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Previouse discussion about Relationship between law and technology but first of all as usual do you have any question about the first part something that is not clear something that want to ask or was everything OK I don't know it's up to you no question so if there are no any other question we can continue just briefly recap what we have said we said that there's an interplay between low and technology and the relationship between law and technology is the mutual trust to a certain extent it means that the law can be used in order to shape technology but we can also use technology in order to implement the same low provision some required behavior than the truth the technology can be more you can be stronger in terms of constraints in terms of the push to be in line in terms of behavior with what is required by the law this was the by design approach the idea so to create a design system that intrinsically limit same possibility as regards the use of the device that is not aligned with the legal requirement and this is the so-called by design approach that is used and we have discussed about the opportunities and the limitation of this kind of application pointing out the different strength that the technology can as in terms of shaping the behavior according to the fact that these boots had the high level or at the bottom level made example of the IP and the sorry the dominant system and the cookie and finally we talked about the different kind of approach in terms of our loss of low shaping technology of course is not necessary starting point is not necessary the law made by the state but you can also have a button up process based on self regulation based on course of conduct that are quite useful and relevant mainly in the field of data protection so this was more or less what we discussed and when we discussed about the risk as one of the key elements that the technology regression have to address because new technology increased the number of risks that are creating society so we have to face this kind of risk through two main instrument that risk mitigation measure through the risk assessment risk management that and in the case in which the risk is not possible to measure and properly assess the adoption of sort of preventive approach precautionary approach it means that you stop the to put on the market to make available to user some specific product application to the fact that the risk is not still manageable we can say this doesn't mean that we stop the research and innovation in the field but simply the product development in terms of something that can be used in a real world by consumers or user in general we can have some trials in controlled environment or we can continue the research in the research team and counters that is just to work up briefly last point that we outlined during the last classes

and now the point that I want to rise do the fact that when we discuss about the deregulation we discussed mainly of course our focus will be on the EU level on the you perspective but there is not only the uh perspective also during the discussion we see that there is a lot of interplay between the you in context we can say and other area mainly the US because there is a quite sometimes difficult dialogue between you and your answer with regard as a transfer and data protection but also other areas in which there is an increasing attention for the use of data sometimes also based on certain ideas of super reigniting for instance in Russia and China and other countries they want to have sort of digital sovereignty with an interpretation of this notion that is very close to state control over information and over electronic means of communication so in this context it's very important to have a mindset that is open to the interaction between our model and other models exist in other countries of course we have not the opportunity to discuss all these issues of and concerning the comparative approach to data protection but we can outline some key points and in our planning these key points we have to start from the idea that why are we talking about data when we talk about technology in general as we already said that is not only the technology that is perceived but technology is part of society so the the societal dimension is overlapping and connected with the technology and in this regard are three elements that should be considered

he first one is the transnational nature of the relationship the second one is a transcultural aspect of this relationship and the third one is the ongoing regulatory competition in the field of this the row so if we look at the transnational dimension of the relationship concerning the application of technology mainly digital technology and we can consider that for instance if you look at products and digital product compared to many other products are easier to be share and distributed all over the world and of course distributing our products all over the world it means that this rise problem of conformity with the national regulation as we see the national regulation authority debate so it means that in some countries some product could be commercialized only under certain specific requirement so this transnational dementia is something that we have to take into account when we talk about the product when we talk about also protected products such as copyrighted material etcetera because of course there is a problem concerning on one hand the conformity to the local standard and the other on the other hand the increasing risk that in other countries some provision that regulate and protect them materials the product that you realize can be infringed and this is the case for instance of the copyright has been for a long time the case of the copyright So what do you means it means that the first issue relate to the fact that when you want to put on the market in another country some product you should to take into account some restriction that might exist for instance that was an important case years ago that was the big case in which through eBay was made available for some materials about the Nazi and fascist. And this material we're made available in France and in France there is a criminal law that forbid any kind of commercialization of Nazi and fascist materials unfortunately we have not the same in it but in French exist and so there was the problem that this material may be available online through eBay where of course available also in the French territory and this is what we said last time on the difficulties in combining a global network like Internet and the traditional ternative based approach of the state regulation so before interest was not any issues because if we have a shop and he puts it in the in the shop son and Nazi symbols or materials of course the police can check and remove them and give you a sanction but online is much more difficult because if you put something on a bed this is available in France in Germany whatever you want including countries in which this is illegal so this raises the problem all the transnational dimension of the Internet of course now consider limitation of this course we cannot dig in all that issues and the way in which we can solve our address this kind of problem but just to point out that when you make something and made available online you have to consider that is available in different jurisdiction and in some jurisdiction that activity or that product can be not allowed by the law and this can intake problems for your business and for the development of your product or for the selling of your prop on the opposite side the copyright infringement case is interesting because here we have a situation in which we have almost a general protection because with regard to copyright there are international agreement at a very high level so almost all the jurisdiction recognize copyright and there is a sort of international harmonization about the copyright regulation so yeah we have another problem of a lot of differences among countries but yes we have a problem over the enforcement of this provision what it means it means that if you have a a copyright product that is made available for instance on your website or whatever you want the same product can be downloaded in the case of scientific paper for instance can be legitimately download via new user in your country but then reuse in another platform in legal platform make it available for free in other countries for instance I remember years ago I was invited in China but Chinese university and we had a nice interesting meeting with the Chinese businessman that that this brilliant idea to grab and download all the scientific paper and make them available in its own its own platform in China for the Chinese unions we can say and he didn't realize that it was not possible he said well why not I don't know them OK so yeah but there's a copyright protection you know we have to ask for and make an agreement so just to point out that that is not so generally accepted this idea that exists protect materials so it might be the case and it is the case that there are platforms that are websites that are redistribute protective materials without any authorization without any license so of course in this case there's a problem of infringement there's a clear infringement of the copyright law but what is the problem here related to the transnational dimension the problem here is the enforcement because of course there is a problem that it's clear that there is an infringement but how to enforce in a country that face far from your country you have to make a legal action in that country so it's expensive in terms of cost you have to fight in that country that can be no so strong in terms of attention or focus on these kind of issues and at the end of the day you are also to hope to find um company or natural person that is able to pay for the damage that they create and sometimes you find the very small company that have no any money and so you have of course you can't stop the illicit behavior and that is fine but you cannot have a compensation for the damages of course there are strong and system for criminal infringement for instance for the child abuse or child \*\*\*\*\*\*\*\*\*\*\* etc is possible through the legal provision according in Italy but also in other country to the criminal provision you can stop at high level at level of national system of DSM you cannot have access to the to the IP that are selected because they distribute child \*\*\*\*\*\*\*\*\*\*\* or other illicit counter this is a strong instrument because is blocked at the level of network so you cannot have access but of course if it's good in terms of reducing the distribution of the material also in this case remains the problem of the legal enforcement so if you want to punish these people if you want to reach them and put them in jail of course again we have a problem all the transnational dimensions so you need the legal order that should be enforced in the country and they you have to arrest make a a trial in that country or ask for trying your country according to international cooperation on the judiciary sector so again it's quite the and this is a continuous struggle that is related to the fact that we have two dimension the national dimension and international dimension of the network and unfortunately the online network are more pervasive and more immaterial we can say than other network because we have also for instance global network for flights or for routes or for supply chain but they are much more concrete we can say and it's easier to stop to some extent the flow so to regulate the flows in Internet this is much more difficult there are many solutions that permit to circumvent the game and if you want to stop some flies you can stop some flights coming from some countries because you act on the airport they cannot land in the airport but in Internet you cannot stop landing content in your countries much more so this is the first aspect that we all have to take into account when we discuss about privacy or about the digital content et cetera that we could have the best low in our country or in Europe but then there's the problem what happens outside how we can protect outside for this reason in the GDPR in the proposal of AI act in the digital digital service act in many recent provision of the European Union there is a focus on this extraterritorial effect we can save and is more and more required by the U2 have the power to extend the application of the also outside the European Union border when there is an activity that might affect the you citizen or the people that live in Europe it's something that we will see when we discuss about the scope of the GDPR the GDPR is applicable not only to the company or to the person that are based in Europe but also when foreign company based in another country process personal data affecting people that are in Europe and this of course is an extraterritorial application of an EU law this kind of extraterritorial application again represents a derogation to the territory based approach of the state law and of course create at international level some I guess a reaction or conflicts with other countries because it means that you entitle your entity in this case European Union to extend its power to something that is done in another country do the fact that that activity may affect your citizen on the people living in Europe of course this extension the power to advise down in another country in which for instance this activity are admitted or not regulated and create a certain of clash between the traditional idea of state territory competence is accepted in some countries accepted it with regard for that the protection for instance because of course then there are geopolitical reasons the strangler pean union market and the fact that there was also sort of you can say a sort of persuasive approach the UK was able to convince many countries to adopt A similar roles as regarded the protection the so-called brussel effect that maybe we mentioned the next classes so for a Series A reason for the moment in the field of that production this extraterritorial approach of the European Union has not create a lot of reaction only a few countries but of course we cannot imagine that we can always have a this approach and on the other hand there's also other countries that say oh but we can do the same and we can ask the European provider to be compliant to the law in our countries although they are based in Europe and of course when this is required by countries that are not so democratically oriented writes a lot of problem and concern so this is a topic that I want to just tell outline because brother in discussing the GDPR we have no time to dig too much on that but is behind the entire discussion on the background we have this big problem international dimension another big problem that we have not necessary in data protection but for instance in content moderation or in the discussion about ethics is the transcultural dimension transcultural dimension means that there are not only different territories in terms of regulation but there are also different cultures and the capture dimension is more and more relevant to why we imagine to create an online life using the suggestion by a famous philosopher and our life it means mixing the online and the offline life and in this experience that connects these two dimension of course your activity transposing the online environment can that they this activity represent your culture and your view or your attitude with regard to society and the world but what is the problem the problem that in different culture the same behavior can be classified in different way if you go to Asia for instance in some country in the travel guide there is a specific note for Europeans that say that some behavior that in Europe are considered as common in that contract consider as an offensive or not accepted we can say and is the same if you read the guidelines for the people coming to Europe so there are differences in cultures so imagine to transpose the difference in that content moderation while you have to decide to take down a video for instance in a platform like YouTube I of course what what is the difference between joking or being defamatory something that in Italy can be considered as as joking in another country can be considered very offensive according to the specific culture of that area so you can imagine how much is difficult for the platform to manage this kind of issues because there are several options the first option is to transpose in the global platform the mindset of the platform owners and is something that we have seen with Facebook you remember that Facebook decide to take down some paintings or some photos of women breast because it was considered as a game day times and condition and how we can classify this attitude is a very conservative US approach about sexting which they are concerned by the way you are society is not so concerned but they are concerned about the fact that it's showing the breadth of women is considered as a problem and why if you look to the all the ancient Greek or Roman statues and arts and also post in in the following centuries there are a lot of nudity and nobody is concerned and for the reason they also take dogs from paintings without any discrimination discrimination because the AI is not able to discriminate between our photos and paintings sometimes and so sometimes at that time as well the problem is that this reflects an approach that is the approach of the platform owner that truth I'm sure and condition and for this reason we mentioned that the relevance of the contractor in shaping the the sphere and through times and condition decide what is acceptor whatnot but according to its own culture if you come from Italy you can be considered family some provisions are limitation or if you come for another country you consider 2 2 no we can say the level of prohibition because another country is not only a proper breast but also other parts of the body should not be publicly shown so this a problem of transcultural dimension that can be addressed through a top down regulation created this kind of issues or can we address na more difficult way to a contextual based approach and is what is now is doing by some of the big platform so creative teams with the local expertise with a variety in terms of culture that can say oh this is intelligence joking but in India this is not joking and is the defamatory the same situation classified different based on the expertise of local expert that they're able to provide the correct contextualization we can say of the message with regard to the content that they see and this just mentioned but as you are computer scientists this also show another hidden part that they know if you discuss in in other courses but is also related to the topic of data edits so we do not dig too much in that the other issues is about the development of AI that's I is not the only true algorithms and true computer scientists as you know but there are a lot of people thousands of people that work behind the scene supporting this smarty eye to the fact that he's not so smart so labeling test labeling images removing content etc so large part of the high performance is not based necessarily on the quality algorithm but is based on thousands of people that make this sort of debugging activity many of them labels images many of them take down context all this activity that is generally called the mechanical Turk activities is something that we don't know but to rise a lot of concern also interms of latika approach because we talk about people in some low income countries that are asked to stay 8 hours in front of a shocking images about the child \*\*\*\*\*\*\*\*\*\*\* violence or other kinds of content in order to support content removals in order to train all say aye to make possible a better automatization of content removal so this part of the human side of the artificial intelligence and some is missing the debate but is irrelevant part now increasing also investigated by researchers at the global level so this is about the transcultural dimension that we have to consider also when we discussed and when we addressed the issues related to digital technologies and the last point is about the regular competition that is related to the previous two points so if there are difference if we have seen that there are global problem and different territory and regulatory approach of course what it means it means that this create a sort of competition in regulating the global sphere of digital life and because if different countries have different approaches in regulating at 11 they territory there is no any problem but who we regulate at the global level what what will be the standard that can be set at global level as all the process there is a trend in favor of a sort of uniformity in a sort of harmonization will not leave having dozens of different regulation we have to more or less converge towards a sort of general approach this process harmonization is common in many many sectors and is common also in the field of law but if the certain point are different system different rules this means that this variety creates a regulatory competition what it means regulatory competition it means that each geographical area each state or aggregation of state will try to put the flag and say oh we regulate Internet we regulate data we regulate content moderation in this way that is my way OK this create a problem of regulatory competition at international level in the international bodies or also in the bilateral interaction for instance between you and us there is a clear struggle in order to decide who is the rule maker who is able to set the rules in a sphere that is bigger than its own original territory area and we have seen that in data for instance the fact that the data protection approach adopted in Europe is expanding around the world of course it's very positive and make the you give to the UA leadership in terms of data protection regulation but for instance in us we're not so happy about that and now they try to realign their position with new specific regulation and based on the esperience of bit more much more reactive with AI regulation in their regulation for instance Europe starts to regulated to to discuss about the deregulation of the eye was that sort of it was the actor that made the first step in this direction but immediately there was the reaction from the US that decided not to lose this fight like happen with the data and they present some counterproposals and different kind of opinion and now there's a lot of interaction between The US bodies mainly the Mr. that is the the national institution from the standards in the field of technologies and the your body in order to agree on some common points of course this is a limitation to the potential potential expensive you approach and there is a sort of gentleman agreement between the big player in order to find a more compatible solution we can say terms of AI regulation so this regulatory competition is very strong and is very relevant of course not only in the digital sphere environment and the trials that there are many other fields in which the leadership of 1 country in terms of regulation was extended to other countries that adopted similar standards

just to give you an example now the large majority of the country around the world that adopt A data protection law and data protection law that is based on their opinion standard so this is in a field in which the new framework add another impact at global level of course as I mentioned it's one of the few many other like antitrust environment syndrome and the US model is stronger than the European one OK so after this introduction about the law and technology in general and the relationship between law and technology few words about the other key concept to that you have to know of course I'm I'm aware that it's not easy to follow all these different blocks but like all the introduction to our new subject to the fact that we have no any experience in the field of look it is necessary to set some key notion I have to puts the lights home on summer aspect the concerning technology the rule of law the interaction between both and some key idea that territory regulation and the global regulation and in this case liability because in the course during the the the the course we will discuss about low and legal requirement as we said the peculiarity of a legal requirement or legal provision is that can be enforced that you have to respect the law and if you don't there's a sanction or there's account forms of liability so we have to spend a few words about the liability of course there is a at type for liability that is the criminal or administrative liability and this is not discussed in this slide but it's also easier to understand a criminal liability is mainly personal liability usually it's not the company that is criminally liable there are only few exception in corporate liability but it's the individual person that is liable so if there is a copyright infringement for instance and this is a violation in some countries or sanction with a criminal law you are considered liable and that the criminal liability as many nuances according to the gravity of the action and there are different kind of punishment we can say but all are based on the fact that there is a limitation of your rights so the punishment can be paying money limitation on your right to property or putting someone in jail limitation to your freedom so that the final end in the criminal process is only a limitation of individual rights the important point that you have to keep in mind there is that the criminal liability such as the administrative liability this is only a softer form of sanctioning not based on putting the people in jail but asking to pay money basically and extending this obligation to pay money not only to national person but also to company but these two forms the criminal and the administrative liability are basically focused on the idea that they act and the public interest they are part of public law in this regard So what I want to say I want to say that when someone is put in jail or asked to pay money this does not solve the problem of the damage that is our activity created is only the sanction that the state provided this person or entity in order first to punish the person second to limit that propensity or the tendency of other people to replicate the same bad behavior so the focus is the social interest and not to have some kind of behavior putting in jail that committed this infringement and giving us in this way an example to the husband not to follow the bad the bad can't say but this do not solve the problem of the damage they created so to give a very concrete example if there is a data breach and they they take a lot of information from your server and make a lot of money having access to bank account whatever you want of course they can be put in jail but this is not to resolve the problem that you have to a lot of damage in terms of cost that you have to cover and the people suffer damage in terms of money that they have lost and to recover this kind of gossip you have to act through the legal action but in the civil law in the civil arena and this is the liability at the city low liability it means ask in some form of her address some forms of protection for the interest that were infringed by some behavior usually asking for money if you have a damage or restoring the previous situation as far as possible OK so it's important to not to mix the two elements the criminal sanction although in terms of money it's only for the state the money goes to the state and the money or other sanction are just to punish the person and to give a message to the rest of the people but this do not this does not solve the problem of the damage suffered by the people that are the victims and the victims if they want medicam KF sorry any form of restoring of this damage that they have suffered they have necessary to make a legal action then of course the legal action can be either civil law action or we can say a tort action in the common law system but an action based not a criminal law but based on private law we can say so it's a private law action in some system like in Italy this action can be also presented in front of the Criminal Court but remains a private law action because the goal is to have the payment of the damages the restoration of the damage that you have suffered and in this regard with regard to a liability of course in terms of regulation or technology there is an issue to define how we set this liability who is liable how far they are liable because there are two extreme positions if you want on one hand you can say every time that there is a damage the entity that created that damage is liable of course if you adopt this approach is very good for the victims because there is only someone that's big but there is a huge burden that you put on the shoulder of those that created damages and on the other hand there is an old traditional approach based on food that also from matics and from religion is the typical mindset you are liable because you have done something bad and you were aware that you have done something bad because there was intention to make something then or there was a negligence so therefore it's based system what is the problem the problem is that the traditional approach that is based on fold does not work well in the technology context because when you have a product that is realized by a machine for instance that some problem in the functioning of the machine create a product with some specific weakness that input in a car can create an accident who is liable and there is no one that has a fault in that case because it was the machine or there are cases in which there is a human fault there for instance you make a mistake in coding some parts of a program this creates some bugs et cetera so we have the people the person that is liable that is who called that part and we know called that part but if the damage created because the software was used by bank et cetera is of thousands or millions of euro the single person that called that line is not able to pay so it's true that the full system as able to identify an actor that is liable but that actor is not able to pay so in terms of effectiveness of the legal solution is useless for this reason in the corporate context in the industrial activities you can say we adapt sometimes the standards of strict liability strict liability means that the company typically is liable although there is not a fault but is liable due the fact that as created I certain product or service that may entail some risk so if you have a chemical company you make business using chemical product of course but chemical plant can create a great problem if they don't work properly in terms of pollution in terms of environmental disaster etcetera and in that case you are liable regardless the fact that there is a fault or not you are liable because you are those that are is in the best position to control the risk that you have created in and put in the society you have benefited from this risk you have to pay if there are negative impact of course what is the problem the problem is why we set the threshold because when we regulate the new areas for instance CI and we can say oh there's no problem in terms of liability we put a strict liability every AI producer is liable for all the damages that they create so all the system have a person that will pay and a lot of concern about the potential malfunctioning Gordon problem created by a system is solved because there are always something that way but first if you adopt an extensive strict liability the impact is that many investors prefer not invest in a sector in which they risk to be liable and the risk is higher if technology is new because it's less known in this side effect and there are a lot of aspects that should be still to have still to be fixed so extended too much as diabetic can have a sort of chilling effect on investment in the sector on the other hand if you rely only on the fault liability and the risk that technology that are newer so potentially create several risk and of course at the end of the day there is no any person that is so increase the concern about consumer about the user about the citizen against this acknowledgment that also this is not good because if people don't like our concern they don't want to use it so there is the risk to negatively react to the implementation and stop or slow the implementation of this technology for this reason we have to find the right balance between the street and the fault liability and what is done for instance now in the new proposal on the directive on AI liability that adopted some rules in terms of strict liability for your producer but fix also some derogation to this liability for instance if you are complied with some standards the compliance of the standards is enough to say that you are not liable although the damage is created so is an example of balance you are st liable so without fault but compliance with standard exempt from liability it means that you have an access strategy focus you understand their implementation that reduces your potential extensive liability other solution that can be also implemented are about the participation we can say in the game or rather actors for instance insurance in the sector of drones not military drones but small drones for we can say personal use in several countries there is a mandatory insurance for growth because they're cheaper with a few hundreds you are you can buy a drone but flying high when they can fall down of course can create damage also also killing person and you are not necessarily enough money to cover this kind of cost so like in the cars you need to have a mandatory insurance so create an entity that can pay this kind of damage the insurance system is another way to address the problem maintaining the fault liability but shifting the cost towards a company that on a large scale can mitigate the impact on the individual costs what kind of what comment kind of problem can a personal drones create for example one can fly their drone on see people's house this is what you're talking about no there is also the problem of privacy and watching people but the the typical program in which we have this diabetic is when the drone is flying that for malfunctioning or managing etcetera fall down falling down from several meters and landing on the the add or someone opened and they killed the person or opened the car and destroy the car and so this is the kind of concern so the drones it depends by the dimension depends by the weight etcetera but under certain circumstances can create damages to people and you goats and so for this reason some countries have required for getting specific category drones blah blah blah some mandatory insurance of course if it is a small very tiny drones not able to fly to etcetera there are exceptions but if it's a big drone with the couple of kilos of weight and the fall down from several meters the problem exists OK this is the problem OK so insurance is a solution another solution for the big case is the role of the state for instance in nuclear right in the nuclear power we have the participation of the state because the cost of the damages created by malfunctioning and nuclear central can be so big that cannot be addressed by the company that the manage the structure another point that you have to take into account when they fix the rules in terms of liability is that it's too simplistic to imagine that if you put all on the shoulder of the company you solve any problem because the company then bankrupt and if they bankrupt their first pay bank and other partners that are either legal protection in terms of contractual agreement therefore the last debate the damages people so while there is the risk that the damage is so big like an industrial in the nuclear sector is much better to fix a threshold imagine that till that threshold the company can address and pay with their own money and further access imagine sort of socialization of the coast through the intervention of the state because if you don't you only solutions that you fire the company and the company no longer pay the last that can ask in terms of priority for their credit that are damaged people so again another aspect that in terms of regulation should be taken into account OK yeah we have some reference if you like on digital society and risk society um this is something that we already mentioned about the design and these are example of design and famous case of the Paris Blvd. that were big

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Because the lapses are much more difficult to be blocked in case of reality, and it's easier for the soldiers to resist it to any protests in the in the larger streets or this street bump devices that are under by design approach in order to limit the cast speed. This is something that we already say that this is all about the divine design approach, but repeat what we have already discussed. About the limitation of the approach and the impact of the by design approach. So I want to move move now to another set of slides. That is about that ethics, and that ethics is divided in two parts. We start discussing now that I ethics, giving some ideas and then we read call this idea of data ethics when we discuss after the protection part about the AI because in the AI there has been a huge debate about the regulation and the first part of the proposal between 2016 to 2021. We add a lot of focus on AI and sorry, I know the focus on ethics and on that it acts as a means to address the challenges of AI. So, here we give some only some general notion about the dynamics, but then we discuss more in concrete scenario we can say this issue where we will address the topic of AI regulation because for now is the only sector in which there we have seen a proper debate an extensive debate about that ethics for the rest of the remain main the theoretical or legal debate, the academic level but with AI we have the flourishing of ethics code is guidance etc. So we have a concrete implementation of the idea that is, so for this reason, when we discuss AI in the last part of the first part on the legal aspect of this course we reconsider the ethical dimension. But before starting the next party, my colleague, you said Mr. Chair, was very focused on data protection. I want to just to highlight some general notion about that ethics because it's also useful to understand that that distinction between law and ethics that is also reflected in data protection regulation. So if we look at the ethics, of course, this is an image that can recall you the problem of the ethical use of technology. This nuclear fallout. We all know that the problem that we the use of a nuclear bomb, but in several parts of the world in the past and unfortunately something that was considered as from the past, is now dramatically present in the debate about the Russian potential use of a nuclear bomb, although more limited, but with always had very huge impact on population and an environment. So why I started with this photos because these photos usually represent the typical mindset that characterize the beginning of debates about the ethics of technology because that I ethics is a subtopic of ethical technology, such as data protection is a subtopic of technology regulation. So we start for the main topic, the main topic is ethics of technology, in the ethics of technology, that attitude was like the attitude that we have now. So we haven't looking at the fallout. So the fallout is something that is of the view is a technology that create problem and rise issue. And you discuss about the ethical dimension of this technology is ethical or unethical using nuclear weapons. Which kind of application there Sidra, by the way is the same discussion that we have run out with the AI powered application for whatever sake similar debate about the ethical use of AI power war we with us, so, why I want to stress this point that we have a sort of external approach, because this is was exactly the first approach that was adopted in the in ethics of technology. So the first stage of the debate of ethics of technology consider a technology or something that you can see, you can judge if it's good or is bad. So the biggest debate on atomic bomb, is it admissible or not? is good or not? As a role of that runs for this reason is acceptable or should not have no any kind of roles because kill people will never meet in any case, the use of this kind of form. So that technology is like an object an artifact that you look and you evaluate. This is a typical approach that we have at the beginning. So standard parents view technology as autonomous phenomena, focus on the impact on society. This was the first approach that we see in the debate of that idea of ethics and acknowledge that we move to another picture. In this picture, while you can see you can see a bridge and this bridge is famous bridge series and thermal bridge were correctly that were the most is bridge. The bridge created the Moses Moses was the architect that designed the doubt about a large part of New York in 1850 is more or less okay. And the more this bridge, very debated topic, because this bridge and a very peculiar elements. They are very low. The car can pass by the bus cannot pass under the bridge at a time, cannabis. So what was the ethical problem about the Moses bridge? This bridge was the position on this bridge create a sort of barrier in order to access to a new area of seaside where there were new beaches and these beaches are very close to the Bronx. But people from the Bronx we're not able to reach them because they cannot they many of them have not a private car and the buses cannot pass under the bridge. So that bridge was a value for the rich people that come from the other neighbors passing through the eye of the room and arriving at the beach. So for this reason, but there is a very good literature on the point. For this reason some people consider Moses as an architect driven by a racial bias in his design, because by design, you see the importance of design, limiting the assets to the black people basically, or the poor people to the new pages that were created. So why I choose these kinds of photos? Because they show another approach to the addicts of the Golgi. Oh, more correctly is to show another dimension, another phase of the relationship between ethics and technology. Because it's not no longer something that we look at. But it's some something that

as a sort of circular relationship with the word so to be more smokier is not the artifact that you look like a nuclear bomb, but is the bridge that you look about the same time limit also your situation. So there is a mutual relationship. There technology have an impact on society and the society have an impact on technology. The bridge, limited black people to reach the sea. But the bridge was done in this way because there was a rational approach in society. And this rational approach is reinforced by the technology. So in this regard, that that technology is no longer something that we look at and we consider what's good or bad, but we see us another important dimension technology that is the fact that this interview is connected with our life. The fact that we have some kind of design and technology in fact, for instance, if you drive a car, the change of the car is always on the right. And if the right hand is not your favorite one or four this is a problem, but nobody cares, because the majority of us the right hand. So this is and as a consequence, the people that use the left hand typically, in driving should learn to use the right hand as the main word and is a change that acknowledging juice in the behavior of these people, that is also a result of an A majority of the approach of the society. So this mutual relationship between society, technology and technological society, open up to a broader view of ethics of technology. Technology is not only something that you discuss is good or bad, but it's something that is much more complicated because it's the result of the society and is able to shape the society. So there are two different and mutual relationships, please.

So I wanted to make sure that what you're saying is that the first approach is not fine for everybody. For example, bombing a place is detrimental for everybody. But building a bridge can be fine for some people and not fine for others, right?

Not exactly. I want to point out that there are two approaches and these approaches are in terms of evolution. The first initial approach to ethics of technology was simply looking at technology and consider if technology is good or bad, but without realizing that is not technology that exists in autonomous way is not as acknowledged as is good or bad. Are we as a society that creates a technology they can be good or bad. So it's not the technology that is bad, or it's good, but the value that we put in that technology that can be good or bad. So at the end of the day, the problem is not in the technology, but it's in the way in which shape the technology. And another important step is that the way in which shaped we shaped the knowledge they reshape as as society. For instance, why a large part of Eternia young people is no longer able to write a good tax because they spend a lot of time taxi insurer messages. And in short matters. Of course, the kind of communication is different. And if you repeat the exercise for hours to use automatic messaging in terms of communication, of course you are no longer able to make an extensive test or you can impact on your ability to an extensive text. Or, if you consider also WhatsApp for instance, many of you probably record the messages. And this idea to record the messaging is a shift from the traditional writing culture in messages to the horror catcher is a changing part of there is a change of behavior, of course, and this impact on the way in which we live, consider another application of Google Map. A lot of people move around in a new city using Google Maps. For now this is not how he impacted Medina long run you can imagine that a lot of information about the geography of the area would be removed because the people no longer look at the name of the street or look at the direction or ask the people back to look at a smartphone with some silly effects. Sometimes, we know but this means that Google is able to reshape the way in which we shape the geography is dependent by the service. But there is impact on society because if you have no access to the service, if you have another smartphone. If you are poor people that have no smartphone, you are not able to find the right direction in our space. If the space became only smartphone base in terms of direction. So, this is an example how the way in which we shaped technology they reshape the society. Technology is no neutral technology always embed a certain kind of view a certain kind of idea for this reason we discuss about that dynamics, because also in digital technology and the technology based on data. What we put is a specific view of the society. We reflect our mindset Google consider that is great to have your direction in your in your smartphone. Why? Because they sell this kind of product. Of course not because Bing recently, though, that was great. We have a chat, search handling in order to provide a better interaction regardless of the fact that this interaction is not so good. But what is the impact of society have a sharp GPD approach is quite relevant in terms of ethical and social impact? Because right now, if you have something you have a list of sources, we can discuss about how the sources are outlined it if there is a bias or not in the positioning of cetera. But we have the sources. It means that if you want to understand you have to select and if you are well educated you are also able to select the right sources. So if the top one is not so alternative, and the second one is a big newspaper, probably you start from the second one and not from the first one. Okay? Because beyond that, there is a market oriented position in house. But if you make a question, and the answer is not long, longer list of sources, but these attacks that give you the answer, combine is the sources. Of course this make hidden the sources, how many people will check the sources if they are the answer? Only few we check the basis of these answers. Like when you read a scientific book. If you are not an academic or a good academic, because there are some bad academic, usually with the tax, but you disregard the footnotes. But in the footnotes they are the argument and that the bass is that justifies some assumption in the texts. If the footnote is wrong for the gardener, the foods is not corresponding to the vaccine means that the dice is not well grounded in terms of scientific reasoning. But if the charges are pretty search engine, give you the answer in a very good way and give you the answer about for instance, Donald Trump and the role of Donald Trump in society. And in doing that adult specific interpretation of the role of Donald Trump. I gave you the sources but you do not look at the sources of force this change the power between you and the search engine. Because the search engine is no longer a list of sources, but became the sort of Oracle in which you ask Can the Oracle provide the answer? And you trust in the answer? How do we ask the people trust in the answer of Google when they ask for a street and they go in the wrong direction sometimes, because the Google map in that case was not consistent with the last changes in the municipality for instance, okay? So sometimes happen that you according to the map, or it's just by Google, you have to go in straight on and go in that direction, but the municipality are changing the direction you have to stop. So, but what about if this is the answer of the changes that say something that is not correct, you have to check is different search engine check GBT power, then an encyclopedia encyclopedia sorry, an encyclopedia as beyond a scientific work as a check as a review. So it's true that provide you an answer, but this sounds when it's tested by scientific experience by people in the field. A Chat GPT search engine as not this kind of background. Simply select content and merge content based on some parameters that are set in the machine. But it's not a scientific output is not a research output. And this chip may change the way in which society have access to knowledge and having necessary knowledge is a core element in democracy in research many aspects of our society. So this just to figure out some real case or potential implication of that technology that we developed also in the field of digital technology for this reason, is important. Also, as a computer scientist when you develop some digital technology, do not consider only the technology aspect or the economic benefits or the legal constraint, but consider also what is the impact of your technology on society? What is in the media in the long run the impact of your technology and society because you technology can change society, but we have to ask if this change is according to the values that exist in a specific society, or if simply top down exercise in which a company or a big company tried to shape the society in a way that is desirable for the company, and we had some case that we discussed. So the point the crucial point, that is also represented by our theoretical approach, and that is that technology is mediation theory. The crucial point is that technology is not neutral. When you design something you always design with your mindset. We have made the example of social platforms and the US values etc, or that Moses bridges the city.

So the idea is that when you create some kind of technology, directly or indirectly, you're reflecting this technology, your view so for this reason, we say that technology is not neutral.

Surfing yet it is a form of censorship the way you talk about technology in a critical way. So first, the value are embedded. The second point is that it technology mediate between humans and the way in which the humans act in society. This is the idea of mediation. You see the things through the acknowledge. Let's give you an example. If you consider the pro beard analysis on the why because self mute is unknown. If you consider the check that are done when you are pregnant before the birth of the kids, of course right now with the cover here the system is possible to know a lot but what's the effect on society that people can decide for abortion in some cases before was not possible? was possible abortion because you know the desire to have a baby but the abortion based on functions based on some specific diseases cetera before was not considered simply because was not technically possible to have that information. But now that you have this information is possible to decide in favour of abortion based on medical evaluation we can say. So the technology change the relationship between mother the family and the future baby based on something that before was not possible. This is an example of how we see through technology, the things and the same is in the digital context. You see the word through the search engine, the search engine gave you a list of content according to some criteria that are not the real word. Maybe there's a very interesting article that is published on a very minor journal that is the best one on the topic. But the the fact that the journal is not so well known, there's not a lot of clicking, there is not a lot advertising etc. This is not at the top of the results. So technology mediate and the same as when you use smart cities or analytics to analyze society, etc. You always provide some sort of description of the real world that is mediated through technology. When we look at the map of the distribution of everything is always a magician depends by the parameters. It depends by the variable that you consider the granularity that you can see etc. For instance, if you look at the industrial activities and collect all the data through big data analytics, and you will present this information at a regional level, at the national level, at local level, the results may be very different. For instance, you can say oh, in pm onto there is a lot of activity in the industrial sector compared with the other regional I Basilicata. But then if you look at the payment is not true that the know the error the pm and there is a lot of industrial activities. There are some areas in which there is no an industrial activity. So the different level representation of granularity gives you a different kind of map or different kinds of information. And of course, this change the perception of the society that we have. And second point that that is important to ally that there is the consequence is that if the values can be embedded in the technology, including digital technology, of course, we have to check which value we are embedding technology. To check what it means it means that first we should be more aware about our role as creator of this technology. For instance, I think that I mentioned with you the case, the insurance that discriminates black people during during the night, we discuss things that are not although it was an insurance that decided to put a black box in the car in us and of course there are some parameters in order to reduce the cost of insurance or increase the costs. One of the parameter was if you drive during the night so how the early morning because desire because usually you come back from a party you drink a lot of alcohol and this is not good for driving. What was the problem that there are also people that run during the night remotely because they leave outside the big cities and go to the big city for work not exactly after a party and to clean offices and like that and by the way you answer this activity are usually done by black people or minorities. And so this will create a discrimination and why the algorithm did not consider this aspect because was created by male white computer scientists that never have the idea that you wake up in the early morning to have to clean something. But they consider that if you drive in the early mornings because you come back from a party because in their own experience, this is the experience. So of course, computer scientists try to mitigate a bit of this bias potential bias or to having more by the group of design etc. But it's not important that the variety because they face not their actual bias can be many other bias that exists. The problem is to be aware that we can unintentionally reflect our mindset in the creation in the digital context. So for this reason, for instance, important having participatory approach in the design, including the user including the target, because the target population can raise their hand and say, Oh, I'm a blank. I usually do not dry during the night because I'm just back from our party. So, the idea is that when we discuss about bias, large amount of BIAs are not necessarily intentional bias. Of course there are unintentional bias there are applications that are biased in favour to advertiser or in favour or some political approach is as safe as possible. But this is not the main risk. The main risk are the unintentional bias, the bias that are based on your mindset that you spontaneously reflect and you cannot detect because they are not able for you is normal. And this is actually in the process of shaping society shaping technology, through technology reflecting values. So if you consider that the black people should not go to the seaside, the way the white people and saying thy neighbor of course, the bridge is lower. So you reflect your intention in the system. And for this reason, someone said that there was not a rational approach in creating the bridge simply he didn't consider the fact that there are also black people that do not use car but use buses. So, for this reason, we are unethical web design and that for this reason is important or by design approach. Second about them we continue in the parts after that the prediction. I think that the key points that they want to highlight with regard to this slide is that the ethical approach may be possible to understand that not everything that is technically feasible, is also ethically acceptable. There are some things that are technically feasible. You can make some analysis you can use data in a certain way but it doesn't mean that is also acceptable. According to the value in society. I can use brain scan in order to the time if you are following or not my classes, but it doesn't mean that the brain scan is the best for you as a students community in order to be good students and the holodeck So, this distinction between technical feasible and societal acceptable ethical setup is a very core element in terms of ethical design. I think we stop is correct. We continue sorry, we have not finished this part of the slide but we continue when we discuss after the GDPR the path on AI. So please recall me that we have lived a couple of slides on this part that this is not a problem because the topic is readdress in that context. Thank you so much, and have a good glasses next weeks with my colleague on that on the porch.