

HAT IT COULD BE

IMAGINE

WHAT

IT

IMAGINE WHAT IT COULD BE

COULD

BE

IMAGINE WHAT IT COULD BE



IMAGINE WHAT IT COULD BE

Imagine what it could be...

/ The beginning and the end

The world is moving fast.
Maybe too fast.

Too fast for us to slow down and check if the direction is right.
We keep going, following the tracks someone else has laid
down for us.

What if we stopped?
What if we started back from scratch?
What if we reimaged the future?

Imagine what it could be...

We decided it was time to answer this question – so we tried
to do that.

What emerged from this process was IntelliArm.

We would like to welcome you to a **new future!**

Welcome to a drivers' cab that is truly designed for drivers.

Welcome to a **human-machine interface that is easy to get.**
Just a basic configuration based on specific functions.

A solution that is simple to install. A **plug-and-play** system,
that you just need to switch on to be ready to go.

Welcome to a really **comfortable** seat, designed accordingly to how the human body naturally works. Because safety comes also from ergonomics. A design that is unlike any other.

Free space, minimalism, comfort: these are the keywords that drove us, with the intention of allowing the greatest possible field of view for the driver.

Welcome to the age of beauty, where attractive products work better.

Welcome to the future....no, to the present.

IntelliArm is real.

Now.

Come with us into a time machine that brings us from the past to the future. Discover what we did.

Imagine what more there could be...

/ Where it all started

It all started from our core values: who we are and what we do are strongly interconnected.

SPII was founded in 1947, and it has been providing tailor-made hi-tech solutions to its customers with the aim of solving problems since the very beginning.

OUR PHILOSOPHY can be wrapped up in one sentence: WHEREVER WE CAN.

Engineering in SPII is an on-going journey, with the **curiosity** of who explores, and the **courage** of who **passionately** faces new challenges to redefine the way we interact with reality.

Inspiration comes from people, by the desire to grow and learn, to create a space in which creativity, skills and different cultures can be combined. People who, with Passion, Curiosity and Courage, develop and produce Products.

Products where Technology, Ergonomics and Style put people at the center.

Wherever there is inspiration, wherever curiosity leads, wherever there is passion, *WhereverWeCan*

We let our Mission and Vision drive us to unexplored territories, challenging what we thought we knew about our design process, the driving experience and the overall production:

OUR VISION is to put the Human Being at the center of a fully automatized and robotized world of the future.

OUR MISSION is to provide the best interactive conditions between man and machine by means of #technology, #style and #ergonomics.

We decided to apply all of the above to our main product: **train driver desks.**

SLASH + BACKSLASH

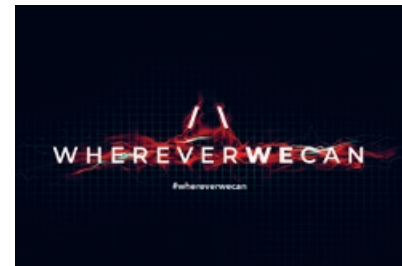
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A WAY TO GO,
A GOAL TO REACH.

TRACK

/ \

WE SEE IT WELL.
WE SEE IT FIRST BECAUSE
WE ARE AT THE HEAD OF THE TRAIN.



/ **From driver desks to Human-Machine Interfaces**

We believe that life-changing trains exist. But you don't have to wait for them...you have to drive them!

We love our job and we are committed every day to improve the **relationship between man and machine** by designing and implementing technological, ergonomic and safe solutions for rail and non-rail vehicles. Plug & play, reliable, comfortable, our **driver desks** have always been completely customizable in terms of style, functionality and ergonomics.

Our **passion and curiosity** overwhelms and involves the user, the man at the center, the person around whom the solution is built. The long-term experience in the field and the continuous search for innovation have undoubtedly allowed us to become a global leader and center of competence for HMI devices.

SPII experts take care of every aspect of the development and production of driver desks: from the definition, with and for the customer, of the technical features to the first installation, from maintenance to disposal.

A renewed **driving experience**: satisfying, exciting and in total safety.

"The journey, not the arrival, matters" T.S. Eliot

As you can see, we have innovation in our DNA.
We have always tried to push the boundaries forward.

We started from traditional driver desks, from a console that identified us as a manufacturer of train parts.
In time, we raised our mission to man-machine interfaces able to adapt to everything thanks to new kinds of ergonomic products, capable of introducing us into an infinite range of new scenarios in which anything is possible.

A new question popped out in our heads:
“what if...?”

We understood it was not just about updating our main product, it was time to actually restart from scratch.

We wanted to challenge ourselves, our competitors and our clients.

To guide them into worlds they could not have imagined, with the courage to ignore outdated paradigms, but without totally destroying them. We still wanted to stay connected to what already existed, but without precluding our vision and search for new worlds that were initially unimaginable to us.

Our customizable driver desks



/ Thousands of LinkedIn followers
all over the World ready to help us



/ Certainly train driving cabs are far far away from centered around the driver's role. It is comforting to see that industries are more and more aware of the problem and want drivers input, but often the need to have more space for customers behind the driving cab, pushes designers to make cabs tighter and smaller. Cabs designs are complex but shouldn't be. There are a few things a driver concentrates on while driving: the first and most important is visibility, the other is the control's levers and buttons required for the movement of the train. Even in the newest cabs the breaking/acceleratin controls, are still on the desk, right in front of you, and the action of stretching your arms to reach them still exists. In the era of high technology, where buttons and levers can be positioned anywhere, why is it not possible to design a train driving chair with buttons and levers at the end of the armrests? (Like the ones found on some excavator cabs for example). What should be in the line of vision of a driver, together with the speedo and an ample field of vision, should be a simple warning light as an indicator to attract your attention. The train should then be brought to a stop to check what is going on. We need to stop stressing drivers on time keeping. Someone needs to start thinking outside the box.

- *Demens Marzighi*, 25 November 2020

/ **We couldn't do it alone**

If the above is true, we couldn't do it alone: we needed help from those who actually drive the train and are fully aware of the challenges during the job.

We wanted to put the human being at the center, and to sustain that always a human must be the **train driver**.

Where could we find one?

Easy - we had already thousands of them.

SPII's community online is strong, cohesive and constantly busy. The visitors from our website span to almost every Country in the world.

They span among train drivers, train managers, train crew, technical personnel and so on.

We wanted to put them at the center. This is why we did the simplest thing, something that no one had done before: we just directly asked them what they wanted to improve.

We wanted to lead the way.

But they needed to tell us where to go.

We didn't know the answers...but we knew the questions!

/ Our method: questioning everything

The first question we asked ourselves was the most basic one: where are we going? What will the future look like?

Will the driver become useless?

A lot of cities in the world are already provided with driverless metro trains today.

Instead of the drivers' cab at the top, there is just a panoramic windscreen through which passengers can look at the approaching tunnel.

All these trains are "autonomous" meaning that they are fully automatic in their basic functions: traction, braking, stop and start, door opening and closing, and so on. But they are still monitored by a human, who is not on board but located in a separate control station.

It is not a remote driving mode, because trains are controlled by automatic systems.

But it is just a matter of words: **people who monitor moving trains are or are not drivers?**

All driverless trains also hide a **Human Machine Interface**

“somewhere” for emergency and maintenance duties. These kinds of interfaces need to be very “friendly” for everyone to easily use them: no licensed technicians, no highly qualified train drivers, just someone who randomly has to use them in order to drive in exceptional circumstances.

**What will the future look like for drivers?
But there is much more to autonomous driving than this.**

For example, a Korean company has just performed a test of a remotely controlled excavator from a distance of 8.500 km, using 5G technology.

Amazing and impressive.

The “driver” controls the machine from some office far away. The idea is to use this kind of technology to control industrial machines in dangerous areas and for remote training. But it is easy to imagine the next possible steps, such as using one controller for multiple machines, combined with artificial intelligence to improve performances.

In any case, they will need a workstation designed for the driver’s remote control.

With new challenges to meet: on one side the driver will have “improved capabilities”, on the other he will need “improved senses”. Augmented and Virtual reality for “immersive” remote work may be the answer.

There are more than 1,3 million kms of railway lines in the world and approximately 180 cities with metro systems.

For the most part, they are run by on board drivers.

It makes sense to build new lines based on driverless technology, that is using remote drivers instead of on board drivers. However, to **convert existing lines** it’s a different story: it is very expensive and hardly efficient.

High speed and long distance trains are more or less in the same conditions, with the need to have someone on board to manage possible emergencies.

As for cargo fleets, there are tests running around the world at the moment with pretty much the same outcome.

CONCLUSIONS

We will need drivers, but their role will have to evolve.

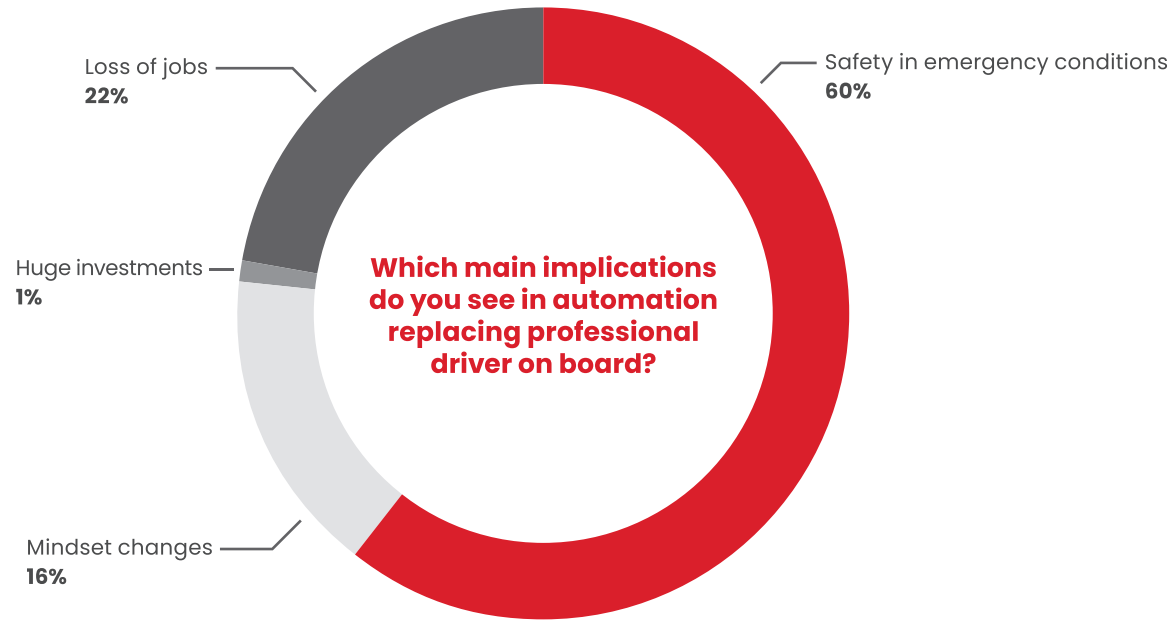
In the future we will probably face a mix of manual, assisted and fully automatized systems.

So, here lays the answer to our original question: the **drivers’ role will need to evolve**, but it will be just as important as, if not more important than today, because they will need to be ready to manage more complex situations.

The truth is that driving in the driver’s cab, monitoring the situation from a control room or remotely controlling a machine are all different ways of driving.

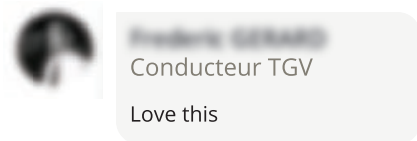
There is and there will always be a clear common denominator: man has to interact with the machine.

The way of driving will evolve, and the “driver’s cab” of the future will be a highly technological workstation (not necessarily on board).



The challenge will be to provide this technology with the great improvements of ergonomics and style needed to create the best possible conditions for humans to work.

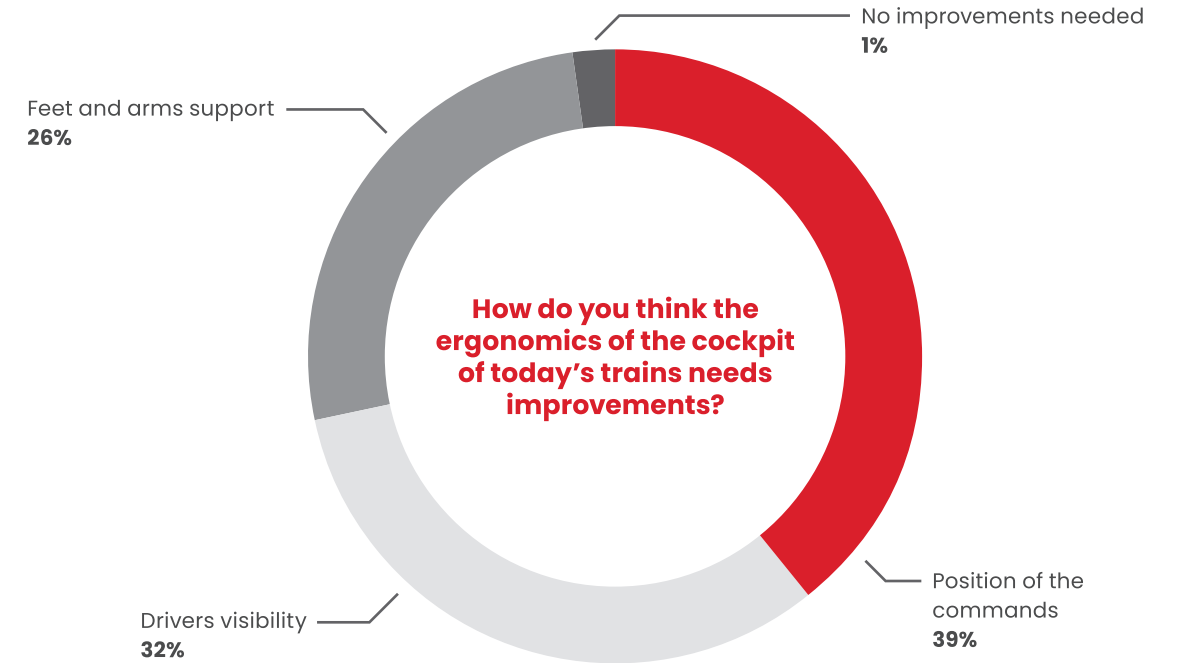
Our answer was clear. But do the actual train drivers agree with us? We used social media to give them a voice. And the answer was extraordinary.



Are trains' Driver Cabs designed for Drivers?

We knew we were on to something. So we kept questioning.

We asked this question to our community. People clearly had something to say. And they wanted to say it, eventually!





Magdalena M.

External Relationship Coordinator

It is extremely important that the railway companies that buy trains, as well as the constructors, have on board the expertise of the train drivers. We are the ones who will spend a large part of our lives inside the cabs and we know what is needed and what is not. Sometimes we find actuators of the same size and appearance very close together but with very different functions (i.e.: horn and pantograph lowering) that cause very different consequences in case of a mistake. Push buttons for operating emergency systems which, unfortunately, can simply be operated accidentally, windscreen wipers which are not designed for certain speeds, etc.



Simon Smith

Train Driver

Just the one choice? It's impossible to answer. The experience a driver has is relative to what they drive. From my point of view according to what I drive in the UK I could say the first three and a few more besides.



Carsten van

Treinmachinist volledig bevoegd

Ergonomics is a big issue. The needs of every driver is different. A problem I encounter everyday is with the lights. When in darkness the visibility of the commands is problematic. We need a good view of the outside but the inside is important too. Maybe voice control could be an improvement.

Suddenly we were swimming in comments and feedback on what was wrong and what needed improvement, directly from the people who would know it best.

So we tried to start giving them answers to fundamental questions, such as: why aren't trains ergonomic like other means of transport?



Take the automotive and work machine industry for example. For many years they have been the leaders in technology-driven innovation, initially without taking into much consideration that the final goal ought to have been to make the user happy.

All the decisions were driven by the **applications**: if you needed to move the arm of an excavator, you needed a command lever. They would then position the lever in a reasonable place in the cab, barely considering how the driver would reach it. That's all.

The evolution towards Human Centered Design in the automotive and machine work industries

Year after year, these industries found new ways of incorporating technology into their products, to support faster, lighter, more efficient, and smarter vehicles. And its companies have slowly begun to take a more **“User Centered Design” approach**.

The result has been a total revolution, following 25 years of gradual awareness, until the Human factor in the choices related to technology and design have finally moved up to first place.

Look at how **cars** have changed: during the years, the driver's visibility has been improved by reducing the size of the frontal area and the dashboard (do you remember that the car's hood was totally visible from the front seats until the 90s?). Moreover, commands are now where you have your hands: on the wheel and on the side.

Same story for the “heavy equipment” from the **work machine** industry: in the 90s' model, you can see that most commands



A typical dashboard from the 90s

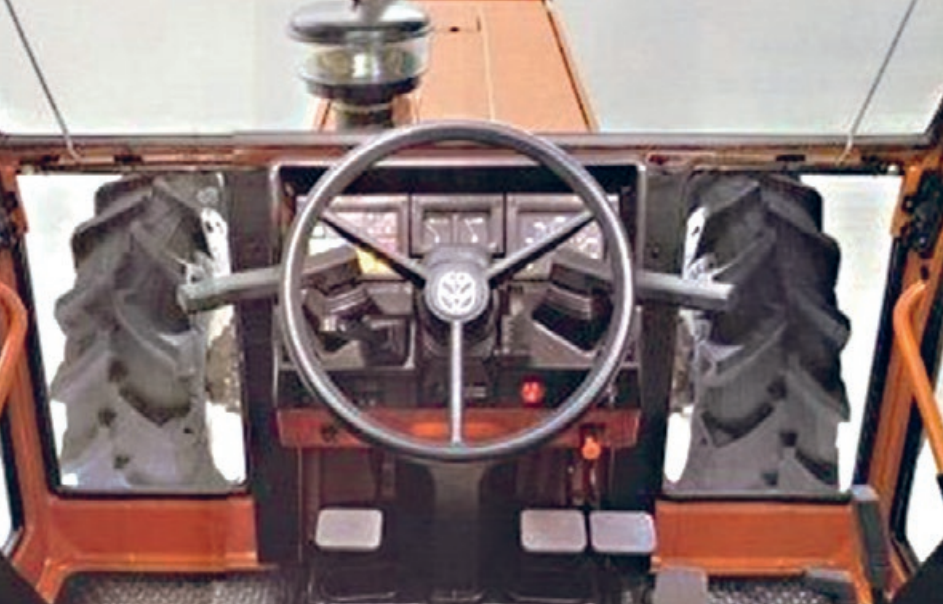
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A more modern approach to a car interior layout: commands are now where you have your hands.





A work machine from the 90s: the commands are in front of the driver and the gear levers are next to the wheel

are in front of the driver, and the gear levers are near the wheel. In more modern solutions all the commands are on the right side, with a double benefit: granting **more visibility** to the front and allowing a natural position for the driver's hands.

As we can see, in these industries the natural evolution has led to a more human-centered design, and today's products are extremely oriented towards the well-being and the satisfaction of the driver.

Is it the same for the **trains' driver cabs**, though?

Modern work machine interior layout: more visibility for the driver and commands where the hand rests



Let's see:



Clearly, despite the many improvements, it is not so visible.

Why is the train industry still not oriented towards ergonomics?

Firstly we need to consider a major difference between these industries: a train's life is much longer than the one of a car. Cars and heavy equipment would be completely obsolete after 25 years of usage, and the models in the pictures we saw before are separated by 4 or 5 generations of intermediate solutions. The majority of trains, on the other hand, **after 25 years of usage** are still in service: the old one in the first picture above is just one generation older than the second, and they are both currently used on the same line for the same kind of service.

As we can see, from an engineering point of view there are a lot of improvements, and also the shape and the design are more sexy.

But from the human-centered point of view, there is still a lot to improve: the size of the frontal area is more or less the same, with no particular improvement for the driver's visibility. And despite a semi-circular shape in the modern versions, the most important commands are still in front of the driver.

There clearly is **an important gap** between the User Centered Design applications in the railway industry compared to other industries, probably due to the long life of trains.

And so we have an answer to the original "strange question": trains' driver cabs are not completely designed around the driver.

This doesn't mean that they are designed in a completely wrong way, nor that they totally lack ergonomics.

In fact, if you think about it, cars and work machines were used and appreciated as well, even before the changes that occurred in the 90s.

But in these industries today, the **Human Factor** is taken into much greater consideration, with a clear improvement in the driver conditions that result in more comfort and less stress. This ultimately means more safety and better performances.

So the bad news is that train drivers still have to do their work in an environment that is not yet fully ergonomic or sufficiently adapted to all their needs.

The good news, though, is that in the trains' driver cab design there is a lot of space for improvement in the next generation of vehicles.

At this point, our determination has been to bring this future nearer to us, but to do so, we realised we needed to answer one more fundamental question.

How should driver cabs be improved in the future?

When the time was ripe, we came to ask another question that had been circling around our minds for some time.

In order to answer it, it was necessary for us to make a challenge between what we thought we knew and what to really look for to find the best.

Probably future trains' driver cabs won't be very different, given the changes (little or none) they have undergone in the past.

They still look the same as 30 years ago, and may be similar decades from now.

But are they the best and most ergonomic version that we could have? Probably not.

The way drivers drive today is just a result of choices made in the past, and improvements related to up-dates on fixed historical choices, means not really changing anything.

Is what we already have what we deserve?

The good news is that the future most probably does not need to continue in this same direction. If we have the courage to *think different*, quoting someone who knew how to do so, we may be able to really disrupt the present driver cab concept, instead of taking it for granted as it is today.

Things could change, if we are able to start from scratch, without moving away from what we consider to be “correct” just because someone in the past said so.

This is possible only by having the courage to start from an empty space, and to place a **human being at its center**. This is possible by simply asking ourselves what conditions may help him or her to achieve the best performance possible.

/ Look for what feels natural

But what does “achieve the best performance” mean, when we talk about a train driver? Presumably to allow him or her to:

- 1. Easily maintain concentration for a long time;**
- 2. Use effectively the natural senses of sight, hearing and touch;**
- 3. Take action quickly and with the least amount of energy consumption.**

To achieve that, the driver’s body must be in a most natural position. And which position is that?

Simple, for us all there are three: **lying, seating and standing**.

Lying down is the lowest energy consumption position for our bodies, but probably best for resting as it is not ideal to use our senses or to take action.

Standing is perfect to perform quick actions and to use our senses, but the energy consumption is high which of course is not optimal over a long time.

Therefore, the natural winner is the seated position, with maybe some critical moments of concentration or attention when standing is preferable.



/ A prototype of the ideal seated position for a driver



/ Can you think of a more comfortable seating position than this?



/ **Let's start it all over from scratch**

So, let's try together this brainstorming exercise: we have started from a blank space, and placed a human being at the centre. He or she should be seated most of the time, because it is the most natural position to perform the required tasks, and have a choice of standing, if or whenever necessary.

Now, how is the most comfortable way to sit? On a chair, of course! Ideally, in an armchair, that allows one to remain seated with adequate back support, to experience a correct inclination of one's legs, and to feel one's arms comfortably supported by armrests.

Our imagined driver is now seated on a fantastic armchair, comfortable like the ones in a cinema.

He or she has to start using their senses and taking action.

In this position the cone of vision includes what is exactly in front of the driver: it is natural then to place what they must look at precisely in that position.

So it makes sense to position the windscreen directly in front of the driver, plus a display (what about a 100" display?) and maybe even a mixed solution with a **head-up display**.

/ The great disruption in the driver cabs

Now, what would the best position for commands and levers to be?

Picture our driver seated in the armchair: his or her arms are on the armrests, resting comfortably on both sides of the body.

Then shouldn't the commands be on both sides as well, where one's hands naturally are?

/ The natural position of hands and
the visual cone in the previous
prototype



Well, the picture is starting to look interesting, right?

Our driver by now is seated in an empty space, on a comfortable seat, with windscreen, display and head-up displays straight ahead, and with all the controls beside the body.

Does it look comfortable to you?

Of course it does!

It may seem trivial, but the most natural condition for driving a train is to actually look straight ahead and to have our arms where they would naturally rest.



/ The most natural condition for driving a train is to look straight ahead and to have our arms where they would naturally rest



/ Star Trek had already
seen it all

/ **When our past determines our future**

Then why are we used to seeing the commands in front of the driver, instead?

To have levers and controls in front of you may seem normal. Yes, this way commands are visible and easily reachable.

But *reachable* and *comfortable* is not the same thing.

So the traditional way we drive is *normal*, but not *natural*: again, it is not the same thing.

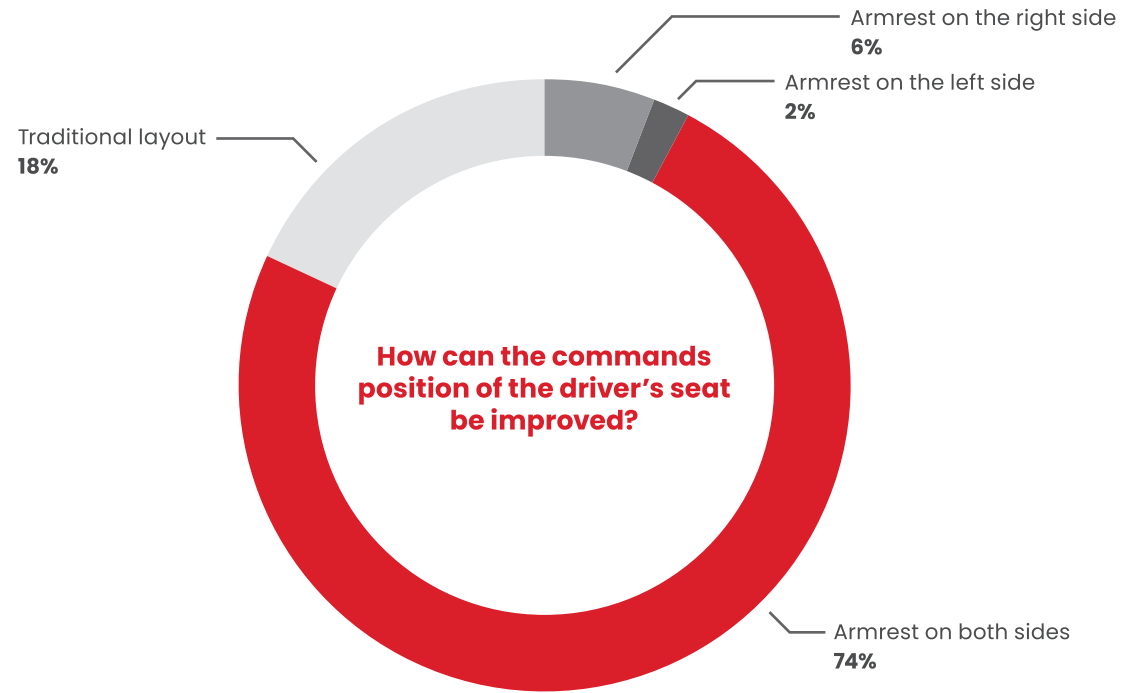
And it must be changed.

At the end of this very simple and logical analysis, the surprise is that the ideal driver cabin of the future looks incredibly like the bridge that we have seen in Star Trek since 1966!

In other industries it is already a reality: why shouldn't be the same in railways?

At the end of the process, we knew we had something really disruptive. Not anything particularly shocking, but sublimely effective to mark a significant change in the industry.

What we didn't know is whether the community of train workers would agree with us. So we asked them.



Cheryl Endersby
Driver Training Manager

Definitely adjustable armrest on both sides and CPCB on the left. Also, the seat needs to be fully ergonomic.

Innovation is a delicate thing. You need to push the boundaries of what is known and is working, but not too much to induce people to stop following you due to their own apprehension to change.

We realised we were going in the right direction when we received confirmations in their thousands from a community of train staff.

We knew it was not only a design exercise, or a new product development. It was the beginning of a new era for the industry, one where we could change the rules of the game.

We pictured a future that involves the users in the creation process. And we made it real. It is where, as stated in our Vision, the design process is directed towards the human being at its center.



According to our latest survey, the results clearly show that 82% of voters would like to have the commands positioned on the armrest.

75% would prefer to have levers and buttons on both sides, while 5% and 2% would choose respectively controls on the right and the left side. A traditional layout has been instead voted from the remaining 18%.

The hundreds of opinions received are essential to identify which could be the right solution in terms of ergonomics and functionalities. The respect of the natural condition for driving a train and the human at the center, are today's basis for the change of tomorrow. Thanks to the growing train driver's community and to all the people who're contributing to develop the cabins of the future!

[#WhereverWeCan](#)

And therefore...a new product was born!

***Welcome to the future.
No, it's the present:
welcome to IntelliArm***



This is what the main designer of IntelliArm, Lorenzo Olivetto, thinks of this project.

*“As a designer, I have always dreamt of creating products that are not just an aesthetic cover for a technological content, but rather a real **integration between form and technology**, at the service of the tangible needs of the individual.*

***Man is the key to everything**, and in the same way the earth revolves around the sun, the designer should do the same with man. This key concept is often forgotten during the design phase. Too often we are driven by the desire to achieve beautiful artifacts at any cost, thus creating increasingly complex solutions consequently found to be barely usable.*

In SPII we have tried to go beyond the canonical technology-driven approach and towards a more judicious design-driven project, where the human is not only the recipient but also part of the entire development process.

*We had a clear goal: to create a product that could host the best technologies in the HMI field, but with a simplified interaction, an **intelligent spatial distribution of commands**, and maximum **ergonomic comfort**.*

***IntelliArm** was born embracing this philosophy: it aims to be a mechatronic extension of the human arm.*

*An interface where the physical feedback to the user is as important as the digital feedback to the machine. Where comfort is introduced to make the user feel “comfortably” in command of the entire system. A **dynamic and flexible human-machine interface**, able to adapt to market targets as quickly and easily as recalibrating a customer’s interface requirement.”*

– Lorenzo Olivetto, Designer of IntelliArm

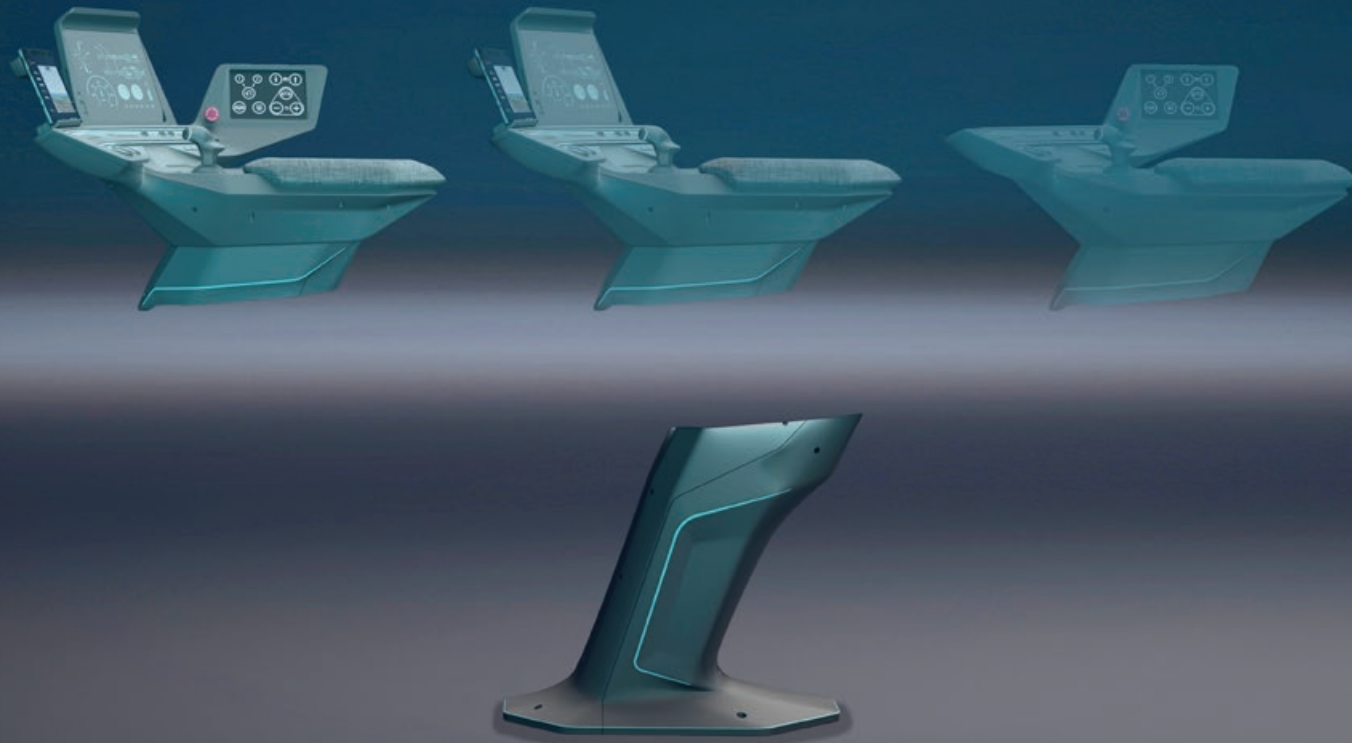


/ Easy to get

The idea that drove the development of the **IntelliArm** architecture was to create a single structural platform which could implement different functions, according to the needs of the end customer.

Needs that range from the integration of different varieties of commands to the implementation of various **HMI interfaces**, to the search for a unique **tailor-made** shape and **style**.

The goal is to create each time the right combination, where shape welcomes **ergonomics**, and it is all strongly combined with **technology**.



/ Easy to plug

For obvious reasons of space, the control desks are currently installed during the construction of the driver's cabin: this entails technical risks and poor accessibility when maintenance is needed. Thanks to its **simplified structure**, which was optimised to **reduce the size of the internal components**, **IntelliArm** can be easily installed even after the completion of the cabin, and it grants total accessibility for maintenance.





/ Easy to Play

IntelliArm has been entirely developed around the real needs of the main user, at the centre of any design decision.

We tried to combine the know-how acquired in years of design with the validation granted by usability tests carried out on train drivers, to correctly answer the **ergonomic needs** of a person while driving a train.

The spatial arrangement of the controls facilitates truly hands-on accessibility, and a dedicated study allowed us to position the most frequently used buttons in easy-reach areas.

Moreover, the bulky frontal components have been optimised to favour visibility for the driver. By improving **driving comfort**, **less stress** is accumulated allowing the user a higher concentration to remain more alert, thus increasing the **safety** level on board the train.

/ **Easy to have**

Reduced space requirements and a vertically developed structure mean that all internal components can be reached easily and without great difficulty. It is simple to disassemble, resulting in a drastic reduction in maintenance time, and therefore an unrivalled efficiency.

Technological progress brings real advantages only when it can be easily understood and comfortably exploited by a wide range of different kinds of users..

This is the reason why human-machine interfaces were created: to act as a **bridge between the user's senses and the intrinsic complexity of the machine**.

Attempting to translate and simplify the complexity of a product without depriving it of its meaning is the most difficult phase of a project like this. Success is determined not only by the overall product **efficiency** and **effectiveness**, but also by its **simplicity** to use and the gained **emotional experience** in return.



Today we are trapped in a world created by technologists for other technologists. We have even been told that 'being digital' is a virtue. This is not true: individuals are analogue, not digital; biological, not mechanical." cit. Donald Norman – The Invisible Computer.

For me, when I develop a product, this famous sentence by the American psychologist and engineer Donald Norman has become a sort of moral code. This is the standard against which I base my final judgement upon reviewing the design of each HMI project in its completion.

If you end up complicating the experience, it means you haven't understood the real purpose of this

job: to navigate into an ocean of technological innovations, untangling their complexities in order to filter and combine them into a product easily understood by humans.

***IntelliArm** is the result of this process: it is **the first control platform created with the user** and engineered for the user, a true extension of its arm to bridge the gap to the complexity of the world around us.*

- Lorenzo Olivetto, Designer of IntelliArm



Silvio Zuffetti
Train Crew Manager

Silvio Zuffetti this is the best reply on here I have ever had thank you. My apologies for being over simplistic with the telephone analogy and take your points on board.

I love the idea of having a control 'drivers chair' and never thought about 'why' do we need a desk (except somewhere to put our cups of tea).

You have given me a different view on drivers cabs and I find that very interesting. I imagine we could have voice control, heads up vision and even motion control. Such an exciting time for design and we definitely need talented and engaging people like you!

/ The end is just a new beginning

The official launch of IntelliArm has been a real success. To begin with, it received an enthusiastic response from the market and from our international community.



Laura B.
Macchinista (Train engineer)

Da quando l'argomento **#innovazione** è diventato mainstream ognuno si è arrogato il diritto di crederci un esperto del settore. Ma solo alcuni, dopo anni di studio e un notevole genio, sono in grado di crearla. Chissà se un giorno i treni del futuro avranno un banco così!



Marco Nigam
Macchinista ferroviario

An **interesting** evolution in Locomotive desk, not so distant from the "british" style of cab. I'm curious to see how it can be fitted in a real locomotive.



The future at your fingertips - SPII

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But the greatest recognition came
from another influential source.

/ A Red Dot for IntelliArm: SPII has won the top award for outstanding design!

There are many awards for the design industry, but there is just one whose name is capable of giving a designer goosebumps. Or even better, just one colour: the **“Red Dot”** is **the most important and globally renowned award for high design quality.**

An international jury assigns every year this sought-after **red seal of quality** to few selected products in every industry, precisely the ones that feature an **“outstanding design”**.

And among the honored winners of this year’s edition, there is our latest creation: **SPII’s IntelliArm!**

We feel very proud of this achievement, because it officially recognizes **the success of an innovative design process and mentality.** The development of IntelliArm has been the **maximum expression of our MISSION:** to provide the best conditions for the interaction between humans and machines, through the combination of **#technology, #style and #ergonomics.**



reddot winner 2021



reddot winner 2021

/ IntelliArm: our outstanding “human centered” design

We strongly believe that **technology must serve people, that attractive things work better and that less is more.** That is why we adapted the framework named “**User centered design**” into our own “**Human centered design**”.

In order to apply this approach to a train cabin, we decided to start from scratch. Literally, from **a blank sheet of paper**, in the center of which we put a human being: **the train driver.** Then we proceeded introducing all the functions needed by the drivers in their daily work, placing them in the most **natural positions.**

We chose the **best technology**, currently available in the most modern trains, and we re-shaped its form. What emerged was this new, innovative and minimalist **Human-Machine Interface: the result is IntelliArm.**

/ The Red Dot Design Award's international recognition

The **Red Dot Design Award** is an international design prize awarded by the German company Red Dot GmbH & Co. KG. There are three prize categories: for **product design, brands and communication design, and design concept**. Since 1955, designers and producers can apply for the prizes, with the winners being presented at an annual ceremony and gaining unparalleled exposure and recognition.

The **official Letter** to our CTO Silvio Zuffetti, signed by the Founder and CEO of Red Dot Professor Dr. Peter Zec, says: *"Never before in the more than 60-year history of our design competition have so many companies and design studios faced the professional judgment of our international jury as this year. Products from around 60 countries reached us, and their design quality and degree of innovation were evaluated in a process lasting several days. Therefore, I am particularly pleased to inform you that your product was able to convince our jurors and receive an award in the Red Dot Award: Product Design 2021. **Congratulations on this great achievement!**"*



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/ Our emotions for this great achievement

Our Vision consists in placing the Human Being at the center of the fully automated and robotic world of the future. An achievement such as the Red Dot Award is an outstanding evidence of how SPII's team is fully committed to translating high principles into real products. **Just Imagine what it could be!**



Paola Foidelli, CEO

SPII's Mission is to create the best interaction conditions between humans and machines by means of technology, style and ergonomics. **The "human centered design" is the approach we use to develop our products**, and we're very proud that such a renowned recognition confirms that we are on the right path.



Silvio Zuffetti, CTO&COO

The Red Dot Award is **a prize that I have dreamed of since I was a student**. I'm honored and proud of this result: it is worth all of my personal efforts and the commitment the whole Spii team put into this product. Thanks to all the team members who have been part of it..



Lorenzo Olivetto, Designer of IntelliArm

Are you curious to discover the future with us? You can do it now.

Yes, right now, right where you are standing, in this very room.

Just use the power of AR to discover IntelliArm.

DOWNLOAD VUFORIA APP



SCAN THE QR CODE TO ACCESS THE EXPERIENCE



FRAME THE PICTURE TO LOAD THE 3D MODEL



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