6-WRLD	25.000,00 €	- €	25.000,00 €
WP7	Trade_Fairs	Travel to attend trade fairs	TRAV-0WP7-TFRS	50.000,00 €	15.436,70 €	34.563,30 €	
					176.000,00 €	24.802,66 €	151.197,34 €

		Code	Concept		Budget	DIRECT COST	Expense Margin
EQUIPMENT	WP1	EQUIP_WP1		EQUI-0WP1-000			- €
	WP2 WP3	Hardware	Server and computing	EQUI-0WP2-HARD	16.000,00 €	13.119,29 €	2.880,71 €
		3D_Laser	3D Laser Scenner	EQUI-0WP2-3DSC	57.500,00 €	49.575,00 €	7.925,00 €
		Mach_ALU	Equipment for Machining of Aluminium Profiles	EQUI-0WP3-ALUM	64.000,00 €	41.858,74 €	22.141,26 €
	WP4	Column_Drill	Column Drill	EQUI-0WP3-DRIL	1.600,00 €		1.600,00 €
		Sewing_Mach	Sewing Machines	EQUI-0WP3-SEWI	16.000,00 €	1.260,25 €	14.739,75 €
	WP5	BUS	Second-hand buss of 55 seats for the Road Show	EQUI-0WP5-0BUS	137.500,00 €	125.000,00 €	12.500,00 €
WP6	EQUIP_WP6			- €		- €	
WP7	EQUIP_WP7			- €		- €	
					292.600,00 €	230.813,28 €	61.786,72 €

		Code	Concept		Budget	DIRECT COST	Expense Margin
OTHER GOODS AND SERVICES	WP1	Audit_Financial_Stat	Audit for the Certificate on the Financial Statement	OGSV-0WP1-AUDT	6.000,00 €	6.287,49 €	287,49 €
		Patents	PATENTS: International extension ans surveillance	OGSV-0WP1-PATT	150.000,00 €	13.506,54 €	136.493,46 €
	WP2	Seats	Purchase of 10 x 4 = 40 seats at 1000€	OGSV-0WP2-SEAT	40.000,00 €	5.907,32 €	34.092,68 €
		ANSYS	License ANSYS with multiprosesor	OGSV-0WP2-ANSS	100.000,00 €	55.347,23 €	44.652,77 €
	WP3	Mat_Prototypes	Raw Material Prototypes	OGSV-0WP3-RWMT	30.000,00 €	42.410,23 €	12.410,23 €
		Homo_Test	Homologation tests	OGSV-0WP3-HOMT	200.000,00 €		200.000,00 €
		Homo_C	Homologation Counseling	OGSV-0WP3-HOMC	40.000,00 €	13.250,00 €	26.750,00 €
	WP4	Sotck_Quality_C	Stock and Quality Mangement Counselling	OGSV-0WP4-STCK	40.000,00 €		40.000,00 €
		Process_Opt_C	Consulting Process Optimization	OGSV-0WP4-PROC	20.000,00 €		20.000,00 €
	WP5	BUS_Conditioning	Roadshow bus conditioning with E-RESCUE	OGSV-0WP5-COND	15.000,00 €	17.858,81 €	2.858,81 €
		BUS_Tagout	Roadshow bus tagout	OGSV-0WP5-TAGT	5.000,00 €	7.452,00 €	2.452,00 €
		E_RESCUE_ACADEMY	E-RESCUE Acedemy: vieos + materials + contents	OGSV-0WP5-ACDM	40.000,00 €		40.000,00 €
		Roadshow_Act_Logi	Roadshow: actors and logistics	OGSV-0WP5-LOGI	50.000,00 €		50.000,00 €
	WP7	Roadshow_Video	Videos Roadshow	OGSV-0WP5-VIDE	30.000,00 €	7.294,24 €	22.705,76 €
		GOODS_SERV_WP6	Legal advice on negotiation with clients	OGSV-0WP6-LEGA	- €	1.700,00 €	1.700,00 €
		Project_Web	Project Webpage	OGSV-0WP7-WEBP	10.000,00 €	8.744,70 €	1.255,30 €
		Communication_Agency	Communication Agency in EU + Social Network	OGSV-0WP7-COMU	80.000,00 €	28.584,71 €	51.415,29 €
		Dissemination	Dissemination: material + store + prints	OGSV-0WP7-DISS	30.000,00 €	5.981,78 €	24.018,22 €
		FAIR_JTIUV_FR	Journées Techniques Intervention d'Urgence sur Véhicules (FRANCE) - May 2020	OGSV-0WP7-JTFR	30.000,00 €		30.000,00 €
		FAIR_1	1ª Jornada de Seguridad en Autobuses (1 Julio - Madrid)	OGSV-0WP7-1ISA	70.000,00 €	12.753,64 €	57.246,36 €
		BUS_Presentation	Presentación BUS SAFETY PIONEER - 26 S - 13 N	OGSV-0WP7-BUSP		4.849,20 €	4.849,20 €
		FAIR_Bus_World_BRUX	"BUS WORLD" Fair Belgium - October 2019	OGSV-0WP7-BWBX	70.000,00 €	52.408,78 €	17.591,22 €
		FAIR_Bus_World_TURK	"BUS WORLD" Fair Turkey - April 2020	OGSV-0WP7-BWTK	70.000,00 €	11.213,32 €	58.786,68 €
FIAA_Spain		Fair "FIAA" Spain - October 2020	OGSV-0WP7-FIAA	50.000,00 €	450,00 €	49.550,00 €	
					1.176.000,00 €	295.999,99 €	880.000,01 €

All these values are verified in the accounting and the documentation of each accounting movement exists and is related, so that any revision that is required could be carried out at the highest level of detail.

As a transfer in the cost category it is worth highlighting:

- a new category of travel has been created: “visit the homologation laboratories”
- a new service category has been created in WP6: “legal advice on negotiation with clients”

The first scheduled fair has been cancelled, diverting the allocated funds (€ 70,000) to the holding of 2 more important and media events with a total cost of € 17,602.81. (that is a cheaper and better action).

As concepts of expense with over cost it is necessary to indicate:

- **OGSV-OWP1-AUDT:** audit to correctly control expenses and finances.
- **OGSV-OWP3-RWMT:** the purchase of raw materials for prototyping has risen because in B2B commerce all suppliers have minimum purchase batches. And the amount will continue growing if it is necessary.
- **OGSV-OWP5-COND:** the conditioning of the bus has been more expensive than expected and the amount will continue to increase because such a vehicle must be kept in optimal operating conditions (mechanical maintenance, insurance, technical inspections ...).
- **OGSV-OWP5-TAGT:** Bus tagout was more expensive than anticipated because a higher-quality, complete transformation was done ... you couldn't skip on the outside of our technology demonstrator ... simply the safest bus in the world must also be very beautiful.



**We Keep Working to change for ever
the way we rescue crash victims**

ii Let's save lives all over the World !!